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Create better and happy life with intelligence

Comprehensive catalog of products



Becoming One Global Outstanding Control Motion Solutions Supplier

GUANGDONG KAIFULL ELECTRONICS
TECHNOLOGY CO., LTD.

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2023-2

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2023
2024

Stepper motor | stepper driver | micro-electric cylinder | linear motor |
electric fine tuning table | alignment platform

2023-2024
Comprehensive
catalog of products



ABOUT US

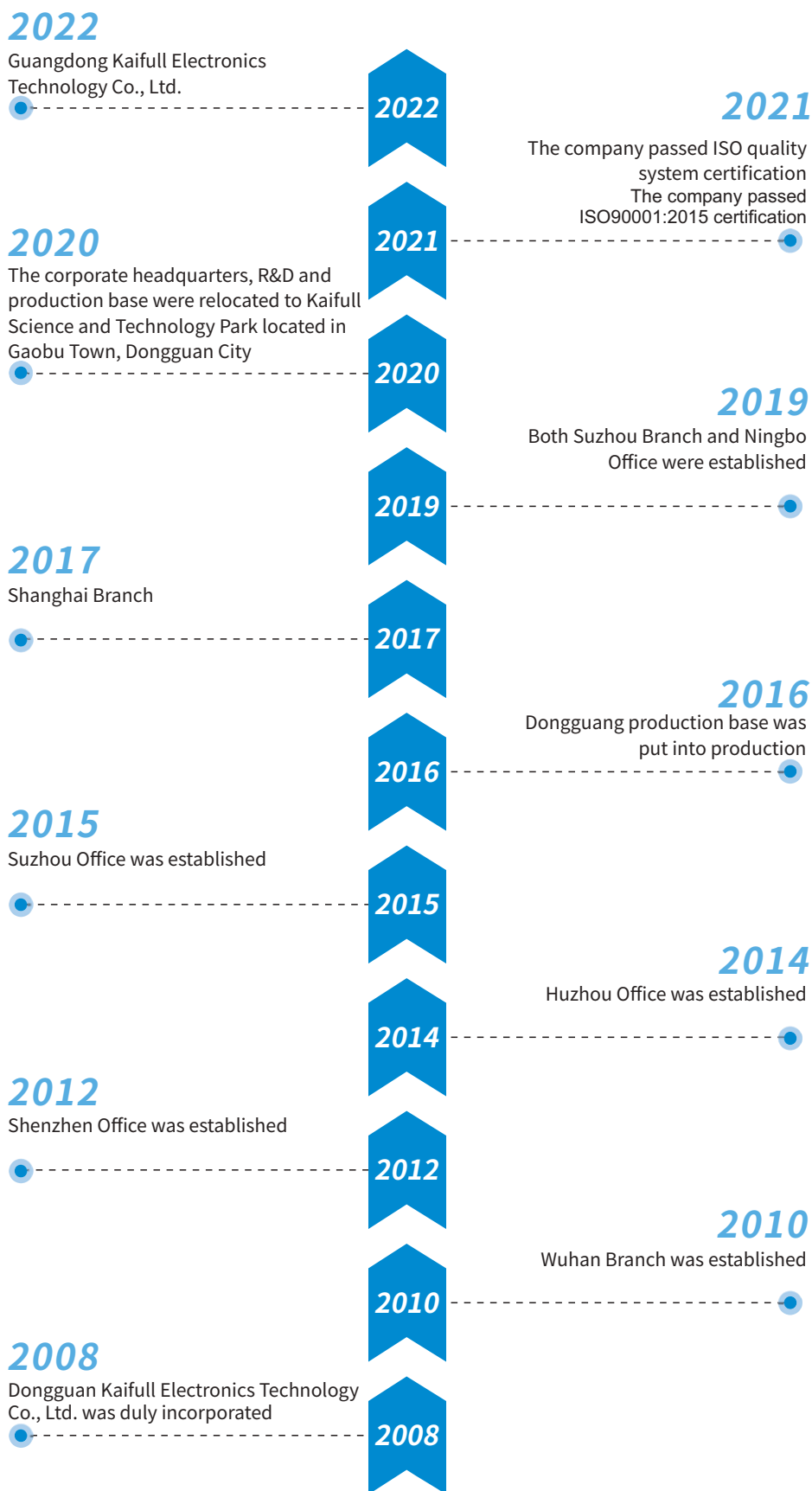
Guangdong Kaifull Electronics Technology Co., Ltd. is a high-tech enterprise that has been committed to the research and development, production and sales of high-quality motion control products. It always adheres to the "orientation by market demand and technological innovation as the core" as the corporate philosophy and development strategy, and after 15 years of endeavor, it has developed into a leading R&D manufacturer of stepper motors, drivers and related products in China.

Kaifull Electronics Technology has its own brand "Kaifull", "YARAK", with the products covering stepper motor drive systems, servo motor drive systems, brushless motor drive systems, planetary reducers, hollow rotary platforms, precision fine tuning tables, alignment platforms, linear motors and other products. The products are widely applied to 3C industry, CNC machine tool, medical equipment, laser engraving, textile printing, packaging machinery, electronic equipment, robot, lithium battery, semiconductor and other high-tech industries.

The company has established production bases in Dongguan and Suzhou respectively. With strong R&D capabilities and advanced manufacturing equipment and manufacturing technology, together with the application of perfect testing means, it aims to ensure product quality and supply security. At the same time, the company has an experienced sales and technical team, which is dedicated to enhancing customer value through services, constantly understanding customer needs, and continuing to track customer development, thus to provide customers with the best motion control solutions. Over the past 15 years, Kaifull Technology has been adhering to the mission of "providing the world-leading motion control solutions", and is determined to make every intelligent factory rely on products and services provided by Kaifull!



HISTORY



ENTERPRISE ADVANTAGES

01

R&D

By building a high-level talent team composed of master and doctoral students from Tsinghua University and Harbin Institute of Technology, as well as a R&D team consisting of industry experts from Taiwan, Germany and Japan as the core, the company has been focusing on motion control for 15 years.

02

Product

The company has nearly 10,000 motion control standards, covering stepper motors, servo motors, drives, hollow rotating platforms, alignment platforms, fine tuning tables, and linear motors.

03

Customized

Based on user needs, the company aims to create the most suitable motion control solutions for customers, through motor + drive + mechanism products.

04

Service

The company provides a 5-year warranty, 7*24 hours technical service, full-course design assistance, on-site technical guidance, and response from full-time customer service personnel, thus to ensure smooth cooperation.

PATENT CERTIFICATE



CATALOG

Stepper motor



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XXY alignment platform



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Kaifull Electronics Technology

Stepper motor series

Hybrid stepper motors, brake stepper motors, reducer integrated
stepper motors, hollow shaft stepper motors
DC and AC are optional



Reading mode of item name

● Hybrid stepper motor

Y07 - 59 D1 - 17155

① ② ③ ④ ⑤

①	Type of motor	Y07: Y07 series motor Y09: Y09 series motor
②	Motor installation dimensions	20: NEMA 8 28: NEMA 11 35: NEMA 14 43: NEMA 17 59: NEMA 23 110: NEMA 42 130: NEMA 52
③	Number of step angles	D: Hybrid stepper motor with a step angle of 1.8 degree C: Hybrid stepper motor with a step angle of 0.9 degree
④	Factory model number	17155: Factory model number
⑤	Motor type	D: Double output shaft M: Additional brake installed E: Additional encoder installed LC: Outboard-driven screw motor GC: Through-going shaft screw motor GD: Fixed shaft screw motor GZ: Ball leadscrew motor ZK: Hollow shaft motor SK: ZR shaft motion hollow motor

※ For product details, please visit the official website www.kaifull.net to download 3D/2D information and the user manual.

● Reducer integrated stepper motor

S42D 110A - MACR6 S2

① ② ③ ④

①	Motor installation dimensions	42: NEMA 17 60: NEMA 24 90: NEMA 34
②	Product code	
③	Reduction ratio	MACR6: 1:3.6 MAGR2: 1:7.2 MA09: 1:9 MAA0: 1:10 MAA8: 1:18 MAC6: 1:36 MAE0: 1:50 MAA00: 1:100
④	Serial number	

※ For product details, please visit the official website www.kaifull.net to download 3D/2D information and the user manual.

Stepper motor	Hybrid
	Brake
	Reducer integrated
Hollow shaft	
Closed-loop stepper motor	Hybrid closed-loop
	Brake closed-loop
Closed-loop stepper motor with absolute value	
Leadscrew stepper motor	Outboard-driven
	Ball leadscrew
	Through-going shaft
Stepper motor driver	

NEMA 8 two-phase DC hybrid stepper motor



□ NEMA 8

□ NEMA 11

□ NEMA 14

□ NEMA 17

□ NEMA 23

□ NEMA 24

□ NEMA 34

□ NEMA 42

□ NEMA 52

Specification

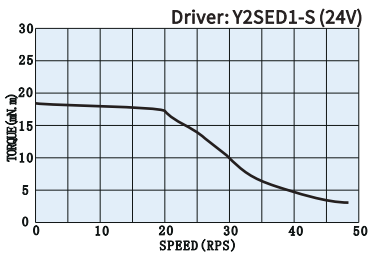
● Single output shaft

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g·cm ²	Number of leads LEAD	Driver
Y07-20D1-2401	1.8	0.6	7.00	1.9	18	2	4	Y2SD2-EC Y2SED1-S
Y07-20D1-4401		0.4	11.0	4.0	28	3		

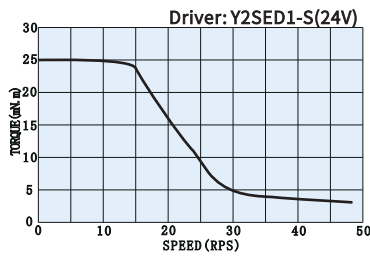
◆ Angle error: ±0.09 degree ◆ Axial allowable load: 3N ◆ Radial allowable load: 15N (5mm away from the mounting surface)

Torque curve

● Y07-20D1-2401

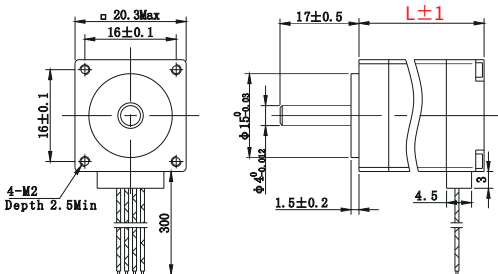


● Y07-20D1-4401

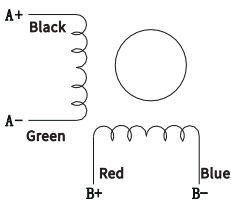


Outside drawing (unit: mm)

Model	Motor length L mm	Mass kg
Y07-20D1-2401	28.0	0.05
Y07-20D1-4401	38.0	0.07



Wiring diagram



NEMA 11 two-phase DC hybrid stepper motor



Specification

Single output shaft

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y07-28D1-1070	1.8	0.7	4.50	3.2	60	8	4	Y2SD2-EC Y2SED1-S
Y07-28D1-5008		1.0	3.50	2.3	100	18		

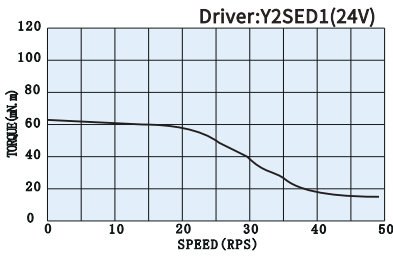
Double output shaft

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y07-28D1-5010D	1.8	1.0	3.50	2.3	100	18	4	Y2SD2-EC Y2SED1-S

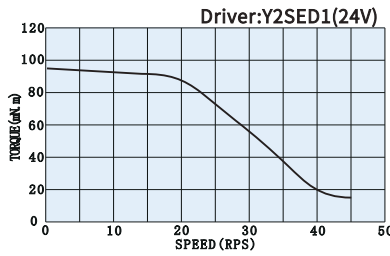
◆ Angle error: ± 0.09 degree ◆ Axial allowable load: 5N ◆ Radial allowable load: 25N (10mm away from the mounting surface)

Torque curve

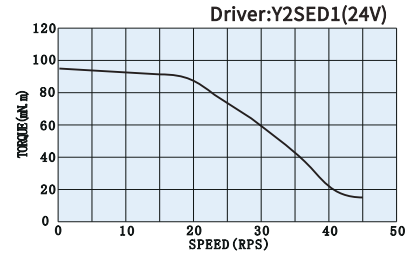
Y07-28D1-1070



Y07-28D1-5008



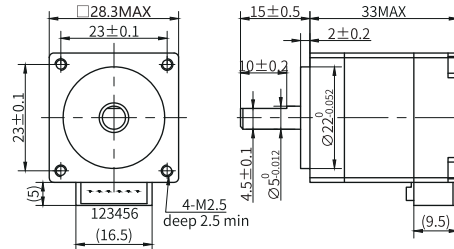
Y07-28D1-5010D



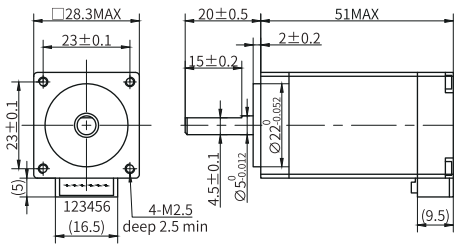
Outside drawing (unit: mm)

Model	Motor length L mm	Mass kg
Y07-28D1-1070	33.0	0.11
Y07-28D1-5008	51.0	0.20
Y07-28D1-5010D	51.0	0.20

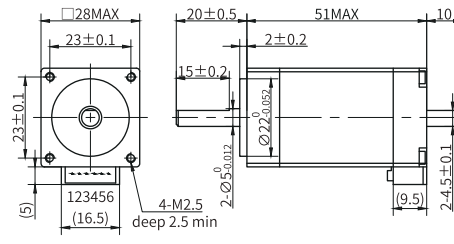
Y07-28D1-1070



Y07-28D1-5008

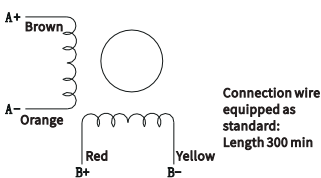


Y07-28D1-5010D

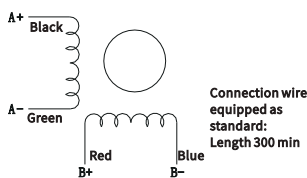


Wiring diagram

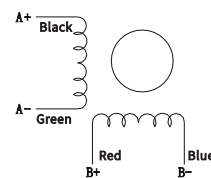
Y07-28D1-1070



Y07-28D1-5008



Y07-28D1-5010D



Hybrid
Stepper motor
Brake
Reducer integrated
Hollow shaft
Closed-loop stepper motor
Hybrid closed-loop
Brake closed-loop
Closed-loop stepper motor with absolute value
Outboard-driven
Ball lead screw
Through-going shaft
Lead screw stepper motor
Stepper motor driver

NEMA 14 two-phase DC hybrid stepper motor



Specification

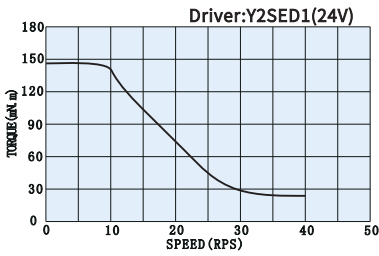
● Single output shaft

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g·cm ²	Number of leads LEAD	Driver
Y07-35D1-4001	1.8	1.0	4.30	5.5	180	20	4	Y2SD2-EC Y2SED1-S

◆ Angle error: ±0.09 degree ◆ Axial allowable load: 10N ◆ Radial allowable load: 25N (15mm away from the mounting surface)

Torque curve

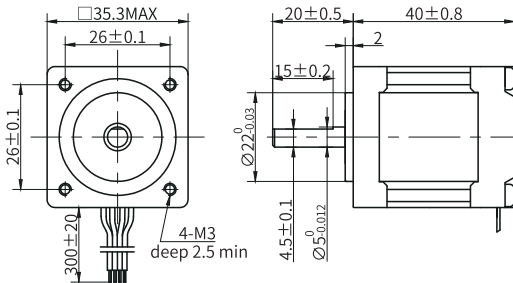
● Y07-35D1-4001



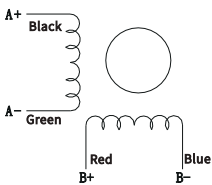
Outside drawing (unit: mm)

Model	Motor length L mm	Mass kg
Y07-35D1-4001	40.0	0.21

● Y07-35D1-4001



Wiring diagram



NEMA 17 two-phase DC hybrid stepper motor



Specification

Single output shaft

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y07-43D1-1065	1.8	0.85	5.70	8.10	260	33	4	Y2SD2-EC Y2SED1-S
Y07-43D1-4271		1.6 (half-winding)	1.90	1.80	310	56	6	
Y07-43D4-5040		1.1 (full-winding)	3.80	7.20	430			
Y07-43D4-5060		2.0	2.00	3.85	770	110	4	
		2.0	1.80	4.00	540	66		

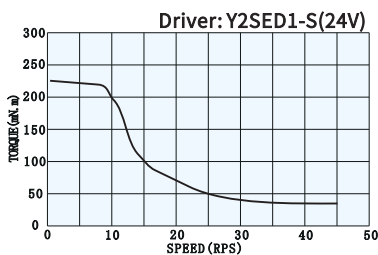
Double output shaft

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y07-43D1-4275D	1.8	1.6 (half-winding)	1.90	1.80	310	56	6	Y2SD2-EC Y2SED1-S
Y07-43D4-5040D		1.1 (full-winding)	3.80	7.20	430			
Y07-43D4-5065D		2.0	1.82	4.24	770	110	4	
		2.0	1.80	4.00	540	66		

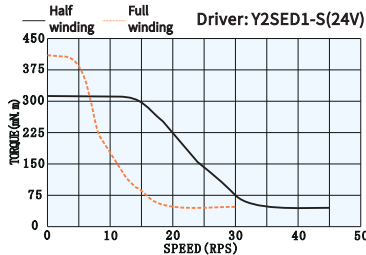
◆ Angle error: ± 0.09 degree ◆ Axial allowable load: 10N ◆ Radial allowable load: 25N (15mm away from the mounting surface)

Torque curve

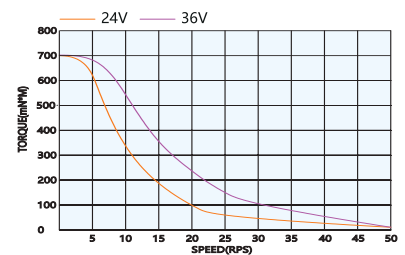
Y07-43D1-1065



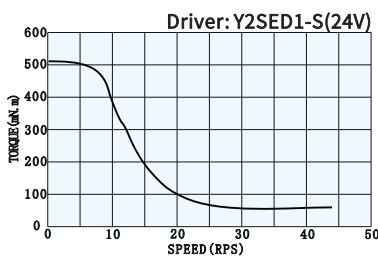
Y07-43D1-4271



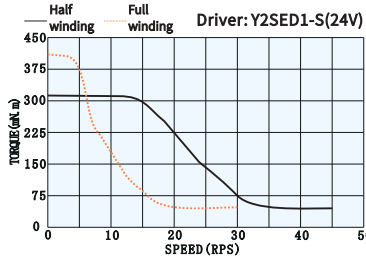
Y07-43D4-5040



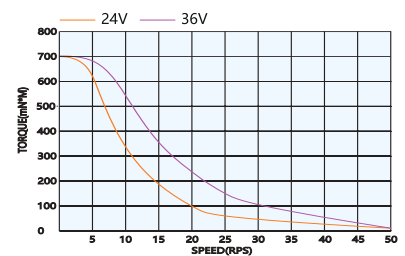
Y07-43D4-5060



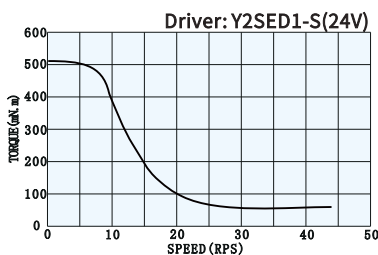
Y07-43D1-4275D



Y07-43D4-5040D



Y07-43D4-5065D

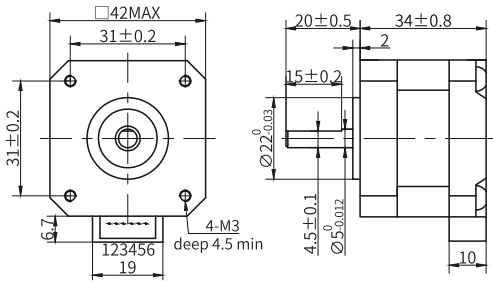


- Hybrid
- Stepper motor
- Brake
- Reducer integrated
- Hollow shaft
- Hybrid closed-loop
- Brake closed-loop
- Closed-loop stepper motor with absolute value
- Closed-loop stepper motor with absolute value
- Outboard-driven
- Ball lead screw
- Through-going shaft
- Stepper motor driver

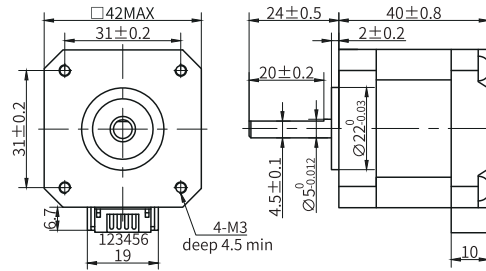
Outside drawing (unit: mm)

Model	Motor length mm	Mass kg	Wiring diagram
Y07-43D1-1065	34.0	0.23	Fig. 1
Y07-43D1-4271	40.0	0.29	Fig. 2
Y07-43D4-5040	61.1	0.50	Fig. 3
Y07-43D4-5060	49.5	0.38	Fig. 1
Y07-43D1-4275D	40.0	0.29	Fig. 2
Y07-43D4-5040D	61.1	0.60	Fig. 3
Y07-43D4-5065D	49.5	0.38	Fig. 1

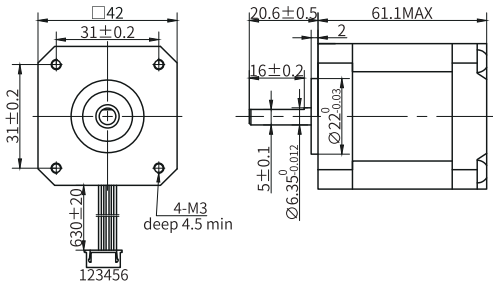
Y07-43D1-1065



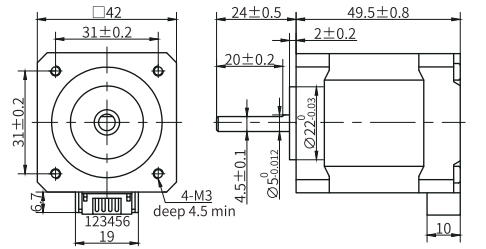
Y07-43D1-4271



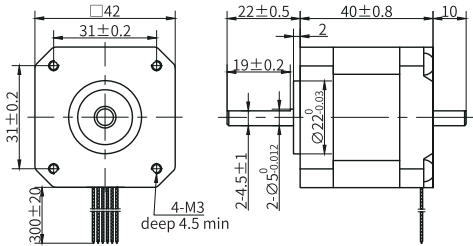
Y07-43D4-5040



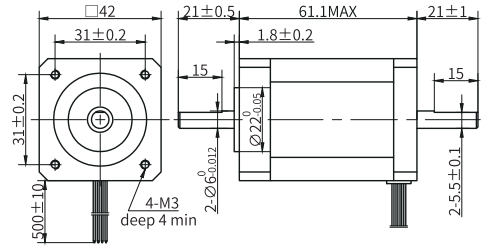
Y07-43D4-5060



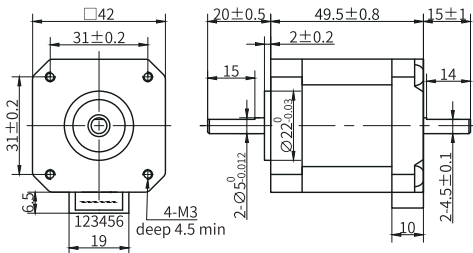
Y07-43D1-4275D



Y07-43D4-5040D



Y07-43D4-5065D



Wiring diagram

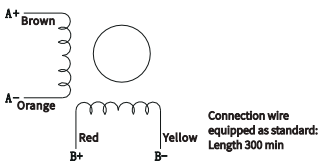


Fig. 1

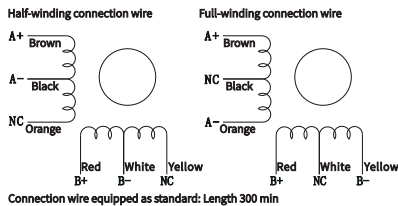


Fig. 2

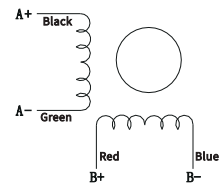


Fig. 3

NEMA 23 two-phase DC hybrid stepper motor



Specification

Single output shaft

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver	
Y07-59D1-1300	1.8	3.0 (half-winding)	0.62	0.9	0.57	145	6	Y2SD2-EC Y2SED1-S	
Y07-59D1-3260			1.24	3.6	0.78				
Y07-59D1-3039			2.1 (full-winding)	0.80	1.3				1.0
				0.80	1.3				1.0
Y07-59D1-3074			1.60	5.2	1.4				
Y07-59D1-4008			1.60	5.2	1.4				
Y07-59D1-17150		4.2	0.40	1.3	1.4	330	4	Y2SD2-EC Y2SED2	
				4.4 (connection in parallel)					1.3
				2.2 (connection in series)					1.60
		3.0 (half-winding)	1.20	2.2	1.8				
			2.40	8.8	2.4				
			2.1 (full-winding)	1.20	2.2		1.8		
Y07-59D1-17151	2.40	8.8	2.4						
Y07-59D1-17155	4.2	0.60	2.2	2.4	470	6	Y2SD2-EC Y2SED1-S		
Y07-59D112-8415-35	4.5	0.94	4.0	3.2					

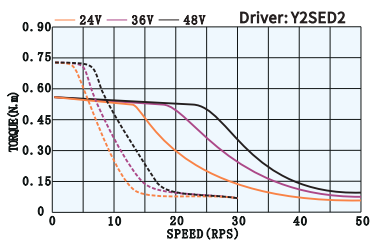
Double output shaft

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y07-59D1-3075D	1.8	4.2	0.40	1.3	1.4	245	4	Y2SD2-EC Y2SED2
Y07-59D1-4008D		4.4 (connection in parallel)	0.40	1.3		330	8	
Y07-59D1-17152D		3.0 (half-winding)	1.20	2.2	1.8	470	6	Y2SD2-EC Y2SED1-S
			2.1 (full-winding)	2.40	8.8			
Y07-59D1-17156D		4.2	0.60	2.2	2.4	4		

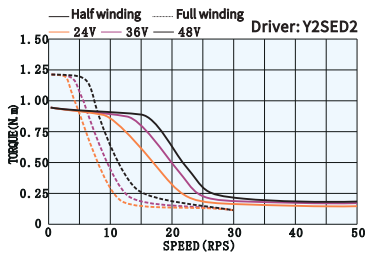
◆ Angle error: ± 0.09 degree ◆ Axial allowable load: 15N ◆ Radial allowable load: 90N (15mm away from the mounting surface)

Torque curve

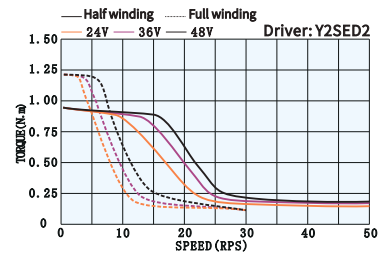
Y07-59D1-1300



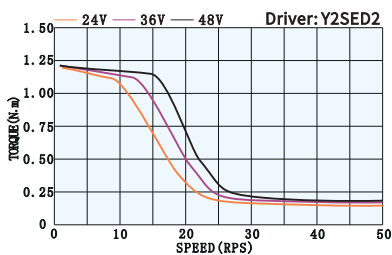
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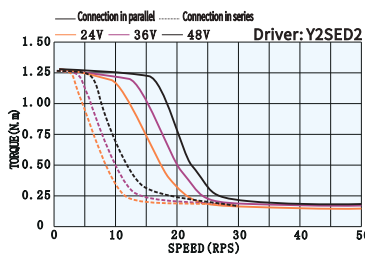
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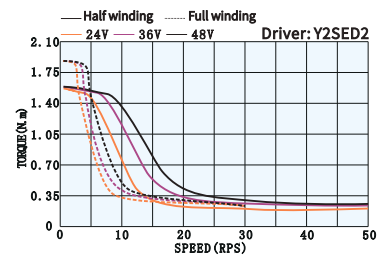
Y07-59D1-3074



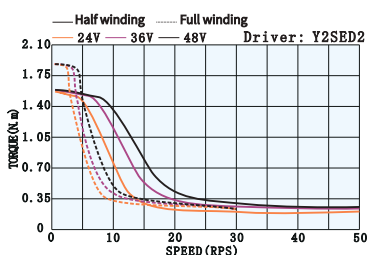
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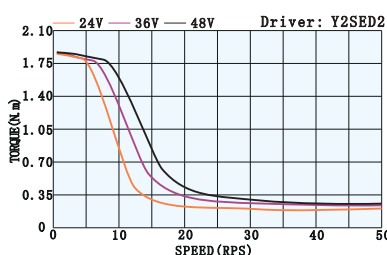
Y07-59D1-17150



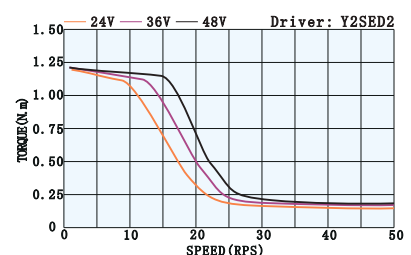
Y07-59D1-17151



Y07-59D1-17155



Y07-59D1-3075D



Hybrid

Stepper motor

Brake

Reducer integrated

Hollow shaft

Closed-loop stepper motor

Hybrid closed-loop

Brake closed-loop

Closed-loop stepper motor with absolute value

Outboard-driven

Leadscrew stepper motor

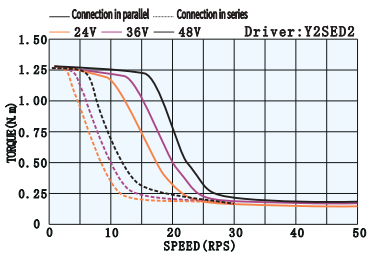
Ball leadscrew

Through-going shaft

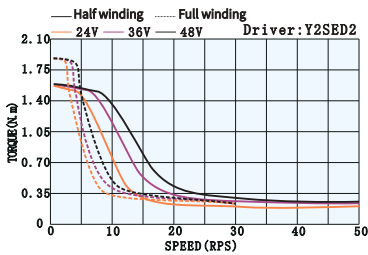
Stepper motor driver

- Electric motor
- Installation dimensions
- NEMA 8
- NEMA 11
- NEMA 14
- NEMA 17
- NEMA 23
- NEMA 24
- NEMA 34
- NEMA 42
- NEMA 52

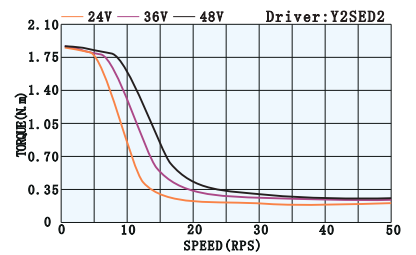
● Y07-59D1-4008D



● Y07-59D1-17152D



● Y07-59D1-17156D



■ Outside drawing (unit: mm)

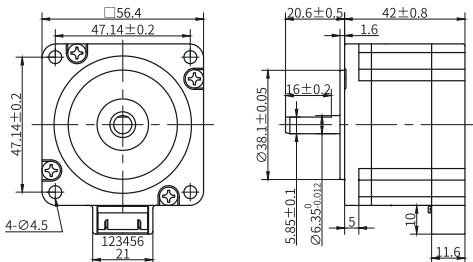
● Single output shaft

Model	Motor length mm	Shaft diameter mm	Mass kg	Wiring diagram
Y07-59D1-1300	42.0	6.35	0.51	Fig. 1
Y07-59D1-3260	54.5	6.35	0.71	
Y07-59D1-3039	54.5	8.00	0.71	Fig. 2
Y07-59D1-3074	54.5	6.35	0.71	
Y07-59D1-4008	65.0	8.00	0.86	Fig. 3
Y07-59D1-17150	77.5	6.35	1.11	Fig. 1
Y07-59D1-17151	77.5	8.00	1.11	
Y07-59D1-17155	77.5	8.00	1.11	Fig. 2
Y07-59D112-8415-35	111.0	9.00	1.80	

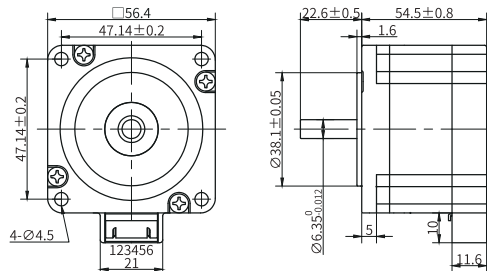
● Double output shaft

Model	Motor length mm	Shaft diameter mm	Mass kg	Wiring diagram
Y07-59D1-3075D	54.5	6.35	0.71	Fig. 2
Y07-59D1-4008D	65.0	8.00	0.86	Fig. 3
Y07-59D1-17152D	77.5	8.00	1.11	Fig. 1
Y07-59D1-17156D	77.5	8.00	1.11	Fig. 2

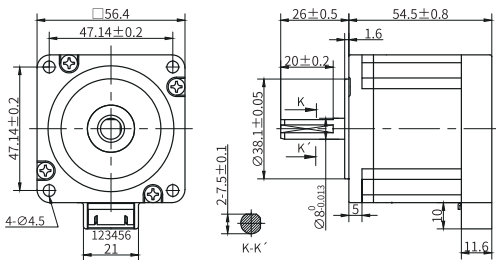
● Y07-59D1-1300



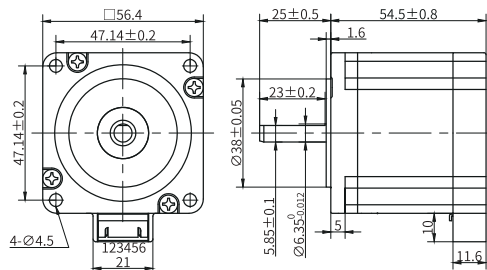
● Y07-59D1-3260



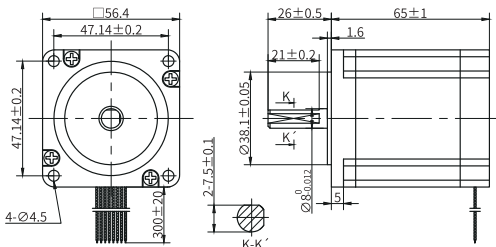
● Y07-59D1-3039



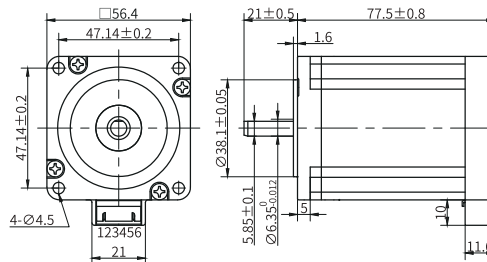
● Y07-59D1-3074



● Y07-59D1-4008

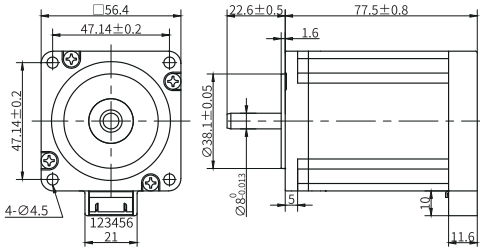


● Y07-59D1-17150

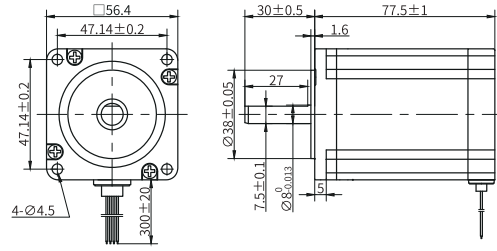


Outside drawing (unit: mm)

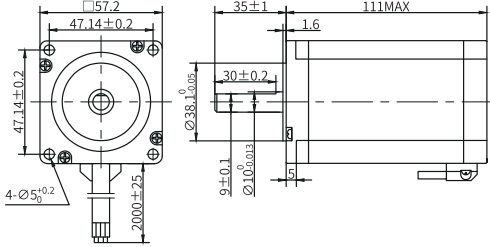
● Y07-59D1-17151



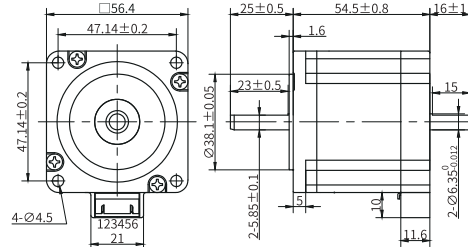
● Y07-59D1-17155



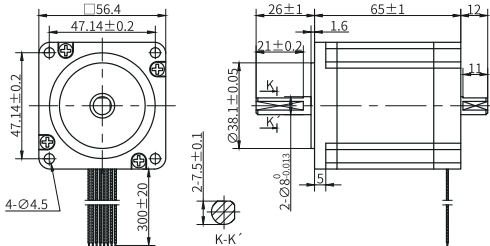
● Y07-59D112-8415-35



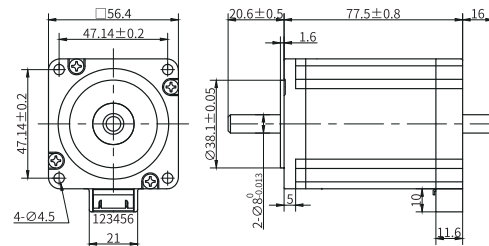
● Y07-59D1-3075D



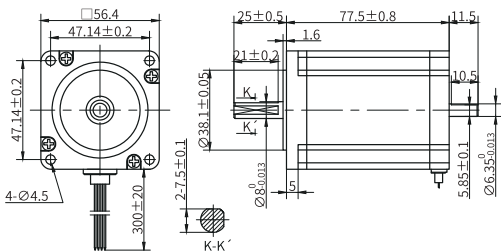
● Y07-59D1-4008D



● Y07-59D1-17152D



● Y07-59D1-17156D



Wiring diagram

Half-winding connection wire

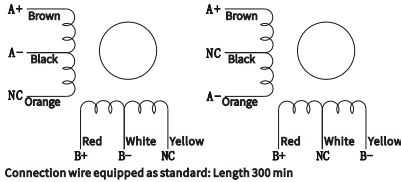


Fig. 1

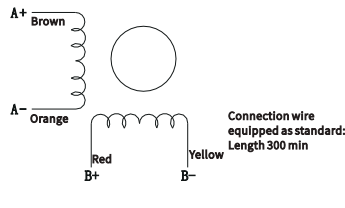
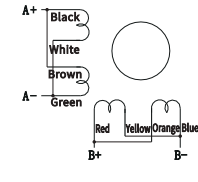


Fig. 2

Parallel wiring



Serial wiring

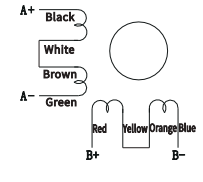


Fig. 3

Hybrid	Stepper motor	Brake	Reducer integrated	Hollow shaft	Hybrid closed-loop	Brake closed-loop	Closed-loop stepper motor with absolute value	Outboard-driven	Ball leadscrew	Through-going shaft	Stepper motor driver
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NEMA 24 two-phase DC hybrid stepper motor



□ NEMA 8

□ NEMA 11

□ NEMA 14

□ NEMA 17

□ NEMA 23

□ NEMA 24

□ NEMA 34

□ NEMA 42

□ NEMA 52

Specification

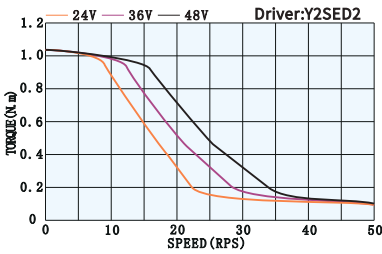
Specification

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y09-59D3-1305	1.8	4.2	0.39	1.1	1.0	280	4	Y2SD2-EC Y2SED2
Y09-59D3-3305			0.47	1.8	1.4	440		
Y09-59D3-5001			0.80	3.7	3.0	920		

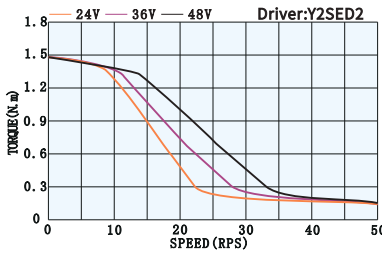
◆ Angle error: ±0.09 degree ◆ Axial allowable load: 20N ◆ Radial allowable load: 90N (15mm away from the mounting surface)

Torque curve

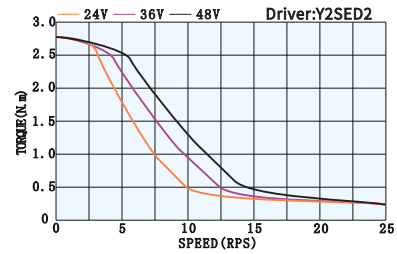
Y09-59D3-1305



Y09-59D3-3305



Y09-59D3-5001

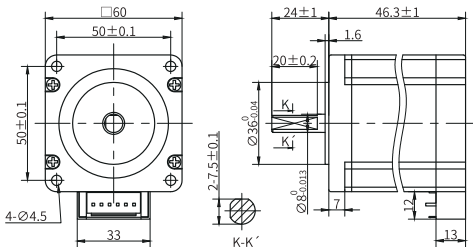


Outside drawing (unit: mm)

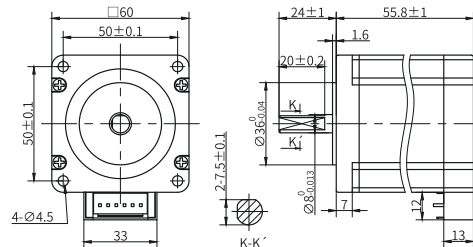
Single output shaft

Model	Motor length L mm	Mass kg
Y09-59D3-1305	46.3	0.62
Y09-59D3-3305	55.8	0.88
Y09-59D3-5001	87.8	1.40

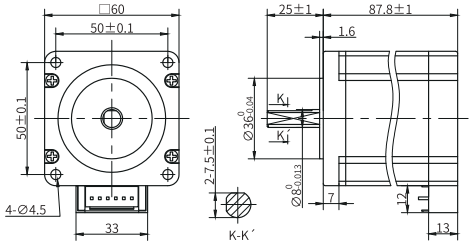
Y09-59D3-1305



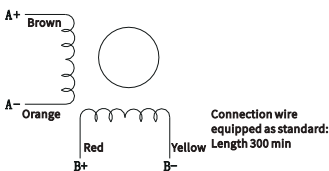
Y09-59D3-3305



Y09-59D3-5001



Wiring diagram



NEMA 24 two-phase DC hybrid stepper motor



Specification

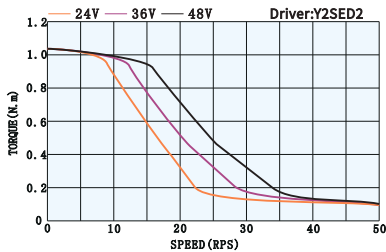
Single output shaft

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y09-59D3-1305-P	1.8	4.2	0.39	1.1	1.0	280	4	Y2SD2-EC Y2SED2
Y09-59D3-3305-P			0.47	1.8	1.4	440		
Y09-59D3-5001-P			0.80	3.7	3.0	920		

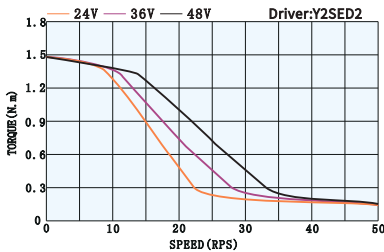
◆ Angle error: ± 0.09 degree ◆ Axial allowable load: 20N ◆ Radial allowable load: 90N (15mm away from the mounting surface)

Torque curve

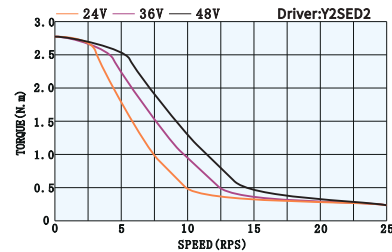
Y09-59D3-1305-P



Y09-59D3-3305-P



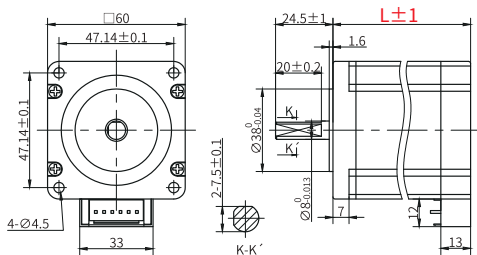
Y09-59D3-5001-P



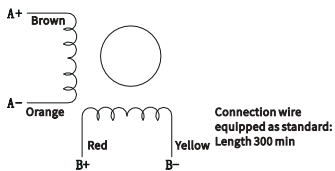
Outside drawing (unit: mm)

Single output shaft

Model	Motor length L mm	Mass kg
Y09-59D3-1305-P	46.3	0.62
Y09-59D3-3305-P	55.8	0.88
Y09-59D3-5001-P	87.8	1.40



Wiring diagram



Hybrid

Stepper motor

Brake

Reducer integrated

Hollow shaft

Hybrid closed-loop

Brake closed-loop

Closed-loop stepper motor with absolute value

Outboard-driven

Ball lead screw

Through-going shaft

Stepper motor driver

NEMA 34 two-phase DC hybrid stepper motor



□ NEMA 8

□ NEMA 11

□ NEMA 14

□ NEMA 17

□ NEMA 23

□ NEMA 24

□ NEMA 34

□ NEMA 42

□ NEMA 52

Specification

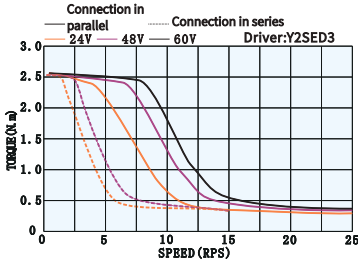
Single output shaft

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y09-59D3-7430	1.8	6.4 connection in parallel	0.24	1.70	2.9	1100	8	Y2SD2-EC Y2SED3
		3.2 (connection in series)	0.96	6.80				
Y09-59D3-7536		6.4 connection in parallel	0.33	2.70	6.3	1850		
		3.2 (connection in series)	1.32	10.8				
Y09-59D3-7655		5.6 (connection in parallel)	0.49	5.40	8.9	2750		
		2.8 (connection in series)	1.96	21.6				
Y09-59D3-7855	6.0	0.72	7.30	12.0	5400	4		

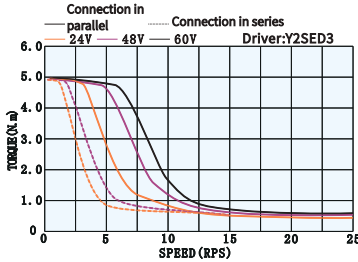
◆ Angle error: ±0.09 degree ◆ Axial allowable load: 60N ◆ Radial allowable load: 320N (NEMA 8 away from the mounting surface)

Torque curve

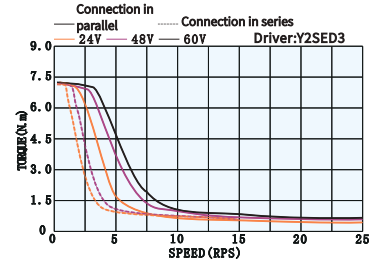
Y09-59D3-7430



Y09-59D3-7536



Y09-59D3-7655



Outside drawing (unit: mm)

Single output shaft

Model	Motor length mm	Mass kg	Wiring diagram
Y09-59D3-7430	66.5	1.6	Fig. 1
Y09-59D3-7536	96.0	2.7	
Y09-59D3-7655	125.5	3.8	Fig. 2
Y09-59D3-7855	157.0	5.0	

Wiring diagram

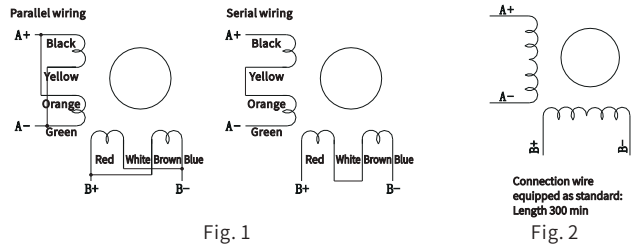
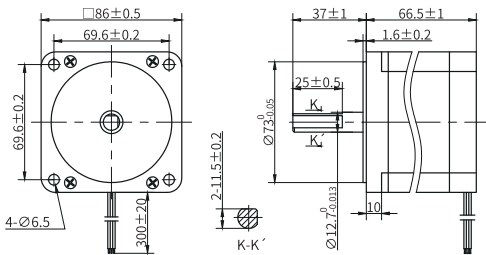


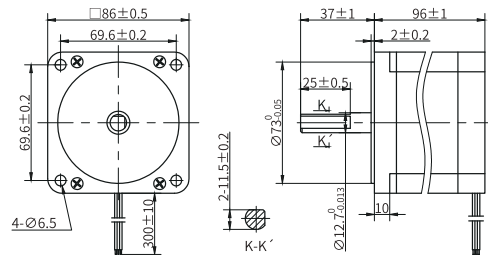
Fig. 1

Connection wire equipped as standard: Length 300 min
Fig. 2

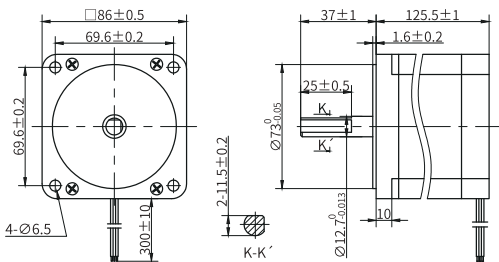
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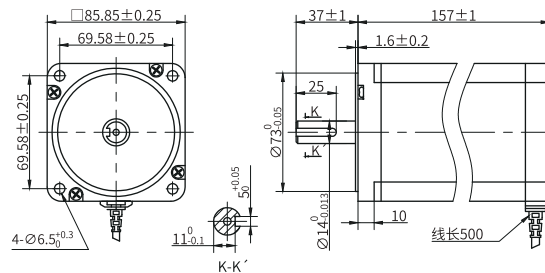
Y09-59D3-7536



Y09-59D3-7655



Y09-59D3-7855



NEMA 34 two-phase DC hybrid stepper motor



Specification

Parallel DC drive

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y09-59D3-7430-P	1.8	6.0	0.27	1.5	3.3	1630	8	Y2SD2-EC Y2SED3
Y09-59D3-7536-P			0.40	3.3	6.5	3200		
Y09-59D3-7655-P			0.48	4.1	9.2	4800		

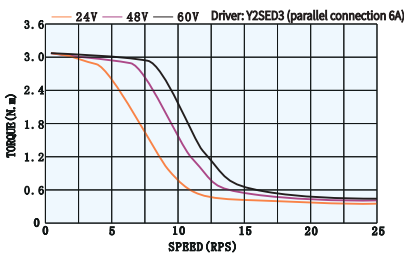
Serial AC drive

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y09-59D3-7430-P	1.8	3.0	1.08	6.0	3.3	1630	8	Y2SD2-EC Y2SED3
Y09-59D3-7536-P			1.60	13.2	6.5	3200		
Y09-59D3-7655-P			1.92	16.4	9.2	4800		

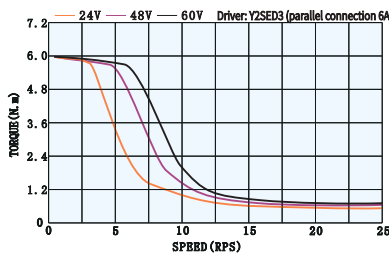
◆ Angle error: ± 0.09 degree ◆ Axial allowable load: 60N ◆ Radial allowable load: 320N (NEMA 8 away from the mounting surface)

Torque curve

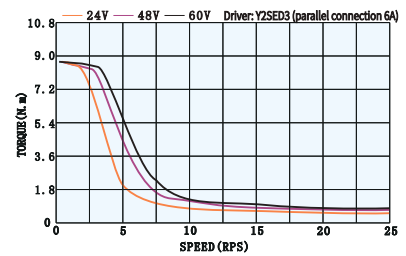
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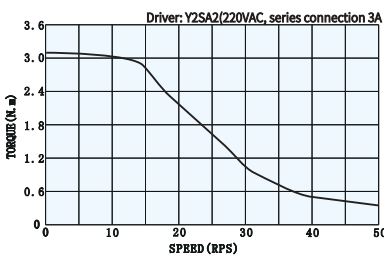
Y09-59D3-7536-P



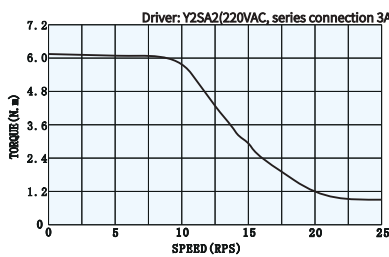
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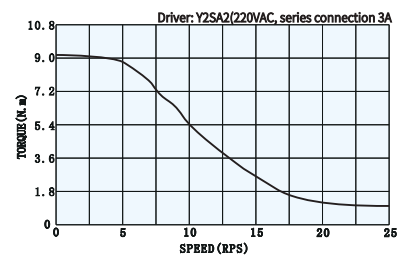
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Y09-59D3-7536-P



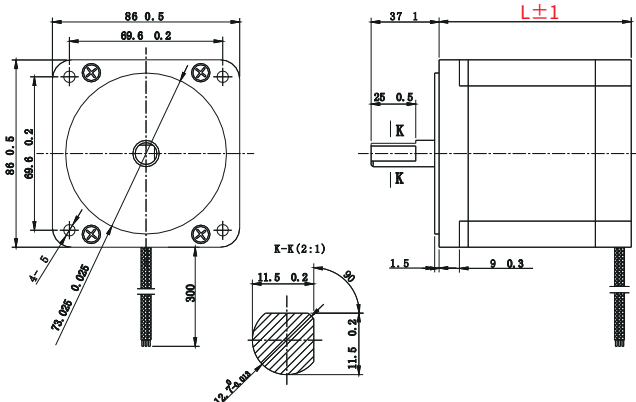
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Outside drawing (unit: mm)

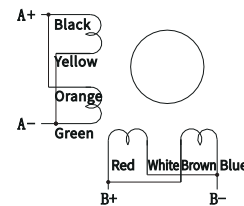
Single output shaft

Model	Motor length L mm	Mass kg
Y09-59D3-7430-P	71.1	2.0
Y09-59D3-7536-P	101.5	2.9
Y09-59D3-7655-P	132.0	4.0

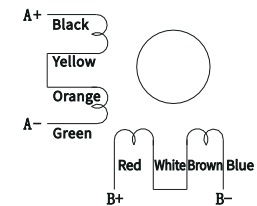


Wiring diagram

Parallel wiring



Serial wiring



NEMA 24 three-phase DC hybrid stepper motor



Specification

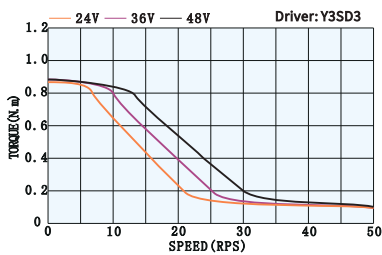
Single output shaft

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y09-59D3-7230	1.2	5.8	0.32	0.8	0.9	260	3	Y3SD3
Y09-59D3-7360			0.50	1.3	1.5	460		

◆ Angle error: ± 0.06 degree ◆ Axial allowable load: 15N ◆ Radial allowable load: 90N (15mm away from the mounting surface)

Torque curve

Y09-59D3-7230



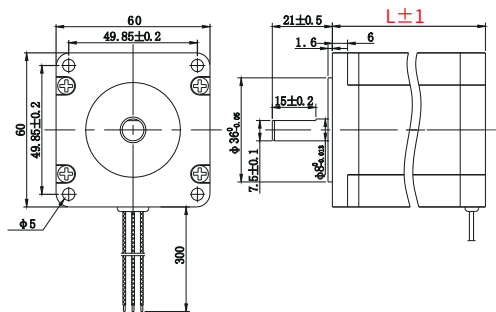
Y09-59D3-7360



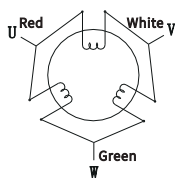
Outside drawing (unit: mm)

Single output shaft

Model	Motor length L mm	Mass kg
Y09-59D3-7230	54.5	0.8
Y09-59D3-7360	76.5	1.3



Wiring diagram



NEMA 34 three-phase DC hybrid stepper motor



Specification

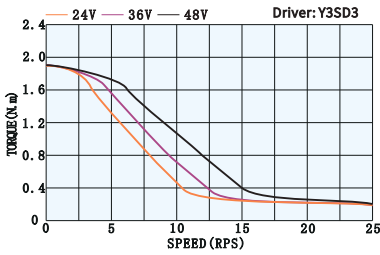
Single output shaft

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y09-59D3-8536	1.2	5.8	0.38	2.4	1.9	1100	3	Y3SD3

◆ Angle error: ± 0.06 degree ◆ Axial allowable load: 60N ◆ Radial allowable load: 320N (NEMA 8 away from the mounting surface)

Torque curve

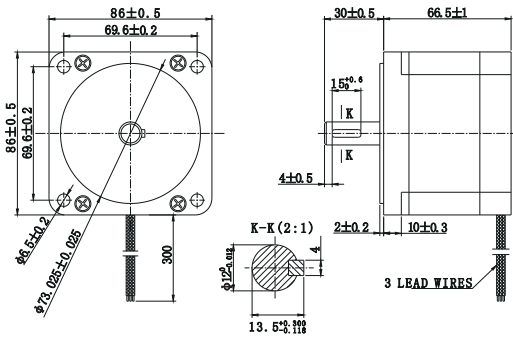
Y09-59D3-8536



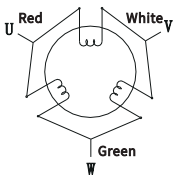
Outside drawing (unit: mm)

Single output shaft

Model	Motor length L mm	Mass kg
Y09-59D3-8536	66.5	1.6



Wiring diagram



Stepper motor

- Hybrid
- Brake
- Reducer integrated
- Hollow shaft
- Hybrid closed-loop
- Brake closed-loop
- Closed-loop stepper motor with absolute value
- Outboard-driven
- Ball leadscrew
- Through-going shaft
- Stepper motor driver

NEMA 24 two-phase DC hybrid stepper motor



□ NEMA 8

□ NEMA 11

□ NEMA 14

□ NEMA 17

□ NEMA 23

□ NEMA 24

□ NEMA 34

□ NEMA 42

□ NEMA 52

Specification

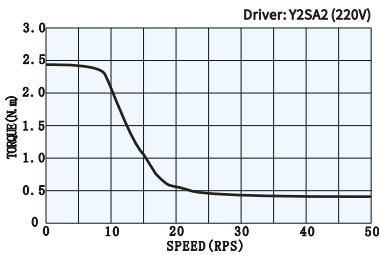
Single output shaft

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y09-59D3-5001-H	1.8	0.8	15.4	38.4	2.5	900	4	Y2SA2

◆ Angle error: ±0.09 degree ◆ Axial allowable load: 20N ◆ Radial allowable load: 120N (15mm away from the mounting surface)

Torque curve

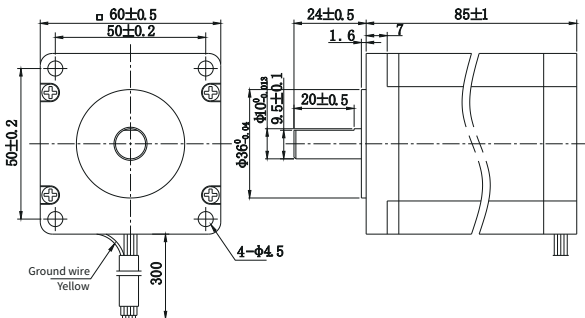
Y09-59D3-5001-H



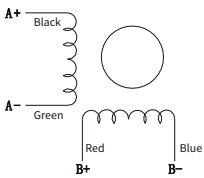
Outside drawing (unit: mm)

Single output shaft

Model	Motor length L mm	Mass kg
Y09-59D3-5001-H	85.0	1.4



Wiring diagram



NEMA 34 two-phase DC hybrid stepper motor



Specification

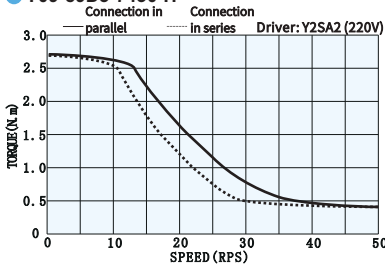
● Single output shaft

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y09-59D3-7430-H	1.8	3.6 (connection in parallel)	0.85	1.7	3.5	1100	8	Y2SA2
		1.8 (connection in series)	3.40	6.8				
Y09-59D3-7536-H		3.6 (connection in parallel)	0.90	2.7	6.3	1850		
		1.8 (connection in series)	3.60	10.8				
Y09-59D3-7655-H		3.6 (connection in parallel)	1.05	5.4	8.5	2750		
		1.8 (connection in series)	4.20	21.6				

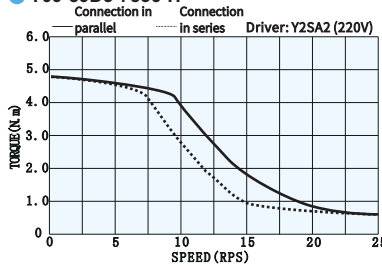
◆ Angle error: ± 0.09 degree ◆ Axial allowable load: 60N ◆ Radial allowable load: 320N (NEMA 8 away from the mounting surface)

Torque curve

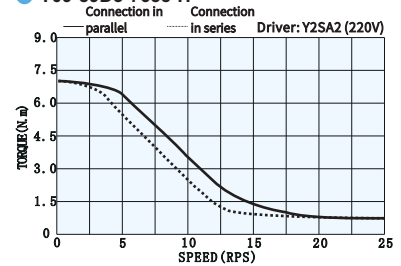
● Y09-59D3-7430-H



● Y09-59D3-7536-H



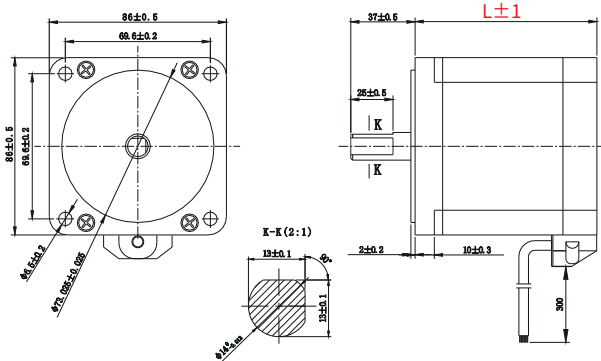
● Y09-59D3-7655-H



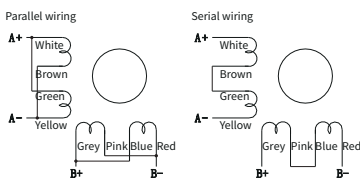
Outside drawing (unit: mm)

● Single output shaft

Model	Motor length L mm	Mass kg
Y09-59D3-7430-H	67.5	1.6
Y09-59D3-7536-H	97.0	2.7
Y09-59D3-7655-H	126.5	3.8



Wiring diagram



Hybrid

Brake

Reducer integrated

Hollow shaft

Hybrid closed-loop

Brake closed-loop

Closed-loop stepper motor with absolute value

Outboard-driven Leadscrew stepper motor

Ball leadscrew

Through-going shaft

Stepper motor driver

NEMA 42 three-phase DC hybrid stepper motor



Specification

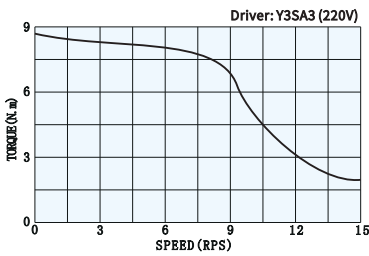
Single output shaft

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y09-110D5-1109	1.2	4.3	1.00	11.9	9	8.6	3	Y3SA3
Y09-110D5-1113		5.0	0.76	11.5	13	11.9		
Y09-110D5-1119		6.0	1.28	19.0	19	14.8		
Y09-110D5-1125		6.8	1.24	22.0	25	19.8		

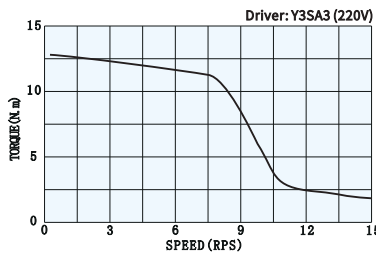
◆ Angle error: ± 0.06 degree ◆ Axial allowable load: 150N ◆ Radial allowable load: 490N (25mm away from the mounting surface)

Torque curve

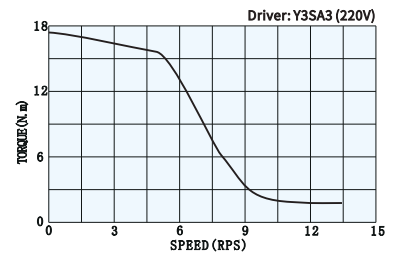
Y09-110D5-1109



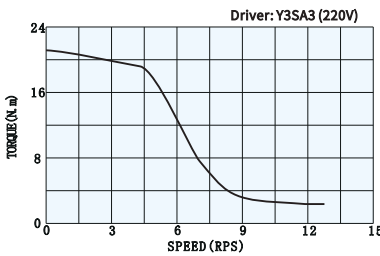
Y09-110D5-1113



Y09-110D5-1119



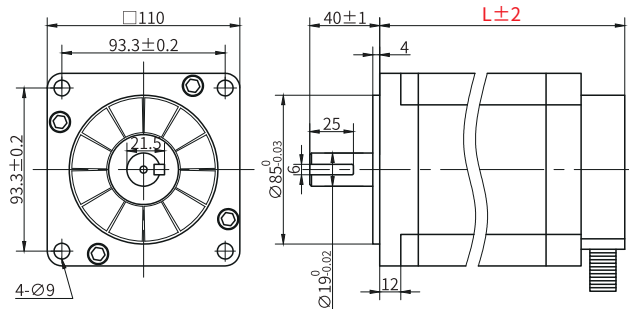
Y09-110D5-1125



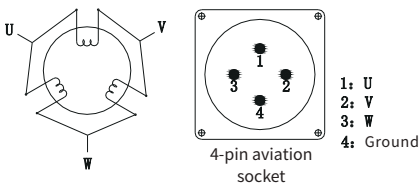
Outside drawing (unit: mm)

Single output shaft

Model	Motor length L mm	Mass kg
Y09-110D5-1109	139	5.5
Y09-110D5-1113	162	7.1
Y09-110D5-1119	187	8.8
Y09-110D5-1125	221	11.0



Wiring diagram



NEMA 52 three-phase DC hybrid stepper motor



Specification

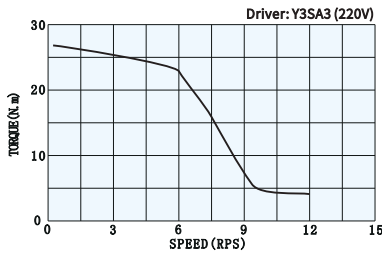
Single output shaft

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y09-130D5-1328	1.2	6.8	0.95	19.0	28	34.0	3	Y3SA3
Y09-130D5-1335			1.09	24.0	35	41.4		
Y09-130D5-1350			1.08	18.3	50	47.3		

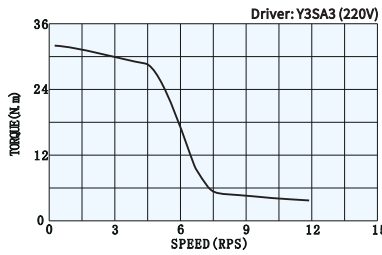
◆ Angle error: ± 0.06 degree ◆ Axial allowable load: 260N ◆ Radial allowable load: 720N (30mm away from the mounting surface)

Torque curve

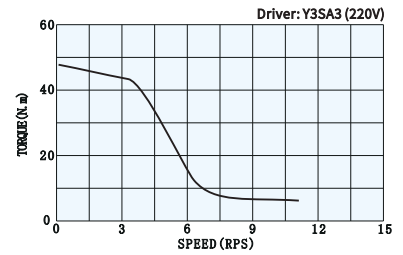
Y09-130D5-1328



Y09-130D5-1335



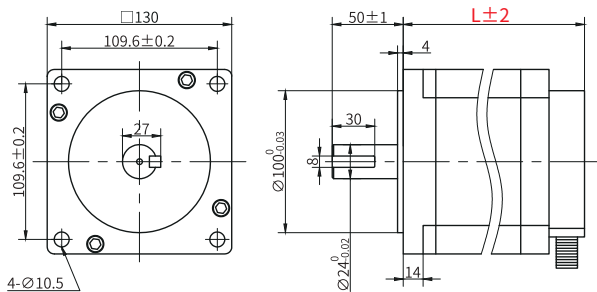
Y09-130D5-1350



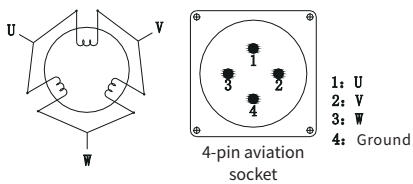
Outside drawing (unit: mm)

Single output shaft

Model	Motor length L mm	Mass kg
Y09-130D5-1328	220	17
Y09-130D5-1335	252	19
Y09-130D5-1350	280	21



Wiring diagram



Hybrid
Stepper motor
Brake
Reducer integrated
Hollow shaft
Hybrid closed-loop
Brake closed-loop
Closed-loop stepper motor with absolute value
Outboard-driven
Ball lead screw
Through-going shaft
Stepper motor driver

Brake stepper motor series

Two-phase DC brake stepper motor in NEMA
17, NEMA 23 and NEMA 34
Dc and AC are available for options



NEMA 17 two-phase DC brake stepper motor



Specification

Motor parameter

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y07-43D1-4275M	1.8	1.6 (half-winding)	1.90	1.8	0.31	56	6	Y2SD2-EC Y2SED1-S
		1.1 (full-winding)	3.80	7.2	0.43			
Y07-43D4-5065M		2.0	1.80	4.0	0.54	66	4	

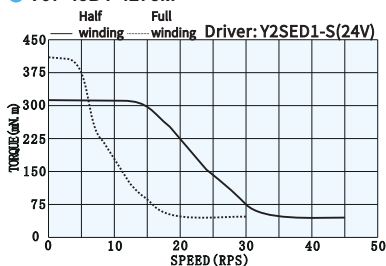
◆ Angle error: ± 0.09 degree ◆ Axial allowable load: 10N ◆ Radial allowable load: 25N (15mm away from the mounting surface)

Brake parameters

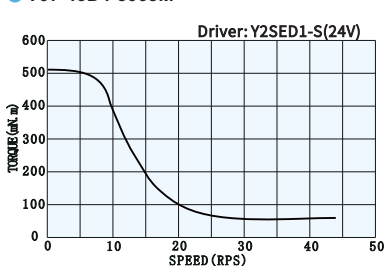
Type of brake	Brake voltage VDC	Brake power W	Brake torque N.m	Brake reaction time ms
Power-off brake	24	6.4	0.32	50

Torque curve

Y07-43D1-4275M



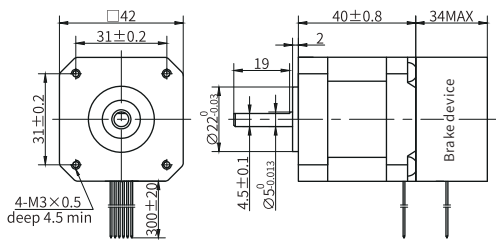
Y07-43D4-5065M



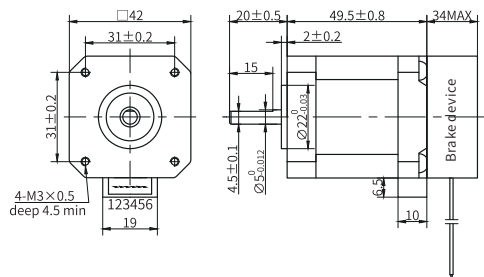
Outside drawing (unit: mm)

Model	Overall length mm	Mass kg
Y07-43D1-4275M	74.0	0.41
Y07-43D4-5065M	84.0	0.50

Y07-43D1-4275M

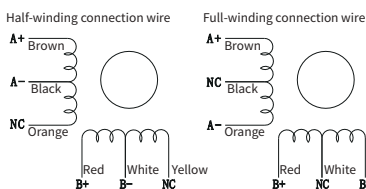


Y07-43D4-5065M

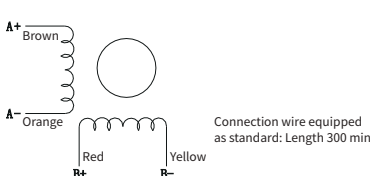


Wiring diagram

Y07-43D1-4275M



Y07-43D4-5065M



Hybrid
Brake
Stepper motor
Reducer integrated
Hollow shaft
Hybrid closed-loop
Closed-loop stepper motor
Brake closed-loop
Closed-loop stepper motor with absolute value
Outboard-driven
Leadscrew stepper motor
Ball leadscrew
Through-going shaft
Stepper motor driver

NEMA 23 two-phase DC brake stepper motor



□ NEMA 8

□ NEMA 11

□ NEMA 14

□ NEMA 17

□ NEMA 23

□ NEMA 24

□ NEMA 34

□ NEMA 42

□ NEMA 52

Specification

Motor parameter

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y07-59D1-3075M	1.8	4.2	0.40	1.3	1.4	245	4	Y2SD2-EC Y2SED2
Y07-59D1-4008M		4.4 (connection in parallel)	0.40	1.3		330	8	
Y07-59D1-17155M		2.2 (connection in series)	1.60	5.2	470	4		

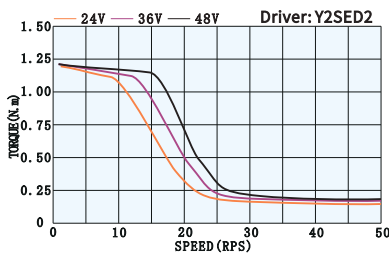
◆ Angle error: ± 0.09 degree ◆ Axial allowable load: 15N ◆ Radial allowable load: 90N (15mm away from the mounting surface)

Brake parameters

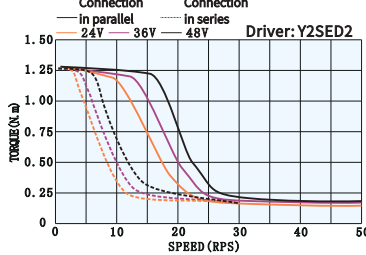
Type of brake	Brake voltage VDC	Brake power W	Brake torque N.m	Brake reaction time ms
Power-off brake	24	7.2	1.5	50

Torque curve

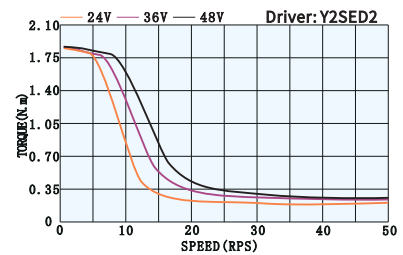
Y07-59D1-3075M



Y07-59D1-4008M



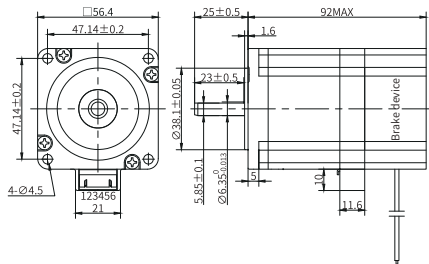
Y07-59D1-17155M



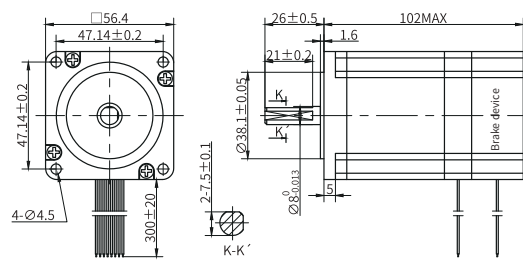
Outside drawing (unit: mm)

Model	Overall length mm	Mass kg	Wiring diagram
Y07-59D1-3075M	92	1.15	Fig. 1
Y07-59D1-4008M	102	1.30	Fig. 2
Y07-59D1-17155M	115	1.55	Fig. 1

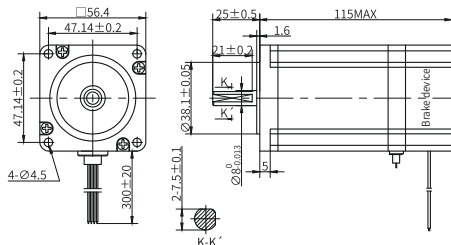
Y07-59D1-3075M



Y07-59D1-4008M



Y07-59D1-17155M



Wiring diagram

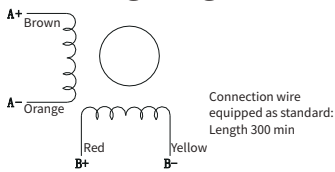


Fig. 1

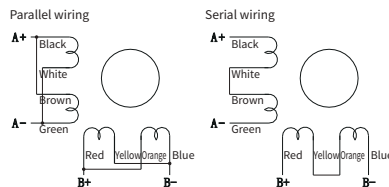


Fig. 2

NEMA 17 two-phase DC brake stepper motor



Specification

Motor parameter

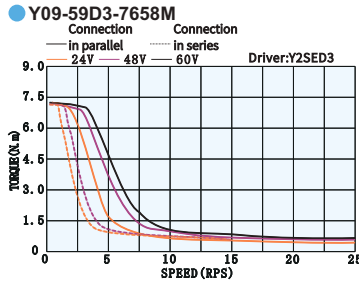
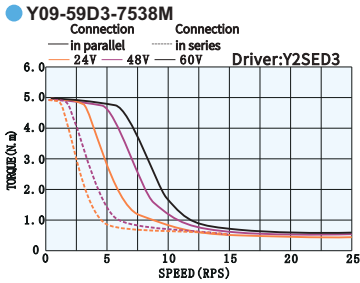
Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y09-59D3-7538M	1.8	6.4 connection in parallel	0.33	2.7	6.3	1850	8	Y2SD2-EC Y2SED3
		3.2 (connection in series)	1.32	10.8				
Y09-59D3-7658M		5.6 (connection in parallel)	0.40	4.2	9.5	2500		
		2.8 (connection in series)	1.60	16.8				
Y09-86D118-8308M		5.6 (connection in parallel)	0.40	4.2				
		2.8 (connection in series)	1.60	16.8				

◆ Angle error: ± 0.09 degree ◆ Axial allowable load: 60N ◆ Radial allowable load: 320N (25mm away from the mounting surface)
 ※ The old pattern of Y09-59D3-7658M will be subject to suspend production soon, it is recommended to use the new Y09-86D118-8308M instead

Brake parameters

Type of brake	Brake voltage VDC	Brake power W	Brake torque N.m	Brake reaction time ms	Brake wiring
Power-off brake	24	12	4.0	50	Red (24V+) Black (GND)

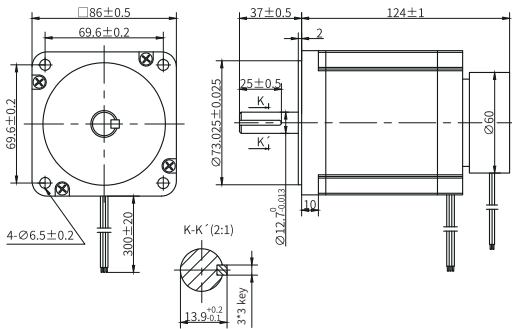
Torque curve



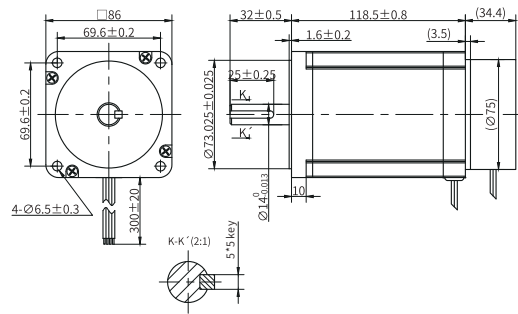
Outside drawing (unit: mm)

Model	Overall length mm	Mass kg
Y09-59D3-7538M	124	3.10
Y09-59D3-7658M	153	4.00
Y09-86D118-8308M	152	4.00

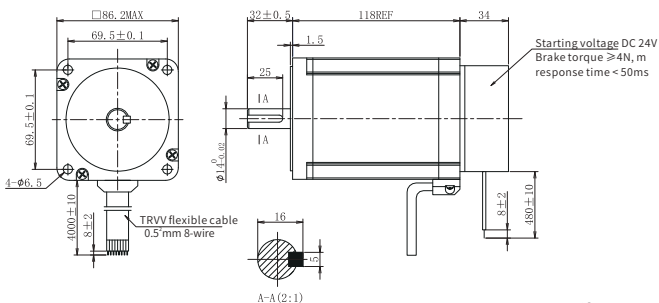
Y09-59D3-7538M



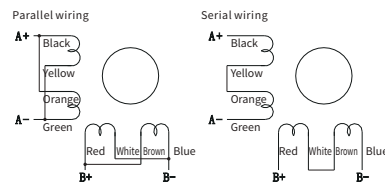
Y09-59D3-7658M



Y09-86D118-8308M



Wiring diagram



Hybrid
 Brake
 Stepper motor
 Reducer integrated
 Hollow shaft
 Hybrid closed-loop
 Brake closed-loop
 Closed-loop stepper motor with absolute value
 Outboard-driven
 Leadscrew stepper motor
 Ball leadscrew
 Through-going shaft
 Stepper motor driver

- NEMA 8
- NEMA 11
- NEMA 14
- NEMA 17
- NEMA 23
- NEMA 24
- NEMA 34
- NEMA 42
- NEMA 52

NEMA 42 three-phase AC brake stepper motor

Specification

Motor parameter

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y09-110D5-1119M	1.2	6.0	1.28	19.0	16	14.8	6	Y3SA3

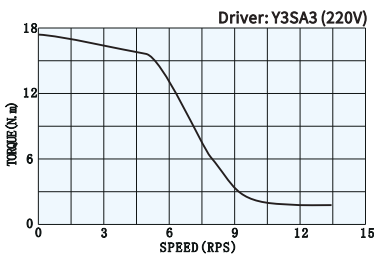
◆ Angle error: ± 0.06 degree ◆ Axial allowable load: 150N/260N ◆ Radial allowable load: 490N/720N (25mm away from the mounting surface)

Brake parameters

Type of brake	Brake voltage VDC	Brake power W	Brake torque N.m	Brake reaction time ms	Brake wiring
Power-off brake	24	12	4.0	50	Red (24V+) Black (GND)

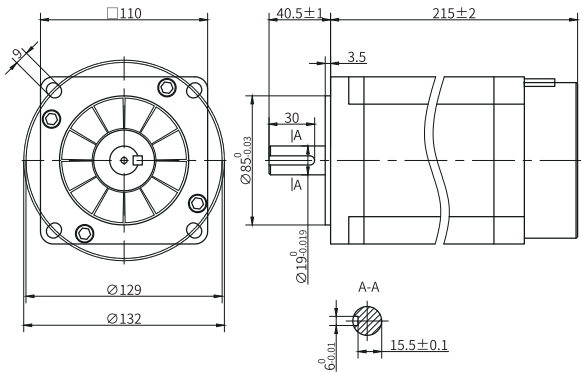
Torque curve

Y09-110D5-1119M

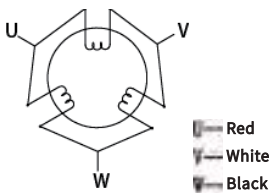


Outside drawing (unit: mm)

Model	Overall length mm	Mass kg
Y09-110D5-1119M	215	8.8



Wiring diagram



NEMA 52 three-phase AC brake stepper motor

Specification

Motor parameter

Model	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y09-130D5-1350M	1.2	6.8	1.1	18.3	50	47.3	6	Y3SA3

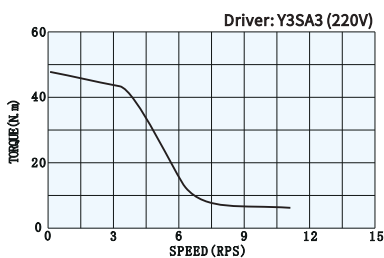
◆ Angle error: ± 0.06 degree ◆ Axial allowable load: 150N/260N ◆ Radial allowable load: 490N/720N (25mm away from the mounting surface)

Brake parameters

Type of brake	Brake voltage VDC	Brake power W	Brake torque N.m	Brake reaction time ms	Brake wiring
Power-off brake	24	12	4.0	50	Red (24V+) Black (GND)

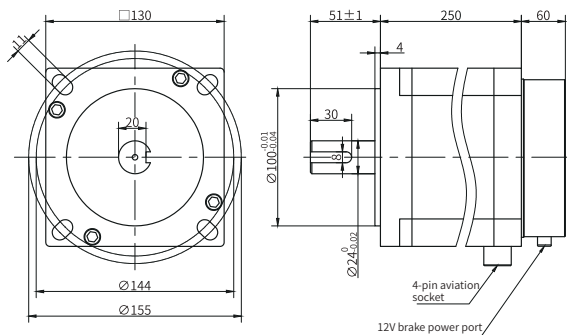
Torque curve

Y09-130D5-1350M

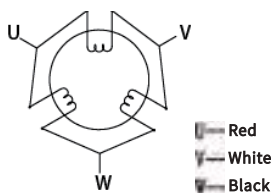


Outside drawing (unit: mm)

Model	Overall length mm	Mass kg
Y09-130D5-1350M	310	21



Wiring diagram



Stepper motor

- Hybrid
- Brake
- Reducer integrated
- Hollow shaft
- Closed-loop stepper motor
 - Hybrid closed-loop
 - Brake closed-loop
 - Closed-loop stepper motor with absolute value
- Leadscrew stepper motor
 - Outboard-driven
 - Ball leadscrew
 - Through-going shaft
- Stepper motor driver

Kaifull Electronics Technology

Reducer integrated stepper motor series

Two-phase DC reducer integrated stepper motor
in NEMA 17, NEMA 24 and 90mm
are available for options



NEMA 17 two-phase DC integrated reducer stepper motor Eccentric shaft



Specification

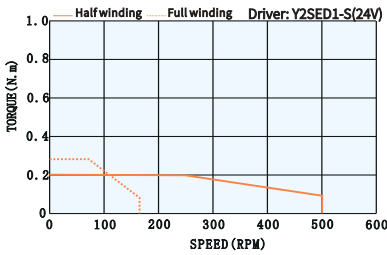
Single output shaft

Model	Reduction ratio	Step angle deg	Current A	Resistance Ω	Inductor mH	Allowable torque N.m	Rotor inertia g.cm ²	Number of leads LEAD	Mass kg	Driver		
S42D110A-MACR6S2	1:3.6	0.50	1.0 (half-winding) /0.7 (full-winding)	2.7	2.3	0.20	33	6	0.33	Y2SD2-EC Y2SED1-S		
S42D110A-MAGR2S2	1:7.2	0.25				0.40						
S42D110A-MA09S2	1:9	0.20				0.50						
S42D110A-MAA8S2	1:10	0.18				0.56						
S42D110A-MAC6S2	1:36	0.05	5.4	9.2	0.80							
S42D110A-MAE0S2	1:50	0.036										
S42D110A-MAA00S2	1:100	0.018										

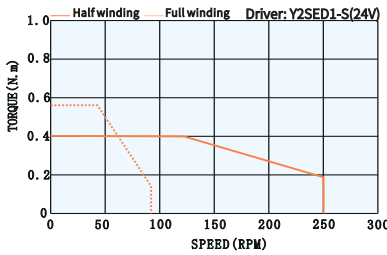
◆ Reducer backlash: 0.5° - 1° ◆ Axial allowable load: 10N ◆ Radial allowable load: 25N (15mm away from the mounting surface)

Torque curve

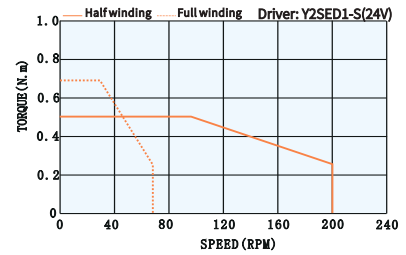
S42D110A-MACR6S2



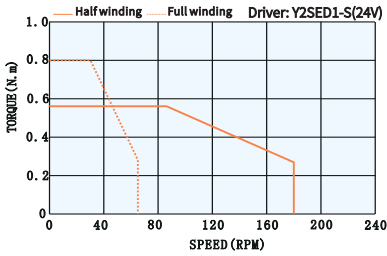
S42D110A-MAGR2S2



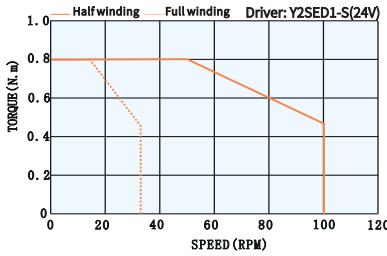
S42D110A-MA09S2



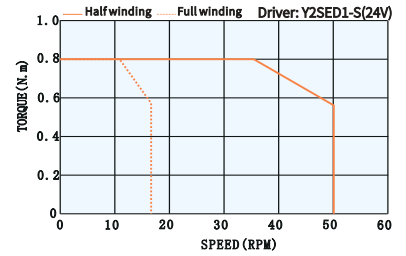
S42D110A-MAA0S2



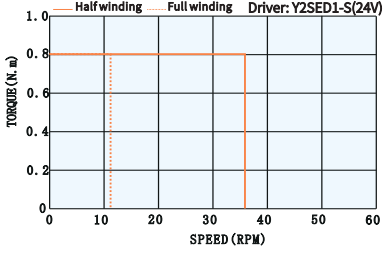
S42D110A-MAA8S2



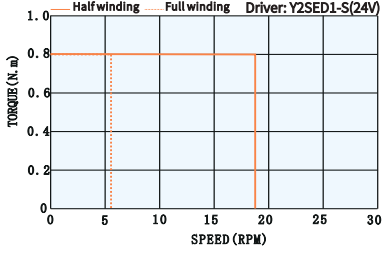
S42D110A-MAC6S2



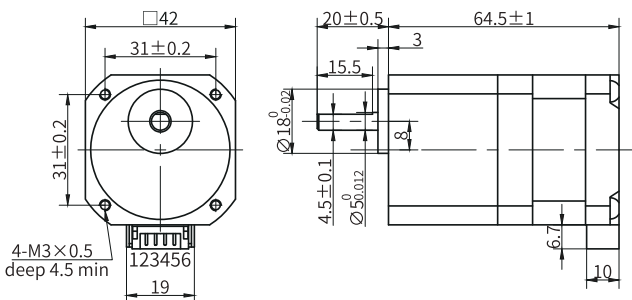
S42D110A-MAE0S2



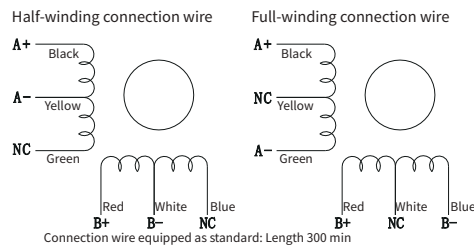
S42D110A-MAA00S2



Outside drawing (unit: mm)



Wiring diagram



Hybrid
Brake
Stepper motor
Reducer
Integrated
Hollow shaft
Hybrid
closed-loop
Closed-loop stepper motor
Brake
closed-loop
Closed-loop stepper motor with absolute value
Outboard-driven
Leadscrew stepper motor
Ball leadscrew
Through-going shaft
Stepper motor driver

NEMA 24 two-phase DC integrated reducer stepper motor Eccentric shaft



Specification

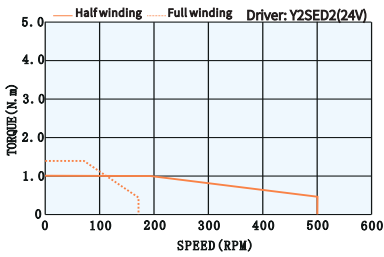
Single output shaft

Model	Reduction ratio	Step angle deg	Current A	Resistance Ω	Inductor mH	Allowable torque N.m	Rotor inertia g.cm ²	Number of leads LEAD	Mass kg	Driver
S60D120A-MACR6S2	1:3.6	0.50	2.0 (half-winding) /1.4 (full-winding)	1.1	1.1	1.0	135	6	0.8	Y2SD2-EC Y2SED2
S60D120A-MAGR2S2	1:7.2	0.25				2.0				
S60D120A-MA09S2	1:9	0.20				2.5				
S60D120A-MAA0S2	1:10	0.18				2.7				
S60D120A-MAA8S2	1:18	0.10				3.0				
S60D120A-MAC6S2	1:36	0.05				4.0				
S60D120A-MAE0S2	1:50	0.036	2.2	4.4	4.0					
S60D120A-MAA00S2	1:100	0.018								

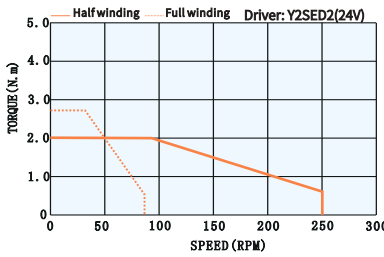
◆ Reducer backlash: 0.5° - 1° ◆ Axial allowable load: 15N ◆ Radial allowable load: 90N (15mm away from the mounting surface)

Torque curve

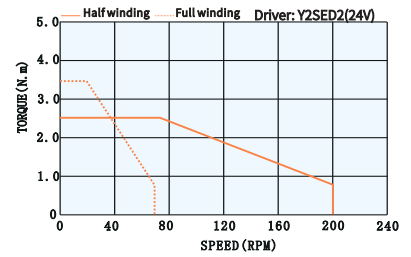
S60D120A-MACR6S2



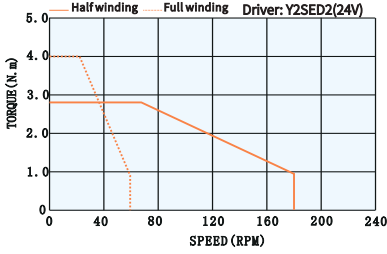
S60D120A-MAGR2S2



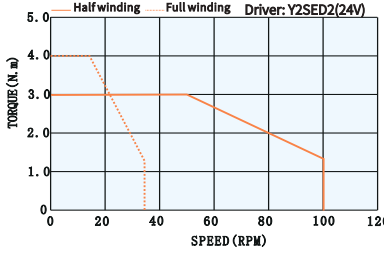
S60D120A-MA09S2



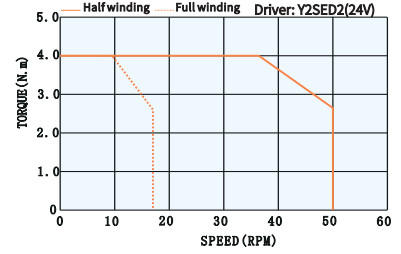
S60D120A-MAA0S2



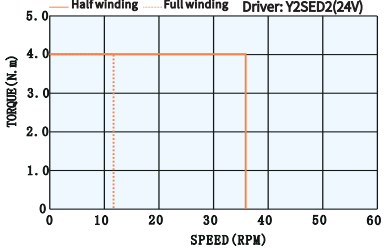
S60D120A-MAA8S2



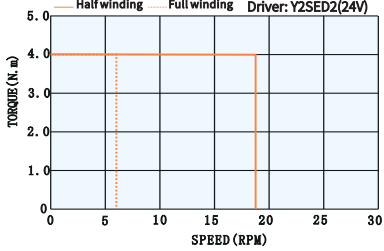
S60D120A-MAC6S2



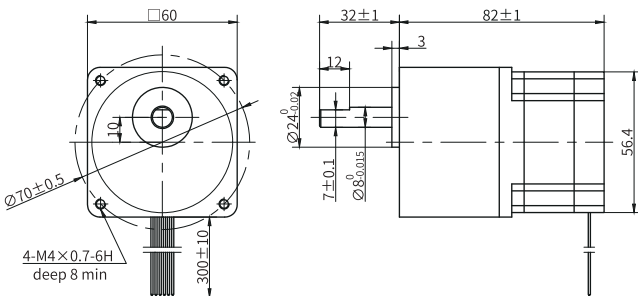
S60D120A-MAE0S2



S60D120A-MAA00S2

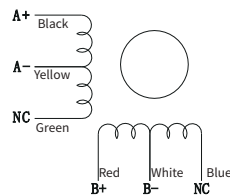


Outside drawing (unit: mm)

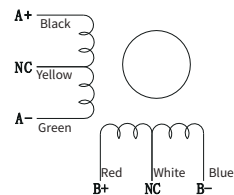


Wiring diagram

Half-winding connection wire



Full-winding connection wire



90mm two-phase DC integrated reducer stepper motor Eccentric shaft



Specification

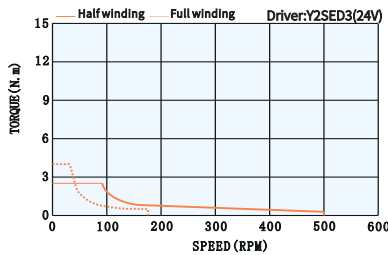
Single output shaft

Model	Reduction ratio	Step angle deg	Current A	Resistance Ω	Inductor mH	Allowable torque N.m	Rotor inertia g.cm ²	Number of leads LEAD	Mass kg	Driver
S90D130A-MACR6S2	1:3.6	0.50	3.0 (half-winding)	0.49	1.5	2.5	1400	6	3.0	Y2SD2-EC Y2SED3
S90D130A-MAGR2S2	1:7.2	0.25				5.0				
S90D130A-MA09S2	1:9	0.20				6.3				
S90D130A-MAA0S2	1:10	0.18	/2.1 (full-winding)	7.0						
S90D130A-MAA8S2	1:18	0.10		9.0						
S90D130A-MAC6S2	1:36	0.05	12							

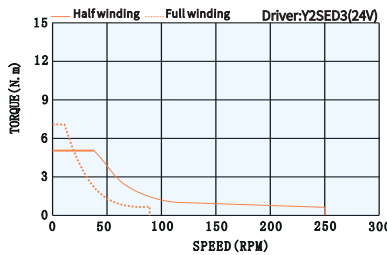
◆ Reducer backlash: 0.5° - 1° ◆ Axial allowable load: 60N ◆ Radial allowable load: 320N (NEMA 8 away from the mounting surface)

Torque curve

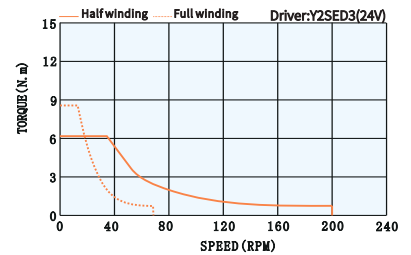
S90D130A-MACR6S2



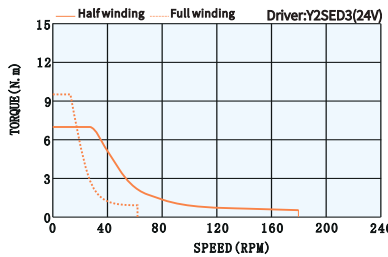
S90D130A-MAGR2S2



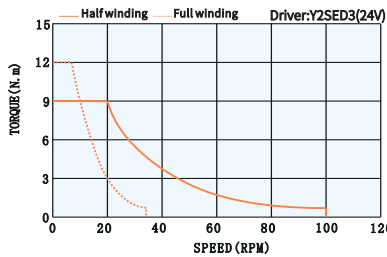
S90D130A-MA09S2



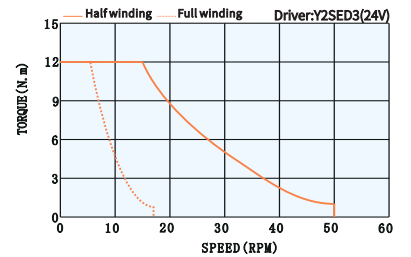
S90D130A-MAA0S2



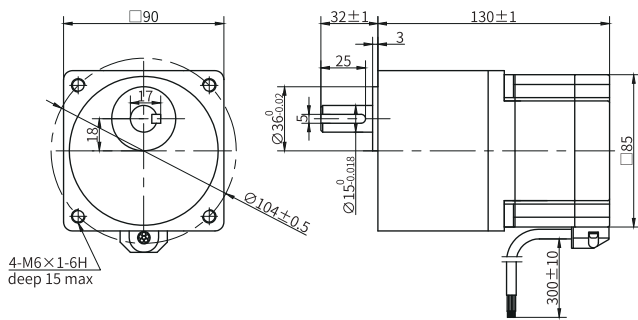
S90D130A-MAA8S2



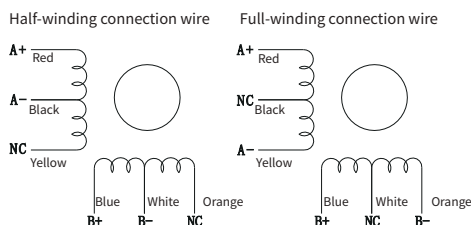
S90D130A-MAC6S2



Outside drawing (unit: mm)



Wiring diagram



Hybrid
Brake
Stepper motor
Integrated
Reducer
Hollow shaft
Closed-loop stepper motor
Hybrid closed-loop
Brake closed-loop
Closed-loop stepper motor with absolute value
Outboard-driven
Leadscrew stepper motor
Ball leadscrew
Through-going shaft
Stepper motor driver

28-NEMA 34 two-phase DC reducer stepper motor

Specification

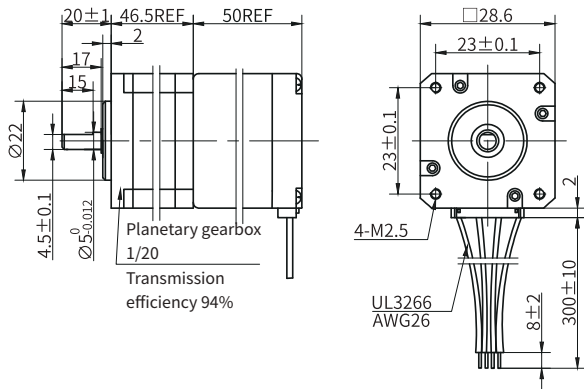
Single output shaft

Model	Flange size mm	Step angle deg	Current A	Resistance Ω	Inductor mH	Allowable torque N.m	Rotor inertia g.cm ²	Number of leads LEAD	Mass kg	Driver
Y07-28D50-3603-PL28-020	28	1.8	1.0	2.50	2.0	0.15	25	4	0.15	Y2SD2-EC Y2SED1-S
Y07-43D1-2216-PL42-010	42		1.5	2.30	3.9	0.41	400		0.90	
Y07-43D40-2216-PL42-020	42		1.5	2.20	3.8	0.41	57		0.90	
Y07-59D1-5723-PL57-010	57		3.0	0.65	2.2	1.10	280		1.45	
Y07-59D80-5780-PL57-020	57		4.2	0.60	1.7	2.00	460		1.80	
Y07-86D96-6302-PL86-5	86		5.0	0.60	3.6	6.00	1850		1.45	

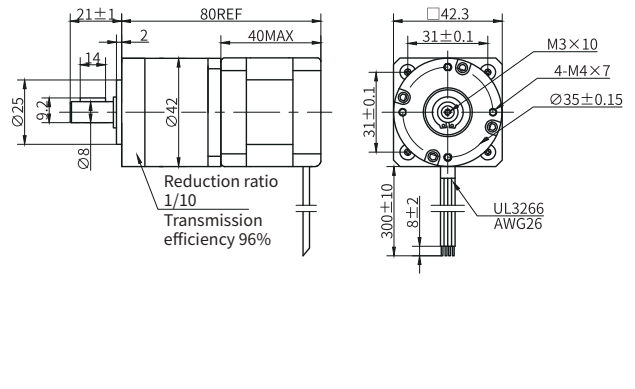
◆ Reducer backlash: 0.5° - 1° ◆ Axial allowable load: 60N ◆ Radial allowable load: 320N (NEMA 8 away from the mounting surface)

Outside drawing (unit: mm)

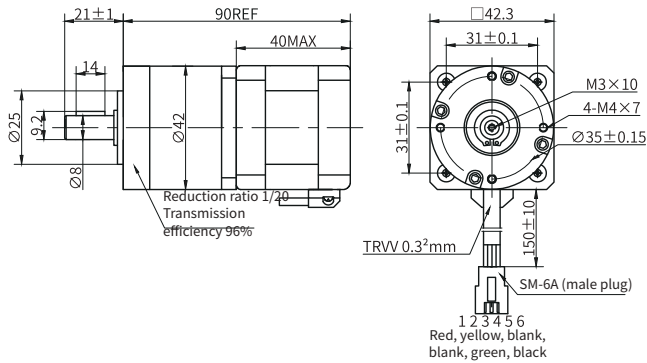
Y07-28D50-3603-PL28-020



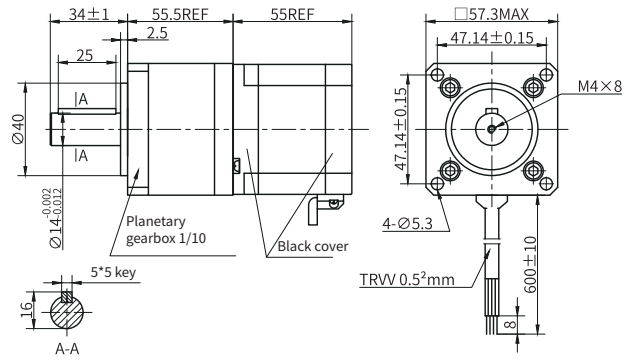
Y07-43D1-2216-PL42-010



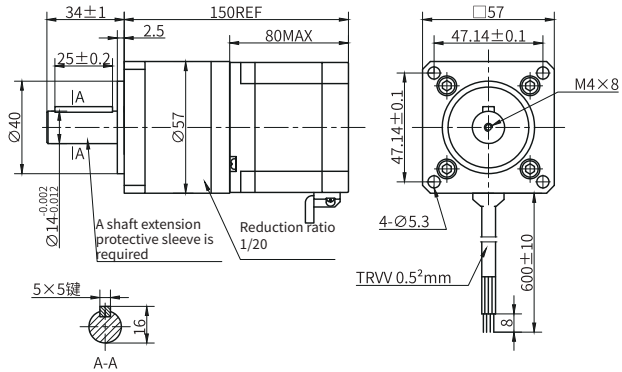
Y07-43D40-2216-PL42-020



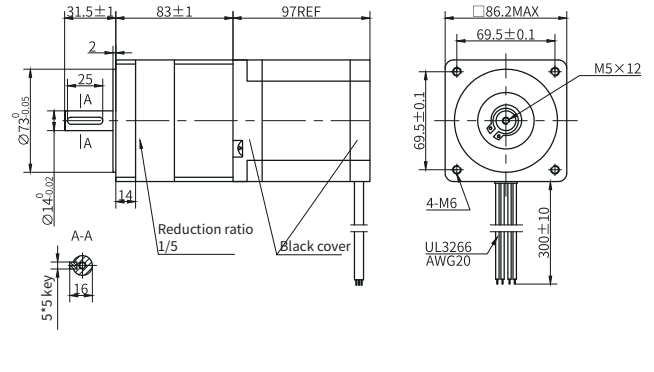
Y07-59D1-5723-PL57-010



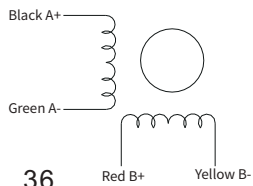
Y07-59D80-5780-PL57-020



Y07-86D96-6302-PL86-5



Wiring diagram



40-NEMA 24 two-phase DC reducer stepper motor Eccentric shaft with encoder

Specification

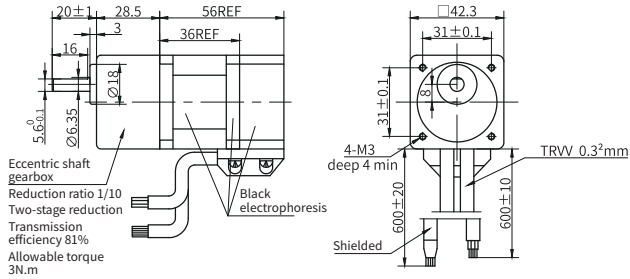
Single output shaft

Model	Flange size mm	Step angle deg	Current A	Resistance Ω	Inductor mH	Allowable torque N.m	Rotor inertia g.cm ²	Number of leads LEAD	Mass kg	Driver
Y07-43D36-2010-PX42-010E	42	1.8	0.23	1.0	2.7	2.3	38	4	1.2	Y2SS3-EC Y2SS3
Y07-60D42-2114-PX60-030E	60		0.57	2.0	1.1	1.1	750		1.8	

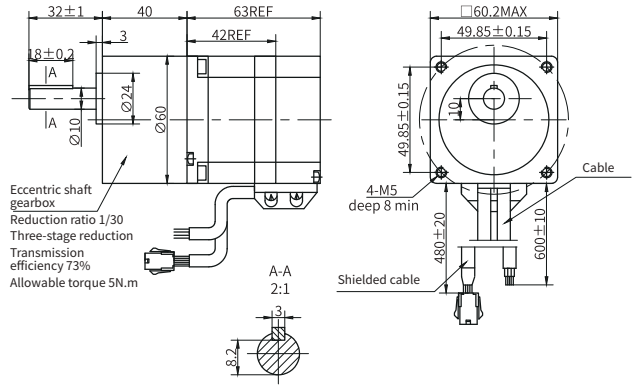
◆ Reducer backlash: 0.5° - 1° ◆ Axial allowable load: 60N ◆ Radial allowable load: 320N (NEMA 8 away from the mounting surface)

Outside drawing (unit: mm)

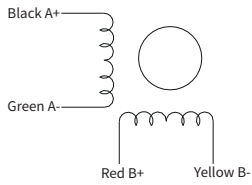
Y07-43D36-2010-PX42-010E



Y07-60D42-2114-PX60-030E



Wiring diagram



Hybrid
Brake
Stepper motor
Reducer
Integrated
Hollow shaft
Hybrid
closed-loop
Closed-loop stepper motor
Brake
closed-loop
Closed-loop stepper motor with absolute value
Outboard-driven
Leadscrew stepper motor
Ball leadscrew
Through-going shaft
Stepper motor driver

Hollow shaft stepper motor series

Hollow shaft open-loop stepper motor and hollow shaft closed-loop stepper motor are available for options



20-NEMA 23 two-phase DC hollow shaft stepper motor



Specification

Single output shaft

Model	Flange size mm	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y07-20D1-1002-ZK25	20	1.8	0.6	9.0	3.0	22	3	4	Y2SD2-EC Y2SED1-S
Y07-28D1-2003-ZK52	28		0.7	5.2	2.7	60	9		
Y07-43D1-4002-ZK52	42		1.3	3.0	6.0	380	57		
Y07-43D1-6002-ZK52	42		1.3	3.2	7.0	520	82		
Y07-59D1-1001-ZK52	57		3.0	0.5	1.2	760	185		

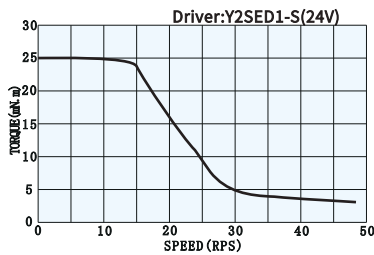
◆ Step angle accuracy: $\pm 5\%$ ◆ Operating ambient temperature: $-20^{\circ}\text{C} - +50^{\circ}\text{C}$

Screw specification

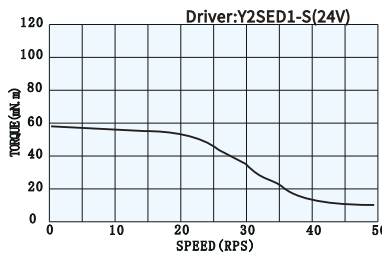
Model	Diameter of hollow hole mm	Thread specification
Y07-20D1-1002-ZK25	2.5	NO
Y07-28D1-2003-ZK52	4.2	M5
Y07-43D1-4002-ZK52	4.2	M5
Y07-43D1-6002-ZK52	4.2	M5
Y07-59D1-1001-ZK52	4.2	M5

Torque curve

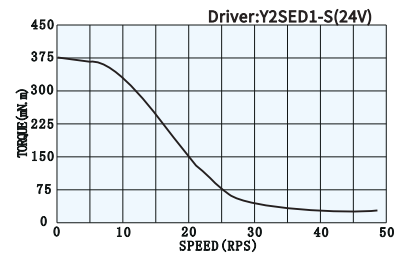
Y07-20D1-1002-ZK25



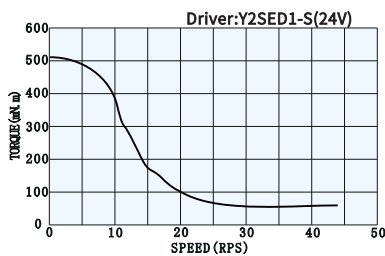
Y07-28D1-2003-ZK52



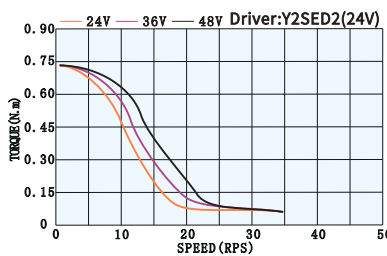
Y07-43D1-4002-ZK52



Y07-43D1-6002-ZK52



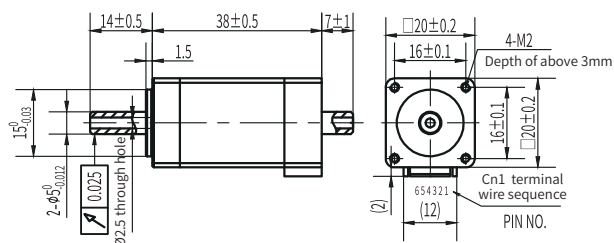
Y07-59D1-1001-ZK52



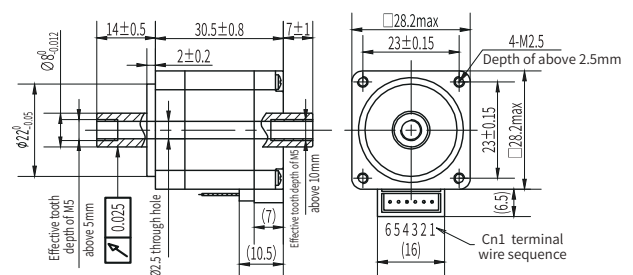
Outside drawing (unit: mm)

Model	Motor length mm	Mass kg
Y07-20D1-1002-ZK25	38.0	0.08
Y07-28D1-2003-ZK52	31.0	0.12
Y07-43D1-4002-ZK52	39.7	0.28
Y07-43D1-6002-ZK52	47.7	0.36
Y07-59D1-1001-ZK52	44.4	0.50

Y07-20D1-1002-ZK25



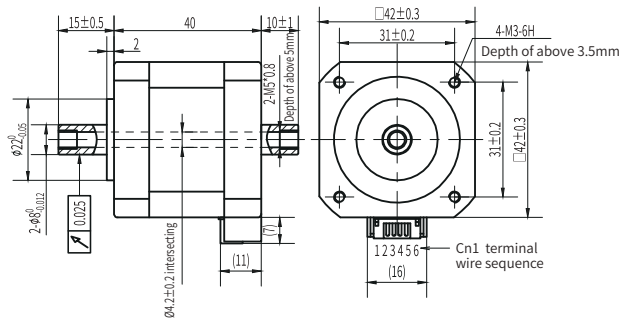
Y07-28D1-2003-ZK52



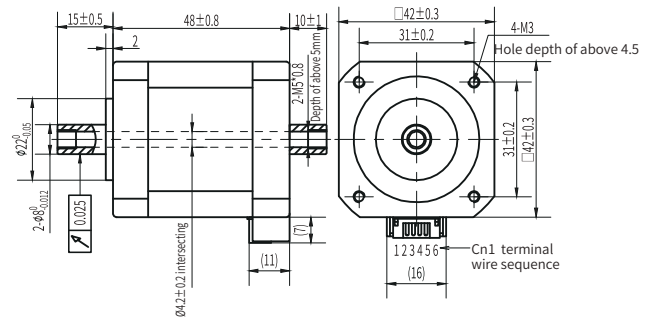
Hybrid
Brake
Reducer
integrated
Hollow shaft
Hybrid
closed-loop
Brake
closed-loop
Closed-loop stepper motor
with absolute
value
Closed-loop
stepper motor
Outboard-driven
Ball leadscrew
Leadscrew stepper motor
Through-going
shaft
Stepper motor
driver

Outside drawing (unit: mm)

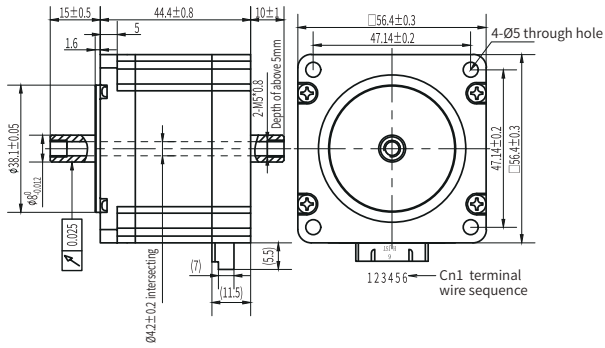
● Y07-43D1-4002-ZK52



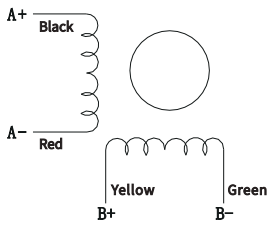
● Y07-43D1-6002-ZK52



● Y07-59D1-1001-ZK52



Wiring diagram



20-NEMA 17 two-phase DC closed-loop hollow shaft stepper motor



Specification

Single output shaft

Model	Flange size mm	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g-cm ²	Number of leads LEAD	Driver
Y07-20D1-4402-E2000	20	1.8	0.60	6.0	2.0	32	3	4	Y2SS3-EC Y2SS3
Y07-28D1-3401ZK-E1000	28		0.67	6.5	3.2	60	9		
Y07-43D40-0002-E1000	42		1.50	2.1	4.8	400	43		

◆ Step angle accuracy: $\pm 5\%$ ◆ Operating ambient temperature: $-20^{\circ}\text{C} - +50^{\circ}\text{C}$

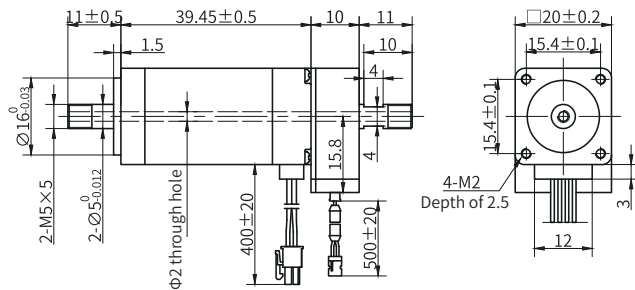
Screw specification

Model	Diameter of hollow hole mm	Thread specification
Y07-20D1-4402-E2000	2.0	M5
Y07-28D1-3401ZK-E1000	2.5	M5
Y07-43D40-0002-E1000	4.2	M5

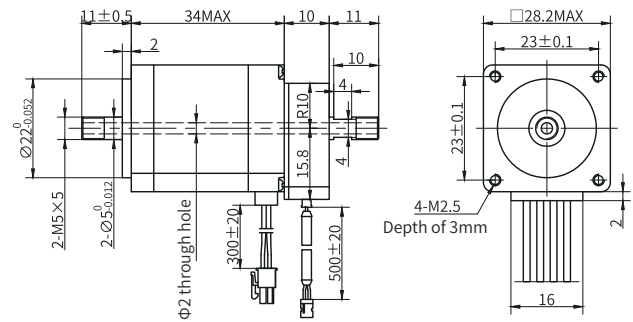
Outside drawing (unit: mm)

Model	Motor length mm	Mass kg	Wiring diagram
Y07-20D1-4402-E2000	39.45	0.08	Fig. 1
Y07-28D1-3401ZK-E1000	34.00	0.14	Fig. 2
Y07-43D40-0002-E1000	40.00	0.37	Fig. 1

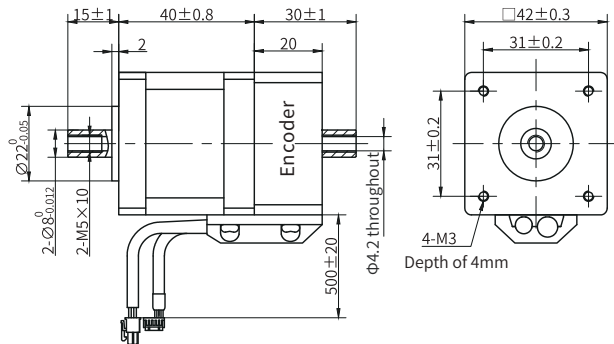
Y07-20D1-4402-E2000



Y07-28D1-3401ZK-E1000



Y07-43D40-0002-E1000



Wiring diagram

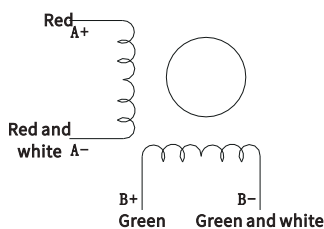


Fig. 1

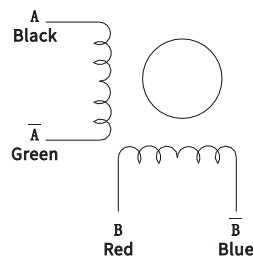


Fig. 2

Stepper motor

Hybrid

Brake

Reducer integrated

Hollow shaft

Closed-loop stepper motor

Hybrid closed-loop

Brake closed-loop

Closed-loop stepper motor with absolute value

Outboard-driven

Leadscrew stepper motor

Ball leadscrew

Through-going shaft

Stepper motor driver

Closed-loop stepper motor series

Hybrid closed-loop stepper motor,
brake closed-loop stepper motor
are available for options



Reading mode of item name

Closed-loop stepper motor

57 K 56 - E1000 M

① ② ③ ④ ⑤

①	Motor installation dimensions	42: NEMA 17 57: NEMA 23 86: NEMA 34
②	Type of motor	K: Incremental closed-loop stepper motor
③	Motor length	56: 56mm
④	Number of encoder wires	E1000: 1000 wires
⑤	Motor type	None: Conventional type M: Brake type

※ For product details, please visit the official website www.kaifull.net to download 3D/2D information and the user manual.

Optional accessories

Model	Category	Description
2103-100	Motor extension line	1m-long motor extension line (used for closed-loop stepper motor)
2103-300		3m-long motor extension line (used for closed-loop stepper motor)
2103-500		5m-long motor extension line (used for closed-loop stepper motor)
E208-100	Encoder extension line	1m-long encoder extension line (used for closed-loop stepper motor)
E208-300		3m-long encoder extension line (used for closed-loop stepper motor)
E208-500		5m long encoder extension line (used for closed-loop stepper motor)
E2016-100	I/O wire	1m-long I/O wire (used for Y2SS3-P)

※ For product details, please visit the official website www.kaifull.net to download 3D/2D

Stepper motor

Hybrid

Brake

Reducer integrated

Hollow shaft

Closed-loop stepper motor

Hybrid closed-loop

Brake closed-loop

Closed-loop stepper motor with absolute value

Leadscrew stepper motor

Outboard-driven

Ball leadscrew

Through-going shaft

Stepper motor driver

20-NEMA 34 two-phase DC closed-loop stepper motor



Closed-loop Z-phase encoder motor

Motor specifications

Model	Flange size mm	Step angle deg	Current A	Resistance Ω	Inductor mH	Holding torque mN.m	Rotor inertia g.cm ²	Number of leads LEAD	Driver
Y07-20D1-1402-E1000	20	1.8	0.6	9.0	3.0	22	3	4	Y2SS3-EC Y2SS3
Y07-28D1-5004-E2000	28		1.3	2.4	1.8	130	18		
Y07-43D1-5405-E1000	42		1.5	2.0	3.8	500	82		

◆ Angle error: ± 0.09 degree ◆ Humidity range: 20%RH - 90%RH

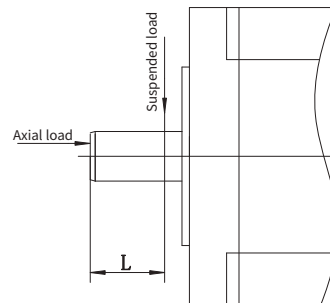
Closed-loop stepper motor

Motor specifications

Model	Flange size mm	Step angle deg	Static moment N.m	Current A	Rotor inertia g.cm ²	Encoder resolution counts/rev	Encoder Type	Number of leads LEAD	Driver
42K48-E1000	42	1.8	0.45	2.0	72	4000	A/B incremental optical encoder with 1000 wires	4	Y2SS3-EC Y2SS3
57K56-E1000	57		1.0	4.0	280				
57K80-E1000	57		2.2	5.0	520				
86K74-E1000	86		4.2	6.0	1800				
86K112-E1000	86		8.0	6.0	3600				

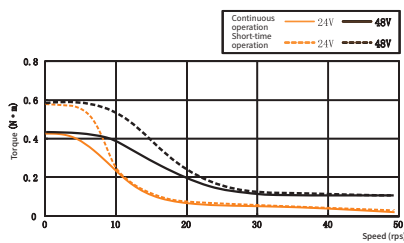
◆ Angle error: ± 0.09 degree ◆ Humidity range: 20%RH - 90%RH

Model	Radial allowable torque N	Axial allowable torque N
Y07-20D1-1402-E1000	15	3
Y07-28D1-5004-E2000	25	5
Y07-43D1-5405-E1000	25	10
42K48-E1000	25	10
57K56-E1000	90	15
57K80-E1000	90	15
86K74-E1000	320	60
86K112-E1000	320	60

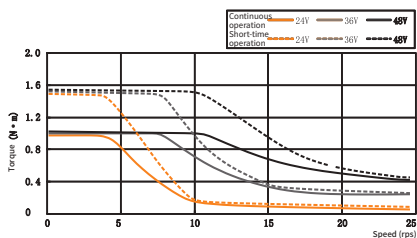


Torque curve

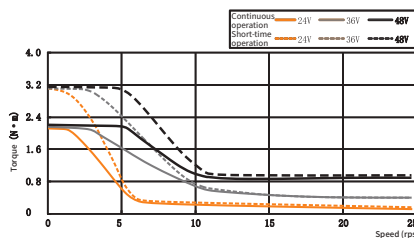
42K48-E1000



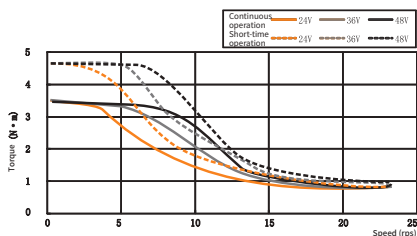
57K56-E1000



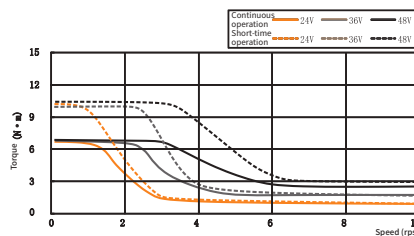
57K80-E1000



86K74-E1000



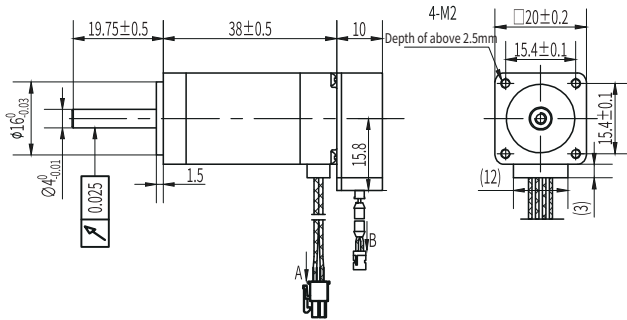
86K112-E1000



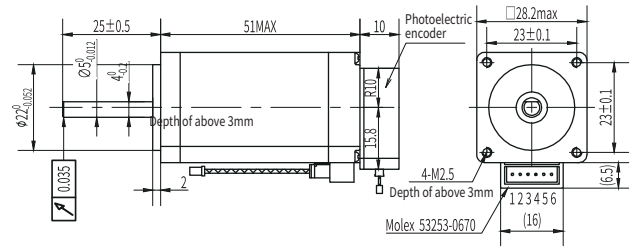
Outside drawing (unit: mm)

Model	Motor length mm	Mass kg
Y07-20D1-1402-E1000	38	0.10
Y07-28D1-5004-E2000	51	0.20
Y07-43D1-5405-E1000	48	0.45
42K48-E1000	67	0.42
57K56-E1000	56	0.80
57K80-E1000	80	1.20
86K74-E1000	74	2.10
86K112-E1000	112	3.60

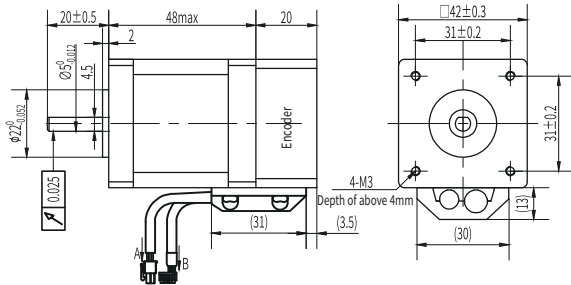
Y07-20D1-1402-E1000



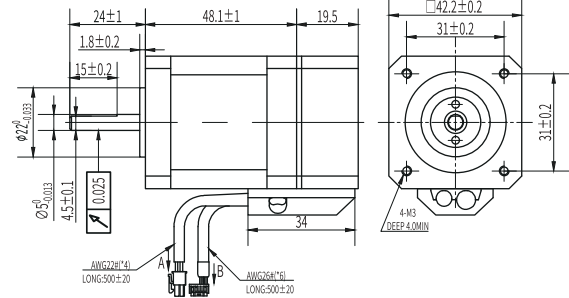
Y07-28D1-5004-E2000



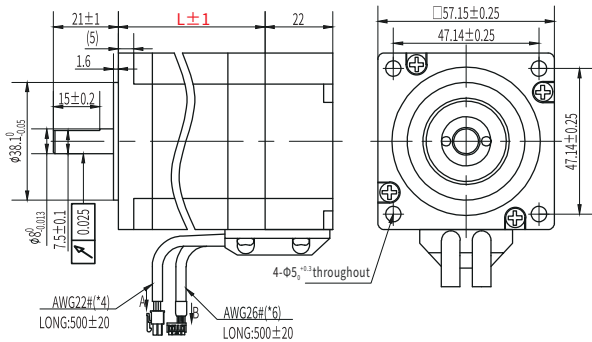
Y07-43D1-5405-E1000



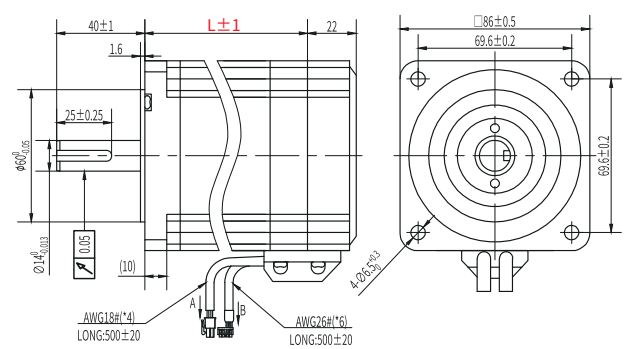
42K48-E1000



57K56-E1000/57K80-E1000

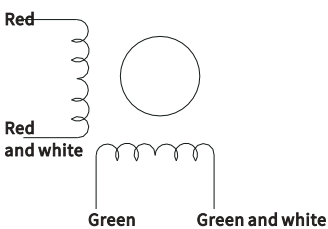


86K74-E1000 / 86K112-E1000

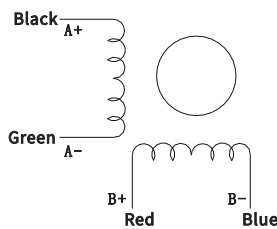


Wiring diagram

Y07-20D1-1402-E1000



Other models



Hybrid
Brake
Reducer integrated
Hollow shaft
Hybrid closed-loop
Brake closed-loop
Closed-loop stepper motor with absolute value
Closed-loop stepper motor
Outboard-driven
Leadscrew stepper motor
Ball leadscrew
Through-going shaft
Stepper motor driver

20-NEMA 34 two-phase DC brake closed-loop stepper motor



Closed-loop stepper motor

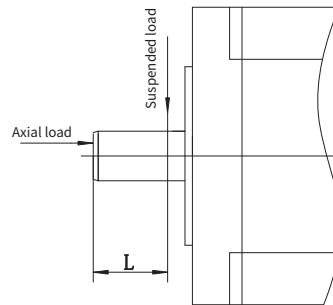
Motor specifications

Model	Flange size mm	Step angle deg	Static moment N.m	Current A	Rotor inertia g.cm ²	Encoder resolution counts/rev	Encoder Type	Number of leads LEAD	Driver
42K48-E1000M	42	1.8	0.48	2.0	77	4000	A/B incremental optical encoder with 1000 wires	4	Y2SS3-EC Y2SS3
57K56-E1000M	57		1.0	4.0	280				
57K80-E1000M	57		2.2	5.0	520				
86K112-E1000M	86		8.0	6.0	3600				

◆ Angle error: ±0.09 degree ◆ Humidity range: 20%RH - 90%RH

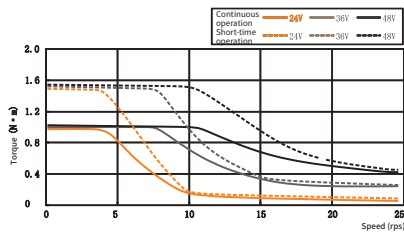
※M= brake type, Brake torque: 2N.m, Brake voltage: 24VDC

Model	Radial allowable torque N	Axial allowable torque N
42K48-E1000M	25	10
57K56-E1000M	90	15
57K80-E1000M	90	15
86K112-E1000M	320	60

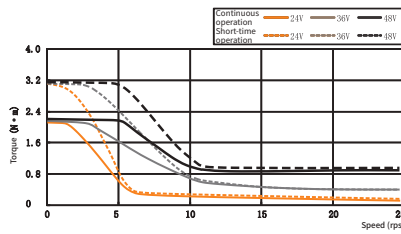


Torque curve

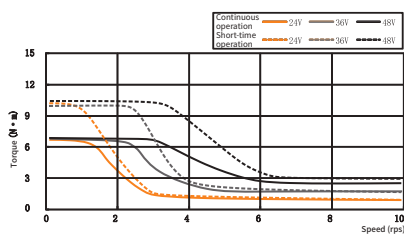
57K56-E1000M



57K80-E1000M



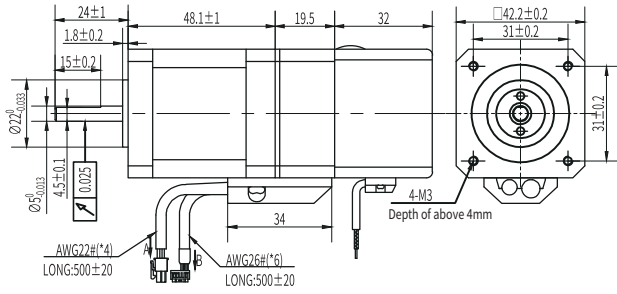
86K112-E1000M



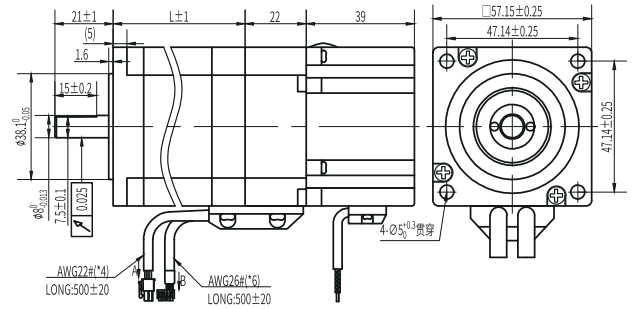
Outside drawing (unit: mm)

Model	Motor length mm	Mass kg
42K48-E1000M	48	0.50
57K56-E1000M	56	0.80
57K80-E1000M	80	1.20
86K112-E1000M	112	3.60

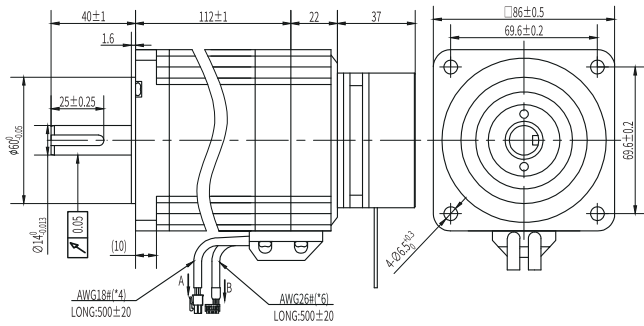
42K48-E1000M



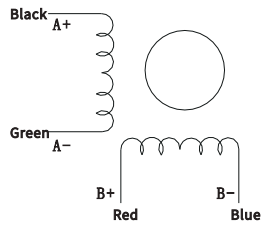
57K56-E1000M/57K80-E1000M



86K112-E1000M



Wiring diagram



Stepper motor	Hybrid
	Brake
	Reducer integrated
Hollow shaft	Hollow shaft
	Closed-loop stepper motor
Closed-loop stepper motor	Hybrid closed-loop
	Brake closed-loop
Closed-loop stepper motor with absolute value	Closed-loop stepper motor with absolute value
	Outboard-driven
Leadscrew stepper motor	Ball leadscrew
	Through-going shaft
Stepper motor driver	Stepper motor driver

SSD28-RS485 integrated stepper motor Digital PID technology Closed-loop control



Specification

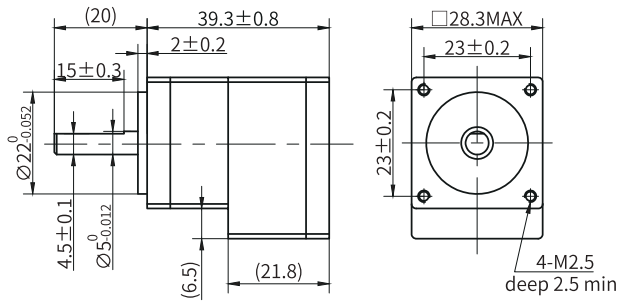
Motor specifications

Model	Flange size mm	Power supply VDC	Output current	Control method
SSD28-RS485	28	15-24	Built-in	Pulse/Mdobus-RTU

◆The switch is set with running current and speed segment ◆Control signal 5 - 24V compatible

Mechanical dimensions (unit: mm)

SSD28-RS485



Unit: mm Mass: 0.12kg

Status indicator lamp

Status	Failure	Cause
Green light blinks	The motor is working properly	---
Green lamp is always ON	Motor not enabled	High-level input at the EN port
3 red and 1 green	Motor overtemperature	Requiring for enhanced heat dissipation
4 red and 1 green	Motor power input overvoltage	The supply voltage is greater than 28VDC
5 red and 1 green	Motor overcurrent	Wiring error or poor contact of motor
6 red and 1 green	Motor winding in open circuit	Motor is not connected properly
3 red and 2 green	Internal voltage error of motor	Power is too small
4 red and 2 green	Motor power input undervoltage	he supply voltage is less than 14VDC

Port wiring

Refer to interface relationship diagram



Power supply connection

Power supply connection	Power supply connection
V+	Power supply +
V-	GND

※ Please be careful not to connect reversely, and choose the appropriate power supply.

Connection of control signal

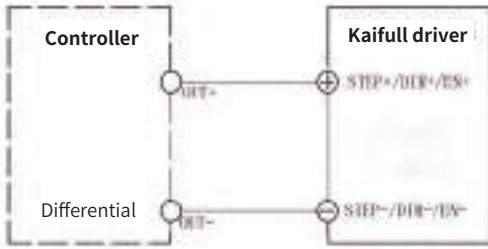
Input signal

Display	Terminal designation	Function
STEP	Pulse signal (CW pulse signal)	Receive 5-24VDC single-ended or differential signals
DIR	Direction signal (CCW pulse signal)	Control motor running direction

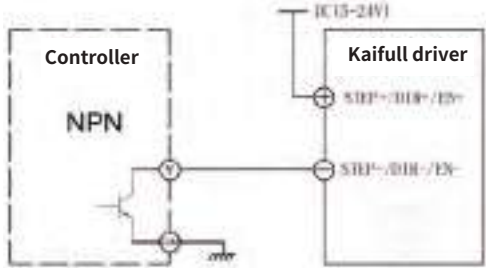
Connection of control signal

Control mode of control signal

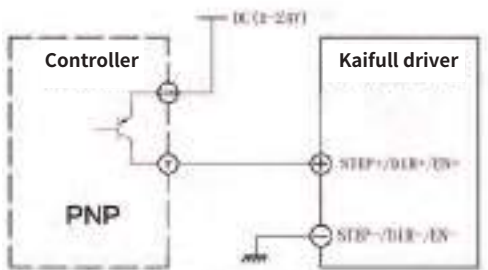
Differential signal



NPN connection method



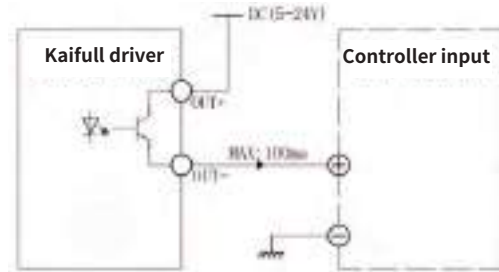
PNP connection method



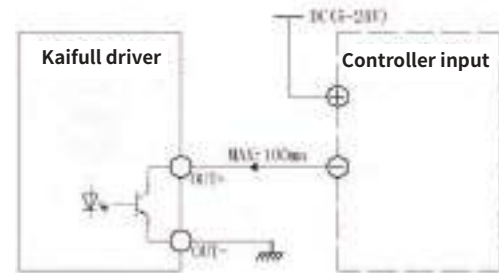
Alarm output wiring mode:

The OUT port is a photoelectrically isolated OC output port, with a maximum voltage of 30VDC and a maximum saturation current of 100mA. The output optocoupler is not conductive while the motor is working properly

Common cathode



Common anode



	Hybrid
Stepper motor	Brake
	Reducer integrated
	Hollow shaft
Closed-loop stepper motor	Hybrid closed-loop
	Brake closed-loop
Closed-loop stepper motor with absolute value	
Leadscrew stepper motor	Outboard-driven
	Ball leadscrew
	Through-going shaft
Stepper motor driver	

ISTM42A *NEW* integrated stepper servo motor Digital PID technology

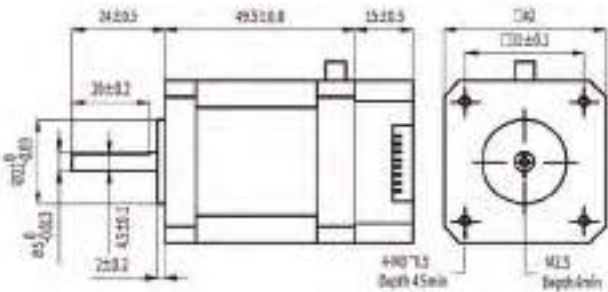
Specification

Motor specifications

Model	Flange size mm	Power supply VDC	Output current	Control method
ISTM42A	42	24-48	Built-in	IO control, built-in speed regulation knob
ISTM42B				IO control, analog speed regulation

Mechanical dimensions (unit: mm)

ISTM42A/ISTM42B



Unit: mm Mass: 0.12kg

Status indicator lamp

Status	Failure	Cause
Green light blinks	The motor is working properly	---
Green lamp is always ON	Motor not enabled	High-level input at the EN port
3 red and 1 green	Motor overtemperature	Requiring for enhanced heat dissipation
4 red and 1 green	Motor power input overvoltage	The supply voltage is greater than 54VDC
5 red and 1 green	Motor overcurrent	Wiring error or poor contact of motor
6 red and 1 green	Motor winding in open circuit	Motor is not connected properly
3 red and 2 green	Internal voltage error of motor	Power is too small
4 red and 2 green	Motor power input undervoltage	The supply voltage is less than 14VDC

Port wiring

Refer to interface relationship diagram

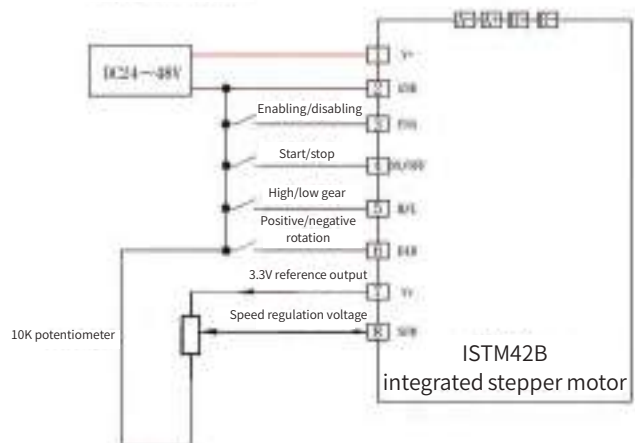


Connection of control signal

Starting & direction signals

Display	Function
ENA	Control motor enabling, disconnect at default high level. To enable the motor, connect 0V, to disable the motor.
ON/OFF	Disconnect at default high level, so that the motor is started; connect 0V to make the motor stop.
H/L	High and low speed switching gear. The one-stage (high speed) is by default under disconnection (adjustable analog), connect 0V to switch to two-stage speed (low speed) and fix (adjustable analog) 0
DIR	The positive rotation is by default under disconnection, and connect 0V to switch to negative rotation
VR	3.3V voltage output (mainly to provide voltage for external rheostat).
SPD	The analog input controls the motor speed by default, and the maximum speed reference value is adjusted by software.

Never short-circuit Vr to GND



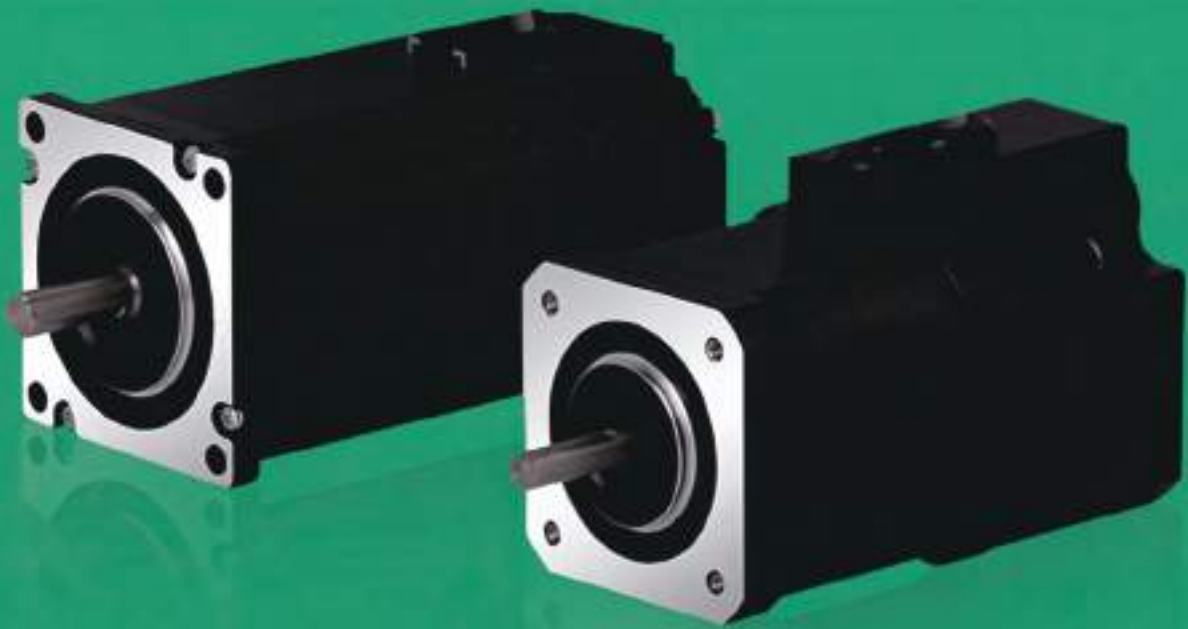
Power connection

Terminal identification	Power supply connection
V+	Power supply +
V-	GND

※ Please be careful not to connect reversely, and choose the appropriate power supply.

Absolute value closed-loop stepper motor series

Absolute positioning, non-mechanical type
dispense with battery induction



■ Reading mode of item name

● Closed-loop stepper motor with absolute value

42 KA 49 - E216

① ② ③ ④

①	Motor installation dimensions	42: NEMA 17 60: NEMA 34
②	Type of motor	KA: Absolute value closed-loop stepper motor
③	Motor length	49: 49mm
④	Encoder No.	E216: Encoder No.

※ For product details, please visit the official website www.kaifull.net to download 3D/2D information and the user manual.

■ Accessories

Model	Category	Description
2103-100	Motor extension line	1m-long motor extension line
2103-300		3m-long motor extension line
2103-500		5m-long motor extension line
E208-100	Encoder extension line	1m-long encoder extension line
E208-300		3m-long encoder extension line
E208-500		5m-long encoder extension line
E2016-100	I/O wire	1m-long I/O wire (used for Y2SS3-P)

※ For product details, please visit the official website www.kaifull.net to download 3D/2D information and the user manual.

42-NEMA 24 absolute value closed-loop stepper motor

Absolute positioning, dispense with battery induction Non-mechanical type



Specification

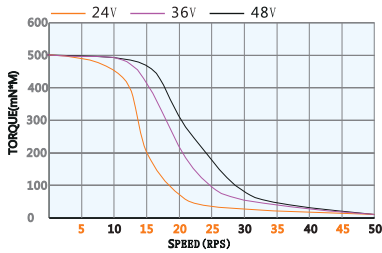
● Single output shaft

Model	Flange size mm	Current A	Static moment N.m	Rotor inertia g.cm ²	Encoder Resolution	Radial load (15mm from the shaft end) N	Axial load N	Mass kg	Driver
42KA49-E216	42	2.0	0.6	77	65536	25	10	0.5	Y2SD2-S40A
60KA85-E216	60	4.2	3.0	920		90	20	1.5	

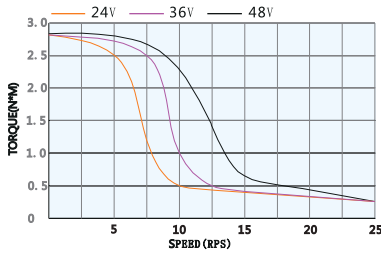
◆ Power supply: DC24 - 80V, AC18 - 56V ◆ Phase current: Max. 8A ◆ Stepless control technology (65536 position/revolution) ◆ Modbus communication interface

Torque curve

● 42KA49-E216

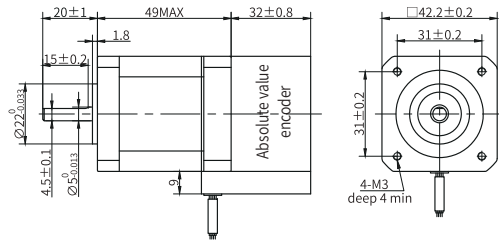


● 60KA85-E216

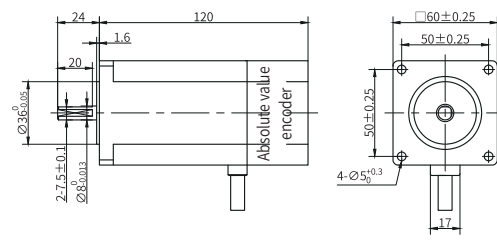


Outside drawing (unit: mm)

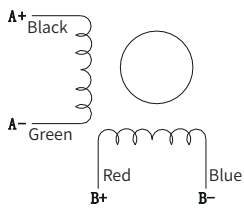
● 42KA49-E216



● 60KA85-E216



Wiring diagram



Hybrid
Brake
Stepper motor
Reducer integrated
Hollow shaft
Hybrid closed-loop
Closed-loop stepper motor
Brake closed-loop
Closed-loop stepper motor with absolute value
Outboard-driven
Leadscrew stepper motor
Ball leadscrew
Through-going shaft
Stepper motor driver

Leadscrew stepper motor series

Outboard-driven leadscrew stepper motors, ball leadscrew stepper motors, non-capative stepper motors are available for options



Reading mode of item name

● Closed-loop stepper motor with absolute value

Y07-43D1-3001-08LC-210M

① ② ③ ④ ⑤ ⑥ ⑦

①	Product series No.	Y07: Y07 series motor Y09: Y09 series motor
②	Motor installation dimensions	20: NEMA 8 28: NEMA 11 35: NEMA 14 43: NEMA 17 59: NEMA 23
③	Number of step angles	D: Hybrid stepper motor with a step angle of 1.8 degree C: Hybrid stepper motor with a step angle of 0.9 degree
④	Screw lead	02: 2mm 04: 4mm 08: 8mm
⑤	Motor type	LC: Outboard-driven type (nut material: copper nut, POM material); GC: Through-going shaft type GZ: Ball type
⑥	Screw length	210: 210mm
⑦	Motor type	D: Double shaft type M: Brake type E: Closed-loop type

※ For product details, please visit the official website www.kaifull.net to download 3D/2D information and the user manual.

● Selection of motor size (requirements for force)

Model	Flange size mm	Current A	Minimum thrust N.AT.RPS	Matched driver
Y07-20D1-0001-02LC-100	20	0.6	5N.at 10rps	Pulse type Drive control integrated type Bus-type
Y07-28D1-3411-02LC-100	28	1.0	20N.at 10rps	
Y07-43D1-3001-08LC-210	42	1.2	50N.at 10rps	
Y07-59D1-4404-10LC-200	57	3.0	100N.at 10rps	
Y09-59D3-1401-03LC-280	86	3.0	200N.at 5rps	

The output thrust of the motor increases with the increase of motor size.

● Selection of lead (requirements for force and speed)

After selecting the appropriate motor size according to the thrust, it is necessary to consider the speed and acceleration for selecting appropriate lead.

The speed of the leadscrew stepper motor is inversely proportional to the thrust, that is, increasing the operating speed of the motor will reduce the thrust of the motor correspondingly.

To complete the motor/lead screw selection data, please refer to the speed/thrust curves for different motor sizes.

Although these two steps provide a basis for motor/screw selection, consideration of other variables is required

- Work period
- System service life
- Environment factors
- Repeated positioning accuracy
- Acceptable back clearance
- Acceleration/deceleration requirement
- Driving conditions
- Vertical or horizontal installation

As many variables will affect the motor selection, with respect to model selection, it is recommended that users conduct actual tests or contact our engineers before determining the solution.

※ For product details, please visit the official website www.kaifull.net to download 3D/2D information and the user manual.

Hybrid
Brake
Stepper motor
Reducer integrated
Hollow shaft
Closed-loop stepper motor
Hybrid closed-loop
Brake closed-loop
Closed-loop stepper motor with absolute value
Outboard-driven
Leadscrew stepper motor
Ball leadscrew
Through-going shaft
Stepper motor driver

■ Technical overview (I)

● Type of leadscrew stepper motor

A. Outboard-driven

B. Ball leadscrew type

C. Through-going shaft type



● Lead

Advancing distance per revolution. All screws are listed with leads, which are represented by $\text{Lead} = \text{pitch} \times \text{number of starts of thread}$.

● Pitch

Distance between the teeth. Among multi-start threads, $\text{Pitch} = \text{Lead} / \text{number of starts of thread}$.

● Lead precision

Deviation fluctuation between the actual position obtained based on the lead and the theoretical position.

● Position error

Degree of proximity between the actual value and the theoretical value.

● Repeated positioning accuracy

The degree to which the motor is directed to the same target position range under certain conditions.

● Vertical or horizontal application

It is necessary to consider the self-sliding after the motor loses power under vertical load, and consider installing brake devices for protection if necessary. The weight of the load itself should also be considered for load calculation under vertical load. Horizontally applied screw may not withstand suspension load.

● Screw total run-out

The motor is fixed based on the installation seam, slowly turn the screw, and measure the radial run-out at any position of the screw total length. This definition is used for outboard-driven motors only.

● Tensioning or compacted load

Tensioning load refers to the load that has a tensile effect on the screw. Compacted load refers to the load that has a squeezing action on the screw. Design and assemble the screw according to the size of the load.

● Vibration and noise

When the motor running frequency is close to the natural oscillation frequency of the motor, it will generate resonance and make loud noise. The resonant frequency of the hybrid motor with a step angle of 1.8 degrees is generally about 200pps. Microstep drive can improve the low frequency resonance.

● Positioning torque

It refers to the torque produced by the stator locking the rotor when the stepper motor is not powered on.

● Driver

It refers to the electrical control devices used to run the stepper motor, including power supplies, logic programs, switching elements and frequency conversion pulse sources to determine the stepping rate.

● Dynamic moment

It refers to the moment generated by the motor at a certain stepping rate. The dynamic moment can be represented by PULLIN (pull in) moment or PULLOUT (pull out) moment.

● Holding torque

It refers to the torque generated by the stator locking the rotor when the stepper motor is made with the rated current but fails to rotate.

● Inertia

It refers to the inertial measurement of an object's acceleration or deceleration. It is used to refer to the inertia of the load to be moved by the motor, or the inertia of the motor rotor.

● Linear stepping increment (step size)

It refers to the linear stroke produced by the screw for each step angle of the rotor rotation.

● Temperature rise

Temperature rise indicates the temperature difference between the motor and the environment, which is caused by the heat of the motor. If the motor iron core is in the alternating magnetic field during operation, it will cause iron loss. The winding will produce copper loss and other stray losses after being powered on, all of which will make the motor temperature rise. It is an important index in motor design and operation.

● Single step response

The required time for the motor to perform a complete step.

● Step

It refers to the rotation of the motor rotor from one single shot excitation position to the next single shot excitation position. For a rotary motor, step refers to the angle produced by rotation of rotor; and for a linear motor, step indicates the linear distance.

● Step angle

It refers to the angular displacement that is produced by the shaft of the stepper motor running one step according to the step sequence when the adjacent two-phase winding of the stepper motor under no-load state are successively subject to single shot excitation. That is, the angle of rotation of each step produced by the rotor, measured in degrees (°).

● Load moment

The sum of the resistance moment and the inertia moment.

● PULLOUT (pull out) moment

It refers to the maximum load torque that can be borne on the rotating shaft when the stepper motor runs at a given pulse frequency and does not lose step under the specified driving conditions.

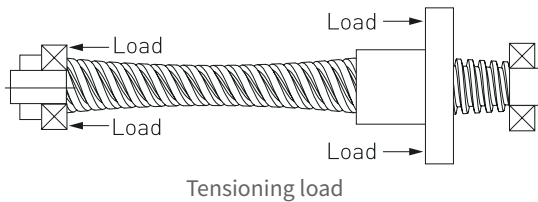
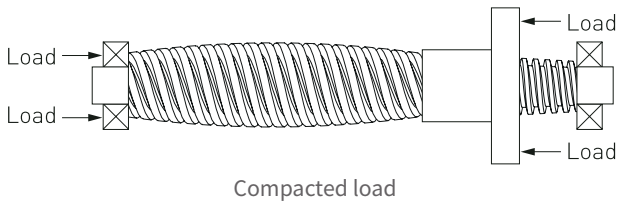
● PULLIN (pull in) moment

It refers to the accelerating torque that must overcome the inertia of the rotor, as well as the external load and various friction torques of the fixed connection during acceleration. Therefore, the pull in torque is usually less than the pull out torque.

● Efficiency

It refers to the ratio of useful power to drive power.

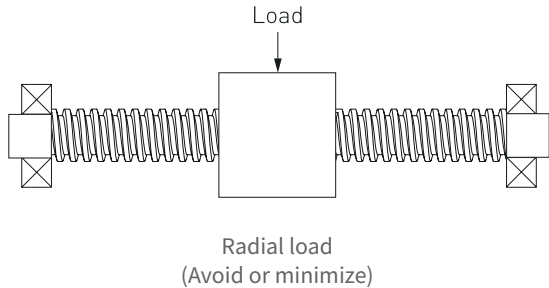
Technical overview (II)



● Radial load

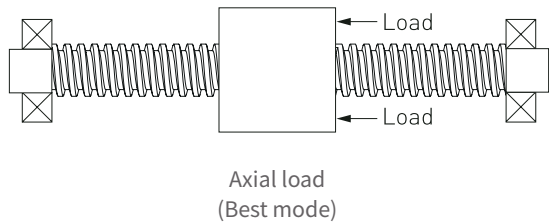
It refers to the load perpendicular to the central axis of the screw.

Please do not follow such design under normal circumstances, unless the wired guide is used as support.



● Axial load

It refers to the load parallel to the central axis of the screw.



● Static load

It refers to the maximum thrust that the screw can withstand at rest.

● Dynamic load

It refers to the maximum thrust that the screw can withstand in motion.

● Reverse driving force

It refers to the the pushing and drawing force applied axially to make the nut or screw rotate. In general, if the screw efficiency is greater than 50%, it may produce reverse thrust; conversely, if the screw efficiency is less than 35%, self-locking can be enabled. Self-locking (reverse thrust) should be considered in vertical load systems.

● Torque

Torques required to drive the screw system, including:

- 1. Inertia torque
- 2. Friction resistance torque
- 3. Load moment

● Lubrication

The nut is usually made of self-lubricating material, and the nut has been coated with special lubricants when leaving the factory, so that users have no need to add other lubricants.

Teflon-coated screw systems generally do not require lubricants.

● Machining of screw ends

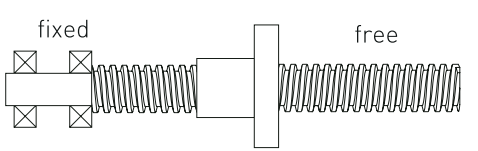
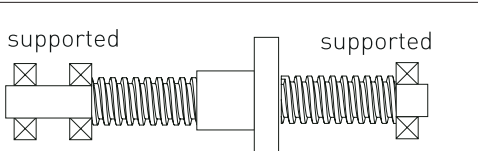
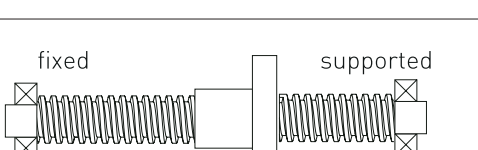
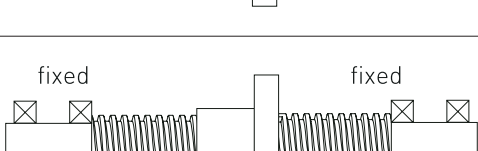
Standard inch thread may be customized by customer requirements, please confirm with the our technical support engineer.

Hybrid
Brake
Reducer integrated
Hollow shaft
Hybrid closed-loop
Brake closed-loop
Closed-loop stepper motor with absolute value
Outboard-driven
Ball leadscrew
Through-going shaft
Stepper motor driver

Technical overview (III)

● Fixation mode of screw ends

The way that the screw ends are installed and fixed greatly affects the performance of the system.

Fixation type of ends	Relative stiffness	Critical velocity coefficient	Critical load coefficient
 <p>fixed free</p>	Weak	0.32	0.25
 <p>supported supported</p>	Moderate	1.0	1.0
 <p>fixed supported</p>	Better	1.55	2.0
 <p>fixed fixed</p>	Optimal	2.24	4.0

● Columnar strength

When the screw is subject to squeezing load, if the load is greater than the elastic support capacity of the screw, the screw will fail due to bending or expansion.

● Critical speed

It refers to the rotation speed of the screw when it reaches the first resonant frequency, at such speed, the screw will be deformed and twisted, and the system will vibrate and become unstable.

Critical speed of the system may be affected by several variables

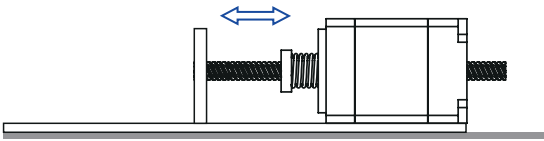
1. Lead
2. Rotation speed
3. Fixation mode of ends
4. Axial load
5. Screw diameter
6. Mode of axial force (tensioning or compression)

Instructions for use

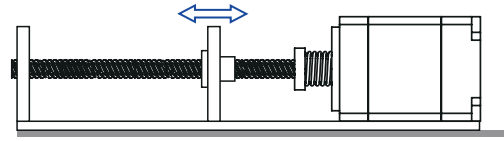
● Precautions to use leadscrew stepper motors

1. Several of the most common mounting structures

1) Leadscrew stepper motor + guide rail structure

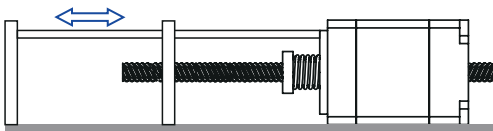


Through-shaft type+ guide rail

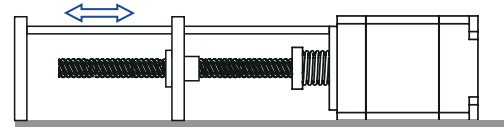


Outboard-driven + guide rail

2) Leadscrew stepper motor + guide pillar structure

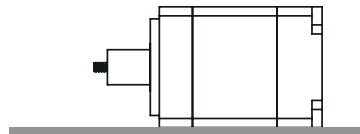


Through-shaft type + guide pillar



Outboard-driven + guide pillar

3) For fixed shaft leadscrew stepper motors, please directly connect the load structure



Fixed-shaft type, direct-attached load

2. Precautions for use

- 1) Disassembly of the motor assembly may cause foreign matters to access the motor or adversely affect the assembly accuracy of each part. Please do not disassemble by yourself;
- 2) Notice to protect the screw from radial force, and it is strictly forbidden to lift, pull and hold the screw directly by hand during the use and installation of the motor;
- 3) The screw has been coated with special grease when leaving the factory, and it is dispense with adding lubricating grease again during use. Notice to protect the grease from being wiped off. It is forbidden to add lubricating grease not supplied by the factory;
- 4) The screw motor is a precision component. To ensure the service life of the nut, attention shall be paid to prevent particles and dust on the screw surface;
- 5) It is forbidden to cause dropping and collision of the motor during the use of the motor;
- 6) Pay attention to the protection of the outgoing line, do not pull the outgoing line by force;
- 7) If the driver is driven by constant current, please set the average current of the driver current RMS close to the rated current of the motor, which is suggested not to exceed the rated current. Overload current may cause the motor to overheat or even burn out;
- 8) Motor operating environment temperature: -22°C - 55°C;
- 9) Be sure to prevent the motor from being out of step or dieback as far as possible during motor operation, In order to ensure the service life, the motor load should be less than 50% of the motor thrust at running speed.

The fixed shaft motor should perform linear motion within the specified stroke range, and should not be used beyond the range, failing which, it will cause internal nut damage. Please avoid impact load, emergency stop, emergency start during the use of the motor, otherwise its service life will be affected, please consult the sales engineer for specific applications;





- 10) Motor storage conditions: The motor shall be stored at normal temperature, with the relative air humidity not more than 75%. The place where the motor is stored shall be clean well-ventilated and free from corrosive gases.

Stepper motor	Hybrid
	Brake
	Reducer integrated
Hollow shaft	
Closed-loop stepper motor	Hybrid closed-loop
	Brake closed-loop
Closed-loop stepper motor with absolute value	
Leadscrew stepper motor	Outboard-driven
	Ball leadscrew
	Through-going shaft
Stepper motor driver	

Leadscrew stepper motor - Optional accessories

Optional accessories

Machining of screw ends

	Thread	Select the end processing specifications based on the actual screw outside diameter, please contact our technical support engineers for confirmation.
	Optical axis	
	Unprocessed	
	Customization	

20-NEMA 34 outboard-driven leadscrew stepper motor



Specification

Specification

Model	Flange size mm	Step angle deg	Current A	Resistance Ω	Inductance (mH)	Minimum thrust N.AT_RPS	Rotor inertia g.cm ²	Number of leads LEAD	Mass kg	Motor length mm	Driver
Y07-20D1-0001-02LC-100	20	1.8	0.6	6.5	1.7	5N at 10rps	2	4	0.06	30.5	Y2SD2-EC Y2SED1-S
Y07-28D1-3411-02LC-100	28		1.0	2.2	1.2	50N at 10rps	9		0.12	34.0	
Y07-43D1-3001-08LC-210	42		1.2	1.9	4.5	50N at 10rps	57		0.35	40.0	
Y07-59D1-4404-10LC-200	57		3.0	1.1	3.2	100N at 10rps	280		0.62	56.0	
Y09-59D3-1401-03LC-280	86		3.0	1.2	12	200N at 5rps	1400		2.00	76.0	

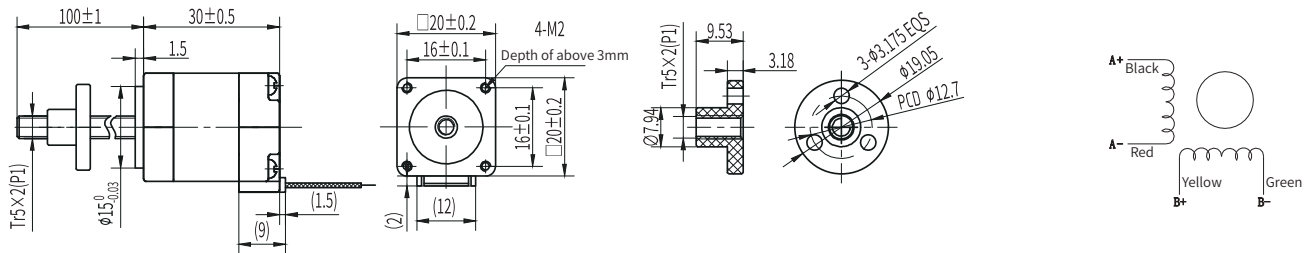
◆Angle error: ±0.09 degree ◆Humidity range: 20%RH - 90%RH ◆Material of nut: POM

Screw specification

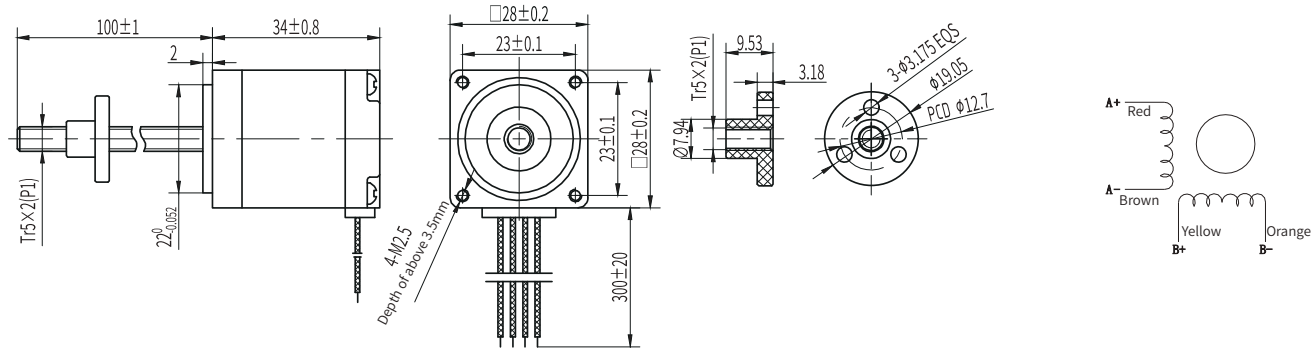
Model	Lead mm	Shaft length mm
Y07-20D1-0001-02LC-100	2	100
Y07-28D1-3411-02LC-100	2	100
Y07-43D1-3001-08LC-210	8	210
Y07-59D1-4404-10LC-200	10	200
Y09-59D3-1401-03LC-280	3	280

Outside drawing (unit: mm), wiring diagram

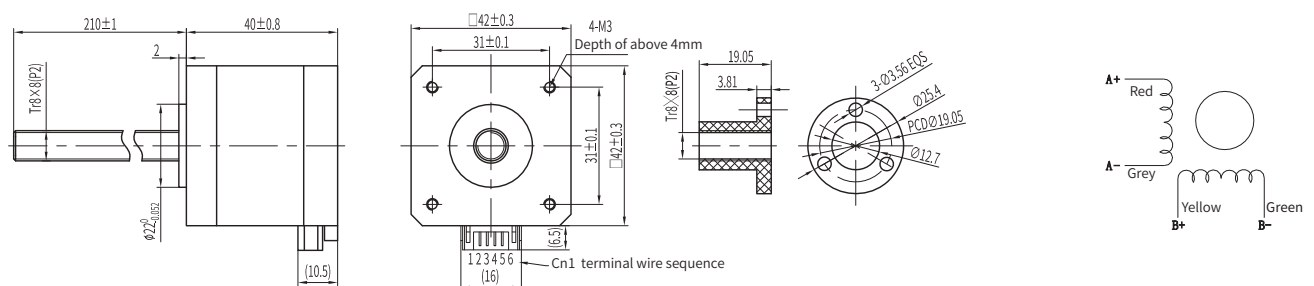
Y07-20D1-0001-02LC-100



Y07-28D1-3411-02LC-100



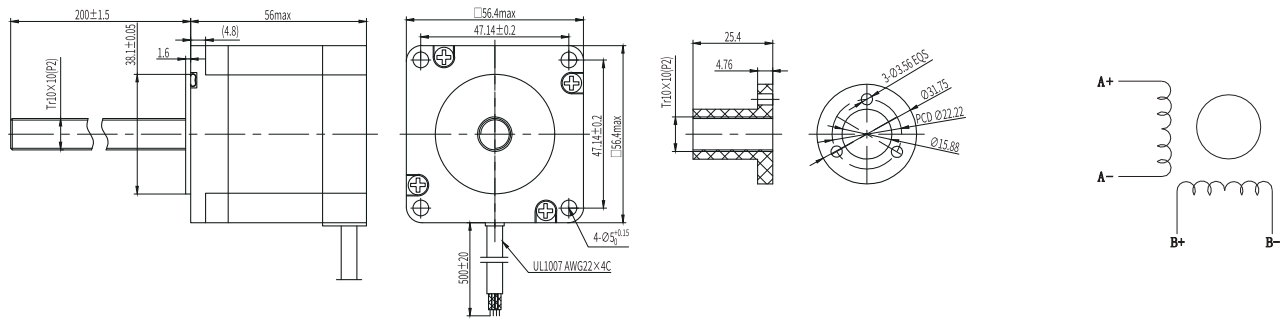
Y07-43D1-3001-08LC-210



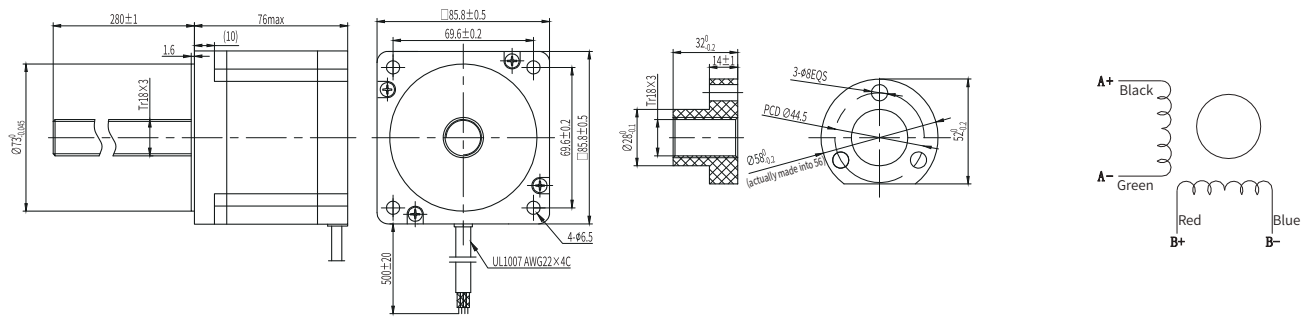
Hybrid
Brake
Reducer integrated
Hollow shaft
Hybrid closed-loop
Brake closed-loop
Closed-loop stepper motor
Closed-loop stepper motor with absolute value
Outboard-driven Leadscrew stepper motor
Ball leadscrew
Through-going shaft
Stepper motor driver

Outside drawing (unit: mm), wiring diagram

● Y07-59D1-4404-10LC-200



● Y09-59D3-1401-03LC-280



20-NEMA 23 small-gap nut screw motor



Specification

Single output shaft

Model	Flange size mm	Step angle deg	Current A	Resistance Ω	Inductance (mH)	Minimum thrust N.AT_RPS	Rotor inertia g.cm ²	Number of leads LEAD	Mass kg	Motor length mm	Driver
Y07-20D1-1002-05LC-124X	20	1.8	0.6	9.0	3.0	5N at 10rps	2	4	0.06	38.0	Y2SD2-EC Y2SED1-S
Y07-28D1-3407-01LC-75X	28		0.4	11.9	6.7	20N at 10rps	9		0.12	34.0	
Y07-35D1-5401-04LC-177X	35		1.5	2.3	2.8	50N at 10rps	26		0.28	48.0	
Y07-43D1-3001-04LC-100X	42		1.5	1.9	4.5	50N at 10rps	57		0.35	40.0	
Y07-43D1-5005-04LC-177X	42		1.5	2.0	3.85	50N at 10rps	82		0.40	48.0	
Y07-59D55-4404-10LC-300X	57		3.0	1.1	4.0	100N at 10rps	280		0.82	56.0	

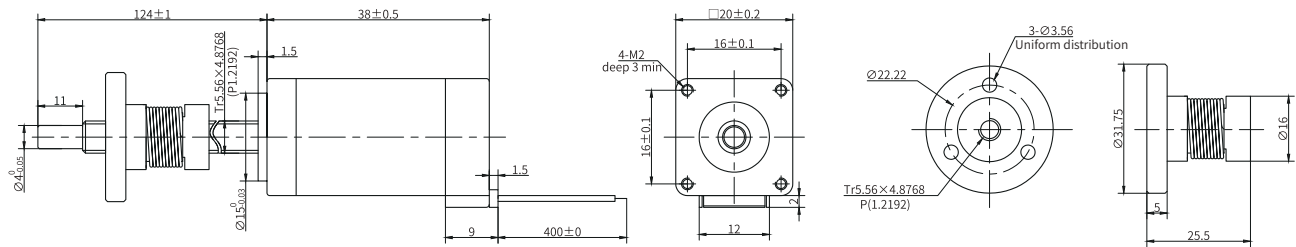
◆ Angle error: ±0.09 degree ◆ Humidity range: 20%RH - 90%RH ◆ Material of nut: POM

Screw specification

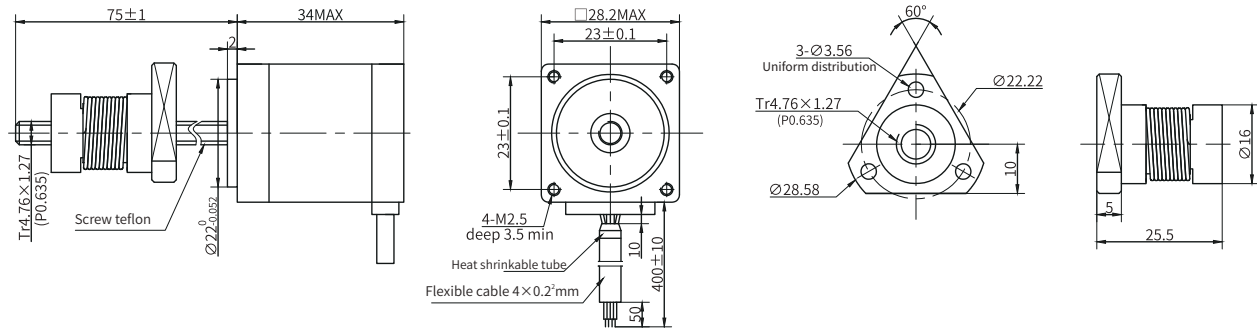
Model	Lead mm	Shaft length mm
Y07-20D1-1002-05LC-124X	5	124
Y07-28D1-3407-01LC-75X	1	75
Y07-35D1-5401-04LC-177X	4	177
Y07-43D1-3001-04LC-100X	4	100
Y07-43D1-5005-04LC-177X	4	177
Y07-59D55-4404-10LC-300X	10	300

Outside drawing (unit: mm)

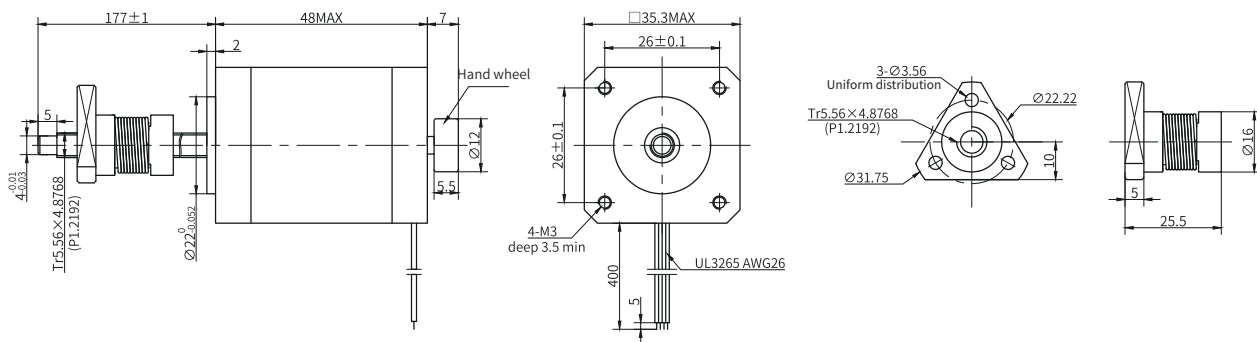
Y07-20D1-1002-05LC-124X



Y07-28D1-3407-01LC-75X



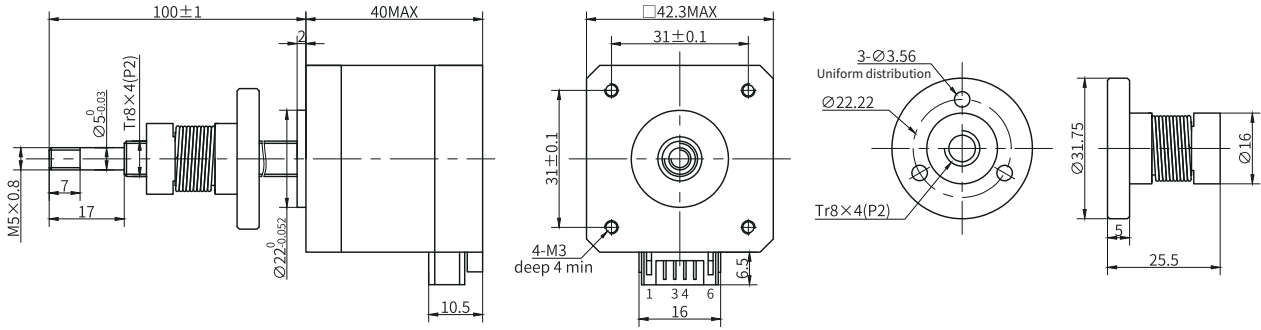
Y07-35D1-5401-04LC-177X



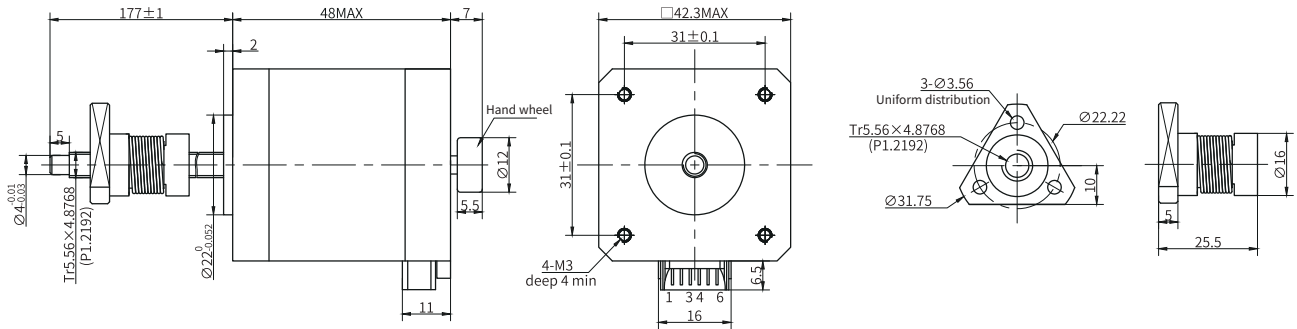
Hybrid
Stepper motor
Brake
Reducer
integrated
Hollow shaft
Closed-loop stepper motor
Hybrid closed-loop
Brake closed-loop
Closed-loop stepper motor with absolute value
Outboard-driven
Leadscrew stepper motor
Ball leadscrew
Through-going shaft
Stepper motor driver

Outside drawing (unit: mm)

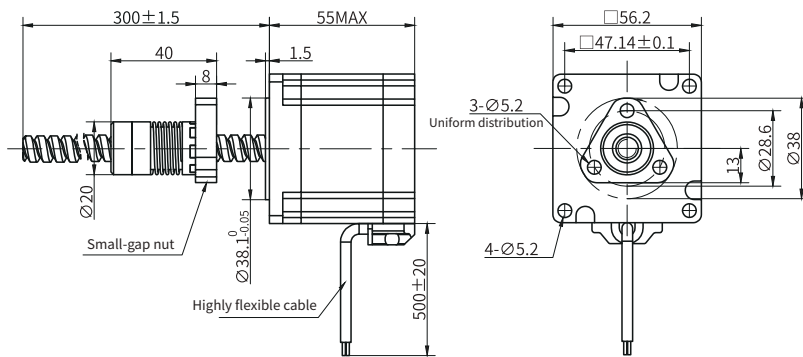
● Y07-43D1-3001-04LC-100X



● Y07-43D1-5005-04LC-177X

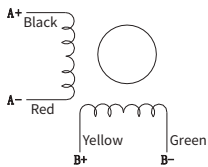


● Y07-59D55-4404-10LC-300X

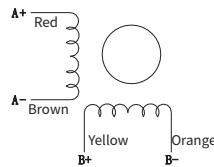


Wiring diagram

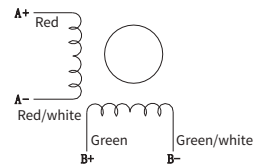
● Y07-20D1-1002-05LC-124X



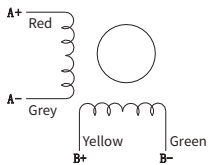
● Y07-28D1-3407-01LC-75X



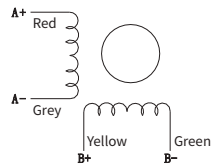
● Y07-35D1-5401-04LC-177X



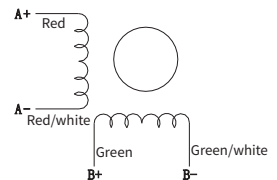
● Y07-43D1-3001-04LC-100X



● Y07-43D1-5005-04LC-177X



● Y07-59D55-4404-10LC-300X



20-NEMA 23 ball leadscrew stepper motor



Specification

● Single output shaft (do not remove nut from the Ball leadscrew)

Model	Flange size mm	Step angle deg	Current A	Resistance Ω	Inductance (mH)	Minimum thrust N.AT_RPS	Rotor inertia g.cm ²	Number of leads LEAD	Mass kg	Motor length mm	Driver
Y07-20D1-1002-01GZ-100	20	1.8	0.60	9.00	3.0	5N at 10rps	3	4	0.18	38.0	Y2SD2-EC Y2SED1-S
Y07-28D1-3401-01GZ-100	28		0.75	6.50	4.5	20N at 10rps	9		0.18	34.0	
Y07-43D1-1070-02GZ-102	42		1.50	1.56	2.4	50N at 10rps	38		0.20	34.0	
Y07-59D1-4404-04GZ-180	57		3.00	1.10	3.2	100N at 10rps	280		0.70	56.0	

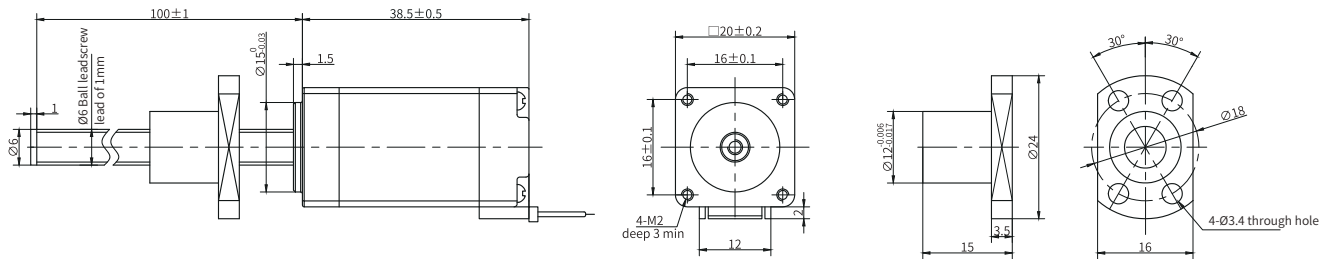
◆ Angle error: ±0.09 degree ◆ Humidity range: 20%RH - 90%RH ◆ Material of nut: Ball nut

Screw specification

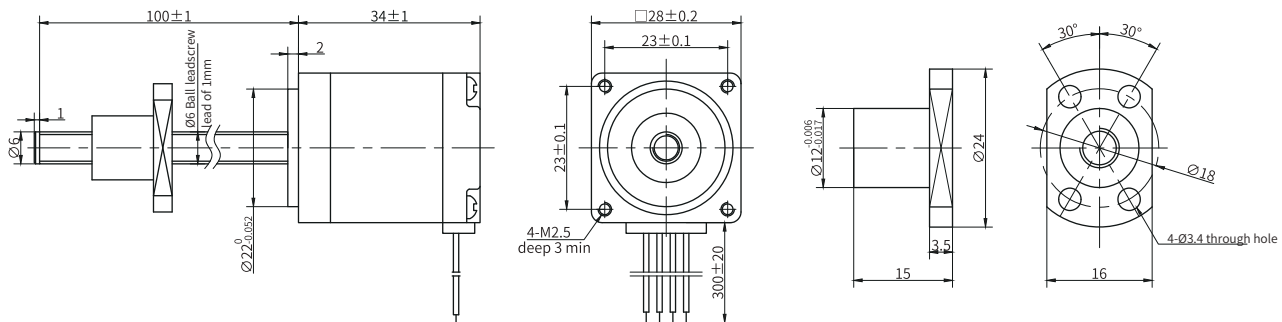
Model	Lead mm	Shaft length mm
Y07-20D1-1002-01GZ-100	1	100
Y07-28D1-3401-01GZ-100	1	100
Y07-43D1-1070-02GZ-102	2	102
Y07-59D1-4404-04GZ-180	4	180

Outside drawing (unit: mm)

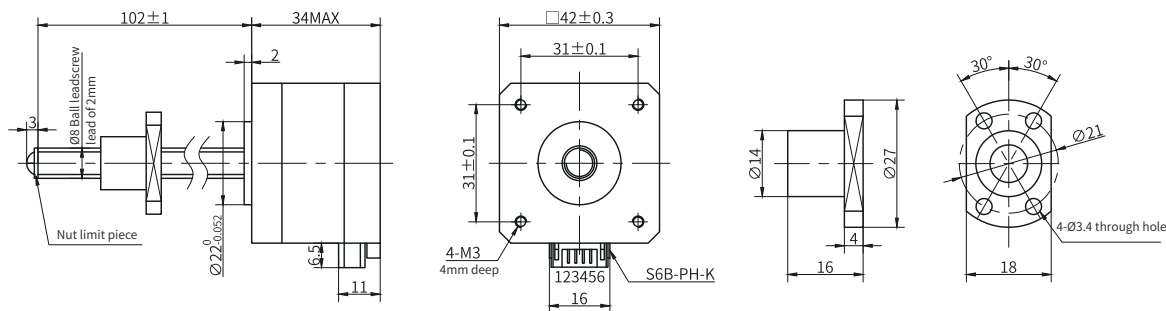
● Y07-20D1-1002-01GZ-100



● Y07-28D1-3401-01GZ-100



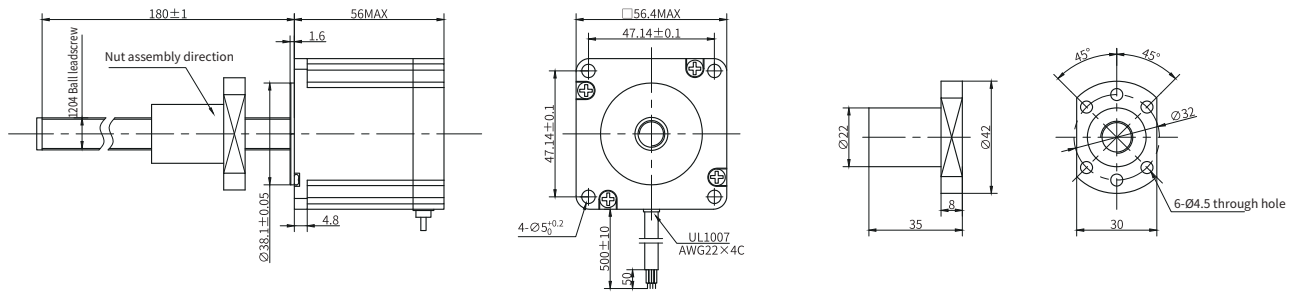
● Y07-43D1-1070-02GZ-102



Hybrid
Brake
Stepper motor
Reducer
integrated
Hollow shaft
Closed-loop stepper motor
Hybrid closed-loop
Brake closed-loop
Closed-loop stepper motor with absolute value
Outboard-driven
Leadscrew stepper motor
Ball leadscrew
Through-going shaft
Stepper motor driver

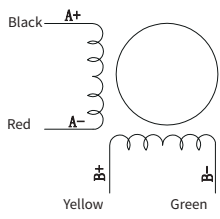
Outside drawing (unit: mm)

● Y07-59D1-4404-04GZ-180

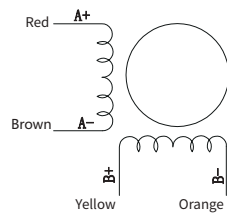


Wiring diagram

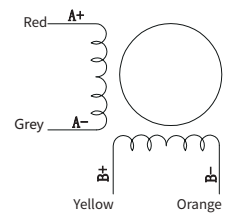
● Y07-20D1-1002-01GZ-100



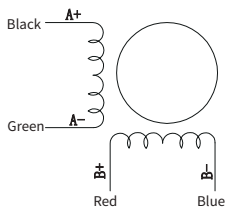
● Y07-28D1-3401-01GZ-100



● Y07-43D1-1070-02GZ-102



● Y07-20D1-1002-01GZ-100



20-NEMA 23 closed-loop ball leadscrew stepper motor



Specification

● Single output shaft (do not remove nut from the ball leadscrew)

Model	Flange size mm	Step angle deg	Current A	Resistance Ω	Inductance (mH)	Minimum thrust N.AT_RPS	Rotor inertia g.cm ²	Number of leads LEAD	Mass kg	Motor length mm	Driver
Y07-20D1-0404-01GZ-100E	20	1.8	0.7	4.0	1.2	5N at 10rps	2	4	0.06	30.0	Y2SS3-EC Y2SS3
Y07-28D1-3401-02GZ-180E	28		0.67	6.5	3.2	20N at 10rps	9		0.14	34.0	
Y07-43D1-1470-02GZ-125E	42		1.5	1.56	2.4	50N at 10rps	38		0.20	34.0	
Y07-59D1-4404-04GZ-100E	57		3.0	1.1	3.2	100N at 10rps	280		1.20	56.0	

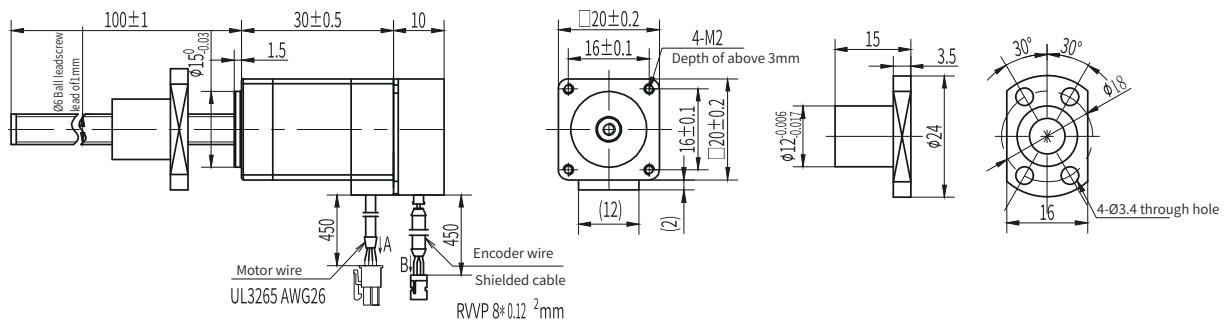
◆ Angle error: ± 0.09 degree ◆ Humidity range: 20%RH - 90%RH ◆ Material of nut: Ball nut

Screw specification

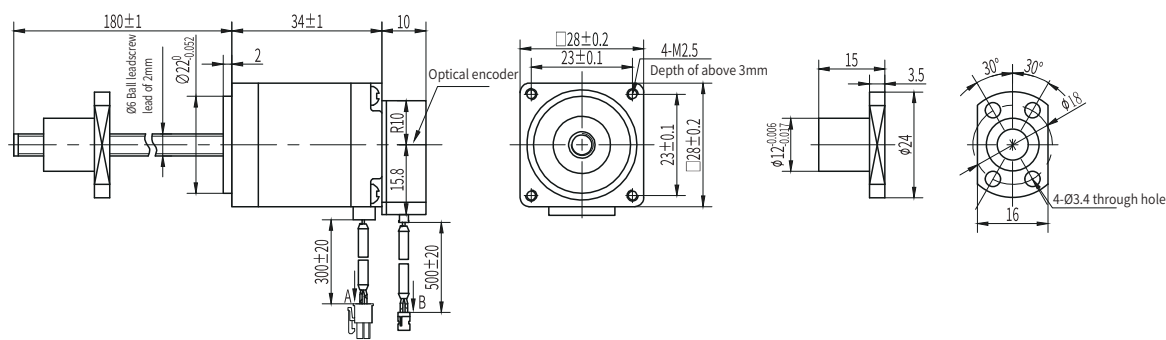
Model	Lead mm	Shaft length mm
Y07-20D1-0404-01GZ-100E	1	100
Y07-28D1-3401-02GZ-180E	2	180
Y07-43D1-1470-02GZ-125E	2	125
Y07-59D1-4404-04GZ-100E	4	100

Outside drawing (unit: mm)

● Y07-20D1-0404-01GZ-100E



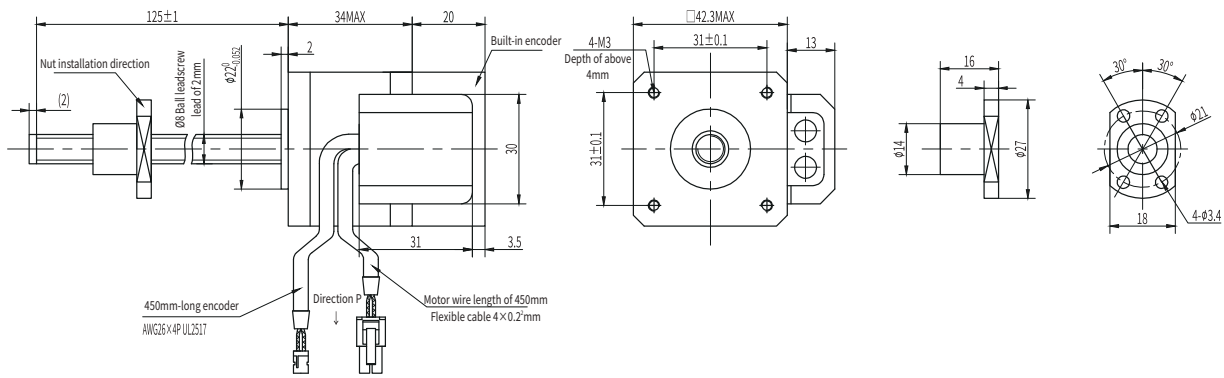
● Y07-28D1-3401-02GZ-180E



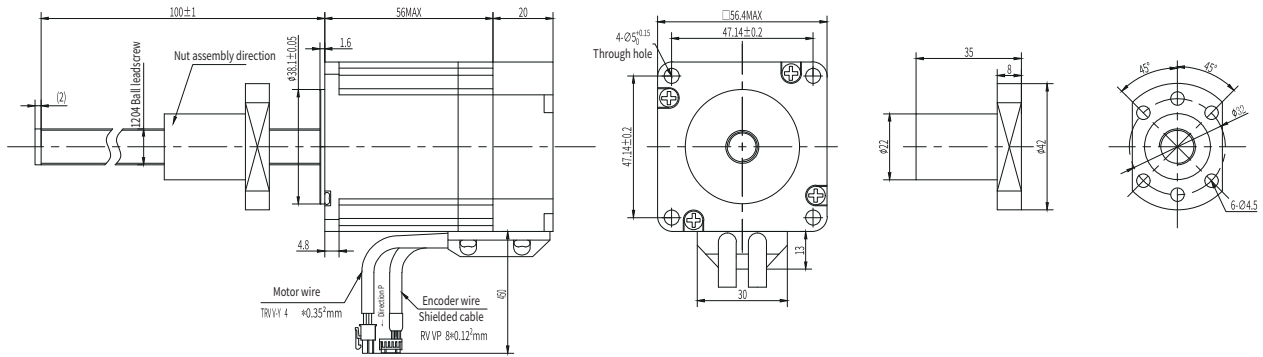
Hybrid
Brake
Reducer integrated
Hollow shaft
Closed-loop stepper motor
Hybrid closed-loop
Brake closed-loop
Closed-loop stepper motor with absolute value
Outboard-driven
Ball leadscrew
Through-going shaft
Stepper motor driver

Outside drawing (unit: mm)

Y07-43D1-1470-02GZ-125E

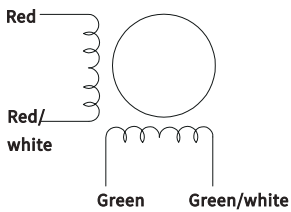


Y07-59D1-4404-04GZ-100E

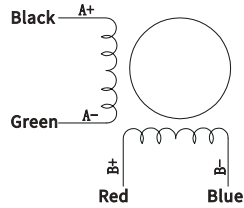


Wiring diagram

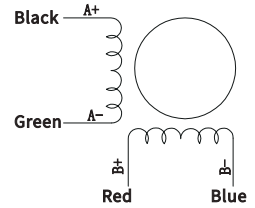
Y07-20D1-0404-01GZ-100E



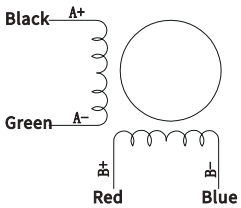
Y07-28D1-3401-02GZ-180E



Y07-43D1-1470-02GZ-125E



Y07-59D1-4404-04GZ-100E



20-NEMA 34 through-going stepper motor



Specification

Single output shaft

Model	Flange size mm	Step angle deg	Current A	Resistance Ω	Inductance (mH)	Minimum thrust N.AT_RPS	Rotor inertia g.cm ²	Number of leads LEAD	Mass kg	Motor length mm	Driver
Y07-20D1-0001-61GC-100	20	1.8	0.50	6.5	1.7	5N at 10rps	2	4	0.06	30.5	Y2SS3-EC Y2SS3
Y07-28D1-0401-02GC-200	28		0.75	7.5	4.5	20N at 10rps	12		0.18	41.0	
Y07-43D1-3001-04GC-170	42		1.67	1.9	4.5	50N at 10rps	57		0.24	40.0	
Y07-59D1-4404-04GC-170	57		3.00	1.1	3.2	100N at 10rps	280		0.68	56.0	
Y09-59D3-1403-03GC-480	86		4.00	0.5	3.7	200N at 10rps	1400		1.40	76.0	Y2SED2

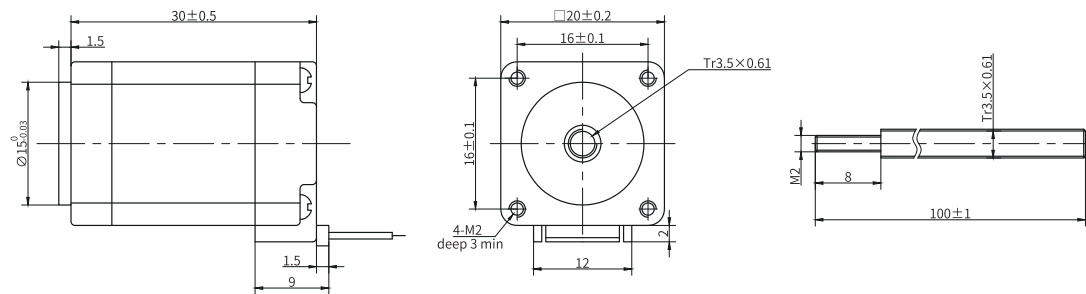
◆Angle error: ± 0.09 degree ◆Humidity range: 20%RH - 90%RH

Screw specification

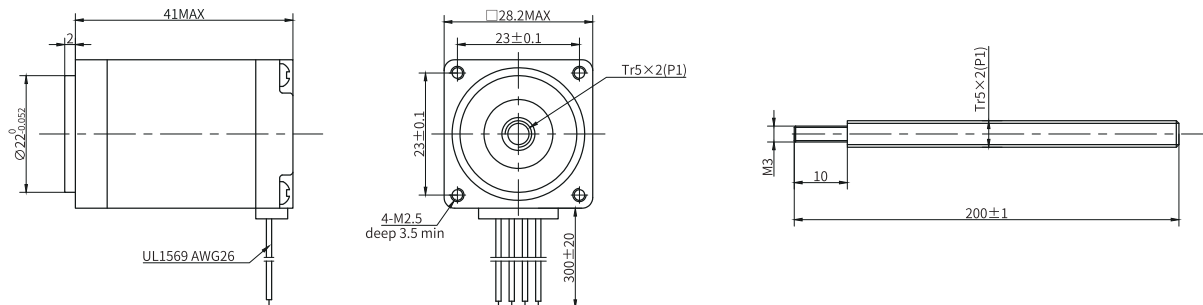
Model	Lead mm	Shaft length mm
Y07-20D1-0001-61GC-100	0.61	100
Y07-28D1-0401-02GC-200	2	200
Y07-43D1-3001-04GC-170	4	170
Y07-59D1-4404-04GC-170	4	170
Y09-59D3-1403-03GC-480	3	480

Outside drawing (unit: mm)

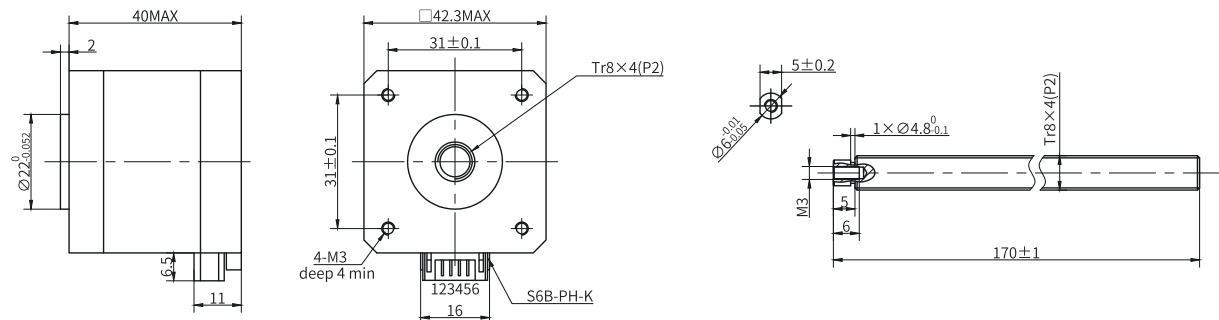
Y07-20D1-0001-61GC-100



Y07-28D1-0401-02GC-200



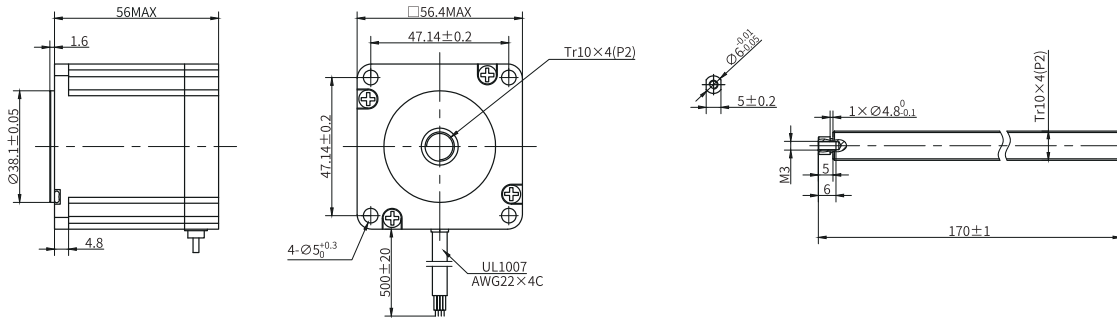
Y07-43D1-3001-04GC-170



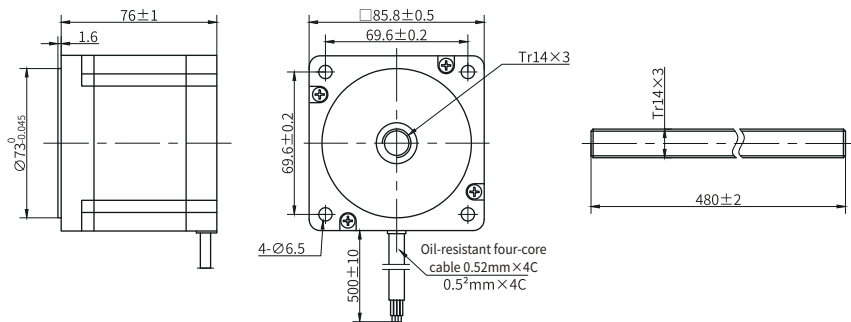
Hybrid
Brake
Reducer
integrated
Hollow shaft
Closed-loop stepper motor
Hybrid closed-loop
Brake closed-loop
Closed-loop stepper motor with absolute value
Outboard-driven
Leadscrew stepper motor
Ball leadscrew
Through-going shaft
Stepper motor driver

Outside drawing (unit: mm)

Y07-59D1-4404-04GC-170

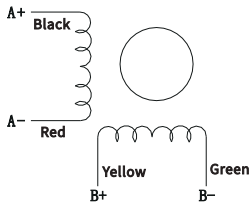


Y09-59D3-1403-03GC-480

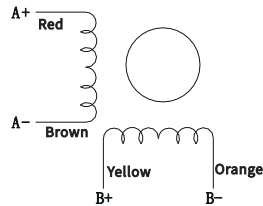


Wiring diagram

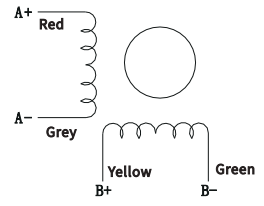
Y07-20D1-0001-61GC-100



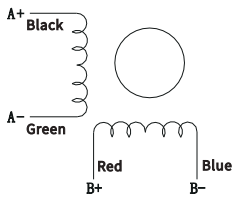
Y07-28D1-0401-02GC-200



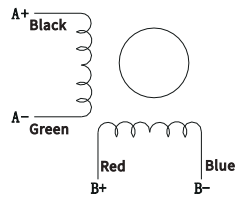
Y07-43D1-3001-04GC-170



Y07-59D1-4404-04GC-170



Y09-59D3-1403-03GC-480



28-NEMA 23 through-going Ball leadscrew motor

Specification

Single output shaft

Model	Flange size mm	Step angle deg	Current A	Resistance Ω	Inductance (mH)	Minimum thrust N.AT_RPS	Rotor inertia g.cm ²	Number of leads LEAD	Mass kg	Motor length mm	Driver
Y07-28D34-3401-02GCZ-70	28	1.8	0.75	6.5	4.5	10N at 10rps	12	4	0.20	34.0	Y2SD2-EC Y2SED1-S
Y07-43D48-5005-02GCZ-200	42		1.50	2.0	3.5	5N at 10rps	57		0.26	48.0	
Y07-59D55-5512-04GCZ-300	57		3.00	1.1	4.5	200N at 10rps	280		0.70	55.0	
Y07-59D55-5512-10GCZ-300	57		3.00	1.1	4.5	100N at 10rps	280		0.70	54.5	

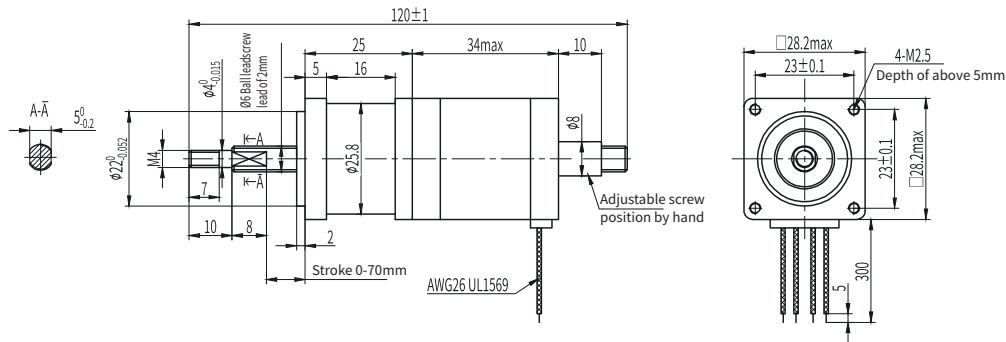
◆ Angle error: ± 0.09 degree ◆ Humidity range: 20%RH - 90%RH

Screw specification

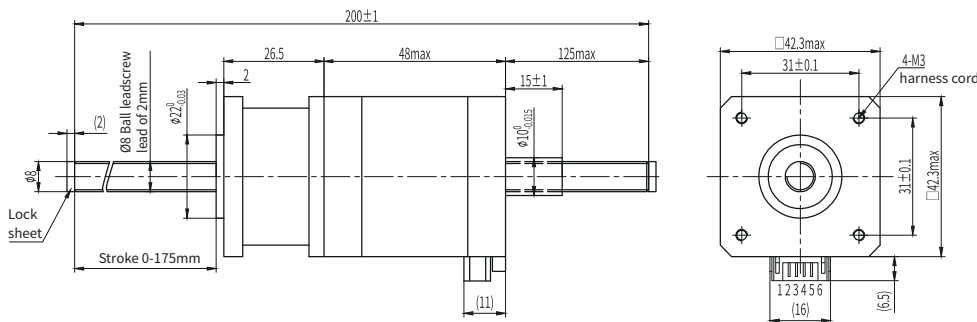
Model	Lead mm	Shaft length mm
Y07-28D34-3401-02GCZ-70	2	6
Y07-43D48-5005-02GCZ-200	2	8
Y07-59D55-5512-04GCZ-300	4	12
Y07-59D55-5512-10GCZ-300	10	12

Outside drawing (unit: mm)

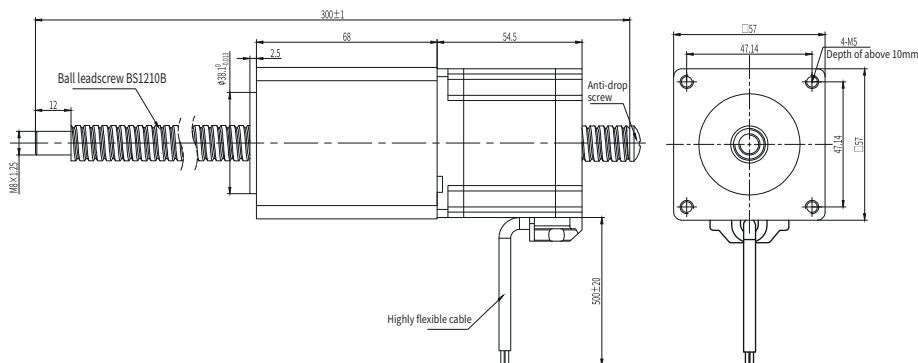
Y07-28D34-3401-02GCZ-70



Y07-43D48-5005-02GCZ-200



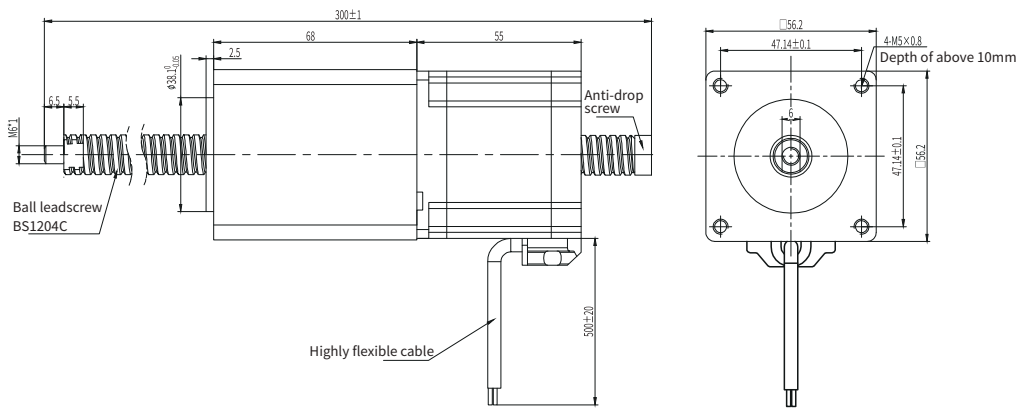
Y07-59D55-5512-04GCZ-300



Hybrid
Brake
Stepper motor
Reducer integrated
Hollow shaft
Closed-loop stepper motor
Hybrid closed-loop
Brake closed-loop
Closed-loop stepper motor with absolute value
Outboard-driven
Leadscrew stepper motor
Ball leadscrew
Through-going shaft
Stepper motor driver

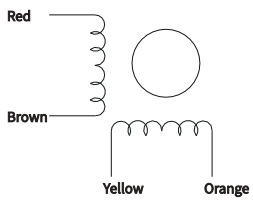
Outside drawing (unit: mm)

● Y07-59D55-5512-10GCZ-300

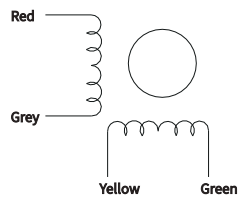


Wiring diagram

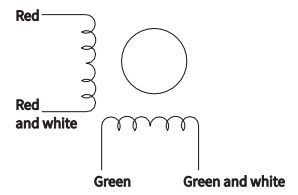
● Y07-28D34-3401-02GCZ-70



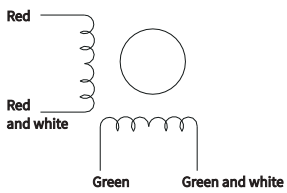
● Y07-43D48-5005-02GCZ-200



● Y07-59D55-5512-04GCZ-300



● Y07-59D55-5512-10GCZ-300



42-NEMA 23 brake leadscrew stepper motor



Specification

Single output shaft

Model	Flange size mm	Step angle deg	Current A	Resistance Ω	Inductance (mH)	Minimum thrust N.AT_RPS	Rotor inertia g.cm ²	Number of leads LEAD	Mass kg	Motor length mm	Driver
Y07-43D1-3001-08LC-210M	42	1.8	1.5	1.9	4.5	50N at 10rps	57	4	0.31	75.0	Y2SD2-EC Y2SED1-S
Y07-59D1-4404-10LC-200M	57		3.0	1.1	3.2	100N at 10rps	280		0.71	93.0	

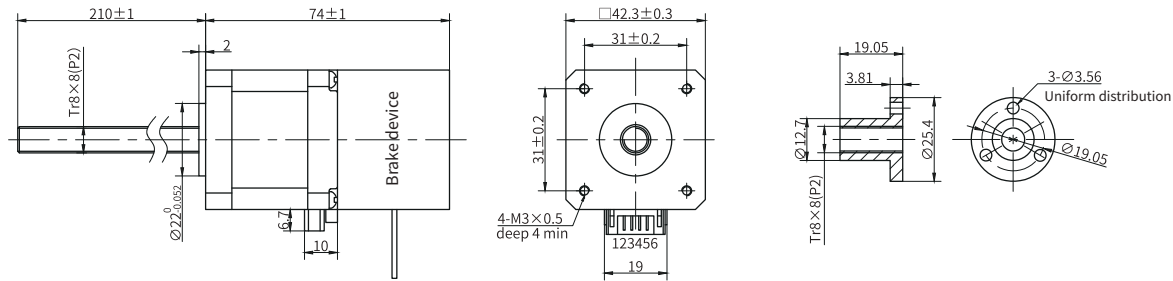
◆Angle error: ± 0.09 degree ◆Humidity range: 20%RH - 90%RH ◆Material of nut: C3604

Screw specification

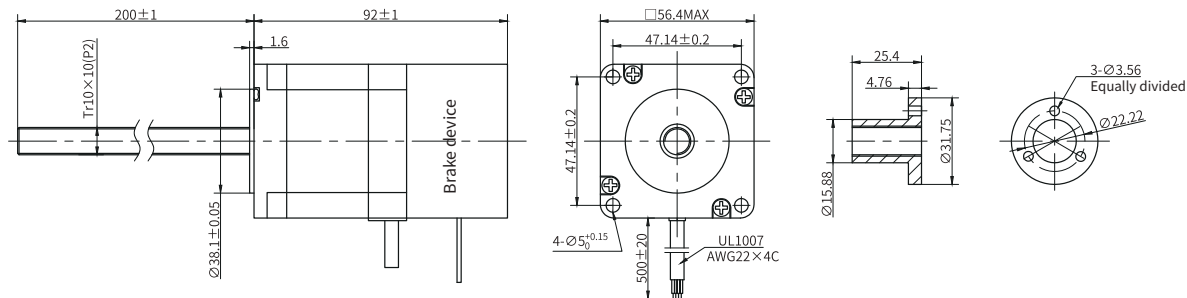
Model	Lead mm	Shaft length mm	Type of brake	Brake voltage	Brake power W	Brake torque N.m	Brake reaction time ms	Brake wiring
Y07-43D1-3001-08LC-210M	8	210	Power-off brake	DC 24V	5	0.6	50	Red (24V+) Black (GND)
Y07-59D1-4404-10LC-200M	10	200			4	1.5		

Outside drawing (unit: mm)

Y07-43D1-3001-08LC-210M

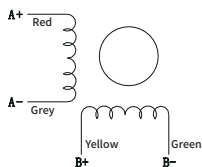


Y07-59D1-4404-10LC-200M

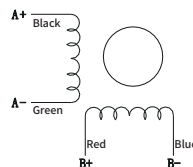


Wiring diagram

Y07-43D1-3001-08LC-210M



Y07-59D1-4404-10LC-200M



Hybrid
Brake
Stepper motor
Reducer integrated
Hollow shaft
Closed-loop stepper motor
Hybrid closed-loop
Brake closed-loop
Closed-loop stepper motor with absolute value
Outboard-driven
Leadscrew stepper motor
Ball leadscrew
Through-going shaft
Stepper motor driver

Stepper motor series

Hybrid stepper motors, brake stepper motors, reducer
integrated stepper motors, hollow shaft stepper motors
DC and AC are optional



Fast index of stepper motor driver

DC pulse stepper motor driver

Model	Input voltage	Output current	Control mode	Adaptive motor	Product size (Length*width*height)	Product page number	Remarks
Y2SD1-mini	15~24VDC	0.4~2.5A	Pulse&signal	Max. adaptive current of 2.5A	45x33x16mm	P76	3.3V drive signal
Y2SD1-OPT				P78		24V drive signal	
Y2SED1-S	15~48VDC	0.4~3.0A		20 - NEMA 17 stepper motor	93.5x56x21.5mm	P80	
Y2SED2	24~48VDC	1.0~4.5A		57 - NEMA 24 stepper motor			
Y2SED3	24~75VDC	2.4~7.8A		NEMA 34 stepper motor	109x75.5x33mm	P82	
Y2SD1R5-C	16~48VDC	0.4~3.0A		28 - NEMA 23 stepper motor	63x46x28mm	P86	
Y2SD1R5-PLUS						P86	
Y2SDD1R5	15~48VDC	P88			73x56x21mm	P88	One-to-two driver
Y2SDD1R5-485						P88	485 interface
Y2SDD2-S	24~48VDC	1.0~4.5A		Pulse control /IO constant speed control	28 - NEMA 24 stepper motor	134x77x34mm	P90
Y3SD3	24~75VDC	1.5~7.8A	Pulse&signal	Three-phase stepper motor	118x75.5x33mm	P92	

AC pulse stepper motor driver

Model	Input voltage	Output current	Control mode	Adaptive motor	Product size (Length*width*height)	Product page number	Remarks
Y2SA2	80~265VAC	0.4~4.0A	Pulse&signal	60 - NEMA 34 two-phase AC stepper motor	177x120.5x54mm	P95	
Y3SA3		0.4~8.0A		110 - NEMA 52 three-phase AC stepper motor		P97	

Drive control integrated driver

Model	Input voltage	Output current	Control mode	Adaptive motor	Product size (Length*width*height)	Product page number	Remarks
Y2SED2-F01	24~48VDC	1.0~4.5A	I/O control, dial-up speed regulation	57 - NEMA 24 stepper motor	109x75.5x33mm	P100	
Y2SED3-F01	24~75VDC	2.4~7.8A		57 - NEMA 34 stepper motor		P102	
Y2SD2H-SA01	24~70VDC 18~50VDC	1.0~4.5A	I/O control, analog speed regulation	28 - NEMA 34 stepper motor		P104	

Closed-loop stepper motor driver

Model	Input voltage	Output current	Control mode	Adaptive motor	Product size (Length*width*height)	Product page number	Remarks
Y2SS3	24~75VDC	0.5~8.0A	Pulse&direction / dual-pulse mode	20 - NEMA 34 closed-loop motor	118x75.5x30mm	P107	
Y2SS3-S			Speed regulation by software	28 - NEMA 34 closed-loop motor	128x78x30mm	P109	Built-in brake

Bus stepper motor driver

Model	Input voltage	Output current	Control mode	Adaptive motor	Product size (Length*width*height)	Product page number	Remarks
Y2SD2-EC	24~48VDC	0.1~6.0A	EtherCAT protocol	20 - NEMA 34 open-loop motor	108x62.5x23.5mm	P114	
Y2SS3-ECX	24~48VDC	0.1~7.0A		20 - NEMA 34 closed-loop motor	118x75.5x33mm	P115	
Y2SS3-EC	24~48VDC	0.1~6.0A		118x75.5x33mm	P115		
Y2SD2-S40C	24~72VDC	0.1~6.5A	ModbusRTU protocol	20 - NEMA 34 open-loop motor	156x97x33.5mm	P116	
Y2SS3-PN	24~48VDC	0.1~7.0A	PROFINET protocol	20 - NEMA 34 open-loop motor	121x77.8x29.6mm	P118	

Y2SD1-mini DC input two-phase driver (pulse-type)



Specification

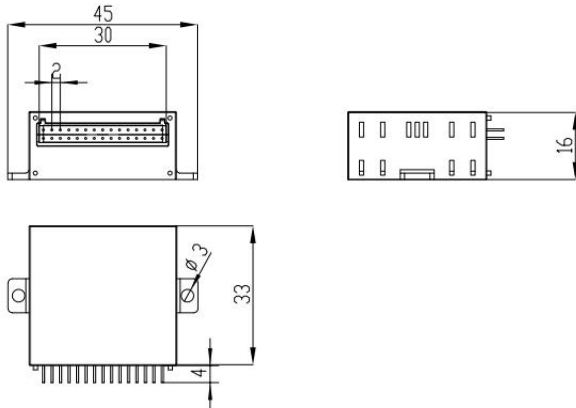
Driver parameters

Model	Input voltage VDC	Output current A	Control signal	Adaptive motor
Y2SD1-mini	15~24	0.4~2.5	Pulse& direction signal	Max. adaptive current of 2.5A

◆Control mode of pulse + direction positive and negative pulse ◆16 series are optional ◆Control signal 3.3 - 5V compatible ◆Multiple electrical protection

Mechanical dimensions (unit: mm)

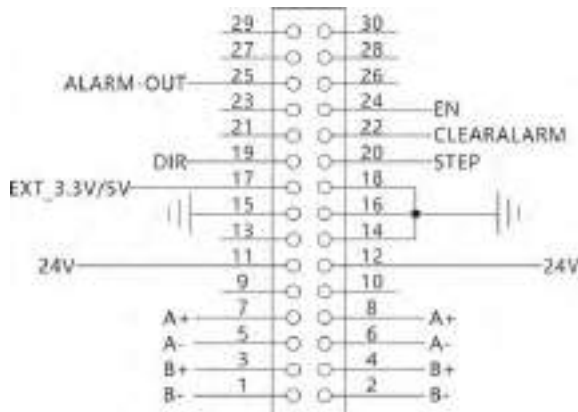
Y2SD1-mini



Unit: mm Mass: 0.12kg

Port wiring

Refer to interface relationship diagram



Status indicator lamp

Status	Failure	Cause
Green light blinks	Driver working properly	—
Green lamp is always ON	Driver disabled	High-level input at the EN port
3 red and 1 green	Driver overtemperature	Requiring for enhanced heat dissipation
4 red and 1 green	Driver power input overvoltage	—
5 red and 1 green	Driver overcurrent	Wiring error or poor contact of motor
6 red and 1 green	Motor winding in open circuit	Motor is not connected properly
3 red and 2 green	Internal voltage error of driver	Power is too small
4 red and 2 green	Driver power input undervoltage	—

DIP switch

Running current

Switch setting			Current (A)
SW1	SW2	SW3	Y2SD1-mini
OFF	OFF	OFF	2.5A
ON	OFF	OFF	2.2A
OFF	ON	OFF	1.9A
ON	ON	OFF	1.6A
OFF	OFF	ON	1.3A
ON	OFF	ON	1.0A
OFF	ON	ON	0.7A
ON	ON	ON	0.4A

Quiescent current

Switch	Status	Function
SW4	ON	Set to 50% of the running current
	OFF	Set to 90% of the running current

Subdivision

Switch setting				Y2SD1-mini
SW5	SW6	SW7	SW8	Number of pulses
OFF	OFF	OFF	OFF	20000
ON	OFF	OFF	OFF	10000
OFF	ON	OFF	OFF	8000
ON	ON	OFF	OFF	6000
OFF	OFF	ON	OFF	5000
ON	OFF	ON	OFF	4000
OFF	ON	ON	OFF	2000
ON	ON	ON	OFF	1000
OFF	OFF	OFF	ON	25600
ON	OFF	OFF	ON	12800
OFF	ON	OFF	ON	6400
ON	ON	OFF	ON	3200
OFF	OFF	ON	ON	1600
ON	OFF	ON	ON	800
OFF	ON	ON	ON	400
ON	ON	ON	ON	200

Power connection

Terminal identification	Power supply connection
V+	Power supply +
V-	GND

※Please be careful not to connect reversely, and choose the appropriate power supply.

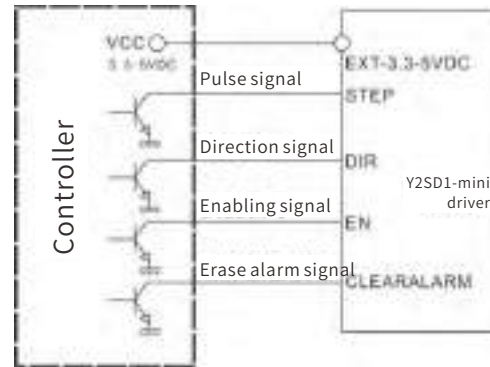
Connection of control signal

Input signal

Display	Terminal designation	Function
STEP	Pulse signal (CW pulse signal)	Receive 3.3-5V single-ended and NPN signals
DIR	Direction signal (CCW Pulse signal)	Receive 3.3-5V single-ended and NPN signals
EN	Enabling signal	Receive 3.3-5V single-ended and NPN signals; When EN is off, the motor is enabled

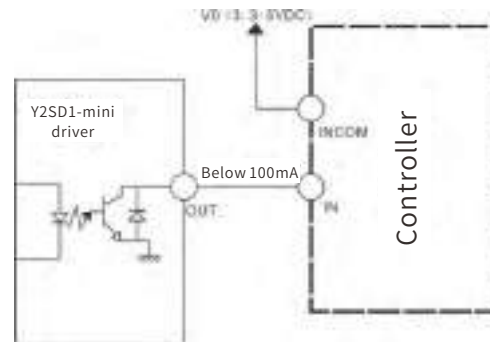
Control mode of control signal

Collector connection method NPN



Alarm output signal

The maximum voltage and the maximum saturation current at the ALARM-OUT port is 5.5VDC and 100mA respectively. When there is no alarm given by the driver, the output signal is 3.3/5V



DC pulse type

AC pulse type

Drive control integrated type

Closed-loop stepper motor driver

EtherCAT

Modbus RTU

PROFINET

Closed-loop stepper motor

Y2SD1-OPT DC input two-phase driver (pulse-type)



Specification

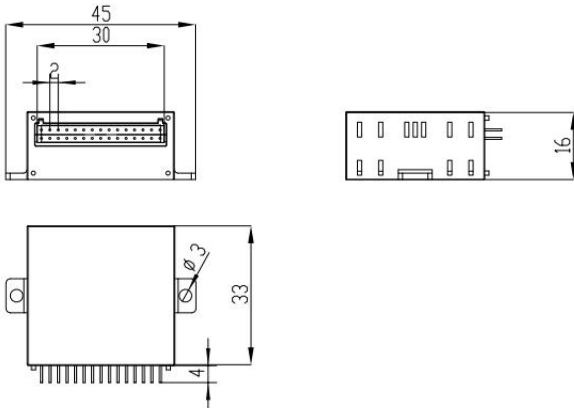
Driver parameters

Model	Input voltage VDC	Output current A	Control signal	Adaptive motor
Y2SD1-OPT	15~24	0.4~2.5	Pulse& direction signal	Max. adaptive current of 2.5A

◆Control mode of pulse + direction positive and negative pulse ◆16 series are optional ◆Control signal 3.3 - 24V compatible ◆Multiple electrical protection

Mechanical dimensions (unit: mm)

Y2SD1-OPT



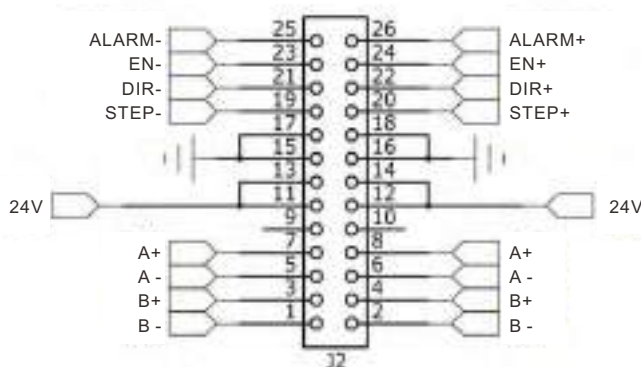
Unit: mm Mass: 0.12kg

Status indicator lamp

Status	Failure	Cause
Green light blinks	Driver working properly	—
Green lamp is always ON	Driver disabled	High-level input at the EN port
3 red and 1 green	Driver overtemperature	Requiring for enhanced heat dissipation
4 red and 1 green	Driver power input overvoltage	—
5 red and 1 green	Driver overcurrent	Wiring error or poor contact of motor
6 red and 1 green	Motor winding in open circuit	Motor is not connected properly
3 red and 2 green	Internal voltage error of driver	Power is too small
4 red and 2 green	Driver power input undervoltage	—

Port wiring

Refer to interface relationship diagram



DIP switch

Running current

Switch setting			Current (A)
SW1	SW2	SW3	Y2SD1-OPT
OFF	OFF	OFF	2.5A
ON	OFF	OFF	2.2A
OFF	ON	OFF	1.9A
ON	ON	OFF	1.6A
OFF	OFF	ON	1.3A
ON	OFF	ON	1.0A
OFF	ON	ON	0.7A
ON	ON	ON	0.4A

Quiescent current

Switch	Status	Function
SW4	ON	Set to 50% of the running current
	OFF	Set to 90% of the running current

Subdivision

Switch setting				Y2SD1-OPT
SW5	SW6	SW7	SW8	Number of pulses
OFF	OFF	OFF	OFF	20000
ON	OFF	OFF	OFF	10000
OFF	ON	OFF	OFF	8000
ON	ON	OFF	OFF	6000
OFF	OFF	ON	OFF	5000
ON	OFF	ON	OFF	4000
OFF	ON	ON	OFF	2000
ON	ON	ON	OFF	1000
OFF	OFF	OFF	ON	25600
ON	OFF	OFF	ON	12800
OFF	ON	OFF	ON	6400
ON	ON	OFF	ON	3200
OFF	OFF	ON	ON	1600
ON	OFF	ON	ON	800
OFF	ON	ON	ON	400
ON	ON	ON	ON	200

Power connection

Terminal identification	Power supply connection
V+	Power supply +
V-	GND

※Please be careful not to connect reversely, and choose the appropriate power supply

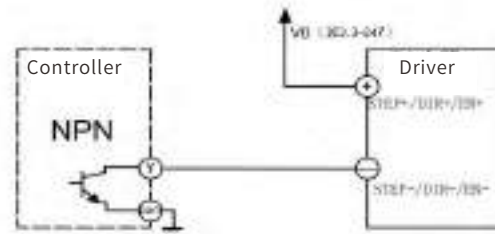
Connection of control signal

Input signal

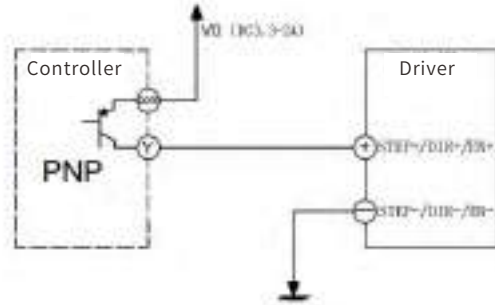
Display	Terminal designation	Function
STEP	Pulse signal (CW pulse signal)	Receive 3.3-24V differential, NPN and PNP signals
DIR	Direction signal (CCW Pulse signal)	Receive 3.3-24V differential, NPN and PNP signals
EN	Enabling signal	Receive 3.3-24V differential, NPN and PNP signals; When EN is off, the motor is enabled

Control mode of control signal

Collector connection method NPN

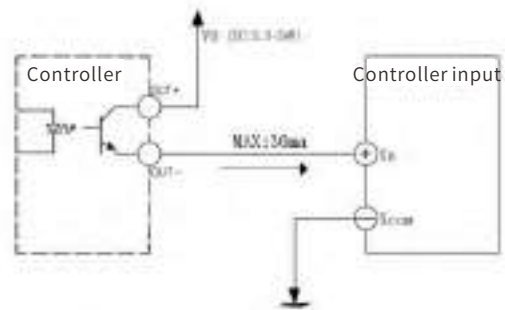
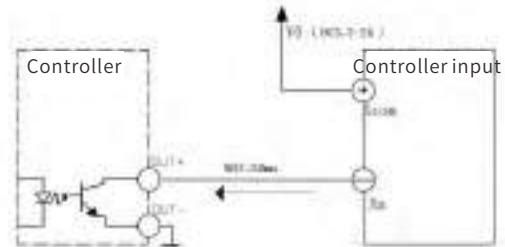


Collector connection method PNP



Alarm output signal

The ALARM-OUT port can withstand a maximum voltage of 40VDC and a maximum saturation current of 30mA. The following two connection modes are available.



DC pulse type

AC pulse type

Drive control integrated type

Closed-loop stepper driver

EtherCAT

Modbus RTU

PROFINET

Closed-loop stepper motor

Y2SED1-S DC input two-phase driver (pulse-type)



Specification

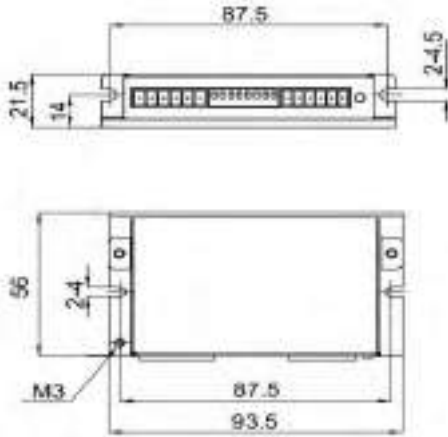
Driver parameters

Model	Input voltage VDC	Output current A	Control signal	Adaptive motor
Y2SED1-S	15~48	0.4~3.0	16	20- NEMA 17 stepper motor

◆Control mode of pulse + direction positive and negative pulse ◆16 series are optional ◆Control signal 3.3 - 5V compatible ◆Multiple electrical protection

Mechanical dimensions (unit: mm)

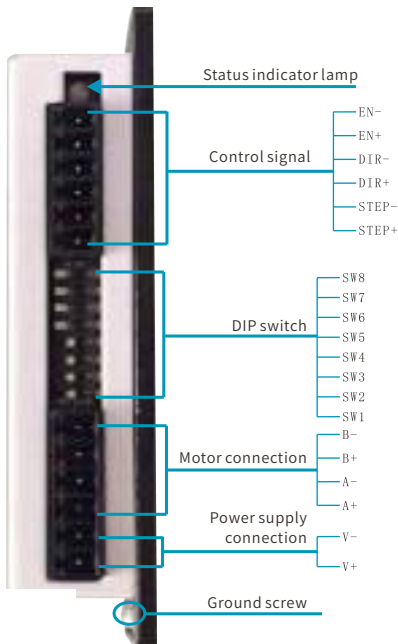
Y2SED1-S



Unit: mm Mass:0.125kg

Port wiring

Refer to interface relationship diagram



Status indicator lamp

Display	Color	Name
POWER	Green	The green light blinks under proper functioning
ERROW	Red	The indicators blink in red and green alternately if there is an error

Status	Failure	Cause
Green light blinks	Driver working properly	—
Green lamp is always ON	Driver disabled	High-level input at the EN port
3 red and 1 green	Driver overtemperature	Requiring for enhanced heat dissipation
4 red and 1 green	Driver power input overvoltage	The supply voltage is greater than 56VDC
5 red and 1 green	Driver overcurrent	Wiring error or poor contact of motor
6 red and 1 green	Motor winding in open circuit	Motor is not connected properly
3 red and 2 green	Internal voltage error of driver	Power is too small
4 red and 2 green	Driver power input undervoltage	The supply voltage is less than 12VDC

DIP switch

Running current

Switch setting			Current (A)
SW1	SW2	SW3	Y2SED1-S
OFF	OFF	OFF	3.0
ON	OFF	OFF	2.7
OFF	ON	OFF	2.4
ON	ON	OFF	2.0
OFF	OFF	ON	1.6
ON	OFF	ON	1.2
OFF	ON	ON	0.8
ON	ON	ON	0.4

Quiescent current

Switch	Status	Function
SW4	ON	Set to 50% of the running current
	OFF	Set to 90% of the running current

Subdivision

Switch setting				Y2SED1-S	
SW5	SW6	SW7	SW8	Number of subdivisions	Number of pulses
OFF	OFF	OFF	OFF	100	20000
ON	OFF	OFF	OFF	50	10000
OFF	ON	OFF	OFF	40	8000
ON	ON	OFF	OFF	30	6000
OFF	OFF	ON	OFF	25	5000
ON	OFF	ON	OFF	20	4000
OFF	ON	ON	OFF	10	2000
ON	ON	ON	OFF	5	1000
OFF	OFF	OFF	ON	128	25600
ON	OFF	OFF	ON	64	12800
OFF	ON	OFF	ON	32	6400
ON	ON	OFF	ON	16	3200
OFF	OFF	ON	ON	8	1600
ON	OFF	ON	ON	4	800
OFF	ON	ON	ON	2	400
ON	ON	ON	ON	1	200

Power connection

Terminal identification	Power supply connection
V+	Power supply +
V-	GND

※Do not plug and unplug the driver power with power supply

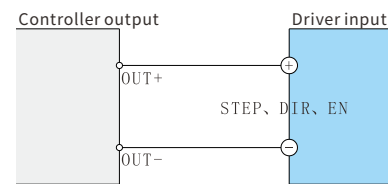
Connection of control signal

Input signal

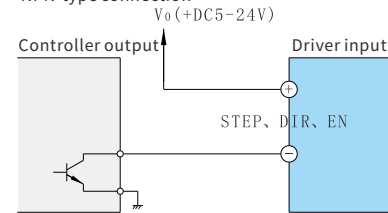
Display	Terminal designation	Function
STEP	Pulse signal (CW pulse signal)	Receive 5-24V differential, NPN and PNP signals
DIR	Direction signal (CCW Pulse signal)	Receive 5-24V differential, NPN and PNP signals
EN	Enabling signal	Receive 5-24V differential, NPN and PNP signals; When EN is off, the motor is enabled

Input Connection

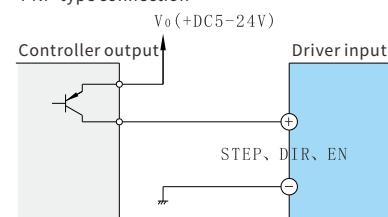
Differential connection



NPN-type connection



PNP-type connection



Y2SED2 DC input two-phase driver (pulse-type)



Specification

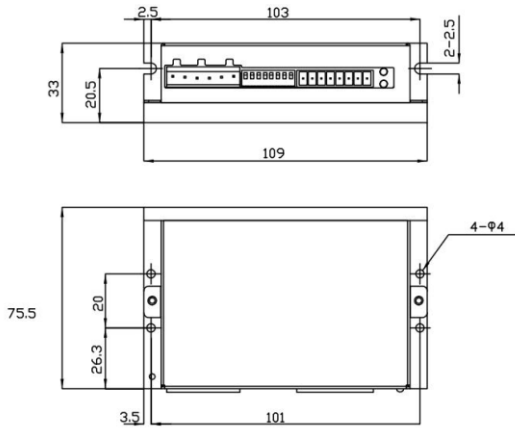
Driver parameters

Model	Input voltage VDC	Output current A	Control signal	Adaptive motor
Y2SED2	24~48	1.0~4.5	16	57 - NEMA 24 stepper motor

◆Control mode of pulse + direction/positive and negative pulse ◆16 series are optional ◆Control signal 5 - 24V compatible ◆Multiple electrical protection

Mechanical dimensions (unit: mm)

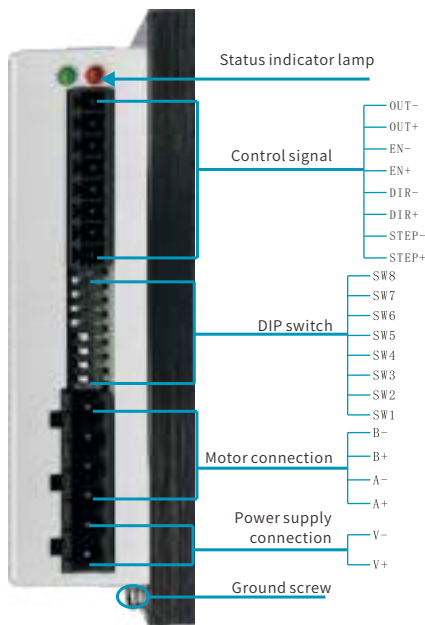
Y2SED2



Unit:mm Mass:0.277kg

Connection and running

Wiring diagram of driver



Status indicator lamp

Display	Color	Name
POWER	Green	The green light blinks under proper functioning
ERROW	Red	The indicators blink in red and green alternately if there is an error

Status	Failure	Cause
Green light blinks	Driver working properly	—
Green lamp is always ON	Driver disabled	High-level input at the EN port
3 red and 1 green	Driver overtemperature	Requiring for enhanced heat dissipation
4 red and 1 green	Driver power input overvoltage	The supply voltage is greater than 75VDC
5 red and 1 green	Driver overcurrent	Wiring error or poor contact of motor
6 red and 1 green	Motor winding in open circuit	Motor is not connected properly
3 red and 2 green	Internal voltage error of driver	Power is too small
4 red and 2 green	Driver power input undervoltage	The supply voltage is less than 18VDC

DIP switch

Running current

Switch setting			Current (A)
SW1	SW2	SW3	Y2SED2
OFF	OFF	OFF	4.5
ON	OFF	OFF	4.0
OFF	ON	OFF	3.5
ON	ON	OFF	3.0
OFF	OFF	ON	2.5
ON	OFF	ON	2.0
OFF	ON	ON	1.5
ON	ON	ON	1.0

Quiescent current

Switch	STATUS	Function
SW4	ON	Set to 50% of the running current
	OFF	Set to 90% of the running current

Subdivision

Switch setting				Y2SED1-S	
SW5	SW6	SW7	SW8	Number of subdivisions	Number of pulses
OFF	OFF	OFF	OFF	100	20000
ON	OFF	OFF	OFF	50	10000
OFF	ON	OFF	OFF	40	8000
ON	ON	OFF	OFF	30	6000
OFF	OFF	ON	OFF	25	5000
ON	OFF	ON	OFF	20	4000
OFF	ON	ON	OFF	10	2000
ON	ON	ON	OFF	5	1000
OFF	OFF	OFF	ON	128	25600
ON	OFF	OFF	ON	64	12800
OFF	ON	OFF	ON	32	6400
ON	ON	OFF	ON	16	3200
OFF	OFF	ON	ON	8	1600
ON	OFF	ON	ON	4	800
OFF	ON	ON	ON	2	400
ON	ON	ON	ON	1	200

Power connection

Terminal identification	Power supply connection
V+	Power supply +
V-	GND

※Do not plug and unplug the driver power with power supply

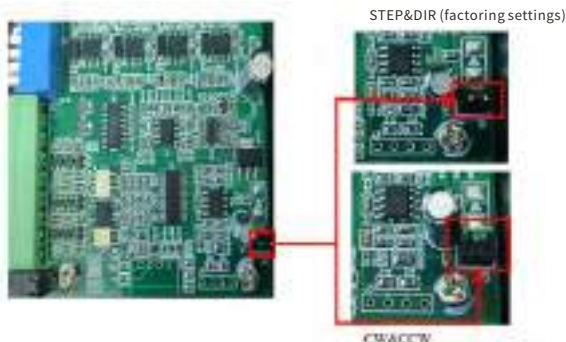
Connection of control signal

Input signal

Display	Terminal designation	Function
STEP	Pulse signal (CW Pulse signal)	Receive 5-24V differential, NPN and PNP signals
DIR	Direction signal (CcwPulse signal)	Receive 5-24V differential, NPN and PNP signals
EN	Enabling signal	Receive 5-24V differential, NPN and PNP signals; When EN is off, the motor is enabled

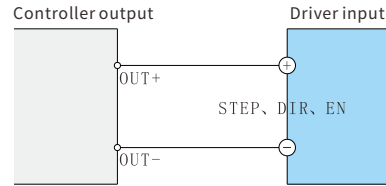
Single-/ dual-pulse setting

S3 jumper cap	PULSE MODE
WITH JUMPER CAP	STEP&DIR
WITHOUT JUMPER CAP	CW&CCW

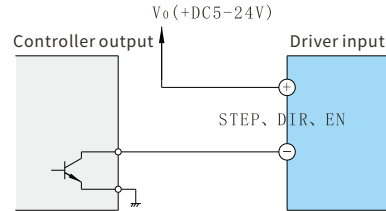


Input Connection

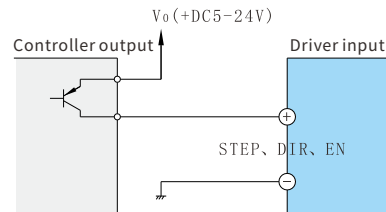
Differential connection



NPN-type connection

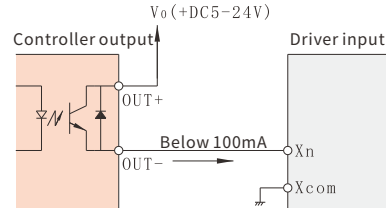


PNP-type connection

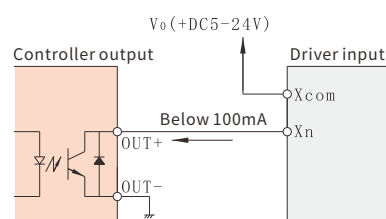


Output connection

Common cathode connection



Common anode connection



Y2SED3 DC input two-phase driver (pulse-type)



Specification

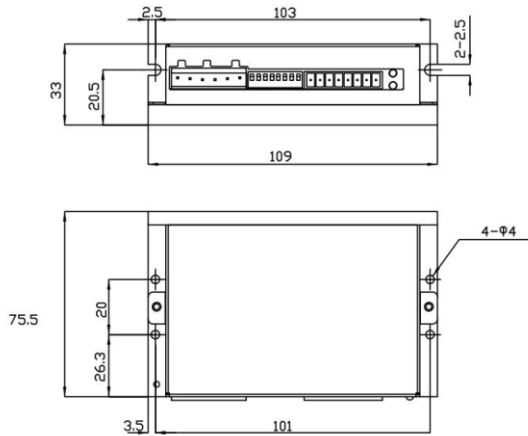
Driver parameters

Model	Input voltage VDC	Output current A	Control signal	Adaptive motor
Y2SED3	24~75	2.4~7.8	16	NEMA 34 stepper motor

◆Control mode of pulse + direction/positive and negative pulse ◆16 series are optional ◆Control signal 5 - 24V compatible ◆Multiple electrical protection

Mechanical dimensions (unit: mm)

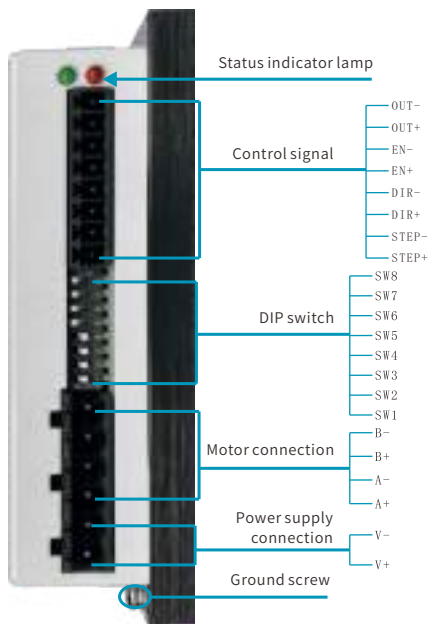
Y2SED3



Unit: mm Mass:0.277kg

Connection and running

Wiring diagram of driver



Status indicator lamp

Display	Color	Name
POWER	Green	The green light blinks under proper functioning
ERROW	Red	The indicators blink in red and green alternately if there is an error

Status	Failure	Cause
Green light blinks	Driver working properly	—
Green lamp is always ON	Driver disabled	High-level input at the EN port
3 red and 1 green	Driver overtemperature	Requiring for enhanced heat dissipation
4 red and 1 green	Driver power input overvoltage	The supply voltage is greater than 75VDC
5 red and 1 green	Driver overcurrent	Wiring error or poor contact of motor
6 red and 1 green	Motor winding in open circuit	Motor is not connected properly
3 red and 2 green	Internal voltage error of driver	Power is too small
4 red and 2 green	Driver power input undervoltage	The supply voltage is less than 18VDC

DIP switch

Running current

Switch setting			Current (A)
SW1	SW2	SW3	Y2SED3
OFF	OFF	OFF	7.8
ON	OFF	OFF	7.0
OFF	ON	OFF	6.4
ON	ON	OFF	5.6
OFF	OFF	ON	4.8
ON	OFF	ON	4.0
OFF	ON	ON	3.2
ON	ON	ON	2.4

Quiescent current

Switch	STATUS	Function
SW4	ON	Set to 50% of the running current
	OFF	Set to 90% of the running current

Subdivision

Switch setting				Y2SED1-S	
SW5	SW6	SW7	SW8	Number of subdivisions	Number of pulses
OFF	OFF	OFF	OFF	100	20000
ON	OFF	OFF	OFF	50	10000
OFF	ON	OFF	OFF	40	8000
ON	ON	OFF	OFF	30	6000
OFF	OFF	ON	OFF	25	5000
ON	OFF	ON	OFF	20	4000
OFF	ON	ON	OFF	10	2000
ON	ON	ON	OFF	5	1000
OFF	OFF	OFF	ON	128	25600
ON	OFF	OFF	ON	64	12800
OFF	ON	OFF	ON	32	6400
ON	ON	OFF	ON	16	3200
OFF	OFF	ON	ON	8	1600
ON	OFF	ON	ON	4	800
OFF	ON	ON	ON	2	400
ON	ON	ON	ON	1	200

Power connection

Terminal identification	Power supply connection
V+	Power supply +
V-	GND

※Do not plug and unplug the driver power with power supply

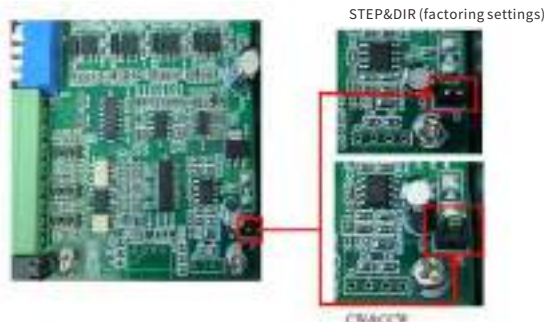
Connection of control signal

Input signal

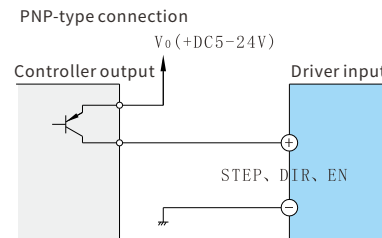
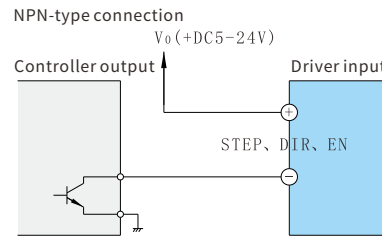
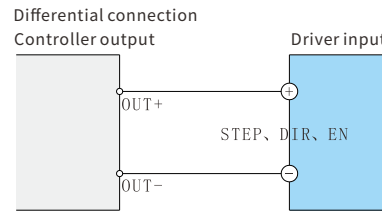
Display	Terminal designation	Function
STEP	Pulse signal (CW Pulse signal)	Receive 5-24V differential, NPN and PNP signals
DIR	Direction signal (CcWPulse signal)	Receive 5-24V differential, NPN and PNP signals
EN	Enabling signal	Receive 5-24V differential, NPN and PNP signals; When EN is off, the motor is enabled

Single-/ dual-pulse setting

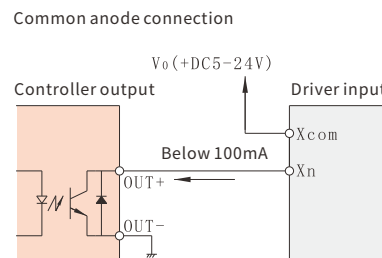
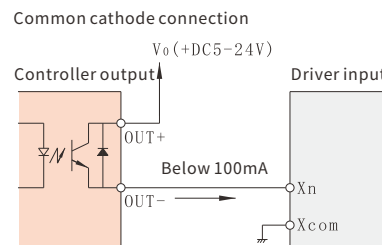
S3 jumper cap	PULSE MODE
WITH JUMPER CAP	STEP&DIR
WITHOUT JUMPER CAP	CW&CCW



Input Connection



Output connection



Stepper motor driver	DC pulse type
	AC pulse type
Closed-loop stepper motor driver	Drive control integrated type
	Closed-loop stepper motor driver
Closed-loop stepper motor	EtherCAT
	Modbus RTU
	PROFINET

Y2SD1R5-C DC input two-phase driver (pulse-type)



Specification

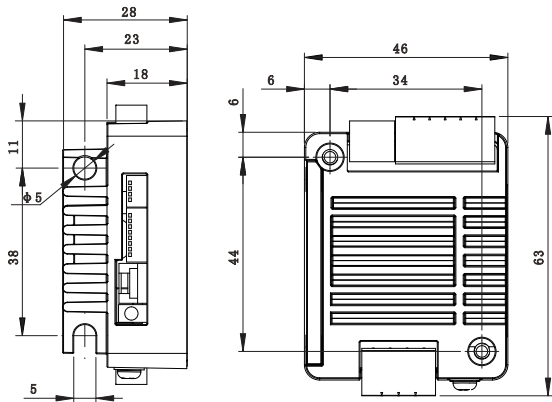
Driver parameters

Model	Input voltage VDC	Output current A	Control signal	Adaptive motor
Y2SD1R5-C	16~48	0.4~3.0	16	28 - NEMA 23 stepper motor
Y2SD1R5-PLUS				

◆Control mode of pulse + direction/positive and negative pulse ◆16 series are optional ◆Control signal 5 - 24V compatible ◆Multiple electrical protection

Mechanical dimensions (unit: mm)

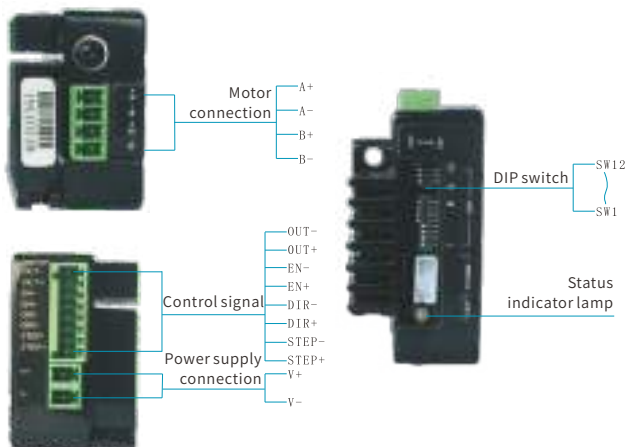
Y2SD1R5-C/Y2SD1R5-PLUS



Unit: mm Mass:0.1kg

Connection and running

Wiring diagram of driver



Status indicator lamp

Display	Color	Name
POWER	Green	The green light blinks under proper functioning
ERROW	Red	The indicators blink in red and green alternately if there is an error

Status	Failure	Cause
Green light blinks	Driver working properly	—
Green lamp is always ON	Driver disabled	High-level input at the EN port
3 red and 1 green	Driver overtemperature	Requiring for enhanced heat dissipation
4 red and 1 green	Driver power input overvoltage	The supply voltage is greater than 56VDC
5 red and 1 green	Driver overcurrent	Wiring error or poor contact of motor
6 red and 1 green	Motor winding in open circuit	Motor is not connected properly
3 red and 2 green	Internal voltage error of driver	Power is too small
4 red and 2 green	Driver power input undervoltage	The supply voltage is less than 12VDC

DIP switch1

Running current

Switch setting			Current (A)
SW1	SW2	SW3	Y2SD1R5-C/Y2SD1R5-PLUS
OFF	OFF	OFF	3.0
ON	OFF	OFF	2.7
OFF	ON	OFF	2.4
ON	ON	OFF	2.0
OFF	OFF	ON	1.6
ON	OFF	ON	1.2
OFF	ON	ON	0.8
ON	ON	ON	0.4

Quiescent current

Switch	STATUS	Function
SW4	ON	Set to 50% of the running current
	OFF	Set to 90% of the running current

Subdivision

Switch setting				Y2SED1-S	
SW5	SW6	SW7	SW8	Number of subdivisons	Number of pulses
OFF	OFF	OFF	OFF	100	20000
ON	OFF	OFF	OFF	50	10000
OFF	ON	OFF	OFF	40	8000
ON	ON	OFF	OFF	30	6000
OFF	OFF	ON	OFF	25	5000
ON	OFF	ON	OFF	20	4000
OFF	ON	ON	OFF	10	2000
ON	ON	ON	OFF	5	1000
OFF	OFF	OFF	ON	128	25600
ON	OFF	OFF	ON	64	12800
OFF	ON	OFF	ON	32	6400
ON	ON	OFF	ON	16	3200
OFF	OFF	ON	ON	8	1600
ON	OFF	ON	ON	4	800
OFF	ON	ON	ON	2	400
ON	ON	ON	ON	1	200

DIP switch2

Driver self-inspection

Display	SwitchName	Function
SW9	Driver self-testing	Set the dip to ON, and make the motor perform two cycles of positive and negative reciprocating movement at the speed of 1 revolution per second

Subdivided interpolation

Display	SwitchName	Function
SW10	Subdivided interpolation	Set this dip to ON, the driver is inserted with microstep under low subdivision, which is suggested to use below 8 subdivisions

Single- / dual-pulse selection

Display	SwitchName	Function
SW11	Single- / dual-pulse selection	ON: CW/CCW mode OFF: STEP/DIR mode

Input signal filtering

Display	SwitchName	Function
SW12	Input signal filtering	ON: 150KHz, Suitable for low-subdivision drive OFF: 2MHz, Suitable for high-subdivision drive

※It is recommended to set the filtering at 150KHZ to achieve a better anti-interference effect

Power connection

Terminal identification	Power supply connection
V+	Power supply +
V-	GND

※Do not plug and unplug the driver power with power supply

Connection of control signal

Input signal

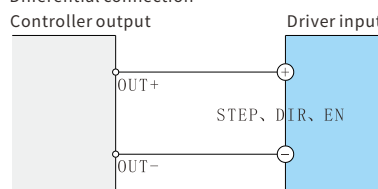
Display	Terminal designation	Function
STEP	Pulse signal (CW Pulse signal)	Receive 5-24V differential, NPN and PNP signals
DIR	Direction signal (CCW Pulse signal)	Receive 5-24V differential, NPN and PNP signals
EN	Enabling signal	Receive 5-24V differential, NPN and PNP signals; When EN is off, the motor is enabled

Output signal

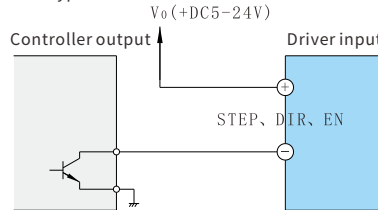
Display	Terminal designation	Function
OUT	Error output	The OUT port is connected to withstand a maximum 30V@100mA when an error occurs to the driver

Input Connection

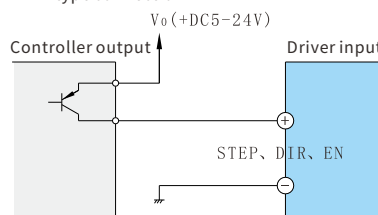
Differential connection



NPN-type connection

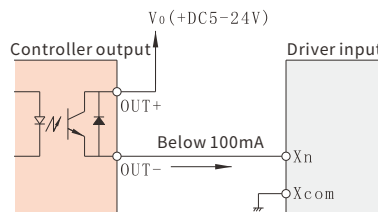


PNP-type connection

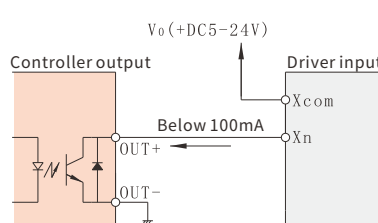


Output connection

Common cathode connection



Common anode connection



DC pulse type

AC pulse type

Drive control integrated type

Closed-loop stepper motor driver

EtherCAT

Modbus RTU

PROFINET

Closed-loop stepper motor

Y2SDD1R5 DC input two-phase driver (pulse-type one-to-two)



Specification

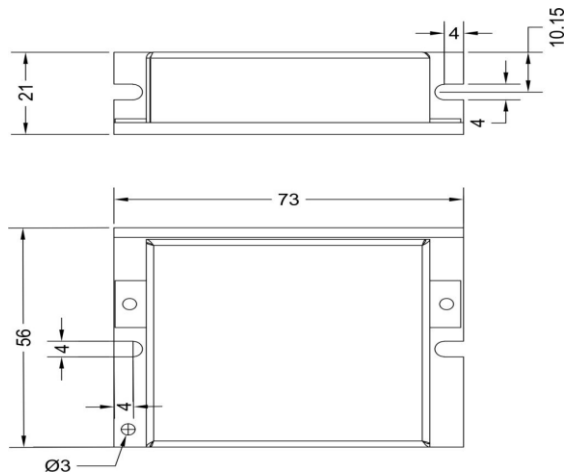
Driver parameters

Model	Input voltage VDC	Output current A	Control signal	Adaptive motor
Y2SDD1R5	15~48	0.4~3.0	Pulse + direction / dual-pulse control	28 - NEMA 23 stepper motor
Y2SDD1R5-485	24~48			

◆Control mode of pulse + direction/positive and negative pulse ◆16 series are optional ◆Control signal 5 - 24V compatible ◆Multiple electrical protection

Mechanical dimensions (unit: mm)

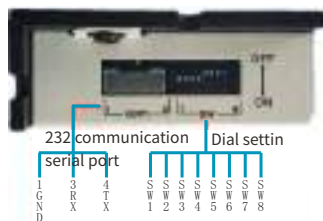
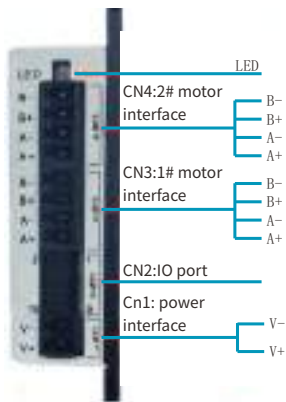
Y2SDD1R5/Y2SDD1R5-485



Unit: mm Mass:0.26kg

Connection and running

Wiring diagram of driver



Status indicator lamp

Display	Color	Name
POWER	Green	The green light blinks under proper functioning
ERROW	Red	The indicators blink in red and green alternately if there is an error

Status	Failure	Cause
Green light blinks	Driver working properly	—
Green lamp is always ON	Driver disabled	High-level input at the EN port
3 red and 1 green	Driver overtemperature	Requiring for enhanced heat dissipation
4 red and 1 green	Driver power input overvoltage	The supply voltage is greater than 56VDC
5 red and 1 green	Driver overcurrent	Wiring error or poor contact of motor
6 red and 1 green	Motor winding in open circuit	Motor is not connected properly
3 red and 2 green	Internal voltage error of driver	Power is too small
4 red and 2 green	Driver power input undervoltage	The supply voltage is less than 15VDC

DIP switch

Running current

Switch setting			Current (A)	
SW1	SW2	SW3	Y2SDD1R5	Y2SDD1R5-485
OFF	OFF	OFF	3.0	3.0
ON	OFF	OFF	2.7	2.7
OFF	ON	OFF	2.4	2.4
ON	ON	OFF	2.0	2.0
OFF	OFF	ON	1.6	1.6
ON	OFF	ON	1.2	1.2
OFF	ON	ON	0.8	0.8
ON	ON	ON	0.4	0.4

Quiescent current

Switch	STATUS	Function
SW4	ON	Set to 50% of the running current
	OFF	Set to 90% of the running current

Subdivision

SW5	SW6	SW7	SW8	Number of pulses
OFF	OFF	OFF	OFF	20000
ON	OFF	OFF	OFF	10000
OFF	ON	OFF	OFF	8000
ON	ON	OFF	OFF	6000
OFF	OFF	ON	OFF	5000
ON	OFF	ON	OFF	4000
OFF	ON	ON	OFF	2000
ON	ON	ON	OFF	1000
OFF	OFF	OFF	ON	25600
ON	OFF	OFF	ON	12800
OFF	ON	OFF	ON	6400
ON	ON	OFF	ON	3200
OFF	OFF	ON	ON	1600
ON	OFF	ON	ON	800
OFF	ON	ON	ON	400
ON	ON	ON	ON	200

Power connection

Terminal identification	Power supply connection
V+	Power supply +
V-	GND

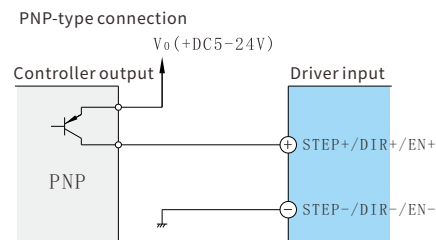
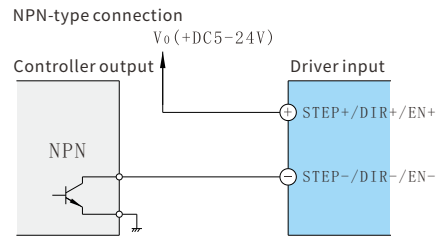
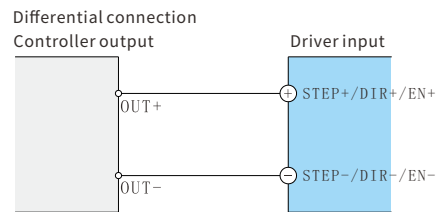
※Do not plug and unplug the driver power with power supply

Connection of control signal

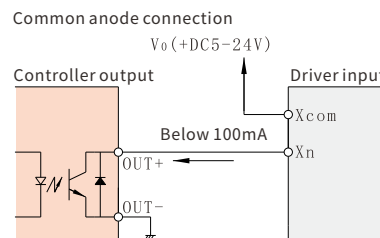
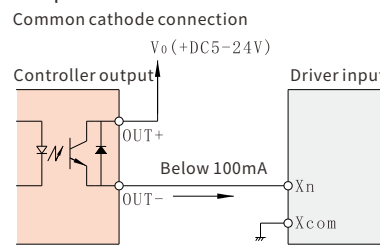
Input signal

Display	Terminal designation	Function
STEP	Pulse signal (CW Pulse signal)	Receive 5-24V differential, NPN and PNP signals
DIR	Direction signal (CCW Pulse signal)	Receive 5-24V differential, NPN and PNP signals
EN	Enabling signal	Receive 5-24V differential, NPN and PNP signals; When EN is off, the motor is enabled

Input Connection



Output connection



Y2SDD2-S DC input two-phase driver (pulse-type one-to-two)



Specification

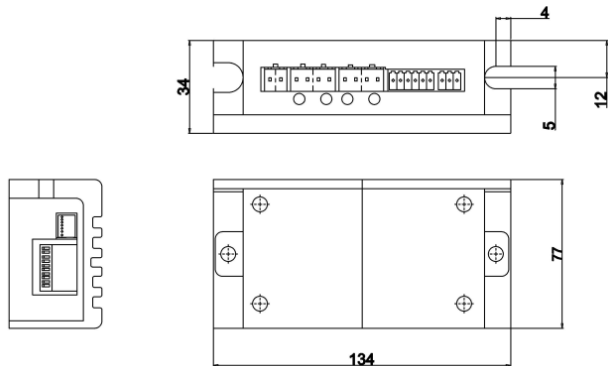
Driver parameters

Model	Input voltage VDC	Output current A	Control signal	Adaptive motor
Y2SDD2-S	24~48	1.0~4.5	Pulse control /IO constant speed control	28 - NEMA 24 stepper moto

◆Control mode of pulse + direction/positive and negative pulse ◆16 series are optional ◆Control signal 5 - 24V compatible ◆Multiple electrical protection

Mechanical dimensions (unit: mm)

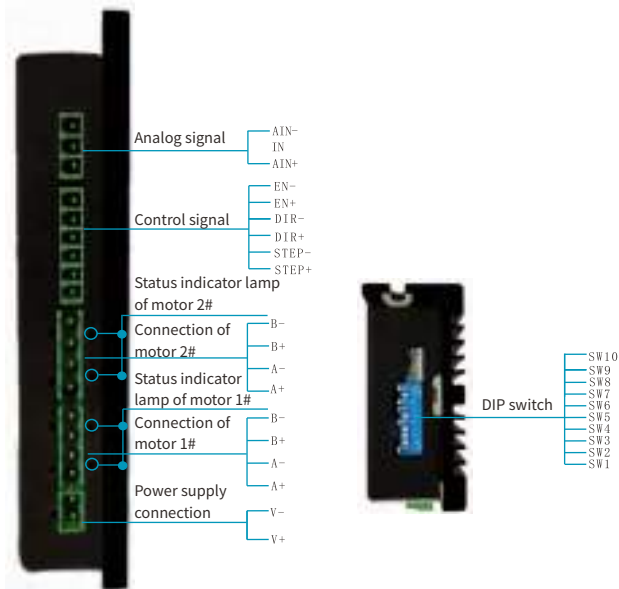
Y2SDD2-S



Unit: mm Mass:0.31kg

Connection and running

Wiring diagram of driver



Status indicator lamp

Display	Color	Name
POWER	Green	The green light blinks under proper functioning
ERROW	Red	The indicators blink in red and green alternately if there is an error

Status	Failure	Cause
Green light blinks	Driver working properly	—
4 red and 1 green	Driver power input overvoltage	The supply voltage is greater than 56VDC
5 red and 1 green	Driver overcurrent	Wiring error or poor contact of motor
6 red and 1 green	Motor winding in open circuit	Motor is not connected properly
3 red and 2 green	Internal voltage error of driver	Power is too small
4 red and 2 green	Driver power input undervoltage	The supply voltage is less than 12VDC
5 red and 2 green	Other faults	Other faults

DIP switch

Running current

Switch setting			Current (A)
SW1	SW2	SW3	Y2SDD2-S
OFF	OFF	OFF	4.5
ON	OFF	OFF	4.0
OFF	ON	OFF	3.5
ON	ON	OFF	3.0
OFF	OFF	ON	2.5
ON	OFF	ON	2.0
OFF	ON	ON	1.5
ON	ON	ON	1.0

※Factory setting: minimum current

Constant speed/subdivision setting

Switch setting			Number of subdivisions	RPM (revolution per minute)
SW4	SW5	SW6	Y2SDD2-S	Y2SDD2-S
OFF	OFF	OFF	10000	120
OFF	OFF	ON	6400	105
OFF	ON	OFF	5000	90
OFF	ON	ON	3200	75
ON	OFF	OFF	1600	60
ON	OFF	ON	1000	45
ON	ON	OFF	800	30
ON	ON	ON	400	15

※Factory setting: maximum subdivision

Analog maximum speed setting

Switch setting		RPM (revolution per minute)
SW7	SW8	Y2SDD2-S
OFF	OFF	1500
OFF	ON	900
ON	OFF	600
ON	ON	300

Analog maximum speed setting

Switch setting	Pulse mode
SW9	Y2SDD2-S
ON	Double pulse
OFF	Pulse&direction

※Factory setting is pulse&direction

Running mode

Switch setting		STEP	DIR	EN
ON	Pulse mode	Pulse input	Direction signal	Enabling signal
OFF	IO/analog quantity	IO input	Direction signal	Switch fixed speed

※The driver is powered on to make it enabled, and a signal is sent to the EN port to make it disabled

Power connection

Terminal identification	Power supply connection
V+	Power supply +
V-	GND

※Do not plug and unplug the driver power with power supply

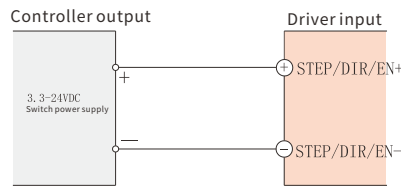
Connection of control signal

Input signal

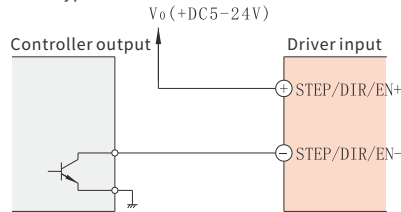
Display	Terminal designation	Function
STEP	Start-stop/pulse signal (CW)	Receive 5-24V differential, NPN and PNP signals
DIR	Direction signal (CCW)	Receive 5-24V differential, NPN and PNP signals
EN	Switch fixed speed/disable	Receive 5-24V differential, NPN and PNP signals
AIN+	Analog positive terminal	Potentiometer positive end, output of 10V
IN	Analog input	Potentiometer input, analog input
AIN-	Analog negative terminal	Potentiometer negative terminal, analog 0V

Input Connection

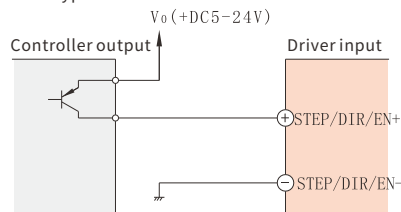
Differential connection



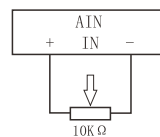
NPN-type connection



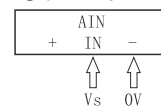
PNP-type connection



A. Connected to 10K potentiometer



B. Connected to 0-10V analog quantity



※Static current is 50% of the rated current
The acceleration and deceleration time is 50RPS/S/S

DC pulse type

AC pulse type

Drive control integrated type

Closed-loop stepper driver

EtherCAT

Modbus RTU

PROFINET

Closed-loop stepper motor

Y3SD3 DC input three-phase driver (pulse-type)



Specification

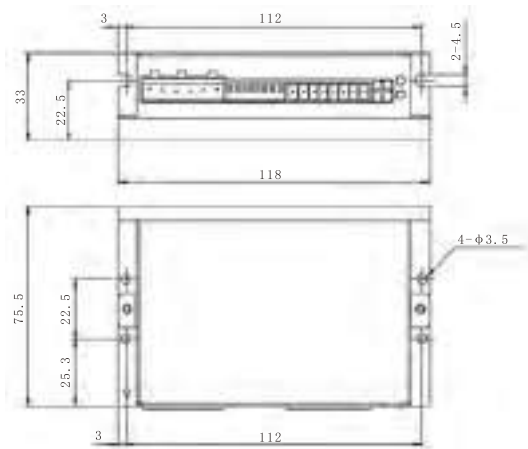
Driver parameters

Model	Input voltage VDC	Output current A	Control signal	Adaptive motor
Y3SD3	24~75	1.5~7.8	8 gears	Three-phase stepper motor

◆Control mode of pulse + direction/positive and negative pulse ◆Control signal 5 - 24V compatible ◆Multiple electrical protection ◆apply for DC power supply above 6A

Mechanical dimensions (unit: mm)

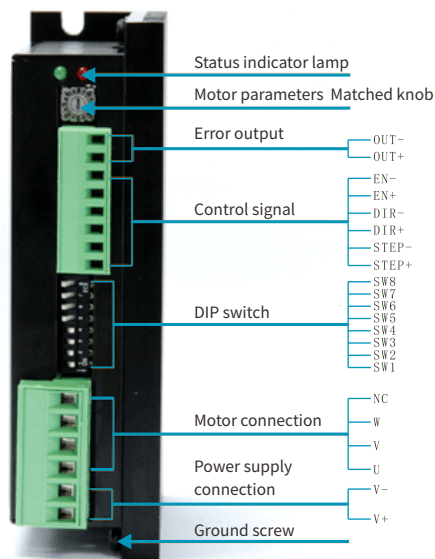
Y3SD3



Unit: mm Mass:0.31kg

Connection and running

Wiring diagram of driver



Status indicator lamp

Display	Color	Name
POWER	Green	The green light blinks under proper functioning
ERROW	Red	The indicators blink in red and green alternately if there is an error

Status	Failure	Cause
Green light blinks	Driver working properly	—
Green lamp is always ON	Driver disabled	High-level input at the EN port
3 red and 1 green	Driver overtemperature	Requiring for enhanced heat dissipation
4 red and 1 green	Driver power input overvoltage	The supply voltage is greater than 75VDC
5 red and 1 green	Driver overcurrent	Wiring error or poor contact of motor
6 red and 1 green	Motor winding in open circuit	Motor is not connected properly
3 red and 2 green	Internal voltage error of driver	Power is too small
4 red and 2 green	Driver power input undervoltage	The supply voltage is less than 18VDC

Motor parameter

Knob position	Motor rotor inertia matched
0/8	Retention
1/9	Retention
2/A	Below 200g.cm ²
3/B	Below 400g.cm ²
4/C	Below 1000g.cm ²
5/D	Below 1000g.cm ²
6/E	Retention
7/F	Retention

DIP switch

Running current

Switch setting			Current (A)
SW1	SW2	SW3	Y3SD3
OFF	OFF	OFF	7.8
ON	OFF	OFF	7.0
OFF	ON	OFF	5.8
ON	ON	OFF	5.2
OFF	OFF	ON	4.0
ON	OFF	ON	3.0
OFF	ON	ON	2.0
ON	ON	ON	1.5

Quiescent current

Switch	STATUS	Function
SW4	ON	Set to 50% of the running current
	OFF	Set to 90% of the running current

Subdivision

Switch setting			Y3SD3
SW5	SW6	SW7	Number of pulses
OFF	OFF	OFF	51200
ON	OFF	OFF	6400
OFF	ON	OFF	5000
ON	ON	OFF	4000
OFF	OFF	ON	3200
ON	OFF	ON	2000
OFF	ON	ON	1600
ON	ON	ON	1000

Driver self-inspection

Display	SwitchName	Function
SW8	Driver self-testing	Set the dip to ON, and make the motor perform two cycles of positive and negative reciprocating movement at the speed of 1 revolution per second

Power connection

Terminal identification	Power supply connection
V+	Power supply +
V-	GND

※Do not plug and unplug the driver power with power supply

Connection of control signal

Input signal

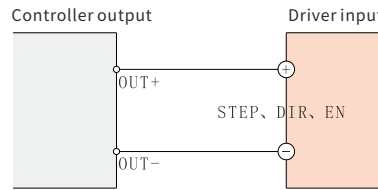
Display	Terminal designation	Function
STEP	Pulse signal (CW Pulse signal)	Receive 5-24V differential, NPN and PNP signals
DIR	Direction signal (CCW Pulse signal)	Receive 5-24V differential, NPN and PNP signals
EN	Enabling signal	Receive 5-24V differential, NPN and PNP signals; When EN is off, the motor is enabled

Output signal

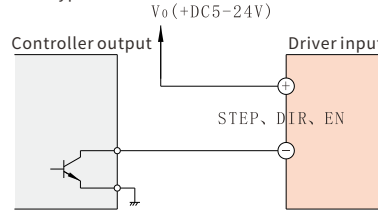
Display	Terminal designation	Function
OUT	Error output	The OUT port is connected to withstand a maximum 30V@100mA when an error occurs to the driver

Input Connection

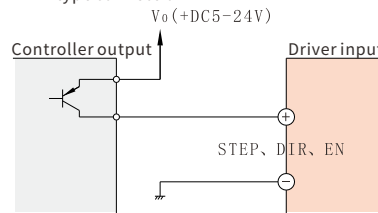
Differential connection



NPN-type connection

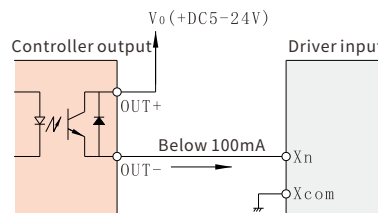


PNP-type connection

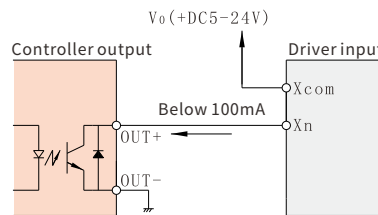


Output connection

Common cathode connection

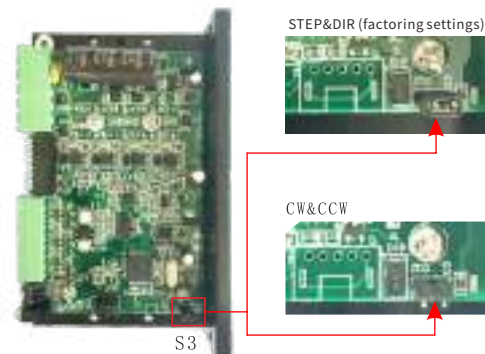


Common anode connection



Single-/ dual-pulse setting

S3 jumper cap	PULSE MODE
WITH JUMPER CAP	STEP&DIR
WITHOUT JUMPER CAP	CW&CCW



AC pulse-type driver series

AC input two-phase drivers and AC input three-phase drivers are optional



Y2SA2 AC input two-phase driver (pulse-type)



Specification

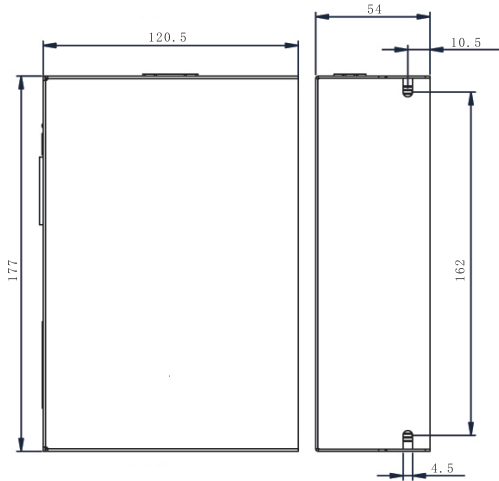
Driver parameters

Model	Input voltage VDC	Output current A	Control signal	Adaptive motor
Y2SA2	80~265	0.4~4.0	16 gears	60 - NEMA 34 three-phase AC stepper motor

◆Control mode of pulse + direction/positive and negative pulse ◆Control signal 5 - 24V compatible ◆Multiple electrical protection

Mechanical dimensions (unit: mm)

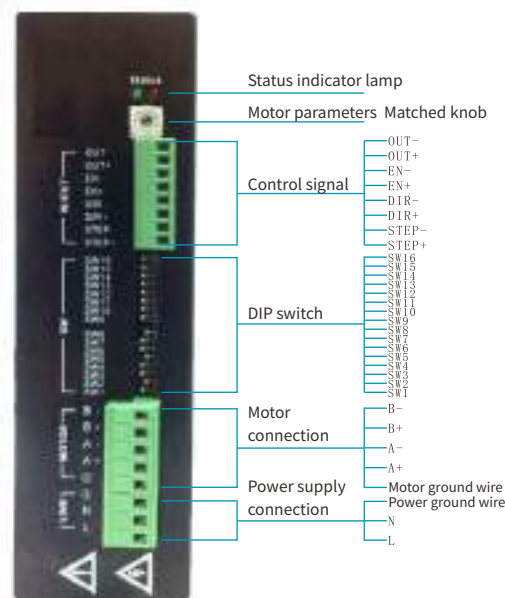
Y2SA2



Unit: mm Mass:1.30kg

Connection and running

Wiring diagram of driver



Status indicator lamp

Display	Color	Name
POWER	Green	The green light blinks under proper functioning
ERROW	Red	The indicators blink in red and green alternately if there is an error

Status	Failure	Cause
Green light blinks	Driver working properly	—
Green lamp is always ON	Driver disabled	High-level input at the EN port
3 red and 1 green	Driver overtemperature	Requiring for enhanced heat dissipation
4 red and 1 green	Driver power input overvoltage	The supply voltage is greater than 265VDC
5 red and 1 green	Driver overcurrent	Wiring error or poor contact of motor
6 red and 1 green	Motor winding in open circuit	Motor is not connected properly
3 red and 2 green	Internal voltage error of driver	Power is too small
4 red and 2 green	Driver power input undervoltage	The supply voltage is less than 80VDC
5 red and 2 green	Back EMF voltage is too high	Acceleration / deceleration is too fast

Motor parameter

Knob position	Motor rotor inertia matched
0	Below 1500g.cm ² (motor current ≤ 2A)
1	Below 1500g.cm ² (motor current > 2A)
2	Below 2000g.cm ² (motor current ≤ 2A)
3	Below 2000g.cm ² (motor current > 2A)
4	Below 2000g.cm ² (motor current ≤ 2A)
5	Below 2000g.cm ² (motor current > 2A)
6-F	Retention

DC pulse type
AC pulse type
Stepper motor driver
Drive control integrated type
Closed-loop stepper motor driver
EtherCAT
Modbus RTU
PROFINET
Closed-loop stepper motor

DIP switch

Subdivision

Switch setting				Y2SA2	
SW1	SW2	SW3	SW4	Number of subdivisions	Number of pulses
OFF	OFF	OFF	OFF	125	25000
ON	OFF	OFF	OFF	100	20000
OFF	ON	OFF	OFF	50	10000
ON	ON	OFF	OFF	40	8000
OFF	OFF	ON	OFF	25	5000
ON	OFF	ON	OFF	20	4000
OFF	ON	ON	OFF	10	2000
ON	ON	ON	OFF	5	1000
OFF	OFF	OFF	ON	128	25600
ON	OFF	OFF	ON	64	12800
OFF	ON	OFF	ON	32	6400
ON	ON	OFF	ON	16	3200
OFF	OFF	ON	ON	8	1600
ON	OFF	ON	ON	4	800
OFF	ON	ON	ON	2	400
ON	ON	ON	ON	1	200

Running current

Switch setting				Current (A)
SW5	SW6	SW7	SW8	Y2SA2
OFF	OFF	OFF	OFF	4.0
ON	OFF	OFF	OFF	3.8
OFF	ON	OFF	OFF	3.6
ON	ON	OFF	OFF	3.4
OFF	OFF	ON	OFF	3.2
ON	OFF	ON	OFF	3.0
OFF	ON	ON	OFF	2.8
ON	ON	ON	OFF	2.6
OFF	OFF	OFF	ON	2.4
ON	OFF	OFF	ON	2.2
OFF	ON	OFF	ON	2.0
ON	ON	OFF	ON	1.8
OFF	OFF	ON	ON	1.6
ON	OFF	ON	ON	1.2
OFF	ON	ON	ON	0.8
ON	ON	ON	ON	0.4

Functions setting

Display	SwitchNAME	Function							
SW9	Quiescent current	ON	25%	OFF	50%	ON	70%	OFF	90%
SW10		ON	ON	OFF	OFF	OFF	OFF	OFF	
SW11	Rotor load inertia ratio	ON	1:1	OFF	1:2	ON	1:5	OFF	1:10
SW12		ON	ON	OFF	OFF	OFF	OFF	OFF	
SW13	Pulse mode	ON: Dual-pulse; OFF: Pulse + direction							
SW14	Pulse filtering	ON: 150KHz; OFF: 2MHz							
SW15	Subdivided interpolation	Set this dip to ON, the driver is inserted with microstep under low subdivision, which is suggested to use below 8 subdivisions							
SW16	Self-inspection	Set the dip to ON, and make the motor perform two cycles of positive and negative reciprocating movement at the speed of 1 revolution per second							

※ It is recommended to set the filtering at 150KHz to achieve a better anti-interference effect

Power connection

Terminal identification	Power supply connection
L	Live wire
N	Null wire

※ Do not plug and unplug the driver power with power supply

Connection of control signal

Input signal

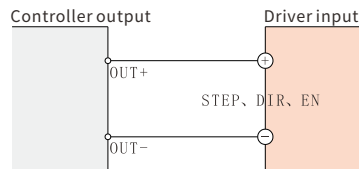
Display	Terminal designation	Function
STEP	Pulse signal (CW Pulse signal)	Receive 5-24V differential, NPN and PNP signals
DIR	Direction signal (CCW Pulse signal)	Receive 5-24V differential, NPN and PNP signals
EN	Enabling signal	Receive 5-24V differential, NPN and PNP signals; When EN is off, the motor is enabled

Output signal

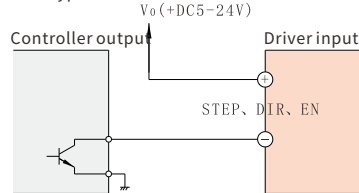
Display	Terminal designation	Function
OUT	Error output	The OUT port is connected to withstand a maximum 30V@100mA when an error occurs to the driver

Input Connection

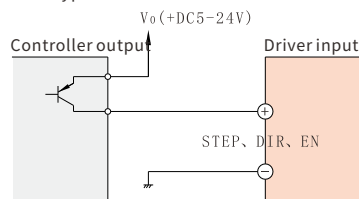
Differential connection



NPN-type connection

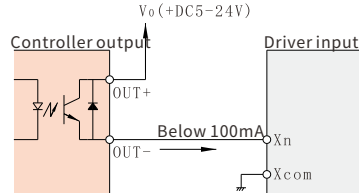


PNP-type connection

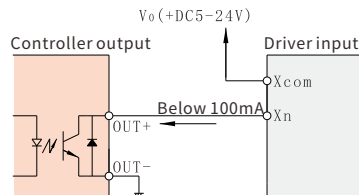


Output connection

Common cathode connection



Common anode connection



Y3SA3 AC input three-phase driver (pulse-type)



Specification

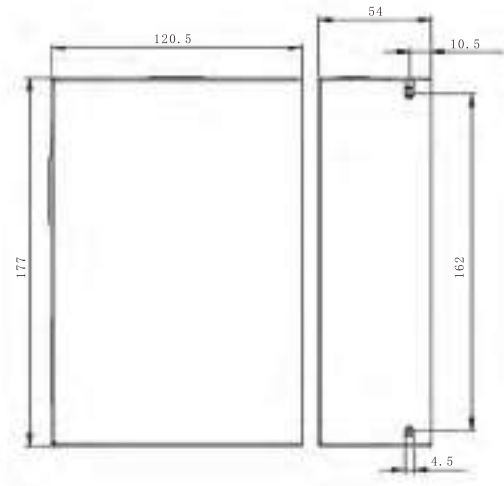
Driver parameters

Model	Input voltage VDC	Output current A	Control signal	Adaptive motor
Y3SA3	80~265	0.4~8.0	16 gears	110 - 130mm three-phase AC stepper motor

◆Control mode of pulse + direction/positive and negative pulse ◆Control signal 5 - 24V compatible ◆Multiple electrical protection

Mechanical dimensions (unit: mm)

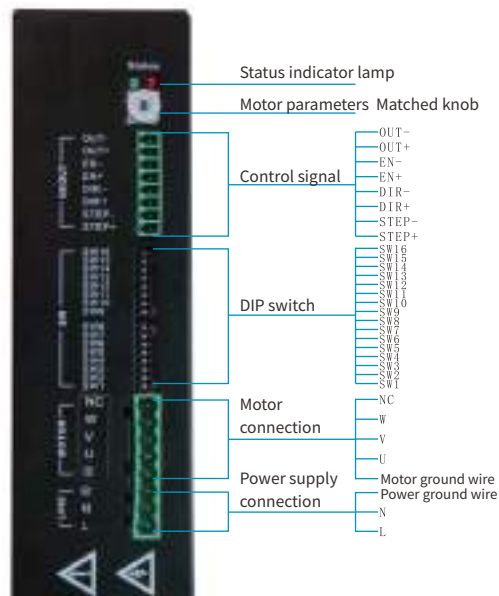
Y3SA3



Unit: mm Mass:1.30kg

Connection and running

Wiring diagram of driver



Status indicator lamp

Display	Color	Name
POWER	Green	The green light blinks under proper functioning
ERROW	Red	The indicators blink in red and green alternately if there is an error

Status	Failure	Cause
Green light blinks	Driver working properly	—
Green lamp is always ON	Driver disabled	High-level input at the EN port
3 red and 1 green	Driver overtemperature	Requiring for enhanced heat dissipation
4 red and 1 green	Driver power input overvoltage	The supply voltage is greater than 265VDC
5 red and 1 green	Driver overcurrent	Wiring error or poor contact of motor
6 red and 1 green	Motor winding in open circuit	Motor is not connected properly
3 red and 2 green	Internal voltage error of driver	Power is too small
4 red and 2 green	Driver power input undervoltage	The supply voltage is less than 80VDC
5 red and 2 green	Back EMF voltage is too high	Acceleration / deceleration is too fast

Motor parameter

Knob position	Motor rotor inertia matched
1	Below 10kg.cm ²
2	Below 13kg.cm ²
3	Below 18kg.cm ²
4	Below 25kg.cm ²
5	Below 35kg.cm ²
6	Below 45kg.cm ²
7	Above 45kg.cm ²
8-0	Retention

DC pulse type

AC pulse type

Stepper motor driver

Drive control integrated type

Closed-loop stepper motor driver

EtherCAT

Modbus RTU

PROFINET

Closed-loop stepper motor

DIP switch

Subdivision

Switch setting				Y3SA3
SW1	SW2	SW3	SW4	Number of pulses
OFF	OFF	OFF	OFF	25000
ON	OFF	OFF	OFF	20000
OFF	ON	OFF	OFF	10000
ON	ON	OFF	OFF	8000
OFF	OFF	ON	OFF	5000
ON	OFF	ON	OFF	4000
OFF	ON	ON	OFF	2000
ON	ON	ON	OFF	1000
OFF	OFF	OFF	ON	25600
ON	OFF	OFF	ON	12800
OFF	ON	OFF	ON	6400
ON	ON	OFF	ON	3200
OFF	OFF	ON	ON	1600
ON	OFF	ON	ON	800
OFF	ON	ON	ON	400
ON	ON	ON	ON	200

Running current

Switch setting				Current (A)
SW5	SW6	SW7	SW8	Y3SA3
OFF	OFF	OFF	OFF	8.0
ON	OFF	OFF	OFF	7.3
OFF	ON	OFF	OFF	6.6
ON	ON	OFF	OFF	5.9
OFF	OFF	ON	OFF	5.2
ON	OFF	ON	OFF	4.5
OFF	ON	ON	OFF	4.0
ON	ON	ON	OFF	3.5
OFF	OFF	OFF	ON	3.0
ON	OFF	OFF	ON	2.5
OFF	ON	OFF	ON	2.0
ON	ON	OFF	ON	1.8
OFF	OFF	ON	ON	1.2
ON	OFF	ON	ON	0.9
OFF	ON	ON	ON	0.6
ON	ON	ON	ON	0.4

Functions setting

Display	SwitchNAME	Function							
SW9	Quiescent current	ON	25%	OFF	50%	ON	70%	OFF	90%
SW10		ON	ON	OFF	OFF	OFF	OFF	OFF	
SW11	Rotor load inertia ratio	ON	1:1	OFF	1:2	ON	1:5	OFF	1:10
SW12		ON	ON	OFF	OFF	OFF	OFF	OFF	
SW13	Pulse mode	ON: Dual-pulse; OFF: Pulse + direction							
SW14	Pulse filtering	ON: 150KHz; OFF: 2MHz							
SW15	Subdivided interpolation	Set this dip to ON, the driver is inserted with microstep under low subdivision, which is suggested to use below 8 subdivisions							
SW16	Self-inspection	Set the dip to ON, and make the motor perform two cycles of positive and negative reciprocating movement at the speed of 1 revolution per second							

※ It is recommended to set the filtering at 150KHz to achieve a better anti-interference effect

Power connection

Terminal identification	Power supply connection
L	Live wire
N	Null wire

※ Do not plug and unplug the driver power with power supply

Connection of control signal

Input signal

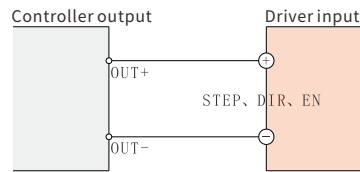
Display	Terminal designation	Function
STEP	Pulse signal (CW Pulse signal)	Receive 5-24V differential, NPN and PNP signals
DIR	Direction signal (CCW Pulse signal)	Receive 5-24V differential, NPN and PNP signals
EN	Enabling signal	Receive 5-24V differential, NPN and PNP signals; When EN is off, the motor is enabled

Output signal

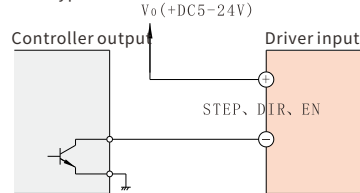
Display	Terminal designation	Function
OUT	Error output	The OUT port is connected to withstand a maximum 30V@100mA when an error occurs to the driver

Input Connection

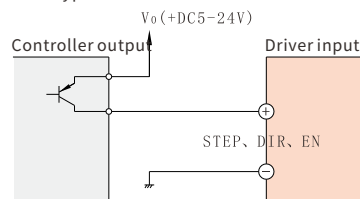
Differential connection



NPN-type connection

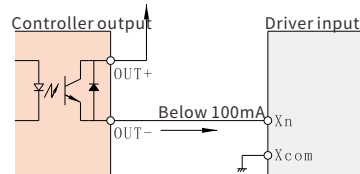


PNP-type connection

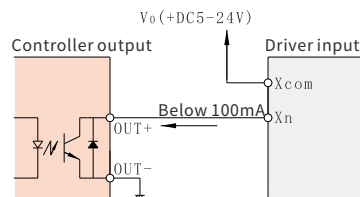


Output connection

Common cathode connection



Common anode connection



Drive control integrated driver series

DC input two-phase driver



Y2SED2-F01 DC input two-phase driver (drive control integrated type)



Specification

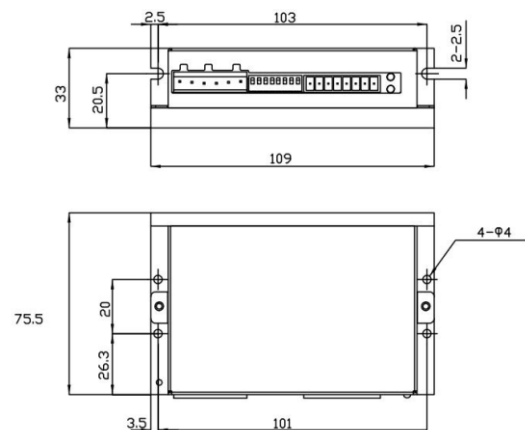
Driver parameters

Model	Input voltage VDC	Output current A	Control signal	Adaptive motor
Y2SED2-F01	24~48	1.0~4.5	I/O control, dial-up speed regulation	57~60mm stepper motor

◆I/O control, dip speed regulation ◆Control signal 5-24V compatible ◆Multiple electrical protection ◆Apply for DC power supply above 4A

Mechanical dimensions (unit: mm)

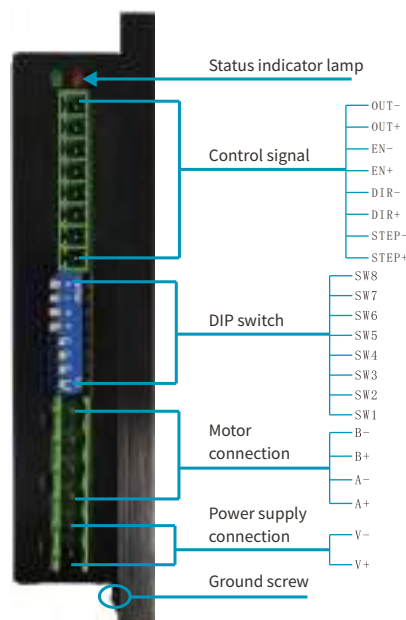
Y2SED2-F01



Unit: mm Mass:0.277kg

Connection and running

Wiring diagram of driver



Status indicator lamp

Display	Color	Name
POWER	Green	The green light blinks under proper functioning
ERROW	Red	The indicators blink in red and green alternately if there is an error

Status	Failure	Cause
Green light blinks	Driver working properly	—
Green lamp is always ON	Driver disabled	High-level input at the EN port
3 red and 1 green	Driver overtemperature	Requiring for enhanced heat dissipation
4 red and 1 green	Driver power input overvoltage	The supply voltage is greater than 56VDC
5 red and 1 green	Driver overcurrent	Wiring error or poor contact of motor
6 red and 1 green	Motor winding in open circuit	Motor is not connected properly
3 red and 2 green	Internal voltage error of driver	Power is too small
4 red and 2 green	Driver power input undervoltage	The supply voltage is less than 15VDC

DIP switch

Running current

Switch setting			Current (A)
SW1	SW2	SW3	Y2SED2-F01
OFF	OFF	OFF	4.5
ON	OFF	OFF	4.0
OFF	ON	OFF	3.5
ON	ON	OFF	3.0
OFF	OFF	ON	2.5
ON	OFF	ON	2.0
OFF	ON	ON	1.5
ON	ON	ON	1.0

Quiescent current

Switch	STATUS	Function
SW4	ON	Set to 50% of the running current
	OFF	Set to 90% of the running current

Power connection

Terminal identification	Power supply connection
V+	Power supply +
V-	GND

※Do not plug and unplug the driver power with power supply

Speed setting

Switch setting				Speed (RPS)
SW5	SW6	SW7	SW8	Y2SED2-F01
OFF	OFF	OFF	OFF	0.5
ON	OFF	OFF	OFF	1.0
OFF	ON	OFF	OFF	1.5
ON	ON	OFF	OFF	2.0
OFF	OFF	ON	OFF	2.5
ON	OFF	ON	OFF	3.0
OFF	ON	ON	OFF	3.5
ON	ON	ON	OFF	4.0
OFF	OFF	OFF	ON	4.5
ON	OFF	OFF	ON	5.0
OFF	ON	OFF	ON	5.5
ON	ON	OFF	ON	6.0
OFF	OFF	ON	ON	7.0
ON	OFF	ON	ON	8.0
OFF	ON	ON	ON	9.0
ON	ON	ON	ON	10.0

※ The acceleration is 50R/S/S

Connection of control signal

Input signal

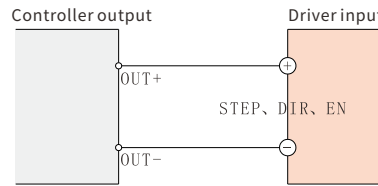
Display	Terminal designation	Function
STEP	Start-stop signal	Receive 5-24V differential, NPN and PNP signals
DIR	Direction signal	Receive 5-24V differential, NPN and PNP signals
EN	Enabling signal	Receive 5-24V differential, NPN and PNP signals; When EN is off, the motor is enabled

Output signal

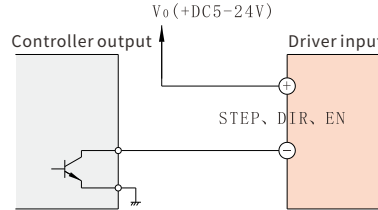
Display	Terminal designation	Function
OUT	Error output	The OUT port is connected to withstand a maximum 30V@100mA when an error occurs to the driver

Input Connection

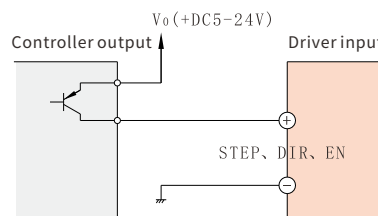
Differential connection



NPN-type connection

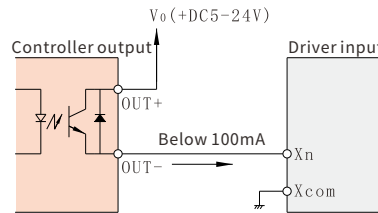


PNP-type connection

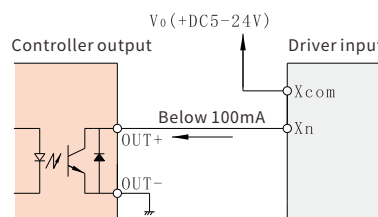


Output connection

Common cathode connection



Common anode connection



DC pulse type

AC pulse type

Drive control integrated type

Closed-loop stepper motor driver

EtherCAT

Modbus RTU

PROFINET

Closed-loop stepper motor

AC power input

DC power input

Drive and control integrated

Y2SED3-F01 DC input two-phase driver (drive control integrated type)



Specification

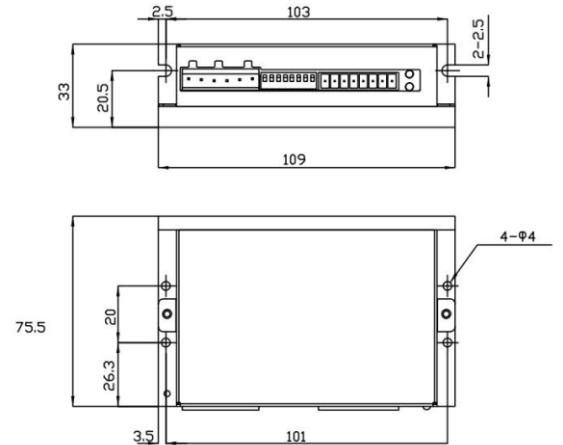
Driver parameters

Model	Input voltage VDC	Output current A	Control signal	Adaptive motor
Y2SED3-F01	24~75	2.0~7.8	I/O control, dial-up speed regulation	57~86mm stepper motor

◆I/O control, dip speed regulation ◆Control signal 5- 24V compatible ◆Multiple electrical protection ◆Apply for DC power supply above 4A

Mechanical dimensions (unit: mm)

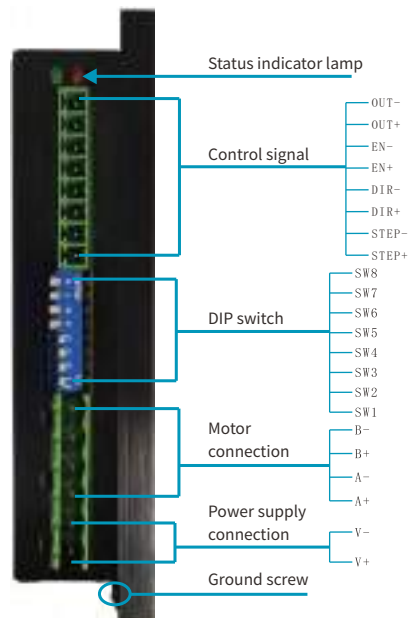
Y2SED3-F01



Unit: mm Mass:0.31kg

Connection and running

Wiring diagram of driver



Status indicator lamp

Display	Color	Name
POWER	Green	The green light blinks under proper functioning
ERROW	Red	The indicators blink in red and green alternately if there is an error

Status	Failure	Cause
Green light blinks	Driver working properly	—
Green lamp is always ON	Driver disabled	High-level input at the EN port
3 red and 1 green	Driver overtemperature	Requiring for enhanced heat dissipation
4 red and 1 green	Driver power input overvoltage	The supply voltage is greater than 75VDC
5 red and 1 green	Driver overcurrent	Wiring error or poor contact of motor
6 red and 1 green	Motor winding in open circuit	Motor is not connected properly
3 red and 2 green	Internal voltage error of driver	Power is too small
4 red and 2 green	Driver power input undervoltage	The supply voltage is less than 18VDC

DIP switch

Running current

Switch setting			Current (A)
SW1	SW2	SW3	Y2SED3-F01
OFF	OFF	OFF	7.8
ON	OFF	OFF	7.0
OFF	ON	OFF	6.4
ON	ON	OFF	5.6
OFF	OFF	ON	4.8
ON	OFF	ON	4.0
OFF	ON	ON	3.2
ON	ON	ON	2.4

Quiescent current

Switch	STATUS	Function
SW4	ON	Set to 50% of the running current
	OFF	Set to 90% of the running current

Power connection

Terminal identification	Power supply connection
V+	Power supply +
V-	GND

※Do not plug and unplug the driver power with power supply

Speed setting

Switch setting				Speed (RPS)
SW5	SW6	SW7	SW8	Y2SED3-F01
OFF	OFF	OFF	OFF	0.5
ON	OFF	OFF	OFF	1.0
OFF	ON	OFF	OFF	1.5
ON	ON	OFF	OFF	2.0
OFF	OFF	ON	OFF	2.5
ON	OFF	ON	OFF	3.0
OFF	ON	ON	OFF	3.5
ON	ON	ON	OFF	4.0
OFF	OFF	OFF	ON	4.5
ON	OFF	OFF	ON	5.0
OFF	ON	OFF	ON	5.5
ON	ON	OFF	ON	6.0
OFF	OFF	ON	ON	7.0
ON	OFF	ON	ON	8.0
OFF	ON	ON	ON	9.0
ON	ON	ON	ON	10

※The acceleration is 50R/S/S

Connection of control signal

Input signal

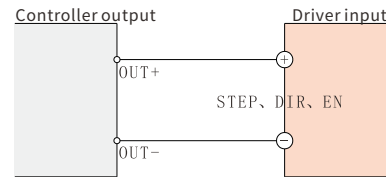
Display	Terminal designation	Function
STEP	Start-stop signal	Connected = running, Disconnected = stop
DIR	Direction signal	Disconnected = CW, Connected = CCW
EN	Enabling signal	Disconnected = enable, Connected = release

Output signal

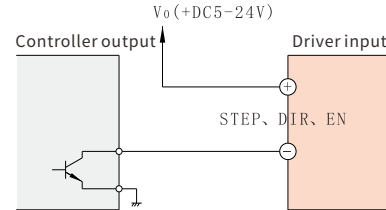
Display	Terminal designation	Function
OUT	Error output	Output where there is an alarm

Input Connection

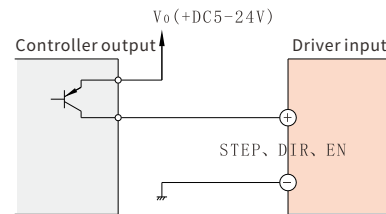
Differential connection



NPN-type connection

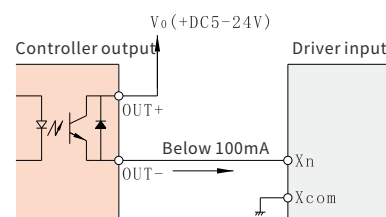


PNP-type connection

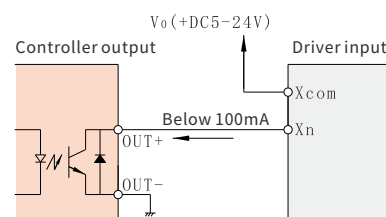


Output connection

Common cathode connection



Common anode connection



DC pulse type

AC pulse type

Drive control integrated type

Closed-loop stepper driver

EtherCAT

Modbus RTU

PROFINET

Closed-loop stepper motor

AC power input

DC power input

Drive and control integrated

Y2SD2H-SA01 AC/DC input two-phase driver (drive control integrated type)



Specification

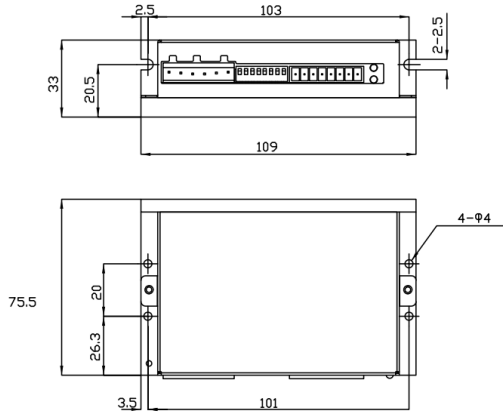
Driver parameters

Model	Input voltage VDC	Output current A	Control signal	Adaptive motor
Y2SD2H-SA01	DC 24~70V/AC 18~50V	1.0~4.5	IO control, analog speed regulation	28~86mm stepper motor

◆I/O control, analog speed regulation ◆Control signal 5-24V compatible ◆Multiple electrical protection

Mechanical dimensions (unit: mm)

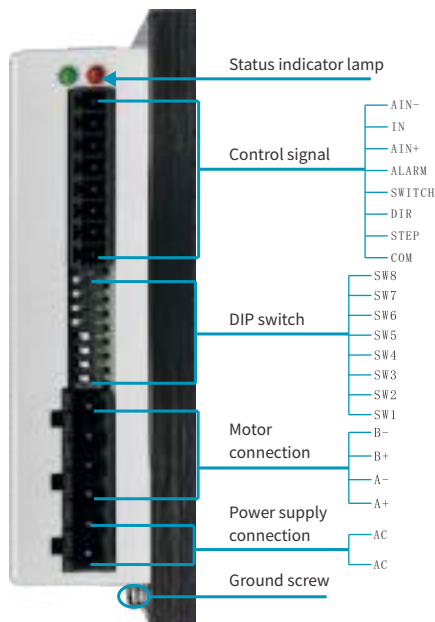
Y2SD2H-SA01



Unit: mm Mass:0.30kg

Connection and running

Wiring diagram of driver



Status indicator lamp

Display	Color	Name
POWER	Green	The green light blinks under proper functioning
ERROW	Red	The indicators blink in red and green alternately if there is an error

Status	Failure	Cause
Green light blinks	Driver working properly	—
4 red and 1 green	Driver power input overvoltage	The supply voltage is too high
5 red and 1 green	Driver overcurrent	Motor winding in short circuit
6 red and 1 green	Motor winding in open circuit	Motor is not connected properly
3red and 2 green	Internal voltage error of driver	Power is too small
4 red and 2 green	Driver power input undervoltage	The supply voltage is less than 18VDC
5 red and 2 green	Other faults	Other faults

DIP switch

Running current

Switch setting			Current (A)
SW1	SW2	SW3	Y2SD2H-SA01
OFF	OFF	OFF	4.5
ON	OFF	OFF	4.0
OFF	ON	OFF	3.5
ON	ON	OFF	3.0
OFF	OFF	ON	2.5
ON	OFF	ON	2.0
OFF	ON	ON	1.5
ON	ON	ON	1.0

Constant speed setting

Switch setting			RPM (revolution per minute)
SW4	SW5	SW6	Y2SD2H-SA01
OFF	OFF	OFF	120
ON	OFF	OFF	105
OFF	ON	OFF	90
ON	ON	OFF	75
OFF	OFF	ON	60
ON	OFF	ON	45
OFF	ON	ON	30
ON	ON	ON	15

Analog maximum speed setting

Switch setting		RPM (revolution per minute)
SW7	SW8	Y2SD2H-SA01
OFF	OFF	1500
ON	OFF	900
OFF	ON	600
ON	ON	300

Power connection

Terminal identification	Power supply connection
V+	Power supply +
V-	GND

※Do not plug and unplug the driver power with power supply

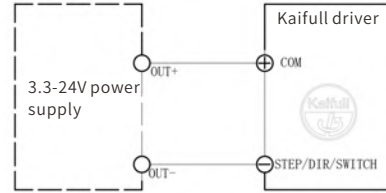
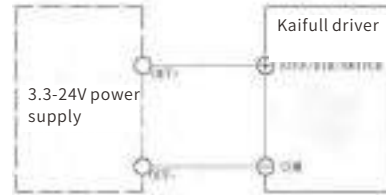
Connection of control signal

Input signal

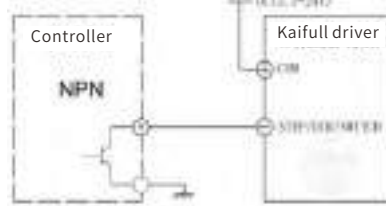
Display	Terminal designation	Function
COM	Common terminal	According to NPN, PNP, difference
STEP	Start-stop signal	Receive 5-24V differential, NPN and PNP signals
DIR	Direction signal	Receive 5-24V differential, NPN and PNP signals
SWITCH	Switch fixed speed	Receive 5-24V differential, NPN and PNP signals
AIN+	Analog positive terminal	Potentiometer positive end, output of 10V
IN	Analog input	Potentiometer input, analog input
AIN-	Analog negative terminal	Potentiometer negative terminal, analog 0V

Input Connection

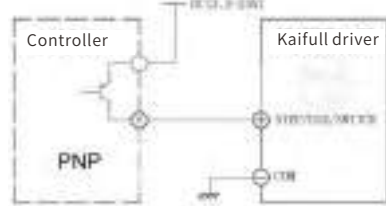
Two direct connections modes to the power supply



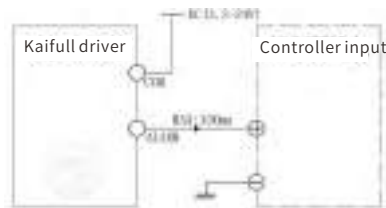
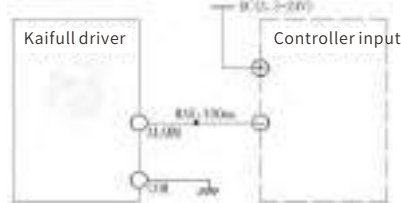
NPN common anode connection



PNP common cathode connection method

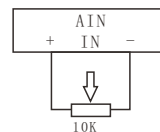


Alarm output

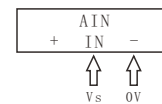


Analog input

A、Connected to 10K resistance



B、Connected to 0-10V analog quantity



※ Static current is 50% of the rated current, the acceleration and deceleration is 50RPS/S/S

DC pulse type

AC pulse type

Drive control integrated type

Closed-loop stepper motor driver

EtherCAT

Modbus RTU

PROFINET

Closed-loop stepper motor

Closed-loop stepper motor driver series

DC input two-phase closed-loop driver



Y2SS3 DC input two-phase closed-loop driver



DC pulse type
AC pulse type
Stepper motor driver
Drive control integrated type

Specification

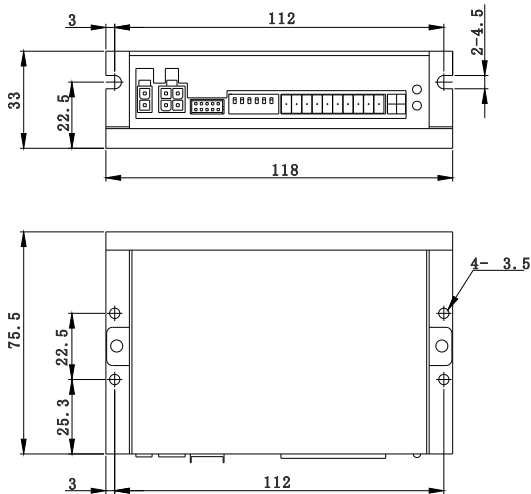
Driver parameters

Model	Input voltage VDC	Output current A	Control signal	Adaptive motor
Y2SS3	24~75	0.5~8.0	16 gears	20~86mm closed-loop stepper motor

◆Closed-loop step control ◆High precision, high response, low vibration, low noise

Mechanical dimensions (unit: mm)

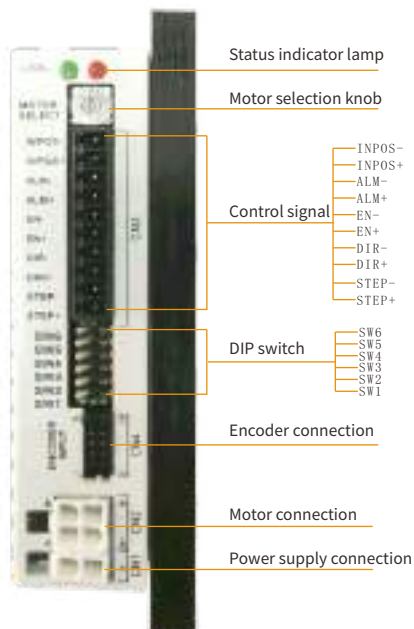
Y2SS3



Unit: mm Mass:0.30kg

Connection and running

Wiring diagram of driver



Status indicator lamp

Display	Color	Name
POWER	Green	The green light blinks under proper functioning
ERROW	Red	The indicators blink in red and green alternately if there is an error

Closed-loop stepper motor driver

Status	Failure	Cause
Green light blinks	Driver working properly	—
Green lamp is always ON	Driver disabled	High-level input at the EN port
3 red and 1 green	Driver overtemperature	Requiring for enhanced heat dissipation
4 red and 1 green	Driver power input overvoltage	The supply voltage is greater than 75VDC
5 red and 1 green	Driver overcurrent	Wiring error or poor contact of motor
6 red and 1 green	Motor winding in open circuit	Motor is not connected properly
3 red and 2 green	Internal voltage error of driver	Power is too small
4 red and 2 green	Driver power input undervoltage	The supply voltage is less than 18VDC
5 red and 2 green	Overload	Exceed the load

EtherCAT
Modbus RTU
PROFINET
Closed-loop stepper motor

Motor selection knob

Knob position	Motor model matched
0	EM28-3
1	Y07-28D1-3401D-E1000
3	42K48-E1000
7	57K56-E1000
8	57K80-E1000
B	EM60-5
C	86K74-E1000
E	86K112-E1000
Others	Retention

DIP switch

Subdivision

Switch setting				Y2SS3
SW1	SW2	SW3	SW4	Number of pulses/cycle
OFF	OFF	OFF	OFF	25000
ON	OFF	OFF	OFF	20000
OFF	ON	OFF	OFF	10000
ON	ON	OFF	OFF	8000
OFF	OFF	ON	OFF	5000
ON	OFF	ON	OFF	4000
OFF	ON	ON	OFF	2000
ON	ON	ON	OFF	1000
OFF	OFF	OFF	ON	25600
ON	OFF	OFF	ON	12800
OFF	ON	OFF	ON	6400
ON	ON	OFF	ON	3200
OFF	OFF	ON	ON	1600
ON	OFF	ON	ON	800
OFF	ON	ON	ON	400
ON	ON	ON	ON	200

Functions setting

Display	Terminal designation	Function
SW5	Motor selection direction	ON: CW direction OFF: CCW direction
SW6	Single- / dual-pulse selection	ON: CW/CCW control mode OFF: STEP/DIR control mode

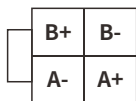
Power connection

Terminal identification	POWER CONNECTION
V+	Positive pole
V-	Negative pole

※Do not plug and unplug the driver power with power supply

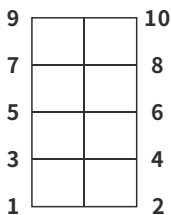
Motor connection

The connection terminal and extension line of the motor are designed to be directly inserted, so that self-wiring is considered unnecessary



Encoder connection

The connection terminal and extension line of the encoder are designed to be directly inserted, so that self-wiring is considered unnecessary



Connection of control signal

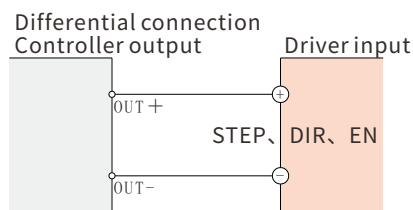
Input signal

Display	Terminal designation	Function
STEP	Pulse signal (CW Pulse signal)	Receive 5-24V differential, NPN and PNP signals
DIR	Direction signal (CCW Pulse signal)	Receive 5-24V differential, NPN and PNP signals
EN	Enabling signal or reset	Receive 5-24V differential, NPN and PNP signals; When EN is off, the motor is enabled

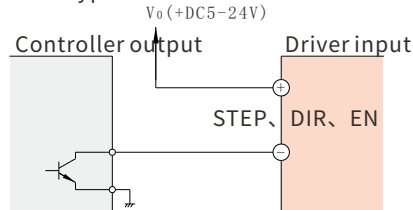
Output signal

Display	Terminal designation	Function
INPOS	In-place output	OUT port is subject to the maximum connection when the driver is in place 30V@100mA
ALM	Error output	When an error occurs to the driver, the OUT port is connected to withstand a maximum 30V@100mA

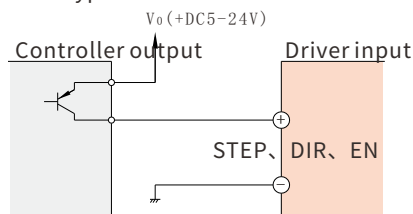
Input Connection



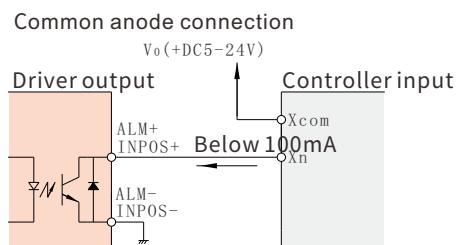
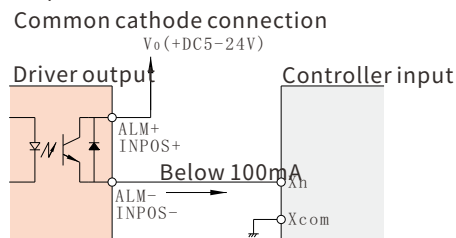
NPN-type connection



PNP-type connection



Output connection



Y2SS3-S DC input two-phase closed-loop driver built-in brake



DC pulse type
AC pulse type
Stepper motor driver
Drive control integrated type
Closed-loop stepper motor driver
EtherCAT
Modbus RTU
PROFINET
Closed-loop stepper motor

Specification

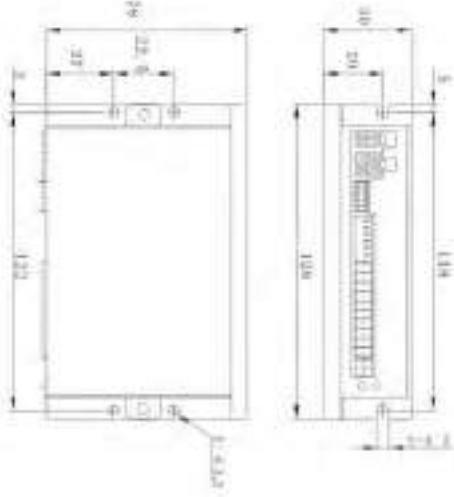
Driver parameters

Model	Input voltage VDC	Output current A	Control signal	Adaptive motor
Y2SS3-S	24~75	0.5~8.0	Speed regulation by software	28~86mm closed-loop stepper motor

◆Pulse + direction/positive and negative pulse control mode ◆Control signal 5 - 24V compatible ◆Encoder output

Mechanical dimensions (unit: mm)

Y2SS3-S



Unit: mm Mass:0.31kg

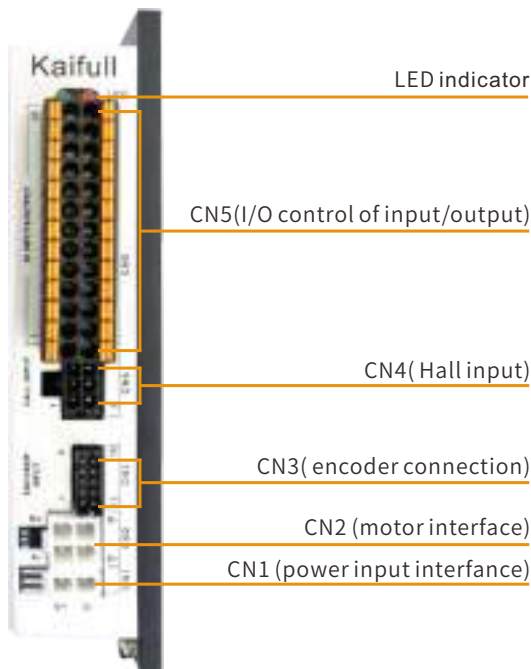
Status indicator lamp

Display	Color	Name
POWER	Green	The green light blinks under proper functioning
ERROW	Red	The indicators blink in red and green alternately if there is an error

Status	Failure	Cause
Green light blinks	Driver working properly	—
Green lamp is always ON	Driver disabled	High-level input at the EN port
3 red and 1 green	Driver overtemperature	Requiring for enhanced heat dissipation
4 red and 1 green	Driver power input overvoltage	The supply voltage is greater than 75VDC
5 red and 1 green	Driver overcurrent	Wiring error or poor contact of motor
6 red and 1 green	Motor winding in open circuit	Motor is not connected properly
3 red and 2 green	Internal voltage error of driver	Power is too small
4 red and 2 green	Driver power input undervoltage	The supply voltage is less than 24VDC
5 red and 2 green	Overload	Exceed the load

Connection and running

Wiring diagram of driver



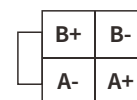
Power connection

Terminal identification	Power supply connection
V+	Positive pole
V-	Negative pole

※Do not plug and unplug the driver power with power supply

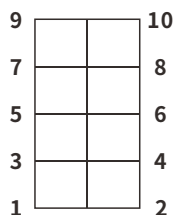
Motor connection

The connection terminal and extension line of the motor are designed to be directly inserted, so that self-wiring is considered unnecessary



CN3 encoder connection

The connection terminal and extension line of the encoder are designed to be directly inserted, so that self-wiring is considered unnecessary



CN4 Hall input

Switch setting	Description	Switch setting	Description
CN4.5	U	CN4.6	5V+
CN4.3	GND	CN4.4	PE
CN4.1	W	CN4.2	V

CN6 RS485 connection

Switch setting	Switch setting	Rotation position	Switch setting
CN6.7	ISO_GND	CN6.8	ISO_GND
CN6.5	NC	CN6.6	NC
CN6.3	NC	CN6.4	NC
CN6.1	A(485+)	CN6.2	B(485-)

CN5 I/O control signal

I/O control signal		Input/Output	Reference	
CN5.1	AOUT+	Output	Encoder A+Output	Fig. 2
CN5.2	AOUT-		Encoder A-Output	
CN5.3	BOUT+		Encoder B+Output	
CN5.4	BOUT-		Encoder B-Output	
CN5.5	ZOUT+		Encoder Z+Output	
CN5.6	ZOUT-		Encoder Z-Output	
CN5.7	PE		Driver grounding	
CN5.8	GND	Input	Encoder ground wire (connected to the internal GND of upper computer)	Fig. 4
CN5.9	STEP+		STEP+: pulse positive terminal	
CN5.10	STEP-		STEP-: pulse negative terminal	
CN5.11	DIR+		DIR+: positive direction	
CN5.12	DIR-		DIR-: negative direction	
CN5.13	EN+			
CN5.14	EN-	Output	EN- negative terminal (normally closed)	
CN5.15	ALM+	Input	Alarm output +(100mA)	Fig. 1
CN5.16	ALM-		Alarm output -(100mA)	
CN5.17	INPOS+		In-place signal output +(100mA)	
CN5.18	INPOS-		In-place signal output -(100mA)	
CN5.19	RST+	Output	Alarm reset+	Fig. 4
CN5.20	RST-		Alarm reset-	
CN5.21	24VB	Input	24V Brake power supply Brake output +(24V1A)	Fig. 3
CN5.22	BR-		Brake output -(24V1A)	
CN5.23	AD-IN1	Output	Analog input	
CN5.24	24GND		Brake power supply 0V	
CN5.25	5V		Potentiometer power supply +5V	Fig. 5
CN5.26	GND		Potentiometer power supply 0V	

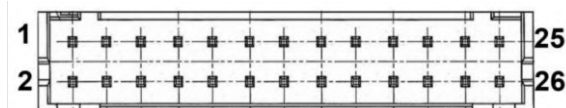


Diagram of control signal connection

Figure 1: Output Connection 1

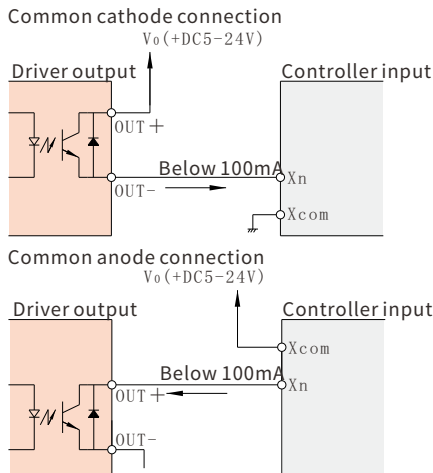


Figure 2: Output Connection 2 (Encoder Output)

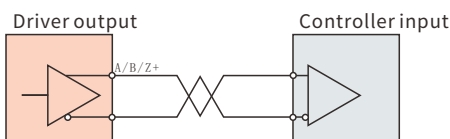


Figure 3: Output Connection 3 (Control Brake Output)

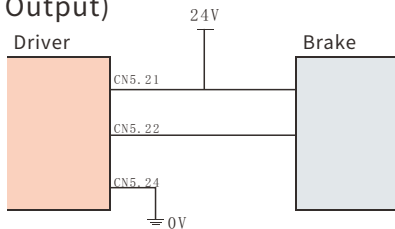


Figure 4: Input Connection 1

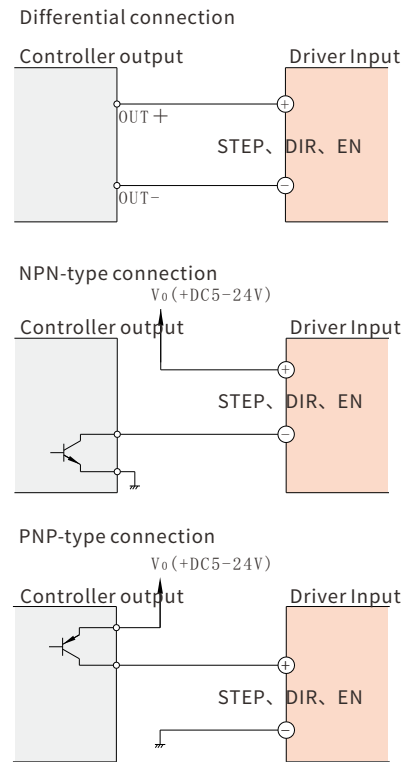
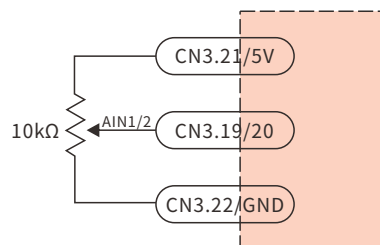


Figure 5: Input Connection 2 (Analog Input)



Stepper motor driver	DC pulse type
	AC pulse type
Closed-loop stepper motor driver	Drive control integrated type
	Closed-loop stepper motor driver
Closed-loop stepper motor	EtherCAT
	Modbus RTU
	PROFINET

Kaifull Electronics Technology

Bus stepper motor driver



The stepper motor supporting *PROFdrive* **SIEMENS**

Simple to use!

PROFdrive
NET

- 01 Support multiple messages
- 02 Strong stability
- 03 Clock synchronization



Y2SD2-EC Bus stepper motor driver RJ45 network cable interface EtherCAT protocol



Specification

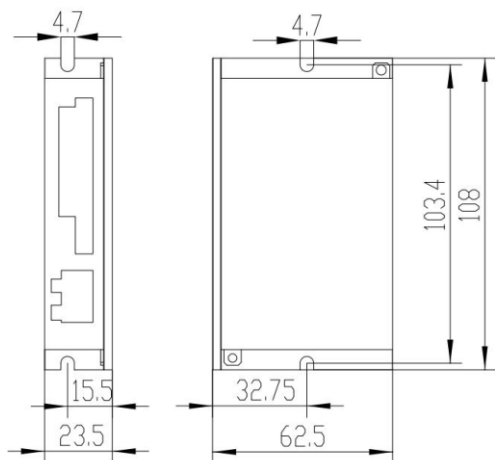
Driver parameters

Model	Input voltage VDC	Output current A	Communication interface	Range of temperature	Range of humidity	Control mode	Adaptive motor
Y2SD2-EC	24~48	0.1~6.0	RJ45	0~50°C	40%RH-90%RH, no condensation	EtherCAT protocol	20~86mm opened-loop stepper motor

◆Ethernet industrial control bus Industrial control bus

Mechanical dimensions (unit: mm)

Y2SD2-EC



Unit: mm Mass:0.233kg

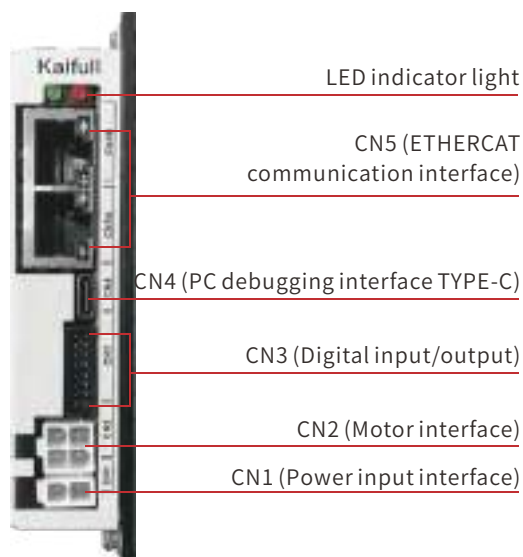
Status indicator lamp

Status	Description
Green lamp is always ON	Driver working properly
Green light blinks	Driver disabled
4 red and 1 green	Driver power input overvoltage
5 red and 1 green	Driver overcurrent
6 red and 1 green	Motor winding in open circuit
4 red and 2 green	Internal voltage error
4 red and 2 green	Driver power input undervoltage
5 red and 2 green	Encoder feedback error

Interface description

Interface name	Description
CN1	Power input port
CN2	Motor interface
CN3	Digital input/output
CN4	PC debugging interface
CN5	ethercatCommunication interface

System connection



Y2SS3-ECX Bus stepper motor driver RJ45 network cable interface EtherCAT protocol



Specification

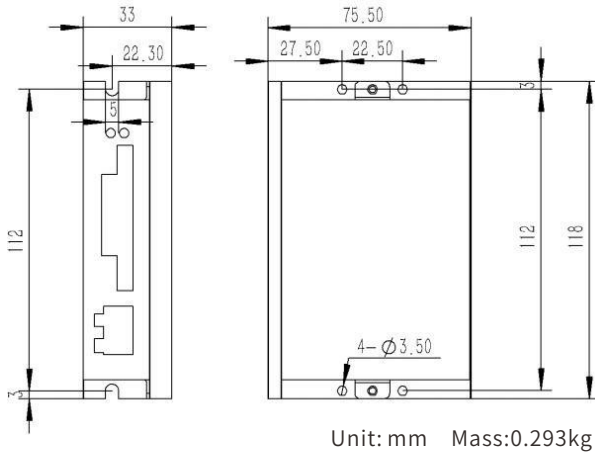
Driver parameters

Model	Input voltage VDC	Output current A	Communication interface	Range of temperature	Range of humidity	Control mode	Adaptive motor
Y2SS3-ECX Y2SS3-EC	24~48	0.1~7.0	RJ45	0~50°C	40%RH-90%RH, no condensation	EtherCAT protocol	20~86mm opened-loop stepper motor

◆Ethernet industrial control bus

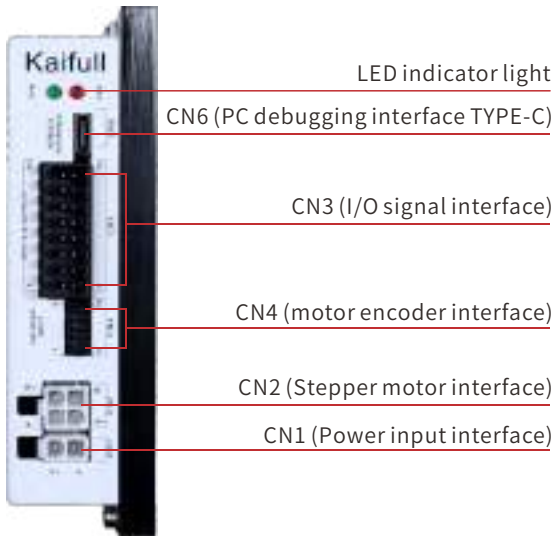
Mechanical dimensions (unit: mm)

Y2SS3-ECX/Y2SS3-EC



Unit: mm Mass:0.293kg

System connection



Status indicator lamp

Status	Description
Green light blinks	Motor not enabled
Green lamp is always ON	Normal operation of motor
4 red and 1 green	Too high bus voltage
4 red and 2 green	Too low bus voltage
5 red and 1 green	Motor overcurrent
6 red and 1 green	Motor in open circuit
5 red and 2 green	Position out-of-tolerance
6 red and 2 green	Motor overload

Interface description

Interface name	Description
CN1	Power input port
CN2	Motor interface
CN3	Digital input/output
CN4	Encoder input connection
CN6	PC debugging interface

DC pulse type
AC pulse type
Stepper motor driver
Drive control integrated type
Closed-loop stepper motor driver
EtherCAT
Modbus RTU
PROFINET
Closed-loop stepper motor

Y2SD2-S40C Bus stepper motor driver RJ45 network cable interface Modbus RTU protocol



Specification

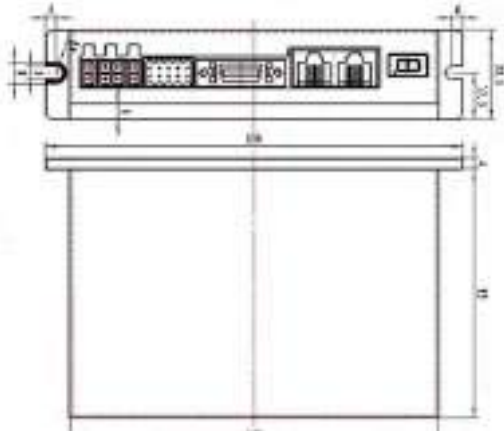
Driver parameters

Model	Input voltage VDC	Output current A	Communication interface	Range of temperature	Range of humidity	Control mode	Adaptive motor
Y2SD2-S40C	24~48	0.1~7.0	RJ45	0~50°C	40%RH-90%RH, no condensation	EtherCAT protocol	20~86mm opened-loop stepper motor

◆Industrial control bus

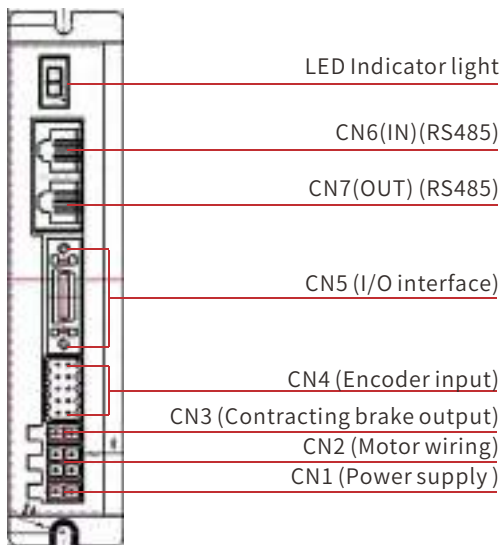
Mechanical dimensions (unit: mm)

Y2SD2-S40C



Unit: mm Mass:0.293kg

System connection



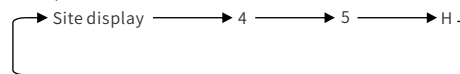
Status indicator lamp

StatusDisplay

Display	Description
	Motor rotation display The indicator light is on during motor rotation and is off when rotation stops
	Equipment enabled status The indicator light is on when the equipment is enabled and off when it is disabled
	Display during instruction input The indicator light is on during instruction input
	Display while CONNECTING The indicator light is on while CONNECTING

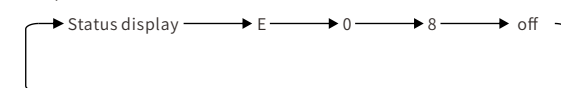
Display of site number

The site number is displayed word for word and ends with H, and only the status is displayed after the CONNECT connection is successful
Example: Site number: 45H



Alarm display

The alarm code is displayed word for word while flickering, ending with E
Example: Alarm code E8



Function	Alarm code	Description
Communication timeout	8	The communication cycle is subject to abnormality during communication
Standby	9	Standby
Motor overcurrent	10	Overcurrent of the motor phase current or driver failure
Phase loss of motor	11	Failure to connect the motor
Standby	12	Standby
Undervoltage	13	The power input is less than 18V
Overvoltage	14	The power input is greater than 85V
Overheating	15	The heat sink temperature of the driver is above 85°C
Overspeed	16	The set speed exceeds maximum acceptable speed
EEM error	17	CPU storage data exception
Overload	18	Brake resistor fault
Standby	19	Standby
Standby	20	Standby
Internal communication exception	21	Communication exception inside the driver
Data read exception	22	An exception occurs while reading Flash data
Emergency stop	23	The emergency stop signal is triggered by the input port

Timeout display

The following information will be displayed upon timeout:

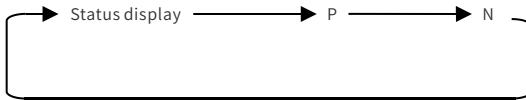
a. Positive rotation timeout (P-OT)



b. Negative rotation timeout (N-OT)



c. Positive/ Negative rotation timeout



Interface description

Interface name	Description
CN1	Power supply
CN2	Motor interface
CN3	Brake output
CN4	Encoder wiring
CN5	Interface signal wiring
CN6	RS485 communication wiring
CN7	RS485 communication wiring
SW1	8-gear DIP switch, node setting

Y2SS3-PN Bus stepper motor driver RJ45 network cable interface EtherCAT protocol



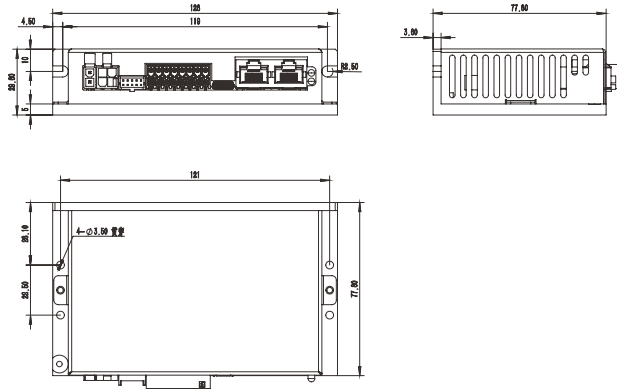
Specification

● Driver parameters **NEW~**

Model	Input voltage VDC	Output current A	Communication interface	Range of temperature	Range of humidity	Control mode	Adaptive motor
Y2SS3-PN	24~48	0.1~7.0	RJ45	0~55°C	0%RH-90%RH, no condensation	PROFINET protocol	20~86mm two-phase stepper motor

Mechanical dimensions (unit: mm)

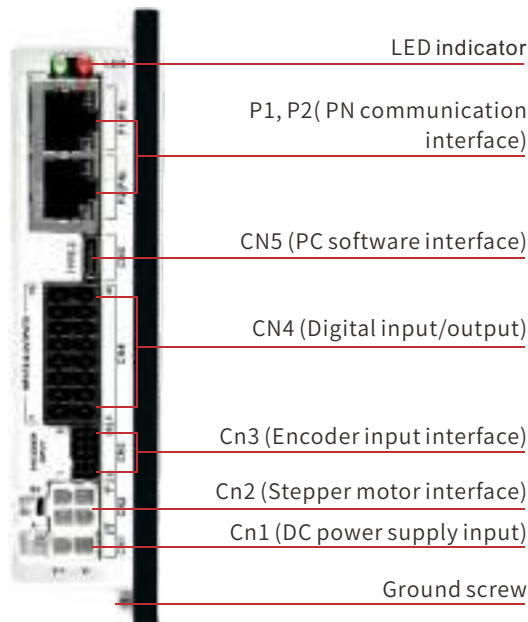
● Y2SS3-PN



Status indicator lamp

Status	Description
Green light blinks	Motor not enabled
Green lamp is always ON	Normal operation of motor
4 red and 1 green	Too high bus voltage
4 red and 2 green	Too low bus voltage
5 red and 1 green	Motor overcurrent
6 red and 1 green	Motor in open circuit
5 red and 2 green	Position out-of-tolerance
6 red and 2 green	Motor overload

System connection



Interface description

Interface name	Description
CN1	Power supply
CN2	Motor connection
CN3	Digital input/output
CN4	Encoder input
CN5	PC debugging interface
P1, P2	Communication interface

Planetary reducer series

Straight-tooth planetary reducers, two-way straight-tooth planetary reducers, rectangular straight-tooth planetary reducers, corner straight-tooth planetary reducers, helical gear planetary reducers, disc-type helical gear planetary reducers and rectangular helical gear planetary reducers



Straight gear type

Corner straight gear type

Other types

Reading mode of item name

● Planetary reducer

◇ Straight gear type

PLF 42 - 16 V1 - S1 P1

① ② ③ ④ ⑤ ⑥

①	Straight gear type	PLF: PLF series
②	Flange size	42: 42mm 60: 60mm 90: 90mm 120: 120mm 160: 160mm
③	Reduction ratio	42 series: Single-stage: 4, 5, 8 Dual-stage: 16, 20, 25, 32, 40 and 64 60, 90 and 120 series: Single-stage: 3, 4, 5, 7 and 10 Dual-stage: 12, 16, 20, 25, 28, 35, 40, 50 and 70 Three-stage: 64, 80, 100, 125, 140, 175, 200, 250, 350, 400, 500, 700, 1000 160 series: Single-stage: 3, 4, 5 and 8 Dual-stage: 12, 16, 20, 25, 32, 40 and 64 Three-stage: 60, 64, 80, 100, 120, 160 and 200 256, 320, 512
④	Adaptive motor	See the order information
⑤	Series	(Blank) S1: Single-stage S2: Dual-stage S3: Three-stage
⑥	Precision class	P1: High precision (Blank) P2: General precision

※ For product details, please visit the official website of www.kaifull.net to download 3D/2D information and the User Manual.

◇ 转角直齿型

ZPLF 60 - 10 V1 - S1 P1

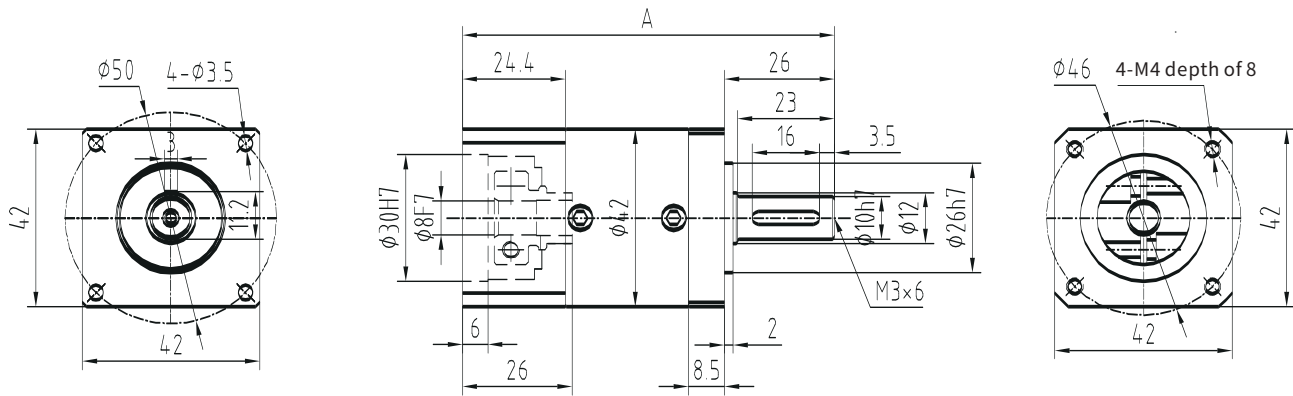
① ② ③ ④ ⑤ ⑥

①	Series naming	ZPLF: ZPLF series
②	Flange size	60: 60mm 90: 90mm 120: 120mm
③	Reduction ratio	60 series: Single-stage: 3, 4, 5, 7 and 10 Dual-stage: 16, 20, 25, 28, 35, 40, 50 and 70 90 and 120 series: Single-stage: 3, 4, 5, 7 and 10 Dual-stage: 12, 15, 16, 20, 25, 28, 35, 40, 50 and 70
④	Adaptive motor	See the order information
⑤	Series	(Blank) S1: Single-stage S2: Dual-stage
⑥	Precision class	P1: High precision (Blank) P2: General precision

※ For product details, please visit the official website of www.kaifull.net to download 3D/2D information and the User Manual.

PLF42 Straight-tooth planetary reducer

Mechanical dimensions (unit: mm)



Specifications

Series	Single-stage (i:458)	Dual-stage (i:16 20 25 32 40 64)
	A	A
Length (mm)	88	99.2
Rated input speed (rpm)	3000	3000
Maximum input speed (rpm)	4500	4500
Maximum radial force (N) ^①	185	185
Maximum axial force (N) ^①	150	150
No-load torque (Nm)	About 0.6	About 0.3
Full load efficiency (%)	96	94
Backlash (arcmin)	<12	<15
Noise level (dB)	≤58	≤58
Weight (kg)	0.5	0.6
Average lifetime	20000	
Torsional rigidity (Nm/arcmin)	0.7	
Lubricating oil	Long-term lubrication	
Direction of rotation	Same direction of input/output	
IP (Ingress Protection)	IP65	
Installation method	Any	

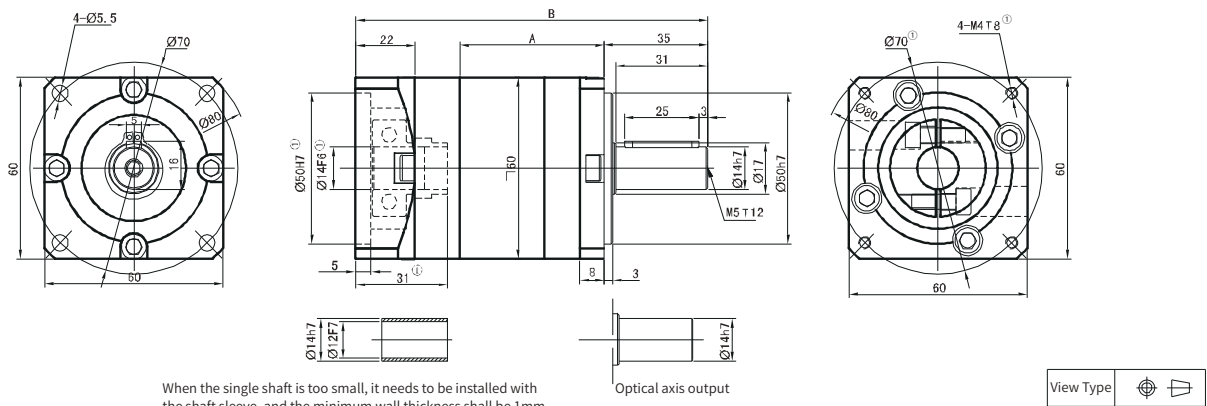
Reduction ratio (i)	4	5	8	16	20	25	32	40	64 Dual-stage	64 Three-stage
Rated output torque (Nm)	9	9	7	12	12	10.5	12	10.5	8	15.5
Maximum output torque (Nm)	18	18	14	24	24	21	24	21	16	31
Moment of inertia (kgcm ²)	0.022	0.019	0.017	0.022	0.019	0.019	0.017	0.016	0.016	0.019

Corner mark ①: The size of the corresponding adapter will vary with the motor, and the reducers of our company can match any motor.

Corner mark 2: Refer to the the measured allowable radial force and axial force (applying at the same time) applied to the central position of the output shaft (at the 1/2 axis strength at the output speed of the single-stage reducer being 100rpm, and 50 rpm for dual-stage reducer and 10 rpm for three-stage reducer.

PLF60 Straight-tooth planetary reducer

Mechanical dimensions (unit: mm)



Specifications

Series	Single-stage (i:3 4 5 7 10)		Dual-stage (i:12 16 20 25 28 35 40 50 70)				Three-stage (i:64 80 100 125 140 175 200 250 350 400 500 700 1000)							
	A	B	A	B	A	B	A	B	A	B				
Length (mm)	46	118	62	134	78	150								
Rated input speed (rpm)	4000		4000				4000							
Maximum input speed (rpm)	8000		8000				8000							
Maximum radial force (N)②	485		605				670							
Maximum axial force (N)②	380		490				550							
No-load torque (Nm)	About 0.6		About 0.3				About 0.3							
Full load efficiency (%)	96		94				90							
Backlash (arcmin)	<12		<15				<18							
Noise level (dB)	≤58		≤58				≤58							
Weight (kg)	1.0		1.3				1.6							
Average lifetime (b)	>20000													
Torsional rigidity (Nm/arcmin)	2.3													
Lubricating oil	Long-term lubrication													
Direction of rotation	Same direction of input/output													
IP (Ingress Protection)	IP65													
Installation method	Any													

Reduction ratio (i)	3	4	5	7	10	12	16	20	25	28	35	40	50	70
Rated output torque (Nm)	16.5	27.0	29.5	19.5	8.5	30.0	30.0	30.0	33.0	30.0	33.0	30.0	33.0	21.5
Maximum output torque (Nm)	33.0	54.0	59.0	39.0	17.0	60.0	60.0	60.0	66.0	60.0	66.0	60.0	66.0	43.0
Moment of inertia (kgcm ²)	0.107	0.094	0.092	0.091	0.091	0.107	0.094	0.092	0.092	0.091	0.091	0.091	0.091	0.091

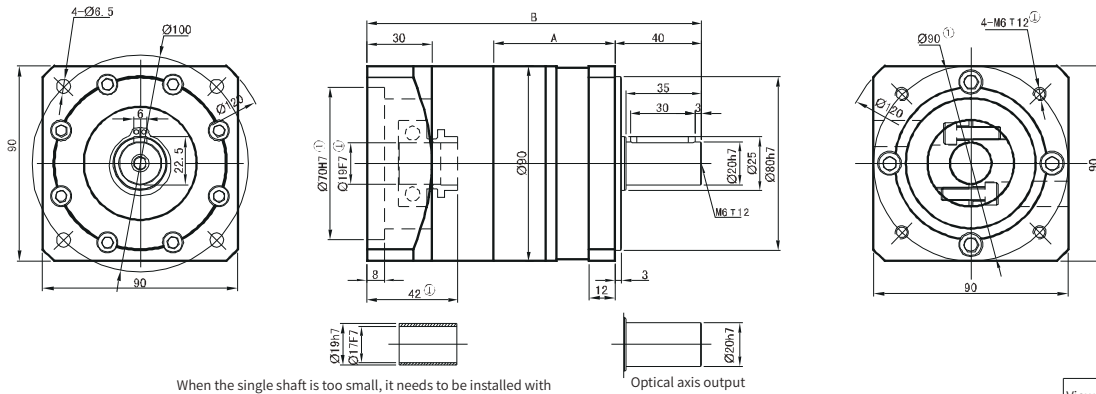
Reduction ratio (i)	64	80	100	125	140	175	200	250	280	350	400	500	700	1000
Rated output torque (Nm)	37.5	37.5	37.5	41.0	37.5	41.0	37.5	41.0	37.5	41.0	37.5	41.0	27.0	11.5
Maximum output torque (Nm)	75.0	75.0	75.0	82.0	75.0	82.0	75.0	82.0	75.0	82.0	75.0	82.0	54.0	23.0
Moment of inertia (kgcm ²)	0.092	0.092	0.092	0.092	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091

Corner mark ①: The size of the corresponding adapter will vary with the motor, and the reducers of our company can match any motor.

Corner mark ②: Refer to the the measured allowable radial force and axial force (applying at the same time) applied to the central position of the output shaft (at the 1/2 axis strength at the output speed of the single-stage reducer being 100rpm, and 50 rpm for dual-stage reducer and 10 rpm for three-stage reducer.

PLF90 Straight-tooth planetary reducer

Mechanical dimensions (unit: mm)



When the single shaft is too small, it needs to be installed with the shaft sleeve, and the minimum wall thickness shall be 1mm

Optical axis output



Specifications

Series	Single-stage (i:3 4 5 7 10)		Dual-stage (i:12 16 20 25 28 35 40 50 70)				Three-stage (i:64 80 100 125 140 175 200 250 350 400 500 700 1000)						
	A	B	A	B	A		B		A		B		
Length (mm)	55	153	78.5	176.5	101.5		199.5						
Rated input speed (rpm)	3500		3500				3500						
Maximum input speed (rpm)	6000		6000				6000						
Maximum radial force (N) ^②	1020		1270				1420						
Maximum axial force (N) ^②	850		1100				1250						
No-load torque (Nm)	About 0.8		About 0.4				About 0.4						
Full load efficiency (%)	96		94				90						
Backlash (arcmin)	<12		<15				<18						
Noise level (dB)	≤62		≤62				≤62						
Weight (kg)	2.8		3.4				4.0						
Average lifetime (b)	>20000												
Torsional rigidity (Nm/arcmin)	7.5												
Lubricating oil	Long-term lubrication												
Direction of rotation	Same direction of input/output												
IP (Ingress Protection)	IP65												
Installation method	Any												

Reduction ratio (i)	3	4	5	7	10	12	16	20	25	28	35	40	50	70
Rated output torque (Nm)	60.0	86.0	94.5	64.0	39.5	96.0	96.0	96.0	105.5	96.0	105.5	96.0	105.5	71.5
Maximum output torque (Nm)	120.0	172.0	189.0	128.0	79.0	192.0	192.0	192.0	211.0	192.0	211.0	192.0	211.0	143.0
Moment of inertia (kgcm ²)	0.4	0.309	0.291	0.285	0.283	0.4	0.309	0.291	0.291	0.285	0.285	0.283	0.283	0.283

Reduction ratio (i)	64	80	100	125	140	175	200	250	280	350	400	500	700	1000
Rated output torque (Nm)	120.0	120.0	120.0	132.0	120.0	132.0	120.0	132.0	120.0	132.0	120.0	132.0	89.5	55.0
Maximum output torque (Nm)	240.0	240.0	240.0	264.0	240.0	264.0	240.0	264.0	240.0	264.0	240.0	264.0	179.0	110.0
Moment of inertia (kgcm ²)	0.291	0.291	0.291	0.291	0.285	0.285	0.283	0.283	0.283	0.283	0.283	0.283	0.283	0.283

Corner mark ①: The size of the corresponding adapter will vary with the motor, and the reducers of our company can match any motor.

Corner mark ②: Refer to the the measured allowable radial force and axial force (applying at the same time) applied to the central position of the output shaft (at the 1/2 axis strength at the output speed of the single-stage reducer being 100rpm, and 50 rpm for dual-stage reducer and 10 rpm for three-stage reducer.

PLF120 Straight-tooth planetary reducer

Straight gear type

Corner straight gear type

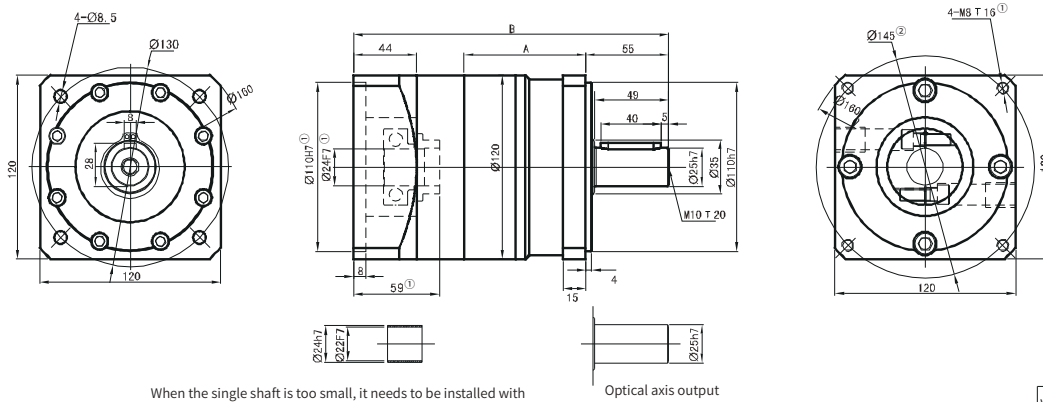
Other series

Planetary reducer

Hollow rotary platform

Two-dimensional rotary module

Mechanical dimensions (unit: mm)



When the single shaft is too small, it needs to be installed with the shaft sleeve, and the minimum wall thickness shall be 1mm

Optical axis output

View Type

Specifications

Series	Single-stage (i:3 4 5 7 10)		Dual-stage (i:12 16 20 25 28 35 40 50 70)				Three-stage (i:64 80 100 125 140 175 200 250 350 400 500 700 1000)							
	A	B	A	B	A			B						
Length (mm)	80	210	110	240	140			270						
Rated input speed (rpm)	3000		3000				3000							
Maximum input speed (rpm)	4800		4800				4800							
Maximum radial force (N) ⁽²⁾	2230		2840				3020							
Maximum axial force (N) ⁽²⁾	1550		2100				2600							
No-load torque (Nm)	About 1.3		About 0.6				About 0.6							
Full load efficiency (%)	96		94				90							
Backlash (arcmin)	<12		<15				<18							
Noise level (dB)	≤65		≤65				≤65							
Weight (kg)	6.9		8.9				11.2							
Average lifetime (h)	>20000													
Torsional rigidity (Nm/arcmin)	15.0													
Lubricating oil	Long-term lubrication													
Direction of rotation	Same direction of input/ output													
IP (Ingress Protection)	IP65													
Installation method	Any													

Reduction ratio (i)	3	4	5	7	10	12	16	20	25	28	35	40	50	70
Rated output torque (Nm)	148.0	222.0	235.0	158.0	93.0	250.0	250.0	250.0	264.0	250.0	264.0	250.0	264.0	177.0
Maximum output torque (Nm)	296.0	444.0	470.0	316.0	186.0	500.0	500.0	500.0	528.0	500.0	528.0	500.0	528.0	354.0
Moment of inertia (kgcm ²)	1.65	1.22	1.15	1.13	1.11	1.65	1.22	1.15	1.15	1.13	1.13	1.11	1.11	1.11

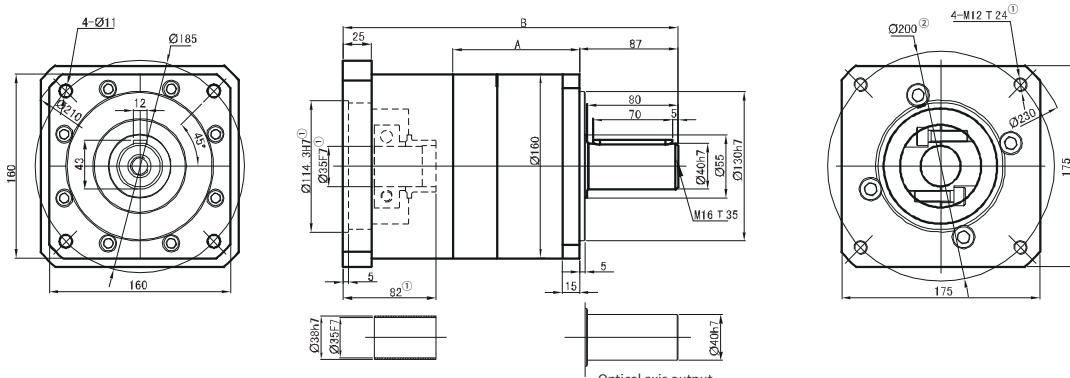
Reduction ratio (i)	64	80	100	125	140	175	200	250	280	350	400	500	700	1000
Rated output torque (Nm)	310.0	310.0	310.0	329.0	310.0	329.0	310.0	329.0	310.0	329.0	310.0	329.0	220.0	130.0
Maximum output torque (Nm)	620.0	620.0	620.0	658.0	620.0	658.0	620.0	658.0	620.0	658.0	620.0	658.0	440.0	260.0
Moment of inertia (kgcm ²)	1.15	1.15	1.15	1.15	1.13	1.13	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11

Corner mark ①: The size of the corresponding adapter will vary with the motor, and the reducers of our company can match any motor.

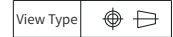
Corner mark 2: Refer to the the measured allowable radial force and axial force (applying at the same time) applied to the central position of the output shaft (at the 1/2 axis strength at the output speed of the single-stage reducer being 100rpm, and 50 rpm for dual-stage reducer and 10 rpm for three-stage reducer.

PLF160 Straight-tooth planetary reducer

Mechanical dimensions (unit: mm)



When the single shaft is too small, it needs to be installed with the shaft sleeve, and the minimum wall thickness shall be 1.5mm



Specifications

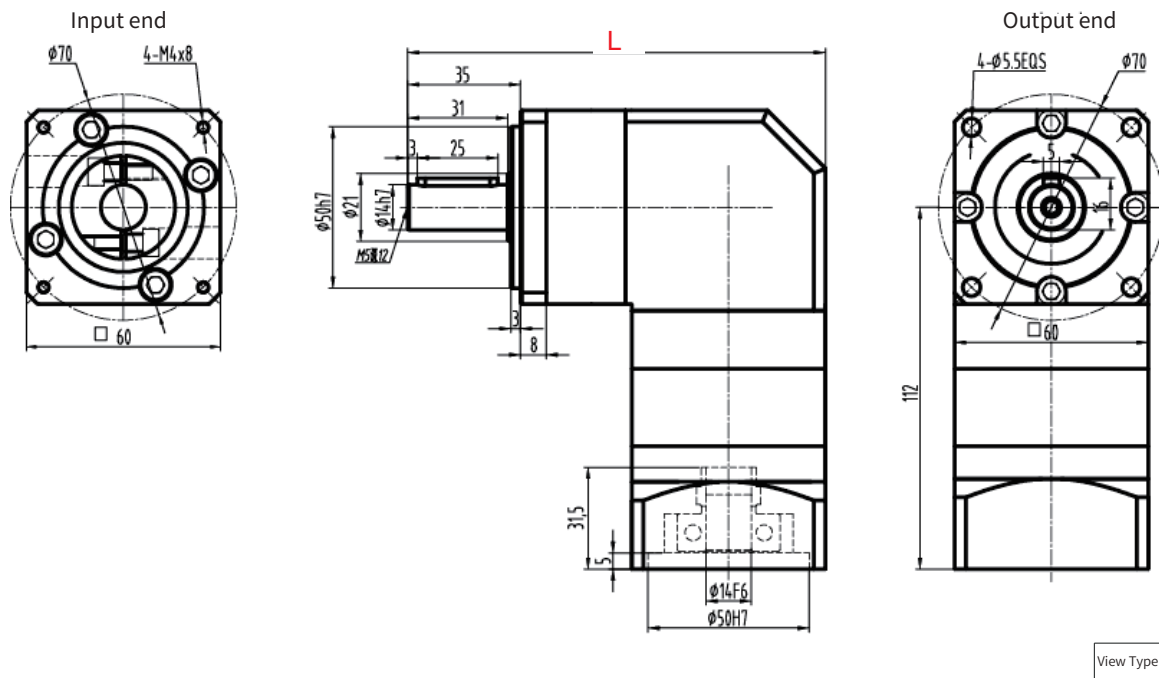
Series	Single-stage (i: 3 4 5 8)		Dual-stage (i: 12 16 20 25 32 40 64)				Three-stage (i: 60 64 80 100 120 160 200 256 320 512)							
	A	B	A	B	A	B	A	B						
Length (mm)	111	296.0	149	333	187	374.0								
Rated input speed (rpm)	3000		3000				3000							
Maximum input speed (rpm)	4500		4500				4500							
Maximum radial force (N) ^②	2200		2700				4650							
Maximum axial force (N) ^②	2300		3000				6000							
No-load torque (Nm)	About 3.2		About 2.1				About 2.1							
Full load efficiency (%)	96		94				90							
Backlash (arcmin)	< 12		< 15				< 18							
Noise level (dB)	≤ 68		≤ 68				≤ 68							
Weight (kg)	19.5		25.5				31.5							
Average lifetime (b)	>20000													
Torsional rigidity (Nm/arcmin)	27.0													
Lubricating oil	Long-term lubrication													
Direction of rotation	Same direction of input/output													
IP (Ingress Protection)	IP65													
Installation method	Any													
Reduction ratio (i)	3	4	5	8	12	16	20	25	32	40	60	64 ^{Dual-stage}	64 ^{Three-stage}	80
Rated output torque (Nm)	310.0	605.0	420.0	270.0	680.0	680.0	680.0	460.0	680.0	460.0	900.0	310.0	900.0	900.0
Maximum output torque (Nm)	620.0	1210.0	840.0	540.0	1360.0	1360.0	1360.0	920.0	1360.0	920.0	1800.0	620.0	1800.0	1800.0
Moment of inertia (kgcm ²)	6.31	5.15	4.93	4.84	6.31	5.15	4.93	4.93	4.84	4.84	6.31	4.84	4.93	4.93
Reduction ratio (i)	100	120	160	200	256	320	512							
Rated output torque (Nm)	900.0	580.0	900.0	580.0	900.0	580.0	400.0							
Maximum output torque (Nm)	1800.0	1160.0	1800.0	1160.0	1800.0	1160.0	800.0							
Moment of inertia (kgcm ²)	4.93	4.84	4.84	4.84	4.84	4.84	4.84							

Corner mark ①: The size of the corresponding adapter will vary with the motor, and the reducers of our company can match any motor.

Corner mark ②: Refer to the the measured allowable radial force and axial force (applying at the same time) applied to the central position of the output shaft (at the 1/2 axis strength at the output speed of the single-stage reducer being 100rpm, and 50 rpm for dual-stage reducer and 10 rpm for three-stage reducer.

ZPLF60 Corner straight-tooth planetary reducer

Mechanical dimensions (unit: mm)



Specifications

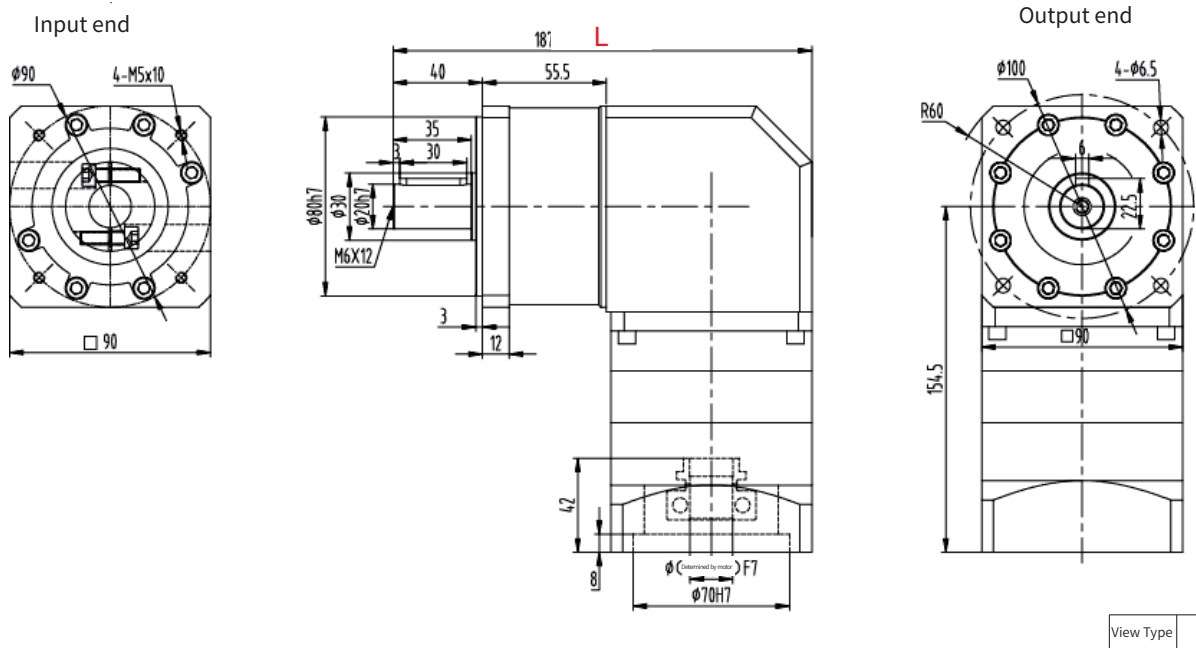
Series	Single-stage (i: 3 4 5 7 10)	Dual-stage (i: 16 20 25 28 35 40 50 70)
	L	L
Length (mm)	129.5	161
No-load torque (Nm)	About 0.6	About 0.3
Full load efficiency (%)	95	93
Backlash (arcmin)	< 12	< 15
Noise level (dB)	< 58	< 58
Weight (kg)	2.2	2.5
Direction of rotation	Different directions of input/output	
Refer to PLE060 for parameters not listed here (including rated input speed \ maximum input speed \ maximum radial force \ maximum axial force \ average lifetime \ torsional rigidity \ lubricating oil \ protection grade \ installation mode \ reduction ratio \ rated output moment \ maximum output moment \ moment of inertia)		

Corner mark ①: The size of the corresponding adapter will vary with the motor, and the reducers of our company can match any motor.

Straight gear type
 Planetary reducer
 Corner straight gear type
 Other series
 Hollow rotary platform
 Two-dimensional rotary module

ZPLF90 Corner straight-tooth planetary reducer

Mechanical dimensions (unit: mm)



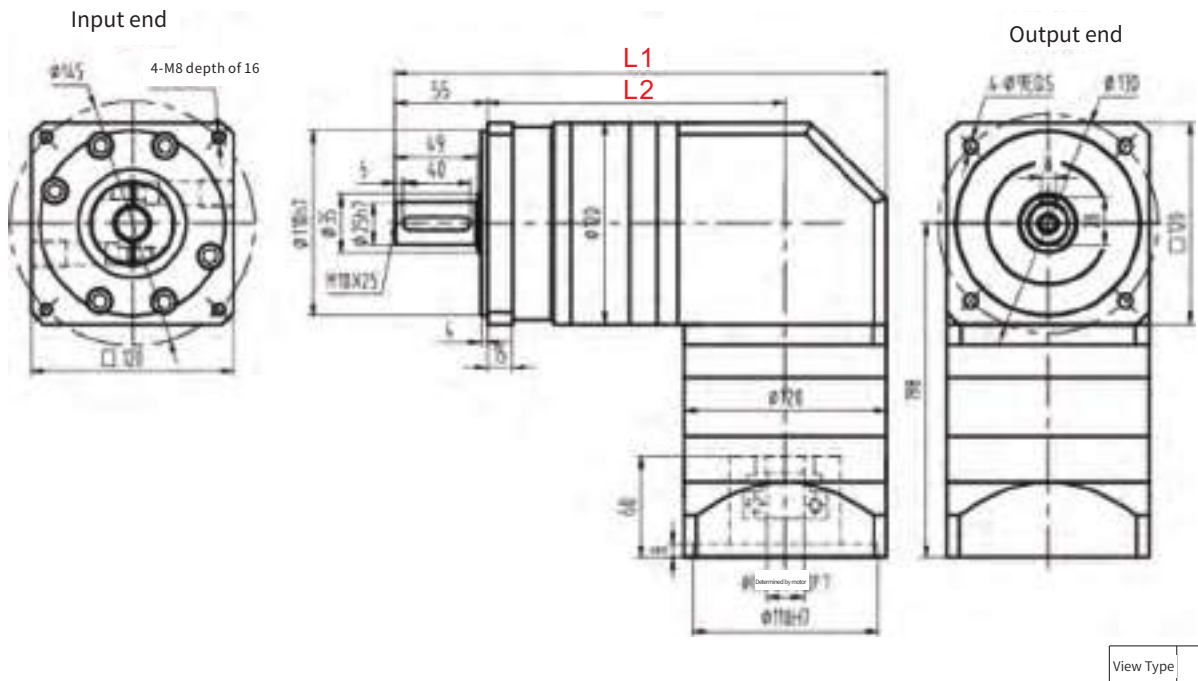
Specifications

Series	Single-stage (i: 3 4 5 7 10)	Dual-stage (i: 12 15 16 20 25 28 35 40 50 70)
	L	L
Length (mm)	187.5	221.5
No-load torque (Nm)	About 0.8	About 0.4
Full load efficiency (%)	95	93
Backlash (arcmin)	< 12	< 15
Noise level (dB)	≤ 62	≤ 62
Weight (kg)	4.7	5.3
Direction of rotation	Different directions of input/ output	
Refer to PLE090 for parameters not listed here (including rated input speed \ maximum input speed \ maximum radial force \ maximum axial force \ average lifetime \ torsional rigidity \ lubricating oil \ protection grade \ installation mode \ reduction ratio \ rated output moment \ maximum output moment \ moment of inertia)		

Corner mark ①: The size of the corresponding adapter will vary with the motor, and the reducers of our company can match any motor

ZPLF120 Corner straight-tooth planetary reducer

Mechanical dimensions (unit: mm)



Specifications

Series	Single-stage (i: 3 4 5 7 10)		Dual-stage (i: 12 15 16 20 25 28 35 40 50 70)	
	L1	L2	L1	L2
Length (mm)	244	129	292	177
No-load torque (Nm)	About 1.3		About 0.6	
Full load efficiency (%)	95		93	
Backlash (arcmin)	< 12		< 15	
Noise level (dB)	≤ 65		≤ 65	
Weight (kg)	11.5		13.5	
Direction of rotation	Different directions of input/ output			
Refer to PLE120 for parameters not listed here (including rated input speed \ maximum input speed \ maximum radial force \ maximum axial force \ average lifetime \ torsional rigidity \ lubricating oil \ protection grade \ installation mode \ reduction ratio \ rated output moment \ maximum output moment \ moment of inertia)				

Corner mark ①: The size of the corresponding adapter will vary with the motor, and the reducers of our company can match any motor.

- Straight gear type
- Planetary reducer
- Corner straight gear type
- Other series
- Hollow rotary platform
- Two-dimensional rotary module

ZPT series

Product introduction

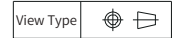
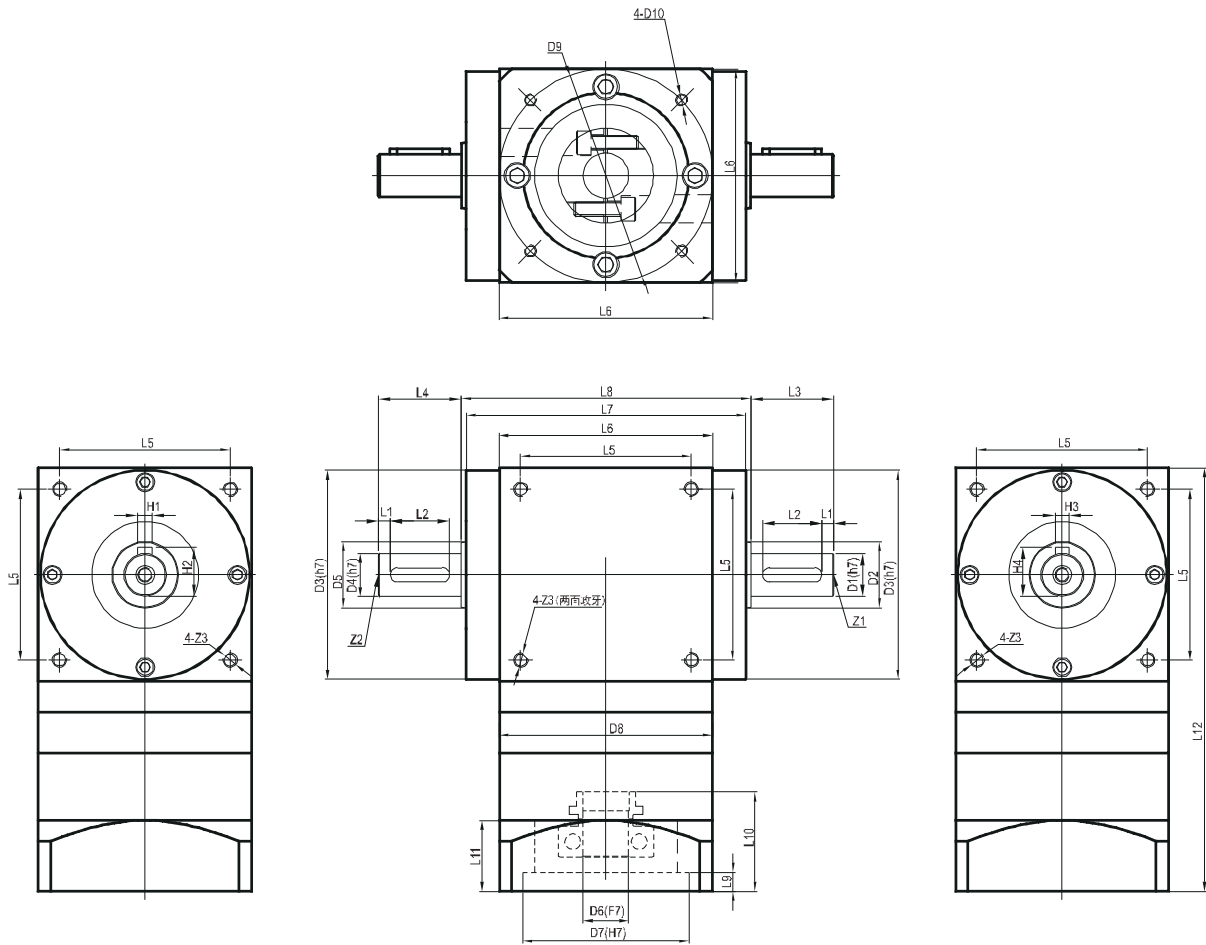
- The box is hexagonal, and there are installation holes in five sides;
- 90 ° degree reversing, long design service life, large bearing capacity, smooth transmission, low noise, reversing transmission efficiency greater than 95%;
- Arc tooth bevel gear set is made of high-quality low carbon alloy steel, carburized, quenched, grinding and running, achieving high-precision hard tooth surface closed transmission;
- ZPT series reducers have four specifications, a variety of gear ratios, wide selection range and diverse output forms, applicable for a variety of occasions;
- Two transmission modes: Deceleration and acceleration.

Model description

Model	Stable/ maximum output torque	Gear ratio during reversing	Reduction ratio for single-stage (L1)	Reduction ratio for two-stage (L2)	Reduction ratio for three-stage (L3)
ZPT075	35Nm/70Nm	2	6, 8, 10, 14, 20	32, 40, 50, 56, 70, 80, 100, 140	128, 160, 200, 224, 250, 280, 320, 350, 400, 500, 560, 700
ZPT090	45Nm/90Nm	1	3, 4, 5, 7, 10	12, 16, 20, 25, 28, 35, 40, 50	80, 100, 125, 140, 175, 200, 250
ZPT110	80Nm/160Nm	1	3, 4, 5, 7, 10	12, 16, 20, 25, 28, 35, 40, 50	80, 100, 125, 140, 175, 200, 250
ZPT140	170Nm/340Nm	1	3, 4, 5, 7, 10	12, 16, 20, 25, 28, 35, 40, 50	80, 100, 125, 140, 175, 200, 250
Full load efficiency		98%	94%	92%	88%

ZPT series

Mechanical dimensions (unit: mm)



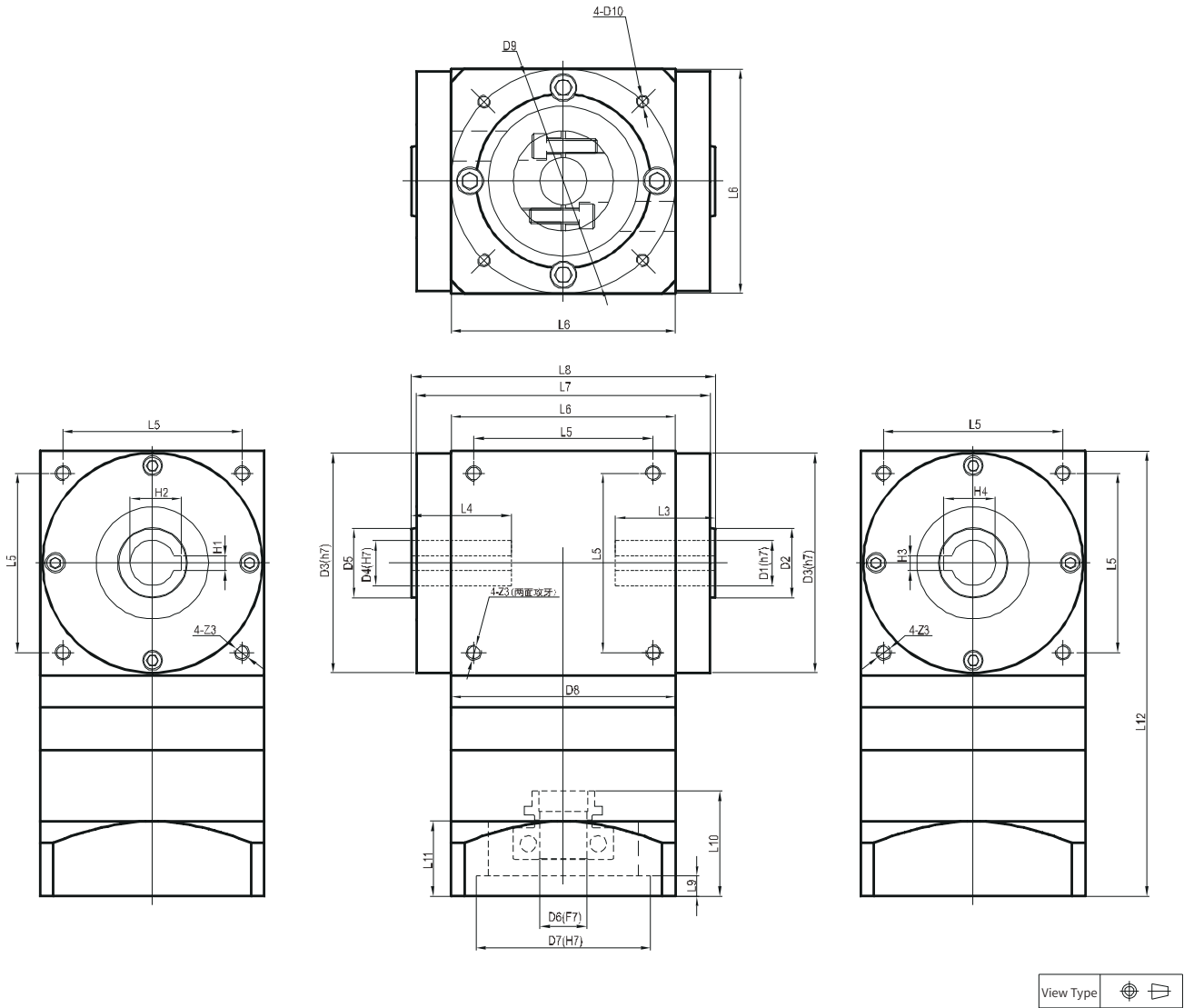
Specifications

Dimensions Model	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	L1	L2	L3	L4	L5	L6	L7	L8
ZPT075	14.0	22.0	73.0	14.0	22.0	14.0	50.0	70.0	70.0	M4	2.0	25.0	28.5	28.5	60.0	75.0	104.0	108.0
ZPT090	18.0	28.0	88.0	18.0	28.0	19.0	70.0	90.0	90.0	M5	5.0	25.0	35.0	35.0	72.0	90.0	118.0	122.0
ZPT110	22.0	35.0	108.0	22.0	45.0	19.0	70.0	90.0	90.0	M5	3.0	30.0	35.0	35.0	88.0	110.0	134.0	138.0
ZPT140	32.0	45.0	135.0	32.0	45.0	22.0	110.0	120.0	145.0	M8	5.0	40.0	50.0	50.0	110.0	140.0	170.0	174.0

Dimensions Model	L9	L10	L11	L12			H1	H2	H3	H4	Z1	Z2	Z3
				Reversing	One-stage	Two-stage							
ZPT075	5.0	31.0	22.0	To be confirmed	144.5	161.0	5.0	16.0	5.0	16.0	M5	M5	M6
ZPT090	8.0	42.0	30.0	To be confirmed	178.5	202.5	6.0	20.5	6.0	20.5	M6	M6	M6
ZPT110	8.0	42.0	30.0	To be confirmed	200.0	224.0	6.0	24.5	6.0	24.5	M8	M8	M8
ZPT140	8.0	59.0	44.0	To be confirmed	269.5	301.0	10.0	35.0	10.0	35.0	M10	M10	M10

ZPT series

Mechanical dimensions (unit: mm)



View Type

Specifications

Dimensions Model	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	L1	L2	L3	L4	L5	L6	L7	L8
ZPT075	14.0	22.0	73.0	14.0	22.0	14.0	50.0	70.0	70.0	M4	\	\	30.0	30.0	60.0	75.0	104.0	108.0
ZPT090	18.0	28.0	88.0	18.0	28.0	19.0	70.0	70.0	90.0	M5	\	\	40.0	40.0	72.0	90.0	118.0	122.0
ZPT110	22.0	35.0	108.0	22.0	35.0	19.0	70.0	70.0	90.0	M5	\	\	45.0	45.0	88.0	110.0	134.0	138.0
ZPT140	28.0	45.0	135.0	28.0	45.0	22.0	110.0	110.0	145.0	M8	\	\	45.0	45.0	110.0	140.0	170.0	174.0

Dimensions Model	L9	L10	L11	L12			H1	H2	H3	H4	Z1	Z2	Z3
				Reversing	One-stage	Two-stage							
ZPT075	5.0	31.0	22.0	To be confirmed	144.5	161.0	5.0	16.3	5.0	16.3	\	\	M6
ZPT090	8.0	42.0	30.0	To be confirmed	178.5	202.5	6.0	20.8	6.0	20.8	\	\	M6
ZPT110	8.0	42.0	30.0	To be confirmed	200.0	224.0	6.0	24.8	6.0	24.8	\	\	M8
ZPT140	8.0	59.0	44.0	To be confirmed	269.5	301.0	8.0	31.3	8.0	31.3	\	\	M10

AF series helical gear planetary reducer

■ Style Diagram



■ Features

Mute

The helical gear is used to enable smooth and quiet operation.

High precision

With a backlash of 3 arc minute, the product enables precise positioning

High rigidity and high torque

The application of integral ball bearings greatly improves the rigidity and torque of the product

Installation through flange and shaft sleeve

The product is available to be installed on any motor

No leakage of grease

The application of high-viscosity no-bleeding grease can prevent grease leakage effectively

Easy maintenance

The grease replacement is not required during the product service life, making installation easier

Straight gear type

Planetary reducer
Corner straight gear type

Other series

Hollow rotary platform

Two-dimensional rotary module

AF series rectangular/ helical gear planetary reducer

Style Diagram



Features

Saving space

The orthogonal reducer is equipped with spiral bevel gear, and the motor can bend by 90° during installation, which can save installation space

High rigidity and high torque

The application of integral ball bearings greatly improves the rigidity and torque of the product

Installation through flange and shaft sleeve

It can be installed on any motor

No leakage of grease

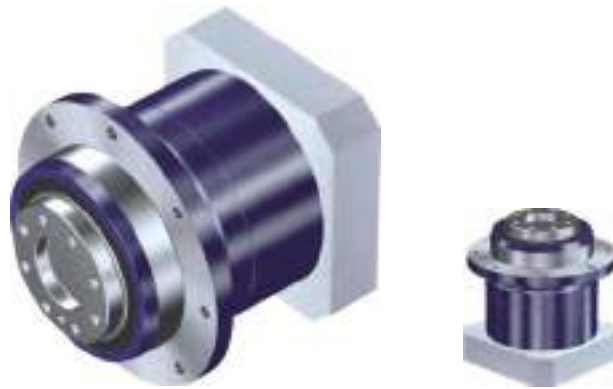
The application of high-viscosity no-bleeding grease can prevent grease leakage effectively

Easy maintenance

The grease change is not required during the life of the product, making installation easier

AH series disc-type helical gear planetary reducers

Style Diagram



Features

High precision

Backlash lower than 3 arcmin, precise positioning

High rigidity and high torque

The application of integral ball bearings greatly improves the rigidity and torque of the product

High load

Tapered rolling bearings as the main bearings can improve load capacity

Installation through flange and shaft sleeve

It can be installed on any motor

No leakage of grease

The application of high-viscosity no-bleeding grease can prevent grease leakage effectively

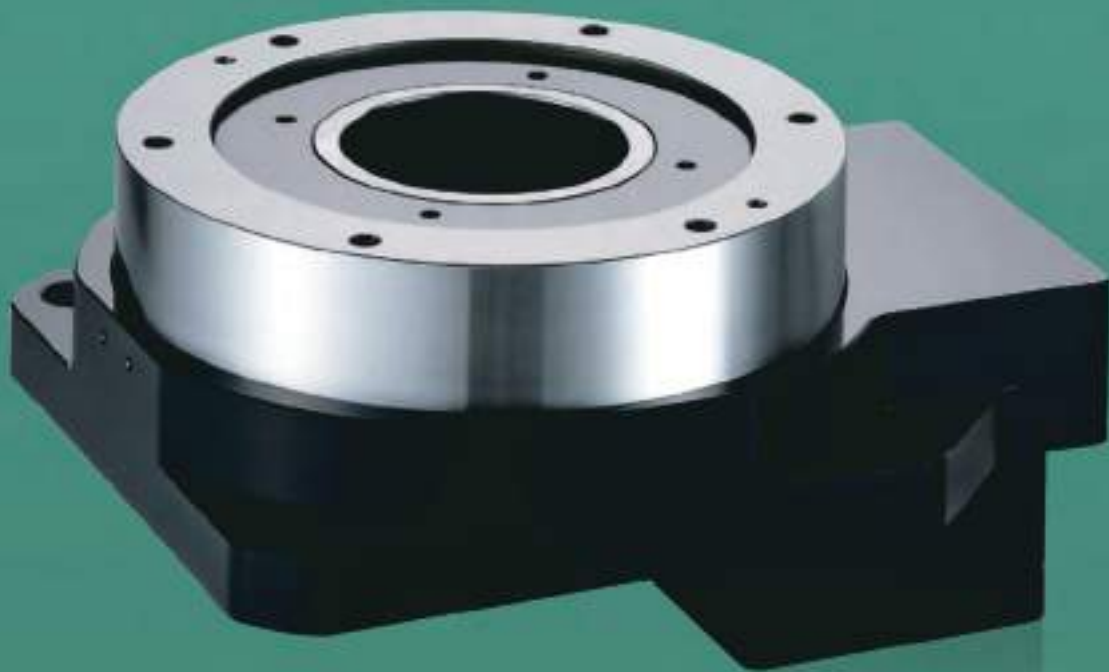
Easy maintenance

The grease change is not required during the life of the product, making installation easier

Straight gear type
Planetary reducer
Corner straight gear type
Other series
Hollow rotary platform
Two-dimensional rotary module

Hollow rotary platform series

Integrated bearing input shaft, high load
bearing rigidity, no risk of slipping



Order information

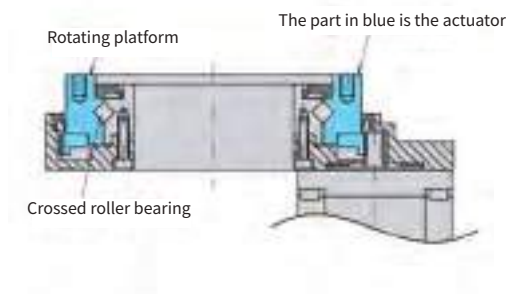
YKW Hollow rotary platform

Model	Installation dimensions mm	Diameter of hollow rotating platform mm
YKW60	60	φ28
YKW85	85	φ33
YKW130	130	φ62
YKW200	200	φ100
YKW280	280	φ150

Integrated bearing input shaft, high load bearing rigidity, no risk of slipping



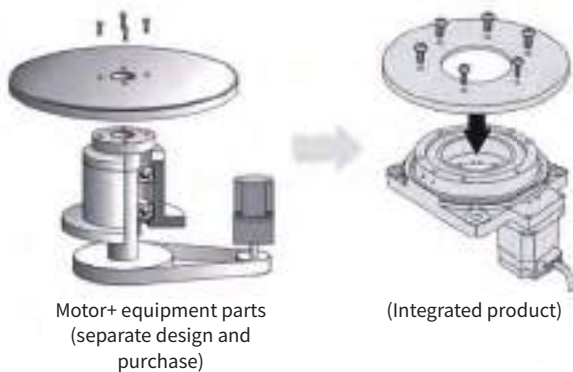
Structure of standard parts



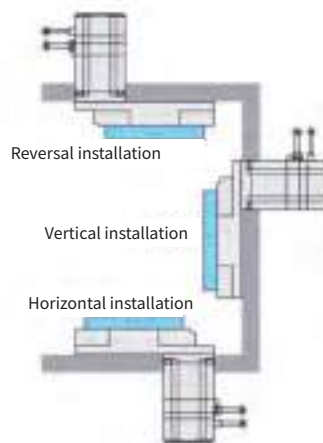
Lower design labor time

The workbench and robotic arm of the device can be mounted directly on the rotating platform.

Compared with the equipment equipped with the belt and other parts, it can reduce the working time and costs of equipment design, parts allocation, belt state adjustment and other operations.



Free installation direction



YKW series can be installed horizontally, vertically or inverted Wide design range.

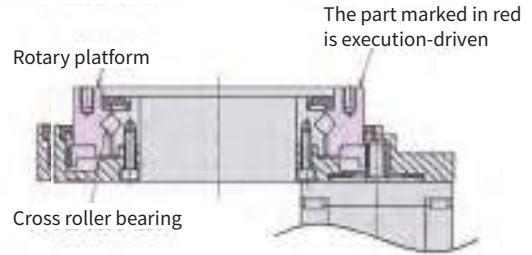
* Please note that the hollow rotary transmission occasionally leaks lubricating oil. The lubricating oil seepage may cause pollution to the surrounding environment, please confirm it during the regular inspection or install the oil tray.

Integrated product

F-series integrates hollow rotating platform and stepper motor and the reducer (reduction ratio 10/18) as the transmission can achieve high output

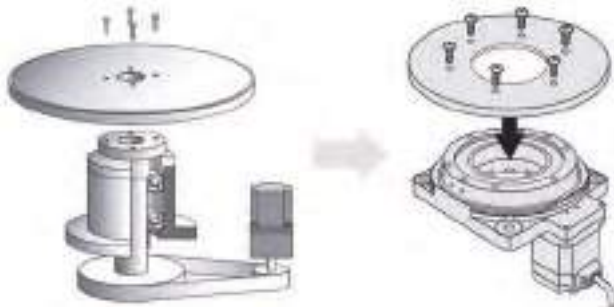


Structure of standard type



Lower design labor time

The workbench and robotic arm of the device can be mounted directly on the rotating platform. Compared with the equipment equipped with the belt pulley and other parts, it can reduce the working time and costs of equipment design, parts allocation, belt state adjustment and other operations.

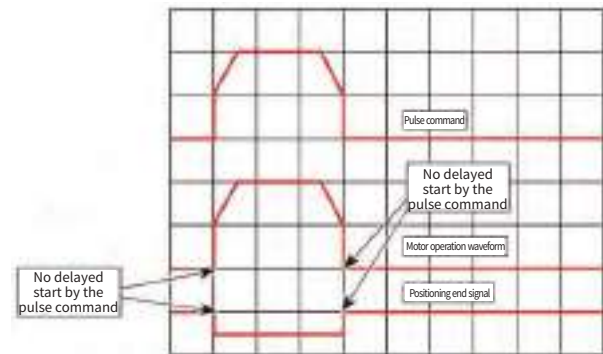


Motor + mechanism component (Separate design, procurement)

(Integrated product)

Sensitive response, short positioning time

By use of the high responsiveness of the stepper motor, it can realize the short-distance positioning of the driver in a short time. The stepper motor can operate synchronously in response to pulse command and output high torque with a small body, and has superior acceleration and responsiveness.



Large-diameter hollow rotating platform can be used for simple wire and pipe layout

The large-diameter hollow hole (through) can be used for complex wiring and tubing and other occasions to simplify the device design.

● Penetration mechanism for infusion tube



Keep low vibration at low speed

The micro-step drive mode and smooth drive functions of the stepper motor can improve the resolution without mechanical components such as reducer. Therefore, the speed changes very little and continues to maintain a fixed constant in the low speed state.

Gain-free adjustment

The stepper motor is controlled in open loop mode and can be setting without adjusting the gain, even if the load changes.

No micro vibration

The stepper motor is controlled in open loop mode, and the "micro-vibration" phenomenon-- slight shaft action does not occur when it stops. Therefore, its stopping position can be effectively maintained even when carrying inertia is large.

YKW60 Hollow rotary platform High precision High rigidity High torque Large reduction ratio



Reading mode of item name

YKW 60 K - 5 V1

- ① ② ③ ④ ⑤

①	YKW series
②	Specifications: 60 mm, 85 mm, 130 mm and 200 mm
③	K: Rectangular two-stage tooth type; R: Curved two-stage tooth type; P: Direct connection of reducer
④	Reduction ratio: 5, 10, 15, 20
⑤	Motor specification: servo motor: V1: $\phi=\phi8$, PCD:=PCD $\phi45$, M=M3
	Stepper motor: T1: $\phi=\phi5$, PCD:=PCD $\phi43.8$, M=M3
	T2: $\phi=\phi8$, PCD:=PCD $\phi48$, M=M3

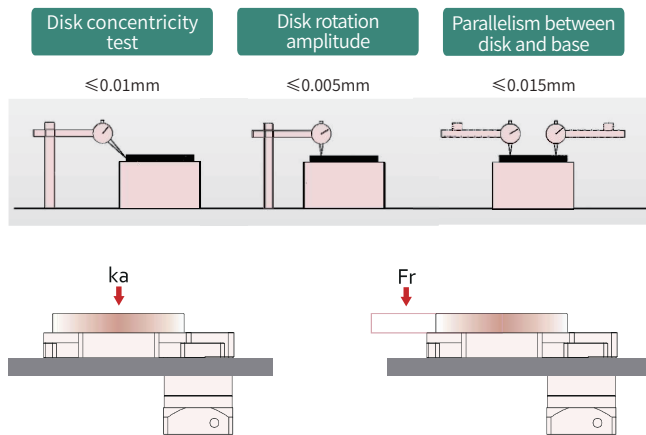
Specification

The hollow shaft rotating platform, a hollow rotating platform, is used for precision positioning driven by the motor or servo and for the hidden installation of wires, lines and other connecting parts through its unique hollow structure; with high rigidity and high reduction ratio, it has high load capacity and can replace the CAM divider and DD motor.

Model /Specification	Allowable torque N·m	Allowable axial load (Ka)kg	Allowable radial force (Fr)N·m	Allowable disk Rotation speed	Reduction ratio i	Positioning accuracy	Repetitive positioning accuracy	Accuracy life (intermittent operation)	IP (Ingress Protection)	Mass kg
YKW60K-5	5	10	5	720°/sec	5	3arc-min	$\leq \pm 15$ arc-sec	≥ 15000	IP40	0.6
※YKW60K-10					10					0.6
YKW60R-15					15	8arc-min	$\leq \pm 30$ arc-sec			1.5
YKW60P-20					20	5arc-min	$\leq \pm 20$ arc-sec			1.5

*For other parameters, please contact us.

Positioning accuracy test



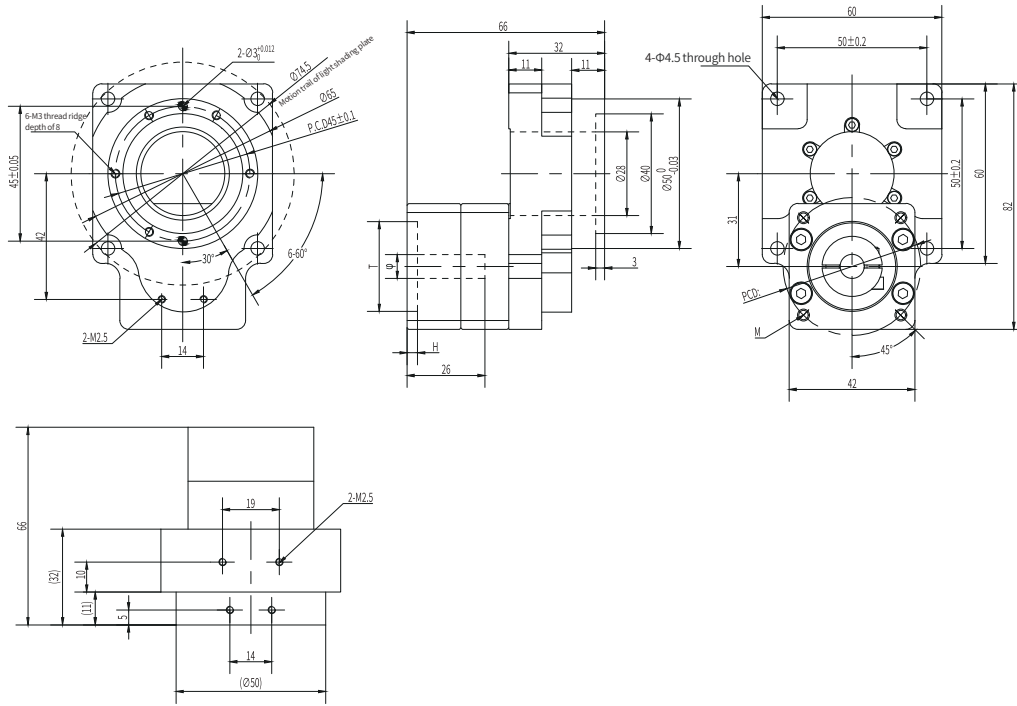
Recommended products

◆ These marked with※ are the commonly used models in stock

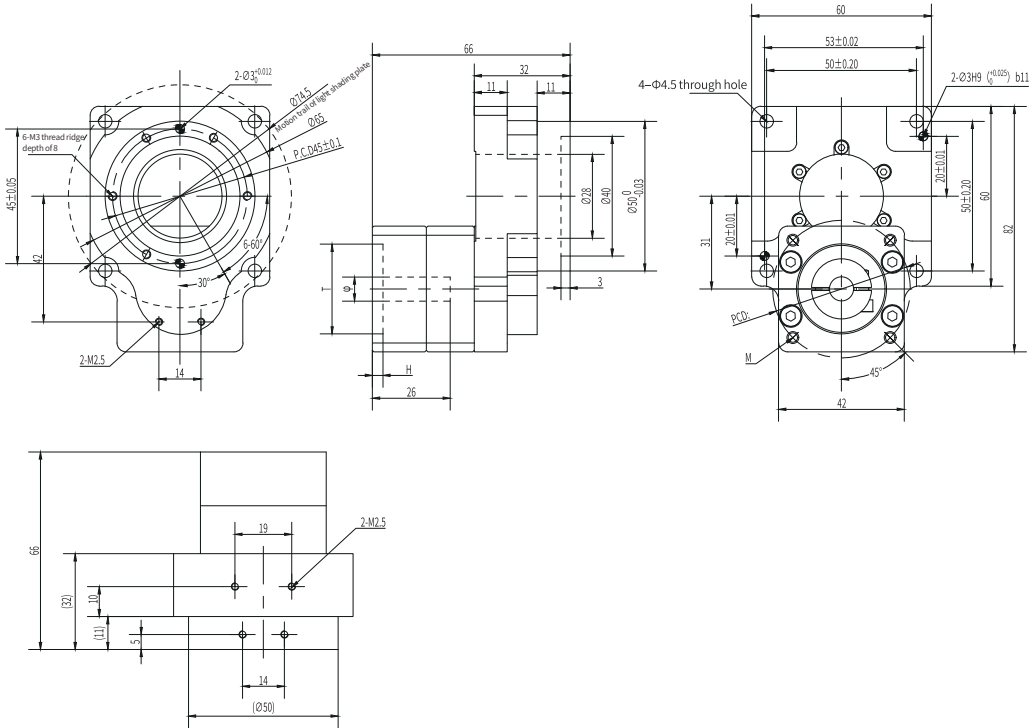
Straight gear type
Planetary reducer
Corner straight gear type
Other series
Hollow rotary platform
Two-dimensional rotary module

Mechanical dimensions (unit: mm)

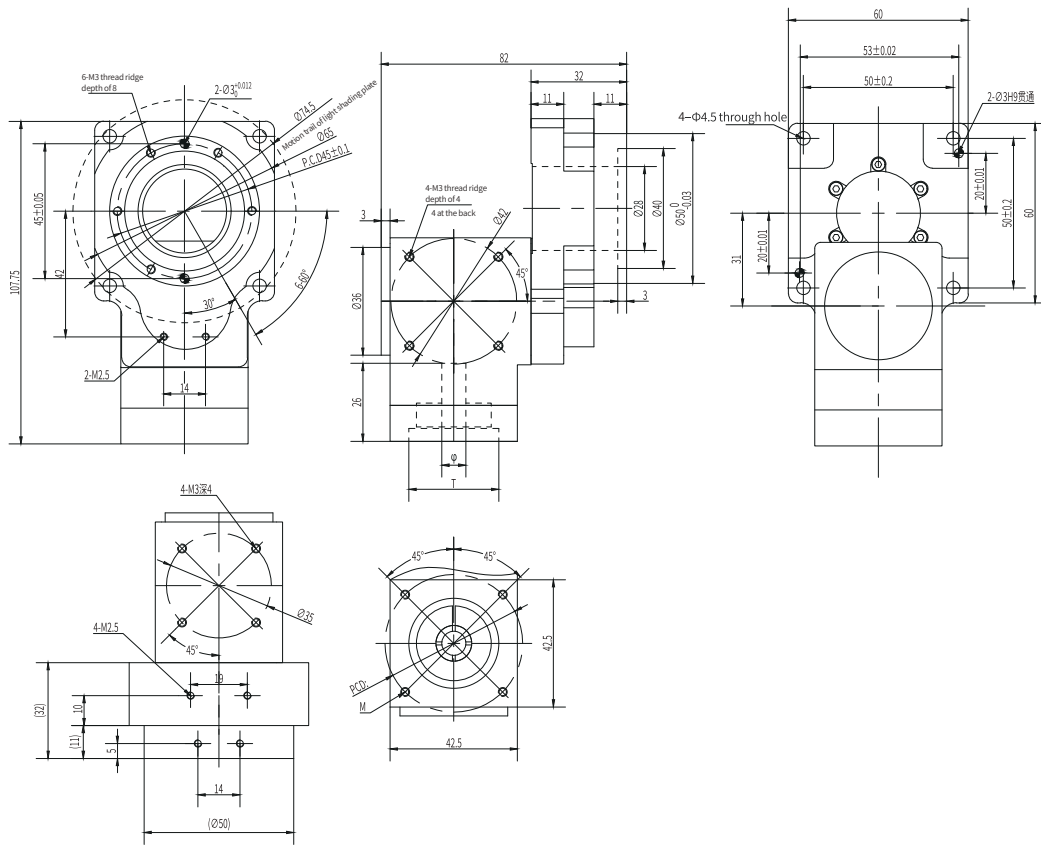
YKW60K-5



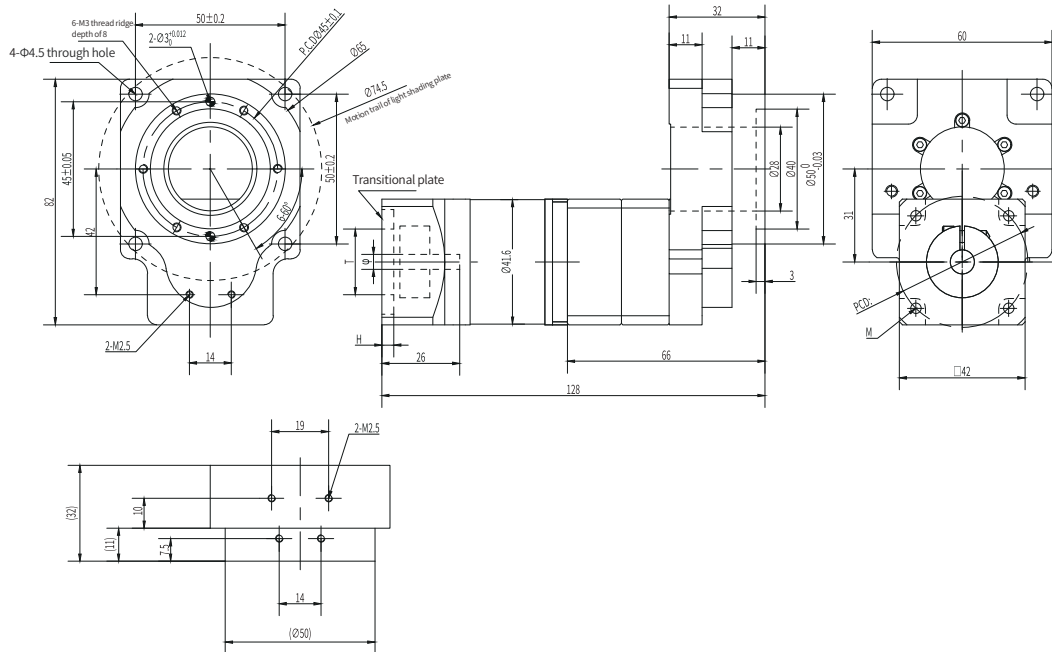
YKW60K-10



● YKW60R-15



● YKW60K-15



Straight gear type

Planetary reducer

Corner straight gear type

Other series

Hollow rotary platform

Two-dimensional rotary module

YKW60F Hollow rotary platform High precision High rigidity

High torque Large reduction ratio



Reading mode of item name

YKW 60 F - 10 A1

- ① ② ③ ④ ⑤

①	YKW series
②	Specifications: 60 mm and 85 mm
③	K: Rectangular two-stage tooth type; R: Curved two-stage tooth type; P: Direct connection of reducer; F: Direct connection of motor
④	Reduction ratio: 10, 18
⑤	Motor specification: A1: Integrated 42 open-loop stepper motor
	A2: Integrated 42 increment closed-loop stepper motor
	A3: Integrated 42 absolute stepper motor

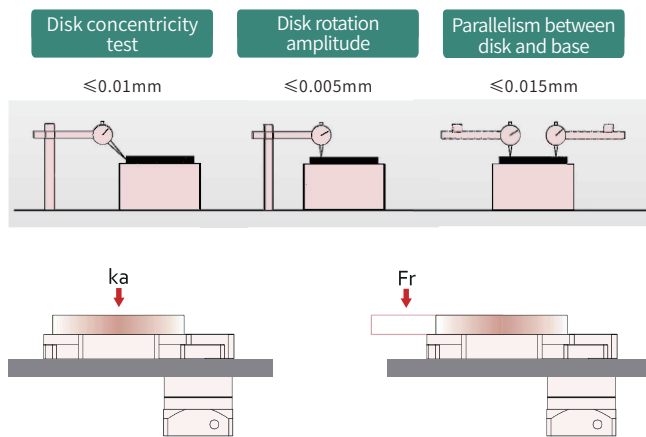
Specification

The hollow shaft rotating platform, a hollow rotating platform, is used for precision positioning driven by the motor or servo and for the hidden installation of wires, lines and other connecting parts through its unique hollow structure; with high rigidity and high reduction ratio, it has high load capacity and can replace the CAM divider and DD motor.

Model /Specification	Allowable torque N•m	Allowable axial load (Ka)kg	Allowable radial force (Fr)N•m	Allowable disk Rotation speed	Reduction ratio i	Positioning accuracy	Repetitive positioning accuracy	Accuracy life (intermittent operation)	IP (Ingress Protection)	Mass kg
※YKW60F-10	5	10	5	720°/sec	10	≤±1arc-min	≤±10arc-sec	≥20000	IP40	0.8

*For other parameters, please contact us.

Positioning accuracy test

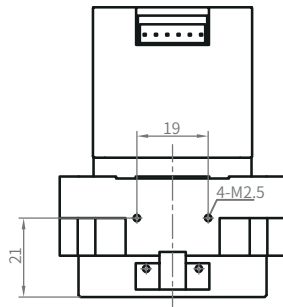
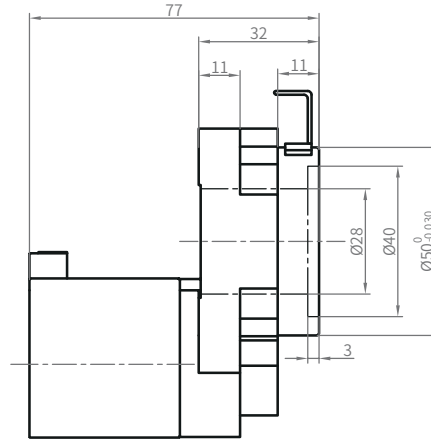
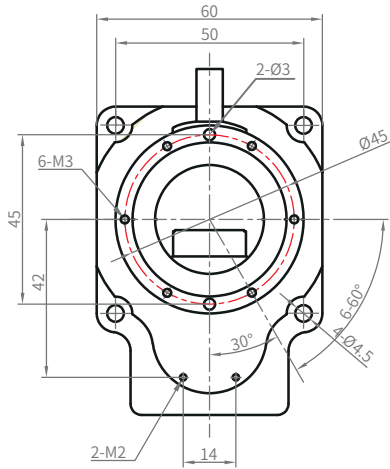


※ Recommended products

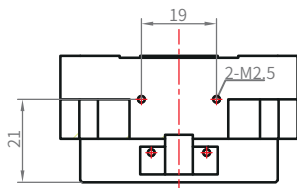
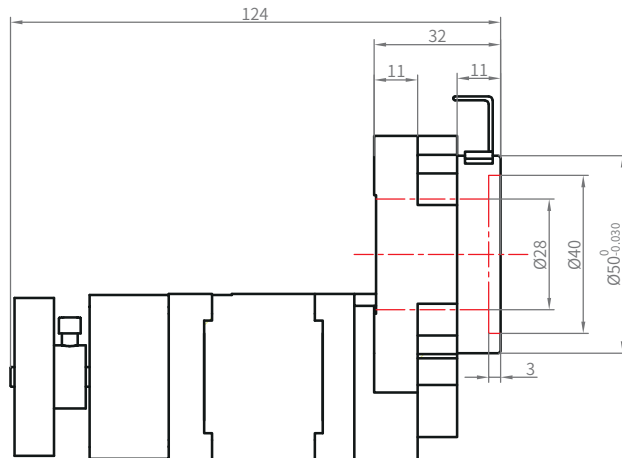
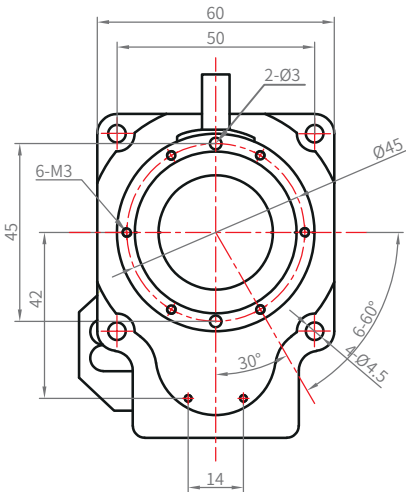
◆ These marked with※ are the commonly used models in stock

Mechanical dimensions (unit: mm)

● YKW60F-10A1

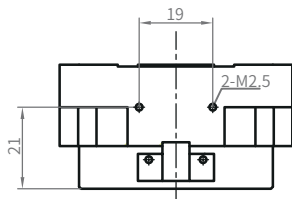
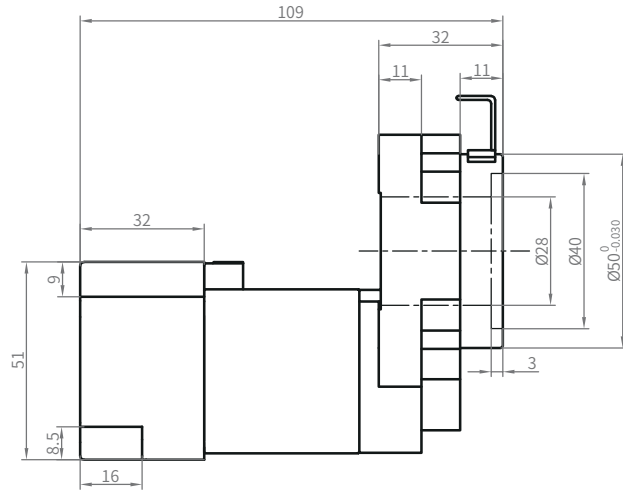
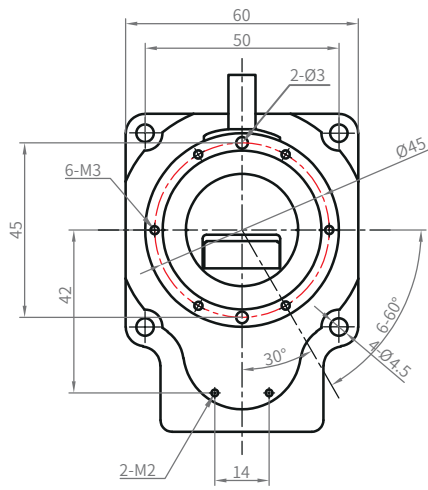


● YKW60F-10A2



Planetary reducer	Straight gear type	Corner straight gear type	Other series
	Hollow rotary platform		
	Two-dimensional rotary module		

● YKW60F-10A3



YKW85 Hollow rotary platform High precision High rigidity High torque Large reduction ratio



Straight gear type
Planetary reducer
Corner straight gear type
Other series
Hollow rotary platform
Two-dimensional rotary module

Reading mode of item name

YKW 85 K - 10 V1

- ① ② ③ ④ ⑤

①	YKW series
②	Specifications: 60 mm, 85 mm, 130 mm and 200 mm
③	K: Rectangular two-stage tooth type; R: Curved two-stage tooth type; P: Direct connection of reducer
④	Reduction ratio: 5, 10, 15, 20
⑤	Motor specification: 200~400W servo motor: V1: $\phi=\phi14$, PCD:=PCD $\phi70$, M=M4
	V3: $\phi=\phi11$, PCD:=PCD $\phi70$, M=M4
	60 Stepper motor: T1: $\phi=\phi8$, PCD:=PCD $\phi66.67$, M=M4
	T2: $\phi=\phi8$, PCD:=PCD $\phi70$, M=M4

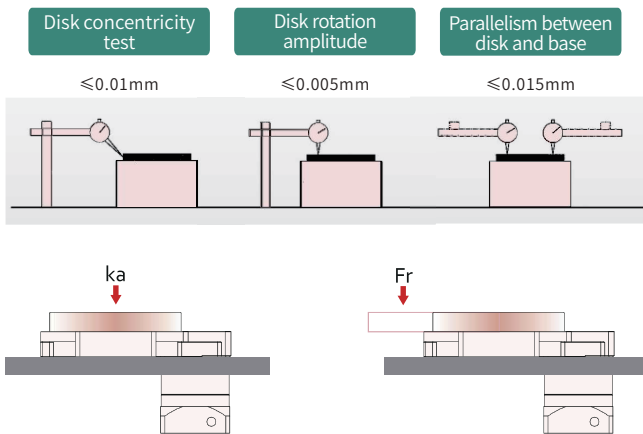
Specification

The hollow shaft rotating platform, a hollow rotating platform, is used for precision positioning driven by the motor or servo and for the hidden installation of wires, lines and other connecting parts through its unique hollow structure; with high rigidity and high reduction ratio, it has high load capacity and can replace the CAM divider and DD motor.

Model /Specification	Allowable torque N•m	Allowable axial load (Ka)kg	Allowable radial force (Fr)N•m	Allowable disk Rotation speed	Reduction ratio i	Positioning accuracy	Repetitive positioning accuracy	Accuracy life (intermittent operation)	IP (Ingress Protection)	Mass kg
YKW85K-5	20	30	20	720°/sec	5	3arc-min	$\leq \pm 15$ arc-sec	≥ 15000	IP40	1.2
※YKW85K-10	10				10					1.2
YKW85K-15	20				15	8arc-min	$\leq \pm 30$ arc-sec			2.5
YKW85R-15	20				15					2.5
YKW85R-20	10				20	2arc-min	$\leq \pm 15$ arc-sec			2.5
YKW85P-20	20				20	5arc-min	$\leq \pm 20$ arc-sec			2.5

*For other parameters, please contact us.

Positioning accuray test

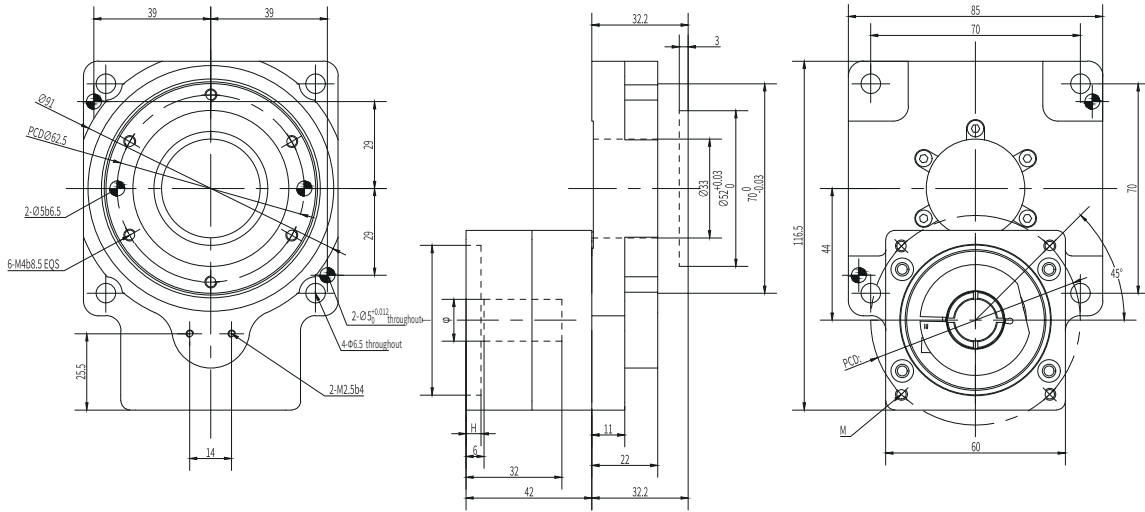


※ Recommended products

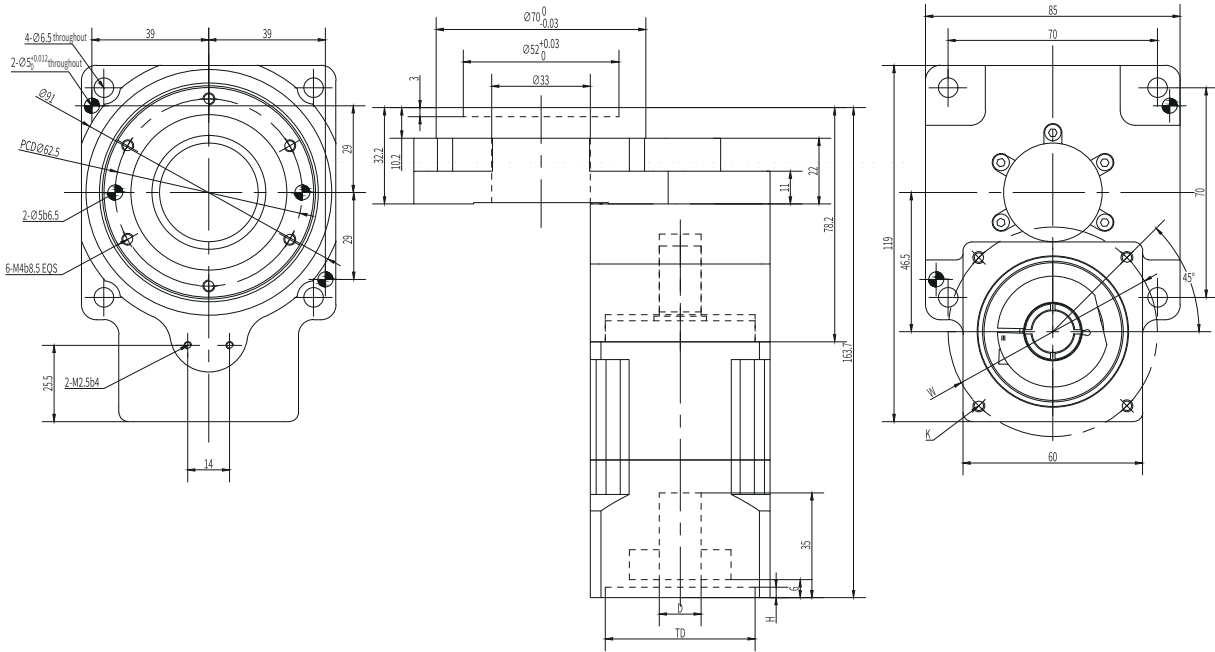
◆ These marked with※ are the commonly used models in stock

Mechanical dimensions (unit: mm)

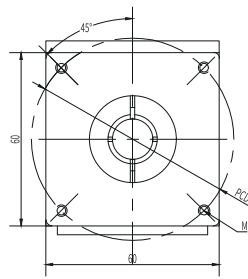
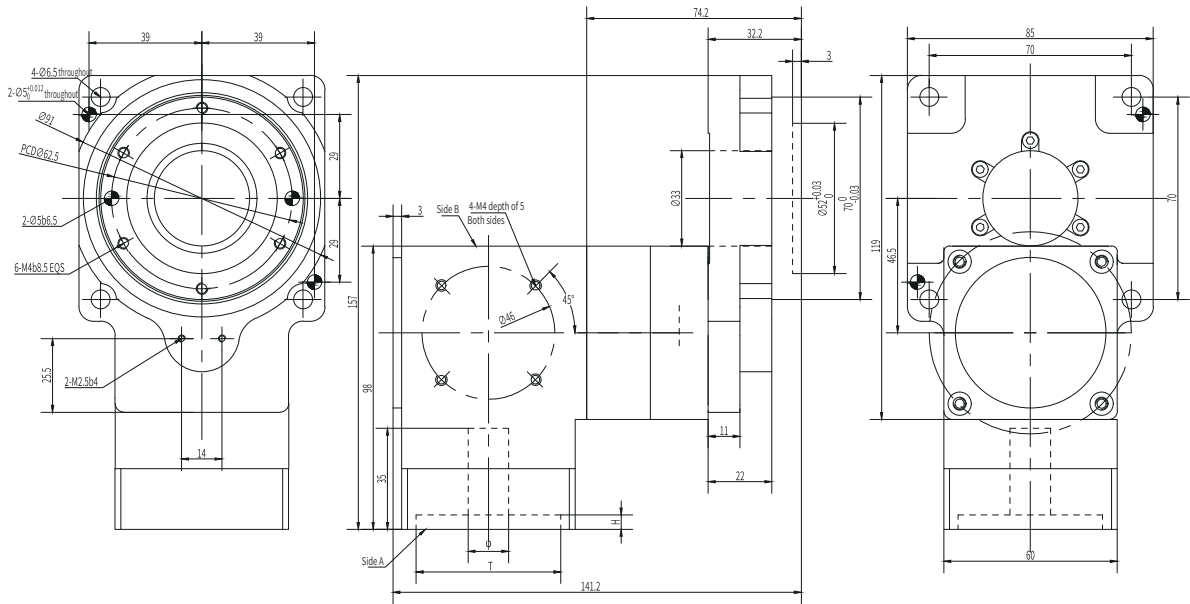
● YKW85K-5/10



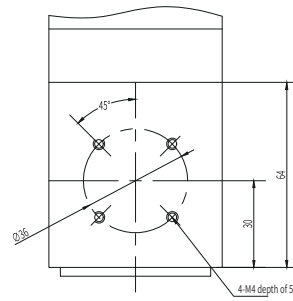
● YKW85K-15/20



● YKW85R-15

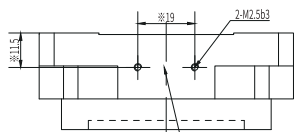
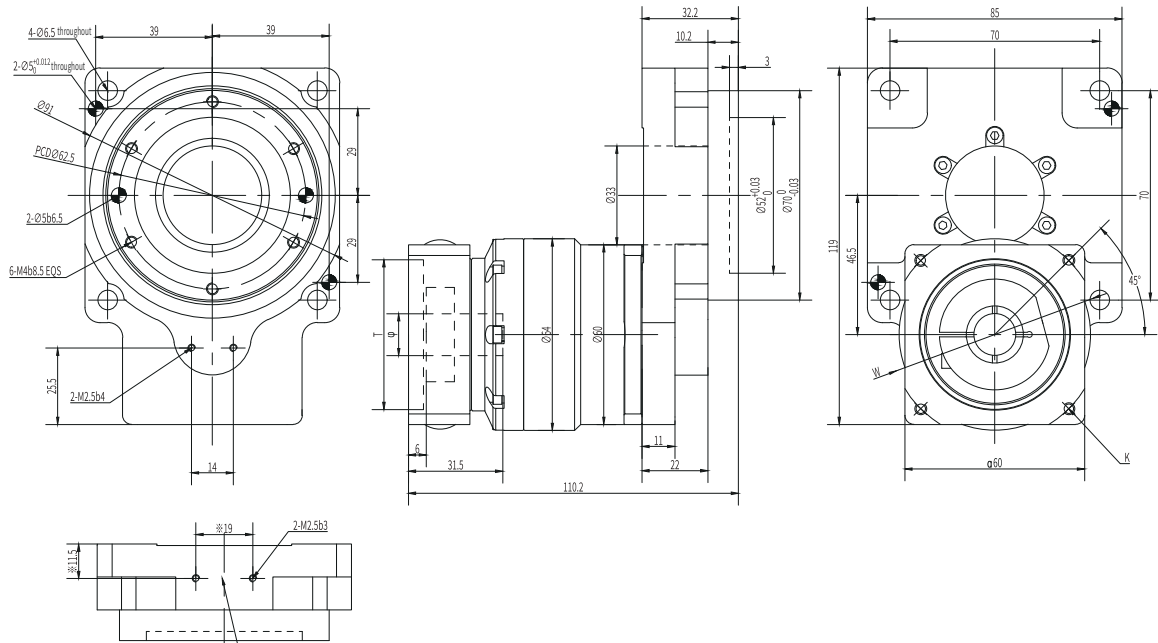


Face A (motor joint face)



Side B

● YKW85P-20



Note:
The mounting screws of the lateral sensor switch must be M2.5*5 or M2.5*6+ flat gaskets, otherwise there may be a risk of poor fixing or damaging to the gear of the reducer!

YKW85F

Hollow rotary platform High precision High rigidity
High torque Large reduction ratio



Reading mode of item name

YKW 85 F - 10 A1

- ① ② ③ ④ ⑤

①	YKW series
②	Specifications: 60 mm and 85 mm
③	K: Rectangular two-stage tooth type; R: Curved two-stage tooth type; P: Direct connection of reducer; F: Direct connection of motor
④	Reduction ratio: 10, 18
⑤	Motor specification: A1: Integrated 42 open-loop stepper motor A2: Integrated 42 increment closed-loop stepper motor A3: Integrated 42 absolute stepper motor

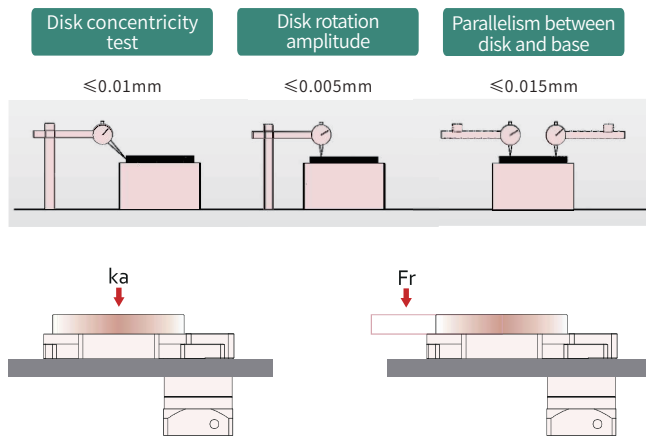
Specification

The hollow shaft rotating platform, a hollow rotating platform, is used for precision positioning driven by the motor or servo and for the hidden installation of wires, lines and other connecting parts through its unique hollow structure; with high rigidity and high reduction ratio, it has high load capacity and can replace the CAM divider and DD motor.

Model /Specification	Allowable torque N•m	Allowable axial load (Ka)kg	Allowable radial force (Fr)N•m	Allowable disk Rotation speed	Reduction ratio i	Positioning accuracy	Repetitive positioning accuracy	Accuracy life (intermittent operation)	IP (Ingress Protection)	Mass kg
※YKW85F-18	8	20	10	720°/sec	18	$\leq \pm 1 \text{arc-min}$	$\leq \pm 10 \text{arc-sec}$	≥ 20000	IP40	1.2

*For other parameters, please contact us.

Positioning accuracy test

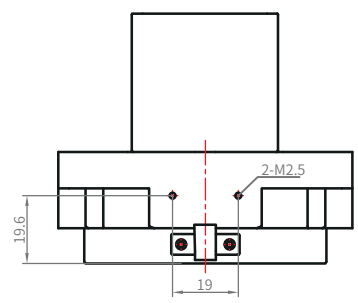
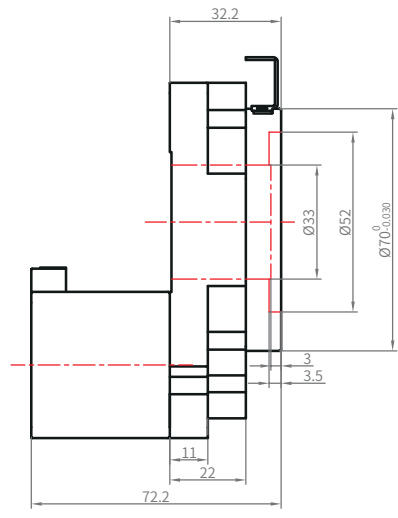
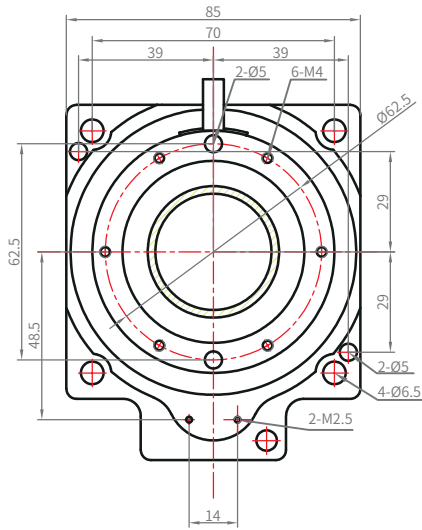


※ Recommended products

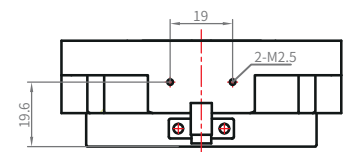
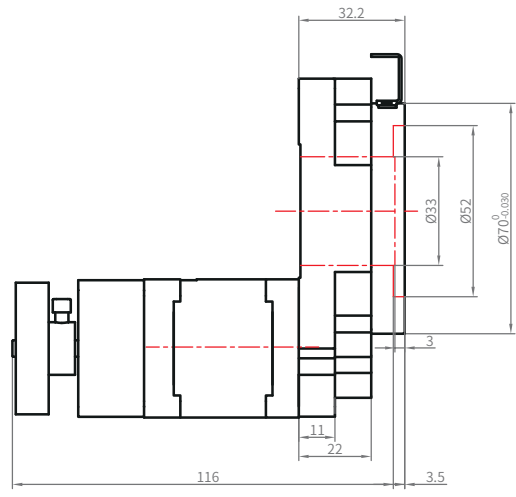
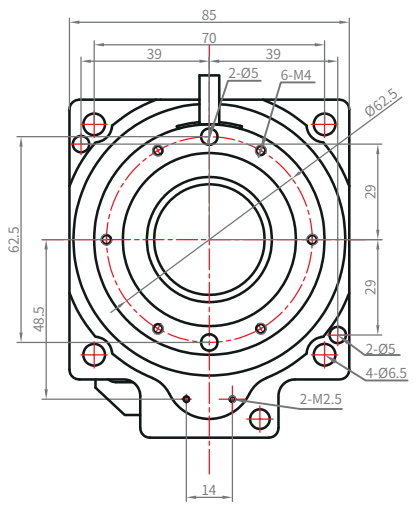
◆ These marked with※ are the commonly used models in stock

Mechanical dimensions (unit: mm)

YKW85F-18A1

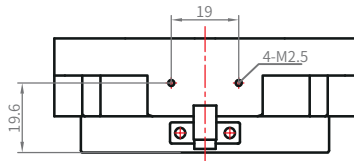
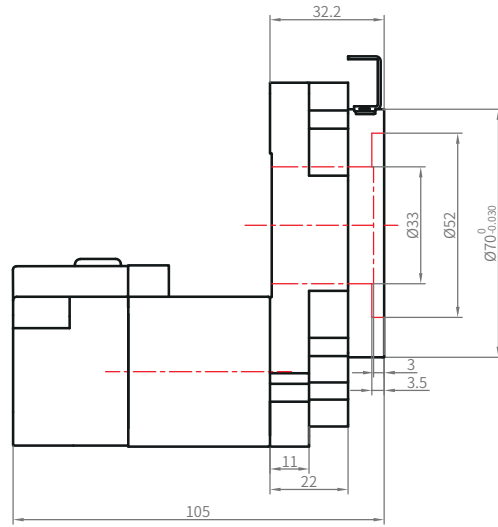
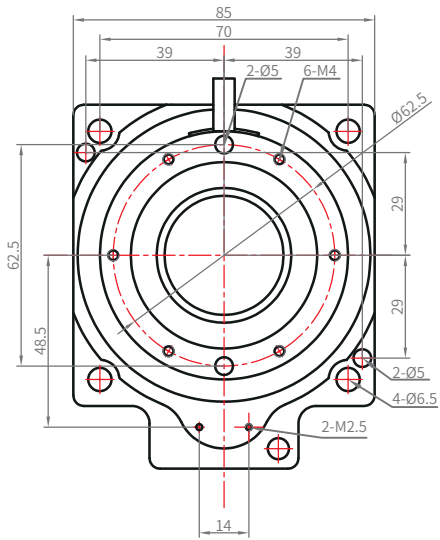


YKW85F-18A2



Straight gear type	Planetary reducer	Corner straight gear type	Other series	Hollow rotary platform	Two-dimensional rotary module
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● YKW85F-18A3



YKW130

Hollow rotary platform High precision High rigidity
High torque Large reduction ratio



Straight gear type
Planetary reducer
Corner straight gear type
Other series
Hollow rotary platform
Two-dimensional rotary module

Reading mode of item name

YKW 130 K - 10 V1

- ① ② ③ ④ ⑤

①	YKW series
②	Specifications: 60 mm, 85 mm, 130 mm and 200 mm
③	K: Rectangular two-stage tooth type; R: Curved two-stage tooth type; T: Direct connection of motor
④	Reduction ratio: 10, 18, 30
⑤	Motor specification: 200~400 W servo motor: V1: $\phi=\phi14, PCD:=PCD\phi70, M=M4$
	V3: $\phi=\phi11, PCD:=PCD\phi70, M=M4$
	60 Stepper motor: T1: $\phi=\phi8, PCD:=PCD\phi66.67, M=M4$
	T2: $\phi=\phi8, PCD:=PCD\phi70, M=M4$

Specification

The hollow shaft rotating platform, a hollow rotating platform, is used for precision positioning driven by the motor or servo and for the hidden installation of wires, lines and other connecting parts through its unique hollow structure; with high rigidity and high reduction ratio, it has high load capacity and can replace the CAM divider and DD motor.

Model /Specification	Allowable torque N•m	Allowable axial load (Ka)kg	Allowable radial force (Fr)N•m	Allowable disk Rotation speed	Reduction ratio i	Positioning accuracy	Repetitive positioning accuracy	Accuracy life (intermittent operation)	IP (Ingress Protection)	Mass kg		
*YKW130K-10	45	100	60	720°/sec	10	3arc-min	$\leq \pm 15\text{arc-sec}$	≥ 15000	IP40	2.8		
*YKW130K-18	20				18					8arc-min	$\leq \pm 30\text{arc-sec}$	2.8
YKW130R-18	20				18							2.8
YKW130K-30	45				30	5arc-min	$\leq \pm 20\text{arc-sec}$			4.2		
YKW130R-30	45				30					4.2		
YKW130P-30	45				30					4.2		

*For other parameters, please contact us.

Positioning accuracy test

Disk concentricity test

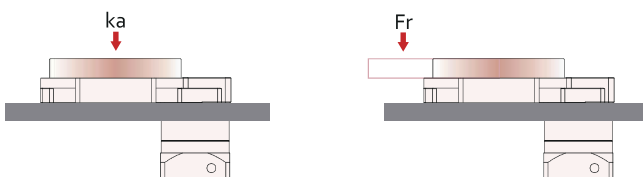
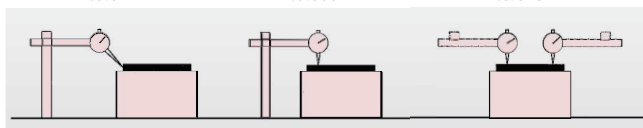
$\leq 0.01\text{mm}$

Disk rotation amplitude

$\leq 0.005\text{mm}$

Parallelism between disk and base

$\leq 0.015\text{mm}$

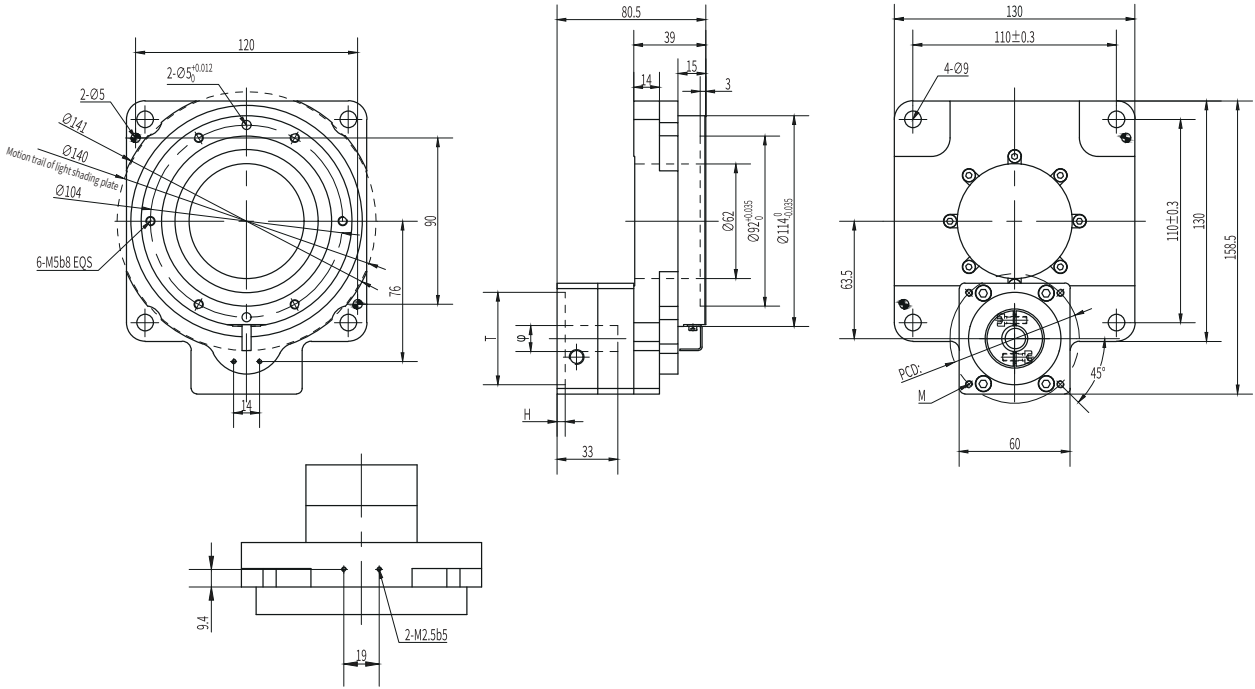


※ Recommended products

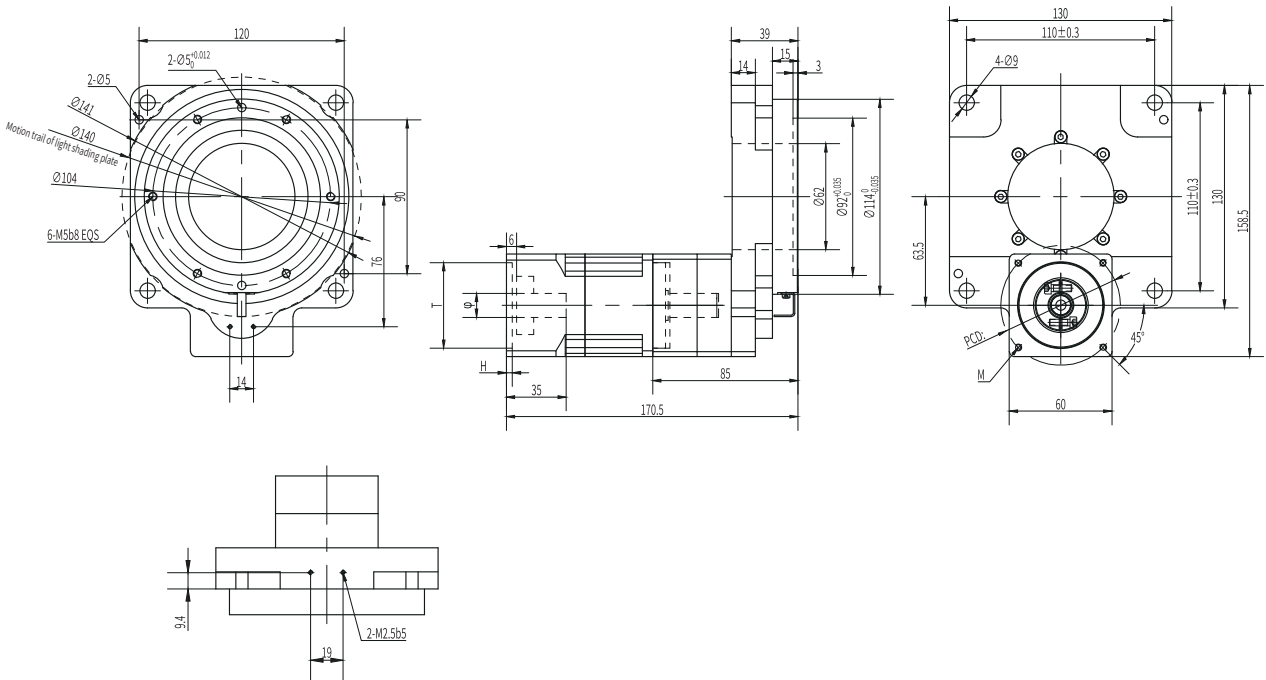
◆ These marked with※ are the commonly used models in stock

Mechanical dimensions (unit: mm)

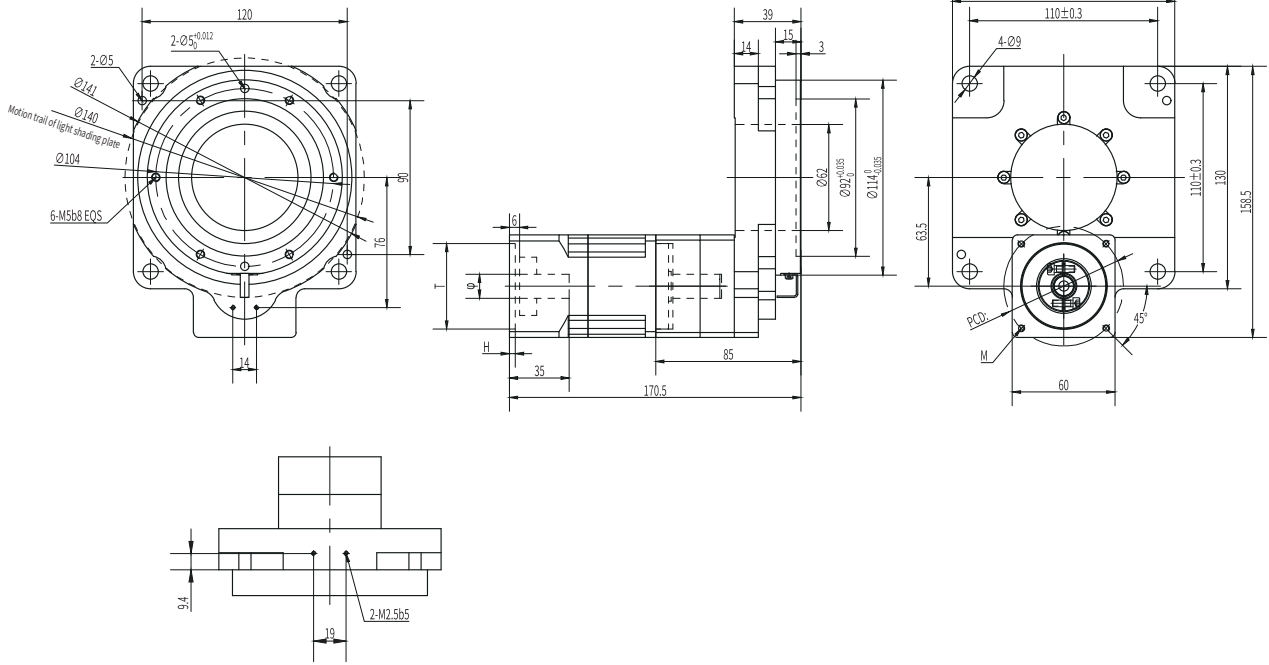
YKW130K-10/18



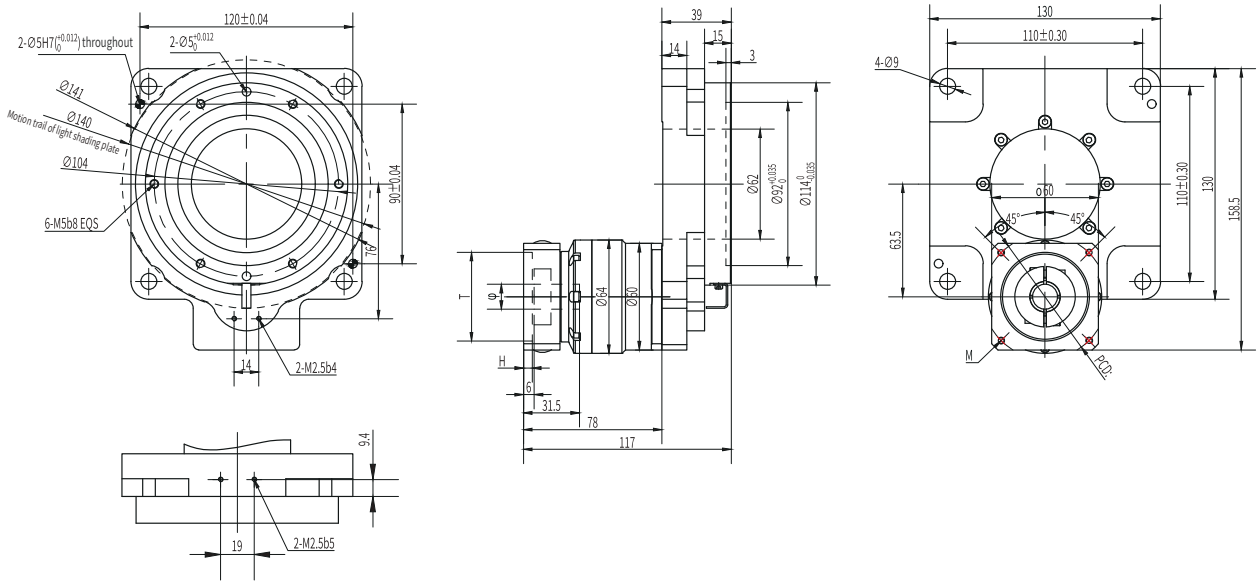
YKW130K-30



● YKW130R-10/30



● YKW130P-30



Straight gear type

Planetary reducer

Corner straight gear type

Other series

Hollow rotary platform

Two-dimensional rotary module

YKW200

Hollow rotary platform High precision High rigidity
High torque Large reduction ratio



Reading mode of item name

YKW 200 K - 10 V1

- ① ② ③ ④ ⑤

①	YKW series
②	Specifications: 60 mm, 85 mm, 130 mm and 200 mm
③	K: Rectangular two-stage tooth type; R: Curved two-stage tooth type
④	Reduction ratio: 10, 18, 30
⑤	Motor specification: 750 W servo motor: V1: $\phi=\phi19$, PCD:=PCD $\phi90$, M=M5 86 Stepper motor: T1: $\phi=\phi14$, PCD:=PCD $\phi98.4$, M=M4

Specification

The hollow shaft rotating platform, a hollow rotating platform, is used for precision positioning driven by the motor or servo and for the hidden installation of wires, lines and other connecting parts through its unique hollow structure; with high rigidity and high reduction ratio, it has high load capacity and can replace the CAM divider and DD motor.

Model /Specification	Allowable torque N·m	Allowable axial load (Ka)kg	Allowable radial force (Fr)N·m	Allowable disk Rotation speed	Reduction ratio i	Positioning accuracy	Repetitive positioning accuracy	Accuracy life (intermittent operation)	IP (Ingress Protection)	Mass kg
YKW200K-10	80	200	80	720°/sec	10	3arc-min	$\leq \pm 15$ arc-sec	≥ 15000	IP40	9.6
YKW200K-18	50				18					9.6
YKW200K-30	80				30	8arc-min	$\leq \pm 30$ arc-sec			15
YKW200R-30	80				30					15
YKW200P-30	80				30	5arc-min	$\leq \pm 20$ arc-sec			≥ 20000

*For other parameters, please contact us.

Positioning accuracy test

Disk concentricity test

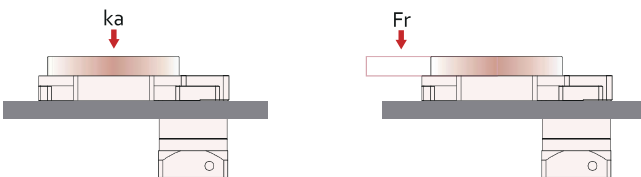
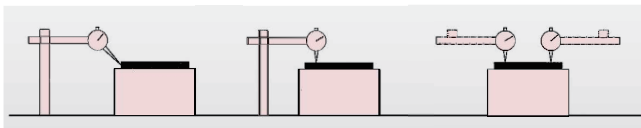
≤ 0.01 mm

Disk rotation amplitude

≤ 0.005 mm

Parallelism between disk and base

≤ 0.015 mm

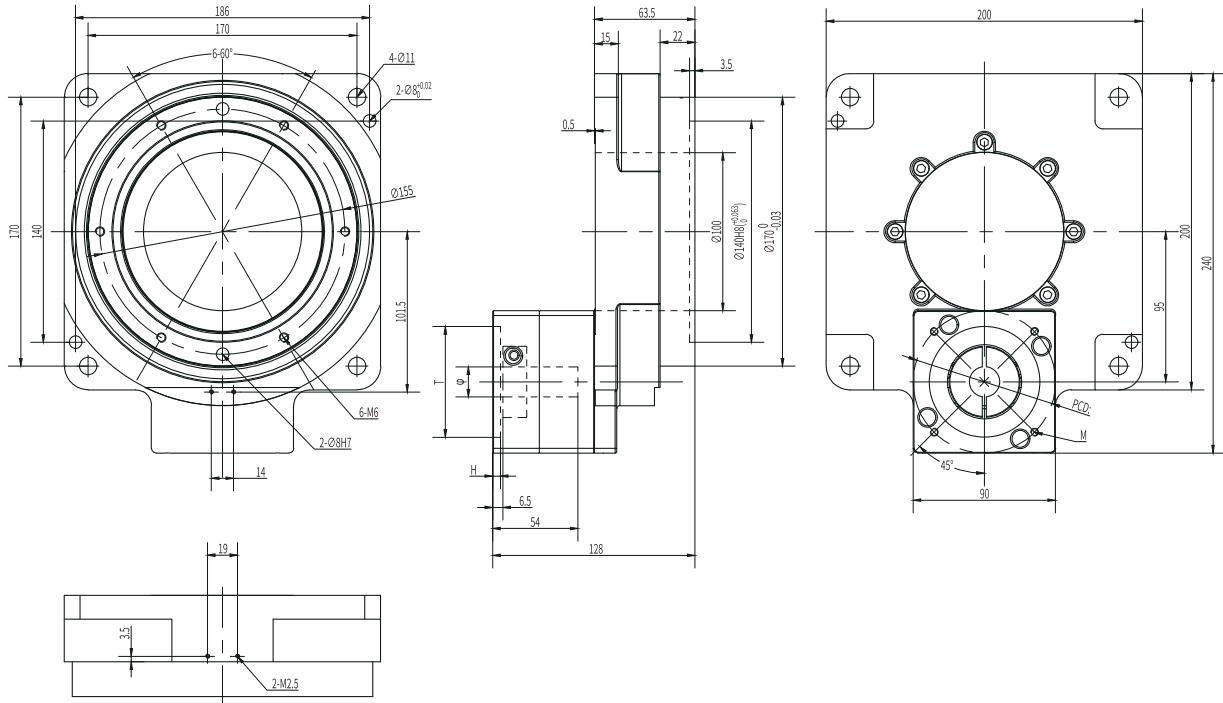


※ Recommended products

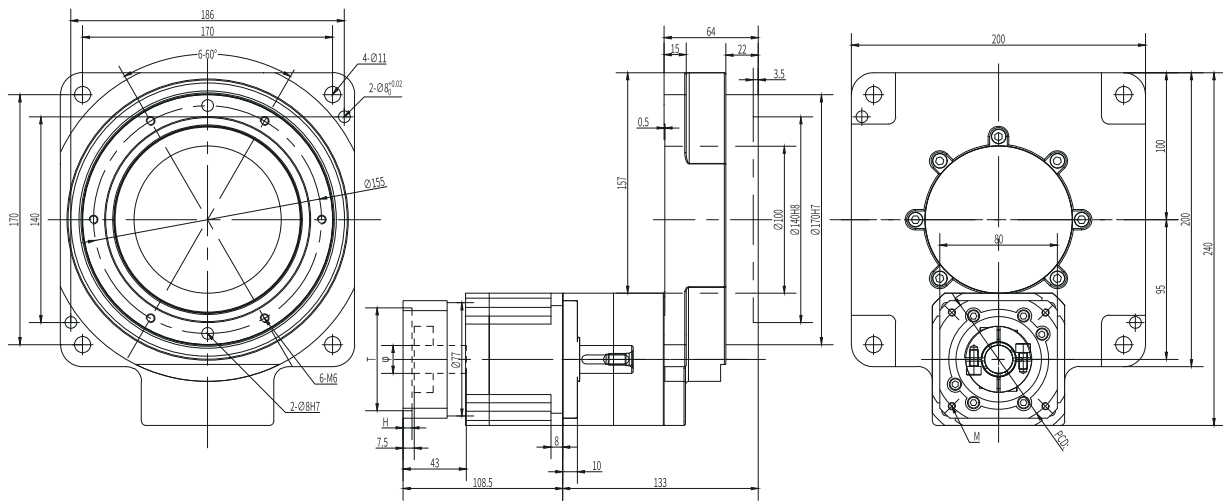
◆ These marked with※ are the commonly used models in stock

Mechanical dimensions (unit: mm)

● YKW200K-10/18

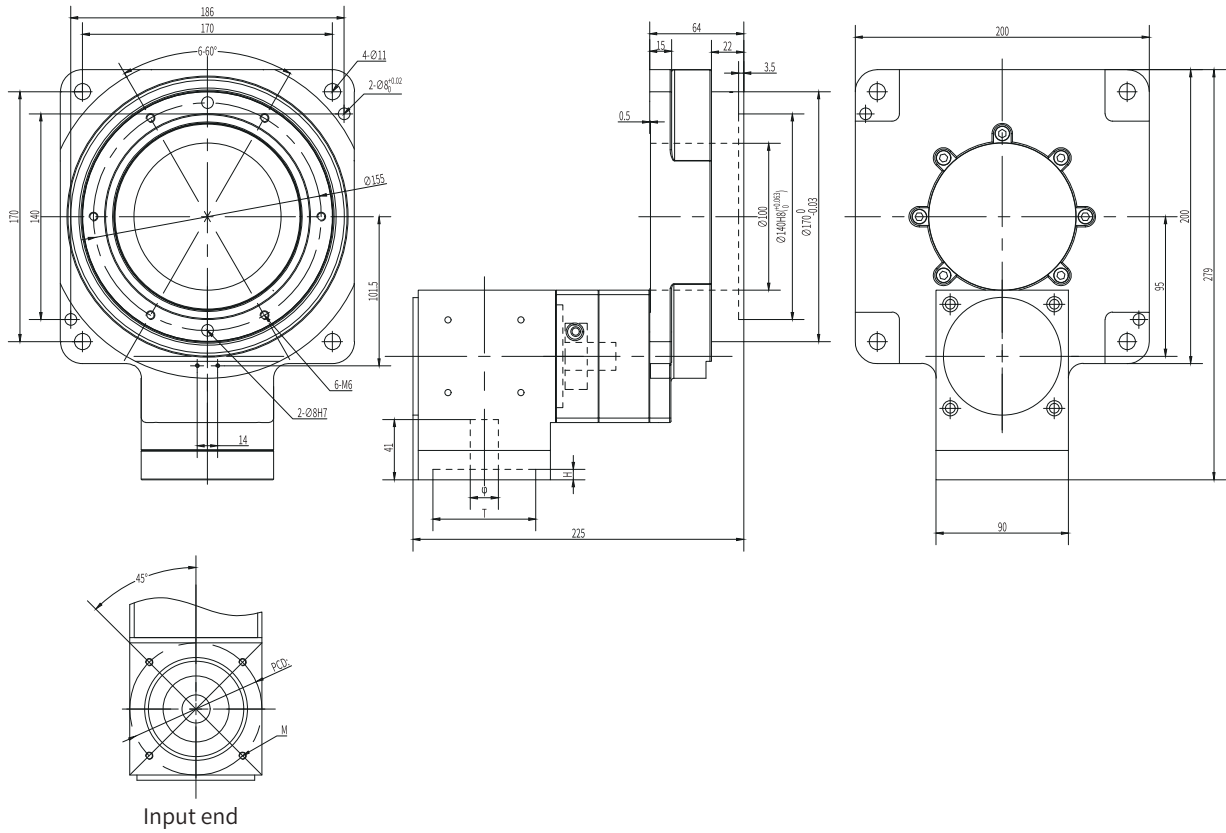


● YKW200K-30

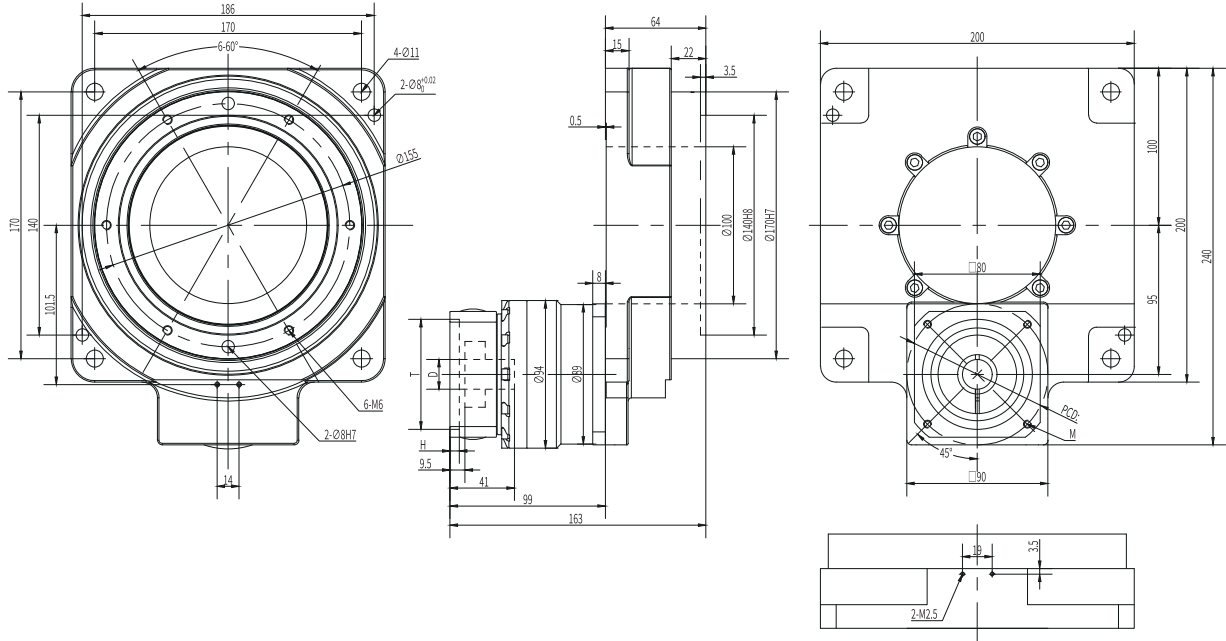


Straight gear type	Planetary reducer	Other series	Hollow rotary platform	Two-dimensional rotary module
Corner straight gear type				

● YKW200R-10/30



● YKW200P-30



YKW280

Hollow rotary platform High precision High rigidity
High torque Large reduction ratio

Reading mode of item name

YKW 280 K - 10 V1

①	YKW series
②	Specification: 280 mm
③	K: Rectangular two-stage tooth type
④	Reduction ratio: 1050
⑤	Motor specification: 1000~1500 W servo motor: V1: $\phi=\phi22$, PCD:=PCD $\phi145$, M=M8 V2: $\phi=\phi24$, PCD:=PCD $\phi145$, M=M8

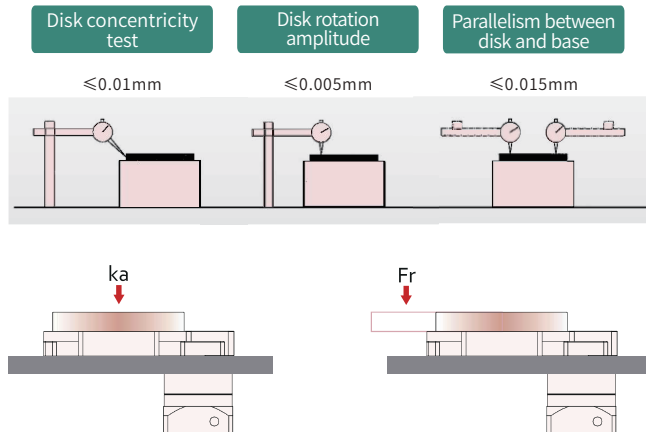
Specification

The hollow shaft rotating platform, a hollow rotating platform, is used for precision positioning driven by the motor or servo and for the hidden installation of wires, lines and other connecting parts through its unique hollow structure; with high rigidity and high reduction ratio, it has high load capacity and can replace the CAM divider and DD motor.

Model /Specification	Allowable torque N·m	Allowable axial load (Ka)kg	Allowable radial force (Fr)N·m	Allowable disk Rotation speed	Reduction ratio i	Positioning accuracy	Repetitive positioning accuracy	Accuracy life (intermittent operation)	IP (Ingress Protection)	Mass kg
YKW280K-10	180	1000	500	720°/sec	10	3arc-min	$\leq \pm 15$ arc-sec	≥ 15000	IP40	17
YKW280K-50	180				50	5arc-min	$\leq \pm 30$ arc-sec			25

*For other parameters, please contact us.

Positioning accuracy test



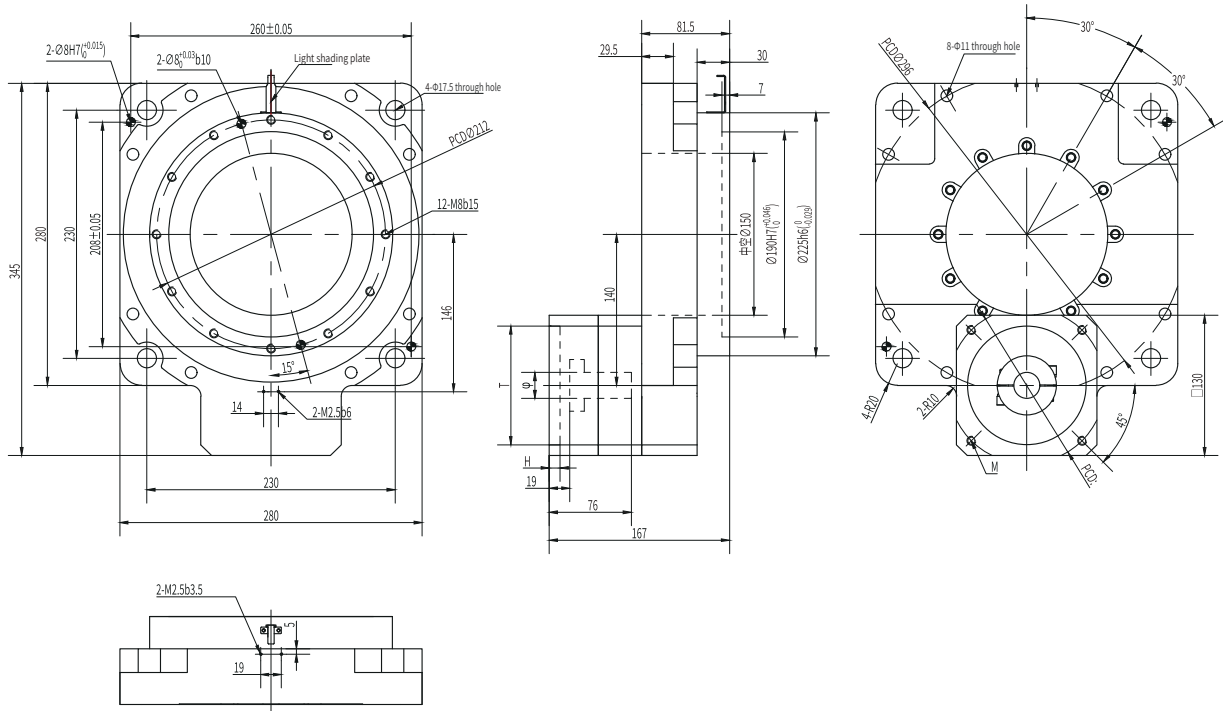
※ Recommended products

◆ These marked with※ are the commonly used models in stock

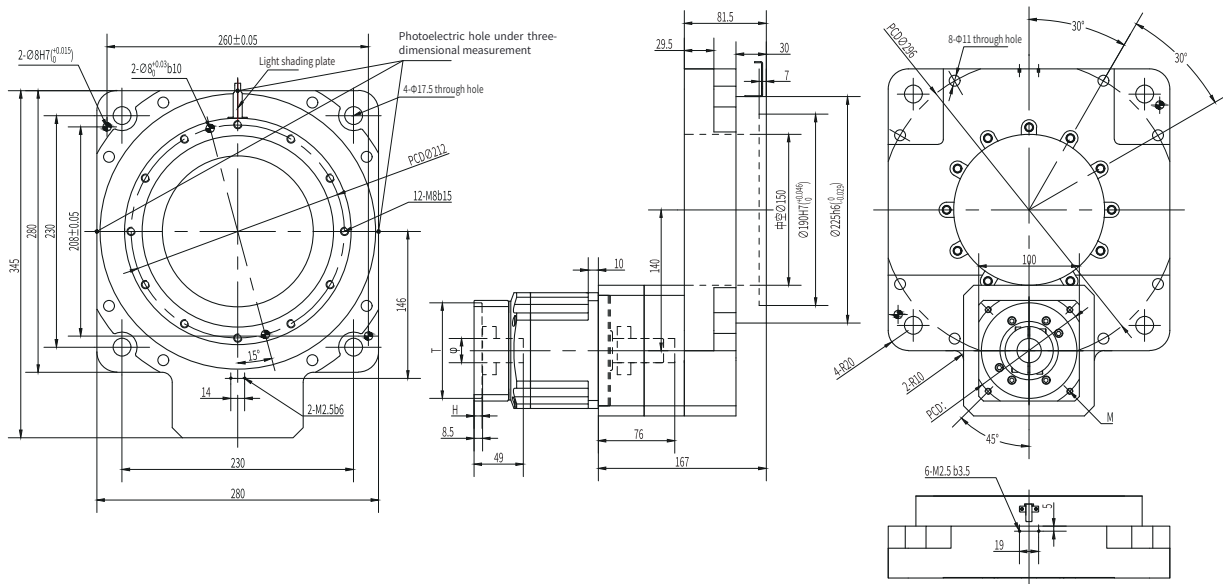
Straight gear type
 Planetary reducer
 Corner straight gear type
 Other series
 Hollow rotary platform
 Two-dimensional rotary module

Mechanical dimensions (unit: mm)

YKW280K-10



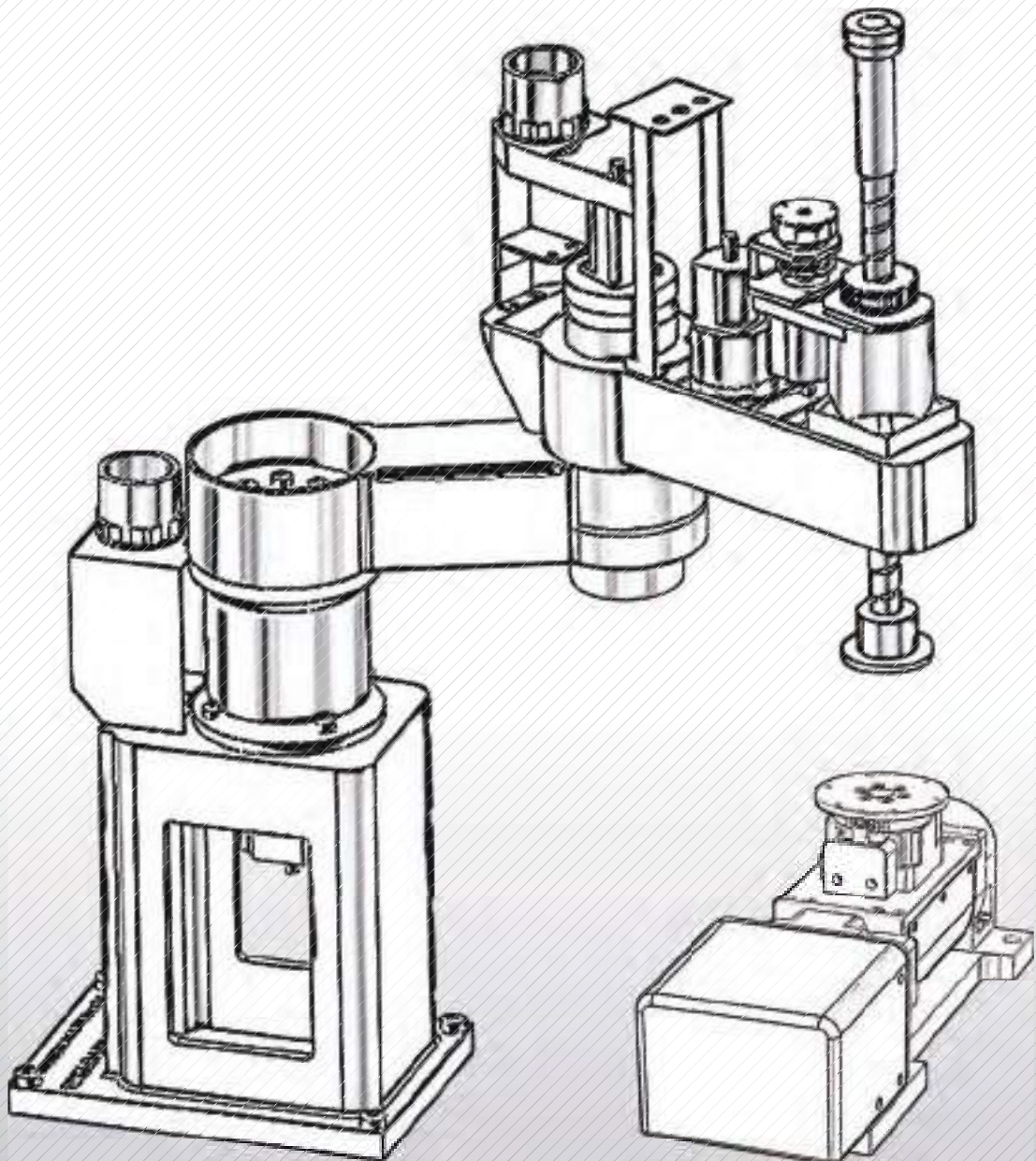
YKW280K-50



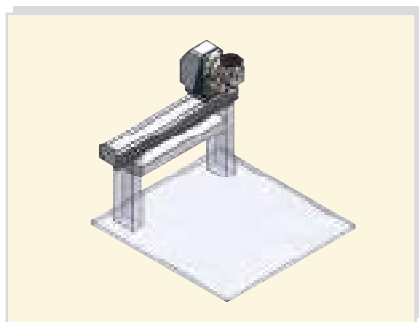
For 5 Axis More easier

New 3D solution *v.s* New options of non-plane motion

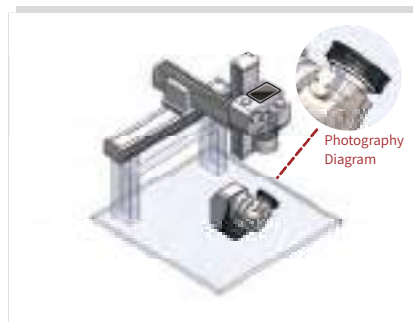
One axial rotational motion is the motion of an arc
Two axial rotational motions simultaneously are a spherical rotation
This is the polar coordinate motion and has the motion mode of robot
YKDR is developed on this basis



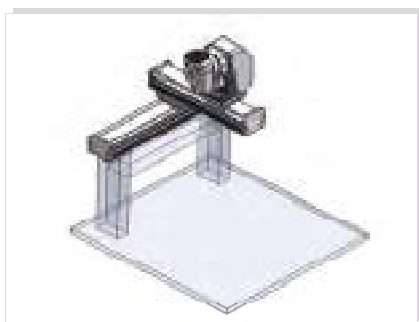
Options of high accuracy·3D trajectory



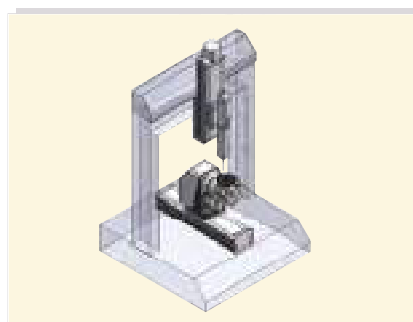
Three-axis application (A+B+X)



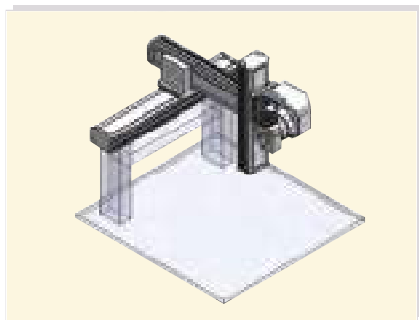
YKDF linear module: For 3D test



Four-axis application (A+B+X+Y)



YKDF linear module: For 3D pasting and gluing



Five-axis application (A+B+X+Y+Z)



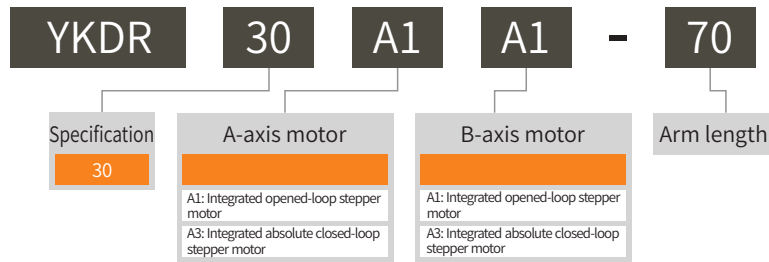
YKDE linear module: Laser processing multi-face flip, engraving, cutting, 3D test...

YKDR 30 A1 A1 - 70

Axis A and B of two-dimensional rotary module: accurate and multiple function



Reading mode of item name



Specification

- New 3D solution & new options of non-plane motion: One axial rotational motion is the motion of an arc and two axial rotational motions simultaneously are a spherical rotation; it belongs to the polar coordinate motion and has the motion mode of robot; YKDR is developed on this basis.

Model /Specification		YKDR 30
Allowable torque	N · m	5
Allowable load	kg	3
Rotation angle	A-axis	±180°
	B-axis	360°
Rotation accuracy	A-axis	1-3arc-min
	B-axis	1-3arc-min
Repetitive positioning accuracy	A-axis	≤ ±15arc-sec
	B-axis	≤ ±15arc-sec
Maximum radius of rotation	mm	77
Two-dimensional concentricity	mm	±0.02
Two-dimensional parallelism	mm	±0.02
Disk rotation amplitude		±0.005
Reduction ratio i	A-axis	1:18
	B-axis	1:10
Allowable rotating speed		1080°/sec
IP		IP40
Motor	A轴	42 stepper motor
	B轴	42 stepper motor
Mass	kg	3

Straight gear type

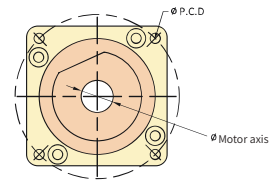
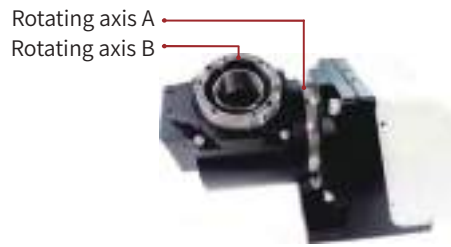
Planetary reducer
Corner straight gear type

Other series

Hollow rotary platform

Two-dimensional rotary module

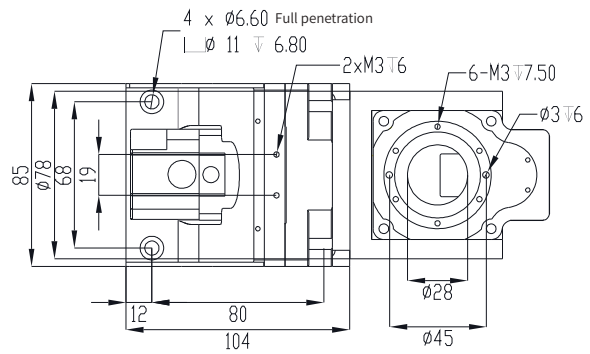
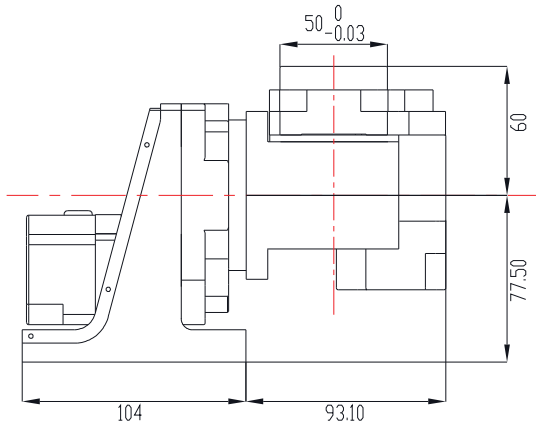
Product Structure Diagram



Motor Flange Diagram

Mechanical dimensions (unit: mm)

YKDR 30

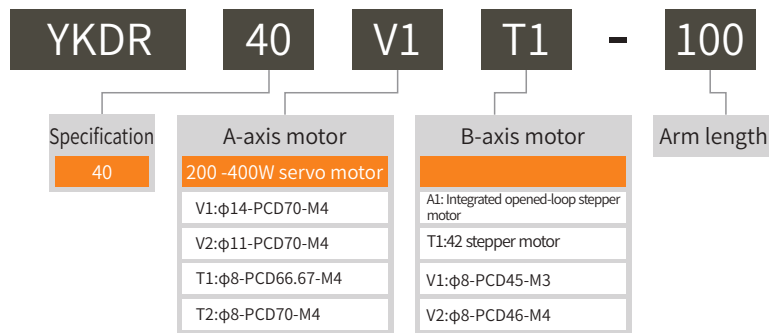


YKDR 40 V1 T1 - 100

Axis A and B of two-dimensional rotary module Precise Multi-function



Reading mode of item name



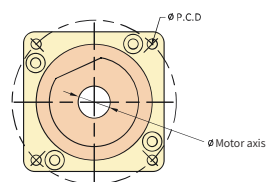
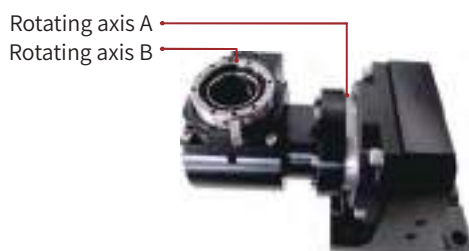
Specification

- New 3D solution & new options of non-plane motion: One axial rotational motion is the motion of an arc and two axial rotational motions simultaneously are a spherical rotation; it belongs to the polar coordinate motion and has the motion mode of robot; YKDR is developed on this basis.

Model /Specification		YKDR 40
Allowable torque	N · m	6
Allowable load	kg	3
Rotation angle	A-axis	±180°
	B-axis	360°
Rotation accuracy	A-axis	1-3arc-min
	B-axis	1-3arc-min
Repetitive positioning accuracy	A-axis	≤±15arc-sec
	B-axis	≤±15arc-sec
Maximum radius of rotation	mm	90
Two-dimensional concentricity	mm	±0.02
Two-dimensional parallelism	mm	±0.02
Disk rotation amplitude		±0.005
Reduction ratio i	A-axis	1:10
	B-axis	Stepper motor 1: 10
Allowable rotating speed		1080°/sec
IP		IP40
Motor	A-axis	56/ 60 stepper motor or 200 W~400 W servo motor
	B-axis	42 stepper motor or 100 W servo motor
Mass	kg	4.5

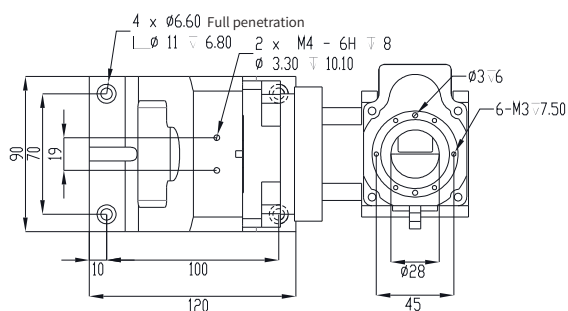
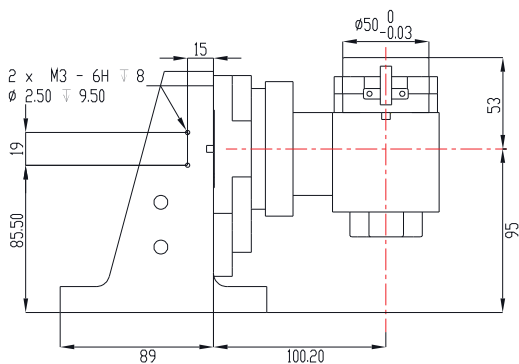
Straight gear type
 Planetary reducer
 Corner straight gear type
 Other series
 Hollow rotary platform
 Two-dimensional rotary module

Product Structure Diagram



Mechanical dimensions (unit: mm)

● YKDR 40□□-100

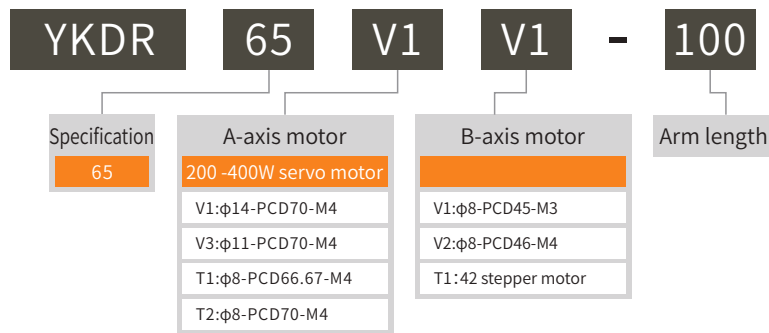


YKDR 65 V1 V1 - 100

Axis A and B of two-dimensional rotary module
Accurate, multi-function



Reading mode of item name



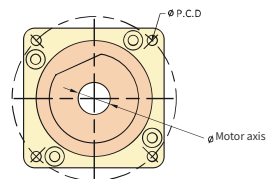
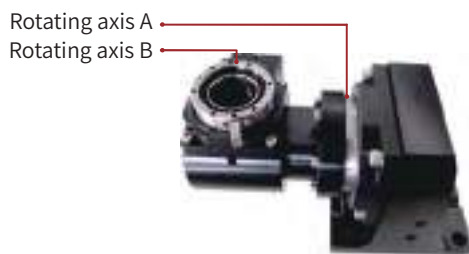
Specification

- New 3D solution & new options of non-plane motion: One axial rotational motion is the motion of an arc and two axial rotational motions simultaneously are a spherical rotation; it belongs to the polar coordinate motion and has the motion mode of robot; YKDR is developed on this basis.

Model /Specification		YKDR 65
Allowable torque	N · m	6
Allowable load	kg	5
Rotation angle	A-axis	±180°
	B-axis	360°
Rotation accuracy	A-axis	1-3arc-min
	B-axis	1-3arc-min
Repetitive positioning accuracy	A-axis	≤±15arc-sec
	B-axis	≤±15arc-sec
Maximum radius of rotation	mm	150
Two-dimensional concentricity	mm	±0.02
Two-dimensional parallelism	mm	±0.02
Disk rotation amplitude		±0.005
Reduction ratio	A-axis	1:10
	B-axis	Stepper motor 1: 10
Allowable rotating speed		1080°/sec
IP		IP40
Motor	A-axis	56/ 60 stepper motor or 200 W~400 W servo motor
	B-axis	42 stepper motor or 100 W servo motor
Mass	kg	5.5

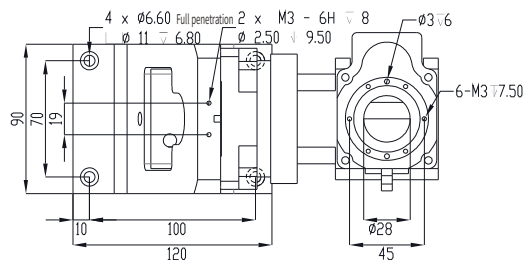
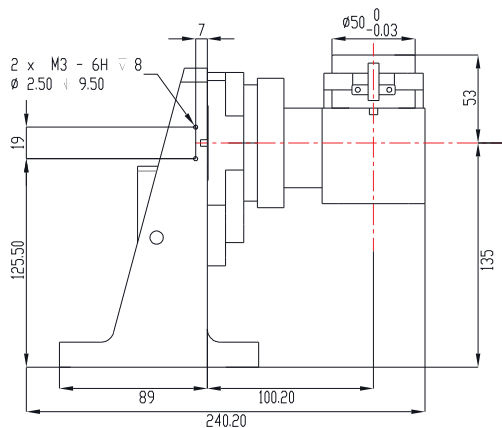
Straight gear type
 Planetary reducer
 Corner straight gear type
 Other series
 Hollow rotary platform
 Two-dimensional rotary module

Product Structure Diagram

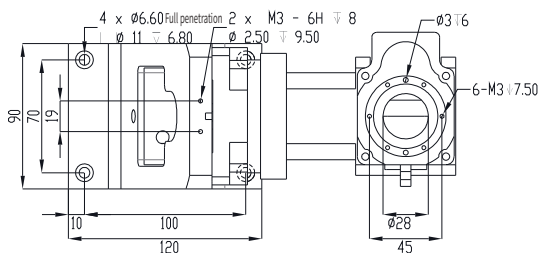
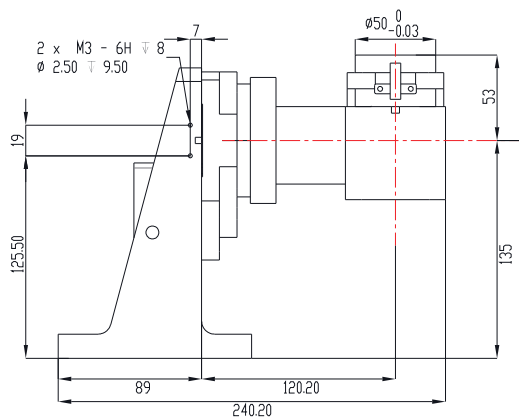


Mechanical dimensions (unit: mm)

YKDR 65□□-100



YKDR 65□□-120



Type selection of stepper motor

Type selection of stepper motor

Lead screw

$$M_f = (1/\eta + \mu_0/3) F P_B / (2\pi)$$

$$F = F_A + m g (\sin\alpha + \mu \cos\alpha)$$

$$J_t = 1/2 * m_a R^2 + m (P_B / (2\pi))^2$$

M_f : On-load running torque (N.m)

F_A : Load force (N)

P_B : Lead screw pitch (m/rev)

α : 0 when the lead screw is horizontal, and 90 when vertical

η : Efficiency (0.9); μ : friction coefficient of sliding surface (0.05)

μ_0 : Internal friction coefficient of prepressed nut (0.2-0.3)

m : Gross mass of load (kg)

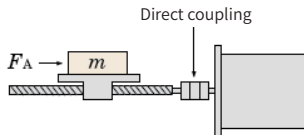
J_t : Load moment of inertia (kg.m²)

m_a : lead screw mass (kg)

R : Radius of lead screw (m)

m : Gross mass of moving load (kg)

P_B : Lead screw pitch (m/rev)



Synchronous wheel /synchronous belt drive mechanism

$$M_f = F D / (2\eta i)$$

$$F = F_A + m g (\sin\alpha + \mu \cos\alpha)$$

$$J_t = m (A / (2\pi))^2$$

M_f : On-load running torque (N.m)

F_A : Load force (N)

D : Diameter of end roller (m)

i : reduction ratio (refers to the reduction ratio of machine, other than motor reduction ratio)

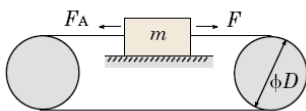
α : 0 for horizontal state, and 90 for vertical state

η : Efficiency (0.9); μ : friction coefficient of sliding surface

m : Gross mass of load (kg)

J_t : Load moment of inertia (kg.m²)

A : Amount of movement produced by one turn of motor under load



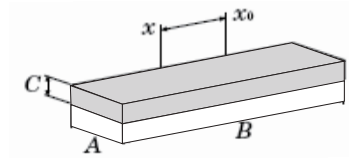
Rectangular mechanism

$$J_t = 1/12 m (A^2 + B^2) + m l^2$$

XO-axis is the center of gravity of object;

X-axis is rotation axis

l = Distance between X-axis and XO-axis



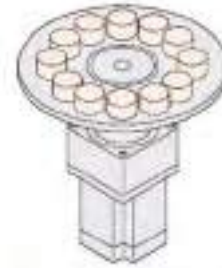
Disk mechanism

$$J_t = 1/2 * m R^2$$

J_t : Load moment of inertia (kg.m²)

m : Gross mass of load (kg)

R : Radius of rotating mechanism



Calculation of accelerated moment

$$M_a = 2 (J_m + J_t) \times \pi \times V / t$$

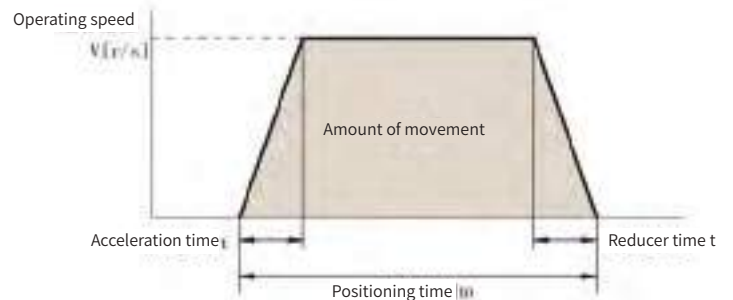
M_a : On-load accelerated moment (N.m)

J_m : Moment of inertia of motor rotor (kg.m²)

J_t : Load moment of inertia (kg.m²)

V : Movement target speed (rps)

t : Acceleration time (s)



Glossary of terms

● Holding torque

The torque of the stator locking the rotor when the stepper motor is powered on

● CW, CCW

Rotation directions of motor. CW: Clockwise (forward) viewed from the output axis, CCW: counterclockwise (reversal)

● Regeneration

Rotating state of motor under the action of force or generating power through rotation of motor under the action of force

● Angle accuracy

In general, it refers to the difference between the rotation angle of motor and its theoretical value; its expression methods depend on basis. The angle accuracy of stepper motor generally depends on the static angle error

● Angle transmission error

In general, angle transmission error refers to the difference between the theoretical operating angle of the output shaft calculated by the number of input pulses and the actual operating angle when the reducer mechanism is used. It is used to express the accuracy of reducer

● Inertia load

The holding force of an object maintaining its current state of motion. Every body has an inertia load. The large torque is required for acceleration and deceleration at the large inertia load. The torque is directly proportional to the acceleration calculated from the inertia load and the speed and acceleration time

● Step angle

The minimum mechanical angle inherent of the stepper motor, generally 1.8°, 0.9°, 1.2°, 0.72°, independent of the drive

● Resonance

The large vibration in a specific velocity range. It is caused by the natural vibrations of the motor and the mechanism and the vibration during work. The 2-phase stepper motor has a great resonance range at 0.5-1 RPM

● Static angle error

Refers to the difference between the theoretical and actual stop positions of the motor. This difference represents the amplitude between (+) maximum and (-) maximum with the arbitrary stop position of the rotor as a starting point, measured at each step, a total of 360°. When the stepper motor is not loaded, the angle accuracy will be maintained within 3" (0.05°). The small angle errors are mainly caused by the mechanical accuracies of the rotor and stator and the small resistance of the stator coil

● Level of insulation: B

The performance and life of motor are not affected when the maximum internal rated operating temperature of the stepper motor is 130°C, and the surface temperature of the motor is less than 100 °C

● Out-of-step

Although the stepper motor can rotate synchronously with the pulse, it may fail to synchronize with the pulse due to rapid speed changes or excessive load, such state out of sync with the pulse is called out-of-step. After the motor correctly selected and normally driven shall be not out of step suddenly, it can be considered as servo motor overload

● Twisted-pair cable

A signal line, used to prevent interference. The twisted-pair cable has the two currents with same current value but in the opposite direction so that the interference of environmental intrusion is offset, therefore, it is anti-interference

● Tsubdivision

The step angle is subdivided through the control of the current flowing into the motor coil to achieve a small high-resolution technical step angle, therefore, no vibration will be generated by the stepper drive and the reducer runs at low vibration and low noise

● Backlash

the gap on the reducer or shaft coupling. The range of backlash angle is uncontrollable, and the smaller the backlash is, the easier it is to perform high-precision control. The educer backlash is generally 0.15-1°

● Pulse input mode

The operation direction of CW and CCW is controlled according to pulse command. There are single-pulse and double-pulse input modes. The single-pulse input is based on the pulse signal and the running direction signal. The double-pulse input refers to CW pulse input in the CW direction and CCW pulse input in the CCW direction

● Descending

Down running refers to driving the load from the top down. Because the motor may be driven due to the action of gravity, when the servo motor is used, it may act as a generator, which may do damage to the drive, so a regenerating unit is required. Because the stepper motor rotates synchronously with the pulse, its speed may be controlled during descending

● Excitation origin

Refers to the initial state of the excitation procedure. The 2-phase stepper motor will reach the initial state every 7.2° rotation

● Excitation procedure

The coil of the stepper motor rotates when the current flows into the motor coil according to the determined combination and sequence. The sequence in which current flows into a motor coil is called the excitation procedure.

● Inertia ratio

The ratio of load moment of inertia to motor rotor's moment of inertia; the ratio shall not exceed 10:1 during model selection. If the load inertia is large, the load moment of inertia can be reduced by the reducer; for example, 3:1 reducer, such reducer can reduce the load inertia to one ninth of the original value

Kaifull Electronics Technology

Micro Electric Sliding Table Series

Custom solutions with multiple application specifications, such as 28 mm, 35 mm and 42 mm



Micro electric sliding table

I . High product accuracy

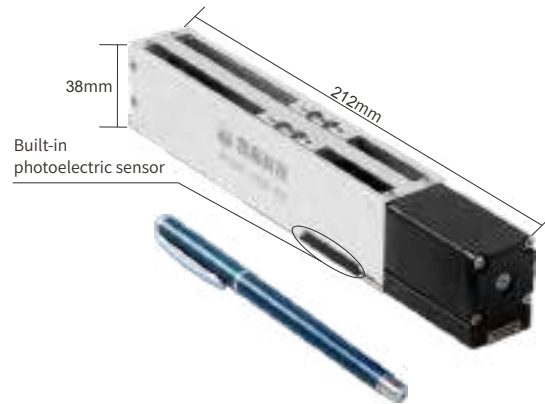
The repetitive positioning accuracy of the slide table is ± 0.005 mm, which is far higher than the accuracy of ± 0.05 - 0.1 mm of the products in the same industry.



Positioning accuracy: ± 0.005 mm

II . Compact size

Built-in photoelectric sensor, smaller, space-saving.



III. "Zero" interference

Forward-looking design, integrated port with lines leading out from one port, no interference from all lines and magnetic field.



VI. Multiple applicaiton specifications

A variety of application specifications, optional dust-proof design, open/closed loop control, absolute value, integrated drive control, brake and other customized solutions. A variety of application specifications, optional dust-proof design, open/closed loop control, absolute value, integrated drive control, brake and other customized solutions.

• Hybrid stepper motor



• Dust-proof design



• Closed-loop stepper motor



• Integrated stepper motor



• Absolute stepper motor



Reading method of Specification

Take the specification of electric sliding table for example to introduce the reading method of the Specification.

Specification of electric sliding table

① Step angle		1.8°
② Number of phases		2
③ Insulation resistance		100M Ω MIN(500V DC)
④ Class of insulation		Class B/ winding
⑤ Driving voltage	VDC	24V DC
⑥ Rated current	A	1A
⑦ Resistance		5.2Ω
⑧ Inductor	mH	4.3mH
⑨ Stroke	mm	50mm
⑩ Lead	mm	1mm
⑪ Type of lead screw		Ball leadscrew
⑫ Precision class		C5
⑬ Output thrust	N	20N at 10r/s
⑭ Repeated positioning accuracy	mm	±0.01mm
⑮ Weight	g	About 420 g
⑯ Step size	mm	0.005mm

● Note that use methods may vary with products. Please refer to the notes of the product pages for further details.

① Step angle

The minimum mechanical angle inherent of the stepper motor, generally 1.8°, 0.9°, 1.2°, 0.72° and so on.

② Number of phases

Refers to the number of coil turns inside the motor; the commonly used motors are two-phase, three-phase, four-phase and five-phase stepper motors; the motor with different number of phases has different step angles.

③ Insulation resistance

The DC resistance of insulating materials under specified conditions, that is, the resistance corresponding to the leakage current flowing through the dielectric medium which the DC voltage is applied on after the polarization process for a certain time ends.

④ Class of insulation

Thermal rating of insulating materials.

⑤ Driving voltage

Supply voltage of driver required for starting work.

⑥ Rated current

Maximum set current of Kaifull driver

⑦ Resistance

Resistance effect of a conductor to current.

⑧ Inductor

The property of a circuit capable of generating an electromotive force in response to a change in the following current.

⑨ Stroke

Total advancing distance of worktable.

⑩ Lead

Advancing distance of worktable toward linear direction when the motor rotates by a revolution.

⑪ Type of lead screw

According to friction characteristics, lead screw can be divided into three types: sliding screw, Ball leadscrew and static lead screw.

⑫ Precision class

Precision class is divided to four classes, namely C3, C5, C7 and C10, according to user requirements.

⑬ Output thrust

The minimum thrust for continuous output of the worktable at a fixed speed.

⑭ Repeated positioning accuracy

The error generated when the positioning is repeated in the same position in the same direction. (Accuracy is the value under a certain temperature and a certain load).

⑮ Weight

Product weight.

⑯ Step size

Load moving distance at every step angle.

Types and features of electric sliding table

● DC power input

◇ Reading mode of item name

Model	Motor Flange size	Motor Step angle	Motor thickness	Lead	Type of lead screw	Effective travel	Motor type
KF	28	D	51	02	GZ	30	D
KF : KAIFULL	28 : 28mm 35 : 35mm 42 : 42mm	D : 1.8°	40 : 40mm 46 : 46mm 51 : 51mm	01 : 1mm 02 : 2mm 05 : 5mm 06 : 6mm 10 : 10mm	GZ : Ball leadscrew LC : Trapezoidal screw	30 : 30mm 50 : 50mm 100 : 100mm 150 : 150mm 200 : 200mm	D : Motor with rear axle E : Motor with closed-loop control M : Motor with brake NO

KF28D51-02GZ-30 Width 28 mm* Height 38 mm Linear DC power input

Reading mode of item name

Model	Motor Flange size	Motor Step angle	Motor thickness	Lead	Type of lead screw	Effective travel	Motor type
KF	28	D	51	02	GZ	30	
KF : KAIFULL	28 : 28mm	D : 1.8°	51 : 51mm	02 : 2mm	GZ : Ball leadscrew LC : Trapezoidal screw	30 : 30mm 50 : 50mm 100 : 100mm	D : Motor with rear axle E : Motor with closed-loop control M : Motor with brake No

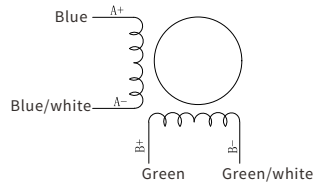


Specification of electric sliding table

Step angle		1.8°
Number of phases		2
Insulation resistance		100M Ω MIN(500V DC)
Class of insulation		Class B/ winding
Driving voltage	VDC	24V DC
Rated current	A	1.0A
Resistance		5.2Ω
Inductor	mH	4.3mH
Stroke	mm	30mm
Lead	mm	2mm
Type of lead screw		Ball leadscrew
Precision class		C5
Output thrust	N	50N at 10r/s
Repeated positioning accuracy	mm	±0.005mm
Weight	g	About 500g
Step size	mm	0.01mm

● The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

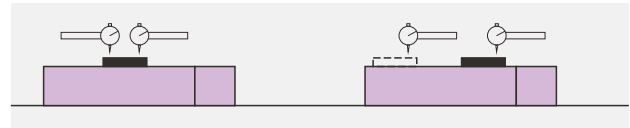
Wiring diagram



Parallelism test

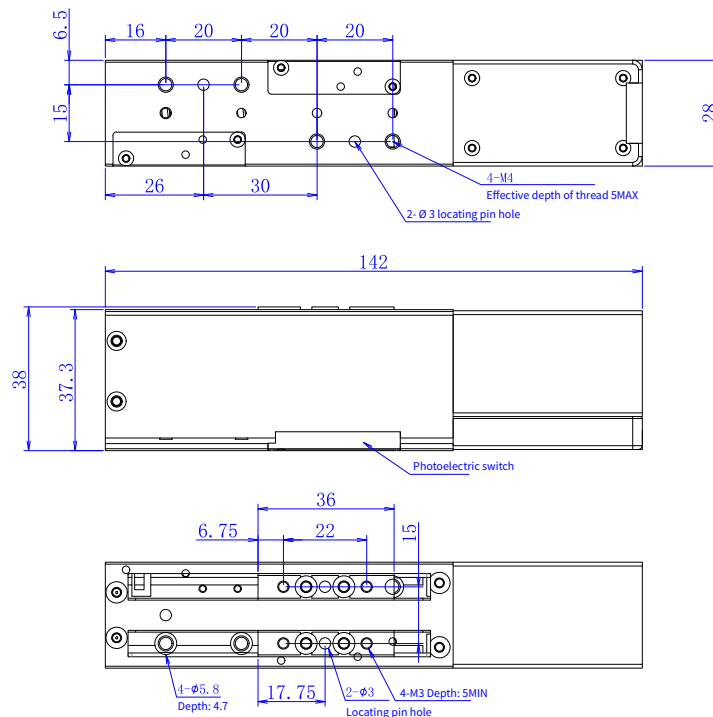
Parallelism between mounting surface and base $\leq 0.02\text{mm}$

Walking parallelism between mounting surface and base $\leq 0.02\text{mm}$



Outside drawing (unit: mm)

● **KF28D51-02GZ-30** linear type



Definition of outgoing line

Terminal wire sequence	Wire color	Definition
1	Bold black (shielding)	E
2	Blue	A+
3	Blue/white	A-
4	Green	B+
5	Green/white	B-
6	Red	V+
7	Black	GND
8	Purple	Limit +
9	Purple/white	Limit -
10	Yellow	Blank

● Optional wire KFGH10-30.

KF28D51-02GZ-50 Width 28 mm* Height 38 mm Linear DC power input

Electric sliding table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

G20Z

M26Z

Electric clamping jaw

DG2

DG3



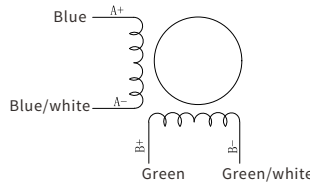
Reading mode of item name

Model	Motor Flange size	Motor Step angle	Motor thickness	Lead	Type of lead screw	Effective travel	Motor type
KF	28	D	51	02	GZ	50	
KF : KAIFULL	28 : 28mm	D : 1.8°	51 : 51mm	02 : 2mm	GZ : Ball leadscrew LC : Trapezoidal screw	30 : 30mm 50 : 50mm 100 : 100mm	D : Motor with rear axle E : Motor with closed-loop control M : Motor with brake No

Specification of electric sliding table

Step angle		1.8°
Number of phases		2
Insulation resistance		100M Ω MIN(500V DC)
Class of insulation		Class B/ winding
Driving voltage	VDC	24V DC
Rated current	A	1.0A
Resistance		5.2Ω
Inductor	mH	4.3mH
Stroke	mm	50mm
Lead	mm	2mm
Type of lead screw		Ball leadscrew
Precision class		C5
Output thrust	N	50N at 10r/s
Repeated positioning accuracy	mm	±0.005mm
Weight	g	About 600g
Step size	mm	0.01mm

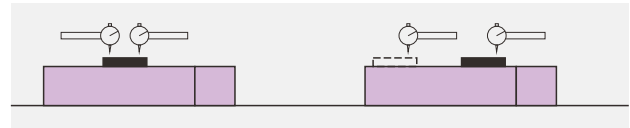
Wiring diagram



Parallelism test

Parallelism between mounting surface and base $\leq 0.02\text{mm}$

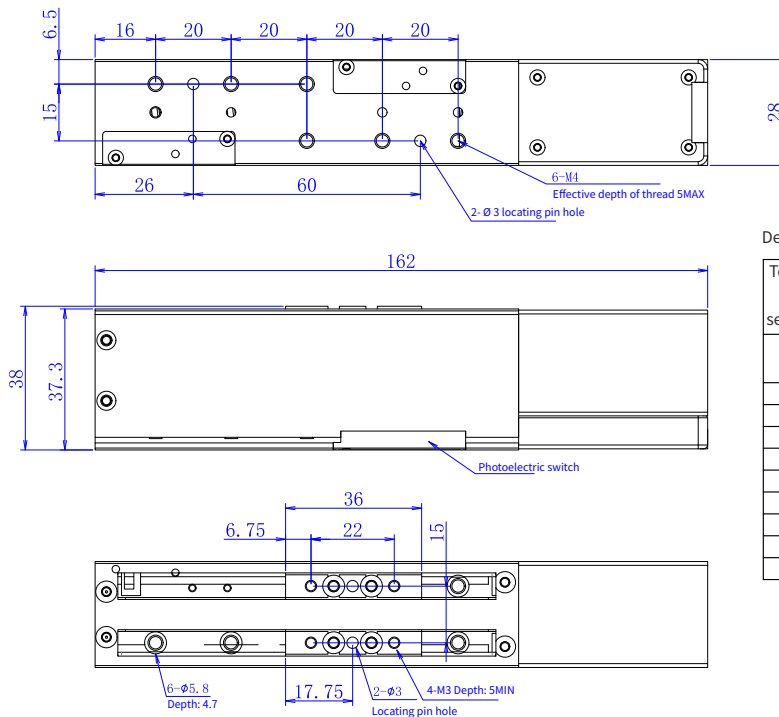
Walking parallelism between mounting surface and base $\leq 0.02\text{mm}$



● The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

● **KF28D51-02GZ-50** linear type



Definition of outgoing line

Terminal wire sequence	Wire color	Definition
1	Bold black (shielding)	E
2	Blue	A+
3	Blue/white	A-
4	Green	B+
5	Green/white	B-
6	Red	V+
7	Black	GND
8	Purple	Limit +
9	Purple/white	Limit -
10	Yellow	Blank

● Optional wire KFGH10-30.

KF28D51-02GZ-100 Width 28 mm* Height 38 mm Linear DC power input

Reading mode of item name

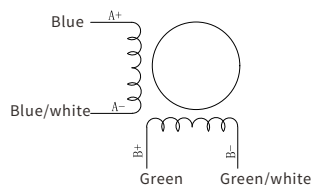
Model	Motor Flange size	Motor Step angle	Motor thickness	Lead	Type of lead screw	Effective travel	Motor type
KF	28	D	51	02	GZ	100	
KF : KAIFULL	28 : 28mm	D : 1.8°	51 : 51mm	02 : 2mm	GZ : Ball leadscrew LC : Trapezoidal screw	30 : 30mm 50 : 50mm 100 : 100mm	D : Motor with rear axle E : Motor with closed-loop control M : Motor with brake No



Specification of electric sliding table

Step angle	1.8°
Number of phases	2
Insulation resistance	100M Ω MIN(500V DC)
Class of insulation	Class B/ winding
Driving voltage	VDC 24V DC
Rated current	A 1.0A
Resistance	5.2Ω
Inductor	mH 4.3mH
Stroke	mm 100mm
Lead	mm 2mm
Type of lead screw	Ball leadscrew
Precision class	C5
Output thrust	N 50N at 10r/s
Repeated positioning accuracy	mm ±0.005mm
Weight	g About 800g
Step size	mm 0.01mm

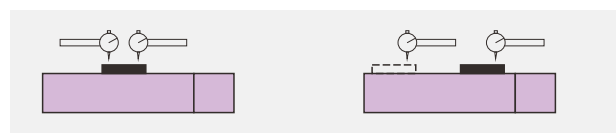
Wiring diagram



Parallelism test

Parallelism between mounting surface and base $\leq 0.02\text{mm}$

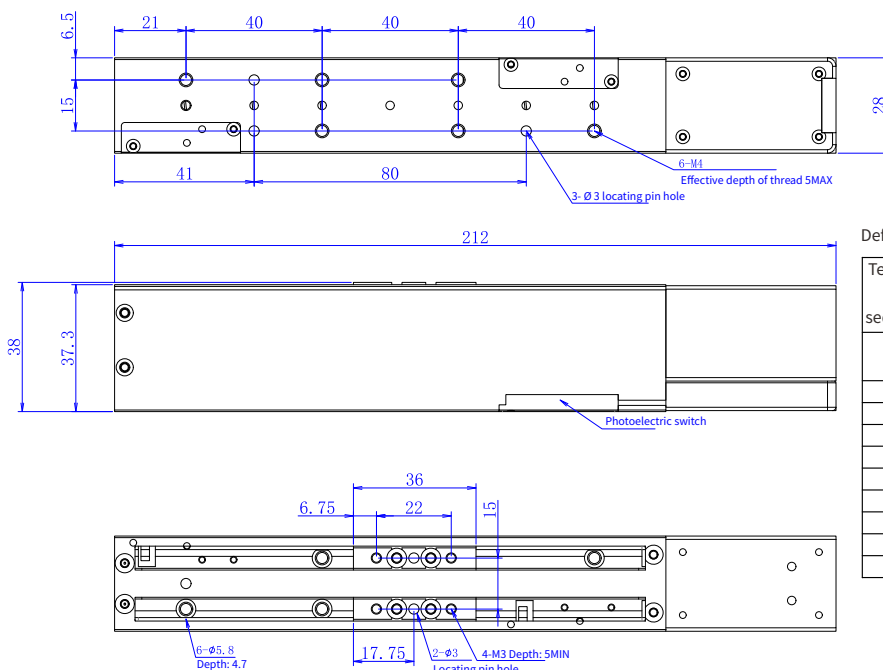
Walking parallelism between mounting surface and base $\leq 0.02\text{mm}$



● The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

● **KF28D51-02GZ-100** linear type



Definition of outgoing line

Terminal wire sequence	Wire color	Definition
1	Bold black (shielding)	E
2	Blue	A+
3	Blue/white	A-
4	Green	B+
5	Green/white	B-
6	Red	V+
7	Black	GND
8	Purple	Limit +
9	Purple/white	Limit -
10	Yellow	Blank

● Optional wire KFGH10-30.

KF35D46-02GZ-30 Width 35 mm* Height 45 mm Linear DC power input

Electric slide table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

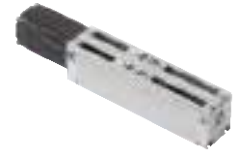
G20Z

M28Z

Electric clamping jaw

DG2

DG3



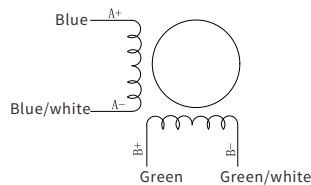
Reading mode of item name

Model	Motor Flange size	Motor Step angle	Motor thickness	Lead	Type of lead screw	Effective travel	Motor type
KF	35	D	46	02	GZ	30	
KF : KAIFULL	35 : 35mm	D : 1.8°	46 : 46mm	02 : 2mm 06 : 6mm	GZ : Ball leadscrew LC : Trapezoidal screw	30 : 30mm 50 : 50mm 100 : 100mm	D : Motor with rear axle E : Motor with closed-loop control M : Motor with brake No

Specification of electric sliding table

Step angle		1.8°
Number of phases		2
Insulation resistance		100M Ω MIN(500V DC)
Class of insulation		Class B/ winding
Driving voltage	VDC	24V DC
Rated current	A	1.5A
Resistance		1.6Ω
Inductor	mH	2.3mH
Stroke	mm	30mm
Lead	mm	2mm
Type of lead screw		Ball leadscrew
Precision class		C5
Output thrust	N	60N at 10r/s
Repeated positioning accuracy	mm	±0.005mm
Weight	g	About 700g
Step size	mm	0.01mm

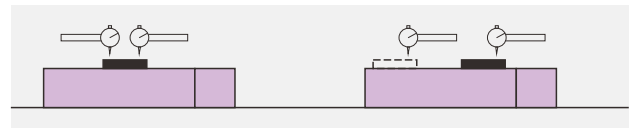
Wiring diagram



Parallelism test

Parallelism between mounting surface and base $\leq 0.02\text{mm}$

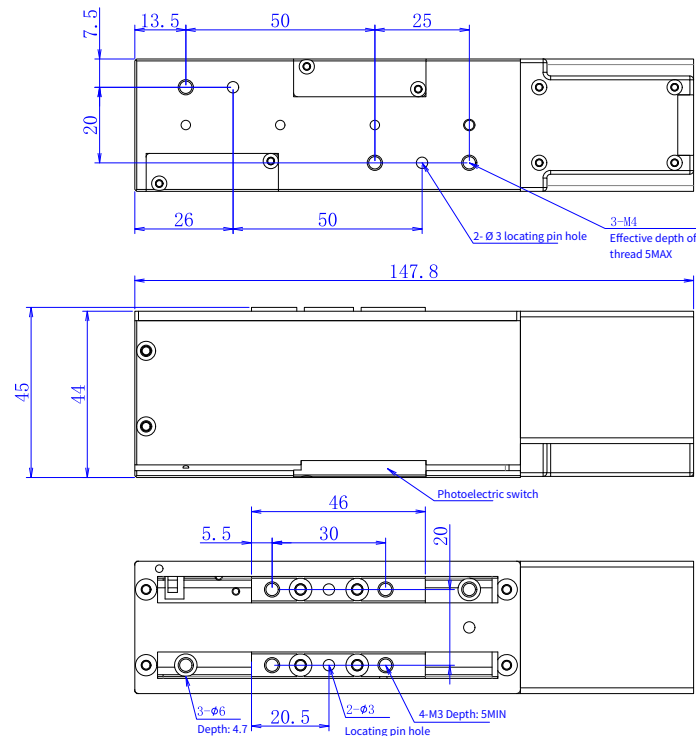
Walking parallelism between mounting surface and base $\leq 0.02\text{mm}$



● The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

● **KF35D46-02GZ-30** linear type



Definition of outgoing line

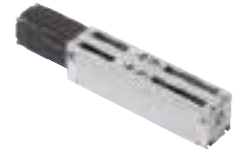
Terminal wire sequence	Wire color	Definition
1	Bold black (shielding)	E
2	Blue	A+
3	Blue/white	A-
4	Green	B+
5	Green/white	B-
6	Red	V+
7	Black	GND
8	Purple	Limit +
9	Purple/white	Limit -
10	Yellow	Blank

● Optional wire KFGH10-30.

KF35D46-02GZ-50 Width 35 mm* Height 45 mm Linear DC power input

Reading mode of item name

Model	Motor Flange size	Motor Step angle	Motor thickness	Lead	Type of lead screw	Effective travel	Motor type
KF	35	D	46	02	GZ	50	
KF : KAIFULL	35 : 35mm	D : 1.8°	46 : 46mm	02 : 2mm 06 : 6mm	GZ : Ball leadscrew LC : Trapezoidal screw	30 : 30mm 50 : 50mm 100 : 100mm	D : Motor with rear axle E : Motor with closed-loop control M : Motor with brake No

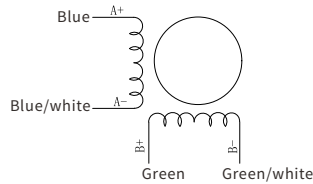


Specification of electric sliding table

Step angle		1.8°
Number of phases		2
Insulation resistance		100M Ω MIN(500V DC)
Class of insulation		Class B/ winding
Driving voltage	VDC	24V DC
Rated current	A	1.5A
Resistance		1.6Ω
Inductor	mH	2.3mH
Stroke	mm	50mm
Lead	mm	2mm
Type of lead screw		Ball leadscrew
Precision class		C5
Output thrust	N	60N at 10r/s
Repeated positioning accuracy	mm	±0.005mm
Weight	g	About 800g
Step size	mm	0.01mm

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

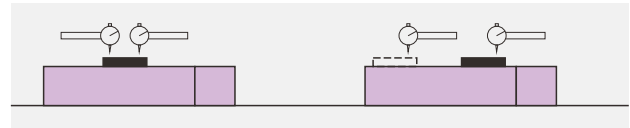
Wiring diagram



Parallelism test

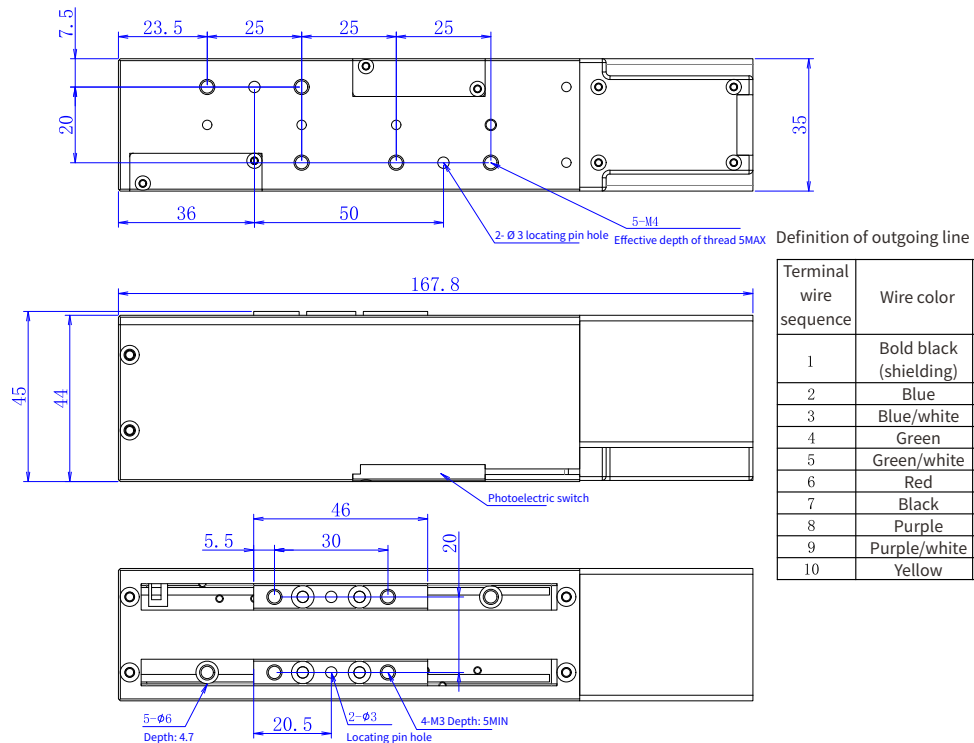
Parallelism between mounting surface and base $\leq 0.02\text{mm}$

Walking parallelism between mounting surface and base $\leq 0.02\text{mm}$



Outside drawing (unit: mm)

- **KF35D46-02GZ-50** linear type



Terminal wire sequence	Wire color	Definition
1	Bold black (shielding)	E
2	Blue	A+
3	Blue/white	A-
4	Green	B+
5	Green/white	B-
6	Red	V+
7	Black	GND
8	Purple	Limit +
9	Purple/white	Limit -
10	Yellow	Blank

- Optional wire KFGH10-30.

KF35D46-02GZ-100 Width 35mm* Height 45 mm linear DC power input

Electric slide table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

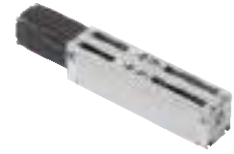
G20Z

M26Z

Electric clamping jaw

DG2

DG3



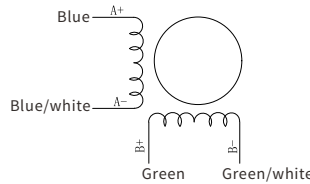
Reading mode of item name

Model	Motor Flange size	Motor Step angle	Motor thickness	Lead	Type of lead screw	Effective travel	Motor type
KF	35	D	46	02	GZ	100	
KF : KAIFULL	35 : 35mm	D : 1.8°	46 : 46mm	02 : 2mm 06 : 6mm	GZ : Ball leadscrew LC : Trapezoidal screw	30 : 30mm 50 : 50mm 100 : 100mm	D : Motor with rear axle E : Motor with closed-loop control M : Motor with brake No

Specification of electric sliding table

Step angle		1.8°
Number of phases		2
Insulation resistance		100M Ω MIN(500V DC)
Class of insulation		Class B/ winding
Driving voltage	VDC	24V DC
Rated current	A	1.5A
Resistance		1.6Ω
Inductor	mH	2.3mH
Stroke	mm	100mm
Lead	mm	2mm
Type of lead screw		Ball leadscrew
Precision class		C5
Output thrust	N	60N at 10r/s
Repeated positioning accuracy	mm	±0.005mm
Weight	g	About 1000g
Step size	mm	0.01mm

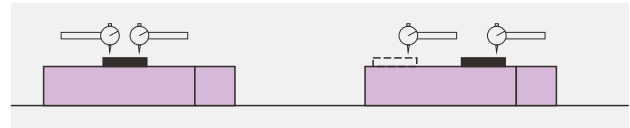
Wiring diagram



Parallelism test

Parallelism between mounting surface and base $\leq 0.02\text{mm}$

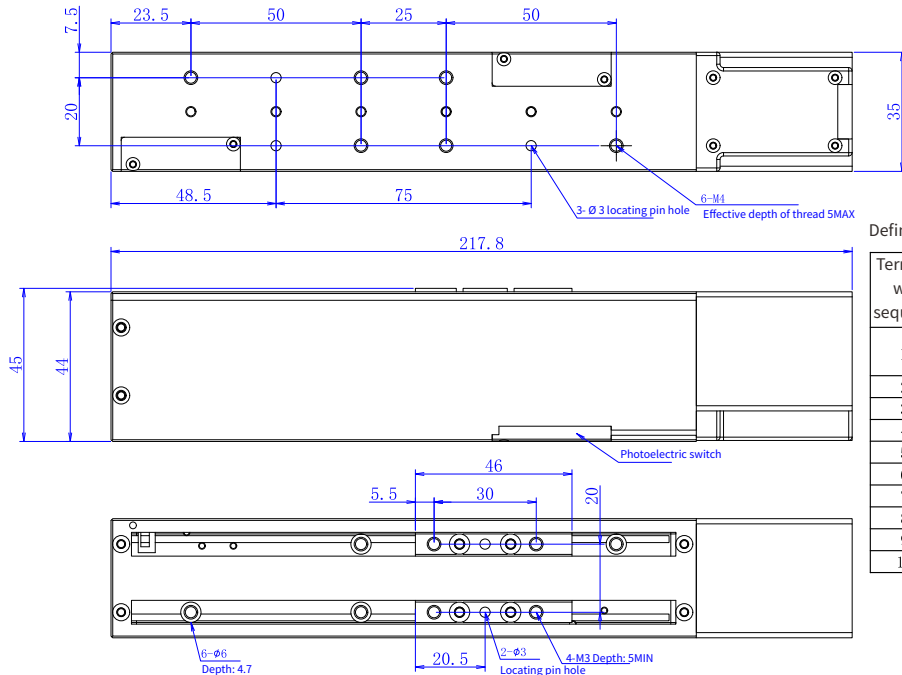
Walking parallelism between mounting surface and base $\leq 0.02\text{mm}$



● The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

● **KF35D46-02GZ-100** linear type



Definition of outgoing line

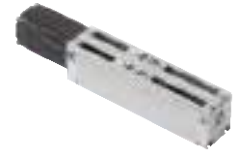
Terminal wire sequence	Wire color	Definition
1	Bold black (shielding)	E
2	Blue	A+
3	Blue/white	A-
4	Green	B+
5	Green/white	B-
6	Red	V+
7	Black	GND
8	Purple	Limit +
9	Purple/white	Limit -
10	Yellow	Blank

● Optional wire KFGH10-30.

KF35D46-06GZ-50 Width 35mm* Height 45 mm linear DC power input

Reading mode of item name

Model	Motor Flange size	Motor Step angle	Motor thickness	Lead	Type of lead screw	Effective travel	Motor type
KF	35	D	46	06	GZ	50	
KF : KAIFULL	35 : 35mm	D : 1.8°	46 : 46mm	02 : 2mm 06 : 6mm	GZ : Ball leadscrew LC : Trapezoidal screw	50 : 50mm 100 : 100mm 150 : 150mm	D : Motor with rear axle E : Motor with closed-loop control M : Motor with brake No

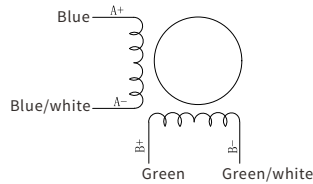


Specification of electric sliding table

Step angle		1.8°
Number of phases		2
Insulation resistance		100M Ω MIN(500V DC)
Class of insulation		Class B/ winding
Driving voltage	VDC	24V DC
Rated current	A	1.5A
Resistance		1.6Ω
Inductor	mH	2.3mH
Stroke	mm	50mm
Lead	mm	6mm
Type of lead screw		Ball leadscrew
Precision class		C5
Output thrust	N	50N at 10r/s
Repeated positioning accuracy	mm	±0.005mm
Weight	g	About 800g
Step size	mm	0.03mm

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

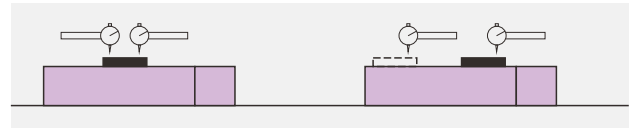
Wiring diagram



Parallelism test

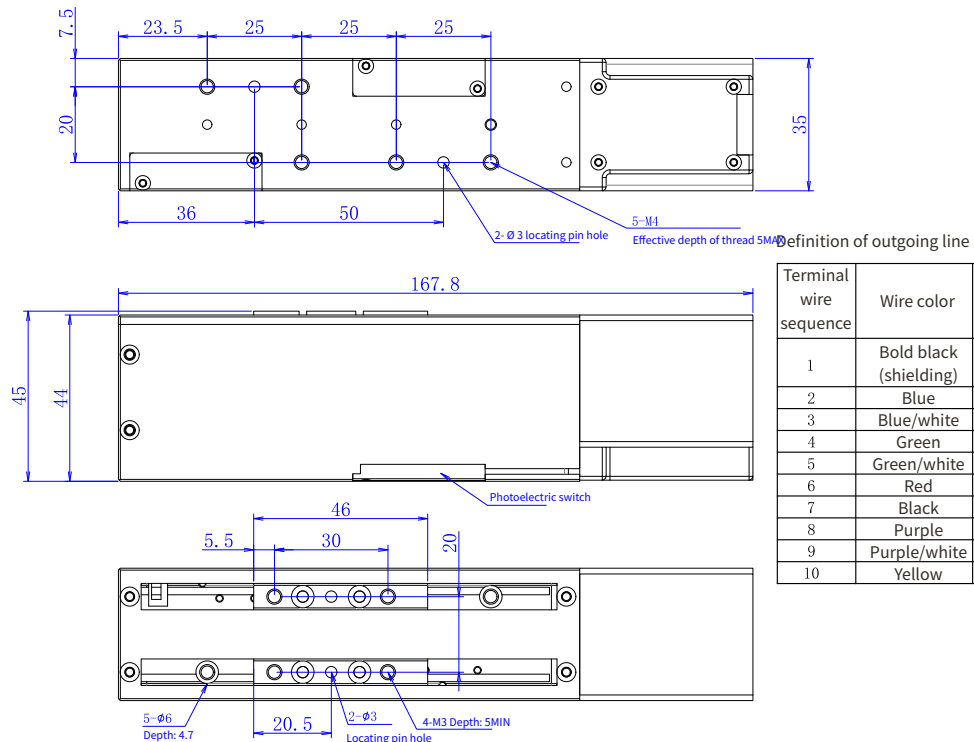
Parallelism between mounting surface and base $\leq 0.02\text{mm}$

Walking parallelism between mounting surface and base $\leq 0.02\text{mm}$



Outside drawing (unit: mm)

- **KF35D46-02GZ-50** linear type



Terminal wire sequence	Wire color	Definition
1	Bold black (shielding)	E
2	Blue	A+
3	Blue/white	A-
4	Green	B+
5	Green/white	B-
6	Red	V+
7	Black	GND
8	Purple	Limit +
9	Purple/white	Limit -
10	Yellow	Blank

- Optional wire KFGH10-30.

KF35D46-06GZ-100 Width 35mm* Height 45 mm linear DC power input

Electric slide table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

G20Z

M26Z

Electric clamping jaw

DG2

DG3



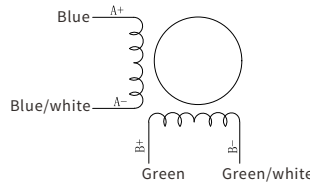
Reading mode of item name

Model	Motor Flange size	Motor Step angle	Motor thickness	Lead	Type of lead screw	Effective travel	Motor type
KF	35	D	46	06	GZ	100	
KF : KAIFULL	35 : 35mm	D : 1.8°	46 : 46mm	02 : 2mm 06 : 6mm	GZ : Ball leadscrew LC : Trapezoidal screw	50 : 50mm 100 : 100mm 150 : 150mm	D : Motor with rear axle E : Motor with closed-loop control M : Motor with brake No

Specification of electric sliding table

Step angle		1.8°
Number of phases		2
Insulation resistance		100M Ω MIN(500V DC)
Class of insulation		Class B/ winding
Driving voltage	VDC	24V DC
Rated current	A	1.5A
Resistance		1.6Ω
Inductor	mH	2.3mH
Stroke	mm	100mm
Lead	mm	6mm
Type of lead screw		Ball leadscrew
Precision class		C5
Output thrust	N	50N at 10r/s
Repeated positioning accuracy	mm	±0.005mm
Weight	g	About 1000g
Step size	mm	0.03mm

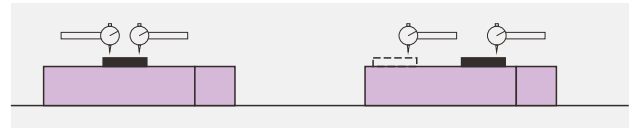
Wiring diagram



Parallelism test

Parallelism between mounting surface and base $\leq 0.02\text{mm}$

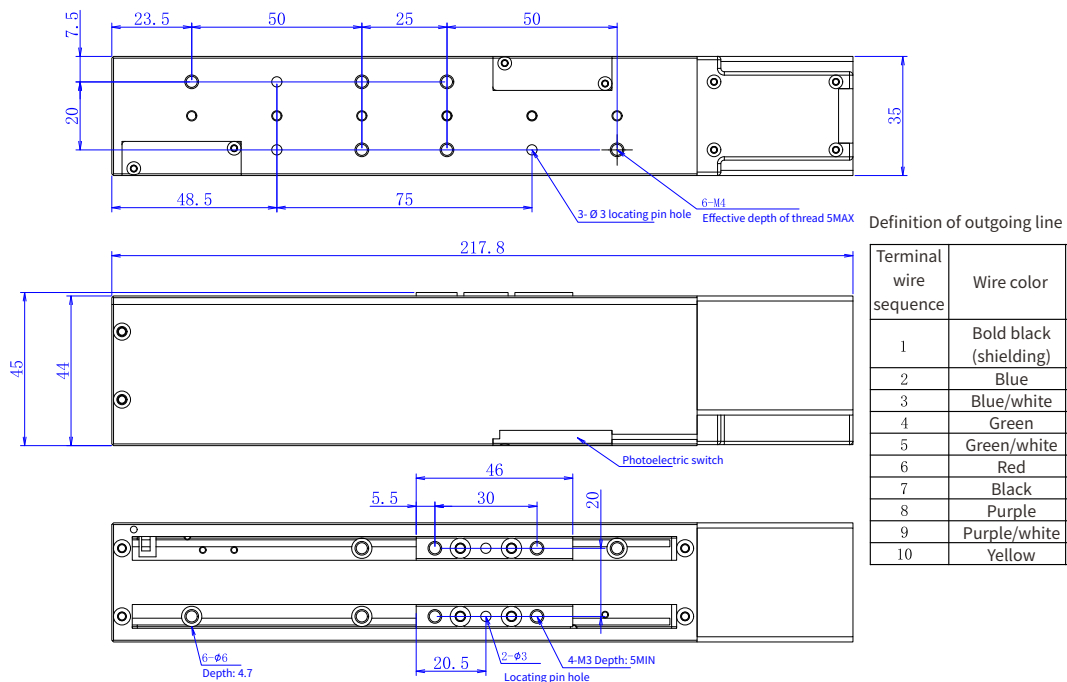
Walking parallelism between mounting surface and base $\leq 0.02\text{mm}$



● The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

● **KF35D46-02GZ-100** linear type

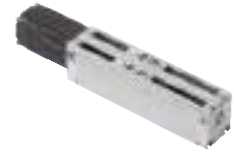


● Optional wire KFGH10-30.

KF35D46-06GZ-150 Width 35mm* Height 45 mm linear DC power input

Reading mode of item name

Model	Motor Flange size	Motor Step angle	Motor thickness	Lead	Type of lead screw	Effective travel	Motor type
KF	35	D	46	06	GZ	150	
KF : KAIFULL	35 : 35mm	D : 1.8°	46 : 46mm	02 : 2mm 06 : 6mm	GZ : Ball leadscrew LC : Trapezoidal screw	50 : 50mm 100 : 100mm 150 : 150mm	D : Motor with rear axle E : Motor with closed-loop control M : Motor with brake No

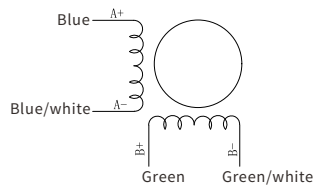


Specification of electric sliding table

Step angle	1.8°
Number of phases	2
Insulation resistance	100M Ω MIN(500V DC)
Class of insulation	Class B/ winding
Driving voltage	VDC 24V DC
Rated current	A 1.5A
Resistance	1.6Ω
Inductor	mH 2.3mH
Stroke	mm 100mm
Lead	mm 6mm
Type of lead screw	Ball leadscrew
Precision class	C5
Output thrust	N 50N at 10r/s
Repeated positioning accuracy	mm ±0.005mm
Weight	g About 1000g
Step size	mm 0.03mm

● The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

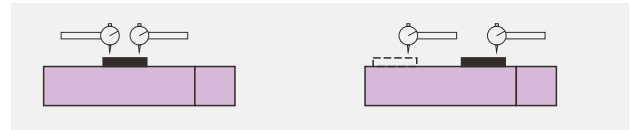
Wiring diagram



Parallelism test

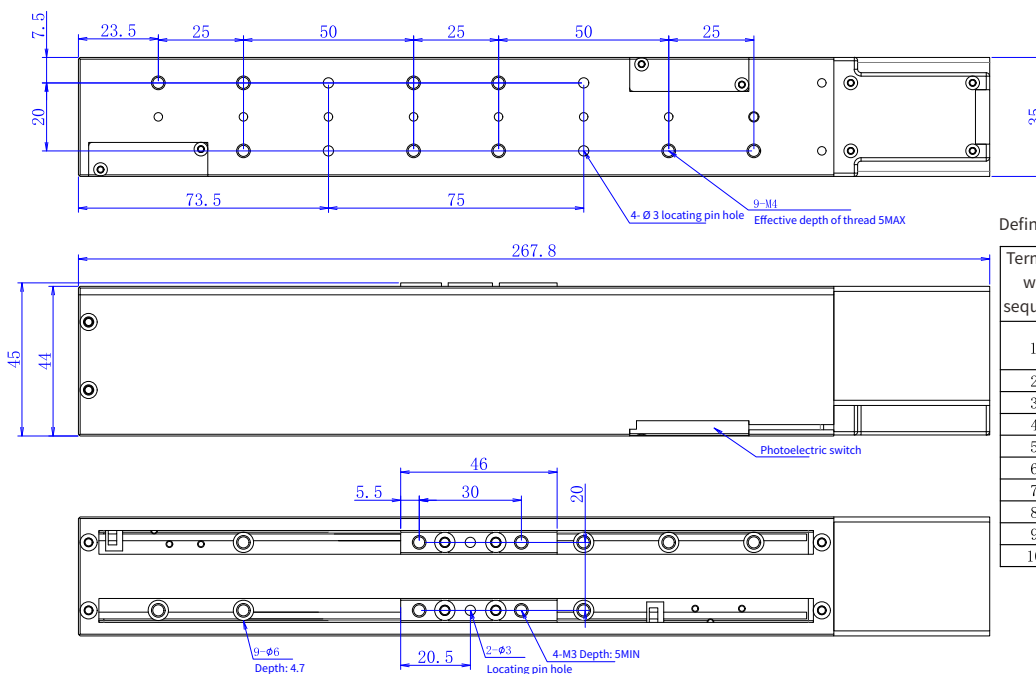
Parallelism between mounting surface and base $\leq 0.02\text{mm}$

Walking parallelism between mounting surface and base $\leq 0.02\text{mm}$



Outside drawing (unit: mm)

● **KF35D46-02GZ-100** linear type



Definition of outgoing line

Terminal wire sequence	Wire color	Definition
1	Bold black (shielding)	E
2	Blue	A+
3	Blue/white	A-
4	Green	B+
5	Green/white	B-
6	Red	V+
7	Black	GND
8	Purple	Limit +
9	Purple/white	Limit -
10	Yellow	Blank

● Optional wire KFGH10-30.

KF42D40-02GZ-50 Width 42mm* Height 52 mm linear DC power input

Electric slide table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

G20Z

M28Z

Electric clamping jaw

DG2

DG3



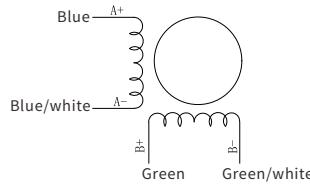
Reading mode of item name

Model	Motor Flange size	Motor Step angle	Motor thickness	Lead	Type of lead screw	Effective travel	Motor type
KF	42	D	40	02	GZ	50	
KF : KAIFULL	42 : 42mm	D : 1.8°	40 : 40mm	02 : 2mm 05 : 5mm 10 : 10mm	GZ : Ball leadscrew LC : Trapezoidal screw	50 : 50mm 100 : 100mm 150 : 150mm 200 : 200mm	D : Motor with rear axle E : Motor with closed-loop control M : Motor with brake No

Specification of electric sliding table

Step angle		1.8°
Number of phases		2
Insulation resistance		100M Ω MIN(500V DC)
Class of insulation		Class B/ winding
Driving voltage	VDC	24V DC
Rated current	A	1.5A
Resistance		2.2Ω
Inductor	mH	4.6mH
Stroke	mm	50mm
Lead	mm	2mm
Type of lead screw		Ball leadscrew
Precision class		C5
Output thrust	N	100N at 10r/s
Repeated positioning accuracy	mm	±0.005mm
Weight	g	About 1000g
Step size	mm	0.01mm

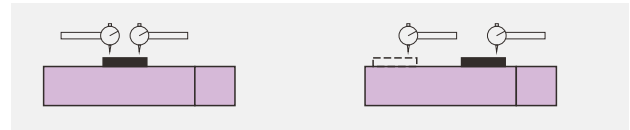
Wiring diagram



Parallelism test

Parallelism between mounting surface and base $\leq 0.02\text{mm}$

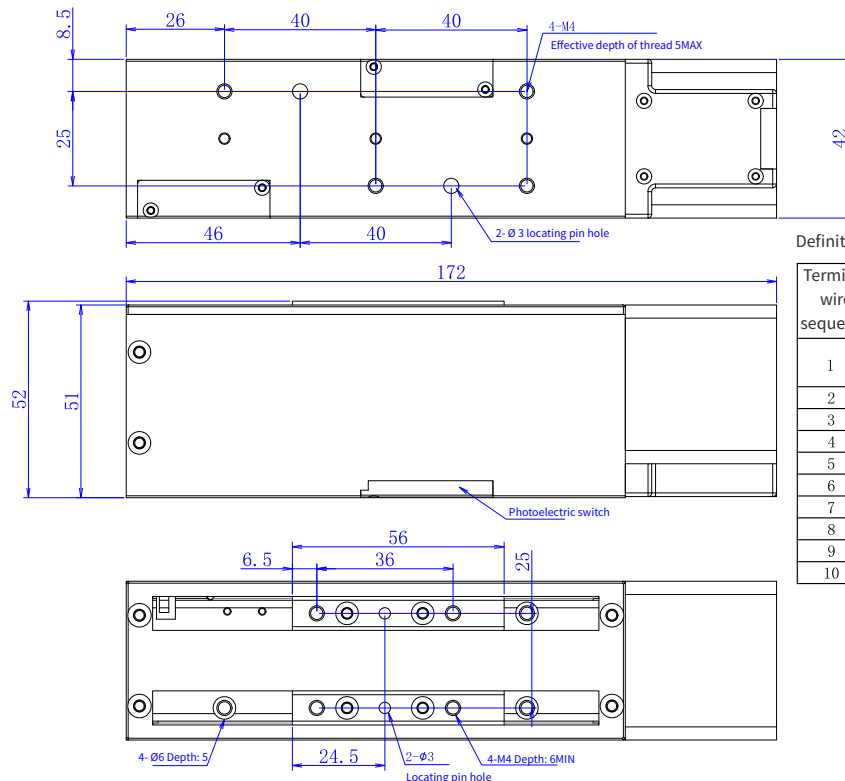
Walking parallelism between mounting surface and base $\leq 0.02\text{mm}$



- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

● KF42D40-02GZ-50 linear type



Definition of outgoing line

Terminal wire sequence	Wire color	Definition
1	Bold black (shielding)	E
2	Blue	A+
3	Blue/white	A-
4	Green	B+
5	Green/white	B-
6	Red	V+
7	Black	GND
8	Purple	Limit +
9	Purple/white	Limit -
10	Yellow	Blank

- Optional wire KFGH10-30.

KF42D40-02GZ-100 Width 42mm* Height 52 mm linear DC power input

Reading mode of item name

Model	Motor Flange size	Motor Step angle	Motor thickness	Lead	Type of lead screw	Effective travel	Motor type
KF	42	D	40	02	GZ	100	
KF : KAIFULL	42 : 42mm	D : 1.8°	40 : 40mm	02 : 2mm 05 : 5mm 10 : 10mm	GZ : Ball leadscrew LC : Trapezoidal screw	50 : 50mm 100 : 100mm 150 : 150mm 200 : 200mm	D : Motor with rear axle E : Motor with closed-loop control M : Motor with brake No

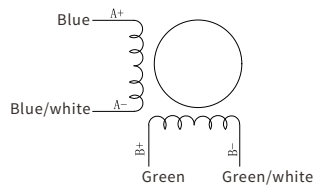


Specification of electric sliding table

Step angle	1.8°
Number of phases	2
Insulation resistance	100M Ω MIN(500V DC)
Class of insulation	Class B/ winding
Driving voltage	VDC 24V DC
Rated current	A 1.5A
Resistance	2.2Ω
Inductor	mH 4.6mH
Stroke	mm 100mm
Lead	mm 2mm
Type of lead screw	Ball leadscrew
Precision class	C5
Output thrust	N 100N at 10r/s
Repeated positioning accuracy	mm ±0.005mm
Weight	g About 1500g
Step size	mm 0.01mm

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

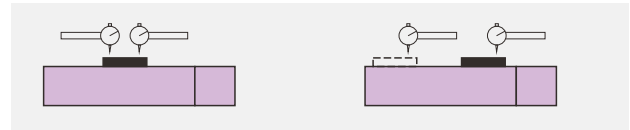
Wiring diagram



Parallelism test

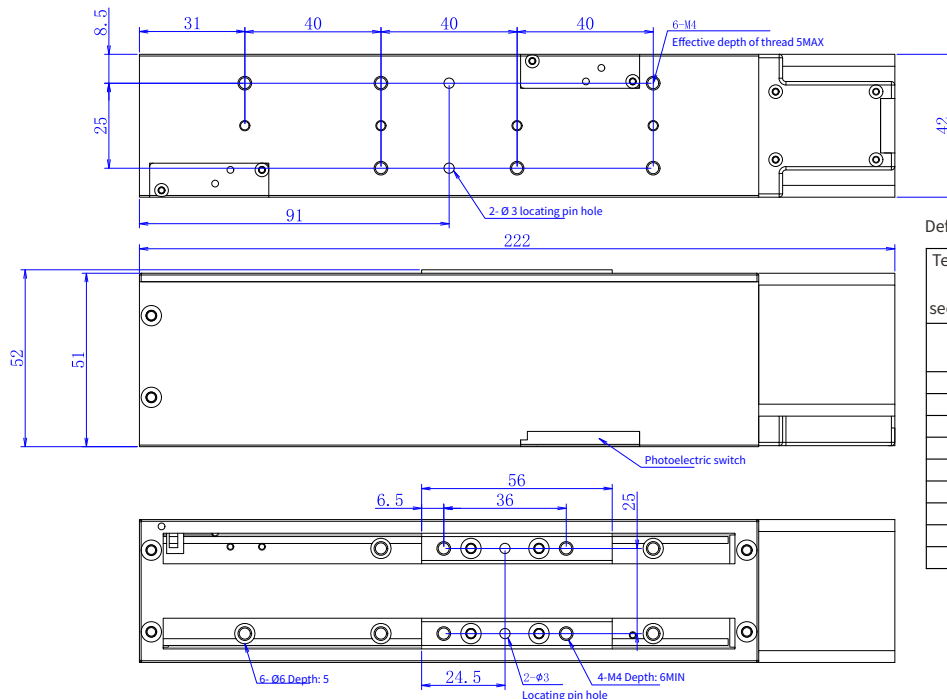
Parallelism between mounting surface and base $\leq 0.02\text{mm}$

Walking parallelism between mounting surface and base $\leq 0.02\text{mm}$



Outside drawing (unit: mm)

- **KF42D40-02GZ-100** linear type



Definition of outgoing line

Terminal wire sequence	Wire color	Definition
1	Bold black (shielding)	E
2	Blue	A+
3	Blue/white	A-
4	Green	B+
5	Green/white	B-
6	Red	V+
7	Black	GND
8	Purple	Limit +
9	Purple/white	Limit -
10	Yellow	Blank

- Optional wire KFGH10-30.

KF42D40-05GZ-50 Width 42mm* Height 52 mm linear DC power input

Electric slide table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

G20Z

M28Z

Electric clamping jaw

DG2

DG3



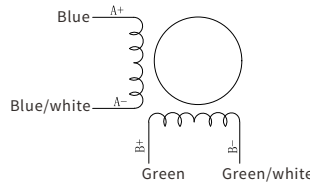
Reading mode of item name

Model	Motor Flange size	Motor Step angle	Motor thickness	Lead	Type of lead screw	Effective travel	Motor type
KF	42	D	40	05	GZ	50	
KF : KAIFULL	42 : 42mm	D : 1.8°	40 : 40mm	02 : 2mm 05 : 5mm 10 : 10mm	GZ : Ball leadscrew LC : Trapezoidal screw	50 : 50mm 100 : 100mm 150 : 150mm 200 : 200mm	D : Motor with rear axle E : Motor with closed-loop control M : Motor with brake No

Specification of electric sliding table

Step angle		1.8°
Number of phases		2
Insulation resistance		100M Ω MIN(500V DC)
Class of insulation		Class B/ winding
Driving voltage	VDC	24V DC
Rated current	A	1.5A
Resistance		2.2Ω
Inductor	mH	4.6mH
Stroke	mm	50mm
Lead	mm	5mm
Type of lead screw		Ball leadscrew
Precision class		C5
Output thrust	N	80N at 10r/s
Repeated positioning accuracy	mm	±0.005mm
Weight	g	About 1000g
Step size	mm	0.025mm

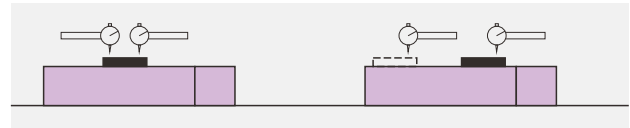
Wiring diagram



Parallelism test

Parallelism between mounting surface and base $\leq 0.02\text{mm}$

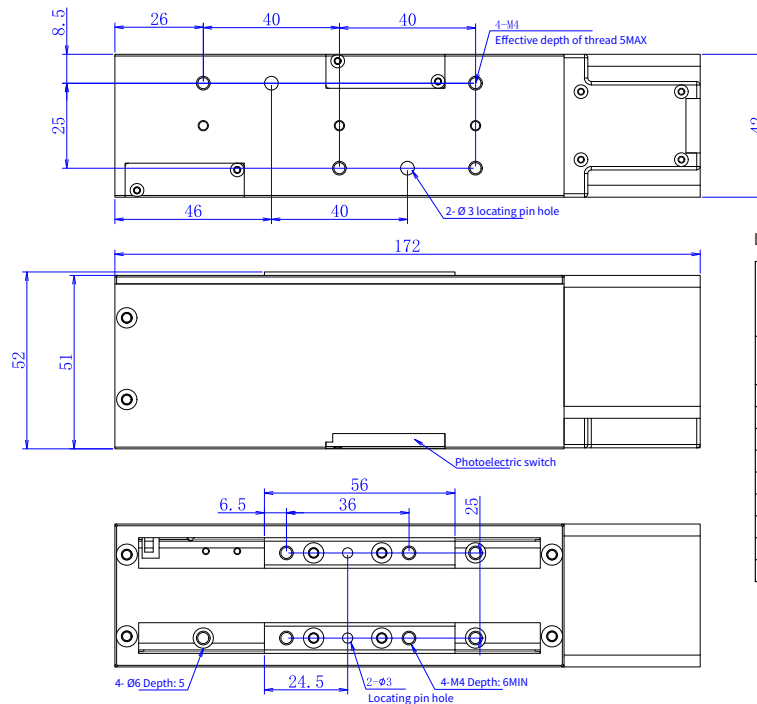
Walking parallelism between mounting surface and base $\leq 0.02\text{mm}$



- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

- **KF42D40-05GZ-50** linear type



Definition of outgoing line

Terminal wire sequence	Wire color	Definition
1	Bold black (shielding)	E
2	Blue	A+
3	Blue/white	A-
4	Green	B+
5	Green/white	B-
6	Red	V+
7	Black	GND
8	Purple	Limit +
9	Purple/white	Limit -
10	Yellow	Blank

- Optional wire KFGH10-30.

KF42D40-05GZ-100 Width 42mm* Height 52 mm linear DC power input

Reading mode of item name

Model	Motor Flange size	Motor Step angle	Motor thickness	Lead	Type of lead screw	Effective travel	Motor type
KF	42	D	40	05	GZ	100	
KF : KAIFULL	42 : 42mm	D : 1.8°	40 : 40mm	02 : 2mm 05 : 5mm 10 : 10mm	GZ : Ball leadscrew LC : Trapezoidal screw	50 : 50mm 100 : 100mm 150 : 150mm 200 : 200mm	D : Motor with rear axle E : Motor with closed-loop control M : Motor with brake No

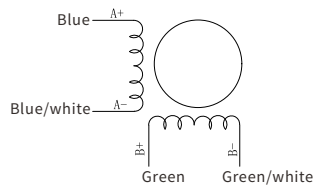


Specification of electric sliding table

Step angle		1.8°
Number of phases		2
Insulation resistance		100M Ω MIN(500V DC)
Class of insulation		Class B/ winding
Driving voltage	VDC	24V DC
Rated current	A	1.5A
Resistance		2.2Ω
Inductor	mH	4.6mH
Stroke	mm	100mm
Lead	mm	5mm
Type of lead screw		Ball leadscrew
Precision class		C5
Output thrust	N	80N at 10r/s
Repeated positioning accuracy	mm	±0.005mm
Weight	g	About 1500g
Step size	mm	0.025mm

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

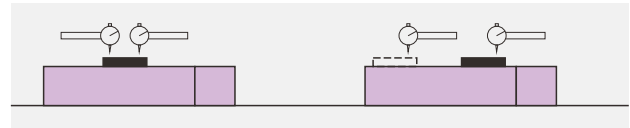
Wiring diagram



Parallelism test

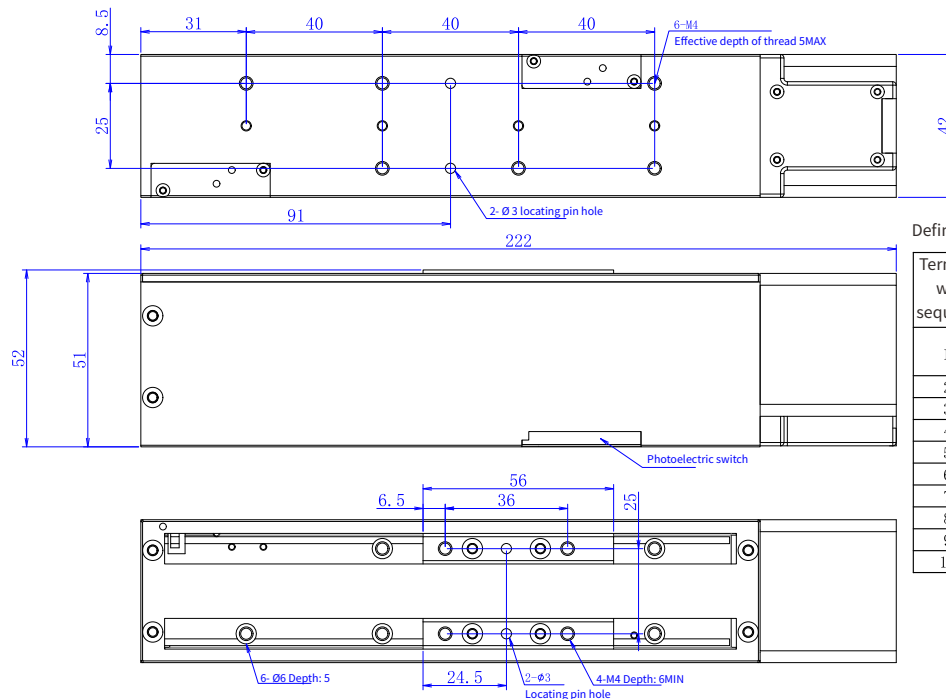
Parallelism between mounting surface and base $\leq 0.02\text{mm}$

Walking parallelism between mounting surface and base $\leq 0.02\text{mm}$



Outside drawing (unit: mm)

● KF42D40-05GZ-100 linear type



Definition of outgoing line

Terminal wire sequence	Wire color	Definition
1	Bold black (shielding)	E
2	Blue	A+
3	Blue/white	A-
4	Green	B+
5	Green/white	B-
6	Red	V+
7	Black	GND
8	Purple	Limit +
9	Purple/white	Limit -
10	Yellow	Blank

- Optional wire KFGH10-30.

KF42D40-05GZ-150 Width 42mm* Height 52 mm linear DC power input

Electric slide table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

G20Z

M28Z

Electric clamping jaw

DG2

DG3



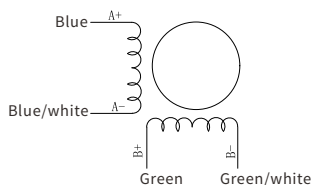
Reading mode of item name

Model	Motor Flange size	Motor Step angle	Motor thickness	Lead	Type of lead screw	Effective travel	Motor type
KF	42	D	40	05	GZ	150	
KF : KAIFULL	42 : 42mm	D : 1.8°	40 : 40mm	02 : 2mm 05 : 5mm 10 : 10mm	GZ : Ball leadscrew LC : Trapezoidal screw	50 : 50mm 100 : 100mm 150 : 150mm 200 : 200mm	D : Motor with rear axle E : Motor with closed-loop control M : Motor with brake No

Specification of electric sliding table

Step angle		1.8°
Number of phases		2
Insulation resistance		100M Ω MIN(500V DC)
Class of insulation		Class B/ winding
Driving voltage	VDC	24V DC
Rated current	A	1.5A
Resistance		2.2Ω
Inductor	mH	4.6mH
Stroke	mm	150mm
Lead	mm	5mm
Type of lead screw		Ball leadscrew
Precision class		C5
Output thrust	N	80N at 10r/s
Repeated positioning accuracy	mm	±0.005mm
Weight	g	About 2000g
Step size	mm	0.025mm

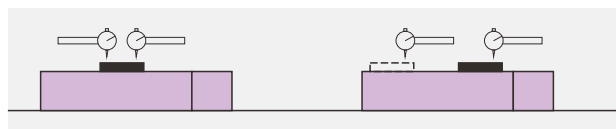
Wiring diagram



Parallelism test

Parallelism between mounting surface and base $\leq 0.02\text{mm}$

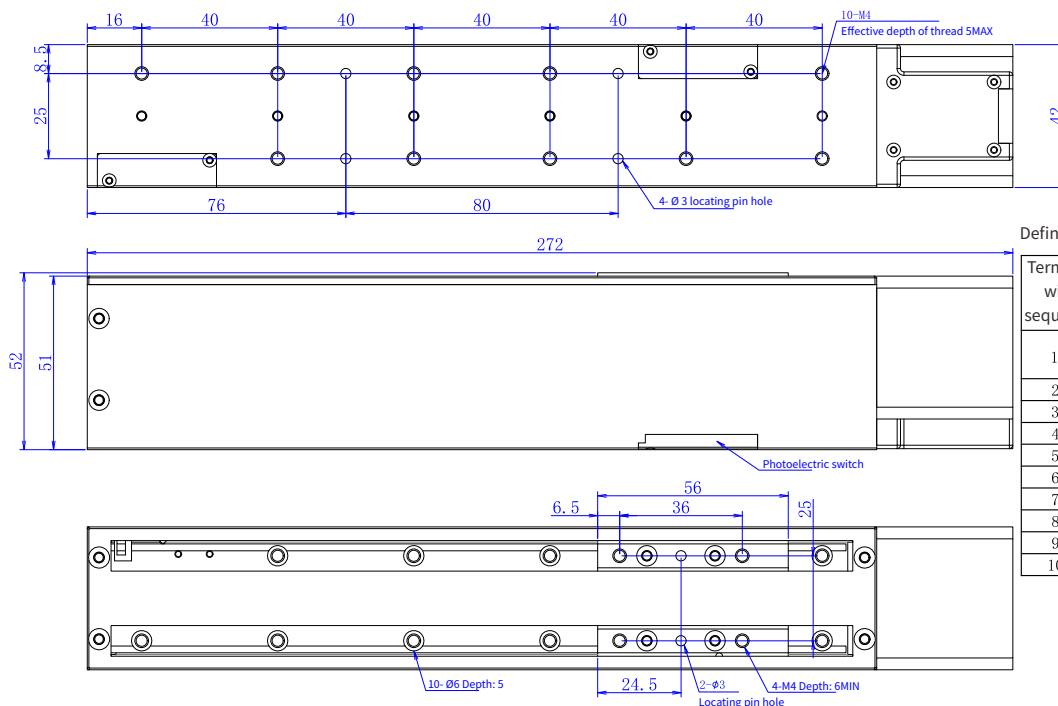
Walking parallelism between mounting surface and base $\leq 0.02\text{mm}$



● The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

● **KF42D40-05GZ-150** linear type



Definition of outgoing line

Terminal wire sequence	Wire color	Definition
1	Bold black (shielding)	E
2	Blue	A+
3	Blue/white	A-
4	Green	B+
5	Green/white	B-
6	Red	V+
7	Black	GND
8	Purple	Limit +
9	Purple/white	Limit -
10	Yellow	Blank

● Optional wire KFGH10-30.

KF42D40-10GZ-50

Width 42mm* Height 52 mm linear DC power input

Reading mode of item name

Model	Motor Flange size	Motor Step angle	Motor thickness	Lead	Type of lead screw	Effective travel	Motor type
KF	42	D	40	10	GZ	50	
KF : KAIFULL	42 : 42mm	D : 1.8°	40 : 40mm	02 : 2mm 05 : 5mm 10 : 10mm	GZ : Ball leadscrew LC : Trapezoidal screw	50 : 50mm 100 : 100mm 150 : 150mm 200 : 200mm	D : Motor with rear axle E : Motor with closed-loop control M : Motor with brake No

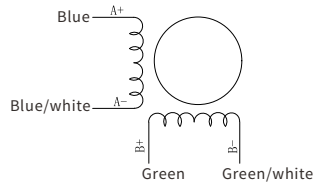


Specification of electric sliding table

Step angle	1.8°
Number of phases	2
Insulation resistance	100M Ω MIN(500V DC)
Class of insulation	Class B/ winding
Driving voltage	VDC 24V DC
Rated current	A 1.5A
Resistance	2.2Ω
Inductor	mH 4.6mH
Stroke	mm 50mm
Lead	mm 10mm
Type of lead screw	Ball leadscrew
Precision class	C5
Output thrust	N 60N at 10r/s
Repeated positioning accuracy	mm ±0.005mm
Weight	g About 1000g
Step size	mm 0.05mm

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

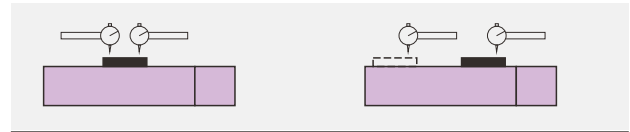
Wiring diagram



Parallelism test

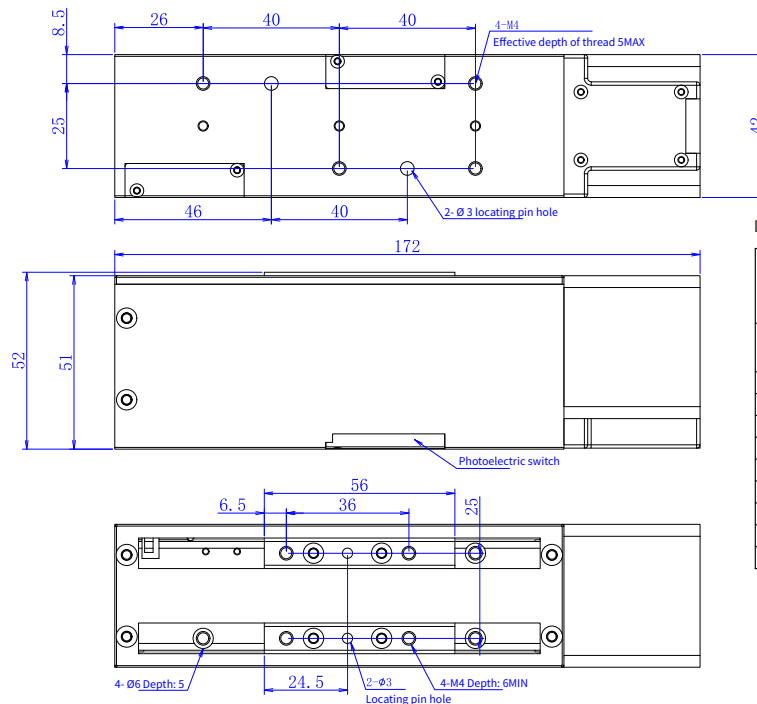
Parallelism between mounting surface and base $\leq 0.02\text{mm}$

Walking parallelism between mounting surface and base $\leq 0.02\text{mm}$



Outside drawing (unit: mm)

- **KF42D40-10GZ-50** linear type



Definition of outgoing line

Terminal wire sequence	Wire color	Definition
1	Bold black (shielding)	E
2	Blue	A+
3	Blue/white	A-
4	Green	B+
5	Green/white	B-
6	Red	V+
7	Black	GND
8	Purple	Limit +
9	Purple/white	Limit -
10	Yellow	Blank

- Optional wire KFGH10-30.

KF42D40-10GZ-100 Width 42mm* Height 52 mm linear DC power input

Electric slide table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

G20Z

M28Z

Electric clamping jaw

DG2

DG3



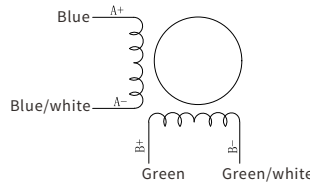
Reading mode of item name

Model	Motor Flange size	Motor Step angle	Motor thickness	Lead	Type of lead screw	Effective travel	Motor type
KF	42	D	40	10	GZ	100	
KF : KAIFULL	42 : 42mm	D : 1.8°	40 : 40mm	02 : 2mm 05 : 5mm 10 : 10mm	GZ : Ball leadscrew LC : Trapezoidal screw	50 : 50mm 100 : 100mm 150 : 150mm 200 : 200mm	D : Motor with rear axle E : Motor with closed-loop control M : Motor with brake No

Specification of electric sliding table

Step angle		1.8°
Number of phases		2
Insulation resistance		100M Ω MIN(500V DC)
Class of insulation		Class B/ winding
Driving voltage	VDC	24V DC
Rated current	A	1.5A
Resistance		2.2Ω
Inductor	mH	4.6mH
Stroke	mm	100mm
Lead	mm	10mm
Type of lead screw		Ball leadscrew
Precision class		C5
Output thrust	N	60N at 10r/s
Repeated positioning accuracy	mm	±0.005mm
Weight	g	About 1500g
Step size	mm	0.05mm

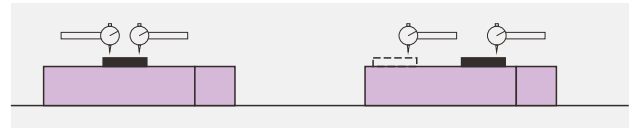
Wiring diagram



Parallelism test

Parallelism between mounting surface and base $\leq 0.02\text{mm}$

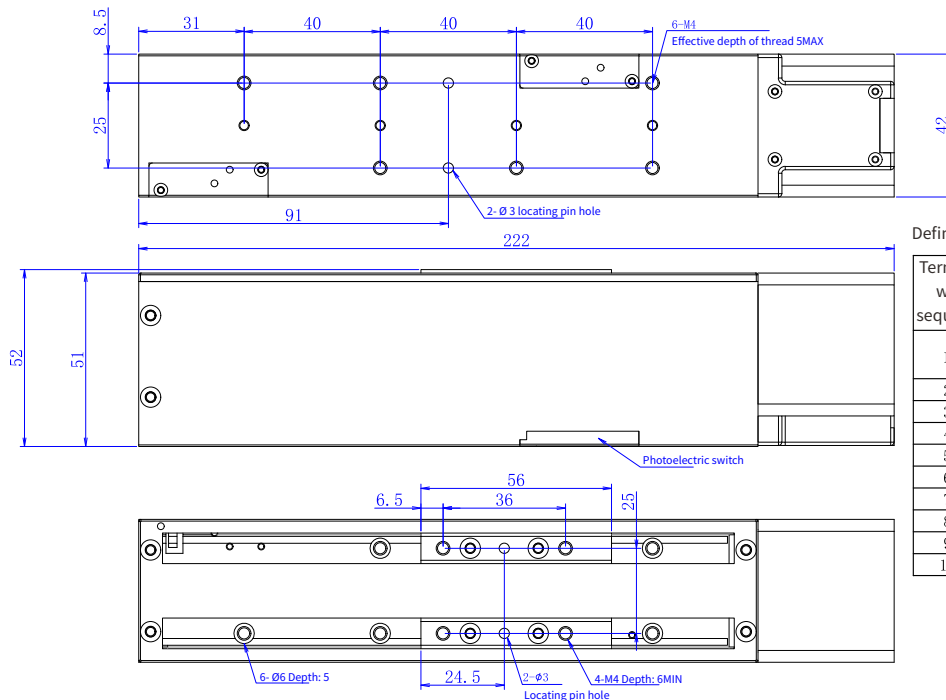
Walking parallelism between mounting surface and base $\leq 0.02\text{mm}$



- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

- **KF42D40-10GZ-100** linear type



Definition of outgoing line

Terminal wire sequence	Wire color	Definition
1	Bold black (shielding)	E
2	Blue	A+
3	Blue/white	A-
4	Green	B+
5	Green/white	B-
6	Red	V+
7	Black	GND
8	Purple	Limit +
9	Purple/white	Limit -
10	Yellow	Blank

- Optional wire KFGH10-30.

KF42D40-10GZ-150 Width 42mm* Height 52 mm linear DC power input

Reading mode of item name

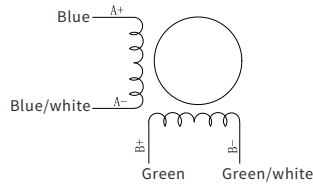
Model	Motor Flange size	Motor Step angle	Motor thickness	Lead	Type of lead screw	Effective travel	Motor type
KF	42	D	40	10	GZ	150	
KF : KAIFULL	42 : 42mm	D : 1.8°	40 : 40mm	02 : 2mm 05 : 5mm 10 : 10mm	GZ : Ball leadscrew LC : Trapezoidal screw	50 : 50mm 100 : 100mm 150 : 150mm 200 : 200mm	D : Motor with rear axle E : Motor with closed-loop control M : Motor with brake No



Specification of electric sliding table

Step angle	1.8°
Number of phases	2
Insulation resistance	100M Ω MIN(500V DC)
Class of insulation	Class B/ winding
Driving voltage	VDC 24V DC
Rated current	A 1.5A
Resistance	2.2Ω
Inductor	mH 4.6mH
Stroke	mm 150mm
Lead	mm 10mm
Type of lead screw	Ball leadscrew
Precision class	C5
Output thrust	N 60N at 10r/s
Repeated positioning accuracy	mm ±0.005mm
Weight	g About 2000g
Step size	mm 0.05mm

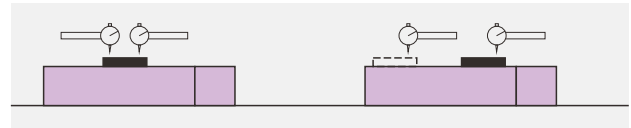
Wiring diagram



Parallelism test

Parallelism between mounting surface and base $\leq 0.02\text{mm}$

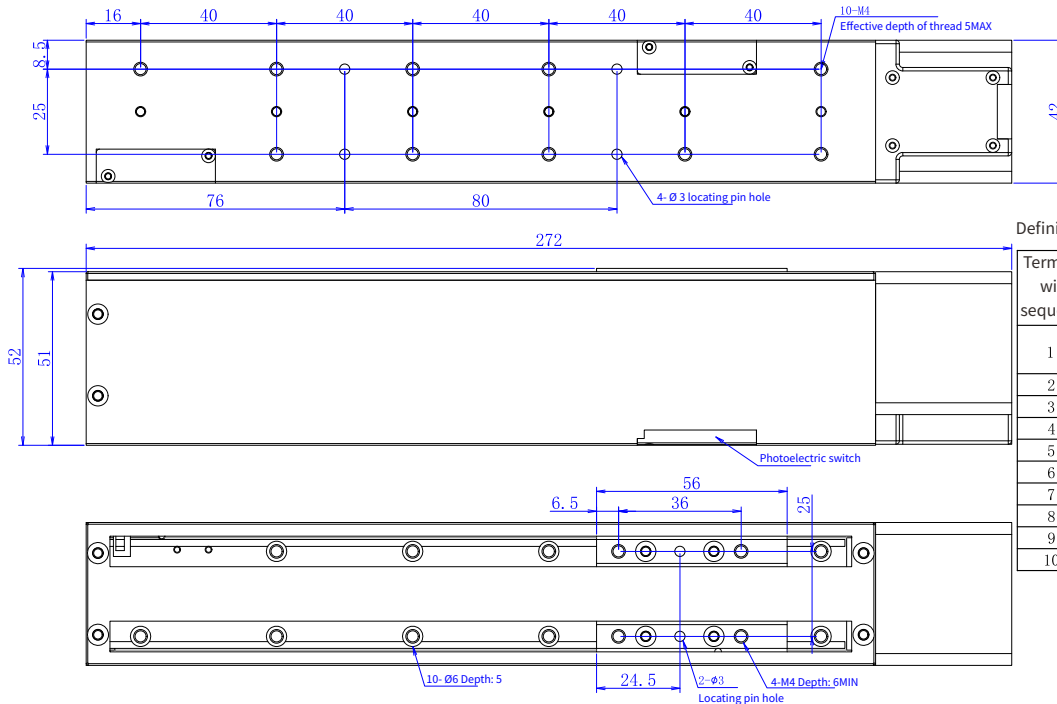
Walking parallelism between mounting surface and base $\leq 0.02\text{mm}$



● The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

● **KF42D40-10GZ-150** linear type



Definition of outgoing line

Terminal wire sequence	Wire color	Definition
1	Bold black (shielding)	E
2	Blue	A+
3	Blue/white	A-
4	Green	B+
5	Green/white	B-
6	Red	V+
7	Black	GND
8	Purple	Limit +
9	Purple/white	Limit -
10	Yellow	Blank

● Optional wire KFGH10-30.

KF42D40-10GZ-200 Width 42mm* Height 52 mm linear DC power input

Electric slide table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

G20Z

M28Z

Electric clamping jaw

DG2

DG3



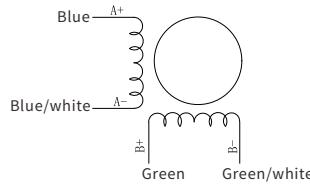
Reading mode of item name

Model	Motor Flange size	Motor Step angle	Motor thickness	Lead	Type of lead screw	Effective travel	Motor type
KF	42	D	40	10	GZ	200	
KF : KAIFULL	42 : 42mm	D : 1.8°	40 : 40mm	02 : 2mm 05 : 5mm 10 : 10mm	GZ : Ball leadscrew LC : Trapezoidal screw	50 : 50mm 100 : 100mm 150 : 150mm 200 : 200mm	D : Motor with rear axle E : Motor with closed-loop control M : Motor with brake No

Specification of electric sliding table

Step angle		1.8°
Number of phases		2
Insulation resistance		100M Ω MIN(500V DC)
Class of insulation		Class B/ winding
Driving voltage	VDC	24V DC
Rated current	A	1.5A
Resistance		2.2Ω
Inductor	mH	4.6mH
Stroke	mm	200mm
Lead	mm	10mm
Type of lead screw		Ball leadscrew
Precision class		C5
Output thrust	N	60N at 10r/s
Repeated positioning accuracy	mm	±0.005mm
Weight	g	About 2500g
Step size	mm	0.05mm

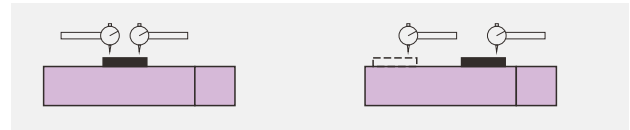
Wiring diagram



Parallelism test

Parallelism between mounting surface and base $\leq 0.02\text{mm}$

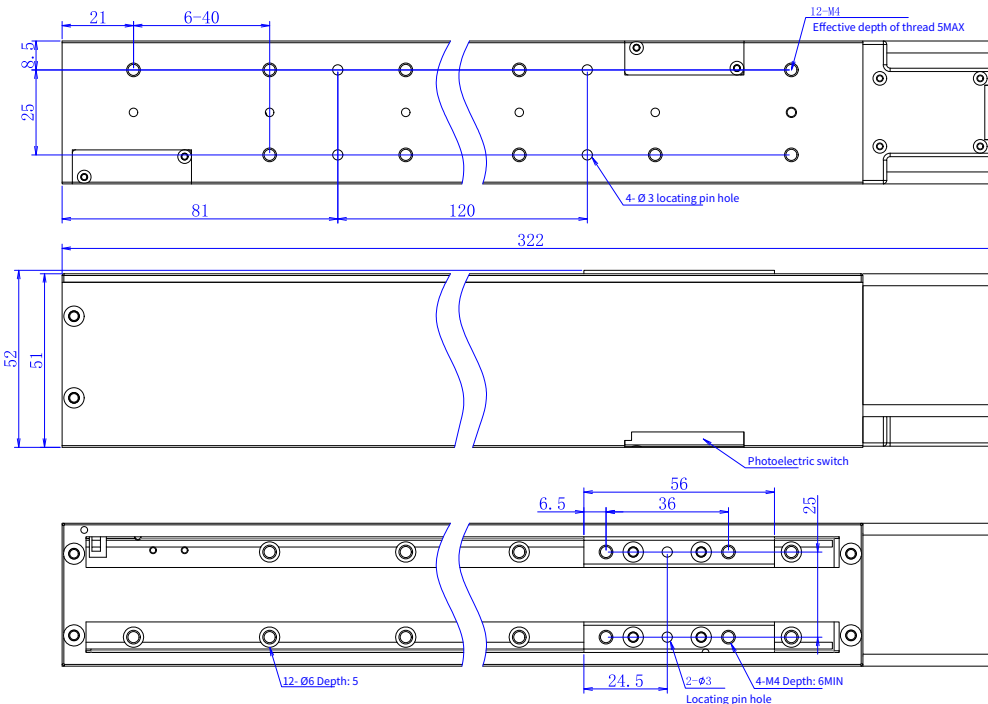
Walking parallelism between mounting surface and base $\leq 0.02\text{mm}$



- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

KF42D40-10GZ-200 linear type



Definition of outgoing line

Terminal wire sequence	Wire color	Definition
1	Bold black (shielding)	E
2	Blue	A+
3	Blue/white	A-
4	Green	B+
5	Green/white	B-
6	Red	V+
7	Black	GND
8	Purple	Limit +
9	Purple/white	Limit -
10	Yellow	Blank

- Optional wire KFGH10-30.

DRSZ-030LS-1.4ST Width 18.3 mm* Height 24.3 mm DC power input

Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
DRS	Z	030L	S	1.4		ST	
DRS : Electric push rod	A-Z	000L : Custom travel 020L : 20mm 030L : 30mm 050L : 50mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 1.4 : 1.4mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive No



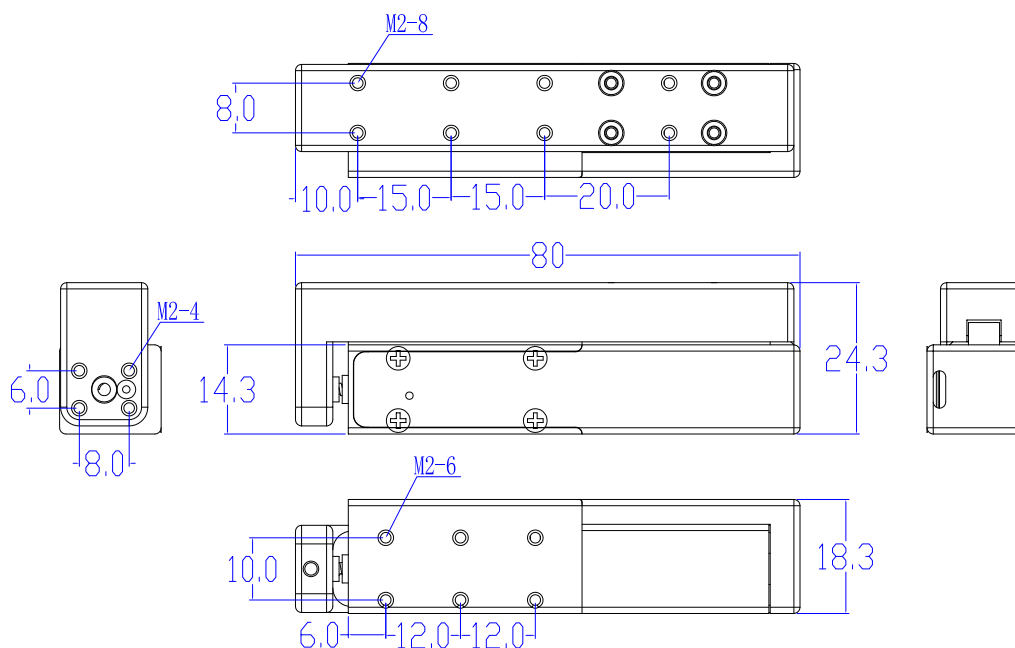
Specification of electric push rod

Motor		14 stepper motor
Stroke	mm	30mm
Screw type		Custom nut/ ball
Lead	mm	1.4mm
Max. speed	mm/s	30mm/s
Maximum vertical load	g	50g
Maximum horizontal load	Kg	150g
Repeated positioning accuracy	mm	±0.02mm
Rated voltage	VDC	24V DC
Peak current	A	0.4A
Applicable controller		Y2SD1R5
Operating environment		0-40°C, 85%RH or below
IP		IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

DRSZ-030LS-1.4ST



DRSZ-040LS-1.4ST Width 24.2 mm* Height 32.2 mm DC power input

Electric slide table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

G20Z

M26Z

Electric clamping jaw

DG2

DG3



Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
DRS	Z	040L	S	1.4		ST	
DRS : Electric push rod	A-Z	000L : Custom travel 020L : 20mm 030L : 30mm 040L : 40mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 1.4 : 1.4mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive No

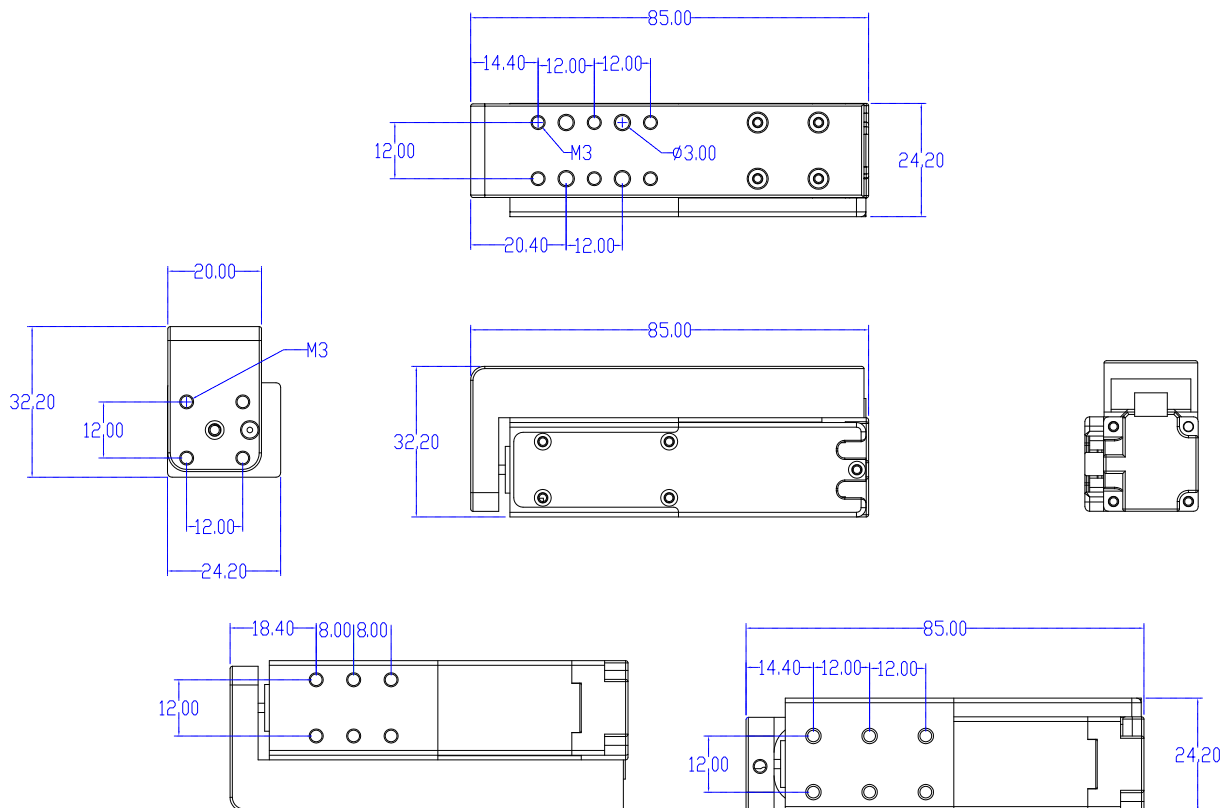
Specification of electric push rod

Motor		20 stepper motor
Stroke	mm	40mm
Screw type		Custom nut/ ball
Lead	mm	1.4mm
Max. speed	mm/s	30mm/s
Maximum vertical load	g	500g
Maximum horizontal load	Kg	2Kg
Repeated positioning accuracy	mm	±0.02mm
Rated voltage	VDC	24V DC
Peak current	A	0.5A
Applicable controller		Y2SD1R5
Operating environment		0-40°C, 85%RH or below
IP		IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

DRSZ-030LS-1.4ST



DRSZ-035LS-2STB Width 32 mm* Height 43 mm DC power input

Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
DRS	Z	035L	S	2		ST	B
DRS : Electric push rod	A-Z	000L : Custom travel 020L : 20mm 035L : 35mm 050L : 50mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive



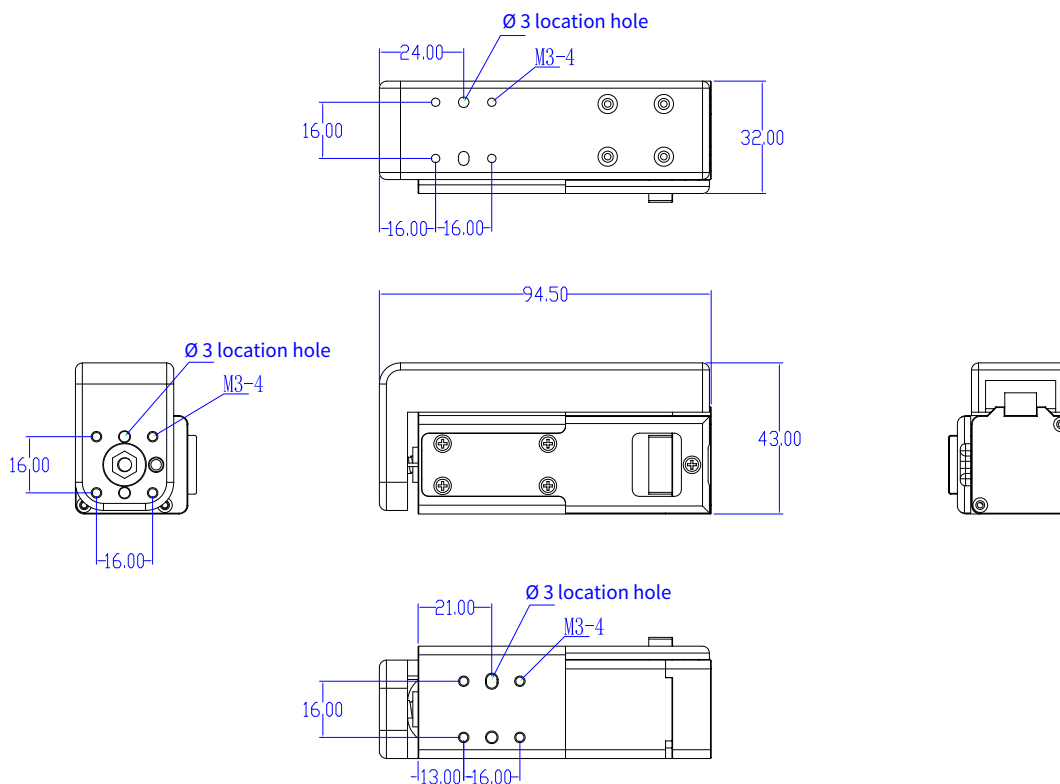
Specification of electric push rod

Motor		28 stepper motor
Stroke	mm	35mm
Screw type		Ball
Lead	mm	2mm
Max. speed	mm/s	30mm/s
Maximum vertical load	Kg	1Kg
Maximum horizontal load	Kg	2Kg
Repeated positioning accuracy	mm	±0.01mm
Rated voltage	VDC	24V DC
Peak current	A	0.8A
Applicable controller		Y2SD1R5
Operating environment		0-40°C, 85%RH or below
IP		IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

DRSZ-035LS-2STB



DRSZ-060LS-2STB Width 32 mm* Height 43 mm DC power input

Electric slide table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

G20Z

M26Z

Electric clamping jaw

DG2

DG3



Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
DRS	Z	060L	S	2		ST	B
DRS : Electric push rod	A-Z	000L : Custom travel 020L : 20mm 030L : 30mm 060L : 60mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive

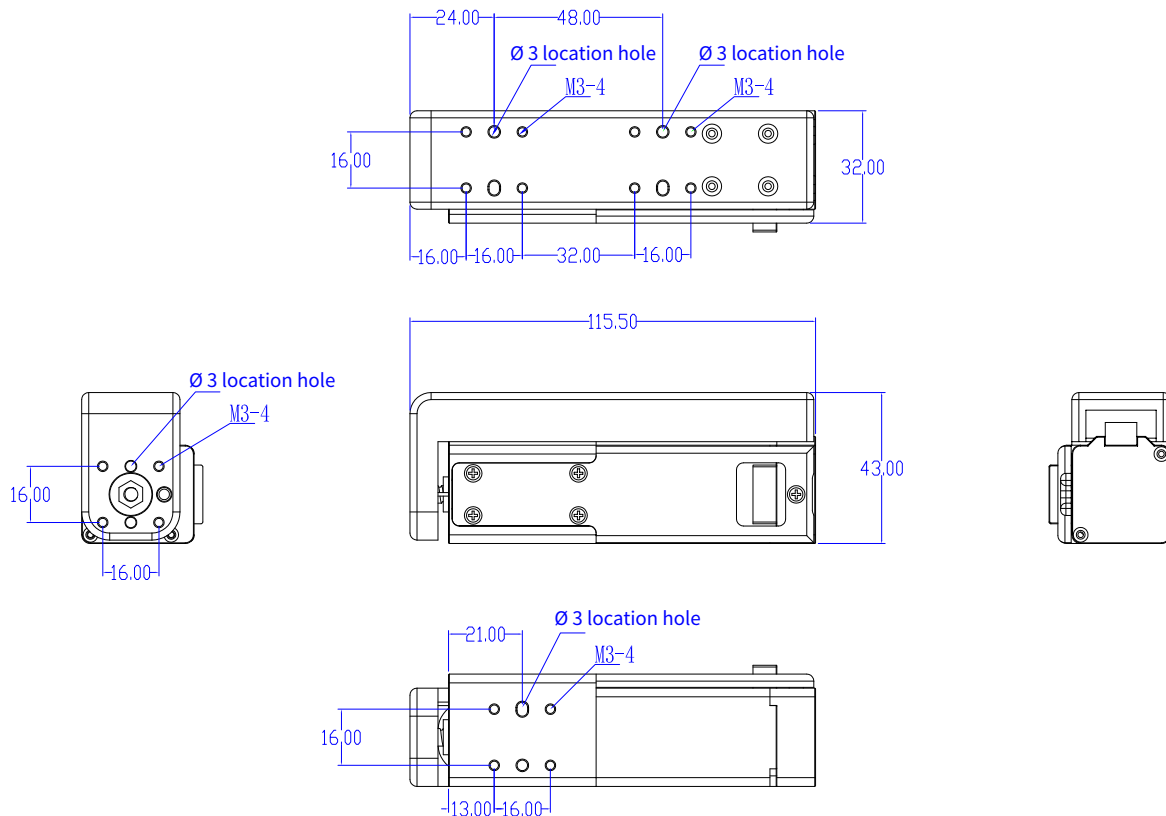
Specification of electric push rod

Motor		28 stepper motor
Stroke	mm	60mm
Screw type		Ball
Lead	mm	2mm
Max. speed	mm/s	30mm/s
Maximum vertical load	Kg	2Kg
Maximum horizontal load	Kg	4Kg
Repeated positioning accuracy	mm	±0.01mm
Rated voltage	VDC	24V DC
Peak current	A	1.0A
Applicable controller		Y2SD1R5
Operating environment		0-40°C, 85%RH or below
IP		IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

DRSZ-060LS-2STB



DRSZ-110LS-2STB Width 32 mm* Height 43 mm DC power input

Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
DRS	Z	110L	S	2		ST	B
DRS : Electric push rod	A-Z	000L : Custom travel 020L : 20mm 030L : 30mm 110L : 110mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor K : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive



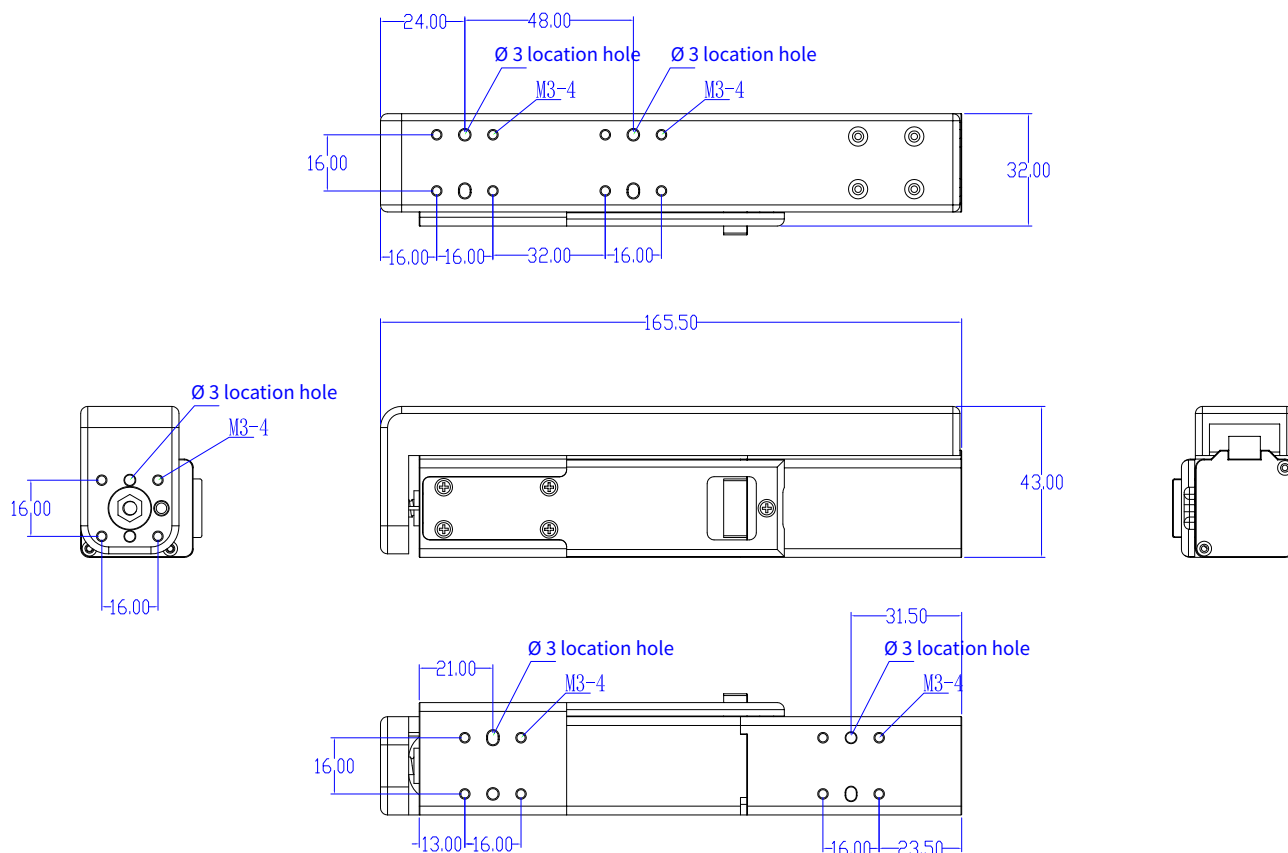
Specification of electric push rod

Motor		28 stepper motor
Stroke	mm	110mm
Screw type		Ball
Lead	mm	2mm
Max. speed	mm/s	30mm/s
Maximum vertical load	Kg	2Kg
Maximum horizontal load	Kg	4Kg
Repeated positioning accuracy	mm	±0.02mm
Rated voltage	VDC	24V DC
Peak current	A	1.0A
Applicable controller		Y2SD1R5
Operating environment		0-40°C, 85%RH or below
IP		IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

DRSZ-110LS-2STB



DRSZ-050LS-2STEB Width 32 mm* Height 43 mm DC power input

Electric slide table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

G20Z

M26Z

Electric clamping jaw

DG2

DG3



Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
DRS	Z	050L	S	2		STE	B
DRS : Electric push rod	A-Z	000L : Custom travel 020L : 20mm 030L : 30mm 050L : 50mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive

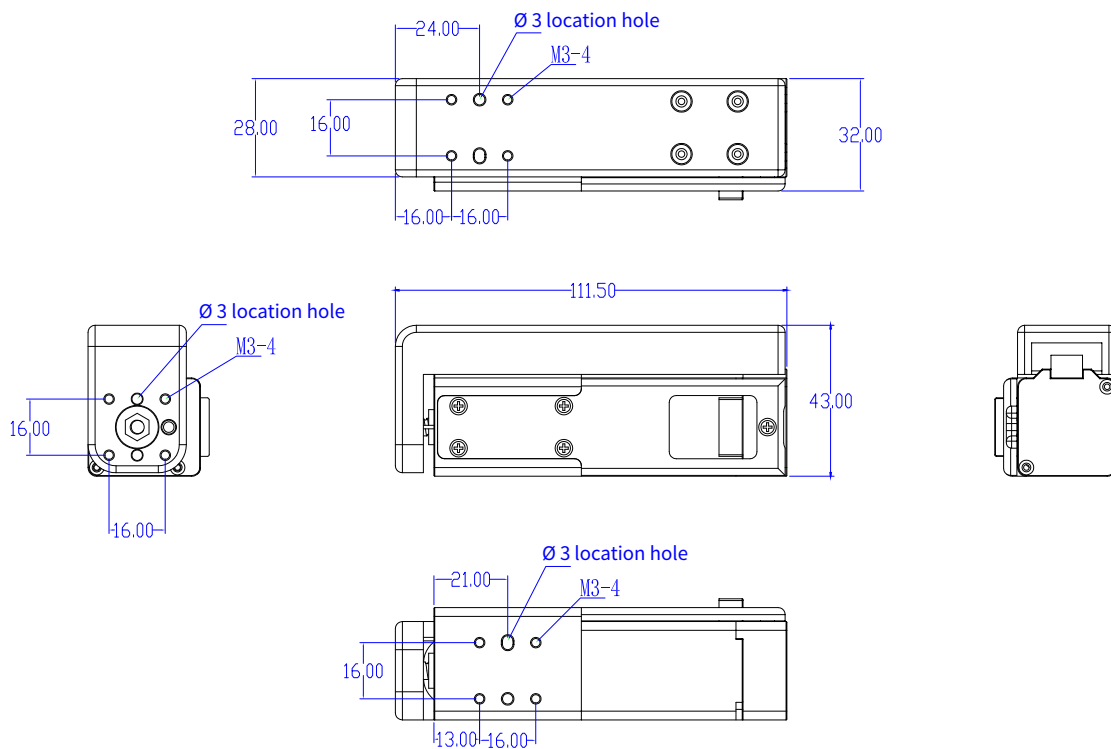
Specification of electric push rod

Motor	28 Encoder stepper motor
Stroke	mm 50mm
Screw type	Ball
Lead	mm 2mm
Max. speed	mm/s 30mm/s
Maximum vertical load	Kg 2Kg
Maximum horizontal load	Kg 4Kg
Repeated positioning accuracy	mm ±0.01mm
Rated voltage	VDC 24V DC
Peak current	A 1.2A
Applicable controller	Y2SS3
Operating environment	0-40°C, 85%RH or below
IP	IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

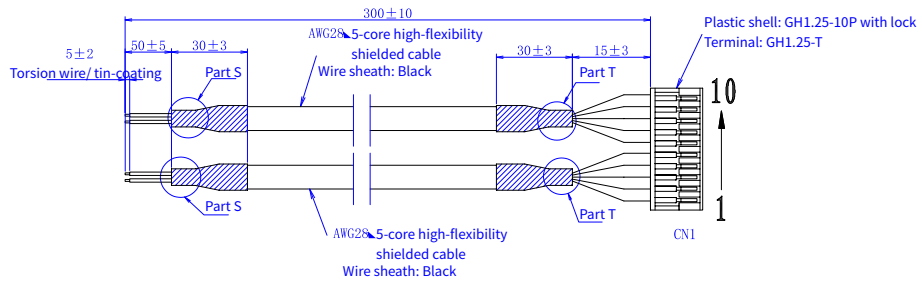
DRSZ-050LS-2STEB



Optional accessories

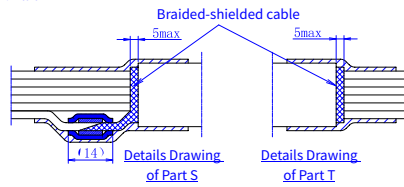
Optional wire

● KFGH10-30



Notes:

1. The pull-out power of each motor lead is 14.7N (1.5kgf) or more
2. Leads must be from the unified supplier
3. The length difference of cables should be less than 5 mm
4. The shielded cables should be wrapped in a heat-shrink tubes



Kaifull Electronics Technology

Electric cylinder Electric clamping jaw

Small volume, space saving

Built-in photoelectric sensor

Easy to connect wires and control



Reading method of Specification

Take the specification of electric sliding table for example to introduce the reading method of the Specification.

Specification of electric sliding table

① Motor		28 stepper motor
② Travel	mm	35mm
③ Screw type		Ball
④ Lead	mm	2mm
⑤ Max. speed	mm/s	30mm/s
⑥ Maximum vertical load	Kg	1Kg
⑦ Maximum horizontal load	Kg	2Kg
⑧ Repeated positioning accuracy	mm	±0.01mm
⑨ Rated voltage	VDC	24V DC
⑩ Peak current	A	0.8A
⑪ Applicable controller		Y2SD1R5
⑫ Operating environment		0-40°C, 85%RH or below
⑬ IP		IP40

● Note that use methods may vary with products. Please refer to the notes of the product pages for further details.

① Motor

Motor type and size.

② Travel

Total advancing distance of worktable.

③ Screw type

According to friction characteristics, lead screw can be divided into three types: sliding screw, Ball leadscrew and static lead screw.

④ Lead

Advancing distance of worktable toward linear direction when the motor rotates by a revolution.

⑤ Max. speed

Maximum speed of maximum handling mass.

⑥ Maximum vertical load

Maximum operating mass according to the specified motion performance when operating electric cylinder in vertical direction.

⑦ Maximum horizontal load

Maximum operating mass according to the specified motion performance when operating electric cylinder in horizontal direction.

⑧ Repeated positioning accuracy

The error generated when the positioning is repeated in the same position in the same direction. (Accuracy is the value under a certain temperature and a certain load).

⑨ Rated voltage

Maximum output power voltage of device under normal operation.

⑩ Peak current

Current of device at maximum load.

⑪ Applicable controller

A device applicable for controlling the startup, speed regulation, braking and reversing of motor.

⑫ Operating environment

The temperature range in which the use of the equipment will be not affected, thus resulting in measurement deviation.

⑬ IP

Level preventing dust and foreign ingress, namely preventing the ingress of solid objects greater than 1.0mm.

Types and features of electric cylinder

● DC power input

◇ Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
G20	Z	050L	S	2		ST	T
G20 : Electric cylinder M28 : Electric cylinder	A-Z	000L : Custom travel 020L : 20mm 030L : 30mm 050L : 050mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor K : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive

G20Z-050L-2STT

Width 20 mm* Height 20 mm DC power input

Electric slide table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

G20Z

M28Z

Electric clamping jaw

DG2

DG3



Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
G20	Z	050L		2		ST	T
G20 : Electric cylinder	A-Z	000L : Custom travel 020L : 20mm 030L : 30mm 050L : 50mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive

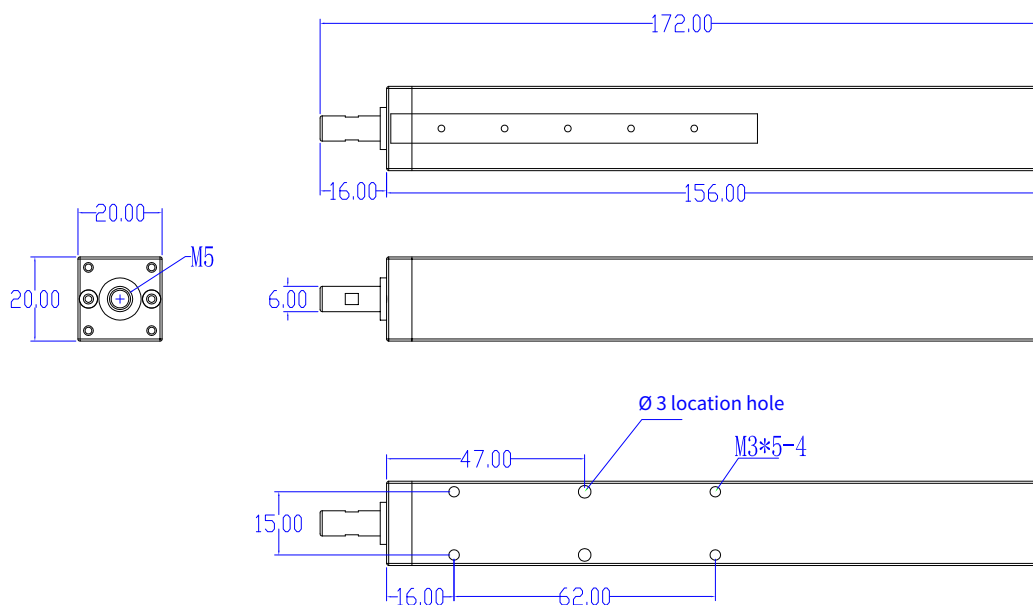
Specification of electric cylinder

Motor		20 stepper motor
Stroke	mm	50mm
Screw type		Trapeziod
Lead	mm	2mm
Max. speed	mm/s	30mm/s
Maximum vertical load	Kg	0.8Kg
Maximum horizontal load	Kg	2Kg
Repeated positioning accuracy	mm	±0.02mm
Rated voltage	VDC	24V DC
Peak current	A	1.0A
Applicable controller		Y2SD1R5
Operating environment		0-40°C, 85%RH or below
IP		IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

G20Z-050L-2STT



G20Z-050LS-2STT Width 20 mm* Height 35 mm DC power input

Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
G20	Z	050L	S	2		ST	T
G20 : Electric cylinder	A-Z	000L : Custom travel 020L : 20mm 030L : 30mm 050L : 50mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive



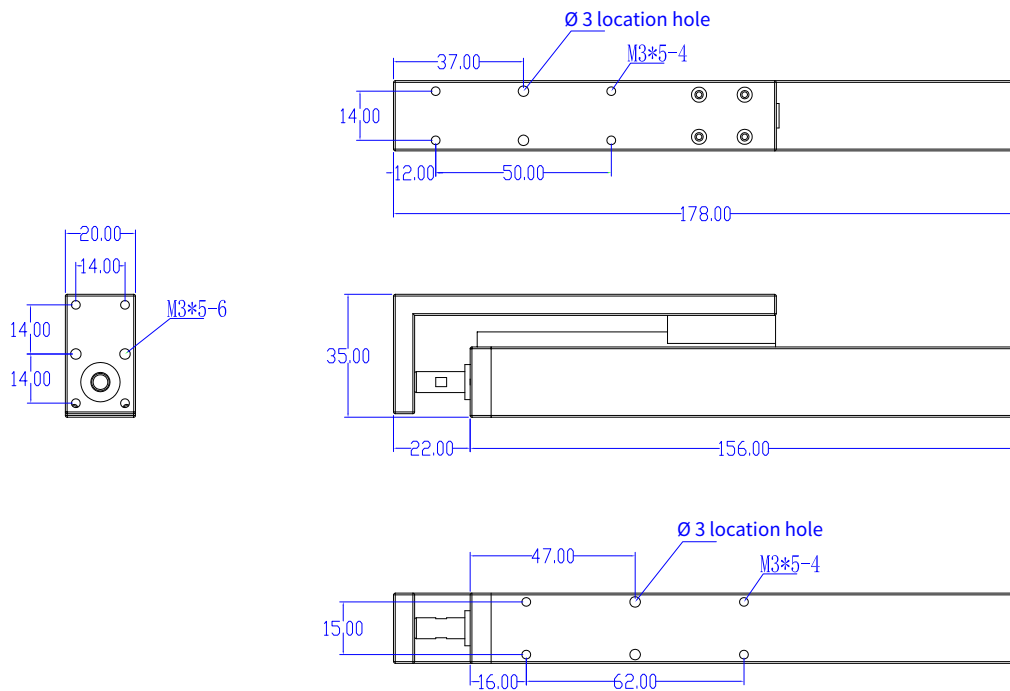
Specification of electric cylinder

Motor		20 stepper motor
Stroke	mm	50mm
Screw type		Trapeziod
Lead	mm	2mm
Max. speed	mm/s	30mm/s
Maximum vertical load	Kg	0.8Kg
Maximum horizontal load	Kg	2Kg
Repeated positioning accuracy	mm	±0.02mm
Rated voltage	VDC	24V DC
Peak current	A	1.0A
Applicable controller		Y2SD1R5
Operating environment		0-40°C, 85%RH or below
IP		IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

G20Z-050LS-2STT



G20Z-080L-2STT

Width 20 mm* Height 20 mm DC power input

Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
G20	Z	080L		2		ST	T
G20 : Electric cylinder	A-Z	000L : Custom travel 020L : 20mm 030L : 30mm 080L : 80mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive



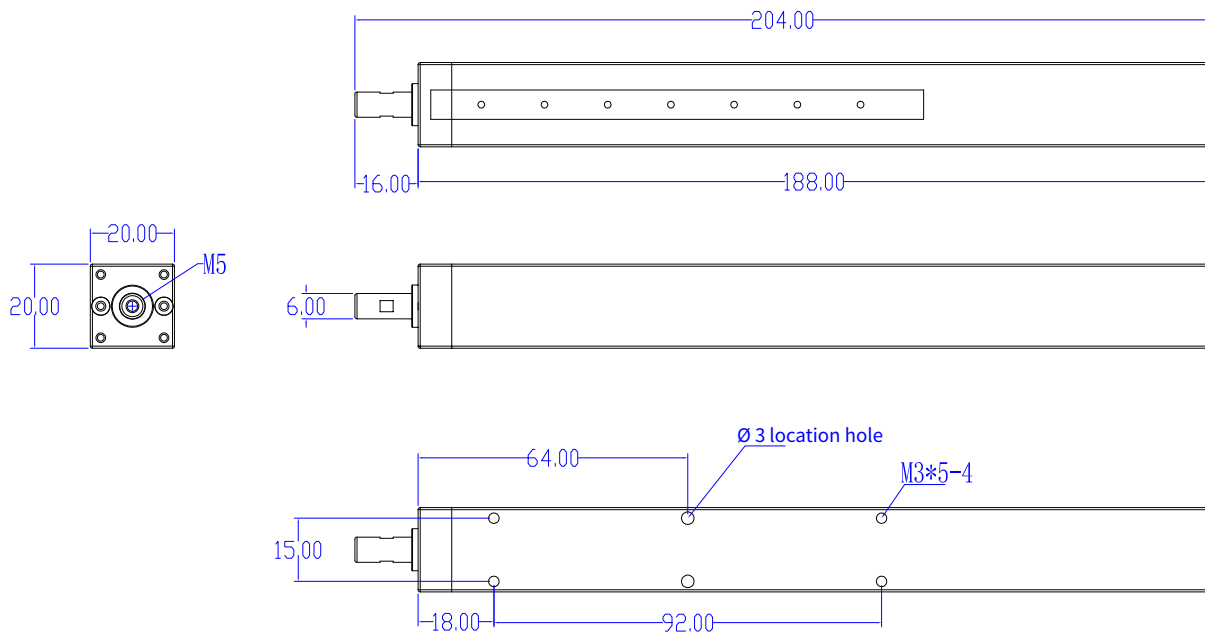
Specification of electric cylinder

Motor	20 stepper motor
Stroke	mm 80mm
Screw type	Trapeziod
Lead	mm 2mm
Max. speed	mm/s 30mm/s
Maximum vertical load	Kg 0.8Kg
Maximum horizontal load	Kg 2Kg
Repeated positioning accuracy	mm ±0.02mm
Rated voltage	VDC 24V DC
Peak current	A 1.0A
Applicable controller	Y2SD1R5
Operating environment	0-40°C, 85%RH or below
IP	IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

G20Z-080L-2STT



Electric slide table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

G20Z

M28Z

Electric clamping jaw

DG2

DG3

G20Z-080LS-2STT Width 20 mm* Height 35 mm DC power input

Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
G20	Z	080L	S	2		ST	T
G20 : Electric cylinder	A-Z	000L : Custom travel 020L : 20mm 030L : 30mm 080L : 80mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor K : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive



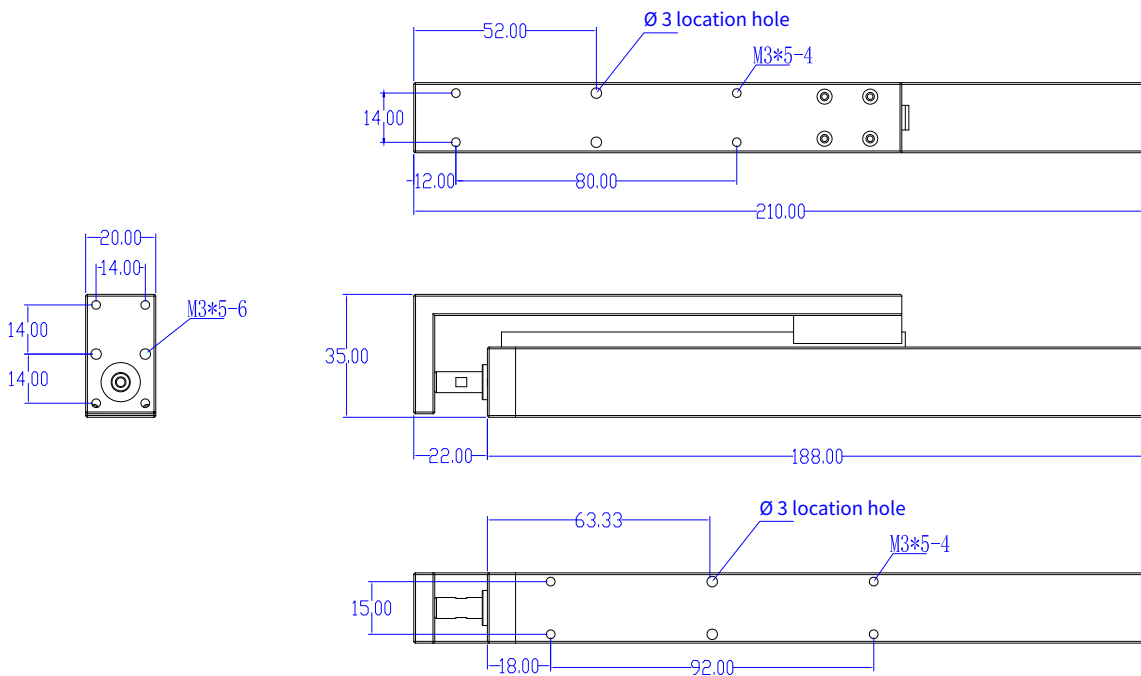
Specification of electric cylinder

Motor		20 stepper motor
Stroke	mm	80mm
Screw type		Trapeziod
Lead	mm	2mm
Max. speed	mm/s	30mm/s
Maximum vertical load	Kg	0.8Kg
Maximum horizontal load	Kg	2Kg
Repeated positioning accuracy	mm	±0.02mm
Rated voltage	VDC	24V DC
Peak current	A	1.0A
Applicable controller		Y2SD1R5
Operating environment		0-40°C, 85%RH or below
IP		IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

G20Z-080LS-2STT



M28Z-030L-2STT

Width 28 mm* Height 28 mm DC power input

Electric slide table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

G20Z

M28Z

Electric clamping jaw

DG2

DG3



Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
M28	Z	030L		2		ST	T
M28 : Electric cylinder	A-Z	000L : Custom travel 020L : 20mm 030L : 30mm 050L : 50mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive

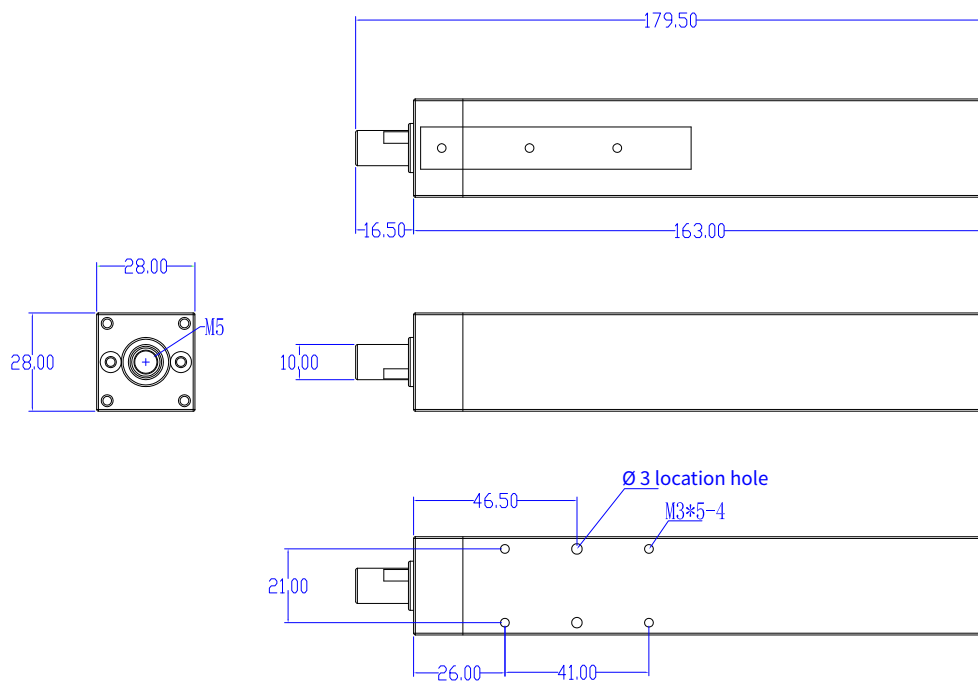
Specification of electric cylinder

Motor		28 stepper motor
Stroke	mm	30mm
Screw type		Trapeziod
Lead	mm	2mm
Max. speed	mm/s	30mm/s
Maximum vertical load	Kg	3Kg
Maximum horizontal load	Kg	6Kg
Repeated positioning accuracy	mm	±0.02mm
Rated voltage	VDC	24V DC
Peak current	A	1.0A
Applicable controller		Y2SD1R5
Operating environment		0-40°C, 85%RH or below
IP		IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

M28Z-030L-2STT



M28Z-030L-2SVT

Width 28 mm* Height 28 mm DC power input

Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
M28	Z	030L		2		SV	T
M28 : Electric cylinder	A-Z	000L : Custom travel 020L : 20mm 030L : 30mm 050L : 50mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive



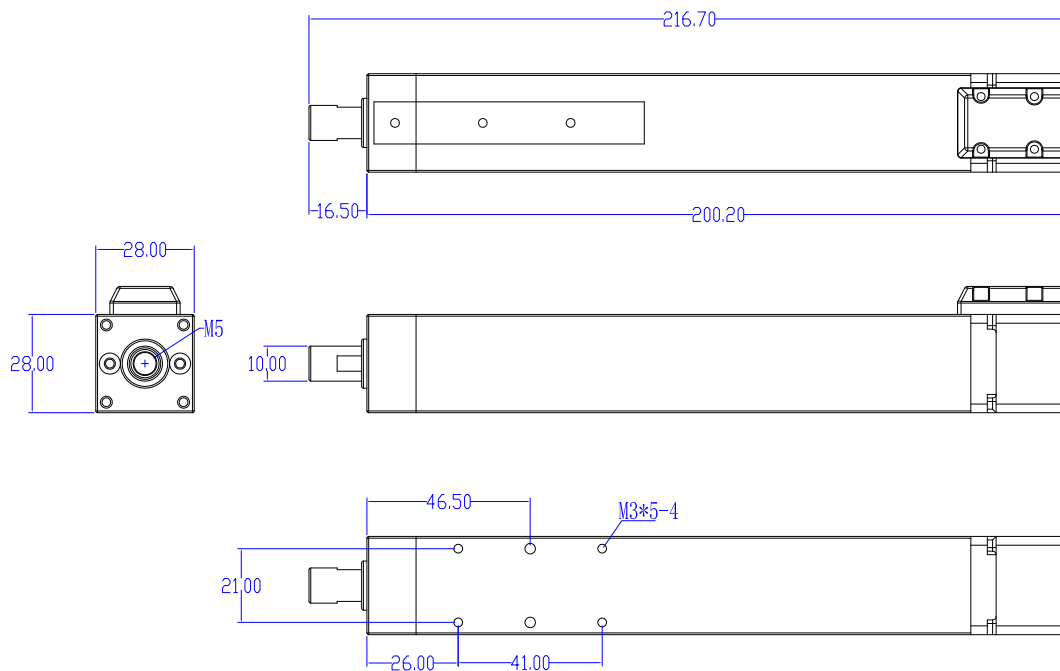
Specification of electric cylinder

Motor		28 servo
Stroke	mm	30mm
Screw type		Trapeziod
Lead	mm	2mm
Max. speed	mm/s	100mm/s
Maximum vertical load	Kg	3Kg
Maximum horizontal load	Kg	6Kg
Repeated positioning accuracy	mm	±0.02mm
Rated voltage	VDC	24V DC
Peak current	A	1.65A
Applicable controller		IDS 306
Operating environment		0-40°C, 85%RH or below
IP		IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

M28Z-030L-2SVT



M28Z-030LS-2STT Width 28 mm* Height 48.5 mm DC power input

Electric slide table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

G20Z

M28Z

Electric clamping jaw

DG2

DG3



Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
M28	Z	030L	S	2		ST	T
M28 : Electric cylinder	A-Z	000L : Custom travel 020L : 20mm 030L : 30mm 050L : 50mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive

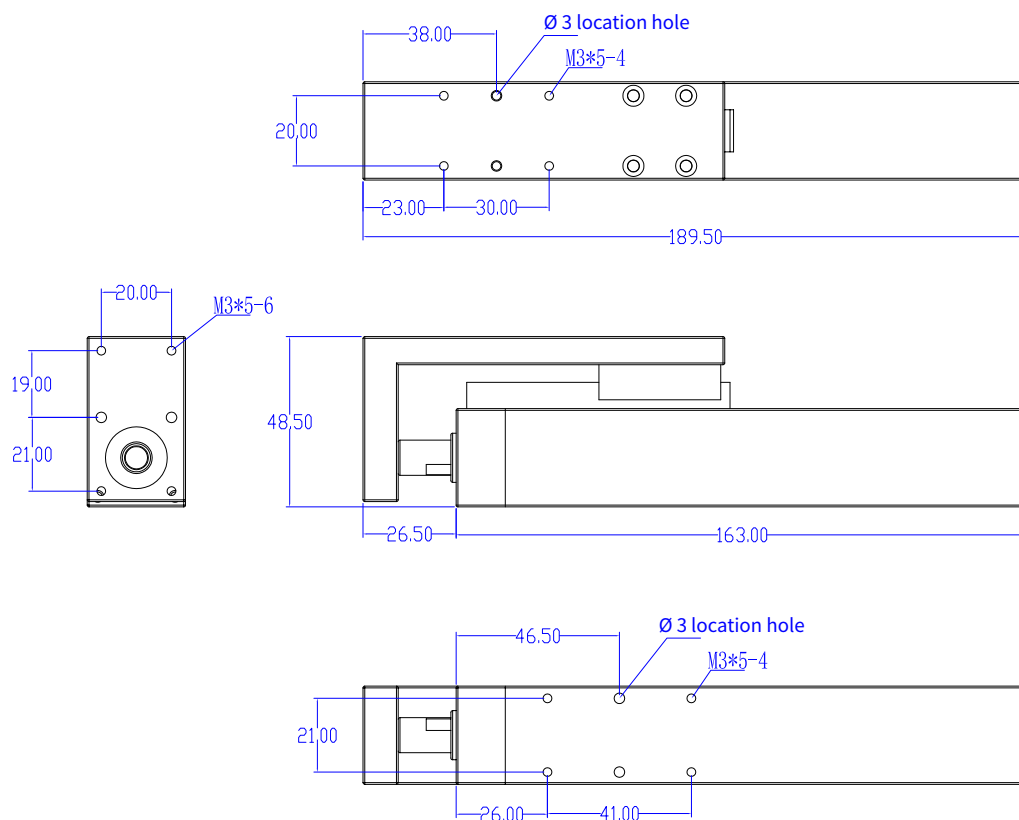
Specification of electric cylinder

Motor		28 stepper motor
Stroke	mm	30mm
Screw type		Trapeziod
Lead	mm	2mm
Max. speed	mm/s	30mm/s
Maximum vertical load	Kg	3Kg
Maximum horizontal load	Kg	6Kg
Repeated positioning accuracy	mm	±0.02mm
Rated voltage	VDC	24V DC
Peak current	A	1.0A
Applicable controller		Y2SD1R5
Operating environment		0-40°C, 85%RH or below
IP		IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

M28Z-030LS-2STT



M28Z-030LS-2SVT Width 28 mm* Height 48.5 mm DC power input

Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
M28	Z	030L	S	2		SV	T
M28 : Electric cylinder	A-Z	000L : Custom travel 020L : 20mm 030L : 30mm 050L : 50mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor K : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive



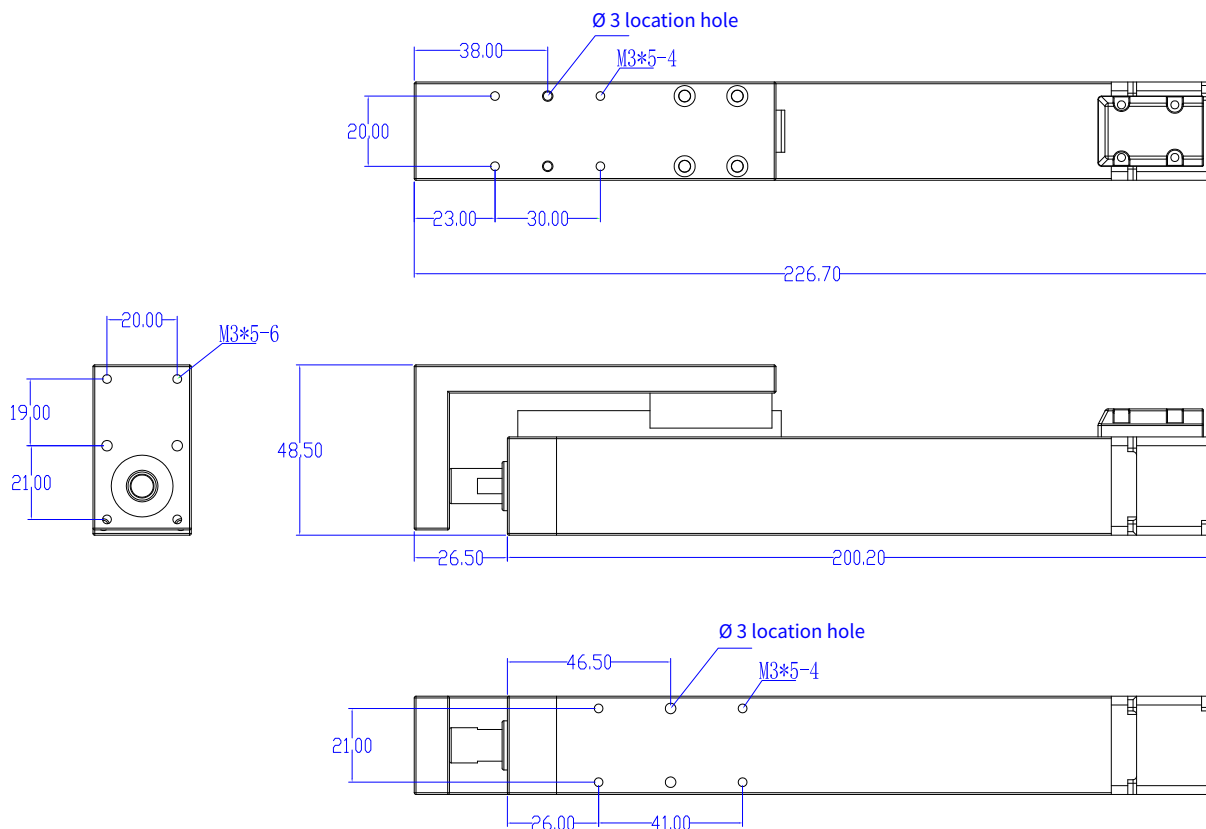
Specification of electric cylinder

Motor		28 servo
Stroke	mm	30mm
Screw type		Trapeziod
Lead	mm	2mm
Max. speed	mm/s	100mm/s
Maximum vertical load	Kg	3Kg
Maximum horizontal load	Kg	6Kg
Repeated positioning accuracy	mm	±0.02mm
Rated voltage	VDC	24V DC
Peak current	A	1.0A
Applicable controller		IDS 306
Operating environment		0-40°C, 85%RH or below
IP		IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

M28Z-030LS-2SVT



M28Z-060L-2STT

Width 28 mm* Height 28 mm DC power input

Electric slide table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

G20Z

M28Z

Electric clamping jaw

DG2

DG3



Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
M28	Z	060L		2		ST	T
M28 : Electric cylinder	A-Z	000L : Custom travel 020L : 20mm 030L : 30mm 060L : 60mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor K : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive

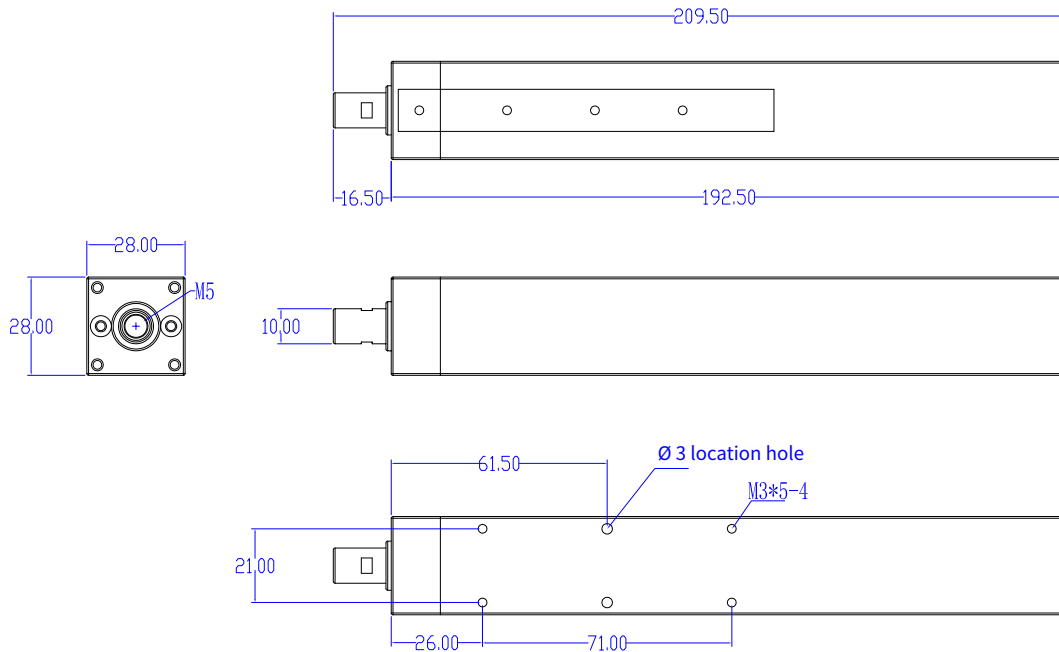
Specification of electric cylinder

Motor		28 stepper motor
Stroke	mm	60mm
Screw type		Trapeziod
Lead	mm	2mm
Max. speed	mm/s	30mm/s
Maximum vertical load	Kg	3Kg
Maximum horizontal load	Kg	6Kg
Repeated positioning accuracy	mm	±0.02mm
Rated voltage	VDC	24V DC
Peak current	A	1.0A
Applicable controller		Y2SD1R5
Operating environment		0-40°C, 85%RH or below
IP		IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

M28Z-060L-2STT



M28Z-060L-2SVT

Width 28 mm* Height 28 mm DC power input

Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
M28	Z	060L		2		SV	T
M28 : Electric cylinder	A-Z	000L : Custom travel 020L : 20mm 030L : 30mm 060L : 60mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive



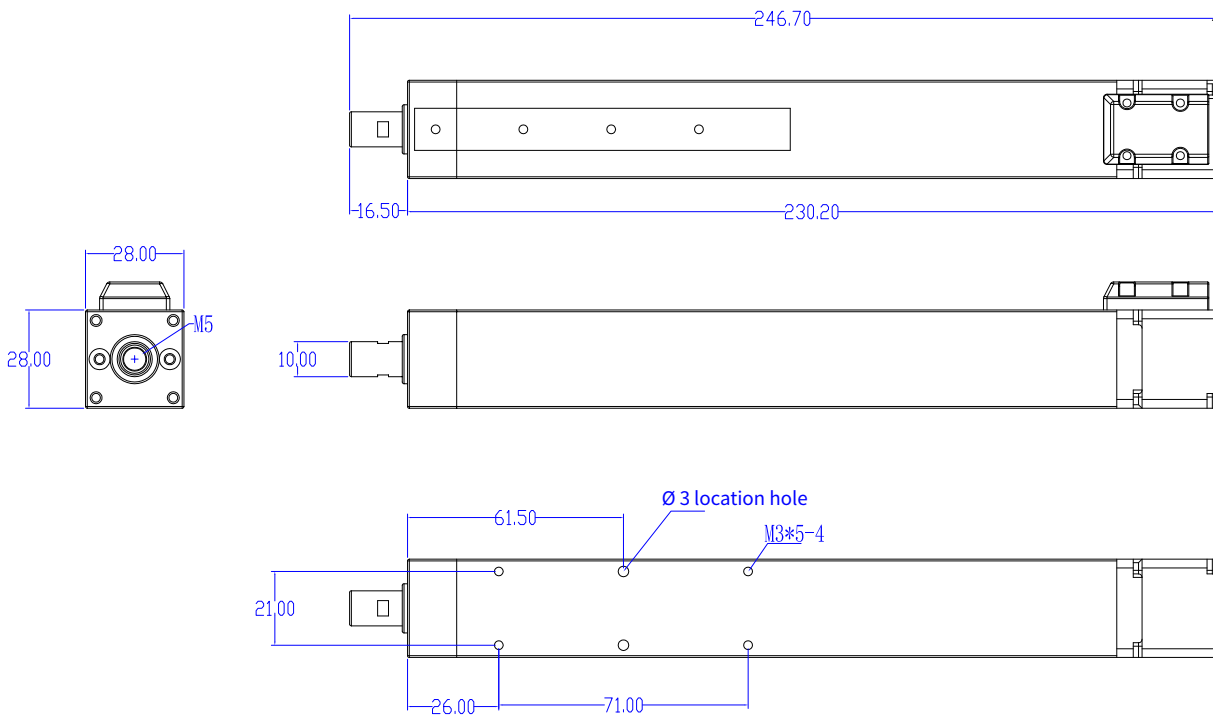
Specification of electric cylinder

Motor		28 servo
Stroke	mm	60mm
Screw type		Trapeziod
Lead	mm	2mm
Max. speed	mm/s	100mm/s
Maximum vertical load	Kg	3Kg
Maximum horizontal load	Kg	6Kg
Repeated positioning accuracy	mm	±0.02mm
Rated voltage	VDC	24V DC
Peak current	A	1.65A
Applicable controller		IDS 306
Operating environment		0-40°C, 85%RH or below
IP		IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

M28Z-060L-2SVT



M28Z-060LS-2STT Width 32 mm* Height 43 mm DC power input

Electric slide table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

G20Z

M28Z

Electric clamping jaw

DG2

DG3



Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
M28	Z	060L	S	2		ST	T
M28 : Electric cylinder	A-Z	000L : Custom travel 020L : 20mm 030L : 30mm 060L : 60mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive

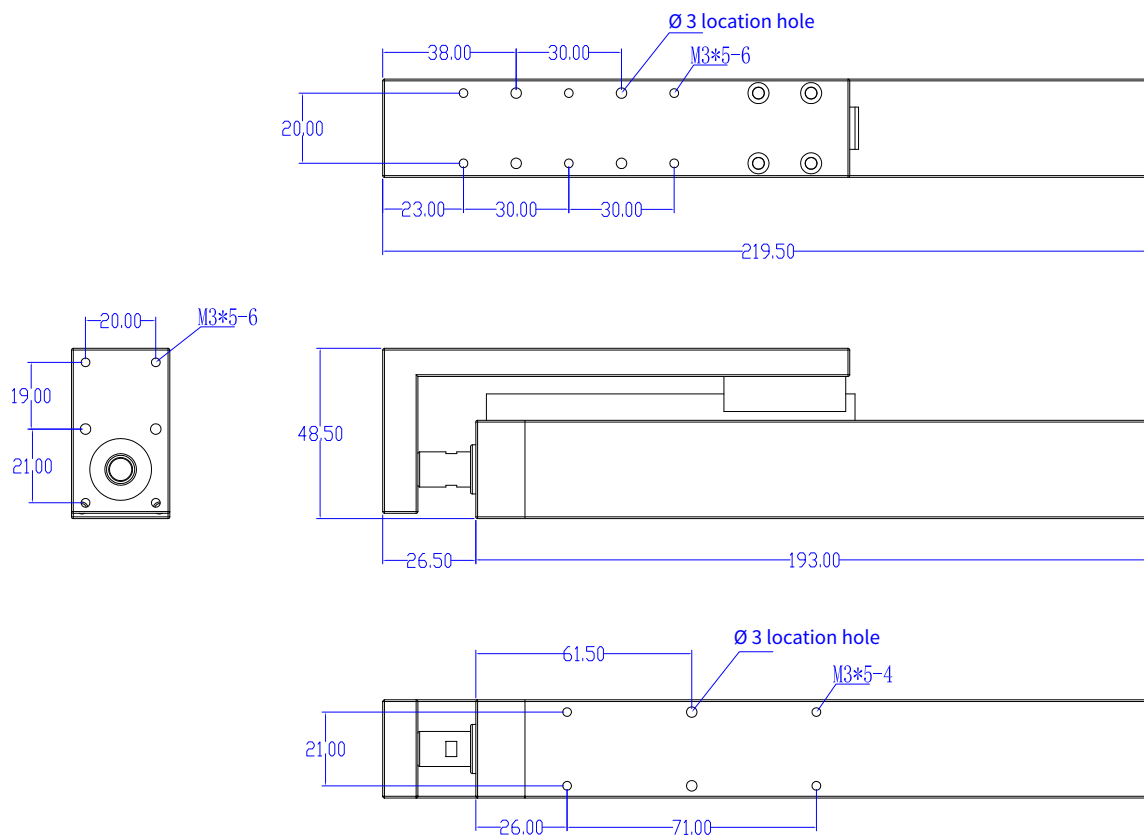
Specification of electric cylinder

Motor		28 stepper motor
Stroke	mm	60mm
Screw type		Trapeziod
Lead	mm	2mm
Max. speed	mm/s	30mm/s
Maximum vertical load	Kg	3Kg
Maximum horizontal load	Kg	6Kg
Repeated positioning accuracy	mm	±0.02mm
Rated voltage	VDC	24V DC
Peak current	A	1.0A
Applicable controller		Y2SD1R5
Operating environment		0-40°C, 85%RH or below
IP		IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

M28Z-060LS-2STT



M28Z-060LS-2SVT Width 28 mm* Height 48.5 mm DC power input

Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
M28	Z	060L	S	2		SV	T
M28 : Electric cylinder	A-Z	000L : Custom travel 020L : 20mm 030L : 30mm 060L : 60mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive



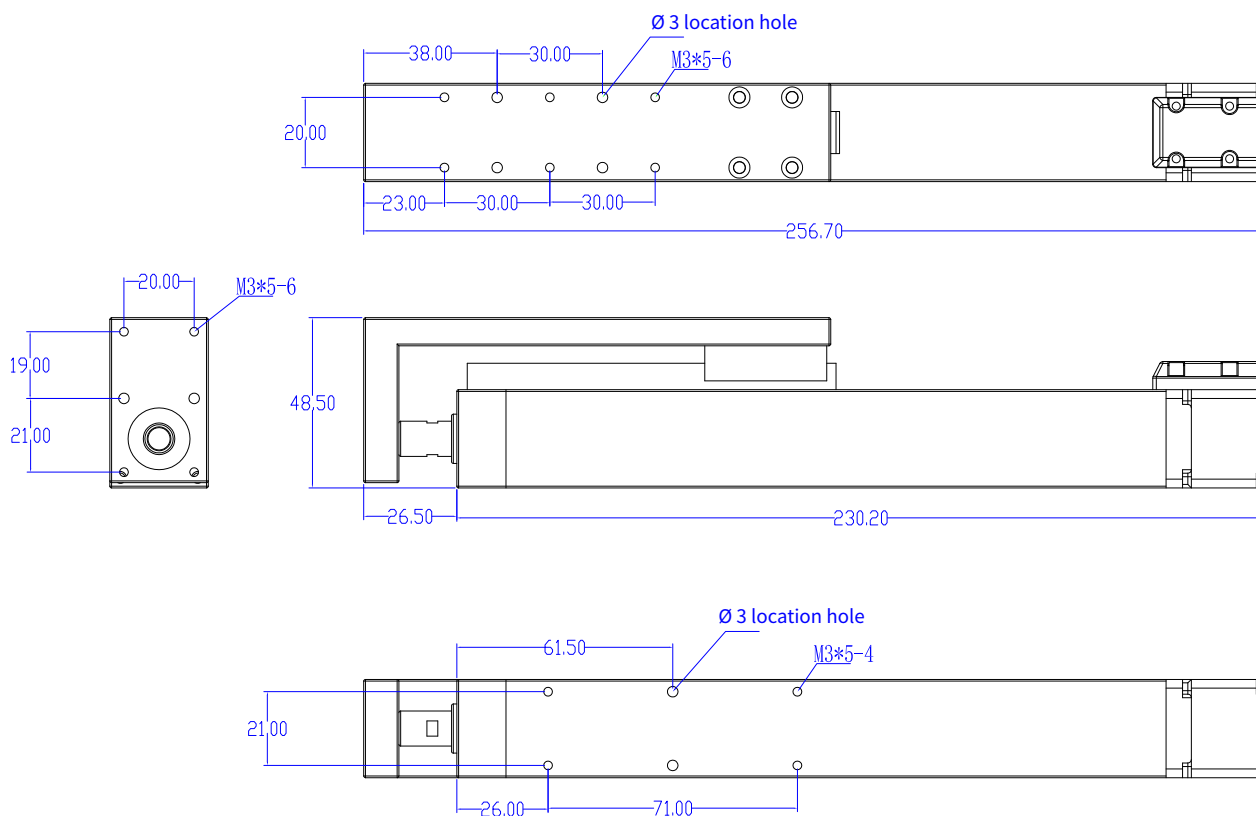
Specification of electric cylinder

Motor		28 servo
Stroke	mm	60mm
Screw type		Trapeziod
Lead	mm	2mm
Max. speed	mm/s	100mm/s
Maximum vertical load	Kg	3Kg
Maximum horizontal load	Kg	6Kg
Repeated positioning accuracy	mm	±0.02mm
Rated voltage	VDC	24V DC
Peak current	A	1.65A
Applicable controller		IDS 306
Operating environment		0-40°C, 85%RH or below
IP		IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

M28Z-060LS-2SVT



M28Z-100L-2STT

Width 28 mm* Height 28 mm DC power input

Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
M28	Z	100L		2		ST	T
M28 : Electric cylinder	A-Z	000L : Custom travel 020L : 20mm 030L : 30mm 100L : 100mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive



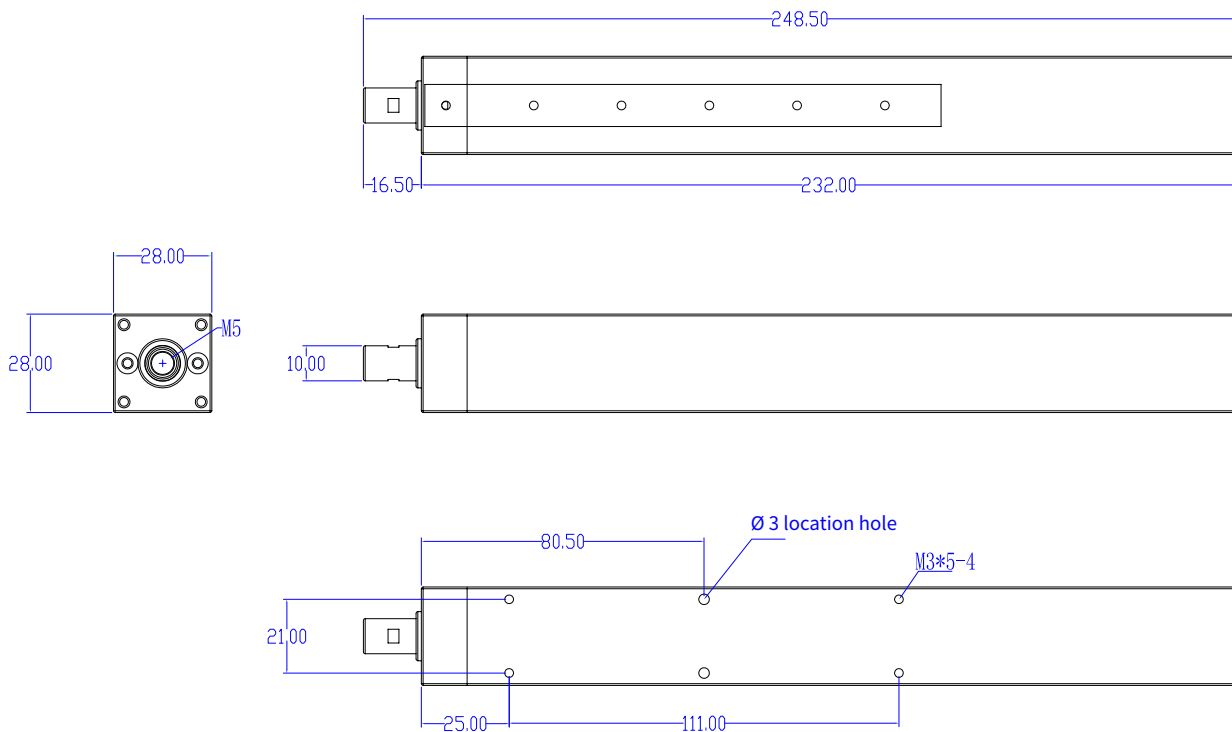
Specification of electric cylinder

Motor	28 stepper motor
Stroke	mm 100mm
Screw type	Trapeziod
Lead	mm 2mm
Max. speed	mm/s 30mm/s
Maximum vertical load	Kg 3Kg
Maximum horizontal load	Kg 6Kg
Repeated positioning accuracy	mm ±0.02mm
Rated voltage	VDC 24V DC
Peak current	A 1.0A
Applicable controller	Y2SD1R5
Operating environment	0-40°C, 85%RH or below
IP	IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

M28Z-100L-2STT



Electric slide table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

G20Z

M28Z

Electric clamping jaw

DG2

DG3

M28Z-100L-2SVT

Width 28 mm* Height 28 mm DC power input

Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
M28	Z	100L		2		SV	T
M28 : Electric cylinder	A-Z	000L : Custom travel 020L : 20mm 030L : 30mm 100L : 100mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive



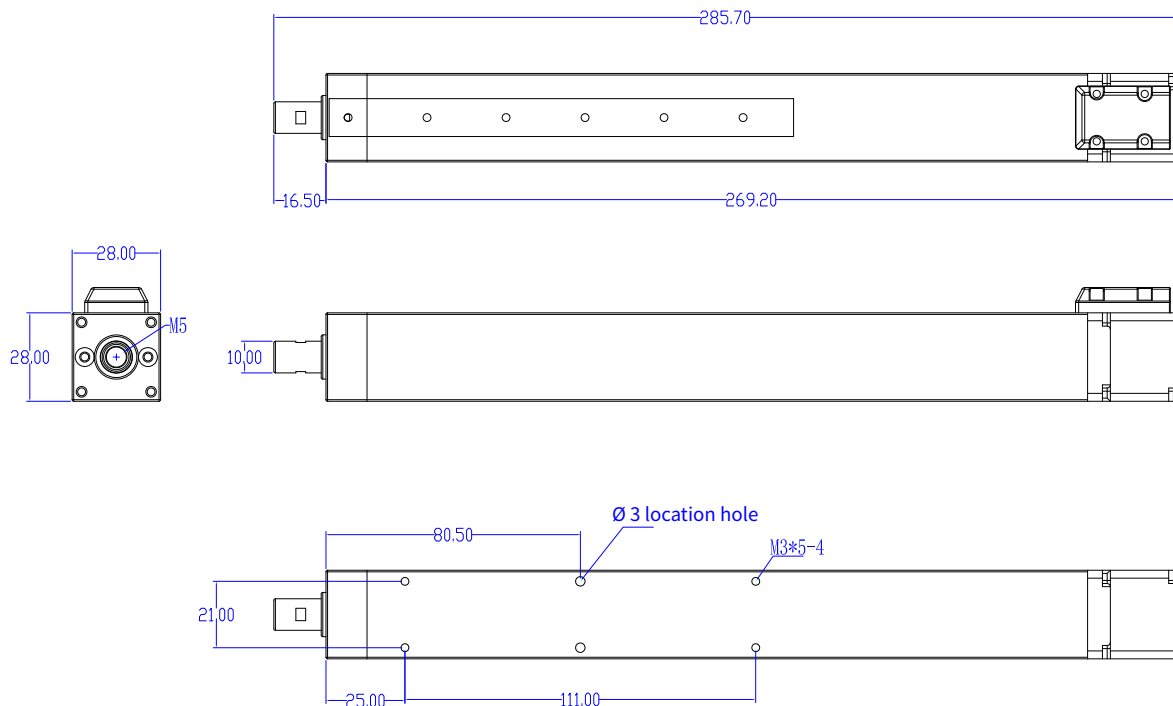
Specification of electric cylinder

Motor		28 servo
Stroke	mm	100mm
Screw type		Trapeziod
Lead	mm	2mm
Max. speed	mm/s	100mm/s
Maximum vertical load	Kg	3Kg
Maximum horizontal load	Kg	6Kg
Repeated positioning accuracy	mm	±0.02mm
Rated voltage	VDC	24V DC
Peak current	A	1.65A
Applicable controller		IDS 306
Operating environment		0-40°C, 85%RH or below
IP		IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

M28Z-100L-2SVT



M28Z-100LS-2STT Width 28 mm* Height 48.5 mm DC power input

Electric slide table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

G20Z

M28Z

Electric clamping jaw

DG2

DG3



Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
M28	Z	100L	S	2		ST	T
M28 : Electric cylinder	A-Z	000L : Custom travel 020L : 20mm 030L : 30mm 100L : 100mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive

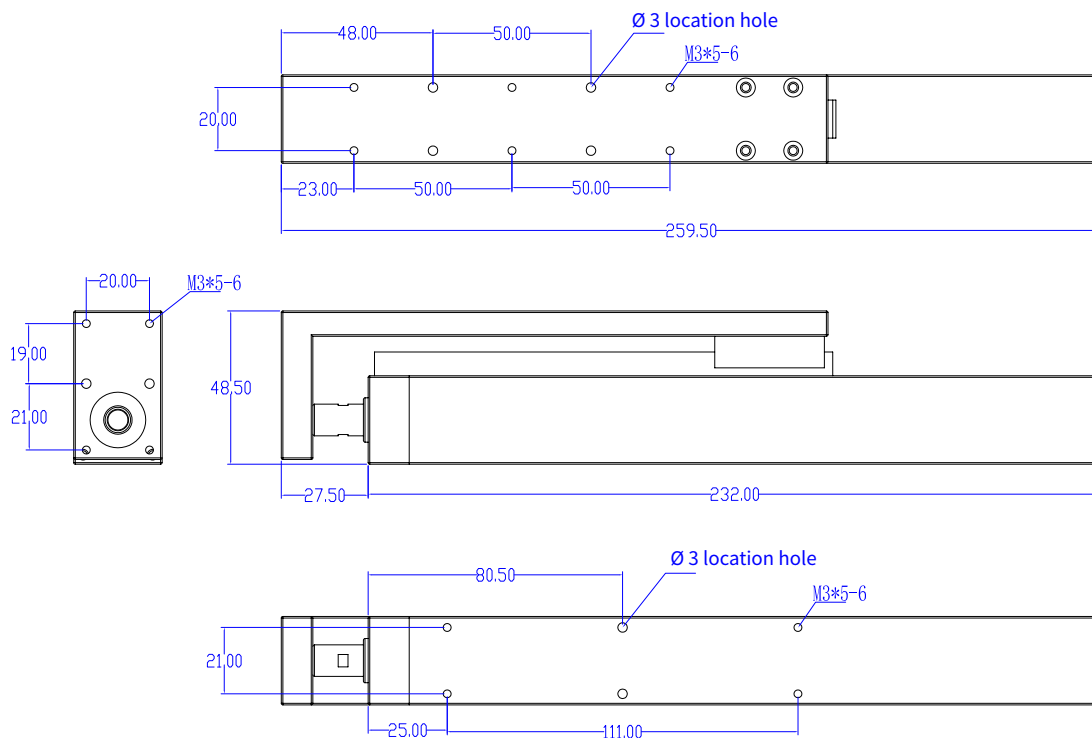
Specification of electric cylinder

Motor		28 stepper motor
Stroke	mm	100mm
Screw type		Trapeziod
Lead	mm	2mm
Max. speed	mm/s	30mm/s
Maximum vertical load	Kg	3Kg
Maximum horizontal load	Kg	6Kg
Repeated positioning accuracy	mm	±0.02mm
Rated voltage	VDC	24V DC
Peak current	A	1.0A
Applicable controller		Y2SD1R5
Operating environment		0-40°C, 85%RH or below
IP		IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

M28Z-100LS-2STT



M28Z-100LS-2SVT Width 28 mm* Height 28 mm DC power input

Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
M28	Z	100L	S	2		SV	T
M28 : Electric cylinder	A-Z	000L : Custom travel 020L : 20mm 030L : 30mm 100L : 100mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive



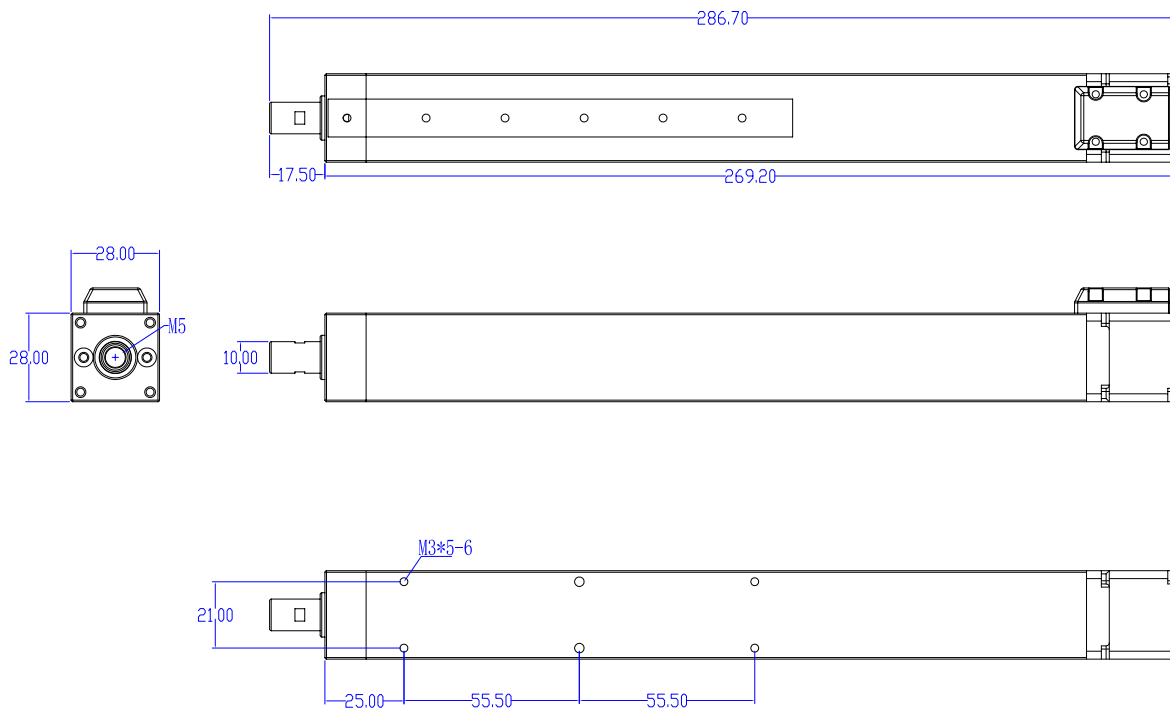
Specification of electric cylinder

Motor		28 servo
Stroke	mm	100mm
Screw type		Trapeziod
Lead	mm	2mm
Max. speed	mm/s	100mm/s
Maximum vertical load	Kg	3Kg
Maximum horizontal load	Kg	6Kg
Repeated positioning accuracy	mm	±0.02mm
Rated voltage	VDC	24V DC
Peak current	A	1.65A
Applicable controller		IDS 306
Operating environment		0-40°C, 85%RH or below
IP		IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

M28Z-100LS-2SVT



DG2-04L-ST DC POWER INPUT

Electric slide table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

G20Z

M28Z

Electric clamping jaw

DG2

DG3

Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
DG2		04L				ST	
DG2 : Electric clamping jaw DG3 : Electric clamping jaw	A-Z	000L : Custom travel 04L : Unilateral: 4 mm 15L : Unilateral: 15 mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive No

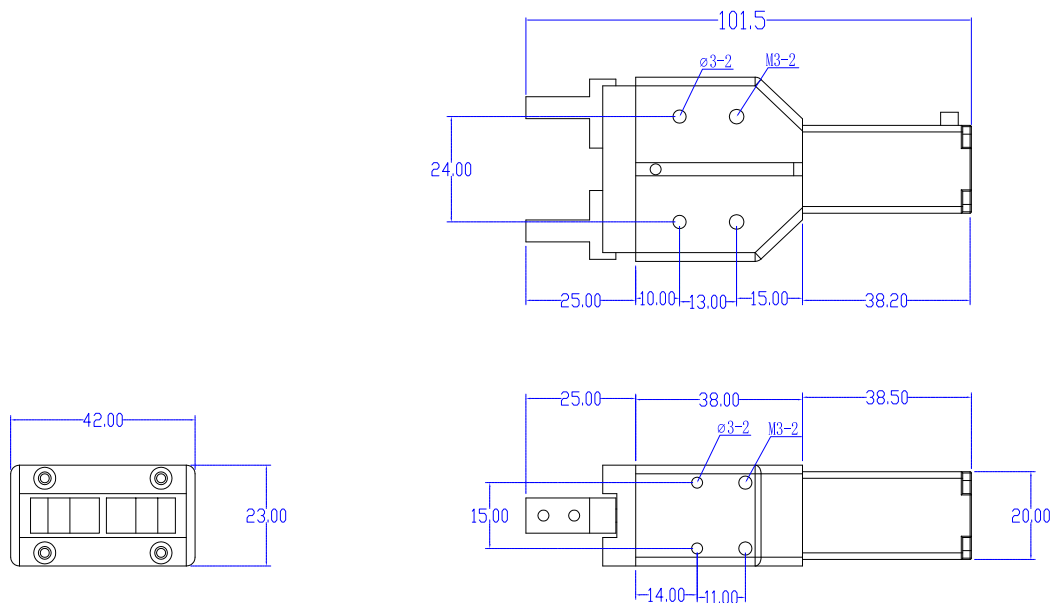
Specification of electric cylinder

Motor		20 stepper motor
Stroke	mm	7mm
Lead	mm	1mm
Max. speed	mm/s	30mm/s
Maximum load	Kg	1Kg
Repeated positioning accuracy	mm	±0.05mm
Rated voltage	VDC	24V DC
Peak current	A	1.0A
Applicable controller		Y2SD1R5
Operating environment		0-40°C, 85%RH or below
IP		IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

DG2-04L-ST



DG2-07L-STE DC POWER INPUT

Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
DG2		07L				STE	
DG2 : Electric clamping jaw DG3 : Electric clamping jaw	A-Z	000L : Custom travel 04L : Unilateral: 4 mm 7L : Unilateral: 7 mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive No

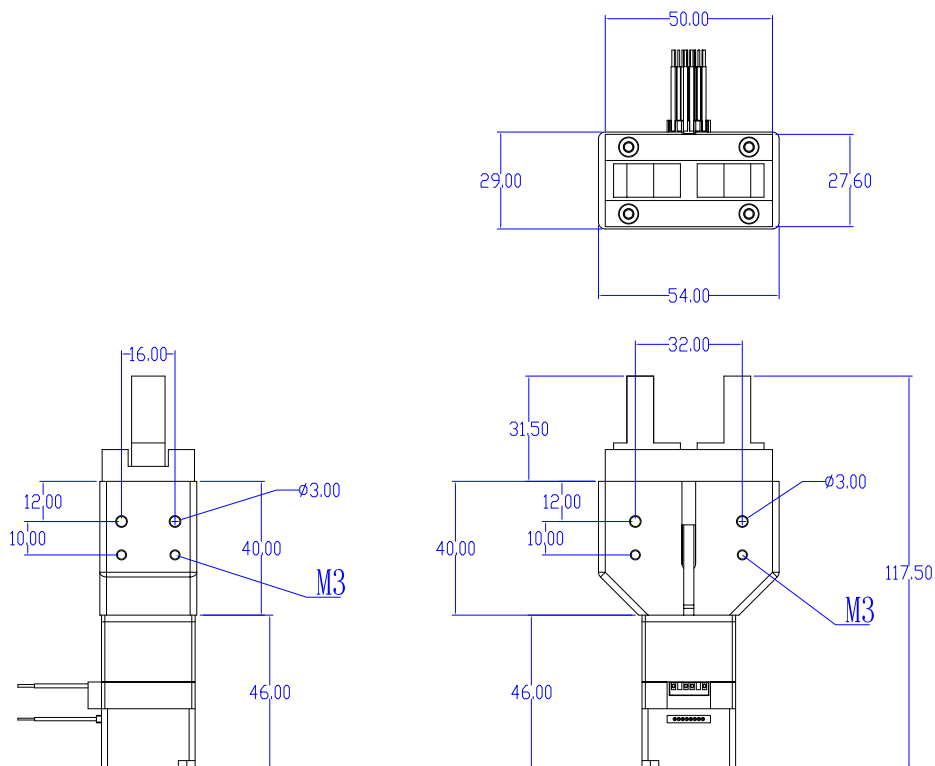
Specification of electric cylinder

Motor	28 Encoder stepper motor	
Stroke	mm	10mm
Lead	mm	1mm
Max. speed	mm/s	30mm/s
Maximum load	Kg	1Kg
Repeated positioning accuracy	mm	±0.05mm
Rated voltage	VDC	24V DC
Peak current	A	1.0A
Applicable controller	Applicable for IO/ pulse direction & communication E-CAT/M-B	
Operating environment	0-40°C, 85%RH or below	
IP	IP40	

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

DG2-07L-STE



DG2-15L-1ST DC POWER INPUT

Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
DG2		15L		1		ST	
DG2 : Electric clamping jaw DG3 : Electric clamping jaw	A-Z	000L : Custom travel 04L : Unilateral: 4 mm 15L : Unilateral: 15 mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive No

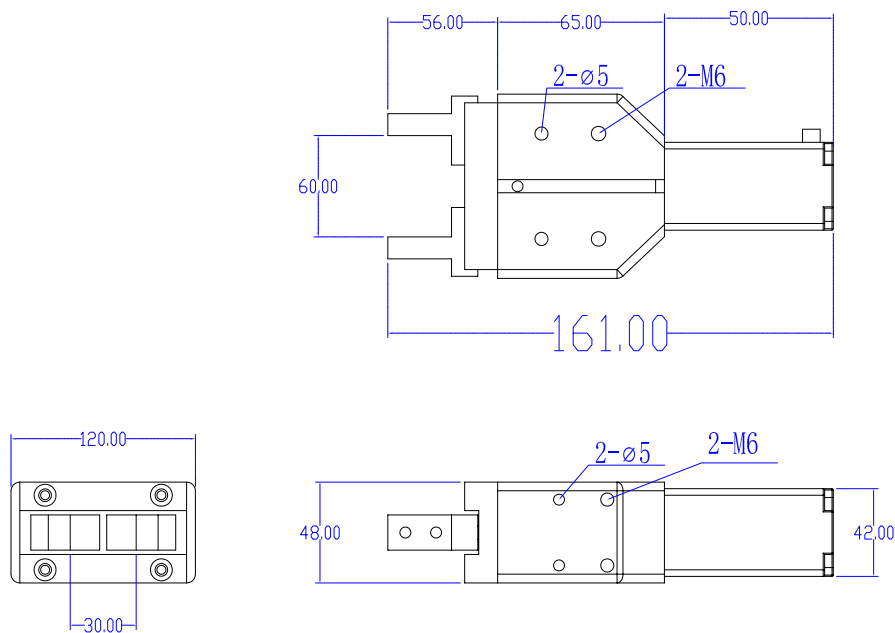
Specification of electric cylinder

Motor		42 stepper motor
Stroke	mm	30mm
Lead	mm	1mm
Max. speed	mm/s	30mm/s
Maximum load	Kg	18Kg
Repeated positioning accuracy	mm	±0.05mm
Rated voltage	VDC	24V DC
Peak current	A	2.0A
Applicable controller		Y2SD1R5
Operating environment		0-40°C, 85%RH or below
IP		IP40

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

DG2-15L-1ST



Electric slide table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

G20Z

M26Z

Electric clamping jaw

DG2

DG3

DG2-90L-1STE DC POWER INPUT

Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
DG2		90L		1		STE	
DG2 : Electric clamping jaw DG3 : Electric clamping jaw	A-Z	000L : Custom travel 04L : Unilateral: 4 mm 15L : Unilateral: 15 mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor K : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive No

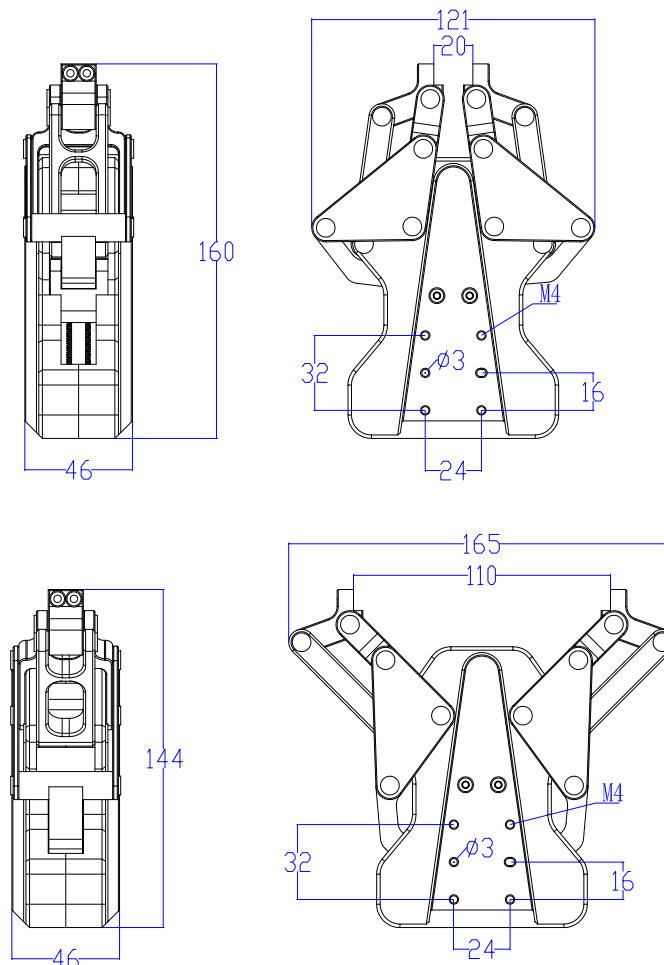
Specification of electric cylinder

Motor	28 Encoder stepper motor	
Stroke	mm	90mm
Lead	mm	1mm
Max. speed	mm/s	30mm/s
Maximum load	Kg	1Kg
Repeated positioning accuracy	mm	±0.05mm
Rated voltage	VDC	24V DC
Peak current	A	1.0A
Applicable controller	Applicable for IO/ pulse direction & communication E-CAT/M-B	
Operating environment	0-40°C, 85%RH or below	
IP	IP40	

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

DG2-90L-1STE



DG3-05L-ST DC POWER INPUT

Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
DG3		05L				ST	
DG2 : Electric clamping jaw DG3 : Electric clamping jaw	A-Z	000L : Custom travel 04L : Unilateral: 4 mm 05L : Unilateral: 5 mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive No



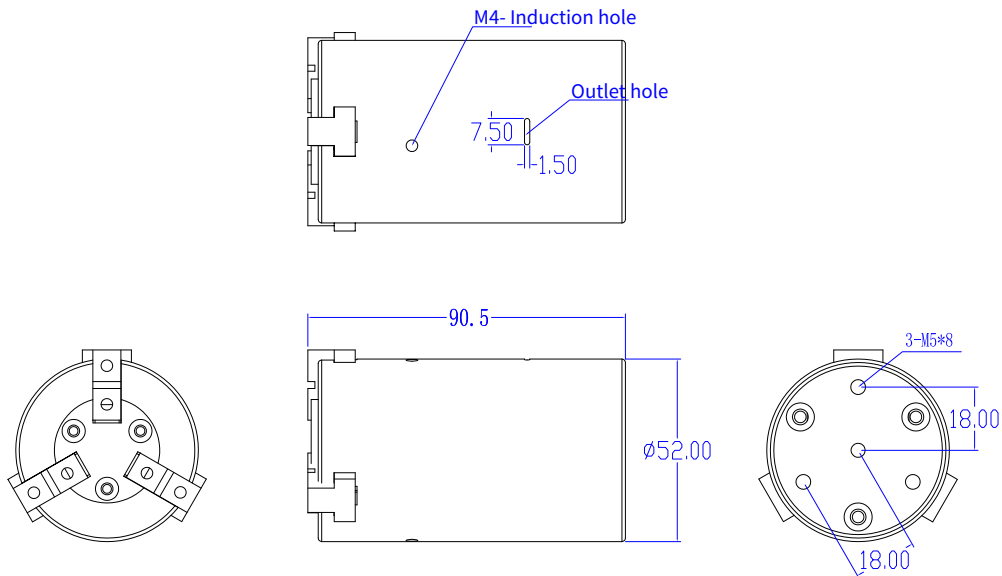
Specification of electric cylinder

Motor	28 stepper motor	
Stroke	mm	10mm
Lead	mm	1mm
Max. speed	mm/s	30mm/s
Maximum load	Kg	1Kg
Repeated positioning accuracy	mm	±0.05mm
Rated voltage	VDC	24V DC
Peak current	A	1.0A
Applicable controller	Y2SD1R5	
Operating environment	0-40°C, 85%RH or below	
IP	IP40	

- The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

DG3-05L-ST



Electric slide table

KF28D

KF35D

KF42D

DRSZ

Optional accessories

Electric cylinder

G20Z

M26Z

Electric clamping jaw

DG2

DG3

DG3-05L-STE DC POWER INPUT

Reading mode of item name

Model	Customer code	Effective travel	Load state	Lead	Reducer	Power source	Transmission type
DG3		05L				STE	
DG2 : Electric clamping jaw DG3 : Electric clamping jaw	A-Z	000L : Custom travel 04L : Unilateral: 4 mm 05L : Unilateral: 5 mm	S : Linear guideway NA: Push-pull standard	2 : 2mm 1 : 1mm 0 : Custom lead	G : Equipped with reducer NA: Without reducer	ST : Opened-loop stepper motor SE : Closed-loop stepper motor SS : Integrated stepper motor STE : Encoder stepper motor X : Leadscrew stepper motor STB : Brake stepper motor SV : Low-voltage servo motor GSV : Moving-coil servo motor	T : Trapezoidal precise screw B : Ball grinding screw TB : Synchronous wheel belt drive No

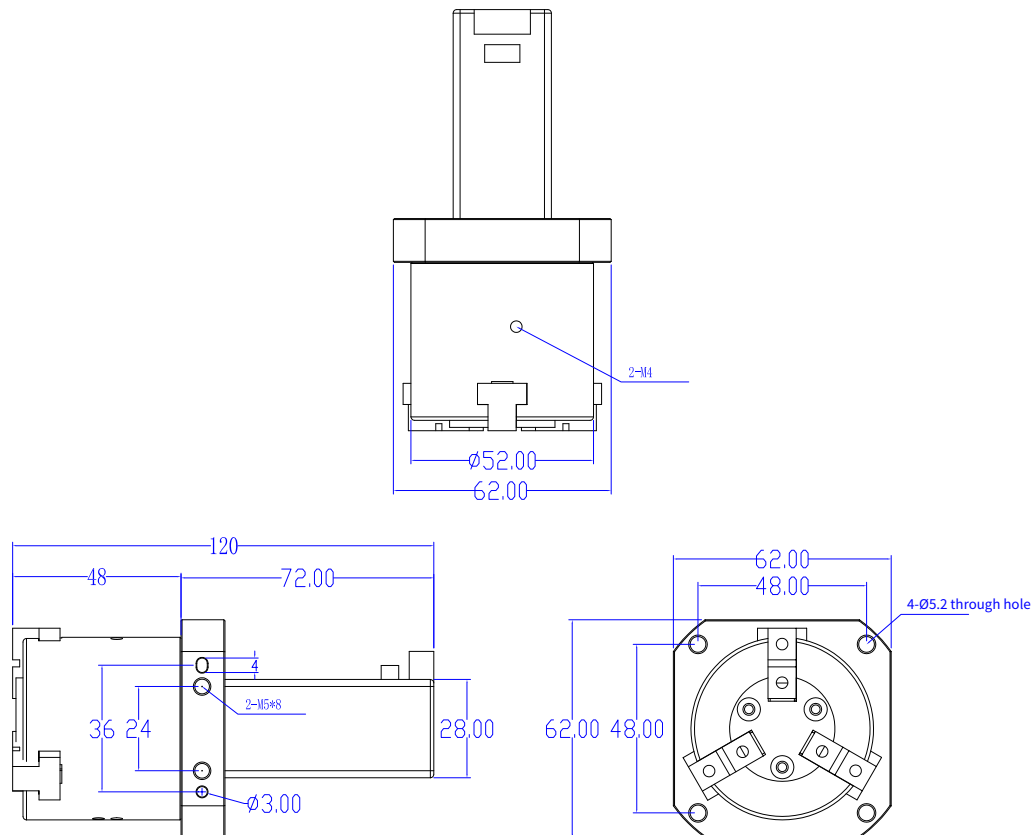
Specification of electric cylinder

Motor		28 Encoder stepper motor
Stroke	mm	10mm
Lead	mm	1mm
Max. speed	mm/s	30mm/s
Maximum load	Kg	1Kg
Repeated positioning accuracy	mm	±0.05mm
Rated voltage	VDC	24V DC
Peak current	A	1.0A
Applicable controller		Y2SD1R5
Operating environment		0-40°C, 85%RH or below
IP		IP40

● The holding force will be lost in the non-energized state, therefore, the vertical load and external force cannot be maintained. Please select the product with electromagnetic brake when the vertical drive is used.

Outside drawing (unit: mm)

DG3-05L-STE



High-precision linear motor module

ZX and KE series linear motor module, with iron core flat linear motor, no-iron core U-type linear motor

High precision, wide application range, custom travel



Product Overview

Direct drive linear motor (referred to as linear motor) is a device that directly completes linear transmission. It can directly replace the mechanical transmission parts, such as ball leadscrew, rack and pinion, belt/ pulley, etc., to greatly reduce the transmission clearance and the noise, wear, vibration and other related problems caused by mechanical transmission. The essence of linear motor transmission is to spread the rotating motor stator and rotor horizontally, and directly connect to drive the load. Linear motor is characterized by high transmission efficiency and good dynamic response. Linear motors are widely used with the development of industrial automation and the equipment requirements being stricter.

Type

There are many categories of linear motors, each of which has its own advantages and can provide users with suitable solutions. At present, there are two main types of linear motors: linear motors with iron cores and linear motors without iron cores; different motors have different characteristics and functions. Different motors have different performance to meet various application needs of customers in various industries.

Advantages

High precision

Linear motor can achieve direct transmission, which eliminates the accumulation of various precision errors brought by intermediate links, and avoids the shortcomings of the traditional transmission such as backlash, inertia, friction and insufficient rigidity, to achieve higher-precision transmission.

Safety, reliability, less maintenance and long life

Linear motor can achieve contactless transmission, because its mechanical friction loss is almost zero, there are few faults, the linear motor is safe, very reliable and of long life and little maintenance.

Low mechanical noise

The transmission mode of the linear motor is different from that of the rotary motor, the linear motor has no intermediate mechanical transmission from the motor to the worktable and realizes "zero contact and zero transmission", therefore, the system runs with low noise, small vibration and high performance.

Endless stroke, multi-rotor simultaneous/asynchronous transmission

The linear motor can achieve endless-stroke transmission through the connection of stators, besides, one stator can be equipped with multiple actuators to achieve independent control of multiple motions in the same axial direction.

Good dynamic characteristics

The frameless part of the linear motor is non-contact, has no mechanical transmission limitation and can achieve high-precision motion control in different ranges from low speed to high speed in a short time, therefore, it is characterized by high dynamic response, strong real-time performance and extremely high acceleration (up to 20 g).

Simple mechanical structure

The linear motor eliminates the additional device that converting the rotational motion into a linear motion, which reduces the difficulty of structural design and manufacturing assembly greatly, and also reduces the overall weight and volume.

Applications

Semiconductor assembly	Photoetching machine	Laser machining	Wafer detection	AOI
Electronic element assembly	Precise dispensing	Medical treatment	PCB punching	Textile
Digital inkjet printing	Intelligent sorting	Luggage transport	High speed laminating equipment	Food processing
Coordinate measuring machine	Precision grinding	Wire cutting	Ultra-high-speed machining

Selection Criteria for Linear Motors

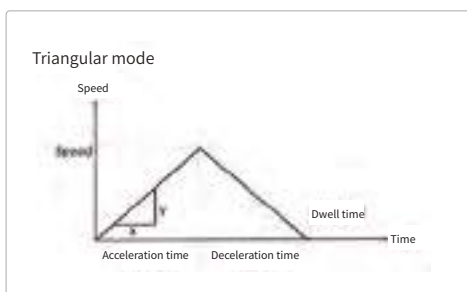
Selection Criteria

- 1. Maximum thrust, continuous thrust requirements, and acceleration calculations should be taken into consideration in the selection of linear motors.
- 2. The maximum thrust is determined by the moving load mass and the magnitude of the maximum acceleration.

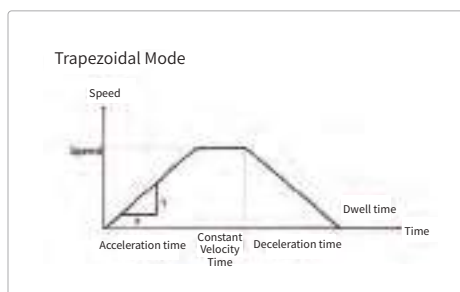
Thrust = Total Mass × Acceleration + Frictional Force + External Stress

Example: When the moving load is 5 kg (including the rotor), the required acceleration is 30 m/s², frictional force is 1 N, and external stress is 2 N, the motor will generate a force of 153 N.

- 3. However, in most cases, we are provided with the parameter of the motion time for the load to travel from one position to another. Acceleration is then calculated using displacement and time of motion. For short travel distances, a triangular velocity profile (without constant speed phase) is recommended, while for longer travel distances, a trapezoidal velocity profile would be more efficient. In the triangular velocity profile, the motor does not make constant speed motion and consistently remains in the acceleration or deceleration state.



$$\text{Acceleration} = 4 \times \text{Displacement} / (\text{Motion Time})^2$$



$$\text{Acceleration} = \text{Uniform Acceleration} / (\text{Motion Time} - \text{Displacement} / \text{Uniform Speed})$$

- 4. In most cases, acceleration is approximately equal to deceleration unless an unbalanced force (gravity) acts on the motor.
- 5. Maximum thrust ensures that the load achieves the expected acceleration within the set time, while continuous thrust ensures that the load can sustain steady motion and maintain uniform speed. Formula for calculating continuous thrust:

$$\text{RMS Force} = \sqrt{\frac{F_a^2 \cdot T_a + F_c^2 \cdot T_c + F_d^2 \cdot T_d + F_w^2 \cdot T_w}{T_a + T_c + T_d + T_w}}$$

RMS Force = Sustained Thrust

F_a = Acceleration Force T_a = Acceleration Time
 F_c = Constant Velocity Force T_c = Constant Velocity Time
 F_d = Deceleration Force T_d = Deceleration Time
 F_w = Stagnation Force T_w = Stagnation Time

Note: In order to maintain constant velocity, the motor counteracts frictional forces and external stresses. During servo stalling on the motor, it counters external stresses. Select an appropriate linear motor based on maximum thrust and sustained thrust, and apply a certain safety factor for optimal results. The safety factor is typically 1.3.

- 6. For instance, in an application, the motor needs to move a 4kg load in a triangular pattern within 0.2 seconds, covering a distance of 0.3 meters. The motor halts for 0.15 seconds before returning during the same travel. Assuming negligible frictional forces and other imbalances.

Maximum thrust = Acceleration force = Deceleration force = Load × Acceleration = 4 × 30 = 120N

$$\text{RMS Force} = \sqrt{\frac{(120)^2 \cdot (0.1) + (120)^2 \cdot (0.1)}{0.1 + 0.1 + 0.15}} = 90.7\text{N}$$

Taking into account a 30% safety margin.

ZX Series High-Precision Linear Modules

Please refer to the official website for details of the technical specifications of the product.

Product Advantages

① High Speed

The maximum velocity can reach up to 3 m/s, with a maximum acceleration and deceleration of 5 G.

③ Low Noise, Dust-Free

Utilizing a combination of linear motor and linear guide rail, even during high-speed operations, it maintains low noise levels. There is no contact friction between the moving stator, resulting in no generation of dust.

⑤ Extended Travel Distance

The profiled base mold allows for a 6-meter base length, and the travel distance can be extended to 5400 mm. In theory, modules can be seamlessly combined to achieve unlimited travel distance.

② High Precision

Utilizing a fully closed-loop control system with linear encoders, it can compensate for high positioning accuracy. The repeatability of the optical grating is $\pm 1 \mu\text{m}$. The repeatability of the magnetic grating is $\pm 3 \mu\text{m}$.

④ Multi-Rotors

On a single-axis module, the option for multiple rotors is available.

⑥ High Acceleration and Deceleration

Achieving high acceleration and deceleration of up to 5 G.

Reading mode of item name

Brand Label	Series Number	Base Dimensions	Number of Rotors	Stroke (60 mm pitch)	Closed-Loop Mode	Encoder	Sensor	Standard Driver	Custom Encoding
YK	ZX01	165	D1	L60	GB	G	N	G	1
YK : YARAK	ZX01 : Single-axis module ZK02 : Gantry Module ZK03 : Cross Module	165 : 165mm 190 : 190mm 250 : 250mm	D1 : 1 Rotor D2 : 2 Rotors D3 : 3 Rotors	L60 : 60mm L120 : 120mm L180 : 180mm L240 : 240mm L5400 : 5400mm	GB : Cover Plate FQ : Organ cover GD : Steel Strip N : Unsealed	G : grating C : Magnetic Grating	N : NPN P : PNP	G : High tech innovation GG : Solid height	Standard is empty

Specifications Overview

Model	YK-ZX01-165		YK-ZX01-190		YK-ZX01-250	
Motor type	Iron core					
Base width	mm		mm		mm	
Continuous thrust	N		N		N	
Instantaneous thrust	N		N		N	
Max. speed	m/s		m/s		m/s	
Max acceleration:	1G=10m/s ²		1G=10m/s ²		1G=10m/s ²	
Accuracy	μm		μm		μm	
Standard Output Cable Length	m		m		m	
Color	※ Component Output Length		※ Component Output Length		※ Component Output Length	
Shield Type	Black/Natural Aluminum Color					
Compatible Drivers	Semi-Enclosed/Aluminum Cover/Steel Strip HighChuang/GoogolTech					

- * Suitable for Stacking Applications
- * Entire series built to high precision standards
- * Two-color appearance options available
- * Low-speed dynamic velocity ripple stability
- * High-speed usage with reduced heating tendency
- * The entire series can provide maximum thrust and non-standard customization
- * Flexible combination with commercially available drivers and coding rulers

YK-ZX01-165 ZX Series High-Precision Linear Modules



Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-KUM

Motor accessories

Interface definition

Linear motor driver

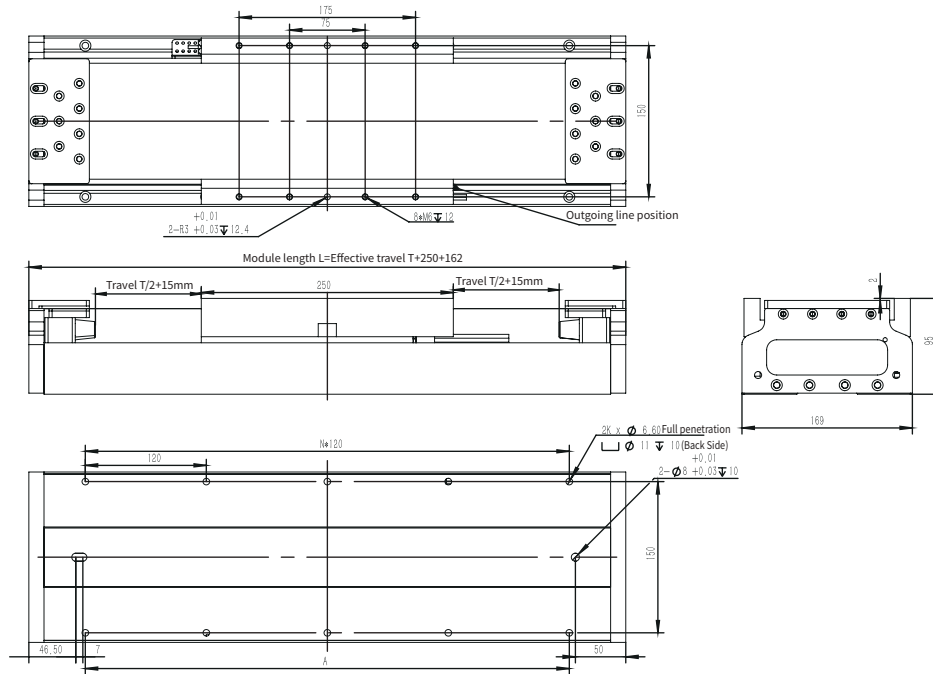
Wiring diagram of motor module

Supplementary table for model selection

Attachment

Outside drawing (unit: mm)

YK-ZX01-165



Specifications

YK-ZX01-165																						
Distance mm	60	120	180	240	300	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	1260	1320
K	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13	14	14	15
N	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13	14
A mm	360	480	480	600	600	720	720	840	840	960	960	1080	1080	1200	1200	1320	1320	1440	1440	1560	1560	1680
L mm	472	532	592	652	712	772	832	892	952	1012	1072	1132	1192	1252	1312	1372	1432	1492	1552	1612	1672	1732
Distance mm	1380	1440	1500	1560	1620	1680	1740	1800	1860	1920	1980	2040	2100	2160	2220	2280	2340	2400	2460	2520	2580	2640
K	15	16	16	17	17	18	18	19	19	20	20	21	21	22	22	23	23	24	24	25	25	26
N	14	15	15	16	16	17	17	18	18	19	19	20	20	21	21	22	22	23	23	24	24	25
A mm	1680	1800	1800	1920	1920	2040	2040	2160	2160	2280	2280	2400	2400	2520	2520	2640	2640	2760	2760	2880	2880	3000
L mm	1792	1852	1912	1972	2032	2092	2152	2212	2272	2332	2392	2452	2512	2572	2632	2692	2752	2812	2872	2932	2992	3052
Distance mm	2700	2760	2820	2880	2940	3000	3060	3120	3180	3240	3300	3360	3420	3480	3540	3600	3660	3720	3780	3840	3900	3960
K	26	27	27	28	28	29	29	30	30	31	31	32	32	33	33	34	34	35	35	36	36	37
N	25	26	26	27	27	28	28	29	29	30	30	31	31	32	32	33	33	34	34	35	35	36
A mm	3000	3120	3120	3240	3240	3360	3360	3480	3480	3600	3600	3720	3720	3840	3840	3960	3960	4080	4080	4200	4200	4320
L mm	3112	3172	3232	3292	3352	3412	3472	3532	3592	3652	3712	3772	3832	3892	3952	4012	4072	4132	4192	4252	4312	4372

* The base profile has a mold opening of 6m, with a stroke of about 60-5400mm, and can be paired with multiple actuators.

Performance parameters of motor

Model Designation	PMQ35-C4
Highest bus voltage	600.00V
Rated thrust	238.00N
Rated current	(*1) 5.20Arms
Peak thrust	(*1) 532.00N
Peak current	18.00Arms
Thrust constant ± 10%	45.77N/Arms
Back EMF Constant ± 10%	37.35V(pk)/m/s
Resistance	(*2) 2.60Ω
Inductance	(*3) 18.40mH
Electrical time constant	7.08ms
Magnetic attraction force	0.96KN
Maximum temperature of coil	120.00°C
Pole-pair pitch (N-N)	24.00mm
Rotor length	210.00mm
Rotor mass	1.90Kg
Stator mass	3.50kg/m

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.
*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.
*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

Mechanical parameters

Mechanical parameters	
Load	Acceleration: 2G, Velocity: 2000mm/s, Dwell Time: 0.2s, Travel Distance: 1000mm. Maximum operational speed: 3000mm/s. Horizontal installation: 15kg
accuracy	Magnetic grating (resolution: 1μm): Repetition Accuracy: ±3μm. Optical grating (resolution: 1μm): Repetition Accuracy: ±2μm.
Straightness	±2μm/300mm
Module Weight	60mm travel: 8.5kg (0.7kg increase per additional 60mm travel).

* *(Able to be paired with various motors. Optimal motion configuration can be determined based on customer requirements. Please contact our sales engineers for selection.)

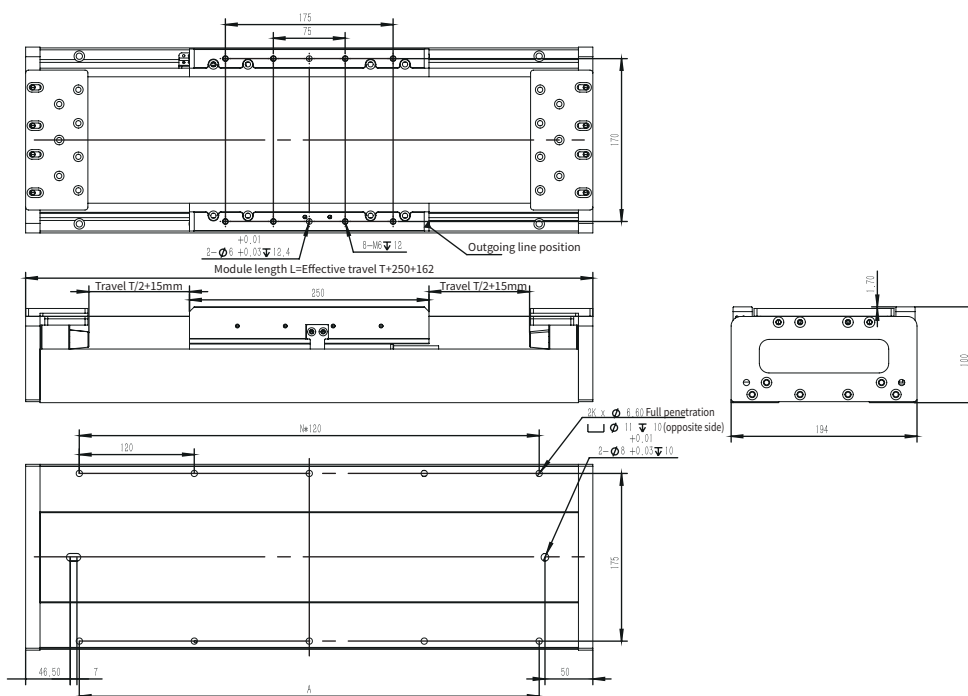
● For cable specifications and wiring definitions, refer to Page 256.

YK-ZX01-190 ZX Series High-Precision Linear Modules



Outside drawing (unit: mm)

YK-ZX01-190



Specifications

YK-ZX01-190																						
Distance mm	60	120	180	240	300	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	1260	1320
K	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13	14	14	15
N	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13	14
A mm	360	480	480	600	600	720	720	840	840	960	960	1080	1080	1200	1200	1320	1320	1440	1440	1560	1560	1680
L mm	472	532	592	652	712	772	832	892	952	1012	1072	1132	1192	1252	1312	1372	1432	1492	1552	1612	1672	1732
Distance mm	1380	1440	1500	1560	1620	1680	1740	1800	1860	1920	1980	2040	2100	2160	2220	2280	2340	2400	2460	2520	2580	2640
K	15	16	16	17	17	18	18	19	19	20	20	21	21	22	22	23	23	24	24	25	25	26
N	14	15	15	16	16	17	17	18	18	19	19	20	20	21	21	22	22	23	23	24	24	25
A mm	1680	1800	1800	1920	1920	2040	2040	2160	2160	2280	2280	2400	2400	2520	2520	2640	2640	2760	2760	2880	2880	3000
L mm	1792	1852	1912	1972	2032	2092	2152	2212	2272	2332	2392	2452	2512	2572	2632	2692	2752	2812	2872	2932	2992	3052
Distance mm	2700	2760	2820	2880	2940	3000	3060	3120	3180	3240	3300	3360	3420	3480	3540	3600	3660	3720	3780	3840	3900	3960
K	26	27	27	28	28	29	29	30	30	31	31	32	32	33	33	34	34	35	35	36	36	37
N	25	26	26	27	27	28	28	29	29	30	30	31	31	32	32	33	33	34	34	35	35	36
A mm	3000	3120	3120	3240	3240	3360	3360	3480	3480	3600	3600	3720	3720	3840	3840	3960	3960	4080	4080	4200	4200	4320
L mm	3112	3172	3232	3292	3352	3412	3472	3532	3592	3652	3712	3772	3832	3892	3952	4012	4072	4132	4192	4252	4312	4372

* The base profile has a mold opening of 6m, with a stroke of about 60-5400mm, and can be paired with multiple actuators.

Performance parameters of motor

Model Designation	PMQ55-C4
Highest bus voltage	600.00V
Rated thrust	373.00N
Rated current	(*1) 5.16Arms
Peak thrust	(*1) 835.00N
Peak current	18.00Arms
Thrust constant $\pm 10\%$	72.29N/Arms
Back EMF Constant $\pm 10\%$	58.99V(pk)/m/s
Resistance	(*2) 3.70 Ω
Inductance	(*3) 26.10mH
Electrical time constant	7.05ms
Magnetic attraction force	1.56kN
Maximum temperature of coil	120.00 $^{\circ}$ C
Pole-pair pitch (N-N)	24.00mm
Rotor length	210.00mm
Rotor mass	2.80Kg
Stator mass	5.00kg/m

*1: The room temperature is 25 $^{\circ}$ C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

Mechanical parameters

Mechanical parameters	
Load	Acceleration: 2G, Velocity: 2800mm/s, Dwell Time: 0.2s, Travel Distance: 1000mm. Maximum operational speed: 3000mm/s. Horizontal installation: 25kg
accuracy	Magnetic grating (resolution: 1 μ m): Repetition Accuracy: $\pm 3\mu$ m. Optical grating (resolution: 1 μ m): Repetition Accuracy: $\pm 2\mu$ m.
Straightness	$\pm 2\mu$ m/300mm
Module Weight	60mm travel 11kg (0.7kg increase per additional 60mm travel).


*(Able to be paired with various motors. Optimal motion configuration can be determined based on customer requirements. Please contact our sales engineers for selection.)

● For cable specifications and wiring definitions, refer to Page 257.

YK-ZX03/YK-MS ZX Standard Cross Module Series


Standard Cross Module Series

Semi enclosed cross module

Semi enclosed cross module		YK-ZX03 series		
Photos of Products	Main Parameters	ZX03-100	ZX03-200	ZX03-300
	Stroke	100x100mm	200x200mm	300x300mm
	Continuous thrust	125~840mm		
	Peak thrust	660~2200N		
	Rated burden	30N		
	Maximum speed	2000Kg		
	Max acceleration	3mm/s		
	Repeated positioning accuracy	±2μm		

Note: Higher precision modules can be customized


Organ cover cross module

Organ cover cross module		YK-ZX03 series		
Photos of Products	Main Parameters	ZX03-100	ZX03-200	ZX03-300
	Stroke	100x100mm	200x200mm	300x300mm
	Continuous thrust	125~840mm		
	Peak thrust	660~2200N		
	Rated burden	30N		
	Maximum speed	2000Kg		
	Max acceleration	3mm/s		
	Repeated positioning accuracy	±2μm		


Note: Higher precision modules can be customized

Cross roller motion platform


Cross roller single axis module

Cross roller single axis module		YK-MSseries
Photos of Products	Main Parameters	YK-MS130
	Module width size	130mm
	Module travel	35~160mm
	Continuous thrust	22N
	Peak thrust	80N
	Max Load	10Kg
	Maximum speed	350mm/s (No Load)
	Max acceleration	1g
Repeated positioning accuracy	±0.3μm	

Cross roller single cross module (H≤80)

Cross roller single cross module (H≤80)		YK-MC series
Photos of Products	Main Parameters	YK-MC100
	Module travel	100mm
	Continuous thrust	60N
	Peak thrust	210N
	Rated burden	10Kg
	Maximum speed	500mm/s (No Load)
	Max acceleration	0.5g
	Repeated positioning accuracy	±0.3μm

Vertical application single axis module

Vertical application single axis module		YK-MV series	
Photos of Products	Main Parameters	YK-MV175	YK-MV250
	Module width size	175mm	250mm
	Module travel	20mm	20mm
	Continuous thrust	120N	420N
	Peak thrust	220N	1100N
	Max Load	2Kg	2Kg
	Maximum speed	500mm/s (No Load)	1000mm/s (No Load)
	Max acceleration	1.5g	4g
Repeated positioning accuracy	±0.5μm	±0.5μm	

KE series linear module

Please refer to the official website for details of the technical specifications of the product.



- Linear motor drive
- Grating positioning / magnetic grating positioning
- High stability, high reliability, rapid response speed
- Zero backlash error
- Smooth motion, no wear, extended service life
- Compact structure with modular design

Reading mode of item name

Brand Label	Series Number	Base Dimensions	Number of Rotors	Effective travel	Encoder	Cable length	Compatible Linear Motors	Custom Encoding
YK	KE	60	D1	L300	KA1	0.2	A	1
YK : YARAK	KE : Semi-enclosed KE-S : Fully dust-proof	60 : 60mm 82 : 82mm 95 : 95mm 115 : 115mm 126 : 126mm 146 : 146mm 166 : 166mm	D1 : 1 Rotor D2 : 2 Rotors D3 : 3 Rotors	30-3570mm	KA: CAFU Magnetic Grating KB: CAFU Optical Grating L: Renishaw Optical Grating R: Banyan Optical Grating 1: 1µm Resolution 0.5: 0.5µm Resolution 0.1: 0.1µm Resolution	0.2 : 0.2m 3 : 3m 5 : 5m	A : ALinear Motors B : BLinear Motors C : CLinear Motors	Standard is empty

Features

Simplify Complex Processes, Module Forming

Breaking the traditional linear motor, it is composed of complex and multi component components. The base and guide rail are integrated, and the slider, slide plate, and reading head bracket are integrated to form a simple and sturdy integrated module.

More Oil Storage, Longer Operation

With a large oil storage capacity, the largest module can run up to 100,000 kilometers on a single oil injection.

Unwavering in Harsh Applications

Capable of withstanding a 500mm eccentric load, the module continues to operate impeccably.

Ultra-High Precision, Perpetually Secure

By employing a specialized process to embed guide rails directly into aluminum profiles, followed by a single-pass precision grinding using high-precision grinding machines, the linear motor achieves even higher accuracy and enhanced durability.

Higher Load Capacity, Steadier Operation

The slider contains a substantial number of large precision steel balls, each ball capable of bearing a load of 1 to 2 tons.

Optimized Material for Enhanced Wear and Rust Resistance

The embedded guide rails are made from stainless steel material, offering superior resistance to wear, corrosion, and rust.

Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-KUM

Motor accessories

Interface definition

Linear motor driver

Wiring diagram of motor module

Supplementary table for model selection

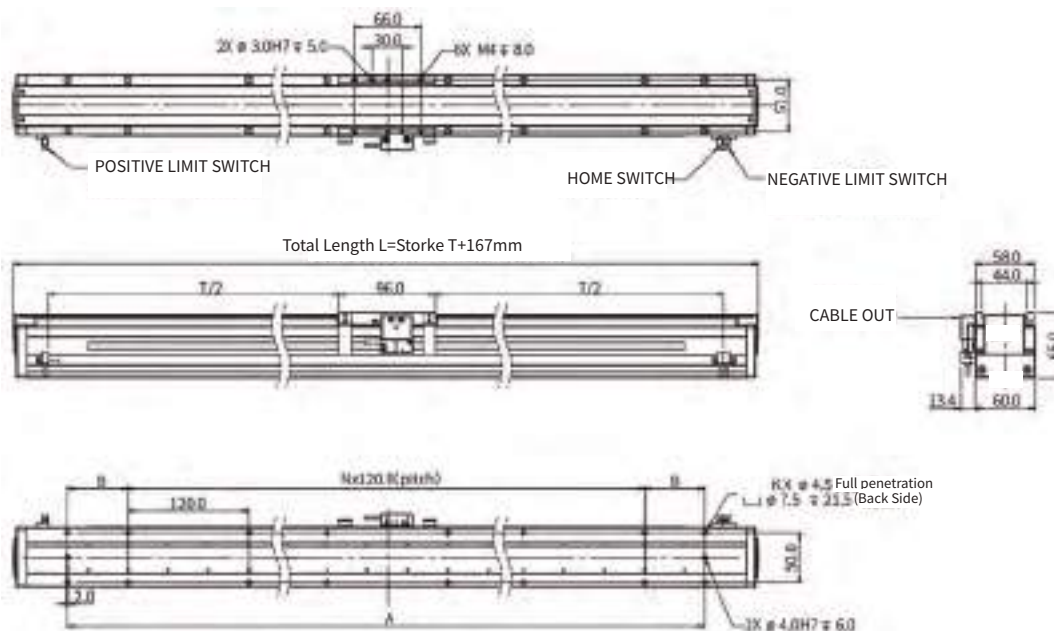
Attachment

YK-KE-60 A Motor Semi-enclosed KE Series Linear Module



Outside drawing (unit: mm)

YK-KE-60 (A Motor) Semi-enclosed



Specifications

YK-KE-60 (A Motor) Semi-enclosed														
Distance mm	60	120	180	240	300	360	420	480	540	600	660	720	780	840
K	4	8	8	8	8	12	12	12	12	16	16	16	16	20
N	1	1	1	1	3	3	3	3	5	5	5	5	7	7
A mm	120	180	240	300	360	420	480	540	600	660	720	780	840	900
B mm	—	30	60	90	—	30	60	90	—	30	60	90	—	30
L mm	227	287	347	407	467	527	587	647	707	767	827	887	947	1007

Specification

Linear Motor Model YK-PBM01-W030-C1 (Motor A)	
Peak thrust	179.0N
Continuous thrust	44.8N
Linear Motors Constant	7.0N/(W1/2)
Maximum continuous dissipation power	41.2W
Peak current	10.0Arms
Continuous current	2.5Arms
Force Constant	17.9N/Arms
Back EMF (Electromotive Force)	14.6Vpeak/(m/s)
Interphase Impedance at @25°	3.2ohms
Interphase inductance	9.4mH
Electrical time constant	3.0ms
Maximum Terminal Voltage	460Vds
Maximum winding temperature	120°C
Weight of coil:	0.35KG
Electrical cycle length	20.0mm

Mechanical parameters

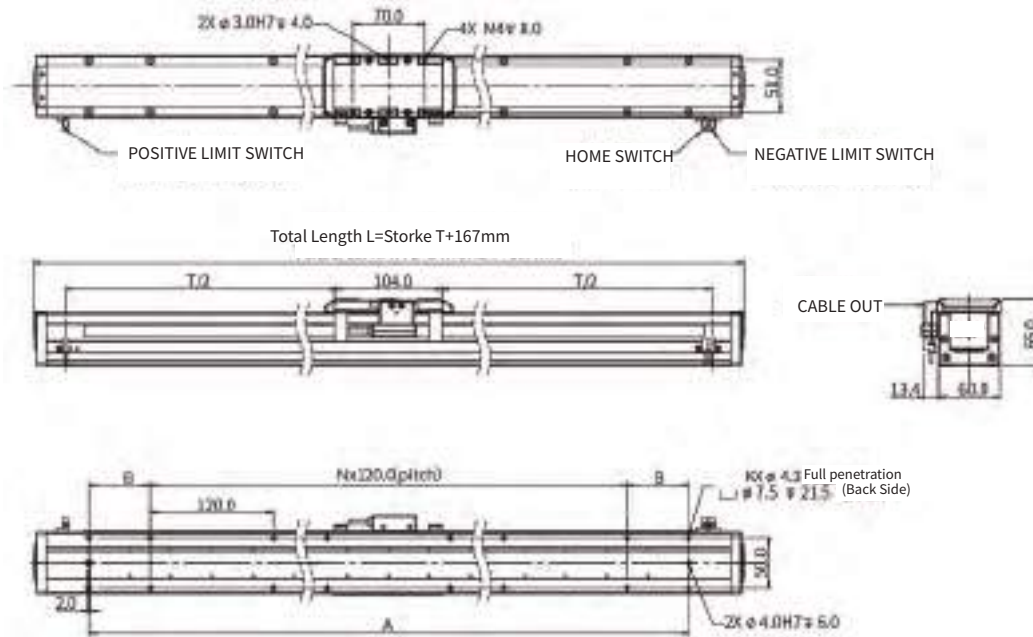
Mechanical parameters	
Load	Acceleration: 1G, Velocity: 500mm/s, Dwell Time: 0.2s, Travel Distance: 600mm. Maximum operational speed: 1000mm/s. Horizontal installation: 6kg Side hung installation: 3kg
accuracy	Magnetic grating (resolution: 1µm): Repetition Accuracy: ±5µm. Optical grating (resolution: 1µm): Repetition Accuracy: ±3µm.
Straightness	±10µm/300mm
Module Weight	60mm travel 20kg (0.32 kg increase per additional 60mm travel).
Guide rail	Embedded dual guide rail
Installation method	Horizontal installation/Side hung installation

YK-KE-S-60 A Motor Closed KE Series Linear Module



Outside drawing (unit: mm)

YK-KE-S-60 (A Motor) Closed



Specifications

YK-KE-S-60 (A Motor) Closed														
Distance mm	60	120	180	240	300	360	420	480	540	600	660	720	780	840
K	4	8	8	8	8	12	12	12	12	16	16	16	16	20
N	1	1	1	1	3	3	3	3	5	5	5	5	7	7
A mm	120	180	240	300	360	420	480	540	600	660	720	780	840	900
B mm	—	30	60	90	—	30	60	90	—	30	60	90	—	30
L mm	227	287	347	407	467	527	587	647	707	767	827	887	947	1007

Specification

Linear Motor Model YK-PBM01-W030-C1 (Motor A)	
Peak thrust	179.0N
Continuous thrust	44.8N
Linear Motors Constant	7.0N/(W1/2)
Maximum continuous dissipation power	41.2W
Peak current	10.0Arms
Continuous current	2.5Arms
Force Constant	17.9N/Arms
Back EMF (Electromotive Force)	14.6Vpeak/(m/s)
Interphase Impedance at @25°	3.2ohms
Interphase inductance	9.4mH
Electrical time constant	3.0ms
Maximum Terminal Voltage	460Vds
Maximum winding temperature	120°C
Weight of coil:	0.35KG
Electrical cycle length	20.0mm

Mechanical parameters

Mechanical parameters	
Load	Acceleration: 1G, Velocity: 500mm/s, Dwell Time: 0.2s, Travel Distance: 600mm. Maximum operational speed: 1000mm/s. Horizontal installation: 6kg Side hung installation: 3kg
accuracy	Magnetic grating (resolution: 1μm): Repetition Accuracy: ±5μm. Optical grating (resolution: 1μm): Repetition Accuracy: ±3μm.
Straightness	±10μm/300mm
Module Weight	60mm travel 20kg (0.32 kg increase per additional 60mm travel).
Guide rail	Embedded dual guide rail
Installation method	Horizontal installation/Side hung installation

Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-NUM

Motor accessories

Interface definition

Linear motor driver

Wiring diagram of motor module

Supplementary table for model selection

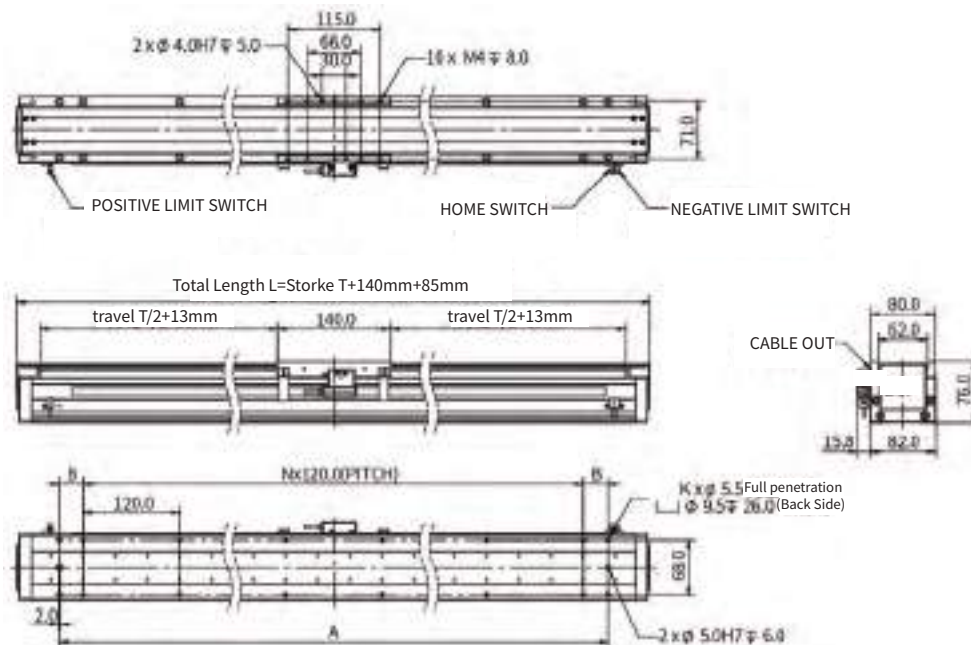
Attachment

YK-KE-82 A Motor Semi-enclosed KE Series Linear Module



Outside drawing (unit: mm)

YK-KE-82 (A Motor) Semi-enclosed



Specification

YK-KE-82 (A Motor) Semi-enclosed											
Distance mm	60	120	180	240	300	360	420	480	540	600	
K	8	8	8	8	12	12	12	12	16	16	
N	1	1	1	3	3	3	3	5	5	5	
A mm	180	240	300	360	420	480	540	600	660	720	
B mm	30	60	90	—	30	60	90	—	30	60	
L mm	285	345	405	465	525	585	645	705	765	825	
Distance mm	660	720	780	840	900	960	1020	1080	1140	1200	1260
K	16	16	20	20	20	20	24	24	24	24	28
N	5	7	7	7	7	9	9	9	9	11	11
A mm	780	840	900	960	1020	1080	1140	1200	1260	1320	1380
B mm	90	—	30	60	90	—	30	60	90	—	30
L mm	885	945	1005	1065	1125	1185	1245	1305	1365	1425	1485

Specification

Linear Motor Model YK-PBM015-W040-C1((Motor A)	
Peak thrust	208.0N
Continuous thrust	52.0N
Linear Motors Constant	23.4N/(W1/2)
Maximum continuous dissipation power	42.5W
Peak current	10.0Arms
Continuos current	2.5Arms
Force Constant	20.8N/Arms
Back EMF (Electromotive Force)	17.1Vpeak/(m/s)
Interphase Impedance at @25°	4.0ohms
Interphase inductance	10mH
Electrical time constant	0.9ms
Maximum Terminal Voltage	460Vds
Maximum winding temperature	120°C
Weight of coil:	1.3KG
Electrical cycle length	20.0mm

Mechanical parameters

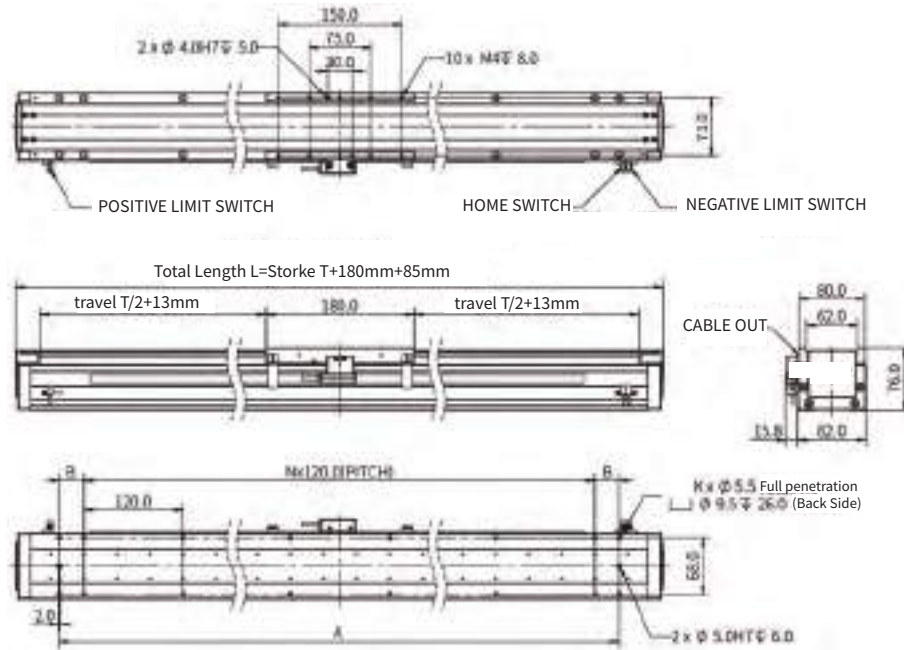
Mechanical parameters	
Load	Acceleration: 1G, Velocity: 1000mm/s, Dwell Time: 0.2s, Travel Distance: 1000mm, Maximum operational speed: 2000mm/s, Horizontal installation: 8kg, Side hung installation: 6kg
accuracy	Magnetic grating (resolution: 1µm): Repetition Accuracy: ±5µm, Optical grating (resolution: 1µm): Repetition Accuracy: ±3µm.
Straightness	±10µm/300mm
Module Weight	60mm travel 5.0kg (0.5kg increase per additional 60mm travel).
Guide rail	Embedded dual guide rail
Installation method	Horizontal installation/Side hung installation

YK-KE-82 B Motor Semi-enclosed KE Series Linear Module



Outside drawing (unit: mm)

● YK-KE-82 (B Motor) Semi-enclosed



Specifications

YK-KE-82 (B Motor) Semi-enclosed										
Distance mm	60	120	180	240	300	360	420	480	540	600
K	8	8	8	8	12	12	12	12	16	16
N	1	1	1	3	3	3	3	5	5	5
A mm	180	240	300	360	420	480	540	600	660	720
B mm	30	60	90	—	30	60	90	—	30	60
L mm	285	345	405	465	525	585	645	705	765	825

Distance mm	660	720	780	840	900	960	1020	1080	1140	1200	1260
K	16	16	20	20	20	20	24	24	24	24	28
N	5	7	7	7	7	9	9	9	9	11	11
A mm	780	840	900	960	1020	1080	1140	1200	1260	1320	1380
B mm	90	—	30	60	90	—	30	60	90	—	30
L mm	885	945	1005	1065	1125	1185	1245	1305	1365	1425	1485

Specification

Linear Motor Model YK-PBM02-W040-C1 (Motor B)	
Peak thrust	392.0N
Continuous thrust	98.0N
Linear Motors Constant	10.5N/(W1/2)
Maximum continuous dissipation power	59.2W
Peak current	10.0Arms
Continuos current	2.5Arms
Force Constant	39.2N/Arms
Back EMF (Electromotive Force)	32.1Vpeak/(m/s)
Interphase Impedance at @25°	6.6ohms
Interphase inductance	21.4mH
Electrical time constant	2.8ms
Maximum Terminal Voltage	460Vds
Maximum winding temperature	120°C
Weight of coil:	1.7KG
Electrical cycle length	20.0mm

Mechanical parameters

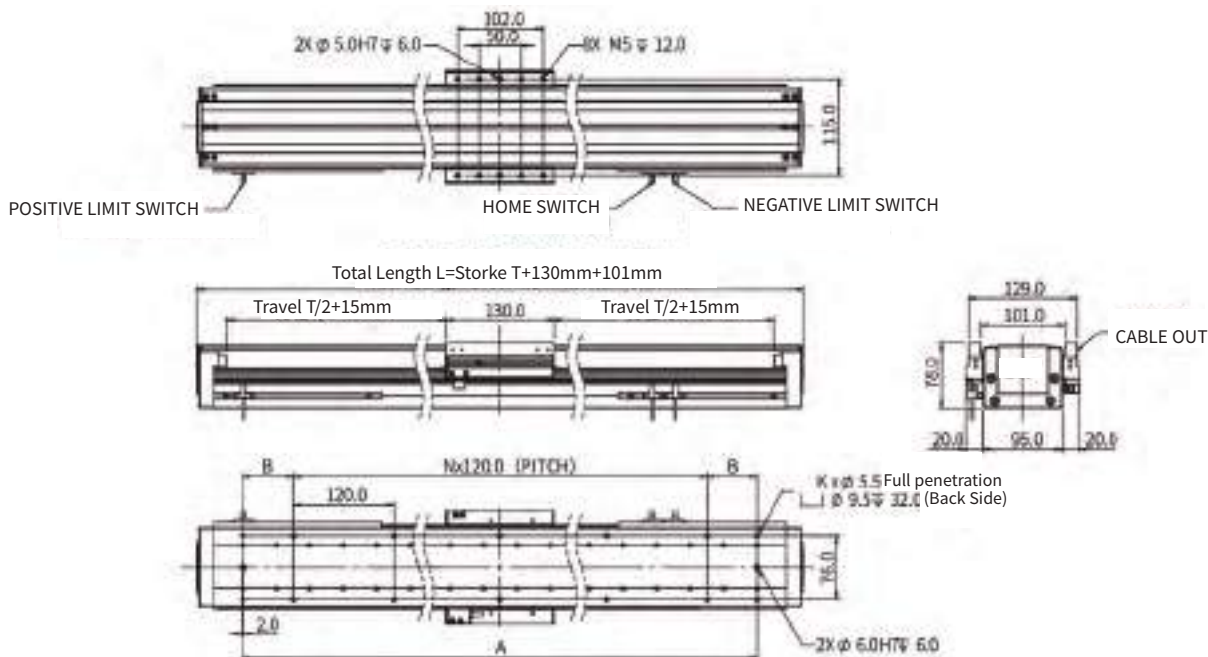
Mechanical parameters	
Load	Acceleration: 1G, Velocity: 1000mm/s, Dwell Time: 0.2s, Travel Distance: 1000mm. Maximum operational speed: 2000mm/s. Horizontal installation: 15kg Side hung installation: 10kg
accuracy	Magnetic grating (resolution: 1µm): Repetition Accuracy: ±5µm. Optical grating (resolution: 1µm): Repetition Accuracy: ±3µm.
Straightness	±10µm/300mm
Module Weight	60mm travel 5.6kg (0.5kg increase per additional 60mm travel).
Guide rail	Embedded dual guide rail
Installation method	Horizontal installation/Side hung installation

YK-KE-95 A Motor Semi-enclosed KE Series Linear Module



Outside drawing (unit: mm)

YK-KE-95 (A Motor) Semi-enclosed



Specifications

YK-KE-95 (A Motor) Semi-enclosed											
Distance mm	60	120	180	240	300	360	420	480	540	600	
K	6	6	10	10	10	10	14	14	14	14	
N	—	2	2	2	2	4	4	4	6	6	
A mm	180	240	300	360	420	480	540	600	660	720	
B mm	90	—	30	60	90	—	30	60	90	—	
L mm	291	351	411	471	531	591	651	711	771	831	
Distance mm	660	720	780	840	900	960	1020	1080	1140	1200	1260
K	18	18	18	18	22	22	22	22	26	26	26
N	6	6	6	8	8	8	8	10	10	10	10
A mm	780	840	900	960	1020	1080	1140	1200	1260	1320	1380
B mm	30	60	90	—	30	60	90	—	30	60	90
L mm	891	951	1011	1071	1131	1191	1251	1311	1371	1431	1491

Specification

Linear Motor Model YK-PBM015-W060-C1 (Motor A)	
Peak thrust	442.0N
Continuous thrust	110.5N
Linear Motors Constant	23.4N/(W1/2)
Maximum continuous dissipation power	259.8W
Peak current	10.0Arms
Continous current	2.5Arms
Force Constant	44.2N/Arms
Back EMF (Electromotive Force)	36.2Vpeak/(m/s)
Interphase Impedance at @25°	7.2ohms
Interphase inductance	27.7mH
Electrical time constant	3.8ms
Maximum Terminal Voltage	460Vds
Maximum winding temperature	120°C
Weight of coil:	1.1KG
Electrical cycle length	20.0mm

Mechanical parameters

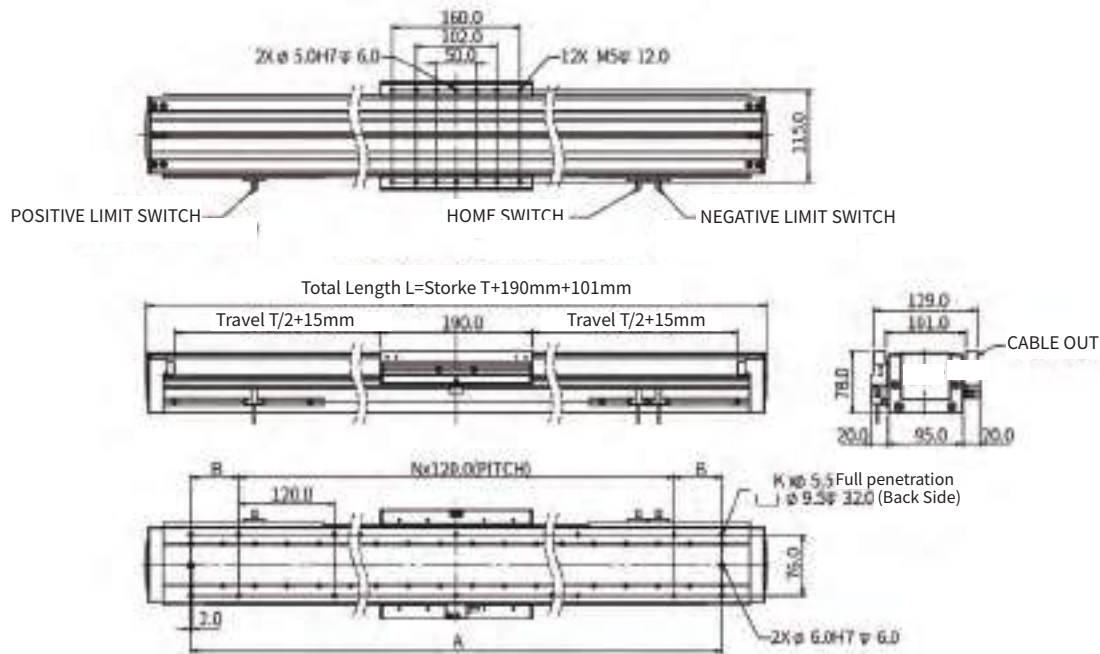
Mechanical parameters	
Load	Acceleration: 1G, Velocity: 1000mm/s, Dwell Time: 0.2s, Travel Distance: 1000mm, Maximum operational speed: 2000mm/s, Horizontal installation: 18kg, Side hung installation: 15kg
accuracy	Magnetic grating (resolution: 1μm): Repetition Accuracy: ±5μm, Optical grating (resolution: 1μm): Repetition Accuracy: ±3μm.
Straightness	±10μm/300mm
Module Weight	60mm travel 6.4kg (0.65kg increase per additional 60mm travel).
Guide rail	External embedded double guide rail
Installation method	Horizontal installation/Side hung installation

YK-KE-95 B Motor Semi-enclosed KE Series Linear Module



Outside drawing (unit: mm)

YK-KE-95 (B Motor) Semi-enclosed



Specifications

YK-KE-95 (B Motor) Semi-enclosed										
Distance mm	60	120	180	240	300	360	420	480	540	600
K	6	10	10	10	10	14	14	14	14	18
N	2	2	2	2	4	4	4	4	6	6
A mm	240	300	360	420	480	540	600	660	720	780
B mm	—	30	60	90	—	30	60	90	—	30
L mm	351	411	471	531	591	651	711	771	831	891
Distance mm	660	720	780	840	900	960	1020	1080	1140	1200
K	18	18	18	22	22	22	22	26	26	26
N	6	6	8	8	8	8	10	10	10	10
A mm	840	900	960	1020	1080	1140	1200	1260	1320	1380
B mm	60	90	—	30	60	90	—	30	60	90
L mm	951	1011	1071	1131	1191	1251	1311	1371	1431	1491

Specification

Linear Motor Model YK-PBM02-W060-C1 (Motor B)	
Peak thrust	588.0N
Continuous thrust	147.0N
Linear Motors Constant	15.2N/(W1/2)
Maximum continuous dissipation power	112.0W
Peak current	10.0Arms
Continous current	2.5Arms
Force Constant	58.8N/Arms
Back EMF (Electromotive Force)	48.2Vpeak/(m/s)
Interphase Impedance at @25°	8.7ohms
Interphase inductance	36.5mH
Electrical time constant	4.2ms
Maximum Terminal Voltage	460Vds
Maximum winding temperature	120°C
Weight of coil:	1.5KG
Electrical cycle length	20.0mm

Mechanical parameters

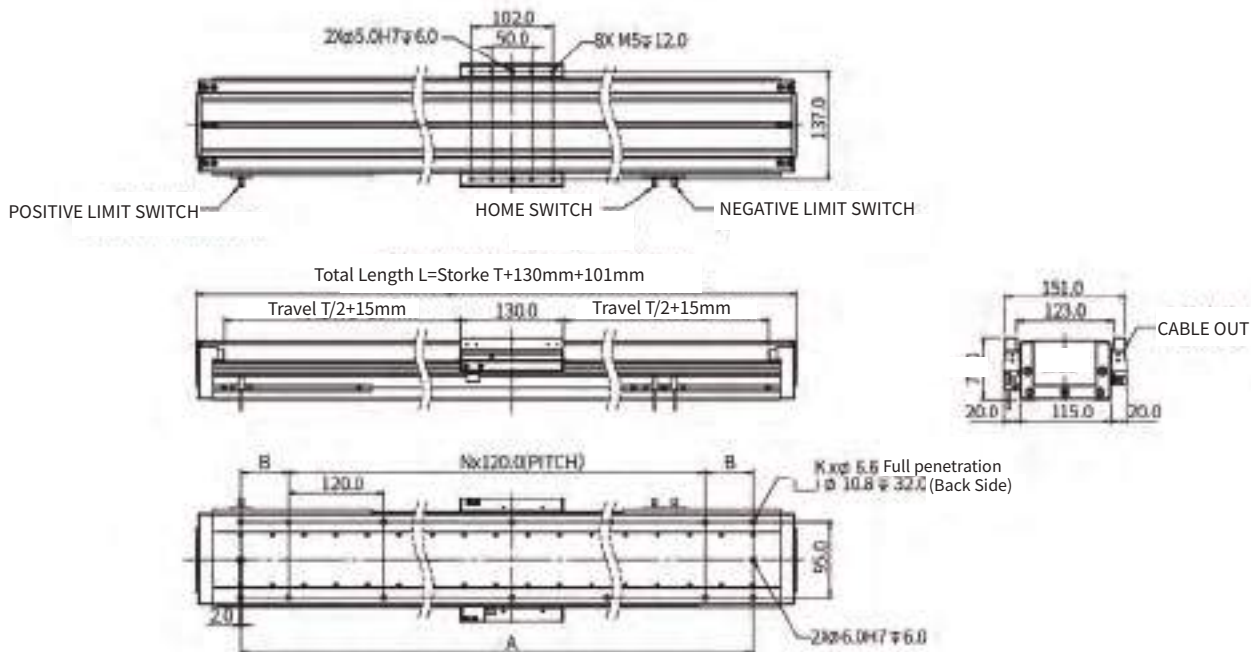
Mechanical parameters	
Load	Acceleration: 1G, Velocity: 1000mm/s, Dwell Time: 0.2s, Travel Distance: 1000mm. Maximum operational speed: 2000mm/s. Horizontal installation: 25kg Side hung installation: 20kg
accuracy	Magnetic grating (resolution: 1μm): Repetition Accuracy: ±5μm. Optical grating (resolution: 1μm): Repetition Accuracy: ±3μm.
Straightness	±10μm/300mm
Module Weight	60mm travel: 7.6kg (0.65kg increase per additional 60mm travel).
Guide rail	External embedded double guide rail
Installation method	Horizontal installation/Side hung installation

YK-KE-115 A Motor Semi-enclosed KE Series Linear Module



Outside drawing (unit: mm)

YK-KE-115 (A Motor) Semi-enclosed



Specifications

YK-KE-115 (A Motor) Semi-enclosed										
Distance mm	60	120	180	240	300	360	420	480	540	600
K	6	6	10	10	10	10	14	14	14	14
N	—	2	2	2	2	4	4	4	4	6
A mm	180	240	300	360	420	480	540	600	660	720
B mm	90	—	30	60	90	—	30	60	90	—
L mm	291	351	411	471	531	591	651	711	771	831

Distance mm	660	720	780	840	900	960	1020	1080	1140	1200	1260
K	18	18	18	18	22	22	22	22	26	26	26
N	6	6	6	8	8	8	8	10	10	10	10
A mm	780	840	900	960	1020	1080	1140	1200	1260	1320	1380
B mm	30	60	90	—	30	60	90	—	30	60	90
L mm	891	951	1011	1071	1131	1191	1251	1311	1371	1431	1491

Specification

Linear Motor Model YK-PBM015-W075-C1 (Motor A)	
Peak thrust	609.0N
Continuous thrust	152.3N
Linear Motors Constant	14.3N/(W1/2)
Maximum continuous dissipation power	113.3W
Peak current	10.0Arms
Continous current	2.5Arms
Force Constant	60.9N/Arms
Back EMF (Electromotive Force)	49.7Vpeak/(m/s)
Interphase Impedance at @25°	8.8ohms
Interphase inductance	32.5mH
Electrical time constant	3.6ms
Maximum Terminal Voltage	460Vds
Maximum winding temperature	120°C
Weight of coil:	1.35KG
Electrical cycle length	20.0mm

Mechanical parameters

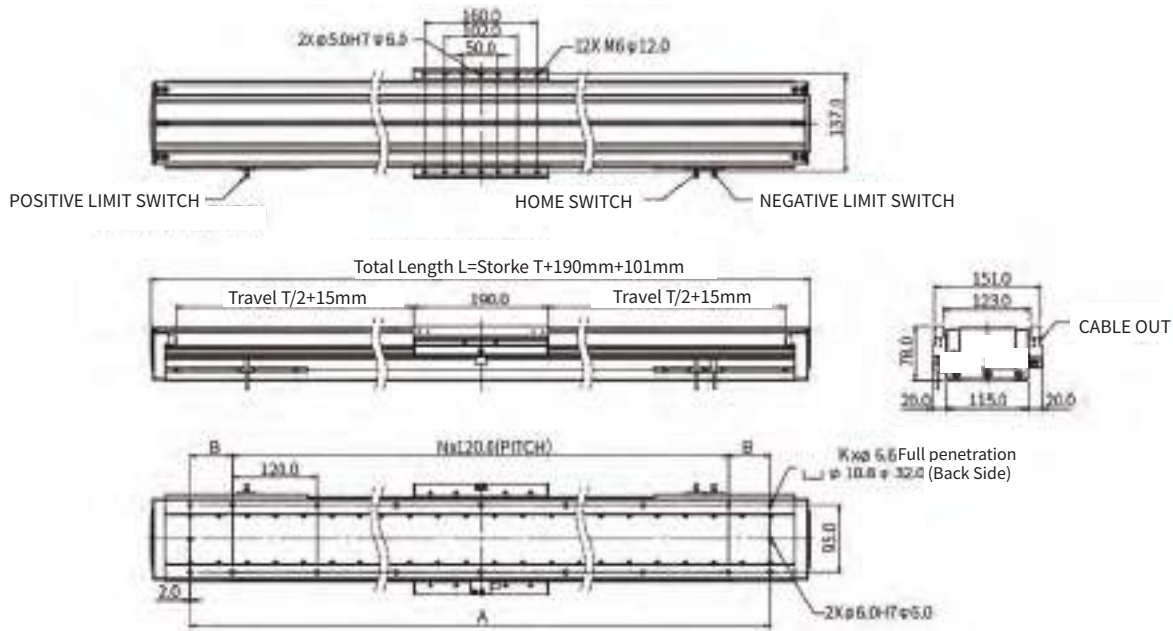
Mechanical parameters	
Load	Acceleration: 1G, Velocity: 1000mm/s, Dwell Time: 0.2s, Travel Distance: 1000mm. Maximum operational speed: 2000mm/s. Horizontal installation: 25kg Side hung installation: 20kg
accuracy	Magnetic grating (resolution: 1μm): Repetition Accuracy: ±5μm. Optical grating (resolution: 1μm): Repetition Accuracy: ±3μm.
Straightness	±10μm/300mm
Module Weight	60mm travel 7.5kg (0.75kg increase per additional 60mm travel).
Guide rail	External embedded double guide rail
Installation method	Horizontal installation/Side hung installation

YK-KE-115 B Motor Semi-enclosed KE Series Linear Module



Outside drawing (unit: mm)

YK-KE-115 (B Motor) Semi-enclosed



Specifications

YK-KE-115 (B Motor) Semi-enclosed										
Distance mm	60	120	180	240	300	360	420	480	540	600
K	6	10	10	10	10	14	14	14	14	18
N	2	2	2	2	4	4	4	4	6	6
A mm	240	300	360	420	480	540	600	660	720	780
B mm	—	30	60	90	—	30	60	90	—	30
L mm	351	411	471	531	591	651	711	771	831	891
Distance mm	660	720	780	840	900	960	1020	1080	1140	1200
K	18	18	18	22	22	22	22	26	26	26
N	6	6	8	8	8	8	10	10	10	10
A mm	840	900	960	1020	1080	1140	1200	1260	1320	1380
B mm	60	90	—	30	60	90	—	30	60	90
L mm	951	1011	1071	1131	1191	1251	1311	1371	1431	1491

Specification

Linear Motor Model YK-PBM02-W075-C1 (Motor B)	
Peak thrust	812.0N
Continuous thrust	203.0N
Linear Motors Constant	12.2N/(W1/2)
Maximum continuous dissipation power	149.3W
Peak current	10.0Arms
Continous current	2.5Arms
Force Constant	81.2N/Arms
Back EMF (Electromotive Force)	66.3Vpeak/(m/s)
Interphase Impedance at @25°	11.6ohms
Interphase inductance	46mH
Electrical time constant	4.2ms
Maximum Terminal Voltage	460Vds
Maximum winding temperature	120°C
Weight of coil:	1.8KG
Electrical cycle length	20.0mm

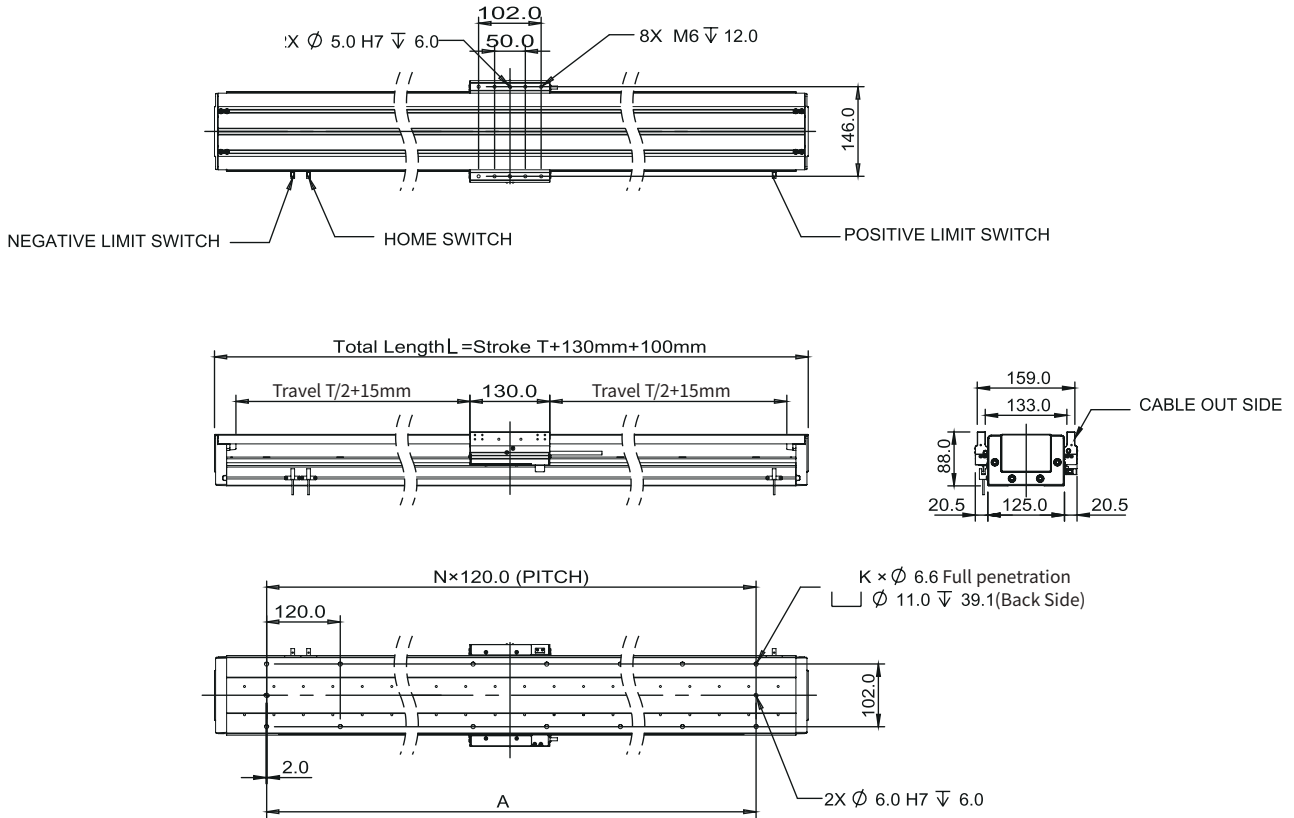
Mechanical parameters

Mechanical parameters	
Load	Acceleration: 1G, Velocity: 1000mm/s, Dwell Time: 0.2s, Travel Distance: 1000mm. Maximum operational speed: 2000mm/s. Horizontal installation: 35kg Side hung installation: 20kg
accuracy	Magnetic grating (resolution: 1μm): Repetition Accuracy: ±5μm. Optical grating (resolution: 1μm): Repetition Accuracy: ±3μm.
Straightness	±10μm/300mm
Module Weight	60mm travel 9kg (0.75kg increase per additional 60mm travel).
Guide rail	External embedded double guide rail
Installation method	Horizontal installation/Side hung installation

YK-KE-126 A Motor Semi-enclosed KE Series Linear Module

Outside drawing (unit: mm)

YK-KE-126 (A Motor) Semi-enclosed



Specifications

		YK-KE-126 (A Motor) Semi-enclosed																					
Distance mm		60	120	180	240	300	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	1260	1320
K		4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
N		1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
A	mm	120	240	240	360	360	480	480	600	600	720	720	840	840	960	960	1080	1080	1200	1200	1320	1320	1440
L	mm	290	350	410	470	530	590	650	710	770	830	890	950	1010	1070	1130	1190	1250	1310	1370	1430	1490	1550
Distance mm		1380	1440	1500	1560	1620	1680	1740	1800	1860	1920	1980	2040	2100	2160	2220	2280	2340	2400	2460	2520	2580	2640
K		26	28	28	30	30	32	32	34	34	36	36	38	38	40	40	42	42	44	44	46	46	48
N		12	13	13	14	14	15	15	16	16	17	17	18	18	19	19	20	20	21	21	22	22	23
A	mm	1440	1560	1560	1680	1680	1800	1800	1920	1920	2040	2040	2160	2160	2280	2280	2400	2400	2520	2520	2640	2640	2760
L	mm	1610	1670	1730	1790	1850	1910	1970	2030	2090	2150	2210	2270	2330	2390	2450	2510	2570	2630	2690	2750	2810	2870
Distance mm		2700	2760	2820	2880	2940	3000	3060	3120	3180	3240	3300	3360	3420	3480	3540	3600	3660	3720				
K		48	50	50	52	52	54	54	56	56	58	58	60	60	62	62	64	64	66				
N		23	24	24	25	25	26	26	27	27	28	28	29	29	30	30	31	31	32				
A	mm	2760	2880	2880	3000	3000	3120	3120	3240	3240	3360	3360	3480	3480	3600	3600	3720	3720	3840				
L	mm	2930	2990	3050	3110	3170	3230	3290	3350	3410	3470	3530	3590	3650	3710	3770	3830	3890	3950				

YK-KE-126 A Motor Semi-enclosed KE Series Linear Module

Specification

Linear Motor Model YK-PMQ35-C2-A-HS-1-HMR(Motor A)	
Peak thrust	265.0N
Continuous thrust	122.0N
Peak current	9.0Arms
Continuos current	2.7Arms
Force Constant	45.19N/Arms
Back EMF (Electromotive Force)	36.87Vpeak/(m/s)
Resistance	5.2Ω
Inductor	37.0mH
Electrical time constant	7.12ms
Maximum Terminal Voltage	600V
Magnetic attraction force	0.5KN
Maximum winding temperature	120°C
Pole-pair pitch	24mm
Rotor length	110mm
Weight of coil	0.9KG
Thermal resistance	0.63°C/W

Mechanical parameters

Mechanical parameters	
Load	Acceleration: 1G, Velocity: 1000mm/s, Dwell Time: 0.2s, Travel Distance: 1000mm. Maximum operational speed: 2000mm/s. Horizontal installation: 12kg Side hung installation: 10kg
accuracy	Magnetic grating (resolution: 1μm): Repetition Accuracy: ±5μm. Optical grating (resolution: 1μm): Repetition Accuracy: ±3μm.
Straightness	±10μm/300mm
Module Weight	60mm travel 10kg (0.8kg increase per additional 60mm travel).
Guide rail	Embedded triple guide rails
Installation method	Horizontal installation/Side hung installation

- For cable specifications and wiring definitions, refer to Page 252.

Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-KUM

Motor accessories

Interface definition

Linear motor driver

Wiring diagram of motor module

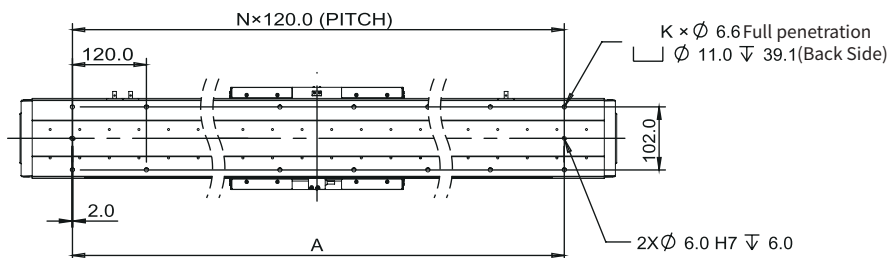
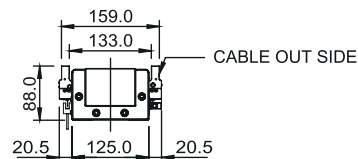
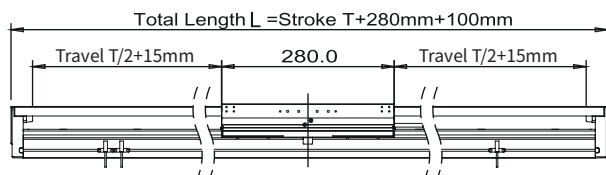
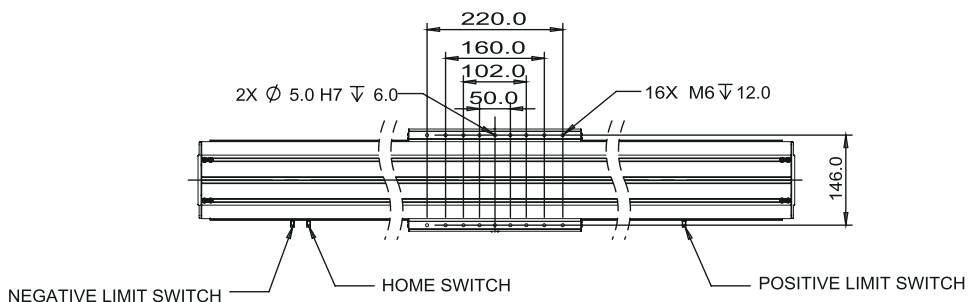
Supplementary table for model selection

Attachment

YK-KE-126 B Motor Semi-enclosed KE Series Linear Module

Outside drawing (unit: mm)

YK-KE-126 (B Motor) Semi-enclosed



Specifications

		YK-KE-126 (B Motor) Semi-enclosed																					
Distance mm		30	90	150	210	270	330	390	450	510	570	630	690	750	810	870	930	990	1050	1110	1170	1230	1290
K		6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28
N		2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13
A	mm	240	360	360	480	480	600	600	720	720	840	840	960	960	1080	1080	1200	1200	1320	1320	1440	1440	1560
L	mm	410	470	530	590	650	710	770	830	890	950	1010	1070	1130	1190	1250	1310	1370	1430	1490	1550	1610	1670
Distance mm		1350	1410	1470	1530	1590	1650	1710	1770	1830	1890	1950	2010	2070	2130	2190	2250	2310	2370	2430	2490	2550	2610
K		28	30	30	32	32	34	34	36	36	38	38	40	40	42	42	44	44	46	46	48	48	50
N		13	14	14	15	15	16	16	17	17	18	18	19	19	20	20	21	21	22	22	23	23	24
A	mm	1560	1680	1680	1800	1800	1920	1920	2040	2040	2160	2160	2280	2280	2400	2400	2520	2520	2640	2640	2760	2760	2880
L	mm	1730	1790	1850	1910	1970	2030	2090	2150	2210	2270	2330	2390	2450	2510	2570	2630	2690	2750	2810	2870	2930	2990
Distance mm		2670	2730	2790	2850	2910	2970	3030	3090	3150	3210	3270	3330	3390	3450	3510	3570						
K		50	52	52	54	54	56	56	58	58	60	60	62	62	64	64	66						
N		24	25	25	26	26	27	27	28	28	29	29	30	30	31	31	32						
A	mm	2880	3000	3000	3120	3120	3240	3240	3360	3360	3480	3480	3600	3600	3720	3720	3840						
L	mm	3050	3110	3170	3230	3290	3350	3410	3470	3530	3590	3650	3710	3770	3830	3890	3950						

YK-KE-126 B Motor Semi-enclosed KE Series Linear Module

Specification

Linear Motor Model YK-PMQ35-C4-A-HS-1-HMR(Motor A)	
Peak thrust	532.0N
Continuous thrust	238.0N
Peak current	18.0Arms
Continuos current	5.2Arms
Force Constant	45.77N/Arms
Back EMF (Electromotive Force)	37.35Vpeak/(m/s)
Resistance	2.6Ω
Inductor	18.4mH
Electrical time constant	7.08ms
Maximum Terminal Voltage	600V
Magnetic attraction force	0.96KN
Maximum winding temperature	120°C
Pole-pair pitch	24mm
Rotor length	210mm
Weight of coil	1.9KG
Thermal resistance	0.63°C/W

Mechanical parameters

Mechanical parameters	
Load	Acceleration: 2G, Velocity: 1600mm/s, Dwell Time: 0.2s, Travel Distance: 1000mm. Maximum operational speed: 2000mm/s. Horizontal installation: 21kg Side hung installation: 16kg
accuracy	Magnetic grating (resolution: 1μm); Repetition Accuracy: ±5μm. Optical grating (resolution: 1μm); Repetition Accuracy: ±3μm.
Straightness	±10μm/300mm
Module Weight	60mm travel 11kg (0.8kg increase per additional 60mm travel).
Guide rail	Embedded triple guide rails
Installation method	Horizontal installation/Side hung installation

- For cable specifications and wiring definitions, refer to Page 256.

Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-KUM

Motor accessories

Interface definition

Linear motor driver

Wiring diagram of motor module

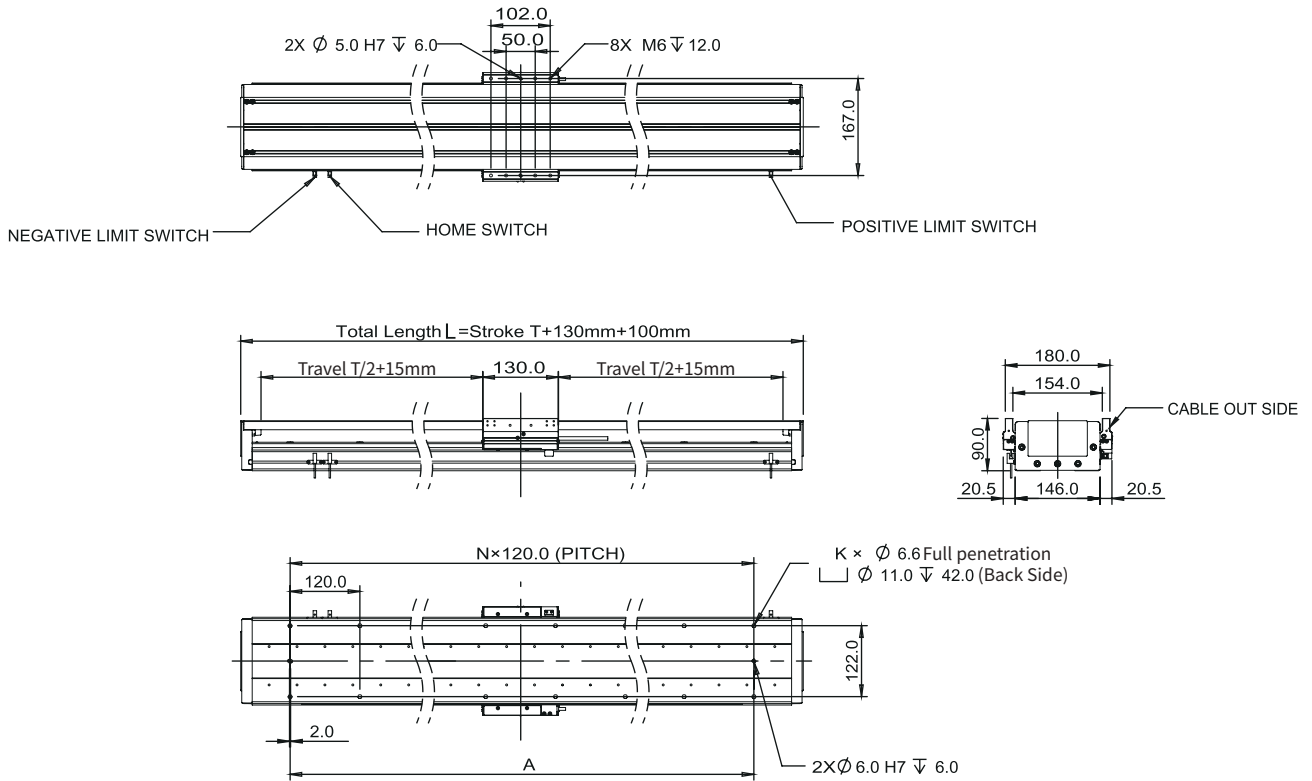
Supplementary table for model selection

Attachment

YK-KE-146 A Motor Semi-enclosed KE Series Linear Module

Outside drawing (unit: mm)

YK-KE-146 (A Motor) Semi-enclosed



Specifications

YK-KE-146 (A Motor) Semi-enclosed																						
Distance mm	60	120	180	240	300	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	1260	1320
K	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
N	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
A mm	120	240	240	360	360	480	480	600	600	720	720	840	840	960	960	1080	1080	1200	1200	1320	1320	1440
L mm	290	350	410	470	530	590	650	710	770	830	890	950	1010	1070	1130	1190	1250	1310	1370	1430	1490	1550
Distance mm	1380	1440	1500	1560	1620	1680	1740	1800	1860	1920	1980	2040	2100	2160	2220	2280	2340	2400	2460	2520	2580	2640
K	26	28	28	30	30	32	32	34	34	36	36	38	38	40	40	42	42	44	44	46	46	48
N	12	13	13	14	14	15	15	16	16	17	17	18	18	19	19	20	20	21	21	22	22	23
A mm	1440	1560	1560	1680	1680	1800	1800	1920	1920	2040	2040	2160	2160	2280	2280	2400	2400	2520	2520	2640	2640	2760
L mm	1610	1670	1730	1790	1850	1910	1970	2030	2090	2150	2210	2270	2330	2390	2450	2510	2570	2630	2690	2750	2810	2870
Distance mm	2700	2760	2820	2880	2940	3000	3060	3120	3180	3240	3300	3360	3420	3480	3540	3600	3660	3720				
K	48	50	50	52	52	54	54	56	56	58	58	60	60	62	62	64	64	66				
N	23	24	24	25	25	26	26	27	27	28	28	29	29	30	30	31	31	32				
A mm	2760	2880	2880	3000	3000	3120	3120	3240	3240	3360	3360	3480	3480	3600	3600	3720	3720	3840				
L mm	2930	2990	3050	3110	3170	3230	3290	3350	3410	3470	3530	3590	3650	3710	3770	3830	3890	3950				

YK-KE-146 A Motor Semi-enclosed KE Series Linear Module

Specification

Linear Motor Model YK-PMQ55-C2-A-HS-1-HMR (Motor A)	
Peak thrust	418.0N
Continuous thrust	191.0N
Peak current	9.0Arms
Continuos current	2.65Arms
Force Constant	72.08N/Arms
Back EMF (Electromotive Force)	58.81Vpeak/(m/s)
Resistance	7.4Ω
Inductor	52.5mH
Electrical time constant	7.09ms
Maximum Terminal Voltage	600V
Magnetic attraction force	0.78KN
Maximum winding temperature	120°C
Pole-pair pitch	24mm
Rotor length	110mm
Weight of coil	1.4KG
Thermal resistance	—

Mechanical parameters

Mechanical parameters	
Load	Acceleration: 2G, Velocity: 1600mm/s, Dwell Time: 0.2s, Travel Distance: 1000mm. Maximum operational speed: 2000mm/s. Horizontal installation: 18kg Side hung installation: 14kg
accuracy	Magnetic grating (resolution: 1μm): Repetition Accuracy: ±5μm. Optical grating (resolution: 1μm): Repetition Accuracy: ±3μm.
Straightness	±10μm/300mm
Module Weight	60mm travel 11kg (0.8kg increase per additional 60mm travel).
Guide rail	Embedded triple guide rails
Installation method	Horizontal installation/Side hung installation

- For cable specifications and wiring definitions, refer to Page 253.

Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-KUM

Motor accessories

Interface definition

Linear motor driver

Wiring diagram of motor module

Supplementary table for model selection

Attachment

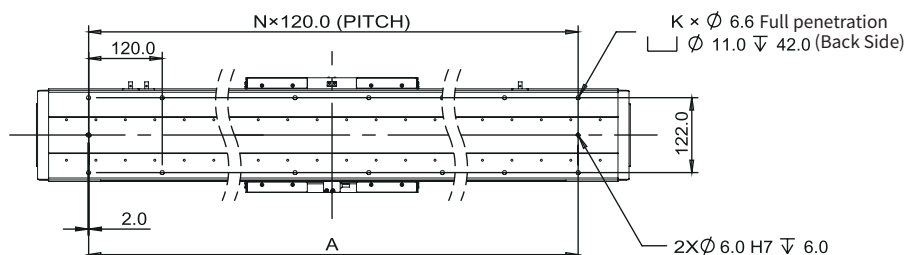
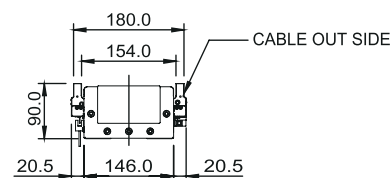
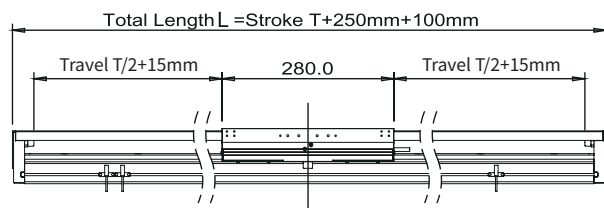
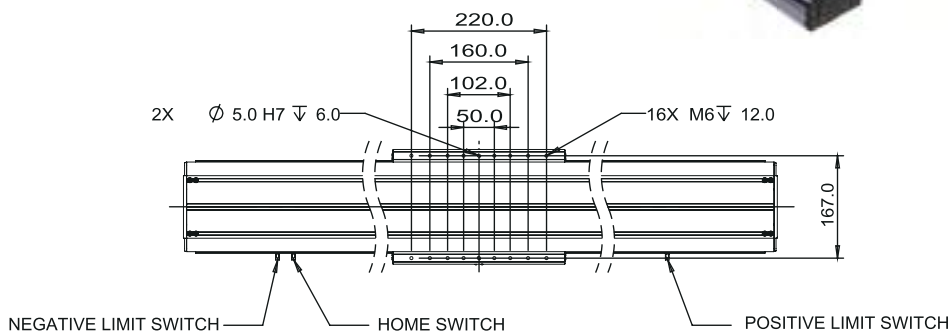
YK-KE-146 B Motor Semi-enclosed KE Series Linear Module

Outside drawing (unit: mm)

YK-KE-146 (B Motor) Semi-enclosed



Steel strip cover plate with $L \geq 2.0$ meters



Specifications

YK-KE-146 (B Motor) Semi-enclosed																						
Distance mm	30	90	150	210	270	330	390	450	510	570	630	690	750	810	870	930	990	1050	1110	1170	1230	1290
K	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28
N	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13
A mm	240	360	360	480	480	600	600	720	720	840	840	960	960	1080	1080	1200	1200	1320	1320	1440	1440	1560
L mm	410	470	530	590	650	710	770	830	890	950	1010	1070	1130	1190	1250	1310	1370	1430	1490	1550	1610	1670
Distance mm	1350	1410	1470	1530	1590	1650	1710	1770	1830	1890	1950	2010	2070	2130	2190	2250	2310	2370	2430	2490	2550	2610
K	28	30	30	32	32	34	34	36	36	38	38	40	40	42	42	44	44	46	46	48	48	50
N	13	14	14	15	15	16	16	17	17	18	18	19	19	20	20	21	21	22	22	23	23	24
A mm	1560	1680	1680	1800	1800	1920	1920	2040	2040	2160	2160	2280	2280	2400	2400	2520	2520	2640	2640	2760	2760	2880
L mm	1730	1790	1850	1910	1970	2030	2090	2150	2210	2270	2330	2390	2450	2510	2570	2630	2690	2750	2810	2870	2930	2990
Distance mm	2670	2730	2790	2850	2910	2970	3030	3090	3150	3210	3270	3330	3390	3450	3510	3570						
K	50	52	52	54	54	56	56	58	58	60	60	62	62	64	64	66						
N	24	25	25	26	26	27	27	28	28	29	29	30	30	31	31	32						
A mm	2880	3000	3000	3120	3120	3240	3240	3360	3360	3480	3480	3600	3600	3720	3720	3840						
L mm	3050	3110	3170	3230	3290	3350	3410	3470	3530	3590	3650	3710	3770	3830	3890	3950						

YK-KE-146 B Motor Semi-enclosed KE Series Linear Module

Specification

Linear Motor Model YK-PMQ55-C4-A-HS-1-HMR(Motor B)	
Peak thrust	835.0N
Continuous thrust	373.0N
Peak current	18.0Arms
Continuos current	5.16Arms
Force Constant	72.29N/Arms
Back EMF (Electromotive Force)	58.99Vpeak/(m/s)
Resistance	3.7Ω
Inductor	26.1mH
Electrical time constant	7.05ms
Maximum Terminal Voltage	600V
Magnetic attraction force	1.56KN
Maximum winding temperature	120°C
Pole-pair pitch	24mm
Rotor length	210mm
Weight of coil:	2.8KG
Thermal resistance	—

Mechanical parameters

Mechanical parameters	
Load	Acceleration: 2G, Velocity: 1600mm/s, Dwell Time: 0.2s, Travel Distance: 1000mm. Maximum operational speed: 2000mm/s. Horizontal installation: 35kg Side hung installation: 28kg
accuracy	Magnetic grating (resolution: 1μm): Repetition Accuracy: ±5μm. Optical grating (resolution: 1μm): Repetition Accuracy: ±3μm.
Straightness	±10μm/300mm
Module Weight	60mm travel 13kg (0.8kg increase per additional 60mm travel).
Guide rail	Embedded triple guide rails
Installation method	Horizontal installation/Side hung installation

- For cable specifications and wiring definitions, refer to Page 257.

Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-KUM

Motor accessories

Interface definition

Linear motor driver

Wiring diagram of motor module

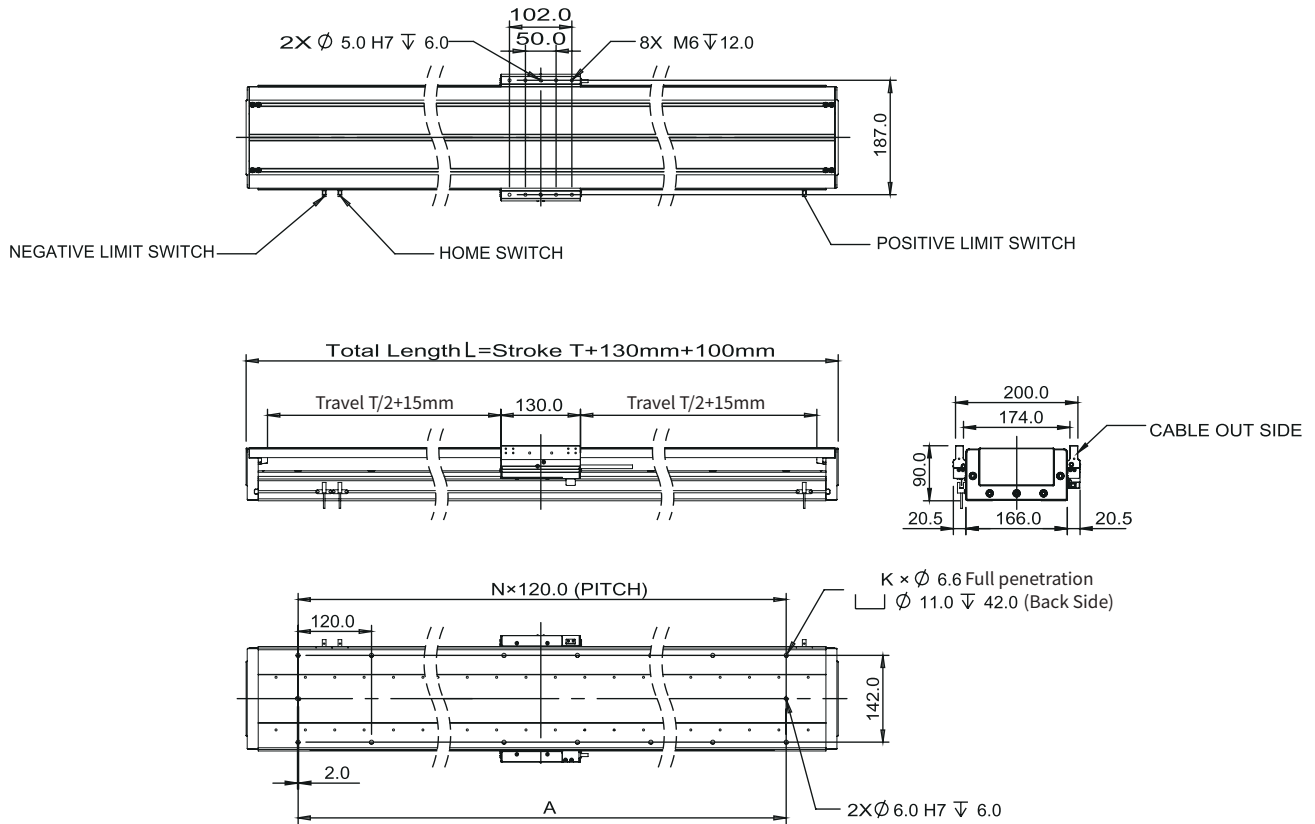
Supplementary table for model selection

Attachment

YK-KE-166 A Motor Semi-enclosed KE Series Linear Module

Outside drawing (unit: mm)

YK-KE-166 (A Motor) Semi-enclosed



Specifications

YK-KE-166 (A Motor) Semi-enclosed																						
Distance mm	60	120	180	240	300	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	1260	1320
K	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
N	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
A mm	120	240	240	360	360	480	480	600	600	720	720	840	840	960	960	1080	1080	1200	1200	1320	1320	1440
L mm	290	350	410	470	530	590	650	710	770	830	890	950	1010	1070	1130	1190	1250	1310	1370	1430	1490	1550
Distance mm	1380	1440	1500	1560	1620	1680	1740	1800	1860	1920	1980	2040	2100	2160	2220	2280	2340	2400	2460	2520	2580	2640
K	26	28	28	30	30	32	32	34	34	36	36	38	38	40	40	42	42	44	44	46	46	48
N	12	13	13	14	14	15	15	16	16	17	17	18	18	19	19	20	20	21	21	22	22	23
A mm	1440	1560	1560	1680	1680	1800	1800	1920	1920	2040	2040	2160	2160	2280	2280	2400	2400	2520	2520	2640	2640	2760
L mm	1610	1670	1730	1790	1850	1910	1970	2030	2090	2150	2210	2270	2330	2390	2450	2510	2570	2630	2690	2750	2810	2870
Distance mm	2700	2760	2820	2880	2940	3000	3060	3120	3180	3240	3300	3360	3420	3480	3540	3600	3660	3720				
K	48	50	50	52	52	54	54	56	56	58	58	60	60	62	62	64	64	66				
N	23	24	24	25	25	26	26	27	27	28	28	29	29	30	30	31	31	32				
A mm	2760	2880	2880	3000	3000	3120	3120	3240	3240	3360	3360	3480	3480	3600	3600	3720	3720	3840				
L mm	2930	2990	3050	3110	3170	3230	3290	3350	3410	3470	3530	3590	3650	3710	3770	3830	3890	3950				

YK-KE-166 A Motor Semi-enclosed KE Series Linear Module

Specification

Linear Motor Model YK-PMQ75-C2-A-HS-1-HMR(Motor A)	
Peak thrust	570.0N
Continuous thrust	260.0N
Peak current	9.0Arms
Continuos current	2.65Arms
Force Constant	98.11N/Arms
Back EMF (Electromotive Force)	80.06Vpeak/(m/s)
Resistance	9.6Ω
Inductor	68.0mH
Electrical time constant	7.08ms
Maximum Terminal Voltage	600V
Magnetic attraction force	1.10KN
Maximum winding temperature	120°C
Pole-pair pitch	24mm
Rotor length	110mm
Weight of coil	1.75KG
Thermal resistance	—

Mechanical parameters

Mechanical parameters	
Load	Acceleration: 2G, Velocity: 1600mm/s, Dwell Time: 0.2s, Travel Distance: 1000mm. Maximum operational speed: 2000mm/s. Horizontal installation: 24kg Side hung installation: 18kg
accuracy	Magnetic grating (resolution: 1μm): Repetition Accuracy: ±5μm. Optical grating (resolution: 1μm): Repetition Accuracy: ±3μm.
Straightness	±10μm/300mm
Module Weight	60mm travel 14kg (1.0kg increase per additional 60mm travel).
Guide rail	Embedded triple guide rails
Installation method	Horizontal installation/Side hung installation

- For cable specifications and wiring definitions, refer to Page 254.

Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-KUM

Motor accessories

Interface definition

Linear motor driver

Wiring diagram of motor module

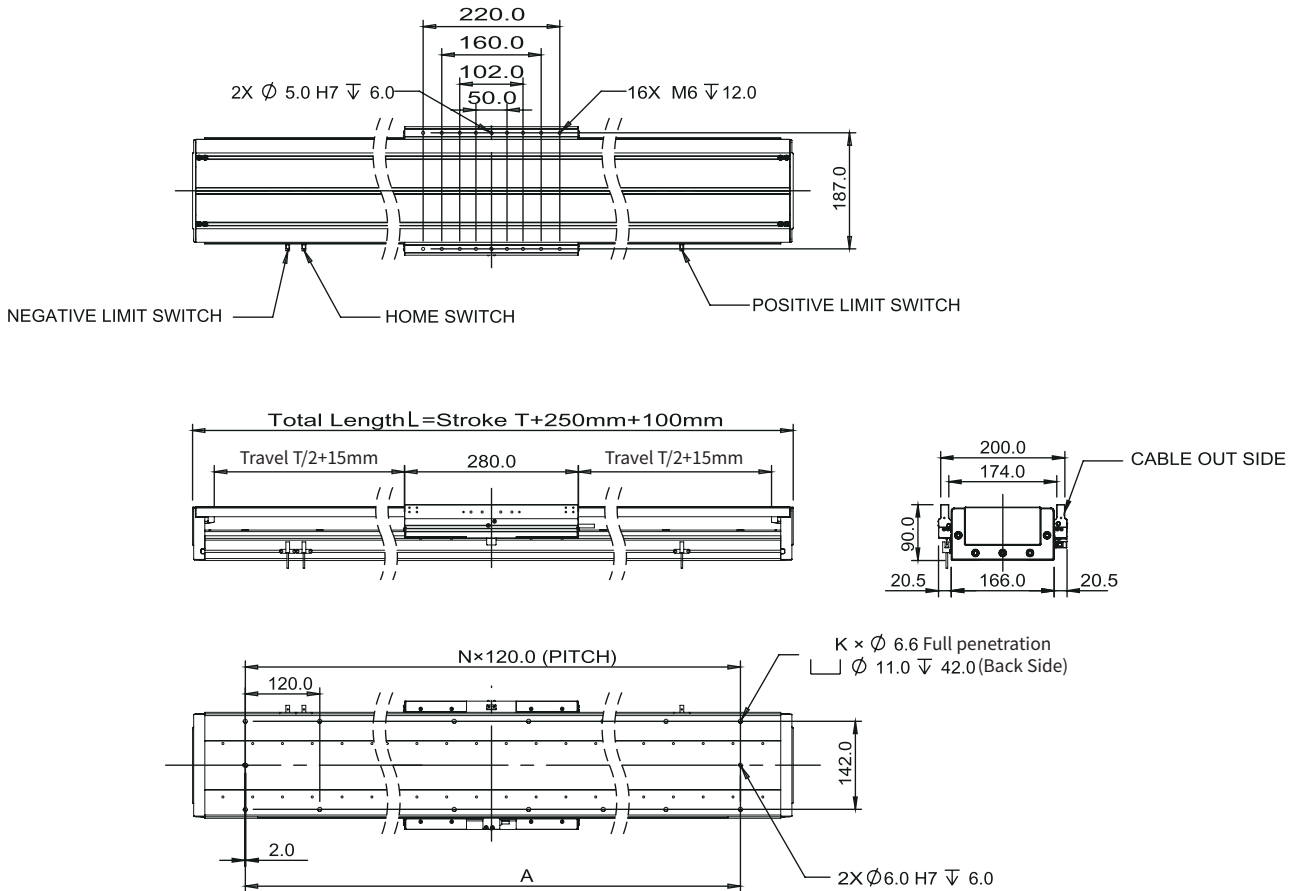
Supplementary table for model selection

Attachment

YK-KE-166 B Motor Semi-enclosed KE Series Linear Module

Outside drawing (unit: mm)

YK-KE-166 (B Motor) Semi-enclosed



Specifications

		YK-KE-166 (B Motor) Semi-enclosed																					
Distance mm		30	90	150	210	270	330	390	450	510	570	630	690	750	810	870	930	990	1050	1110	1170	1230	1290
K		6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28
N		2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13
A	mm	240	360	360	480	480	600	600	720	720	840	840	960	960	1080	1080	1200	1200	1320	1320	1440	1440	1560
L	mm	410	470	530	590	650	710	770	830	890	950	1010	1070	1130	1190	1250	1310	1370	1430	1490	1550	1610	1670
Distance mm		1350	1410	1470	1530	1590	1650	1710	1770	1830	1890	1950	2010	2070	2130	2190	2250	2310	2370	2430	2490	2550	2610
K		28	30	30	32	32	34	34	36	36	38	38	40	40	42	42	44	44	46	46	48	48	50
N		13	14	14	15	15	16	16	17	17	18	18	19	19	20	20	21	21	22	22	23	23	24
A	mm	1560	1680	1680	1800	1800	1920	1920	2040	2040	2160	2160	2280	2280	2400	2400	2520	2520	2640	2640	2760	2760	2880
L	mm	1730	1790	1850	1910	1970	2030	2090	2150	2210	2270	2330	2390	2450	2510	2570	2630	2690	2750	2810	2870	2930	2990
Distance mm		2670	2730	2790	2850	2910	2970	3030	3090	3150	3210	3270	3330	3390	3450	3510	3570						
K		50	52	52	54	54	56	56	58	58	60	60	62	62	64	64	66						
N		24	25	25	26	26	27	27	28	28	29	29	30	30	31	31	32						
A	mm	2880	3000	3000	3120	3120	3240	3240	3360	3360	3480	3480	3600	3600	3720	3720	3840						
L	mm	3050	3110	3170	3230	3290	3350	3410	3470	3530	3590	3650	3710	3770	3830	3890	3950						

YK-KE-166 B Motor Semi-enclosed KE Series Linear Module

Specification

Linear Motor Model YK-PMQ75-C4-A-HS-1-NMR (Motor B)	
Peak thrust	1132.0N
Continuous thrust	506.0N
Peak current	18.0Arms
Continuos current	5.16Arms
Force Constant	98.06N/Arms
Back EMF (Electromotive Force)	80.02Vpeak/(m/s)
Resistance	4.8Ω
Inductor	34.0mH
Electrical time constant	7.08ms
Maximum Terminal Voltage	600V
Magnetic attraction force	2.20KN
Maximum winding temperature	120°C
Pole-pair pitch	24mm
Rotor length	210mm
Weight of coil:	3.60KG
Thermal resistance	—

Mechanical parameters

Mechanical parameters	
Load	Acceleration: 2G, Velocity: 1600mm/s, Dwell Time: 0.2s, Travel Distance: 1000mm. Maximum operational speed: 2000mm/s. Horizontal installation: 50kg Side hung installation: 45kg
accuracy	Magnetic grating (resolution: 1μm): Repetition Accuracy: ±5μm. Optical grating (resolution: 1μm): Repetition Accuracy: ±3μm.
Straightness	±10μm/300mm
Module Weight	60mm travel 15kg (1.1kg increase per additional 60mm travel).
Guide rail	Embedded triple guide rails
Installation method	Horizontal installation/Side hung installation

- For cable specifications and wiring definitions, refer to Page 258.

Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-KUM

Motor accessories

Interface definition

Linear motor driver

Wiring diagram of motor module

Supplementary table for model selection

Attachment

PMQ series linear module

Please refer to the official website for details of the technical specifications of the product.



Flat motor (with iron core)

It can provide the maximum output force per unit volume, and can replace various coreless applications with the adjustment of the driver. The high thrust of the motor is most suitable for maintaining high rigidity during high acceleration and rapid movement, and the cost is also relatively affordable.

High current

High speed

Product introduction

The iron-core linear motor consists of a rotor and a stator with a single-row magnetic circuit. Relative motion between the mover and the stator is achieved through an air gap magnetic field. The rotor is composed of copper wire coils wound around the iron core, which are encapsulated under vacuum, thus referred to as an iron-core linear motor drive. Due to its overall structure resembling a flat plate, it is also known as a flat plate motor.

Advantages

- The iron core adopts a laminated structure to concentrate magnetic flux and has high thrust density.
- It features a well-designed laminated structure and a large surface area, resulting in excellent heat dissipation performance.
- The modular design of the stator allows for infinite splicing and infinite travel.
- The stator structure employs a simple single-row magnet arrangement, providing a significant cost advantage.

Reading mode of item name

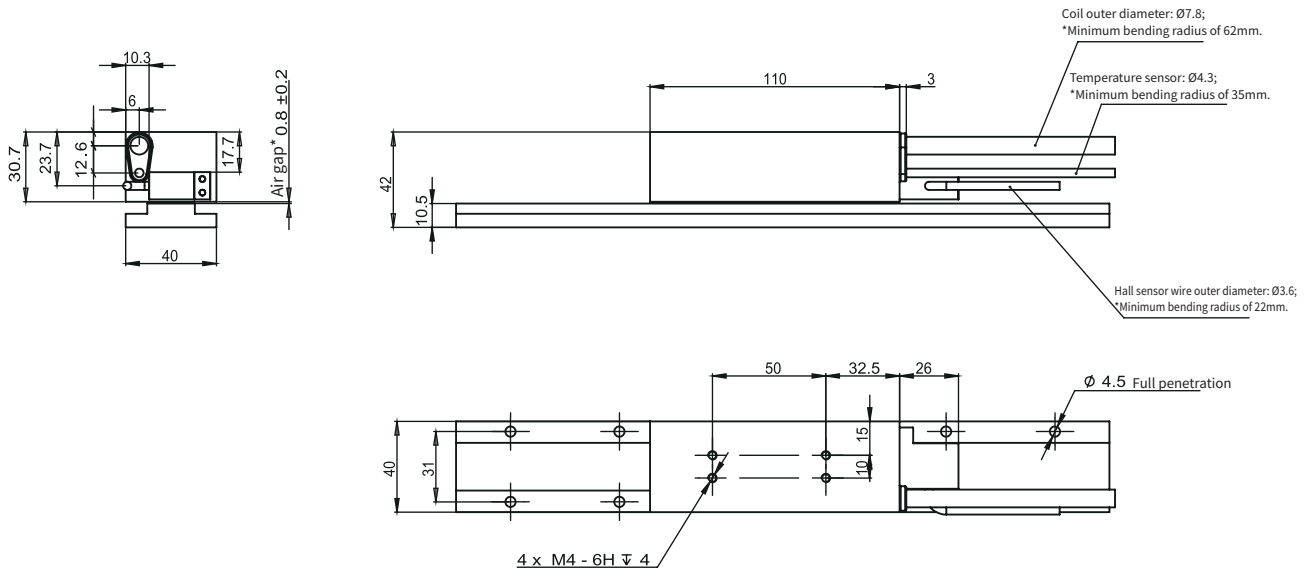
Rotor series	Width of iron core	Winding connection method	Temperature Control	Presence of Hall sensors	CABLE LENGTHS	Presence of magnetic rings
PMQ	20	C2	A	H	1M	NMR
PMQ PMQE	20 35/35L 55/55L 75/75L	C2/C4 C2/C4/C6 C2/C4/C6 C2/C4/C6	A	H : Yes NH : No	1M	NMR

*The L-type specifications feature high current and high-speed performance.

PMQ20-C2 PMQ series linear motors

Outside drawing (unit: mm)

PMQ20-C2



Performance parameters of motor

Model Designation	PMQ20-C2
Highest bus voltage	600.00V
Rated thrust	73.00N
Rated current (*1)	2.70Arms
Peak thrust (*1)	153.00N
Peak current	9.00Arms
Thrust constant ± 10%	27.04N/Arms
Back EMF Constant ± 10%	22.06V(pk)/m/s
Resistance (*2)	3.72Ω
Inductance (*3)	26.40mH
Electrical time constant	7.10ms
Magnetic attraction force	0.28KN
Maximum temperature of coil	120.00°C
Pole-pair pitch (N-N)	24.00mm
Rotor length	110.00mm
Rotor mass	0.40Kg
Stator mass	2.40kg/m

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

Wire Specification

Cable parameter	
Power cable diameter	φ7.8mm(4×1mm ²)
Power cable minimum turning radius (m)	62.0mm
Power cable definition	4-core (U: Black1, V: Black2, W: Black3, PE: Yellow/Green) shielded
HALL cable diameter	φ3.6mm(5×0.1mm ²)
HALL cable minimum turning radius (m)	22.0mm
Hall Cable Definition	5-core, (SV: Red, OV: Black, HU: Yellow, HW: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	φ4.3mm(4×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	35.0mm
Temperature Sensor Cable Definition	4-core (PTC+: Brown, PTC-: White) Shielded

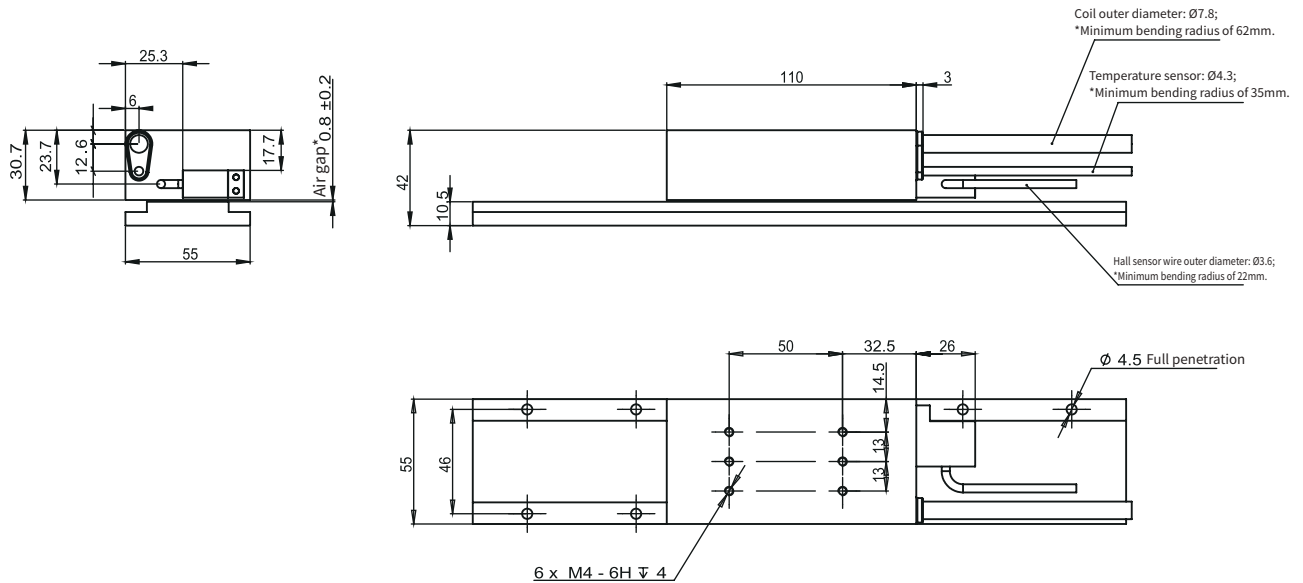
Stator Dimension Specifications

Length (mm)	Pitch Distance (mm)	Hole Distance (mm)
96	24	48
144		
288		

PMQ35-C2/PMQ35L-C2 PMQ series linear motors.

Outside drawing (unit: mm)

PMQ35-C2/PMQ35L-C2



Performance parameters of motor

Model Designation	PMQ35-C2	PMQ35L-C2 (*4)
Highest bus voltage	600.00V	
Rated thrust	124.00N	
Rated current (*1)	2.70Arms	3.50Arms
Peak thrust (*1)	267.00N	
Peak current	9.00Arms	12.00Arms
Thrust constant ± 10%	45.93N/Arms	35.43N/Arms
Back EMF Constant ± 10%	37.48V(pk)/m/s	28.91V(pk)/m/s
Resistance (*2)	5.20Ω	3.10Ω
Inductance (*3)	37.00mH	22.00mH
Electrical time constant	7.12ms	7.10ms
Magnetic attraction force	0.50KN	
Maximum temperature of coil	120.00°C	
Pole-pair pitch (N-N)	24.00mm	
Rotor length	110.00mm	
Rotor mass	0.90Kg	
Stator mass	3.50kg/m	

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

*4: The L-type motor increases its current and maximum speed.

Wire Specification

Cable parameter	
Power cable diameter	φ7.8mm(4×1mm ²)
Power cable minimum turning radius (m)	62.0mm
Power cable definition	4-core (U: Black1, V: Black2, W: Black3, PE: Yellow/Green) shielded
HALL cable diameter	φ3.6mm(5×0.1mm ²)
HALL cable minimum turning radius (m)	22.0mm
Hall Cable Definition	5-core, (5V: Red, 0V: Black, HU: Yellow, HV: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	φ4.3mm(4×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	35.0mm
Temperature Sensor Cable Definition	4-core (PTC+: Brown, PTC-: White) Shielded

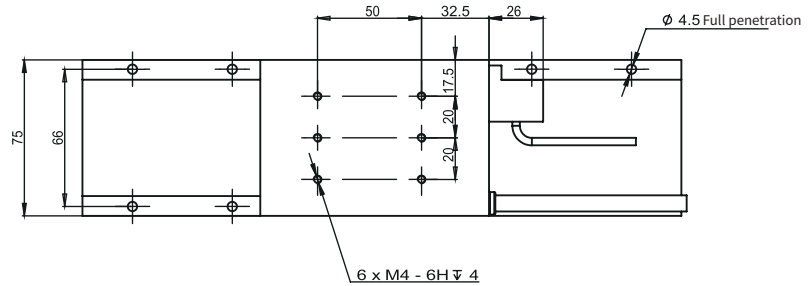
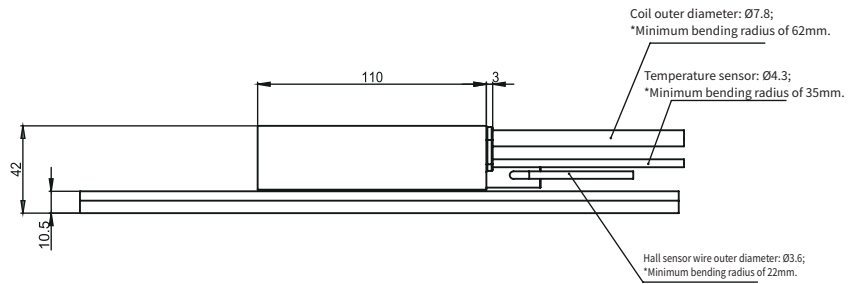
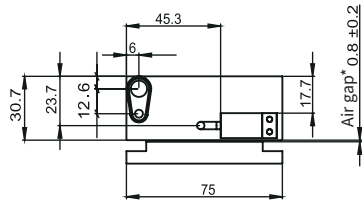
Stator Dimension Specifications

Length (mm)	Pitch Distance (mm)	Hole Distance (mm)
96	24	48
144		
288		

PMQ55-C2/PMQ55L-C2 PMQ series linear motors.

Outside drawing (unit: mm)

PMQ55-C2/PMQ55L-C2



Performance parameters of motor

Model Designation	PMQ55-C2	PMQ55L-C2 (*4)
Highest bus voltage	600.00V	
Rated thrust	193.00N	
Rated current (*1)	2.65Arms	3.50Arms
Peak thrust (*1)	420.00N	
Peak current	9.00Arms	12.00Arms
Thrust constant ± 10%	72.83N/Arms	55.14N/Arms
Back EMF Constant ± 10%	59.43V(pk)/m/s	45.00V(pk)/m/s
Resistance (*2)	7.40Ω	4.20Ω
Inductance (*3)	52.50mH	29.80mH
Electrical time constant	7.09ms	7.10ms
Magnetic attraction force	0.78KN	
Maximum temperature of coil	120.00°C	
Pole-pair pitch (N-N)	24.00mm	
Rotor length	110.00mm	
Rotor mass	1.40Kg	
Stator mass	5.00kg/m	

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

*4: The L-type motor increases its current and maximum speed.

Wire Specification

Cable parameter	
Power cable diameter	Φ7.8mm (4×1mm ²)
Power cable minimum turning radius (m)	62.0mm
Power cable definition	4-core (U: Black1, V: Black2, W: Black3, PE: Yellow/Green) shielded
HALL cable diameter	Φ3.6mm (5×0.1mm ²)
HALL cable minimum turning radius (m)	22.0mm
Hall Cable Definition	5-core, (5V: Red, 0V: Black, HU: Yellow, HV: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	Φ4.3mm (4×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	35.0mm
Temperature Sensor Cable Definition	4-core (PTC+: Brown, PTC-: White) Shielded

Stator Dimension Specifications

Length (mm)	Pitch Distance (mm)	Hole Distance (mm)
96	24	48
144		
288		

Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-KUM

Motor accessories

Interface definition

Linear motor driver

Wiring diagram of motor module

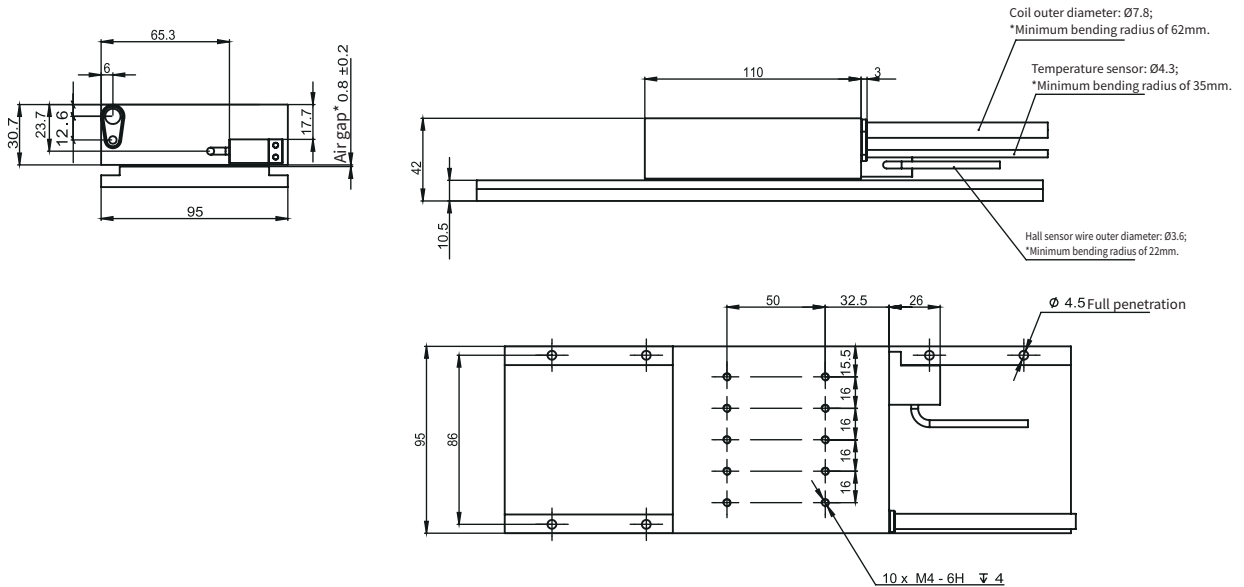
Supplementary table for model selection

Attachment

PMQ75-C2/PMQ75L-C2 PMQ series linear motors.

Outside drawing (unit: mm)

PMQ75-C2/PMQ75L-C2



Performance parameters of motor

Model Designation	PMQ75-C2	PMQ75L-C2 (*4)
Highest bus voltage	600.00V	
Rated thrust	262.00N	
Rated current (*1)	2.65Arms	3.50Arms
Peak thrust (*1)	572.00N	
Peak current	9.00Arms	12.00Arms
Thrust constant ± 10%	98.87N/Arms	74.86N/Arms
Back EMF Constant ± 10%	80.68V(pk)/m/s	61.08V(pk)/m/s
Resistance (*2)	9.60Ω	5.40Ω
Inductance (*3)	68.00mH	38.40mH
Electrical time constant	7.08ms	7.11ms
Magnetic attraction force	1.10KN	
Maximum temperature of coil	120.00°C	
Pole-pair pitch (N-N)	24.00mm	
Rotor length	110.00mm	
Rotor mass	1.75Kg	1.80Kg
Stator mass	6.40kg/m	

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

*4: The L-type motor increases its current and maximum speed.

Wire Specification

Cable parameter	
Power cable diameter	Φ7.8mm (4×1mm ²)
Power cable minimum turning radius (m)	62.0mm
Power cable definition	4-core (U: Black1, V: Black2, W: Black3, PE: Yellow/Green) shielded
HALL cable diameter	Φ3.6mm (5×0.1mm ²)
HALL cable minimum turning radius (m)	22.0mm
Hall Cable Definition	5-core, (5V: Red, 0V: Black, HU: Yellow, HV: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	Φ4.3mm (4×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	35.0mm
Temperature Sensor Cable Definition	4-core (PTC+: Brown, PTC-: White) Shielded

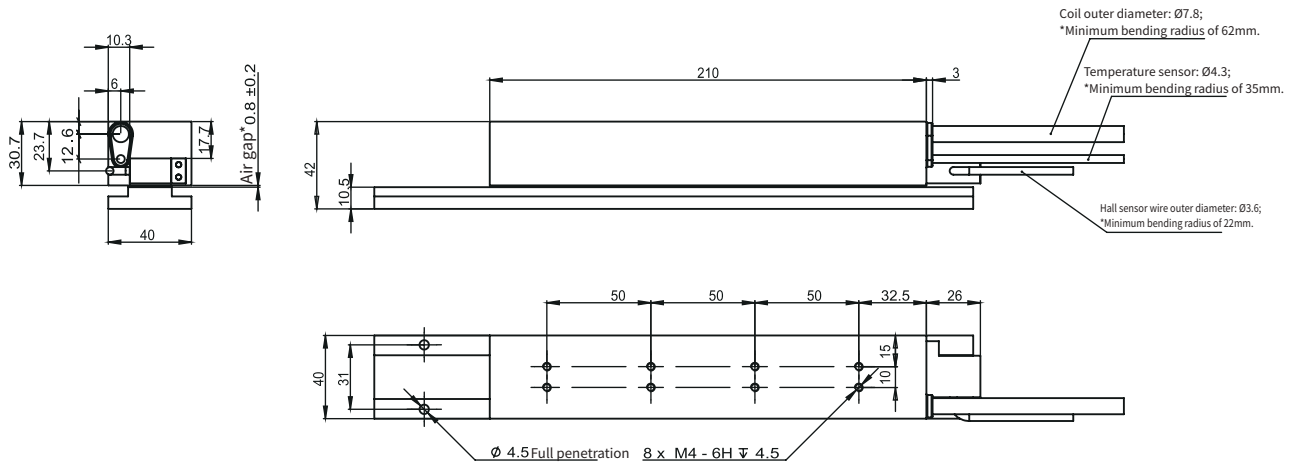
Stator Dimension Specifications

Length (mm)	Pitch Distance (mm)	Hole Distance (mm)
96	24	48
144		
288		

PMQ20-C4 PMQ series linear motors.

Outside drawing (unit: mm)

PMQ20-C4



Performance parameters of motor

Model Designation	PMQ20-C4
Highest bus voltage	600.00V
Rated thrust	138.00N
Rated current (*1)	5.20Arms
Peak thrust (*1)	303.00N
Peak current	18.00Arms
Thrust constant ± 10%	26.54N/Arms
Back EMF Constant ± 10%	21.66V(pk)/m/s
Resistance (*2)	1.85Ω
Inductance (*3)	13.20mH
Electrical time constant	7.14ms
Magnetic attraction force	0.60KN
Maximum temperature of coil	120.00°C
Pole-pair pitch (N-N)	24.00mm
Rotor length	210.00mm
Rotor mass	0.80Kg
Stator mass	2.40kg/m

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

Wire Specification

Cable parameter	
Power cable diameter	Φ7.8mm (4×1mm ²)
Power cable minimum turning radius (m)	62.0mm
Power cable definition	4-core (U: Black1, V: Black2, W: Black3, PE: Yellow/Green) shielded
HALL cable diameter	Φ3.6mm (5×0.1mm ²)
HALL cable minimum turning radius (m)	22.0mm
Hall Cable Definition	5-core, (5V: Red, 0V: Black, HU: Yellow, HV: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	Φ4.3mm (4×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	35.0mm
Temperature Sensor Cable Definition	4-core (PTC+: Brown, PTC-: White) Shielded

Stator Dimension Specifications

Length (mm)	Pitch Distance (mm)	Hole Distance (mm)
96	24	48
144		
288		

Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-KUM

Motor accessories

Interface definition

Linear motor driver

Wiring diagram of motor module

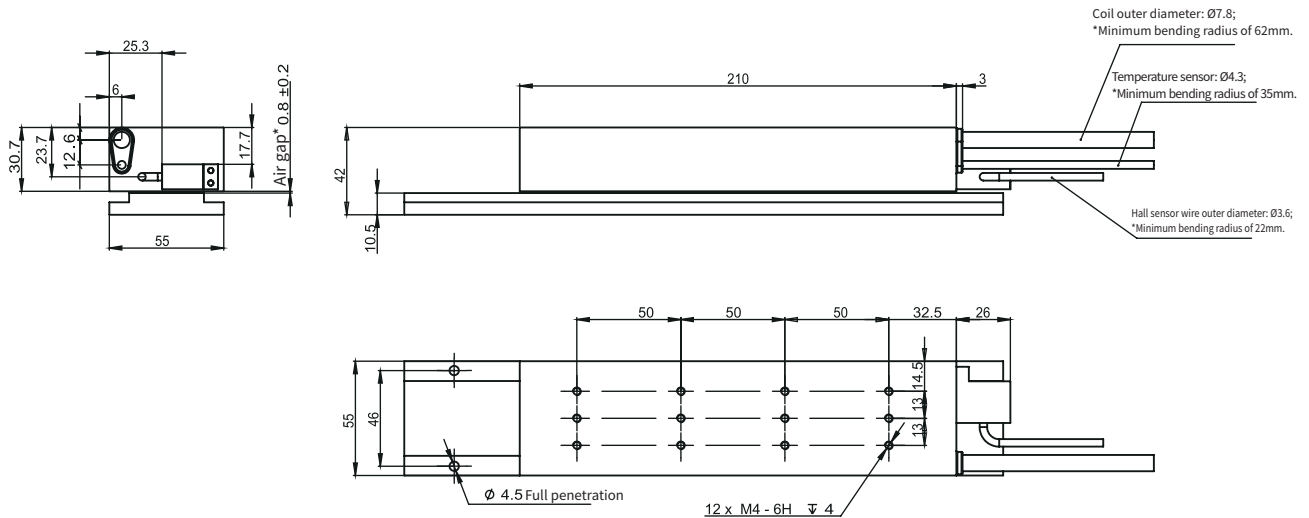
Supplementary table for model selection

Attachment

PMQ35-C4/PMQ35L-C4 PMQ series linear motors.

Outside drawing (unit: mm)

PMQ35-C4/PMQ35L-C4



Performance parameters of motor

Model Designation	PMQ35-C4	PMQ35L-C4 (*4)
Highest bus voltage	600.00V	
Rated thrust	240.00N	
Rated current (*1)	5.20Arms	6.80Arms
Peak thrust (*1)	534.00N	
Peak current	18.00Arms	24.00Arms
Thrust constant ± 10%	46.15N/Arms	35.29N/Arms
Back EMF Constant ± 10%	37.66V(pk)/m/s	28.80V(pk)/m/s
Resistance (*2)	2.60Ω	1.50Ω
Inductance (*3)	18.40mH	10.60mH
Electrical time constant	7.08ms	7.07ms
Magnetic attraction force	0.96KN	1.00KN
Maximum temperature of coil	120.00°C	
Pole-pair pitch (N-N)	24.00mm	
Rotor length	210.00mm	
Rotor mass	1.90Kg	
Stator mass	3.50kg/m	

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

*4: The L-type motor increases its current and maximum speed.

Wire Specification

Cable parameter	
Power cable diameter	Φ7.8mm (4×1mm ²)
Power cable minimum turning radius (m)	62.0mm
Power cable definition	4-core (U: Black1, V: Black2, W: Black3, PE: Yellow/Green) shielded
HALL cable diameter	Φ3.6mm (5×0.1mm ²)
HALL cable minimum turning radius (m)	22.0mm
Hall Cable Definition	5-core, (5V: Red, 0V: Black, HU: Yellow, HV: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	Φ4.3mm (4×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	35.0mm
Temperature Sensor Cable Definition	4-core (PTC+: Brown, PTC-: White) Shielded

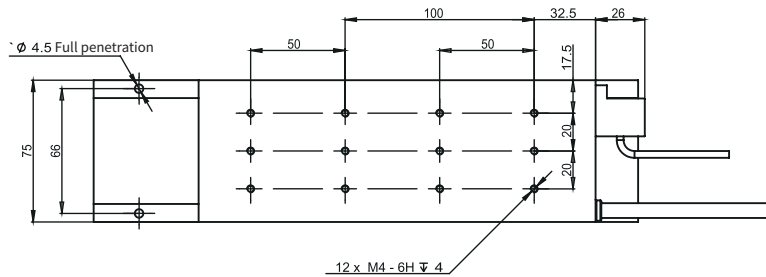
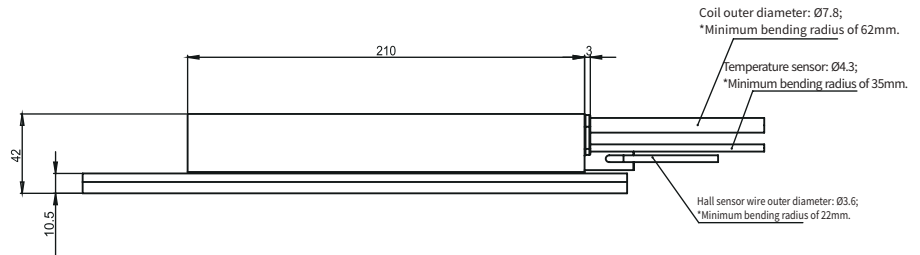
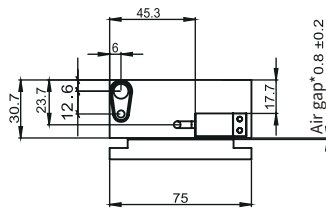
Stator Dimension Specifications

Length (mm)	Pitch Distance (mm)	Hole Distance (mm)
96	24	48
144		
288		

PMQ55-C4/PMQ55L-C4 PMQ series linear motors.

Outside drawing (unit: mm)

PMQ55-C4/PMQ55L-C4



Performance parameters of motor

Model Designation	PMQ55-C4	PMQ55L-C4 (*4)
Highest bus voltage	600.00V	
Rated thrust	375.00N	
Rated current (*1)	5.16Arms	6.80Arms
Peak thrust (*1)	837.00N	
Peak current	18.00Arms	24.00Arms
Thrust constant ± 10%	72.67N/Arms	55.15N/Arms
Back EMF Constant ± 10%	59.30V(pk)/m/s	45.00V(pk)/m/s
Resistance (*2)	3.70Ω	2.10Ω
Inductance (*3)	21.60mH	14.90mH
Electrical time constant	7.05ms	7.10ms
Magnetic attraction force	1.56KN	
Maximum temperature of coil	120.00°C	
Pole-pair pitch (N-N)	24.00mm	
Rotor length	210.00mm	
Rotor mass	2.80Kg	
Stator mass	5.00kg/m	

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

*4: The L-type motor increases its current and maximum speed.

Wire Specification

Cable parameter	
Power cable diameter	Φ7.8mm (4×1mm ²)
Power cable minimum turning radius (m)	62.0mm
Power cable definition	4-core (U: Black1, V: Black2, W: Black3, PE: Yellow/Green) shielded
HALL cable diameter	Φ3.6mm (5×0.1mm ²)
HALL cable minimum turning radius (m)	22.0mm
Hall Cable Definition	5-core, (5V: Red, 0V: Black, HU: Yellow, HW: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	Φ4.3mm (4×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	35.0mm
Temperature Sensor Cable Definition	4-core (PTC+: Brown, PTC-: White) Shielded

Stator Dimension Specifications

Length (mm)	Pitch Distance (mm)	Hole Distance (mm)
96	24	48
144		
288		

Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-KUM

Motor accessories

Interface definition

Linear motor driver

Wiring diagram of motor module

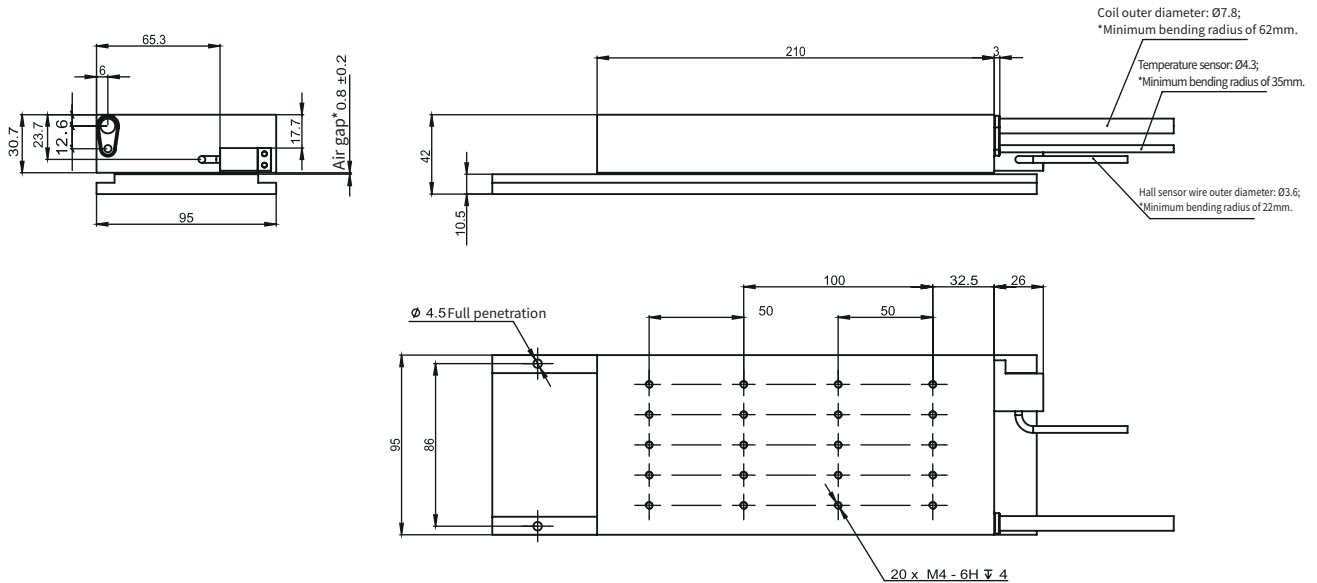
Supplementary table for model selection

Attachment

PMQ75-C4/PMQ75L-C4 PMQ series linear motors.

Outside drawing (unit: mm)

PMQ75-C4/PMQ75L-C4



Performance parameters of motor

Model Designation	PMQ75-C4	PMQ75L-C4 (*4)
Highest bus voltage	600.00V	
Rated thrust	508.00N	
Rated current (*1)	5.16Arms	6.80Arms
Peak thrust (*1)	1134.00N	
Peak current	18.00Arms	24.00Arms
Thrust constant ± 10%	98.45N/Arms	74.71N/Arms
Back EMF Constant ± 10%	80.33V(pk)/m/s	60.96V(pk)/m/s
Resistance (*2)	4.80Ω	2.70Ω
Inductance (*3)	34.00mH	19.20mH
Electrical time constant	7.08ms	7.11ms
Magnetic attraction force	2.20KN	
Maximum temperature of coil	120.00°C	
Pole-pair pitch (N-N)	24.00mm	
Rotor length	210.00mm	
Rotor mass	3.60Kg	
Stator mass	6.40kg/m	

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

*4: The L-type motor increases its current and maximum speed.

Wire Specification

Cable parameter	
Power cable diameter	Φ7.8mm (4×1mm ²)
Power cable minimum turning radius (m)	62.0mm
Power cable definition	4-core (U: Black1, V: Black2, W: Black3, PE: Yellow/Green) shielded
HALL cable diameter	Φ3.6mm (5×0.1mm ²)
HALL cable minimum turning radius (m)	22.0mm
Hall Cable Definition	5-core, (SV: Red, OV: Black, HU: Yellow, HW: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	Φ4.3mm (4×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	35.0mm
Temperature Sensor Cable Definition	4-core (PTC+: Brown, PTC-: White) Shielded

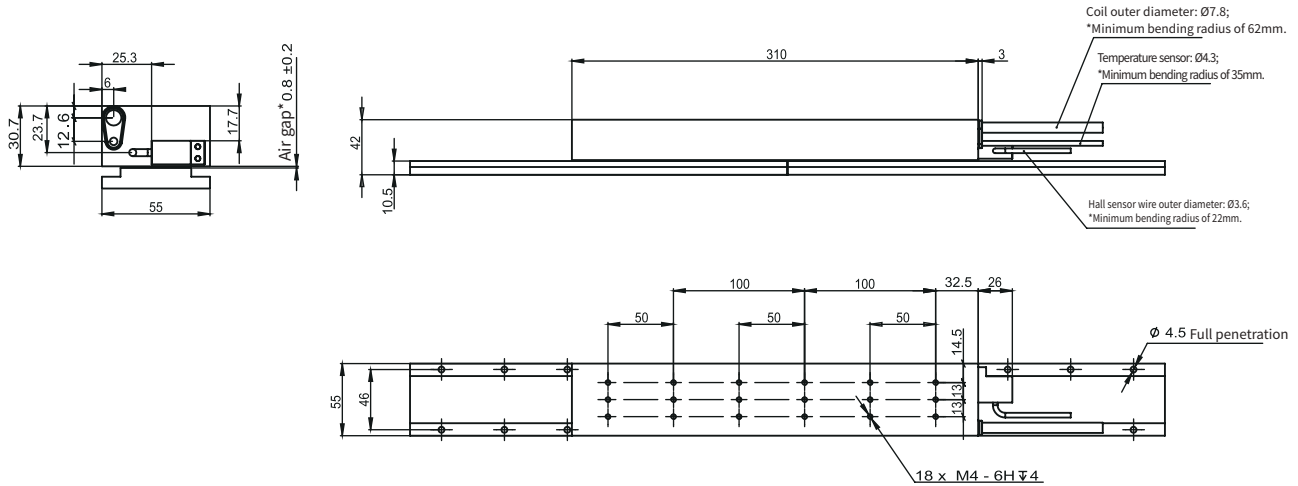
Stator Dimension Specifications

Length (mm)	Pitch Distance (mm)	Hole Distance (mm)
96	24	48
144		
288		

PMQ35-C6/PMQ35L-C6 PMQ series linear motors.

Outside drawing (unit: mm)

PMQ35-C6/PMQ35L-C6



Performance parameters of motor

Model Designation	PMQ35-C6	PMQ35L-C6 (*4)
Highest bus voltage		600.00V
Rated thrust		352.00N
Rated current (*1)	7.50Arms	10.00Arms
Peak thrust (*1)		800.00N
Peak current	27.00Arms	36.00Arms
Thrust constant ± 10%	46.93N/Arms	35.20N/Arms
Back EMF Constant ± 10%	38.30V(pk)/m/s	28.72V(pk)/m/s
Resistance (*2)	1.70Ω	1.00Ω
Inductance (*3)	12.10mH	7.10mH
Electrical time constant	7.12ms	7.10ms
Magnetic attraction force		1.50KN
Maximum temperature of coil		120.00°C
Pole-pair pitch (N-N)		24.00mm
Rotor length		310.00mm
Rotor mass		2.80Kg
Stator mass		3.50kg/m

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

*4: The L-type motor increases its current and maximum speed.

Wire Specification

Cable parameter	
Power cable diameter	Φ7.8mm (4×1mm ²)
Power cable minimum turning radius (m)	62.0mm
Power cable definition	4-core (U: Black1, V: Black2, W: Black3, PE: Yellow/Green) shielded
HALL cable diameter	Φ3.6mm (5×0.1mm ²)
HALL cable minimum turning radius (m)	22.0mm
Hall Cable Definition	5-core, (5V: Red, 0V: Black, HU: Yellow, HV: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	Φ4.3mm (4×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	35.0mm
Temperature Sensor Cable Definition	4-core (PTC+: Brown, PTC-: White) Shielded

Stator Dimension Specifications

Length (mm)	Pitch Distance (mm)	Hole Distance (mm)
96	24	48
144		
288		

Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-KUM

Motor accessories

Interface definition

Linear motor driver

Wiring diagram of motor module

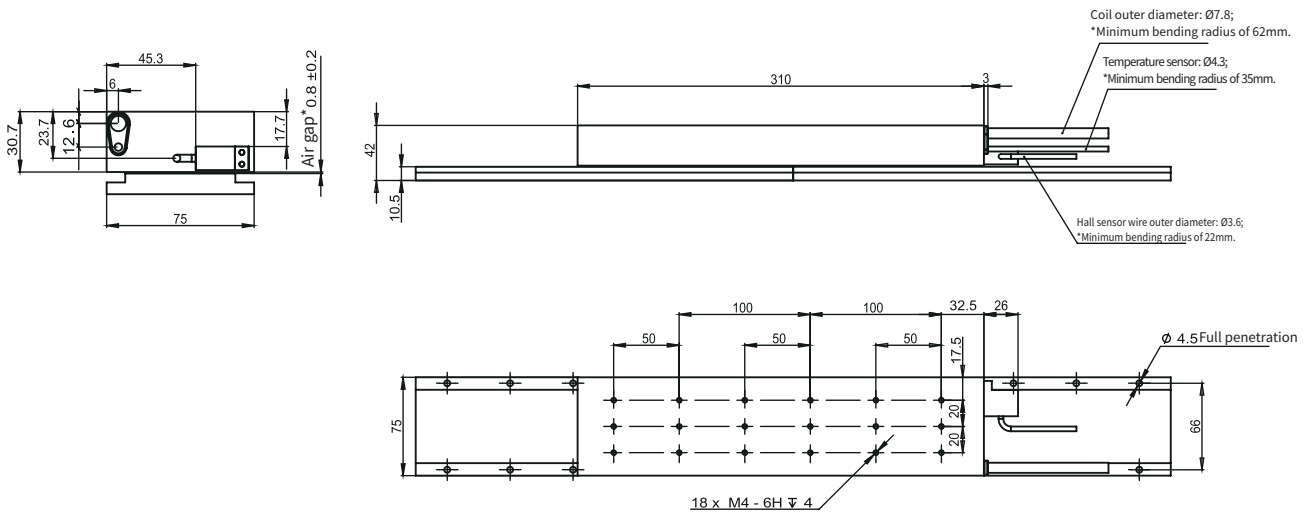
Supplementary table for model selection

Attachment

PMQ55-C6/PMQ55L-C6 PMQ series linear motors.

Outside drawing (unit: mm)

PMQ55-C6/PMQ55L-C6



Performance parameters of motor

Model Designation	PMQ55-C6	PMQ55L-C6 (*4)
Highest bus voltage	600.00V	
Rated thrust	547.00N	
Rated current (*1)	7.50Arms	10.00Arms
Peak thrust (*1)	1255.00N	
Peak current	27.00Arms	36.00Arms
Thrust constant ± 10%	72.93N/Arms	54.70N/Arms
Back EMF Constant ± 10%	59.51V(pk)/m/s	44.64V(pk)/m/s
Resistance (*2)	2.50Ω	1.40Ω
Inductance (*3)	17.80mH	9.90mH
Electrical time constant	7.12ms	7.07ms
Magnetic attraction force	2.30KN	
Maximum temperature of coil	120.00°C	
Pole-pair pitch (N-N)	24.00mm	
Rotor length	310.00mm	
Rotor mass	4.10Kg	
Stator mass	5.00kg/m	

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

*4: The L-type motor increases its current and maximum speed.

Wire Specification

Cable parameter	
Power cable diameter	Φ7.8mm (4×1mm ²)
Power cable minimum turning radius (m)	62.0mm
Power cable definition	4-core (U: Black1, V: Black2, W: Black3, PE: Yellow/Green) shielded
HALL cable diameter	Φ3.6mm (5×0.1mm ²)
HALL cable minimum turning radius (m)	22.0mm
Hall Cable Definition	5-core, (5V: Red, 0V: Black, HU: Yellow, HV: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	Φ4.3mm (4×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	35.0mm
Temperature Sensor Cable Definition	4-core (PTC+: Brown, PTC-: White) Shielded

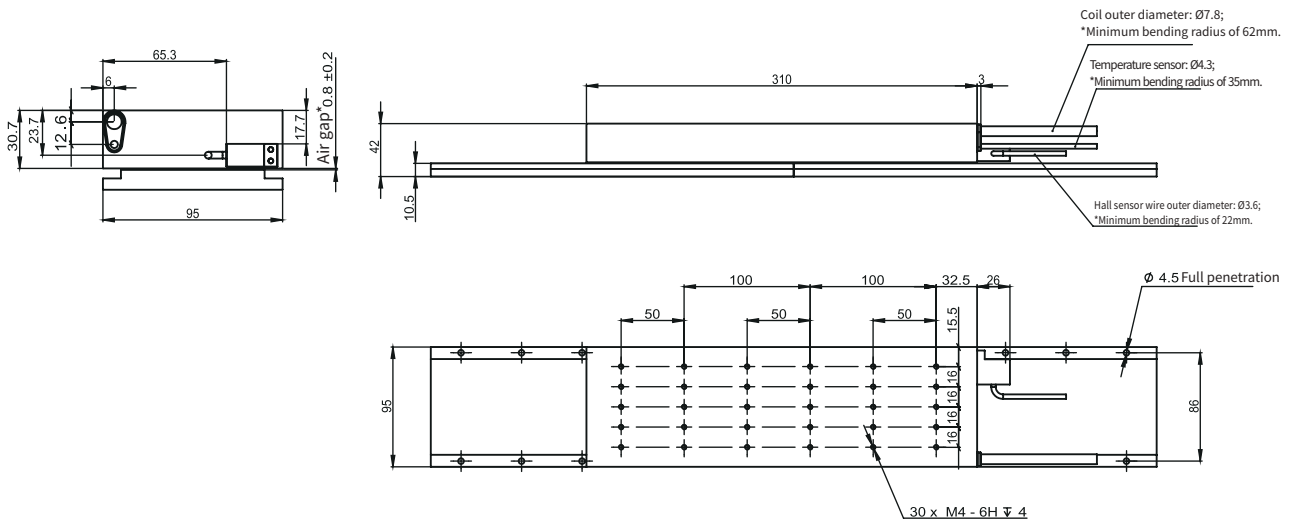
Stator Dimension Specifications

Length (mm)	Pitch Distance (mm)	Hole Distance (mm)
96	24	48
144		
288		

PMQ75-C6/PMQ75L-C6 PMQ series linear motors.

Outside drawing (unit: mm)

PMQ75-C6/PMQ75L-C6



Performance parameters of motor

Model Designation	PMQ75-C6	PMQ75L-C6 (*4)
Highest bus voltage	600.00V	
Rated thrust	742.00N	
Rated current (*1)	7.50Arms	10.00Arms
Peak thrust (*1)	1710.00N	
Peak current	27.00Arms	36.00Arms
Thrust constant ± 10%	98.93N/Arms	74.20N/Arms
Back EMF Constant ± 10%	80.73V(pk)/m/s	60.55V(pk)/m/s
Resistance (*2)	3.20Ω	1.85Ω
Inductance (*3)	22.60mH	13.20mH
Electrical time constant	7.06ms	7.14ms
Magnetic attraction force	3.30KN	
Maximum temperature of coil	120.00°C	
Pole-pair pitch (N-N)	24.00mm	
Rotor length	310.00mm	
Rotor mass	5.40Kg	
Stator mass	6.40kg/m	

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

*4: The L-type motor increases its current and maximum speed.

Wire Specification

Cable parameter	
Power cable diameter	Φ7.8mm (4×1mm ²)
Power cable minimum turning radius (m)	62.0mm
Power cable definition	4-core (U: Black1, V: Black2, W: Black3, PE: Yellow/Green) shielded
HALL cable diameter	Φ3.6mm (5×0.1mm ²)
HALL cable minimum turning radius (m)	22.0mm
Hall Cable Definition	5-core, (5V: Red, 0V: Black, HU: Yellow, HV: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	Φ4.3mm (4×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	35.0mm
Temperature Sensor Cable Definition	4-core (PTC+: Brown, PTC-: White) Shielded

Stator Dimension Specifications

Length (mm)	Pitch Distance (mm)	Hole Distance (mm)
96	24	48
144		
288		

Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-KUM

Motor accessories

Interface definition

Linear motor driver

Wiring diagram of motor module

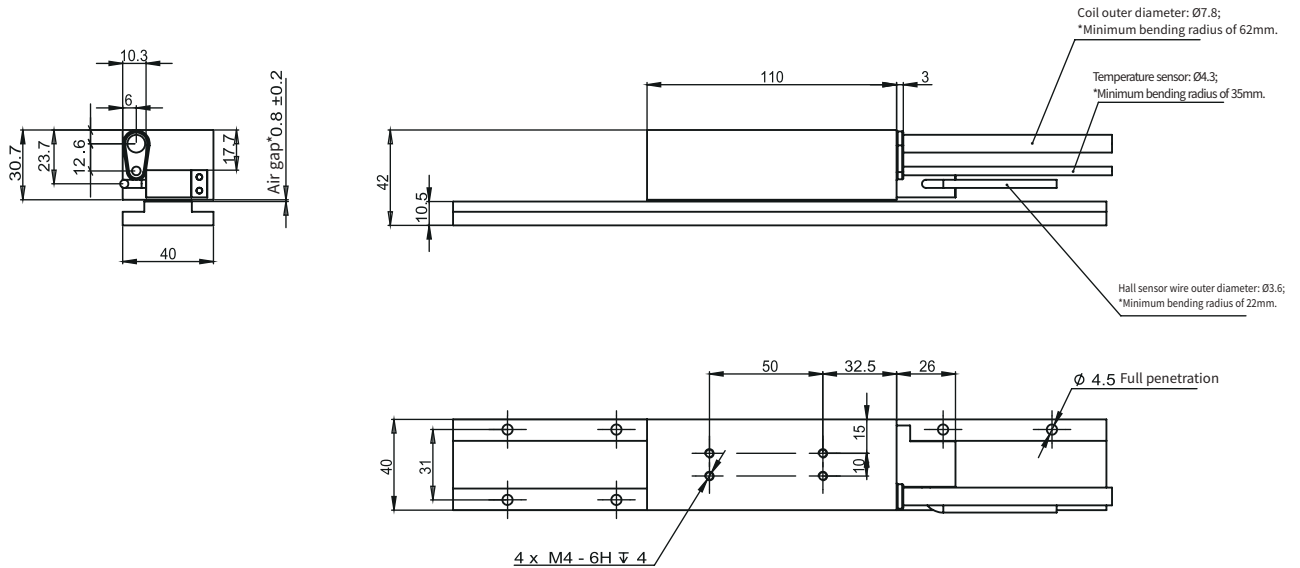
Supplementary table for model selection

Attachment

PMQE20-C2 PMQE series linear motors have higher peak thrust

Outside drawing (unit: mm)

PMQE20-C2



Performance parameters of motor

Model Designation	PMQE20-C2
Highest bus voltage	600.00V
Rated thrust	73.00N
Rated current (*1)	2.70Arms
Peak thrust (*1)	213.00N
Peak current	9.00Arms
Thrust constant ± 10%	27.04N/Arms
Back EMF Constant ± 10%	22.06V(pk)/m/s
Resistance (*2)	3.72Ω
Inductance (*3)	26.40mH
Electrical time constant	7.10ms
Magnetic attraction force	0.28KN
Maximum temperature of coil	120.00°C
Pole-pair pitch (N-N)	24.00mm
Rotor length	110.00mm
Rotor mass	0.40Kg
Stator mass	2.40kg/m

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

Wire Specification

Cable parameter	
Power cable diameter	Φ7.8mm (4×1mm ²)
Power cable minimum turning radius (m)	62.0mm
Power cable definition	4-core (U: Black1, V: Black2, W: Black3, PE: Yellow/Green) shielded
HALL cable diameter	Φ3.6mm (5×0.1mm ²)
HALL cable minimum turning radius (m)	22.0mm
Hall Cable Definition	5-core, (5V: Red, 0V: Black, HU: Yellow, HV: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	Φ4.3mm (4×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	35.0mm
Temperature Sensor Cable Definition	4-core (PTC+: Brown, PTC-: White) Shielded

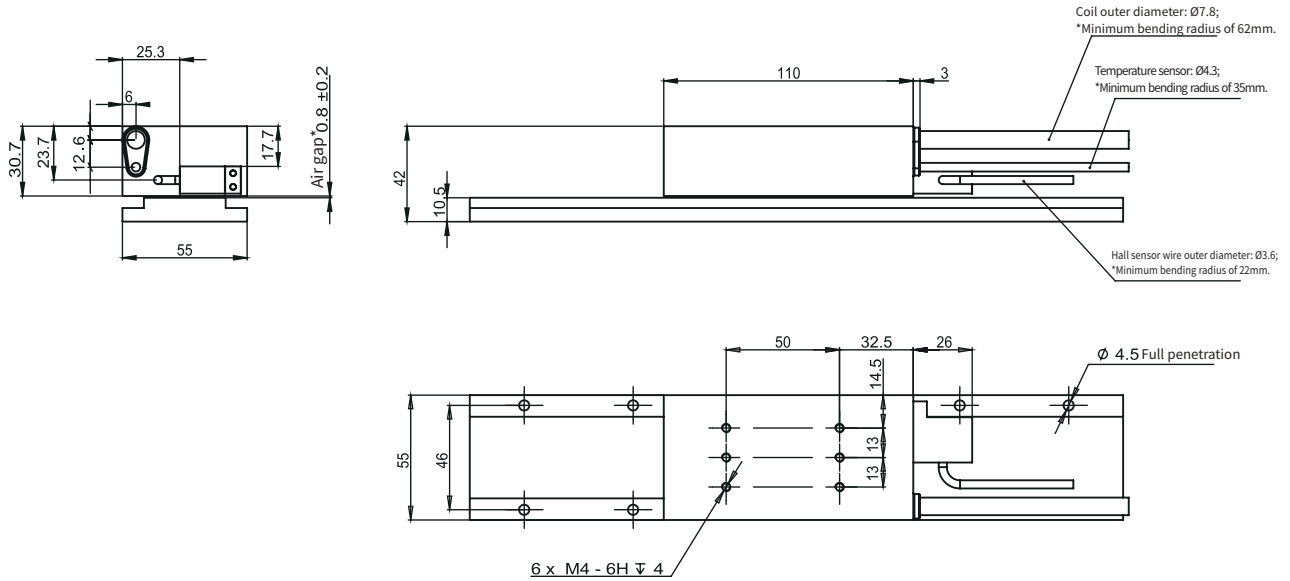
Stator Dimension Specifications

Length (mm)	Pitch Distance (mm)	Hole Distance (mm)
96	24	48
144		
288		

PMQE35-C2/PMQE35L-C2 PMQE series linear motors have higher peak thrust

Outside drawing (unit: mm)

PMQE35-C2/PMQE35L-C2



Performance parameters of motor

Model Designation	PMQE35-C2	PMQE35L-C2(*4)
Highest bus voltage	600.00V	
Rated thrust	124.00N	
Rated current (*1)	2.70Arms	3.50Arms
Peak thrust (*1)	368.00N	
Peak current	9.00Arms	12.00Arms
Thrust constant ± 10%	45.93N/Arms	35.43N/Arms
Back EMF Constant ± 10%	37.48V(pk)/m/s	28.91V(pk)/m/s
Resistance (*2)	5.20Ω	3.10Ω
Inductance (*3)	37.00mH	22.00mH
Electrical time constant	7.12ms	7.10ms
Magnetic attraction force	0.50KN	
Maximum temperature of coil	120.00°C	
Pole-pair pitch (N-N)	24.00mm	
Rotor length	110.00mm	
Rotor mass	0.90Kg	
Stator mass	3.50kg/m	

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

*4: The L-type motor increases its current and maximum speed.

Wire Specification

Cable parameter	
Power cable diameter	Φ7.8mm(4×1mm ²)
Power cable minimum turning radius (m)	62.0mm
Power cable definition	4-core (U: Black1, V: Black2, W: Black3, PE: Yellow/Green) shielded
HALL cable diameter	Φ3.6mm(5×0.1mm ²)
HALL cable minimum turning radius (m)	22.0mm
Hall Cable Definition	5-core, (5V: Red, 0V: Black, HU: Yellow, HW: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	Φ4.3mm(4×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	35.0mm
Temperature Sensor Cable Definition	4-core (PTC+: Brown, PTC-: White) Shielded

Stator Dimension Specifications

Length (mm)	Pitch Distance (mm)	Hole Distance (mm)
96	24	48
144		
288		

Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-KUM

Motor accessories

Interface definition

Linear motor driver

Wiring diagram of motor module

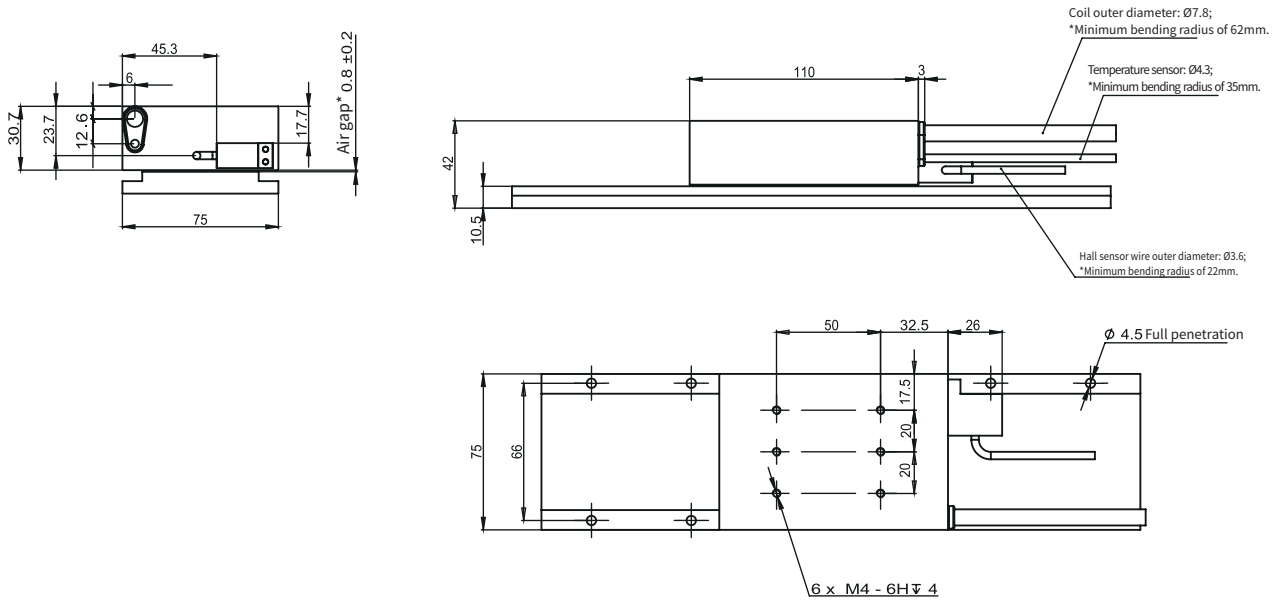
Supplementary table for model selection

Attachment

PMQE55-C2/PMQE55L-C2 PMQE series linear motors have higher peak thrust

Outside drawing (unit: mm)

PMQE55-C2/PMQE55L-C2



Performance parameters of motor

Model Designation	PMQE55-C2	PMQE55L-C2(*4)
Highest bus voltage	600.00V	
Rated thrust	193.00N	
Rated current (*1)	2.65Arms	3.50Arms
Peak thrust (*1)	575.00N	
Peak current	9.00Arms	12.00Arms
Thrust constant ± 10%	72.83N/Arms	55.14N/Arms
Back EMF Constant ± 10%	59.43V(pk)/m/s	45.00V(pk)/m/s
Resistance (*2)	7.40Ω	4.20Ω
Inductance (*3)	52.50mH	29.80mH
Electrical time constant	7.09ms	7.10ms
Magnetic attraction force	0.78KN	
Maximum temperature of coil	120.00°C	
Pole-pair pitch (N-N)	24.00mm	
Rotor length	110.00mm	
Rotor mass	1.40Kg	
Stator mass	5.00kg/m	

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

*4: The L-type motor increases its current and maximum speed.

Wire Specification

Cable parameter	
Power cable diameter	Φ7.8mm (4×1mm ²)
Power cable minimum turning radius (m)	62.0mm
Power cable definition	4-core (U: Black1, V: Black2, W: Black3, PE: Yellow/Green) shielded
HALL cable diameter	Φ3.6mm (5×0.1mm ²)
HALL cable minimum turning radius (m)	22.0mm
Hall Cable Definition	5-core, (5V: Red, 0V: Black, HU: Yellow, HW: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	Φ4.3mm (4×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	35.0mm
Temperature Sensor Cable Definition	4-core (PTC+: Brown, PTC-: White) Shielded

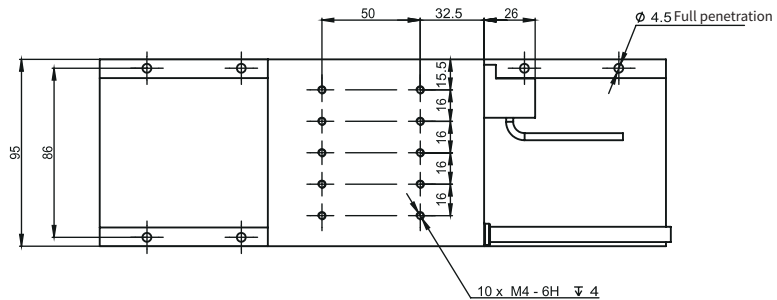
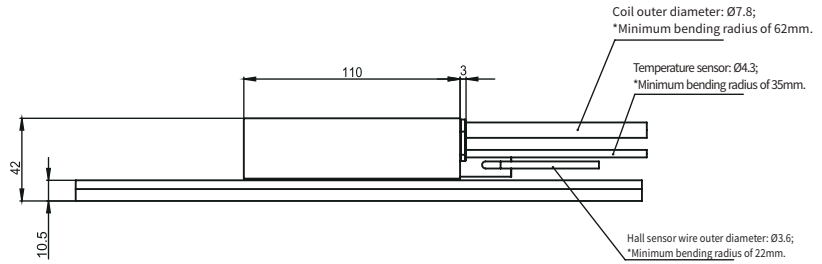
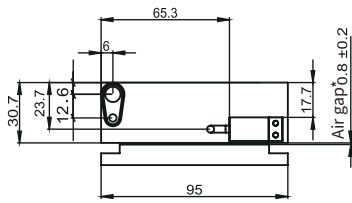
Stator Dimension Specifications

Length (mm)	Pitch Distance (mm)	Hole Distance (mm)
96	24	48
144		
288		

PMQE75-C2/PMQE75L-C2 PMQE series linear motors have higher peak thrust

Outside drawing (unit: mm)

PMQE75-C2/PMQE75L-C2



Performance parameters of motor

Model Designation	PMQE75-C2	PMQE75L-C2(*4)
Highest bus voltage	600.00V	
Rated thrust	262.00N	
Rated current (*1)	2.65Arms	3.50Arms
Peak thrust (*1)	782.00N	
Peak current	9.00Arms	12.00Arms
Thrust constant ± 10%	98.87N/Arms	74.86N/Arms
Back EMF Constant ± 10%	80.68V(pk)/m/s	61.08V(pk)/m/s
Resistance (*2)	9.60Ω	5.40Ω
Inductance (*3)	68.00mH	38.40mH
Electrical time constant	7.08ms	7.11ms
Magnetic attraction force	1.10KN	
Maximum temperature of coil	120.00°C	
Pole-pair pitch (N-N)	24.00mm	
Rotor length	110.00mm	
Rotor mass	1.75Kg	1.80Kg
Stator mass	6.40kg/m	

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

*4: The L-type motor increases its current and maximum speed.

Wire Specification

Cable parameter	
Power cable diameter	Φ7.8mm (4×1mm ²)
Power cable minimum turning radius (m)	62.0mm
Power cable definition	4-core (U: Black1, V: Black2, W: Black3, PE: Yellow/Green) shielded
HALL cable diameter	Φ3.6mm (5×0.1mm ²)
HALL cable minimum turning radius (m)	22.0mm
Hall Cable Definition	5-core, (5V: Red, 0V: Black, HU: Yellow, HV: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	Φ4.3mm (4×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	35.0mm
Temperature Sensor Cable Definition	4-core (PTC+: Brown, PTC-: White) Shielded

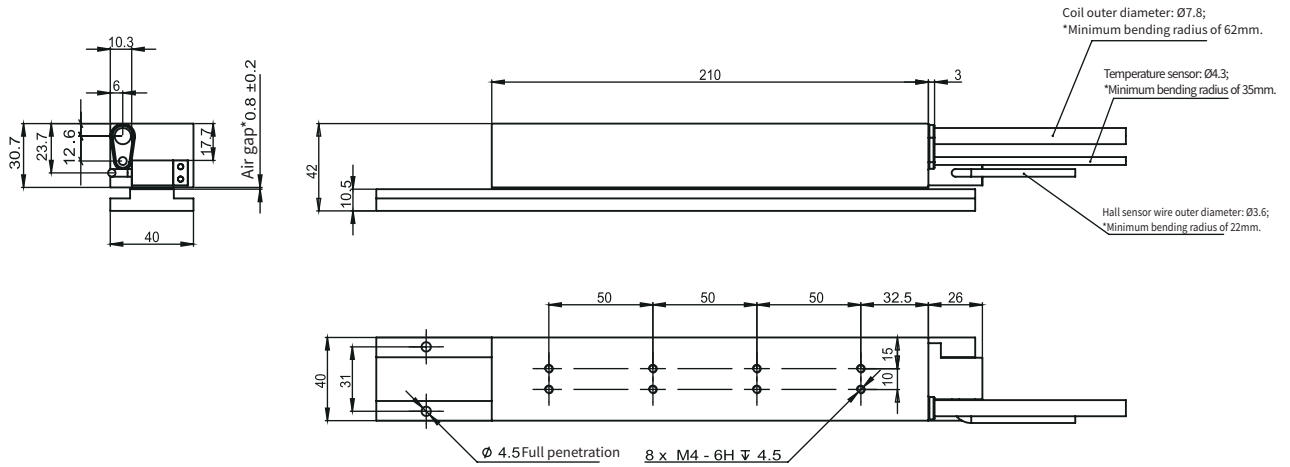
Stator Dimension Specifications

Length (mm)	Pitch Distance (mm)	Hole Distance (mm)
96	24	48
144		
288		

PMQE20-C4 PMQE series linear motors have higher peak thrust

Outside drawing (unit: mm)

PMQE20-C4



Performance parameters of motor

Model Designation	PMQE20-C4
Highest bus voltage	600.00V
Rated thrust	138.00N
Rated current (*1)	5.20Arms
Peak thrust (*1)	410.00N
Peak current	18.00Arms
Thrust constant ± 10%	26.54N/Arms
Back EMF Constant ± 10%	21.66V(pk)/m/s
Resistance (*2)	1.85Ω
Inductance (*3)	13.20mH
Electrical time constant	7.14ms
Magnetic attraction force	0.60KN
Maximum temperature of coil	120.00°C
Pole-pair pitch (N-N)	24.00mm
Rotor length	210.00mm
Rotor mass	0.80Kg
Stator mass	2.40kg/m

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

Wire Specification

Cable parameter	
Power cable diameter	Φ7.8mm (4×1mm ²)
Power cable minimum turning radius (m)	62.0mm
Power cable definition	4-core (U: Black1, V: Black2, W: Black3, PE: Yellow/Green) shielded
HALL cable diameter	Φ3.6mm (5×0.1mm ²)
HALL cable minimum turning radius (m)	22.0mm
Hall Cable Definition	5-core, (5V: Red, 0V: Black, HU: Yellow, HV: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	Φ4.3mm (4×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	35.0mm
Temperature Sensor Cable Definition	4-core (PTC+: Brown, PTC-: White) Shielded

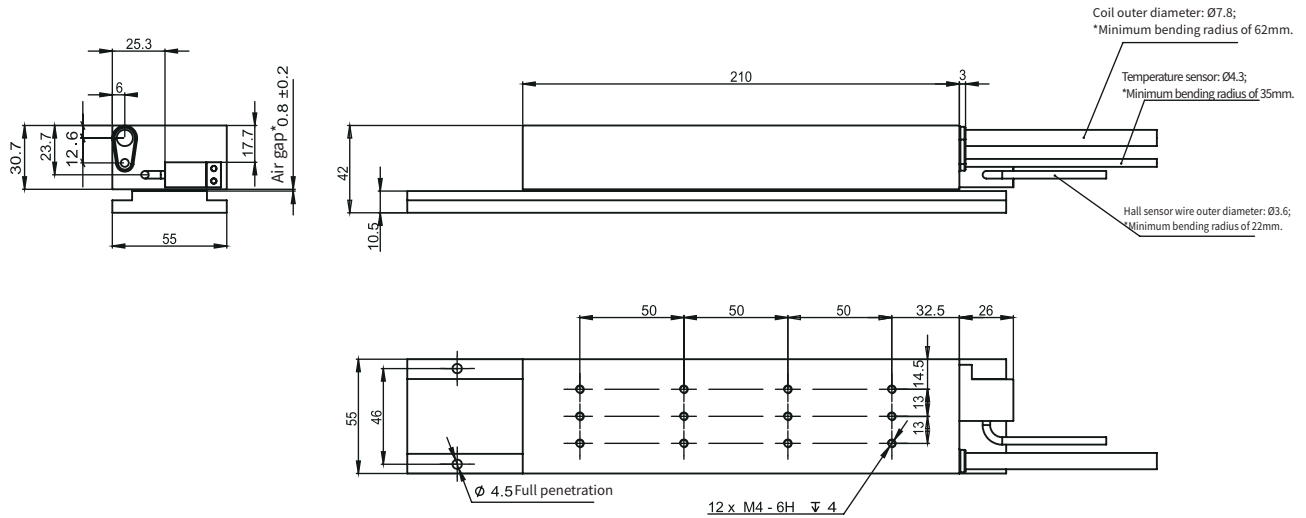
Stator Dimension Specifications

Length (mm)	Pitch Distance (mm)	Hole Distance (mm)
96	24	48
144		
288		

PMQE35-C4/PMQE35L-C4 PMQE series linear motors have higher peak thrust

Outside drawing (unit: mm)

PMQE35-C4/PMQE35L-C4



Performance parameters of motor

Model Designation	PMQE35-C4	PMQE35L-C4(*4)
Highest bus voltage	600.00V	
Rated thrust	240.00N	
Rated current (*1)	5.20Arms	6.80Arms
Peak thrust (*1)	716.00N	
Peak current	18.00Arms	24.00Arms
Thrust constant ± 10%	46.15N/Arms	35.29N/Arms
Back EMF Constant ± 10%	37.66V(pk)/m/s	28.80V(pk)/m/s
Resistance (*2)	2.60Ω	1.50Ω
Inductance (*3)	18.40mH	10.60mH
Electrical time constant	7.08ms	7.07ms
Magnetic attraction force	0.96KN	1.00KN
Maximum temperature of coil	120.00°C	
Pole-pair pitch (N-N)	24.00mm	
Rotor length	210.00mm	
Rotor mass	1.90Kg	
Stator mass	3.50kg/m	

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

*4: The L-type motor increases its current and maximum speed.

Wire Specification

Cable parameter	
Power cable diameter	Φ7.8mm (4×1mm ²)
Power cable minimum turning radius (m)	62.0mm
Power cable definition	4-core (U: Black1, V: Black2, W: Black3, PE: Yellow/Green) shielded
HALL cable diameter	Φ3.6mm (5×0.1mm ²)
HALL cable minimum turning radius (m)	22.0mm
Hall Cable Definition	5-core, (5V: Red, 0V: Black, HU: Yellow, HV: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	Φ4.3mm (4×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	35.0mm
Temperature Sensor Cable Definition	4-core (PTC+: Brown, PTC-: White) Shielded

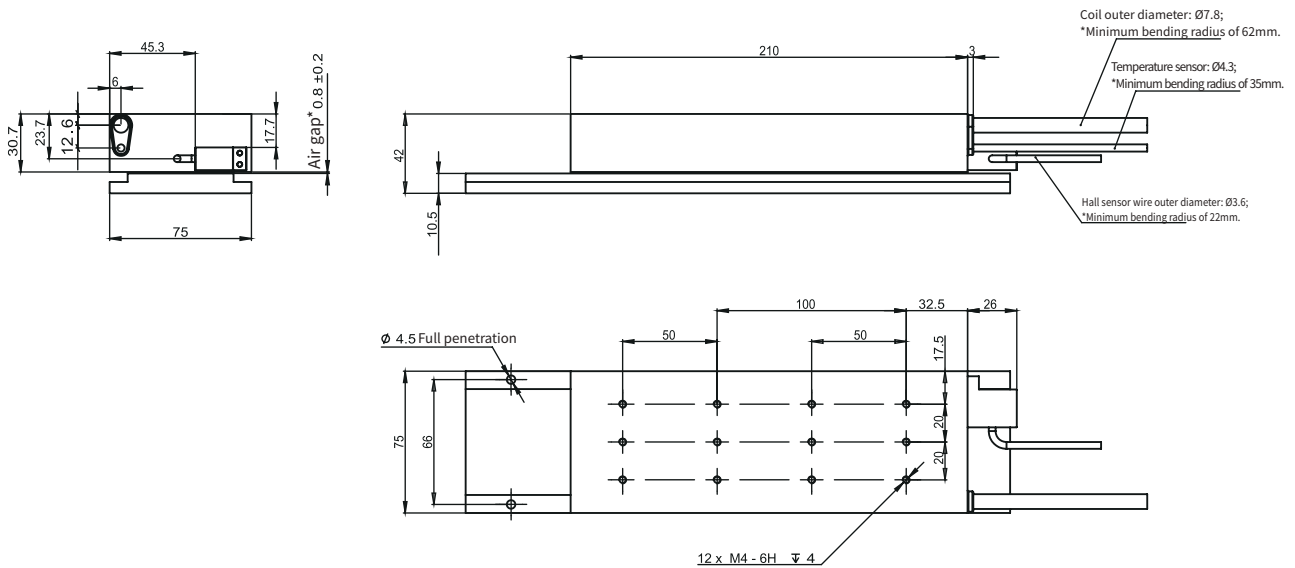
Stator Dimension Specifications

Length (mm)	Pitch Distance (mm)	Hole Distance (mm)
96	24	48
144		
288		

PMQE55-C4/PMQE55L-C4 PMQE series linear motors have higher peak thrust

Outside drawing (unit: mm)

PMQE55-C4/PMQE55L-C4



Performance parameters of motor

Model Designation	PMQE55-C4	PMQE55L-C4(*4)
Highest bus voltage	600.00V	
Rated thrust	375.00N	
Rated current (*1)	5.16Arms	6.80Arms
Peak thrust (*1)	1127.00N	
Peak current	18.00Arms	24.00Arms
Thrust constant ± 10%	72.67N/Arms	55.15N/Arms
Back EMF Constant ± 10%	59.30V(pk)/m/s	45.00V(pk)/m/s
Resistance (*2)	3.70Ω	2.10Ω
Inductance (*3)	21.60mH	14.90mH
Electrical time constant	7.05ms	7.10ms
Magnetic attraction force	1.56KN	
Maximum temperature of coil	120.00°C	
Pole-pair pitch (N-N)	24.00mm	
Rotor length	210.00mm	
Rotor mass	2.80Kg	
Stator mass	5.00kg/m	

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

*4: The L-type motor increases its current and maximum speed.

Wire Specification

Cable parameter	
Power cable diameter	Φ7.8mm (4×1mm ²)
Power cable minimum turning radius (m)	62.0mm
Power cable definition	4-core (U: Black1, V: Black2, W: Black3, PE: Yellow/Green) shielded
HALL cable diameter	Φ3.6mm (5×0.1mm ²)
HALL cable minimum turning radius (m)	22.0mm
Hall Cable Definition	5-core, (5V: Red, 0V: Black, HU: Yellow, HW: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	Φ4.3mm (4×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	35.0mm
Temperature Sensor Cable Definition	4-core (PTC+: Brown, PTC-: White) Shielded

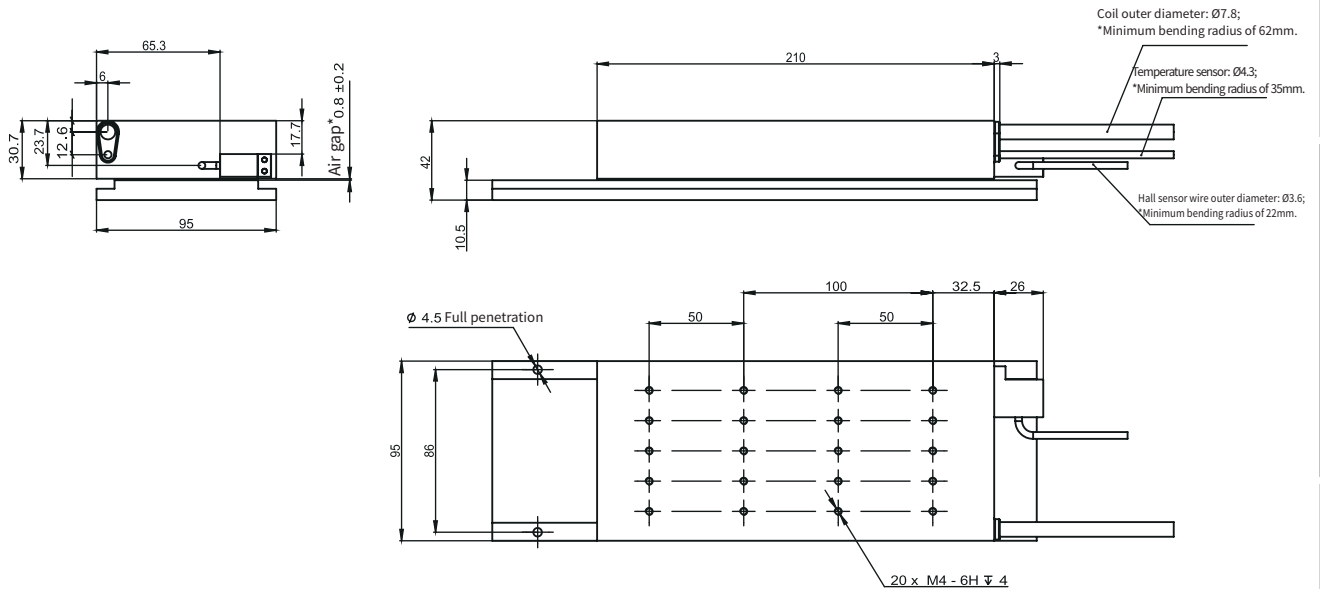
Stator Dimension Specifications

Length (mm)	Pitch Distance (mm)	Hole Distance (mm)
96	24	48
144		
288		

PMQE75-C4/PMQE75L-C4 PMQE series linear motors have higher peak thrust

Outside drawing (unit: mm)

PMQE75-C4/PMQE75L-C4



Performance parameters of motor

Model Designation	PMQE75-C4	PMQE75L-C4(*4)
Highest bus voltage	600.00V	
Rated thrust	508.00N	
Rated current (*1)	5.16Arms	6.80Arms
Peak thrust (*1)	1526.00N	
Peak current	18.00Arms	24.00Arms
Thrust constant ± 10%	98.45N/Arms	74.71N/Arms
Back EMF Constant ± 10%	80.33V(pk)/m/s	60.96V(pk)/m/s
Resistance (*2)	4.80Ω	2.70Ω
Inductance (*3)	34.00mH	19.20mH
Electrical time constant	7.08ms	7.11ms
Magnetic attraction force	2.20KN	
Maximum temperature of coil	120.00°C	
Pole-pair pitch (N-N)	24.00mm	
Rotor length	210.00mm	
Rotor mass	3.60Kg	
Stator mass	6.40kg/m	

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

*4: The L-type motor increases its current and maximum speed.

Wire Specification

Cable parameter	
Power cable diameter	Φ7.8mm (4×1mm ²)
Power cable minimum turning radius (m)	62.0mm
Power cable definition	4-core (U: Black1, V: Black2, W: Black3, PE: Yellow/Green) shielded
HALL cable diameter	Φ3.6mm (5×0.1mm ²)
HALL cable minimum turning radius (m)	22.0mm
Hall Cable Definition	5-core, (5V: Red, 0V: Black, HU: Yellow, HW: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	Φ4.3mm (4×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	35.0mm
Temperature Sensor Cable Definition	4-core (PTC+: Brown, PTC-: White) Shielded

Stator Dimension Specifications

Length (mm)	Pitch Distance (mm)	Hole Distance (mm)
96	24	48
144		
288		

Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-KUM

Motor accessories

Interface definition

Linear motor driver

Wiring diagram of motor module

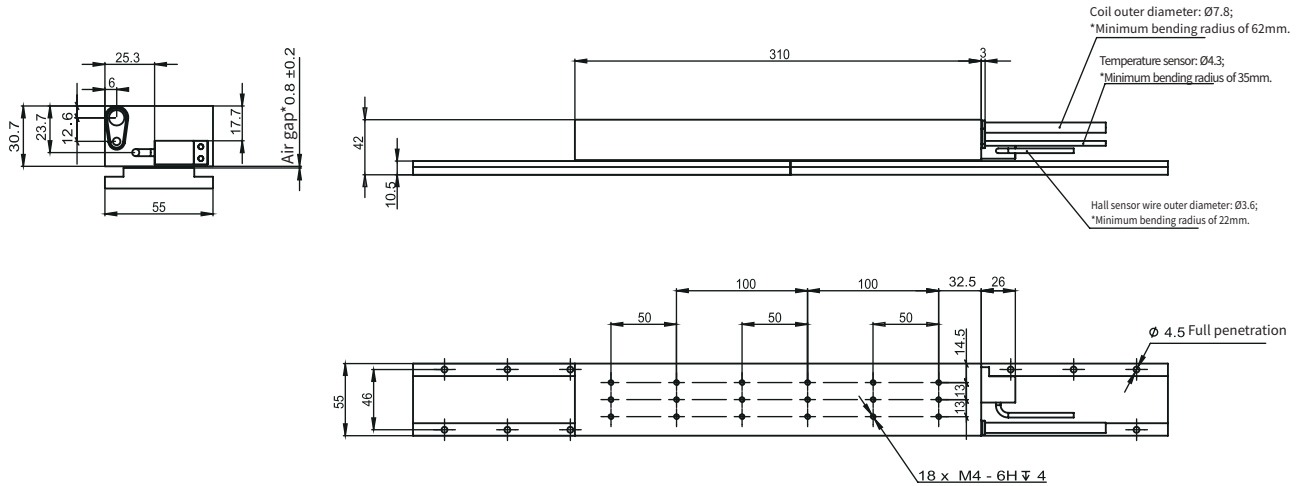
Supplementary table for model selection

Attachment

PMQE35-C6/PMQE35L-C6 PMQE series linear motors have higher peak thrust

Outside drawing (unit: mm)

PMQE35-C6/PMQE35L-C6



Performance parameters of motor

Model Designation	PMQE35-C6	PMQE35L-C6(*4)
Highest bus voltage	600.00V	
Rated thrust	352.00N	
Rated current (*1)	7.50Arms	10.00Arms
Peak thrust (*1)	1052.00N	
Peak current	27.00Arms	36.00Arms
Thrust constant ± 10%	46.93N/Arms	35.20N/Arms
Back EMF Constant ± 10%	38.30V(pk)/m/s	28.72V(pk)/m/s
Resistance (*2)	1.70Ω	1.00Ω
Inductance (*3)	12.10mH	7.10mH
Electrical time constant	7.12ms	7.10ms
Magnetic attraction force	1.50KN	
Maximum temperature of coil	120.00°C	
Pole-pair pitch (N-N)	24.00mm	
Rotor length	310.00mm	
Rotor mass	2.80Kg	
Stator mass	3.50kg/m	

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

*4: The L-type motor increases its current and maximum speed.

Wire Specification

Cable parameter	
Power cable diameter	Φ7.8mm (4×1mm ²)
Power cable minimum turning radius (m)	62.0mm
Power cable definition	4-core (U: Black1, V: Black2, W: Black3, PE: Yellow/Green) shielded
HALL cable diameter	Φ3.6mm (5×0.1mm ²)
HALL cable minimum turning radius (m)	22.0mm
Hall Cable Definition	5-core, (SV: Red, OV: Black, HU: Yellow, HV: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	Φ4.3mm (4×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	35.0mm
Temperature Sensor Cable Definition	4-core (PTC+: Brown, PTC-: White) Shielded

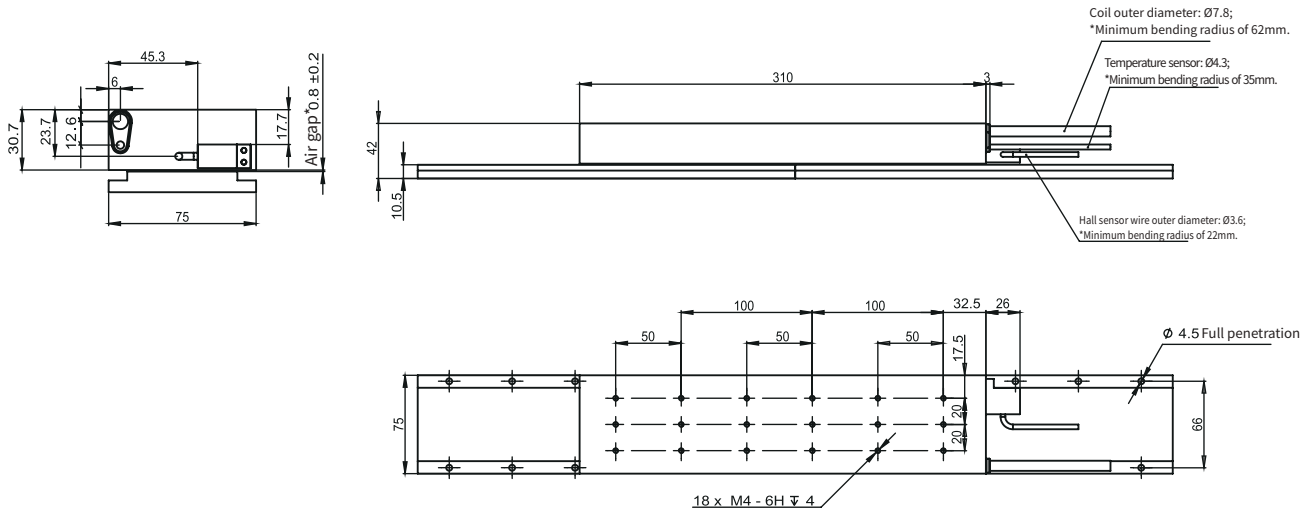
Stator Dimension Specifications

Length (mm)	Pitch Distance (mm)	Hole Distance (mm)
96	24	48
144		
288		

PMQE55-C6/PMQE55L-C6 PMQE series linear motors have higher peak thrust

Outside drawing (unit: mm)

PMQE55-C6/PMQE55L-C6



Performance parameters of motor

Model Designation	PMQE55-C6	PMQE55L-C6(*4)
Highest bus voltage	600.00V	
Rated thrust	547.00N	
Rated current (*1)	7.50Arms	10.00Arms
Peak thrust (*1)	1643.00N	
Peak current	27.00Arms	36.00Arms
Thrust constant ± 10%	72.93N/Arms	54.70N/Arms
Back EMF Constant ± 10%	59.51V(pk)/m/s	44.64V(pk)/m/s
Resistance (*2)	2.50Ω	1.40Ω
Inductance (*3)	17.80mH	9.90mH
Electrical time constant	7.12ms	7.07ms
Magnetic attraction force	2.30KN	
Maximum temperature of coil	120.00°C	
Pole-pair pitch (N-N)	24.00mm	
Rotor length	310.00mm	
Rotor mass	4.10Kg	
Stator mass	5.00kg/m	

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

*4: The L-type motor increases its current and maximum speed.

Wire Specification

Cable parameter	
Power cable diameter	Ø7.8mm (4×1mm ²)
Power cable minimum turning radius (m)	62.0mm
Power cable definition	4-core (U: Black1, V: Black2, W: Black3, PE: Yellow/Green) shielded
HALL cable diameter	Ø3.6mm (5×0.1mm ²)
HALL cable minimum turning radius (m)	22.0mm
Hall Cable Definition	5-core, (5V: Red, 0V: Black, HU: Yellow, HV: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	Ø4.3mm (4×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	35.0mm
Temperature Sensor Cable Definition	4-core (PTC+: Brown, PTC-: White) Shielded

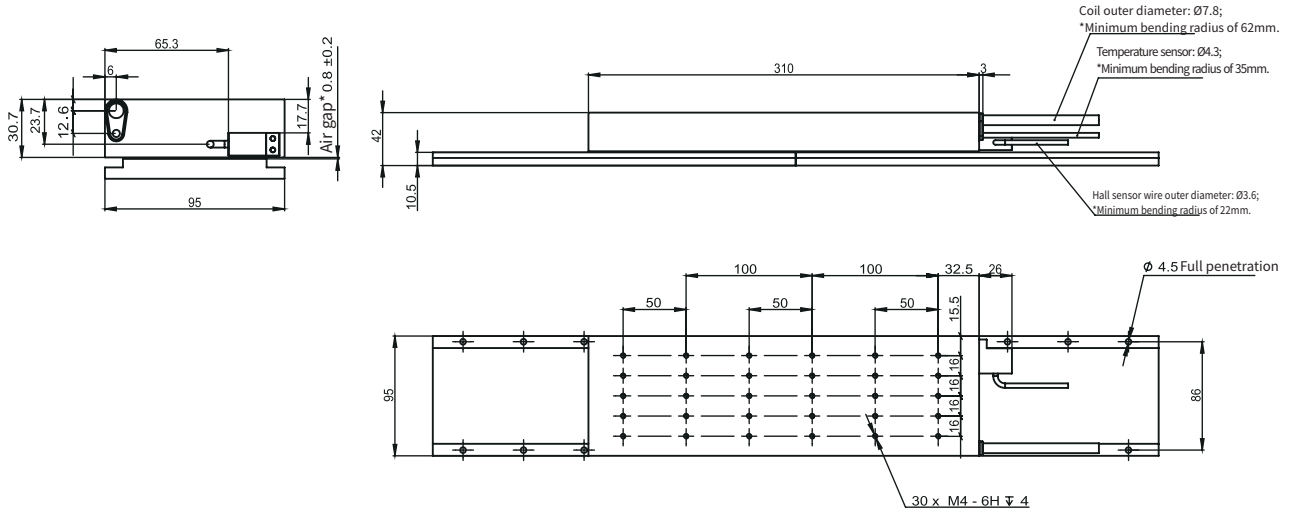
Stator Dimension Specifications

Length (mm)	Pitch Distance (mm)	Hole Distance (mm)
96	24	48
144		
288		

PMQE75-C6/PMQE75L-C6 PMQE series linear motors have higher peak thrust

Outside drawing (unit: mm)

PMQE75-C6/PMQE75L-C6



Performance parameters of motor

Model Designation	PMQE75-C6	PMQE75L-C6(*4)
Highest bus voltage	600.00V	
Rated thrust	742.00N	
Rated current (*1)	7.50Arms	10.00Arms
Peak thrust (*1)	2222.00N	
Peak current	27.00Arms	36.00Arms
Thrust constant ± 10%	98.93N/Arms	74.20N/Arms
Back EMF Constant ± 10%	80.73V(pk)/m/s	60.55V(pk)/m/s
Resistance (*2)	3.20Ω	1.85Ω
Inductance (*3)	22.60mH	13.20mH
Electrical time constant	7.06ms	7.14ms
Magnetic attraction force	3.30KN	
Maximum temperature of coil	120.00°C	
Pole-pair pitch (N-N)	24.00mm	
Rotor length	310.00mm	
Rotor mass	5.40Kg	
Stator mass	6.40kg/m	

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

*4: The L-type motor increases its current and maximum speed.

Wire Specification

Cable parameter	
Power cable diameter	Φ7.8mm (4×1mm ²)
Power cable minimum turning radius (m)	62.0mm
Power cable definition	4-core (U: Black1, V: Black2, W: Black3, PE: Yellow/Green) shielded
HALL cable diameter	Φ3.6mm (5×0.1mm ²)
HALL cable minimum turning radius (m)	22.0mm
Hall Cable Definition	5-core, (5V: Red, 0V: Black, HU: Yellow, HV: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	Φ4.3mm (4×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	35.0mm
Temperature Sensor Cable Definition	4-core (PTC+: Brown, PTC-: White) Shielded

Stator Dimension Specifications

Length (mm)	Pitch Distance (mm)	Hole Distance (mm)
96	24	48
144		
288		

KUM Series U-shaped Motors (Ironless)

The ironless linear motor of the KUM series features the absence of winding slots, ensuring an absolute absence of cogging effects. This design is particularly suited for applications demanding ultra-low friction, light loads, and high acceleration. Thanks to its inherent low-speed ripple characteristics, it excels in meeting the requirements of stable motion even at extremely low velocities.



Performance parameters of motor

Model Designation	YK-KUM03	YK-KUM06	YK-KUM09	YK-KUM12	YK-KUM15
Highest bus voltage	600.00V				
Rated thrust	31.0N	60.0N	89.0N	118.0N	147.0N
Rated current (*1)	0.8Arms	1.6Arms	2.4Arms	3.2Arms	4.0Arms
Peak thrust (*1)	105.4N	204.0N	302.6N	401.2N	499.8N
Peak current	2.7Arms	5.4Arms	8.2Arms	10.9Arms	13.6Arms
Thrust constant $\pm 10\%$	38.8N/Arms	37.5N/Arms	37.1N/Arms	36.9N/Arms	36.8N/Arms
Back EMF Constant $\pm 10\%$	31.6V(pk)/m/s	30.6V(pk)/m/s	30.3V(pk)/m/s	30.1V(pk)/m/s	30.0V(pk)/m/s
Resistance (*2)	36.0 Ω	18.0 Ω	12.0 Ω	8.9 Ω	7.0 Ω
Inductance (*3)	12.0mH	6.0mH	4.0mH	3.0mH	2.2mH
Electrical time constant	0.3ms				
Magnetic attraction force	0.0KN				
Maximum temperature of coil	120.0°C				
Pole-pair pitch (N-N)	30.0mm				
Rotor length	78.0mm	138.0mm	198.0mm	258.0mm	316.0mm
Rotor mass	0.08Kg	0.16Kg	0.24Kg	0.32Kg	0.40Kg
Stator mass	4.8kg/m				
Thermal resistance	1.8°C/W	0.9°C/W	0.6°C/W	0.45°C/W	0.33°C/W

*1: The room temperature is 25°C in the measurement area, closely associated with heat dissipation conditions.

*2: Average values of UV, VW, and UW are measured using direct current, including a 1-meter standard cable.

*3: Average values of UV, VW, and UW are measured at a frequency of 1kHz.

Wire Specification

Cable parameter	
Power cable diameter	Φ4.4mm (4×0.25mm ²)
Power cable minimum turning radius (m)	44.0mm
Power cable definition	4-core (U: Brown, V: White, W: Yellow, PE: Green) shielded
HALL cable diameter	Φ3.6mm (5×0.1mm ²)
HALL cable minimum turning radius (m)	36.0mm
Hall Cable Definition	5-core, (SV: Red, OV: Black, HU: Yellow, HV: Blue, HW: White) Shielded
Temperature Sensor Cable Diameter	Φ3.6mm (5×0.1mm ²)
Temperature Sensor Cable Minimum Turning Radius	36.0mm
Temperature Sensor Cable Definition	

Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-KUM

Motor accessories

Interface definition

Linear motor driver

Wiring diagram of motor module

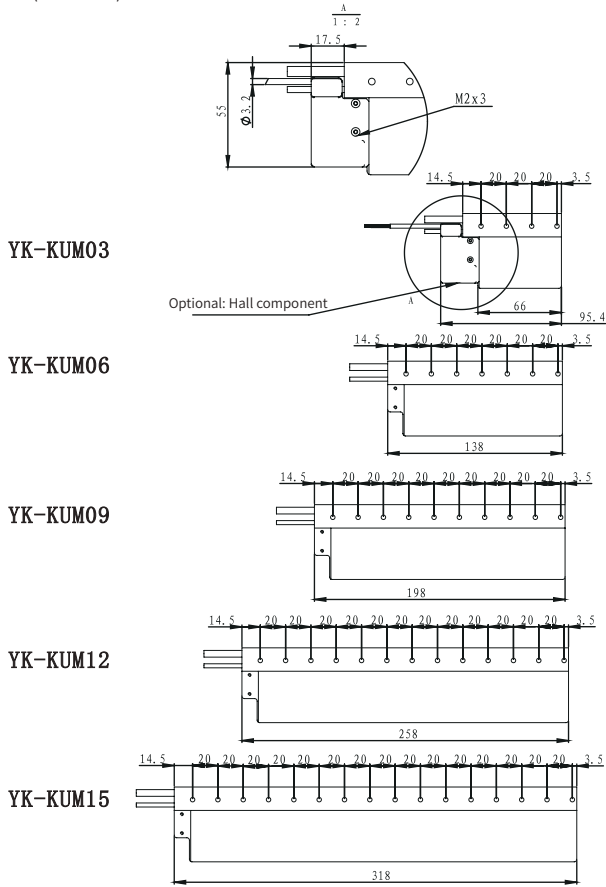
Supplementary table for model selection

Attachment

KUM Series U-shaped Motors (Ironless)

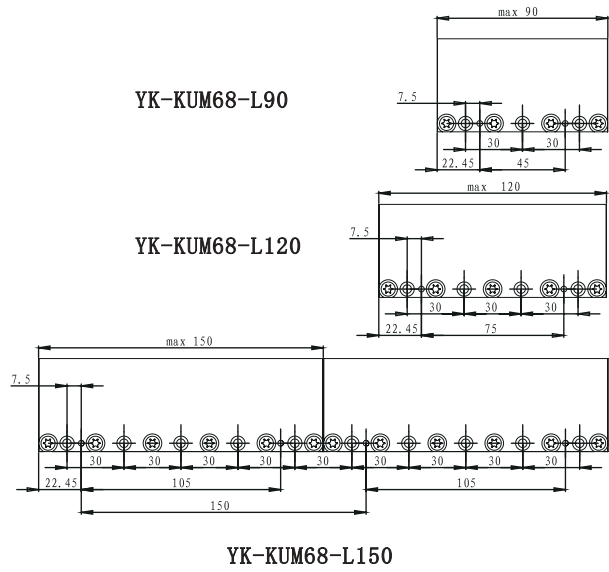
Outside drawing of non iron core rotors

(unit: mm)



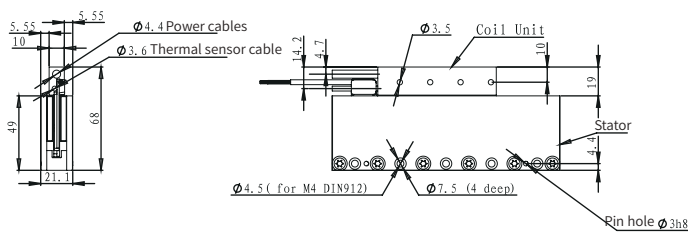
Outside drawing of non iron core stators

(unit: mm)



Outside drawing of non iron core rotors sub assembly

(unit: mm)



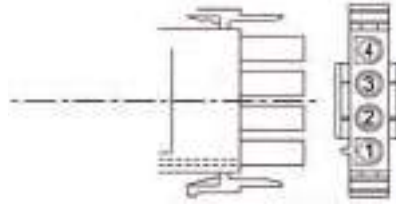
Linear Motor Interface Definition

*Applicable only to models YK-KE-60, YK-KE-82, YK-KE-95, YK-KE-115.

Motor Connector

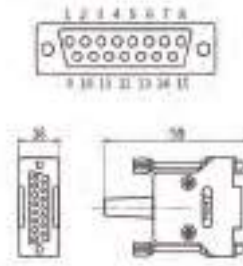
Connector Model: YK-63080-4P

S/N	1	2	3	4
Comments	M1	M2	M3	PE
Function	Motorphaseline	Motorphaseline	Motorphaseline	Protectionground
Color	Red+Yellow	Blue+Green	Brown+Black	White+Shield



YK-MS15 grating plug

S/N	2	4	5	6	7	8	9	10	11	12	13	14
Signal	GND	Z-	B-	A-	+5V	+5V	GND	S1	S2	Z+	B+	A+



Hall plug

S/N	1	2	3	4	5
Signal	Hu	Hv	Hw	+5V	GND



磁栅插头

S/N	1	2	3	4	5	6	7	8	9
Signal	(Not connected to NC)	Z+	B+	A+	+5V	Z-	B-	A-	GND

Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-KUM

Motor accessories

Interface definition

Linear motor driver

Wiring diagram of motor module

Supplementary table for model selection

Attachment

Linear Motor Driver



Performance parameters of motor

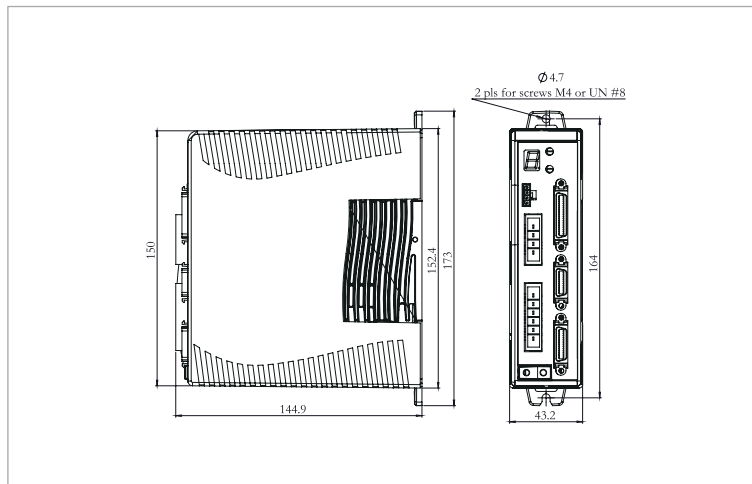
We provide the following brand and model matching options. Our linear motor is compatible with most brands of drives on the market. For more information on the purchase, selection, and model confirmation of drives, please consult our sales engineer in detail.

	Current	3A	4A	6A	8A	10A
Solid height	Pulse	GSHD-003-2A-AP1-LM	GSHD-4D5-2A-AP1-LM	GSHD-006-2A-AP1-LM	GSHD-008-2A-AP1-LM	GSHD-010-2A-AP1-LM
	EtherCAT	GSHD-003-2A-EC2-LM	GSHD-4D5-2A-EC2-LM	GSHD-006-2A-EC2-LM	GSHD-008-2A-EC2-LM	GSHD-010-2A-EC2-LM
High tech innovation	Pulse	CDHD-0032AAP1	CDHD-4D52AAP1	CDHD-0062AAP1	CDHD-0082AAP1	CDHD-0102AAP1
	EtherCAT	CDHD-0032AEC2	CDHD-4D52AEC2	CDHD-0062AEC2	CDHD-0082AEC2	CDHD-0102AEC2
Gaota Economic Fund	Pulse	CDHDE-4D52AAP				
	EtherCAT			CDHDE-4D52AEB		
	Pulse+EtherCAT	DKHDE-03		DKHDE-06		

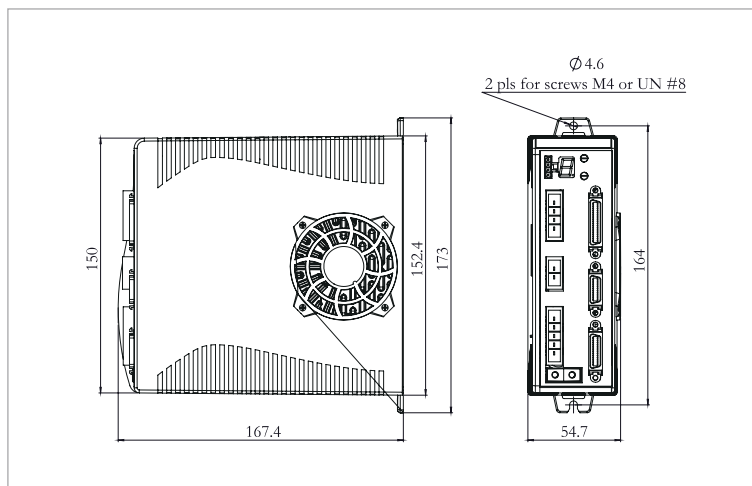
Solid Height Linear Motor Driver

Mechanical dimensions (unit: mm)

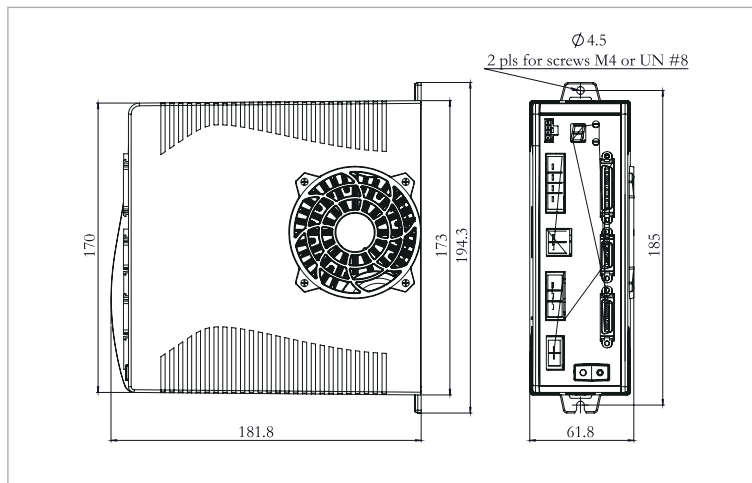
Medium Pressure GSHD-003 Series



Medium Pressure GSHD-4D5/GSHD-006 Series



Medium Pressure GSHD-4D5/GSHD-006 Series



Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-KUM

Motor accessories

Interface definition

Linear motor driver

Wiring diagram of motor module

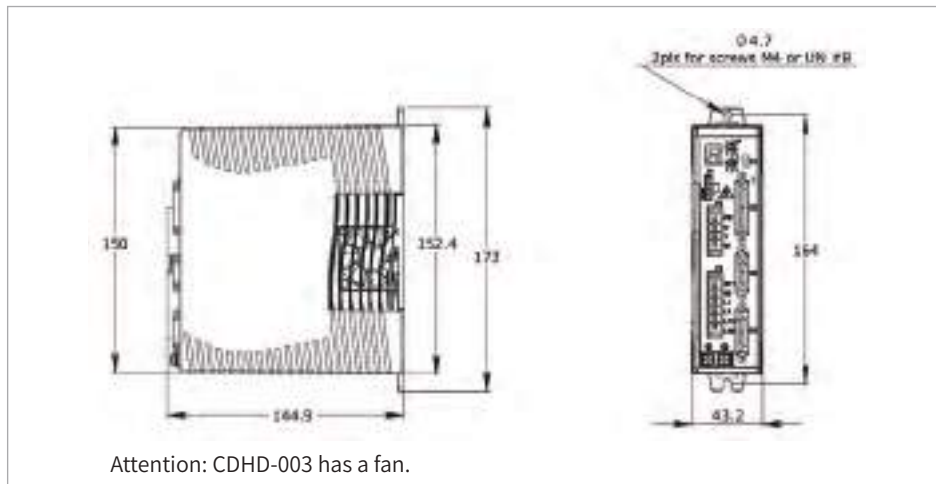
Supplementary table for model selection

Attachment

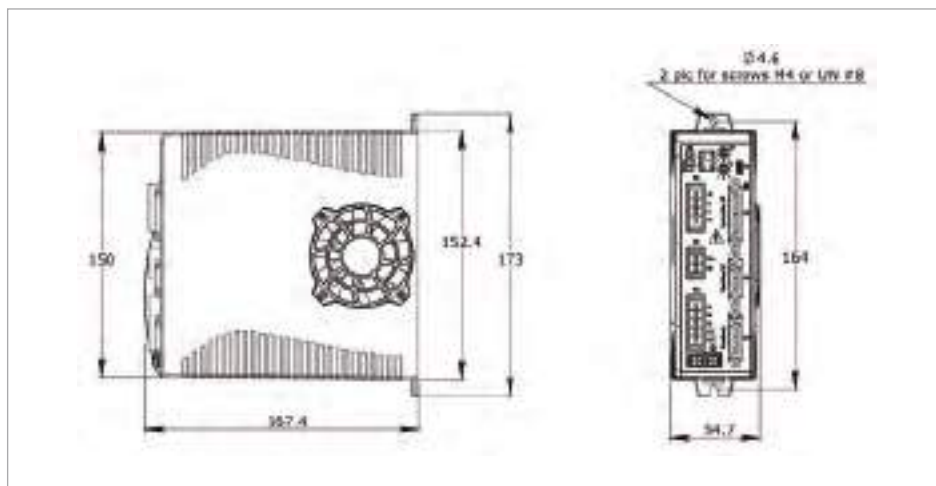
High Tech Innovation Linear Motor Driver

Mechanical dimensions (unit: mm)

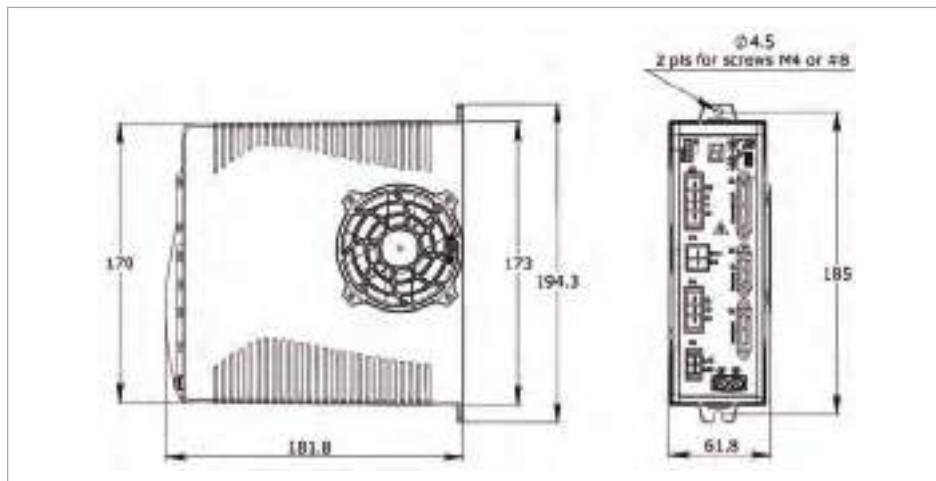
CDHD-1D5/CDHD-003 – 120/240 VAC



CDHD-4D5/CDHD-006 – 120/240 VAC



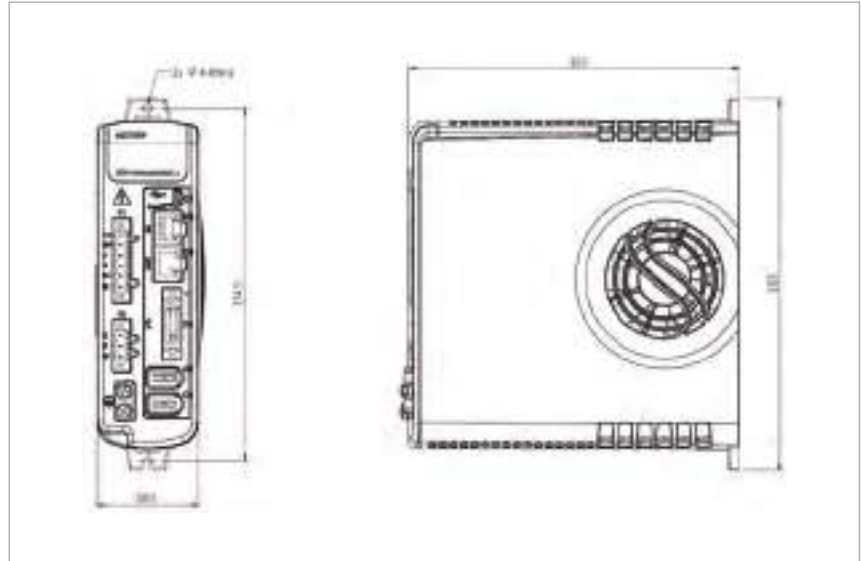
CDHD-008/CDHD-010/CDHD-013 – 120/240 VAC



High Tech Innovation Economic Linear Motor Driver

Mechanical dimensions (unit: mm)

DKHDE-03/DKHDE-06



Performance parameters

Model Designation	DKHDE-03	DKHDE-06
Main power source	110/220VAC	
Logic power supply	110/220VAC	
Output continuous power supply	3A	6A
Maximum power output	9A	18A
Control method	Position control: pulse/direction, positive and negative pulses EtherCATbus	
Encoder Interface	Incremental A+, A-, B+, B-, Z+, Z-	
Operating temperature	0°C~40°C	

Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-KUM

Motor accessories

Interface definition

Linear motor driver

Wiring diagram of motor module

Supplementary table for model selection

Attachment

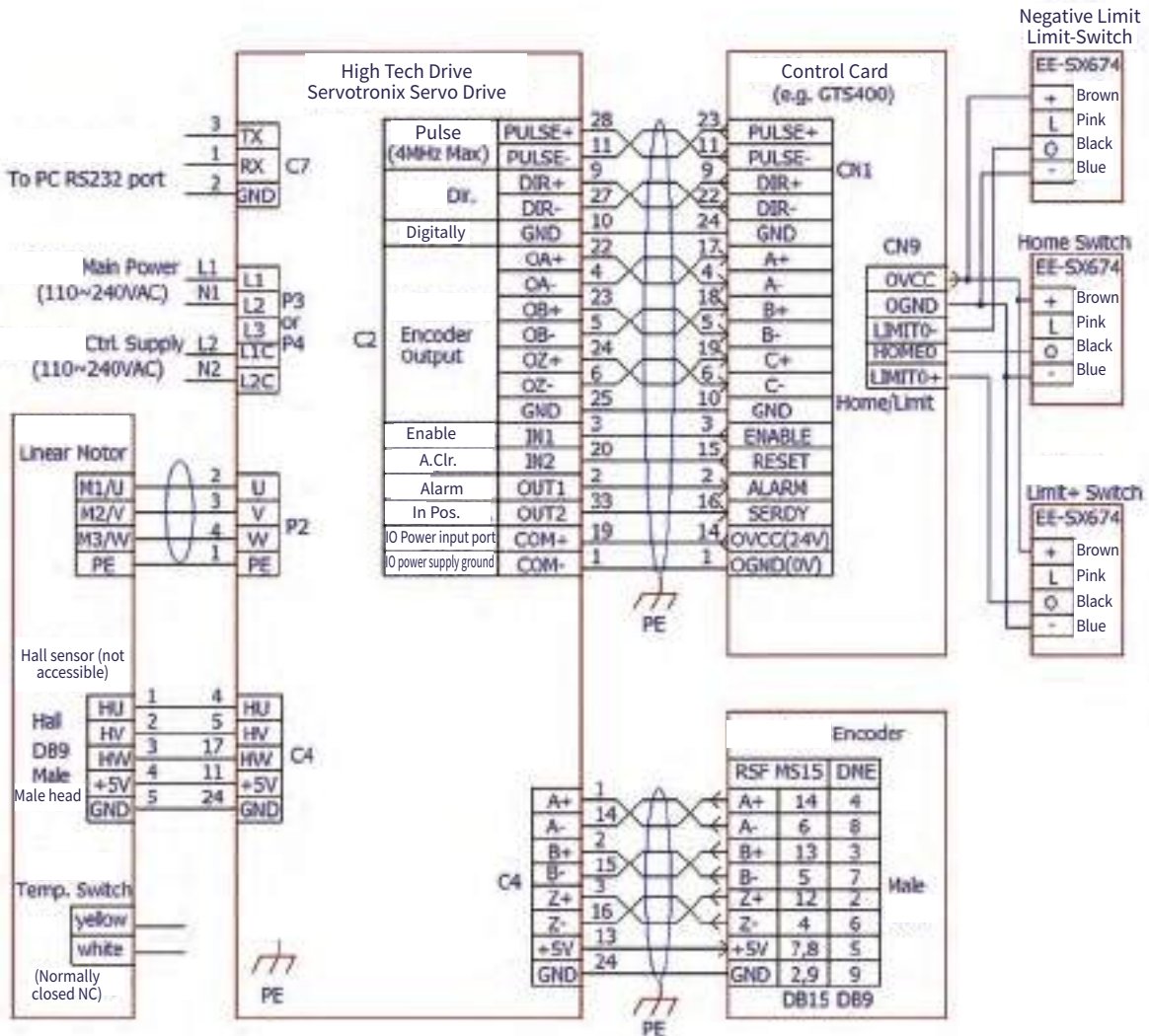
Wiring diagram of linear motor module

Performance parameters

Model Designation	HighChuang/GoogolTech
Signal Type	Differential signal
Pulse frequency	4MHz
Control power	110/240VAC
Main power source	110/240VAC

Wiring diagram

- Pulse frequency 4MHz



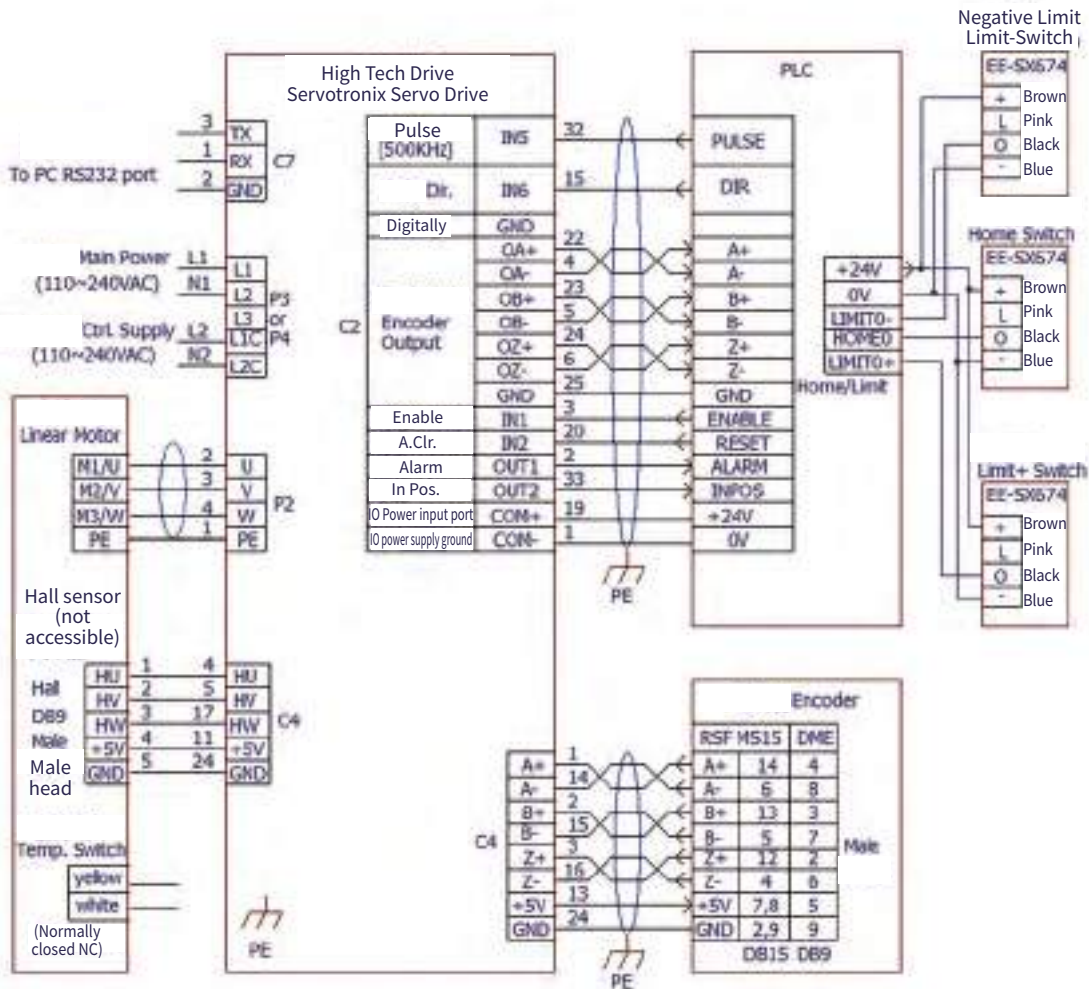
Wiring diagram of linear motor module

Performance parameters

Model Designation	HighChuang/GoogolTech
Signal Type	Single-end signal
Pulse frequency	500MHz
Control power	110/240VAC
Main power source	110/240VAC

Wiring diagram

Pulse frequency 500MHz



Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-KUM

Motor accessories

Interface definition

Linear motor driver

Wiring diagram of motor module

Supplementary table for model selection

Attachment

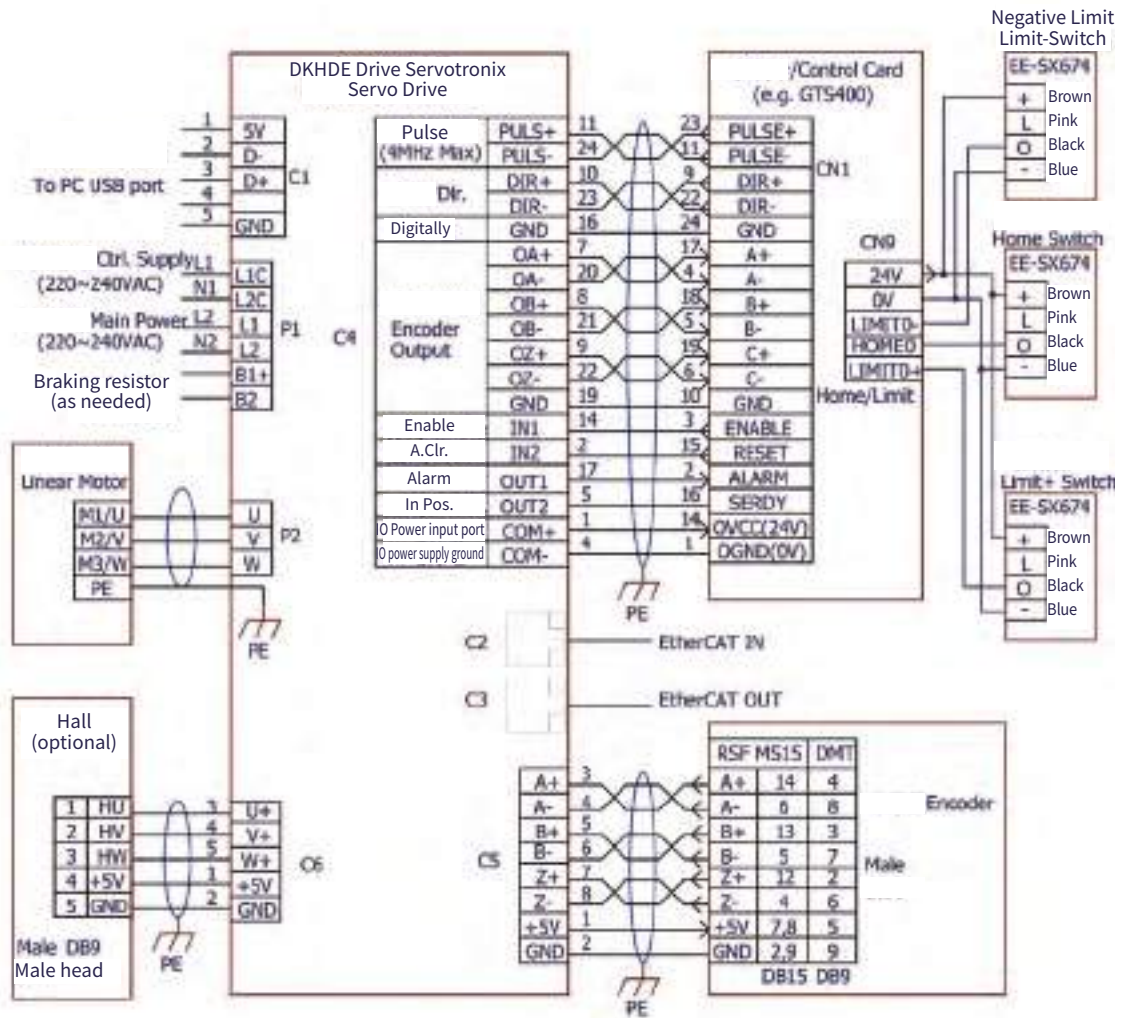
Wiring diagram of linear motor module

Performance parameters

Model Designation	DKHDE-03/DKHDE-06
Signal Type	Differential signal
Pulse frequency	5MHz
Control power	110/220VAC
Main power source	110/220VAC

Wiring diagram

Pulse frequency 500MHz



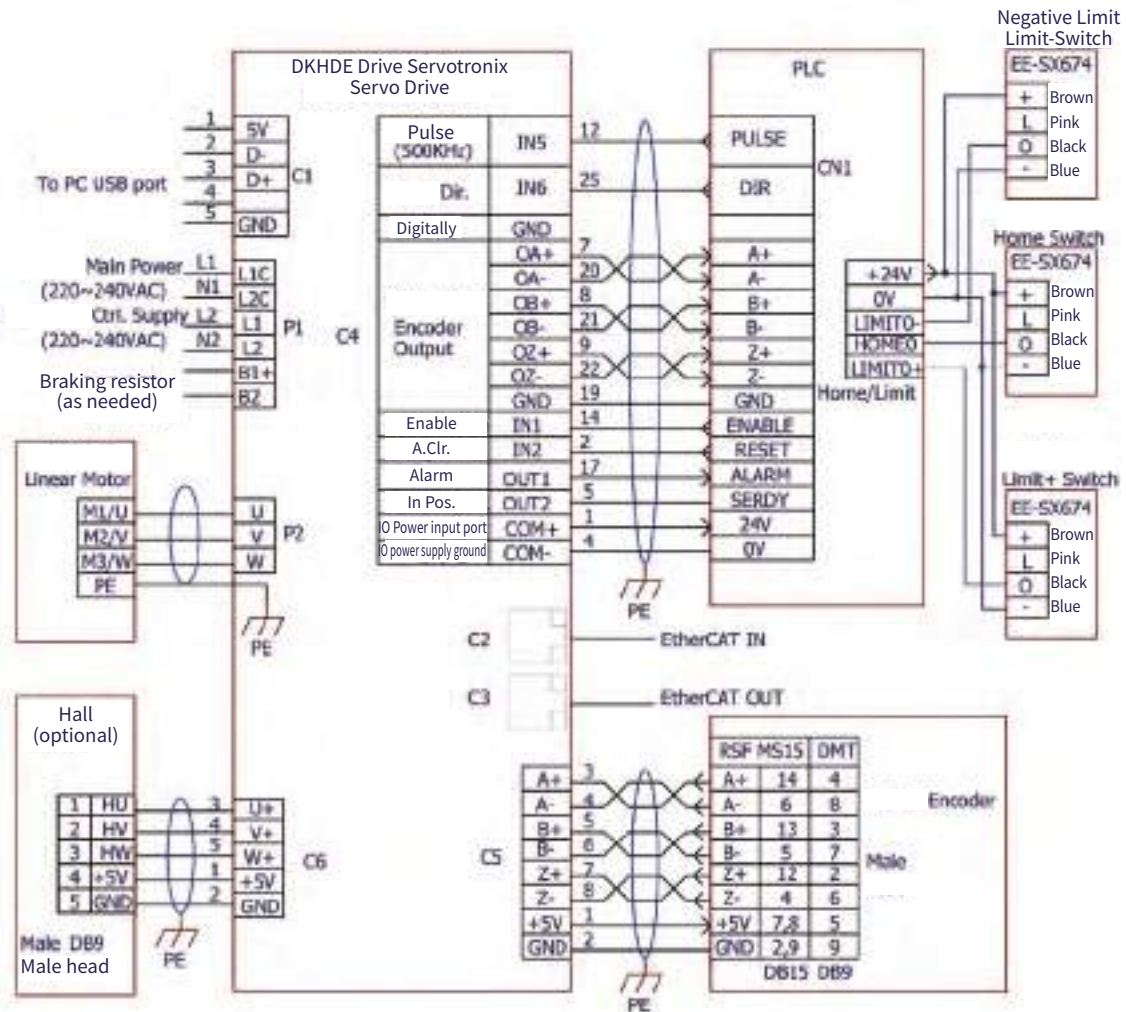
Wiring diagram of linear motor module

Performance parameters

Model Designation	DKHDE-03/DKHDE-06
Signal Type	Single-end signal
Pulse frequency	500MHz
Control power	110/220VAC
Main power source	110/220VAC

Wiring diagram

● Pulse frequency 500MHz



Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-KUM

Motor accessories

Interface definition

Linear motor driver

Wiring diagram of motor module

Supplementary table for model selection

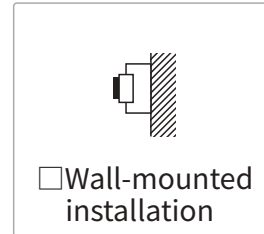
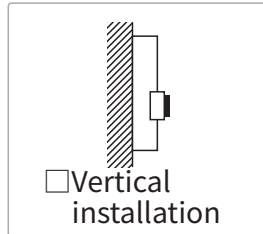
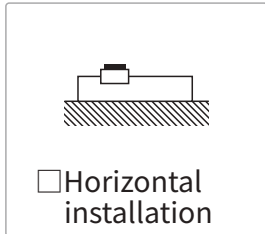
Attachment

Auxiliary Table for Linear Motor Selection

company name: _____ Dept Position: _____ Date of filling: _____

Contact Person: _____ Contact information: _____

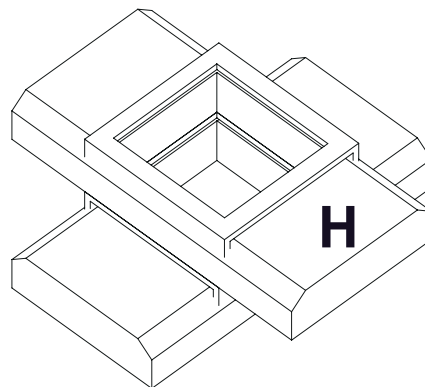
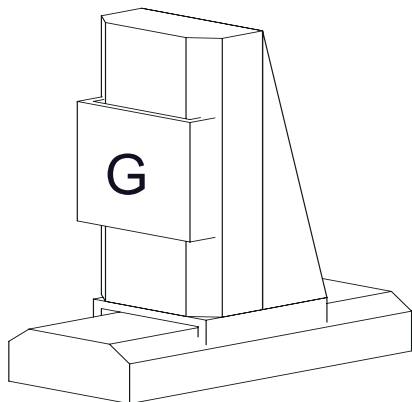
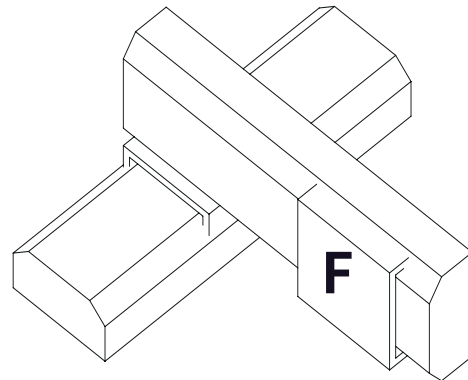
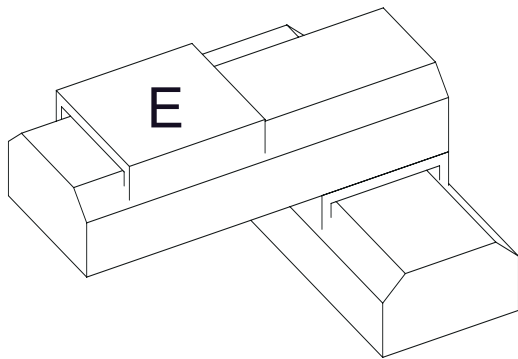
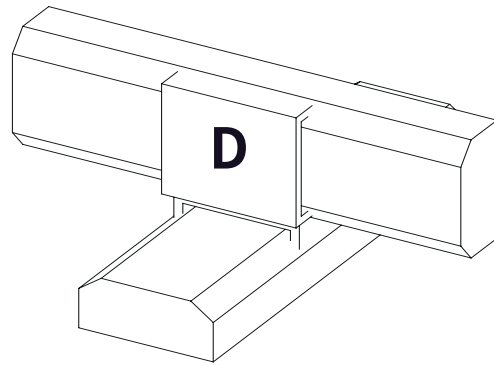
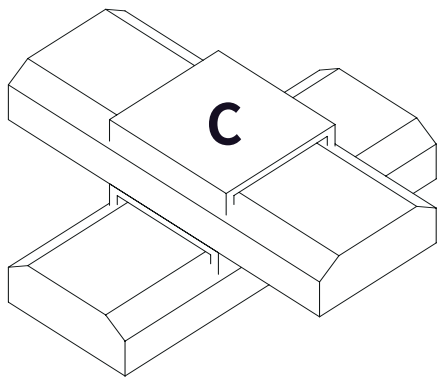
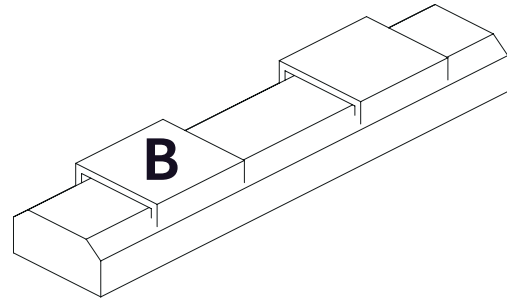
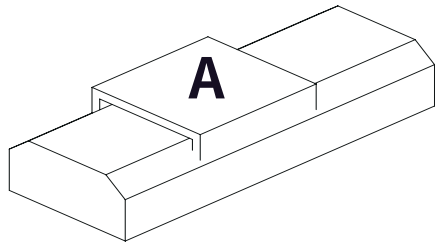
Installation method



Description of motion requirements (motion curve can be attached): _____

Specifications	Unit	Value	Specifications	Unit	Value
Overall travel	mm		Positioning accuracy	μm	
Load	KG		Repeated positioning accuracy	μm	
Friction	N		Dimensional requirements (L*W*H)	mm	
Maximum movement speed	m/s		Flatness	μm	
Cycle time	s		Verticality	μm	
Max acceleration	m/s ²				
Maximum speed time	s				
Acceleration time	s				

Annex 1



Linear motor module

YK-ZX01

YK-ZX03/MS

YK-KE

Linear motor

PMQ

PMQE

YK-KUM

Motor accessories

Interface definition

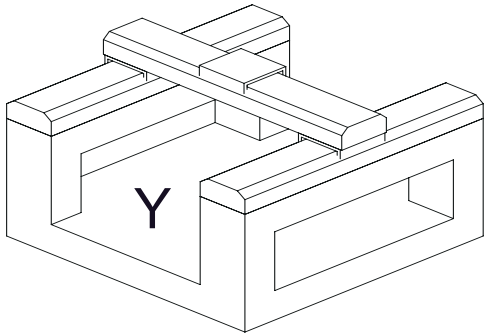
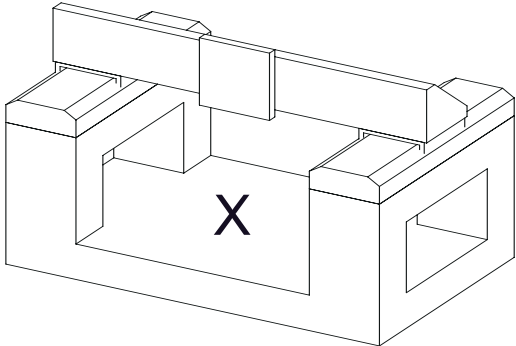
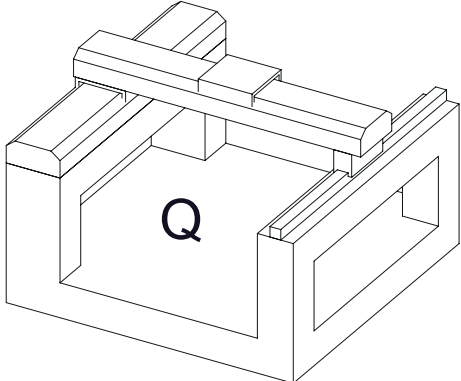
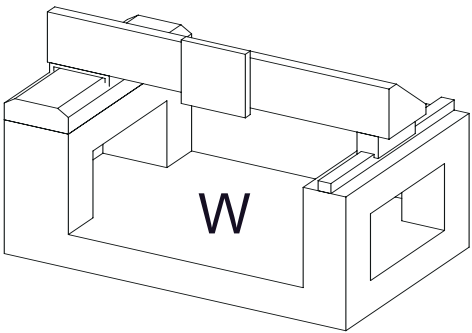
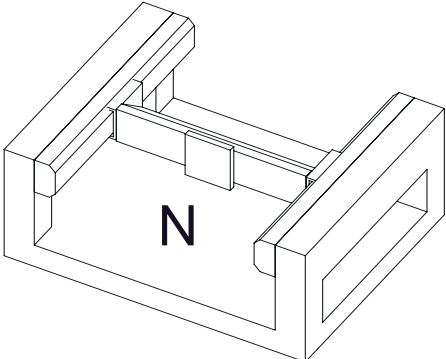
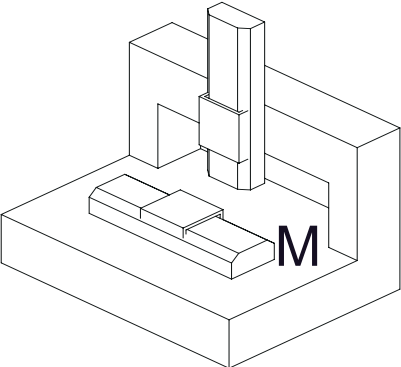
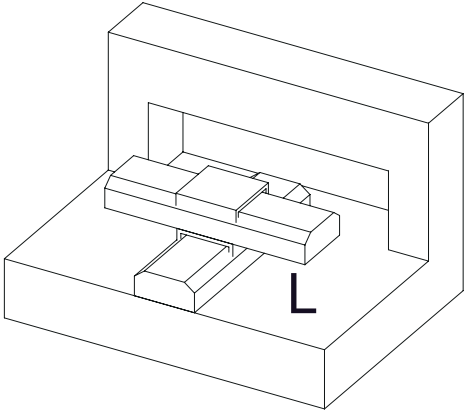
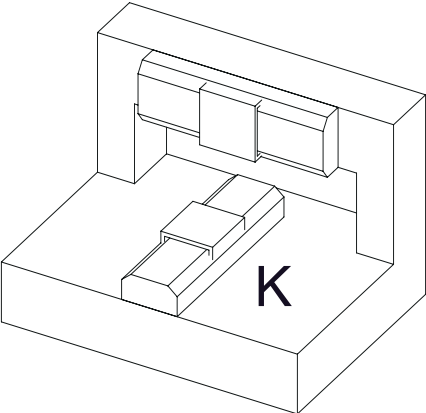
Linear motor driver

Wiring diagram of motor module

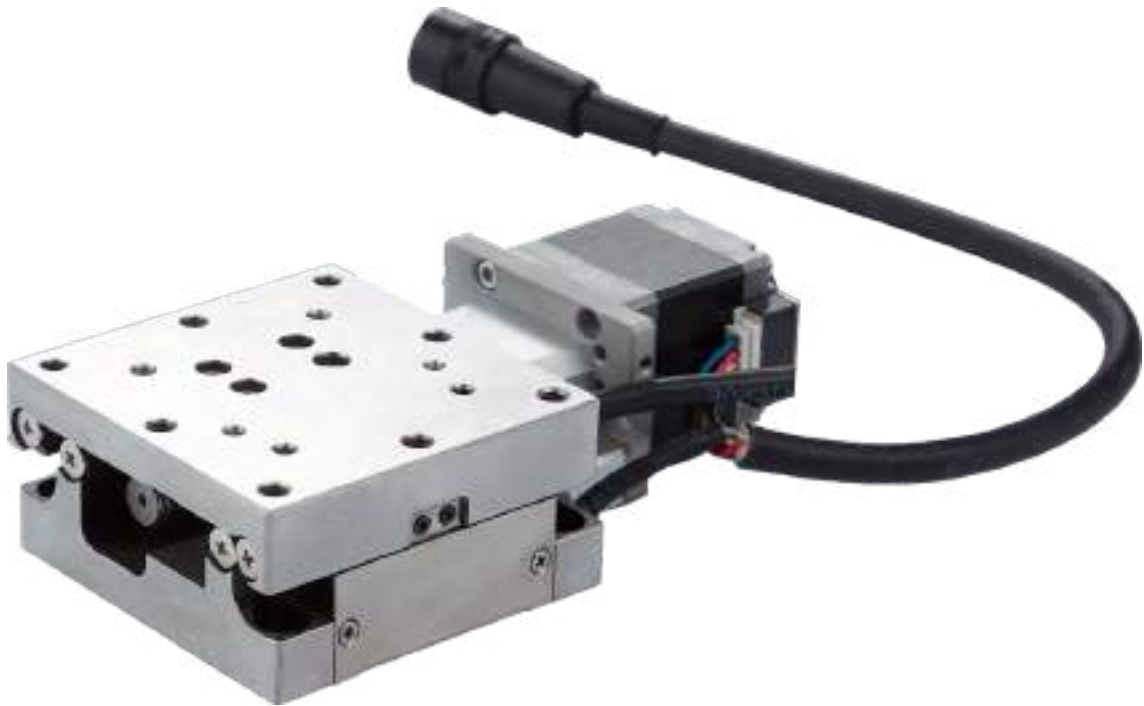
Supplementary table for model selection

Attachment

Annex 2



Grating closed-loop Precision electric fine tuning table



60 series 80 series

Quick Index of Product Catalogue for Grating Closed Loop Precision Electric Fine Adjustment Table

60 series	P292-P294			
Model	YK-L6020G-SGN-5-615	YK-HL6020G-SGN-5-815	YK-HL6030G-SGN-5-815	YK-HL6050G-SGN-5-815
Table sizes	60*60mm		60*70mm	60*80mm
Mobile travel	±10mm		±15mm	±25mm
Body weight	0.7kg	0.85kg		0.95kg
Screw parameters	Diameter 6mm, pitch 1mm	Diameter 8mm, pitch 1mm		
Material	SUS-440C			
Repeated positioning accuracy	Grade G ± 0.3 μm			
Drive current	1.2A			
Maximum speed	10mm/s			
Load	98N (10kgf)			
Motor	PKP523N12B (Dongfang Motor)			
Corresponding page	P292	P292	P292	P292

80 series	P295-P297		
Model	YK-HL8020G-SGN-5-815	YK-HL8030G-SGN-5-815	YK-HL8050G-SGN-5-815
Table sizes	80*80mm		
Mobile travel	±10mm	±15mm	±25mm
Body weight	1.2kg		
Screw parameters	Diameter 8mm, pitch 1mm		
Material	SUS-440C		
Repeated positioning accuracy	Grade G ± 0.3 μm		
Drive current	1.2A		
Maximum speed	10mm/s		
Load	98N (10kgf)		
Motor	PKP523N12B (Dongfang Motor)		
Corresponding page	P295	P295	P295

Quick Index of Product Catalogue for Precision Electric Fine Adjustment Table

				P299-P302	Linear
Model	YK-L4015	YK-L6015	YK-L6020	YK-L6030	
Table sizes	40*40mm	60*60mm		60*70mm	
Mobile travel	±7.5mm		±10mm	±15mm	
Body weight	0.4kg	0.6kg			
Screw parameters	Diameter 6mm, pitch 1mm				
Material	SUS-440C/aluminum alloy				
Repeated positioning accuracy	U level ± 1 μm/P-level ± 3 μm/E level ± 10 μm				
Drive current	0.7A				
Maximum speed	10mm/s				
Load	98N (10kgf)				
Motor	NEMA 11 stepping				
Corresponding page	P299	P301	P301	P301	

						P303-P307	Reinforced linear type
Model	YK-HL6020	YK-HL6030	YK-HL6050	YK-HL8020	YK-HL8030	YK-HL8050	
Table sizes	60*60mm	60*70mm	60*80mm	80*80mm			
Mobile travel	±10mm	±15mm	±25mm	±10mm	±15mm	±25mm	
Body weight	0.75kg		0.85kg	1.1kg			
Screw parameters	Diameter 8mm, pitch 1mm						
Material	SUS-440C						
Repeated positioning accuracy	U level ± 1 μm/P-level ± 3 μm						
Drive current	0.7A						
Maximum speed	10mm/s						
Load	147N (15kgf)						
Motor	NEMA 11 stepping						
Corresponding page	P303	P303	P303	P306	P306	P306	

			P308-P310	Long-stroke linear type
Model	YK-LL6050	YK-LL60100	YK-LL60200	
Table sizes	60*60mm			
Mobile travel	±25mm	±50mm	±100mm	
Body weight	1.1kg	1.4kg	1.7kg	
Screw parameters	Diameter 8mm, pitch 1mm			
Material	SUS-440C			
Repeated positioning accuracy	U level ± 1 μm			
Drive current	0.7A			
Maximum speed	20mm/s			
Load	147N (15kgf)			
Motor	NEMA 11 stepping			
Corresponding page	P308	P308	P308	

Quick Index of Product Catalogue for Precision Electric Fine Adjustment Table

Rotation type	P311-P316				
Model	YK-R4017	YK-R6015	YK-R8016	YK-R10016	YK-R12016
Table sizes	φ40mm	φ60mm	φ80mm	φ100mm	φ120mm
Mobile travel	±8.5°	±7.5°	±8°		
Body weight	0.4kg	0.6kg	0.8kg	1.2kg	
Screw parameters	Diameter 6mm, pitch 1mm				
Material	Aluminium alloy				
Repeated positioning accuracy	U level ± 0.005/P-level ± 0.01				
Drive current	0.7A				
Maximum speed	50°/s	35°/s	25°/s	20°/s	
Load	39.2N (4kgf)	49N (5kgf)			
Motor	NEMA 11 stepping				
Corresponding page	P311	P311	P311	P311	P311

Arc pendulum type	P317-P321			
Model	YK-C6050	YK-C6075	YK-C60100	YK-C60125
Table sizes	60*60mm			
Mobile travel	±5.5°			
Body weight	0.4kg	0.5kg		
Screw parameters	Diameter 6mm, pitch 1mm			
Material	Aluminium alloy			
Repeated positioning accuracy	U level ± 0.005/P-level ± 0.01			
Drive current	0.7A			
Maximum speed	15°/s	10°/s	8°/s	6°/s
Load	49N (5kgf)			
Motor	NEMA 11 stepping			
Corresponding page	P317	P317	P317	P317

Horizontal lifting type	P322-P323
Model	YK-ZF6010
Table sizes	60*88mm
Mobile travel	10mm
Body weight	0.86kg
Screw parameters	Diameter 6mm, pitch 1mm
Material	Aluminium alloy
Repeated positioning accuracy	U level ± 1 μm
Drive current	0.7A
Maximum speed	8mm/s
Load	5kg
Motor	NEMA 11 stepping
Corresponding page	P322

XXY Aligning Platform Product Catalog Quick Index

						P330-P337	XXY alignment platform
Model	YK-XXY150	YK-XXY160	YK-XXY180	YK-XXY200	YK-XXY250	YK-XXY350	
Upper table size	150mm	160mm	180mm	200mm	250mm	350mm	
Repeated positioning accuracy	U level $\pm 1 \mu\text{m}$ /P-level $\pm 3 \mu\text{m}$ /E level $\pm 10 \mu\text{m}$						
Stroke	$\pm 5\text{mm}$			$\pm 8\text{mm}$	$\pm 10\text{mm}$	$\pm 12\text{mm}$	
Rotation angle	$\pm 3^\circ$			$\pm 5^\circ$			
Screw diameter	$\phi 6\text{mm}$			$\phi 12\text{mm}$			
Screw lead	1mm			5mm			
Flatness	$\pm 0.02\text{mm}$			$\pm 0.025\text{mm}$			$\pm 0.03\text{mm}$
Horizontal load	30kgf				50kgf	80kgf	
Material of body	Aluminium alloy						
Body weight	5.3 $\pm 2\%$ kg		5.6 $\pm 2\%$ kg	8.3 $\pm 2\%$ kg	14.2 $\pm 2\%$ kg	22 $\pm 2\%$ kg	
Corresponding page	P330	P330	P330	P334	P334	P334	

		P338	XXY alignment platform
Model	YK-XXY450		
Upper table size	450mm		
Repeated positioning accuracy	U level $\pm 1 \mu\text{m}$ /P-level $\pm 3 \mu\text{m}$ /E level $\pm 10 \mu\text{m}$		
Stroke	$\pm 12\text{mm}$		
Rotation angle	$\pm 3^\circ$		
Screw diameter	$\phi 12\text{mm}$		
Screw lead	5mm		
Flatness	$\pm 0.035\text{mm}$		
Horizontal load	100kgf		
Material of body	Aluminium alloy		
Body weight	26 $\pm 2\%$ kg		
Corresponding page	P338		

Grating fine adjustment table (60 series)

Model descriptions

YK	-	L	60	20	G	-	S	G	N	-	5	-	61	5											
Brand Label	Category		Table sizes	Stroke	Precision class		Material		Precision class		Outgoing direction		Motor type		Wire welding specifications		Wire welding grade								
YARAK	L	Linear	60*60mm	20mm	G	Ultra high precision		S	Stainless steel		G	Grating closed-loop		N	Standard outgoing line		5	5-phase motor		61	0601		5	C5	
YK	-	HL	60	20	G	-	S	G	N	-	5	-	81	5											
Brand Label	Category		Table sizes	Stroke	Precision class		Material		Precision class		Outgoing direction		Motor type		Wire welding specifications		Wire welding grade								
YARAK	HL	Enhanced type	60*60mm 60*70mm 60*80mm	20mm 30mm 50mm	G	Ultra high precision		S	Stainless steel		G	Grating closed-loop		N	Standard outgoing line		5	5-phase motor		81	0801		5	C5	

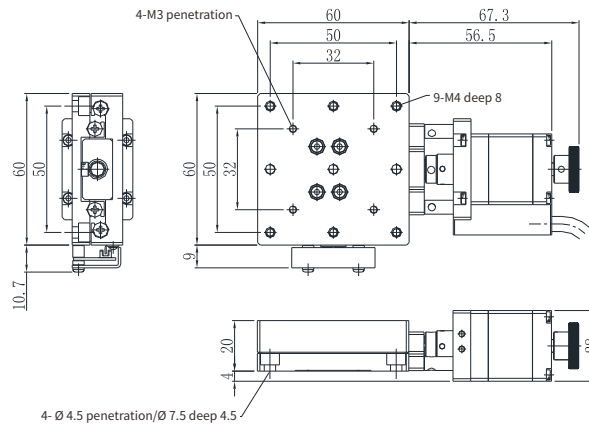
Model		YK-L6020G-SGN-5-815	YK-HL6020G-SGN-5-815	YK-HL6030G-SGN-5-815	YK-HL6050G-SGN-5-815
Mechanical Specifications	Table sizes	60*60mm		60*70mm	60*80mm
	Mobile travel	± 10 mm		± 15 mm	± 25 mm
	Body weight	0.7Kg	0.75Kg	0.85Kg	0.95Kg
	Type of lead screw	Ball leadscrew guide rail			
	Screw parameters	Diameter 6mm, pitch 1mm	Diameter 8mm, pitch 1mm		
	Slide	Linear ball guide			
	Precision class	Ultra high precision level			
	Wiring method	Standard outgoing line			
Precision specifications	Material	S=SUS-440C			
	Resolution	0.1 μ m			
	Repeated positioning accuracy	4 μ m			
	Positioning accuracy	Grade G ± 0.3 μ m	5 μ m		
	Reverse backlash	0.5 μ m			
	Straightness	5 μ m			
	Parallelism	20 μ m			
	Move parallelism	10 μ m			
	Drive current	1.2A			
	Maximum speed	10mm/s			
Electrical specifications	Load	98N(10kgf)			
	Motor	PKP523N12B (Dongfang Motor)			
	Limit sensor	NPN Normally Closed			
	Origin sensor	NPN Normally Closed			
	Supporting driver	Please contact our engineer			
	Accessories	See P345			

Grating fine adjustment table (60 series)

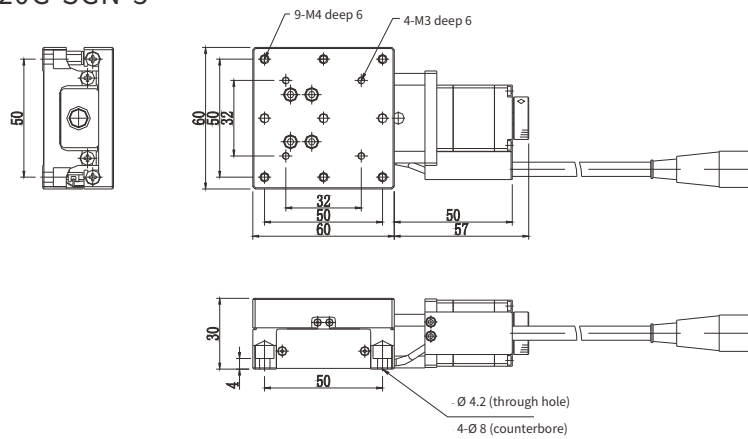
Physical image



Three Views YK-L6020G-SGN-5

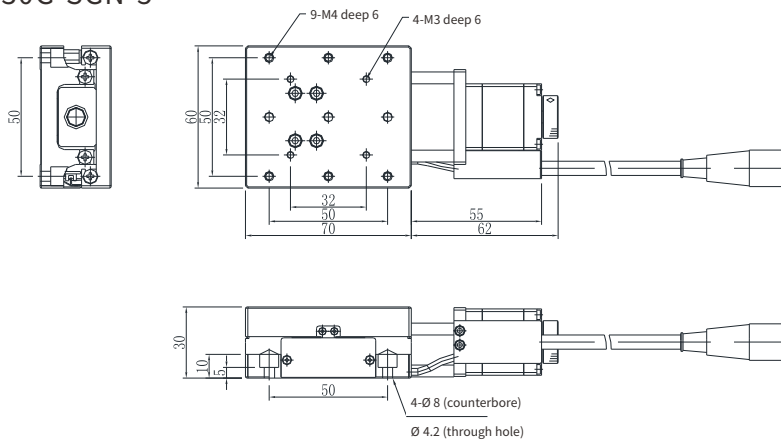


Three Views YK-HL6020G-SGN-5

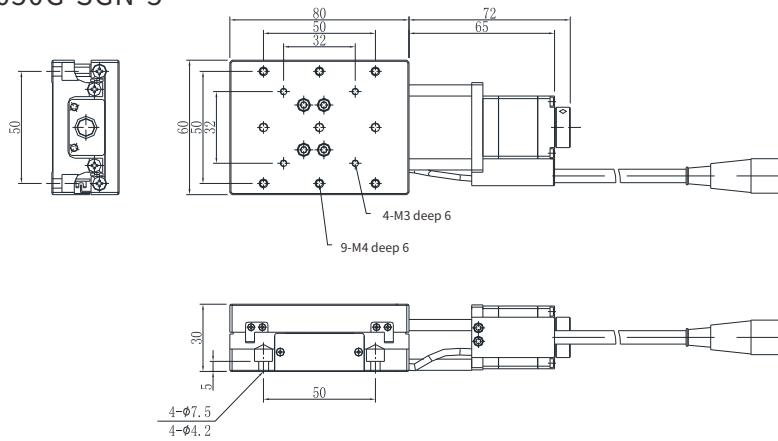


Grating fine adjustment table (60 series)

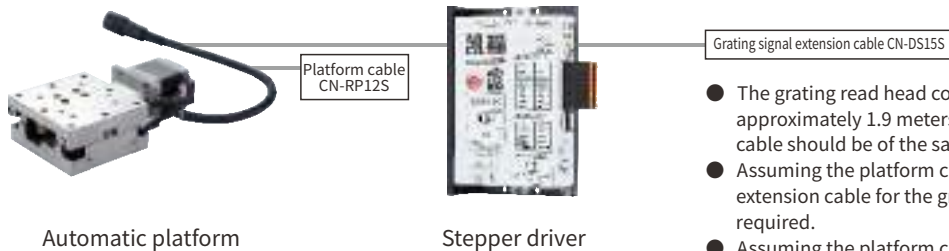
Three Views YK-HL6030G-SGN-5



Three Views YK-HL6050G-SGN-5



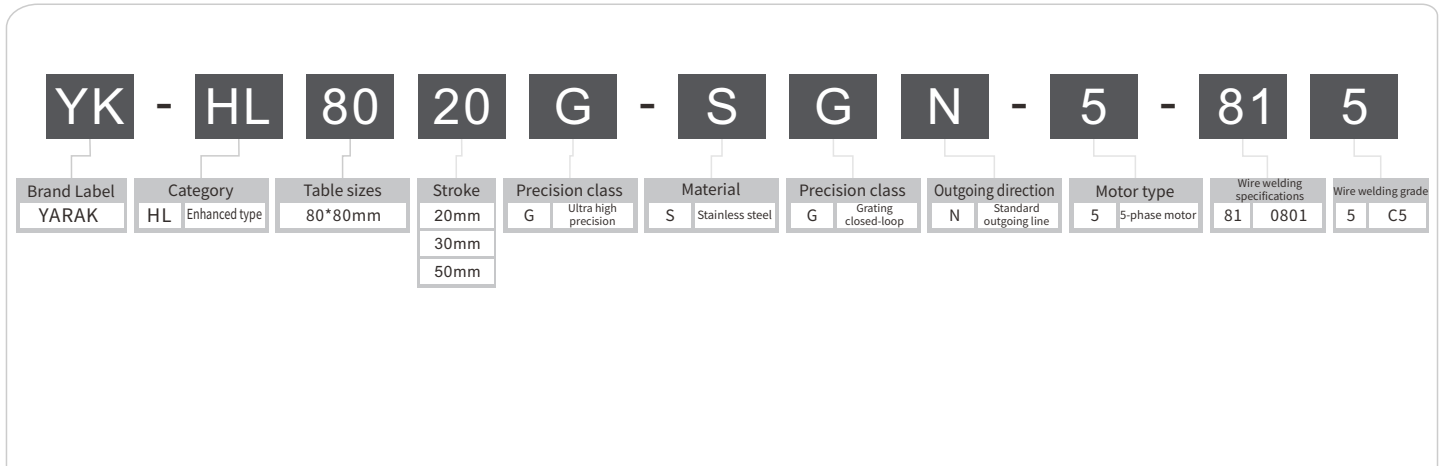
System components



- The grating read head comes with a built-in cable of approximately 1.9 meters in length, and the platform cable should be of the same length as the grating cable.
- Assuming the platform cable is 3 meters long, an extension cable for the grating cable of 1 meter is required.
- Assuming the platform cable is 2 meters long, an extension cable for the grating cable of 0.2 meters is required.

Grating fine adjustment table (80 series)

Model descriptions



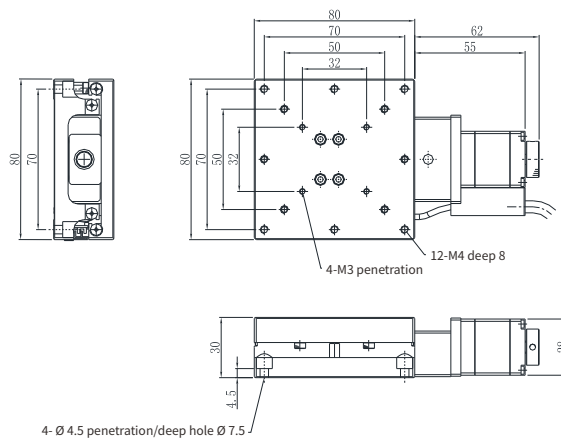
Model		YK-HL8020G-SGN-5-815	YK-HL8030G-SGN-5-815	YK-HL8050G-SGN-5-815
Mechanical Specifications	Table sizes	80*80mm		
	Mobile travel	±10mm	±15mm	±25mm
	Body weight	1.2Kg		
	Type of lead screw	Ball leadscrew		
	Screw parameters	Diameter 8mm, pitch 1mm		
	Slide	Linear ball guide		
	Precision class	Ultra high precision level		
	Wiring method	Standard outgoing line		
Precision specifications	Material	S=SUS-440C		
	Resolution	0.1μm		
	Repeated positioning accuracy	Grade G ± 0.3 μm		
	Positioning accuracy	4μm		5μm
	Reverse backlash	0.5 m		
	Straightness	5 m		
	Parallelism	20 m		
	Drive current	1.2A		
Electrical specifications	Maximum speed	10mm/s		
	Load	98N(10kgf)		
	Motor	PKP523N12B (Dongfang Motor)		
	Limit sensor	NPN Normally Closed		
	Origin sensor	NPN Normally Closed		
	Supporting driver	Please contact our engineer		
	Accessories	See P345		

Grating fine adjustment table (80 series)

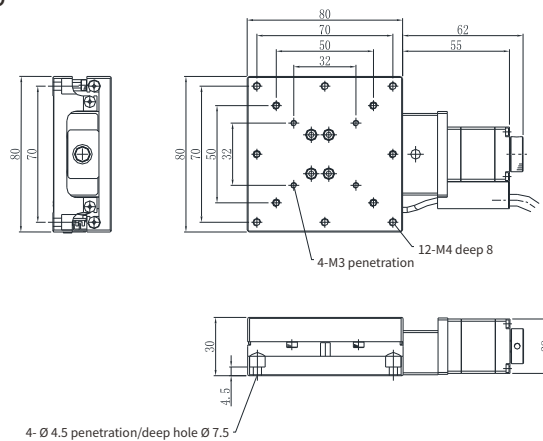
Physical image



Three Views YK-L8020G-SGN-5

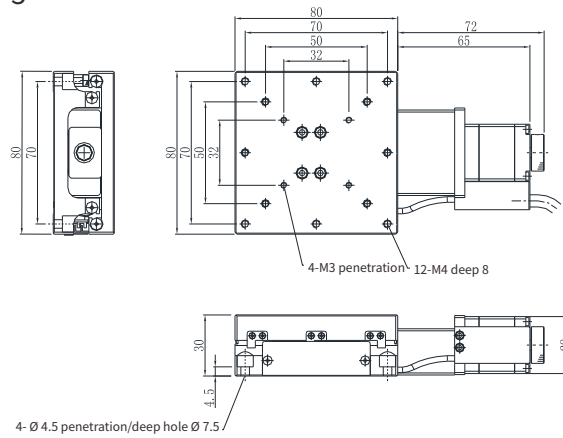


Three Views YK-HL8030G-SGN-5

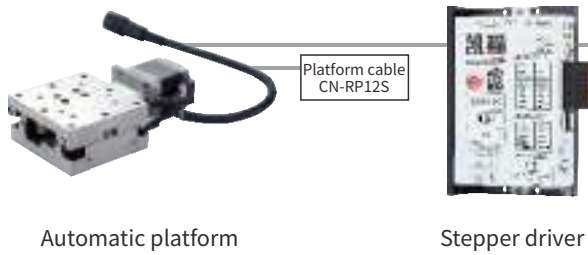


Grating fine adjustment table (80 series)

Three Views YK-HL6050G-SGN-5



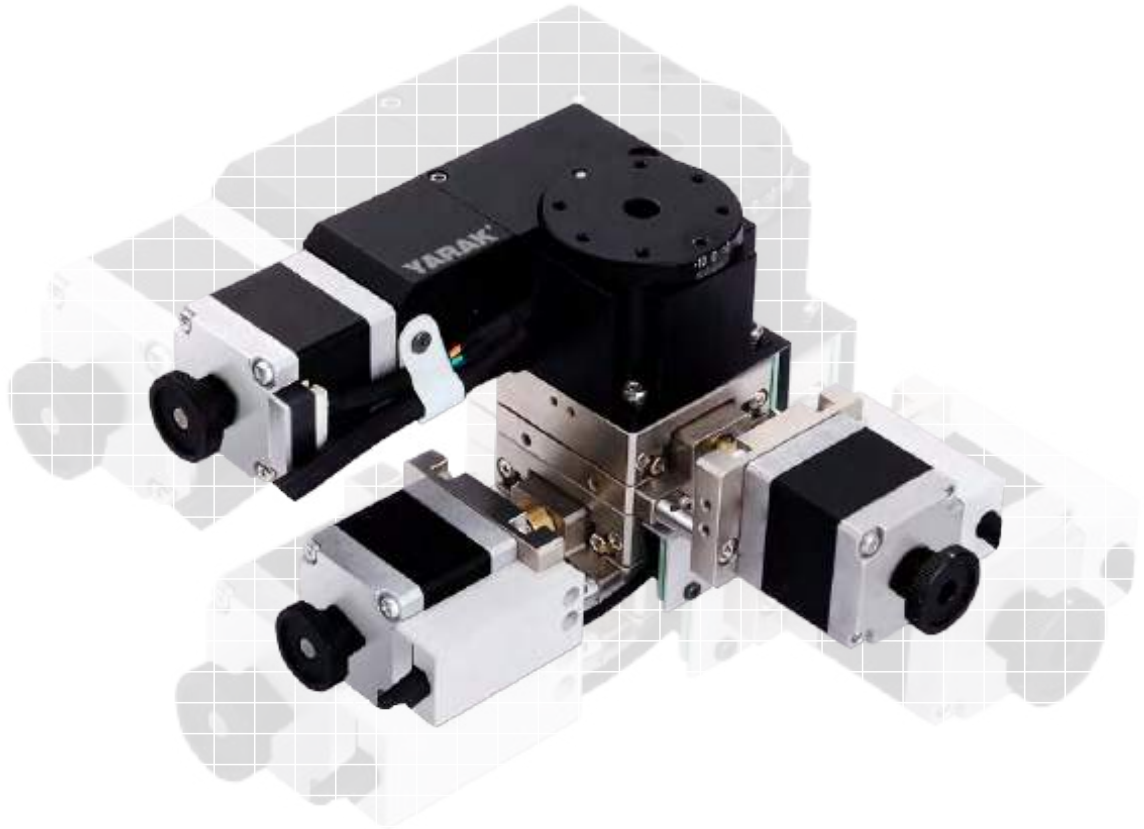
System components



Grating signal extension cable CN-DS15S

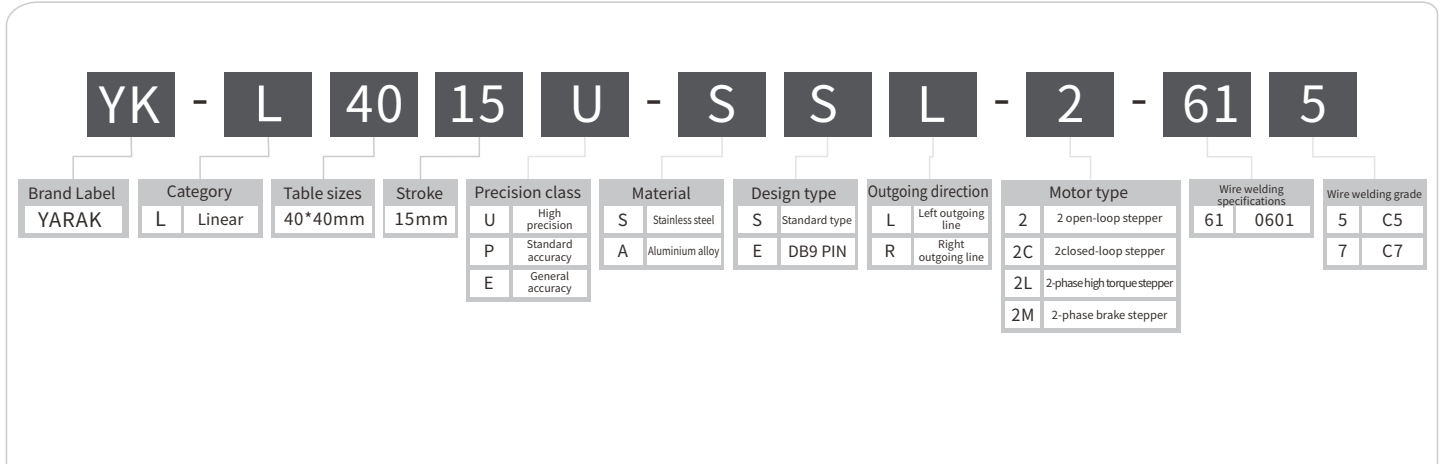
- The grating read head comes with a built-in cable of approximately 1.9 meters in length, and the platform cable should be of the same length as the grating cable.
- Assuming the platform cable is 3 meters long, an extension cable for the grating cable of 1 meter is required.
- Assuming the platform cable is 2 meters long, an extension cable for the grating cable of 0.2 meters is required.

Precision electric fine tuning table



XY type XYZ type
Linear Rotation type Arc pendulum type lifting type

Model descriptions



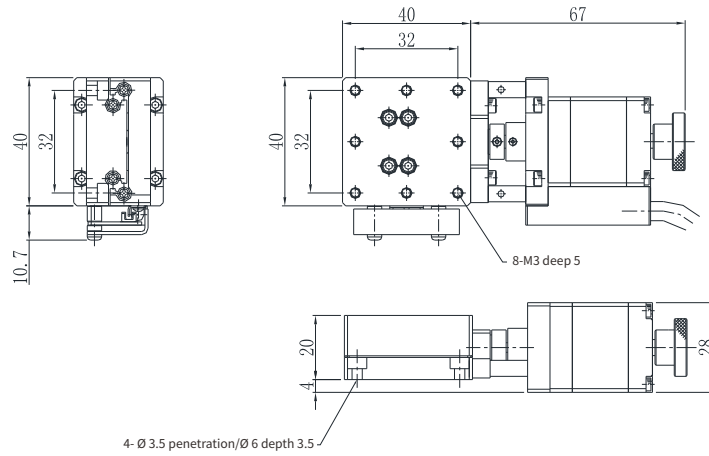
Model		YK-L4015 series		
Mechanical Specifications	Table sizes	40*40mm		
	Mobile travel	±7.5mm		
	Body weight	0.4Kg		
	Type of lead screw	Ball leadscrew		
	Screw parameters	Diameter 6mm, pitch 1mm		
	Slide	Linear ball guide		
	Precision class	High precision	Standard accuracy	General accuracy
	Screw level	C5	C7	
	Wiring method	Left outlet/right outlet		
	Material	S=SUS-440C	A= Aluminium alloy	
Precision specifications	Resolution(Full/Half)	2-phase stepper 5 μm/2.5 μm		
	Repeated positioning accuracy	U level ± 1 μm	P-level ± 3 μ M	Grade E ± 10 μ M
	Positioning accuracy	10μm	20μm	30μm
	Reverse backlash	2.5μm		
	Straightness	15μm		
	Parallelism	20μm		
	Drive current	0.7A		
	Maximum speed	10mm/s		
	Load	98N(10kgf)		
	Motor open loop	STP-28D1012-01		
Electrical specifications	+ -Limit sensor	NPN Normally Closed		
	Origin sensor	NPN Normally Closed		
	Voltage of inductor	24V		
Optional	Motor closed loop	Y07-28D1-3401D-E1000		

YK-L4015

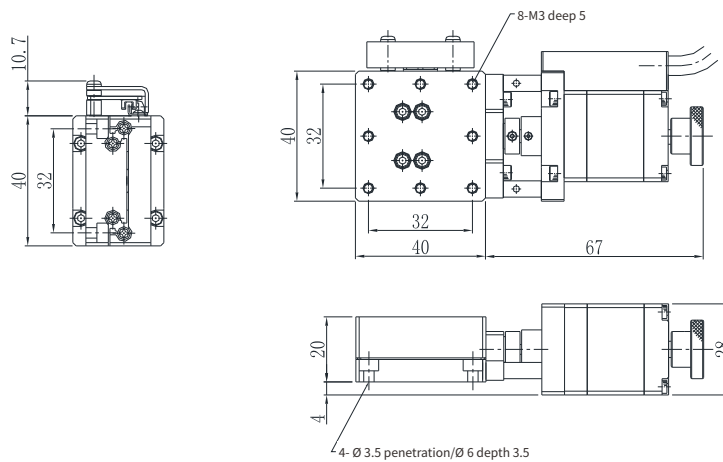
Physical image



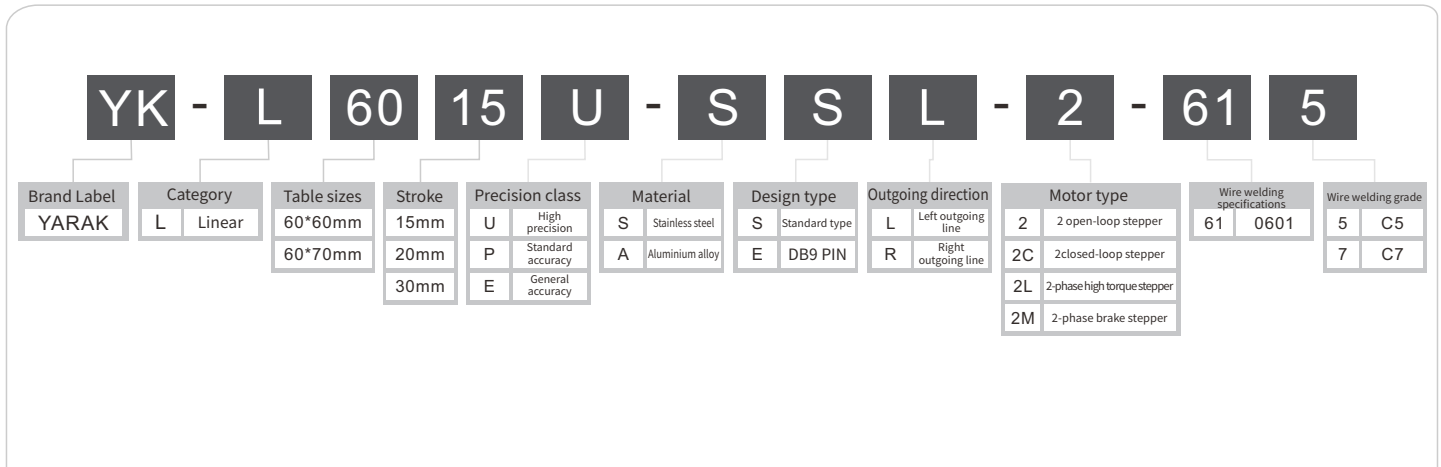
Three Views YK-L4015-SSL-2



Three Views YK-L4015-SSL-2



Model descriptions



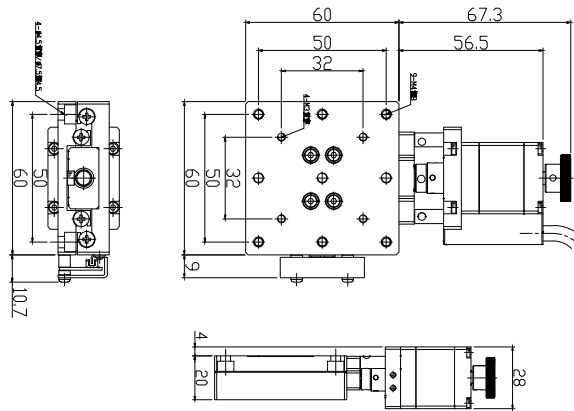
Model		YK-L6015 series			YK-L6020 series			YK-L6030 series			
Mechanical specifications	Table sizes	60*60mm						60*70mm			
	Mobile travel	±7.5mm			±10mm			±15mm			
	Body weight	0.4Kg			0.6Kg						
	Type of lead screw	Ball leadscrew									
	Screw parameters	Diameter 6mm, pitch 1mm									
	Slide	Linear ball guide									
	Precision class	High precision	Standard accuracy	General accuracy	High precision	Standard accuracy	General accuracy	High precision	Standard accuracy	General accuracy	
	Screw level	C5		C7		C5		C7		C5	
	Wiring method	Left outlet/right outlet									
	Material	S=SUS-440C	A= Aluminium alloy		S=SUS-440C	A= Aluminium alloy		S=SUS-440C	A= Aluminium alloy		
Precision specifications	Resolution(Full/Half)	2相步進 5µm/2.5µm									
	Repeated positioning accuracy	U level ± 1 µm	P-level ± 3 µm	Grade E ± 10 µm	U level ± 1 µm	P-level ± 3 µm	Grade E ± 10 µm	U level ± 1 µm	P-level ± 3 µm	Grade E ± 10 µm	
	Positioning accuracy	10µm	20µm	30µm	10µm	20µm	30µm	10µm	20µm	30µm	
	Reverse backlash	2.5µm									
	Straightness	15µm									
	Parallelism	20µm									
	Drive current	0.7A									
	Maximum speed	10mm/s									
Load	98N(10kgf)										
Electrical specifications	Motor open loop	STP-28D1012-01									
	+Limit sensor	NPN Normally Closed									
	Origin sensor	NPN Normally Closed									
	Voltage of inductor	24V									
Optional	Motor closed loop	Y07-28D1-3401D-E1000									

YK-L6015

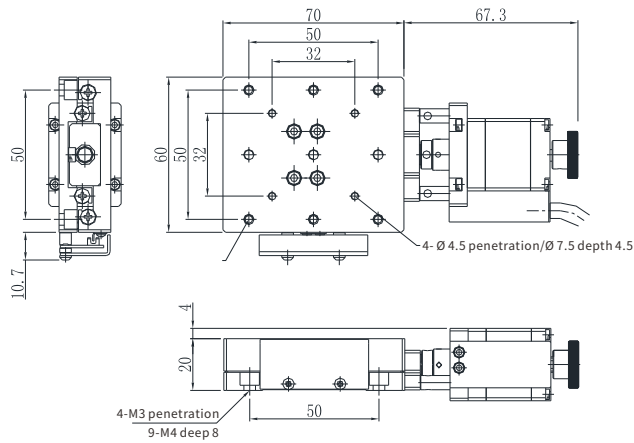
Physical image



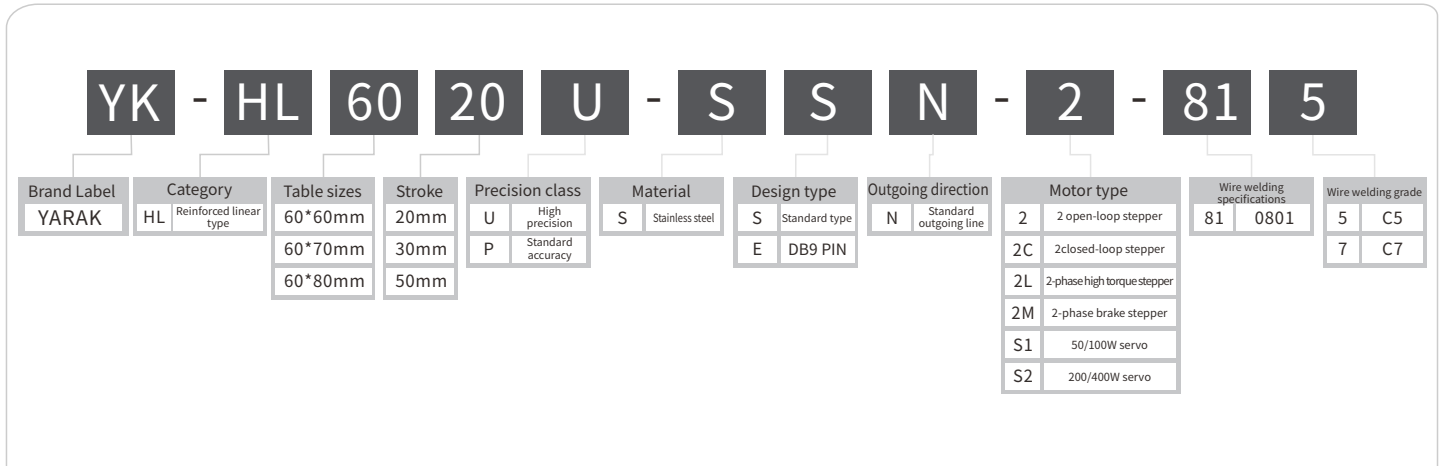
Three Views YK-L6015 / YK-L6020



Three Views YK-L6030



Model descriptions



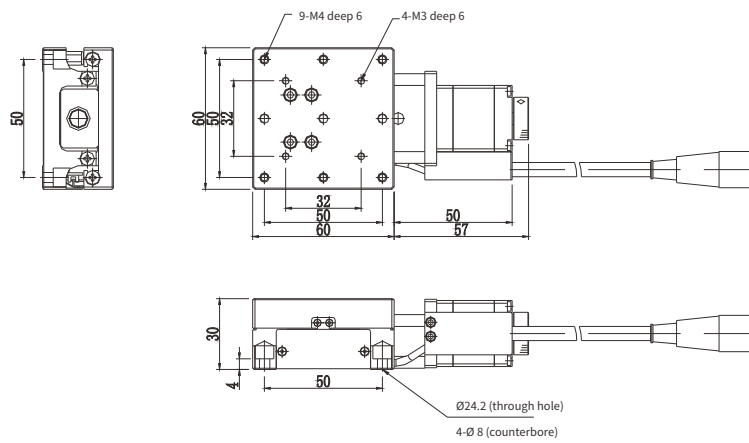
Model		YK-HL6020 series		YK-HL6030 series		YK-HL6050 series	
Mechanical Specifications	Table sizes	60*60mm		60*70mm		60*80mm	
	Mobile travel	±10mm		±15mm		±25mm	
	Body weight	0.75Kg				0.85Kg	
	Type of lead screw	Ball leadscrew					
	Screw parameters	Diameter 8mm, pitch 1mm					
	Slide	Linear ball guide					
	Precision class	High precision	Standard accuracy	High precision	Standard accuracy	High precision	Standard accuracy
	Screw level	C5	C7	C5	C7	C5	C7
	Wiring method	Fixed left outgoing line					
	Material	S=SUS-440C					
Precision specifications	Resolution(Full/Half)	2-phase stepper 5 μm/2.5 μm					
	Repeated positioning accuracy	U level ± 1 μm	P-level ± 3 μ M	U level ± 1 μm	P-level ± 3 μ M	U level ± 1 μm	P-level ± 3 μ M
	Positioning accuracy	10μm	20μm	10μm	20μm	10μm	20μm
	Reverse backlash	2.5μm					
	Straightness	10μm					
	Parallelism	15μm					
	Drive current	0.7A					
	Maximum speed	10mm/s					
	Load	147N(15kgf)					
	Motor open loop	STP-28D1012-01					
Electrical specifications	+ -Limit sensor	NPN Normally Closed					
	Origin sensor	NPN Normally Closed					
	Voltage of inductor	24V					
	Optional	Motor closed loop	Y07-28D1-3401D-E1000				

YK-HL6020

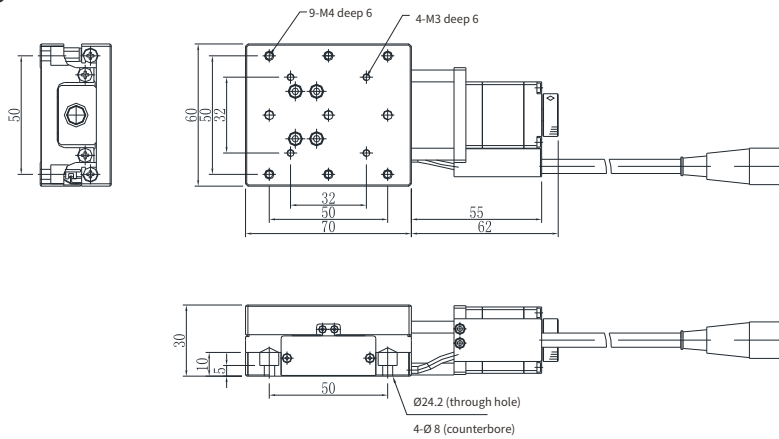
Physical image



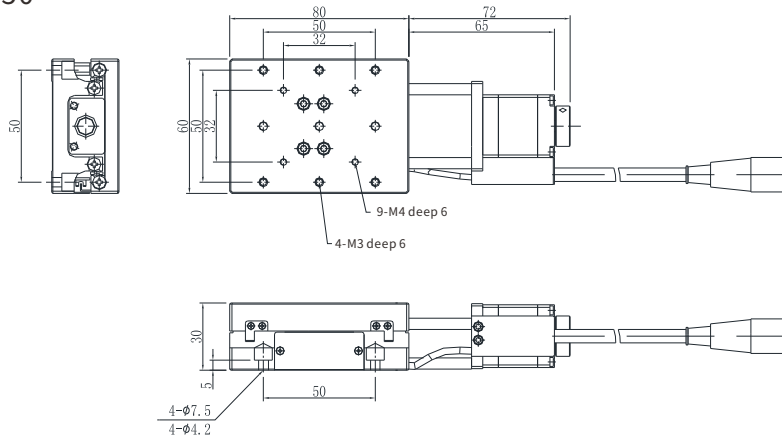
Three Views YK-HL6020



Three Views YK-HL6030

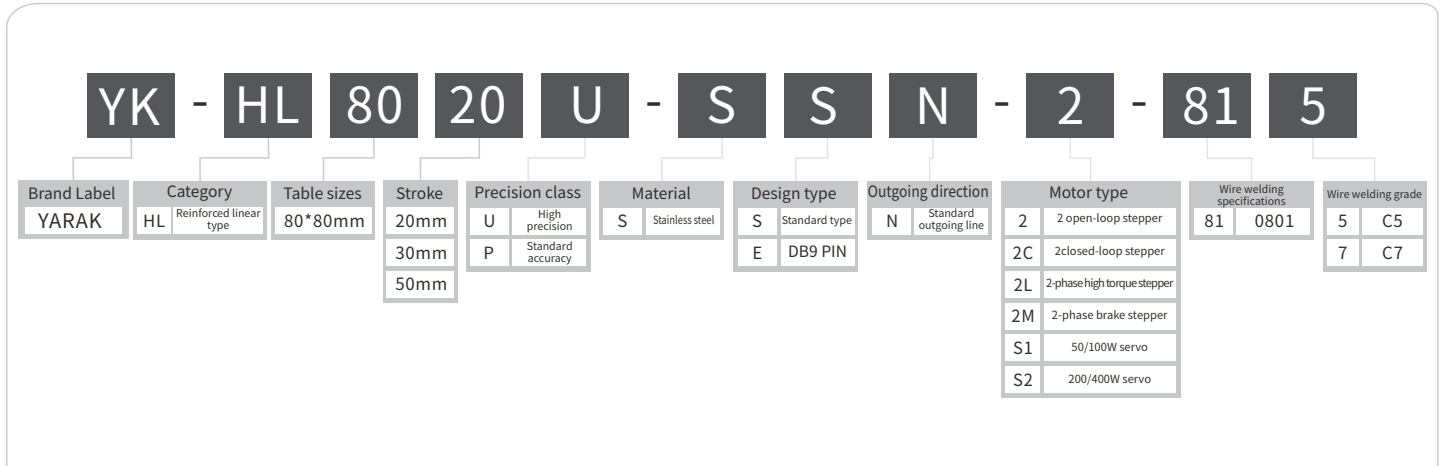


Three Views YK-HL6050



YK-HL8020

Model descriptions

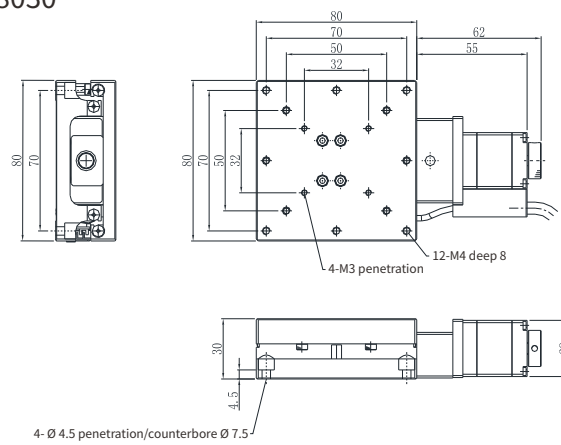


Model		YK-HL8020 series		YK-HL8030 series		YK-HL8050 series	
Mechanical Specifications	Table sizes	80*80mm					
	Mobile travel	±10mm		±15mm		±25mm	
	Body weight	1.1Kg					
	Type of lead screw	Ball leadscrew					
	Screw parameters	Diameter 8mm, pitch 1mm					
	Slide	Linear ball guide					
	Precision class	High precision	Standard accuracy	High precision	Standard accuracy	High precision	Standard accuracy
	Screw level	C5	C7	C5	C7	C5	C7
	Wiring method	Fixed left outgoing line					
	Material	S=SUS-440C					
Precision specifications	Resolution(Full/Half)	2-phase stepper 5 μm/2.5 μm					
	Repeated positioning accuracy	U level ± 1 μm	P-level ± 3 μ M	U level ± 1 μm	P-level ± 3 μ M	U level ± 1 μm	P-level ± 3 μ M
	Positioning accuracy	10μm	20μm	10μm	20μm	10μm	20μm
	Reverse backlash	2.5μm					
	Straightness	10μm					
	Parallelism	30μm					
	Drive current	0.7A					
	Maximum speed	10mm/s					
Electrical specifications	Load	147N(15kgf)					
	Motor open loop	STP-28D1012-01					
	+ -Limit sensor	NPN Normally Closed					
	Origin sensor	NPN Normally Closed					
	Voltage of inductor	24V					
Optional	Motor closed loop	Y07-28D1-3401D-E1000					

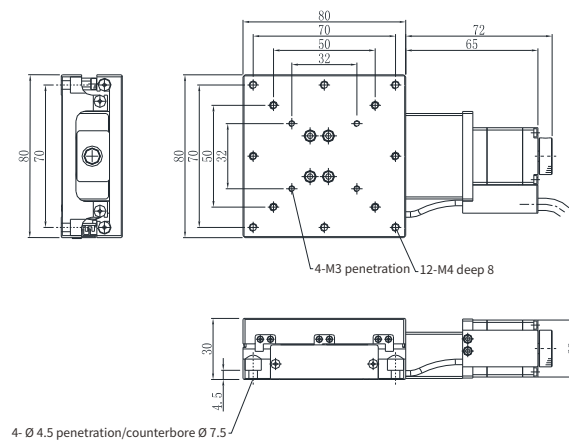
Physical image



Three Views YK-HL8020/YK-HL8030

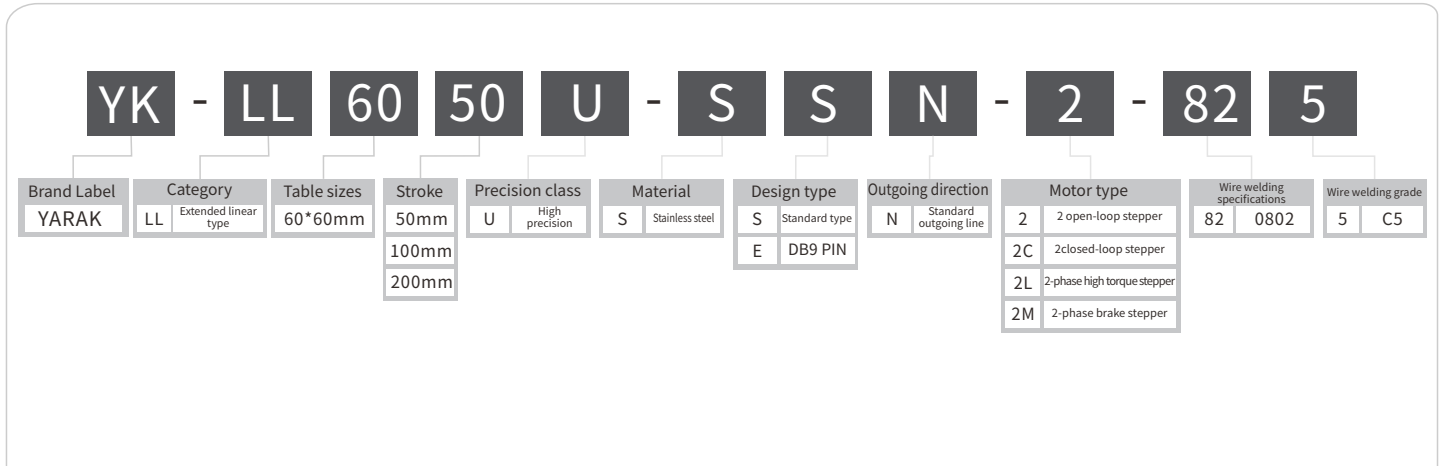


Three Views YK-HL8050



YK-LL6050

Model descriptions

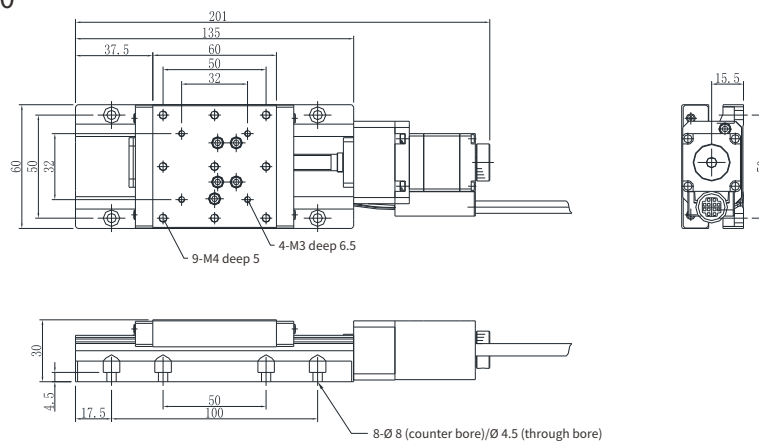


Model		YK-LL6050 series	YK-LL60100 series	YK-LL60200 series
Mechanical Specifications	Table sizes	60*60mm		
	Mobile travel	±25mm	±50mm	±100mm
	Body weight	1.1Kg	1.4Kg	1.7Kg
	Type of lead screw	Ball leadscrew		
	Screw parameters	Diameter 8mm, pitch 2mm		
	Slide	Linear ball guide		
	Precision class	High precision		
	Screw level	C5		
	Wiring method	Fixed right outgoing line		
	Material	S=SUS-440C		
Precision specifications	Resolution(Full/Half)	2-phase stepper 10 m/5 m		
	Repeated positioning accuracy	U level ± 1 m		
	Positioning accuracy	15µm	25µm	
	Reverse backlash	2µm		
	Straightness	10µm	10µm	10µm
	Parallelism	20µm	30µm	
	Drive current	0.7A		
	Maximum speed	20mm/s		
Electrical specifications	Load	147N(15kgf)		
	Motor open loop	STP-28D1012-01		
	+ -Limit sensor	NPN Normally Closed		
	Origin sensor	NPN Normally Closed		
	Voltage of inductor	24V		
Optional	Motor closed loop	Y07-28D1-3401D-E1000		

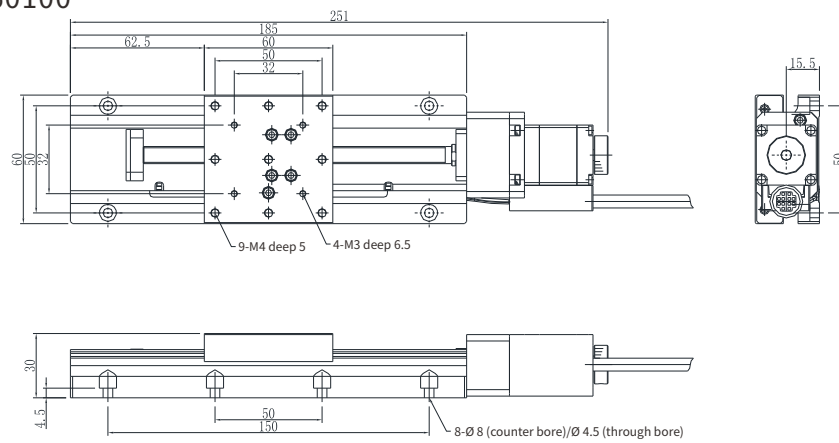
Physical image



Three Views YK-LL6050

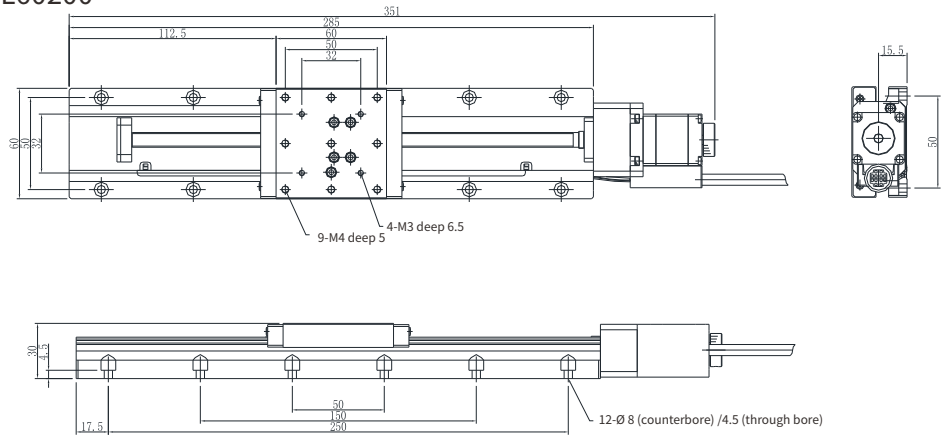


Three Views YK-LL60100

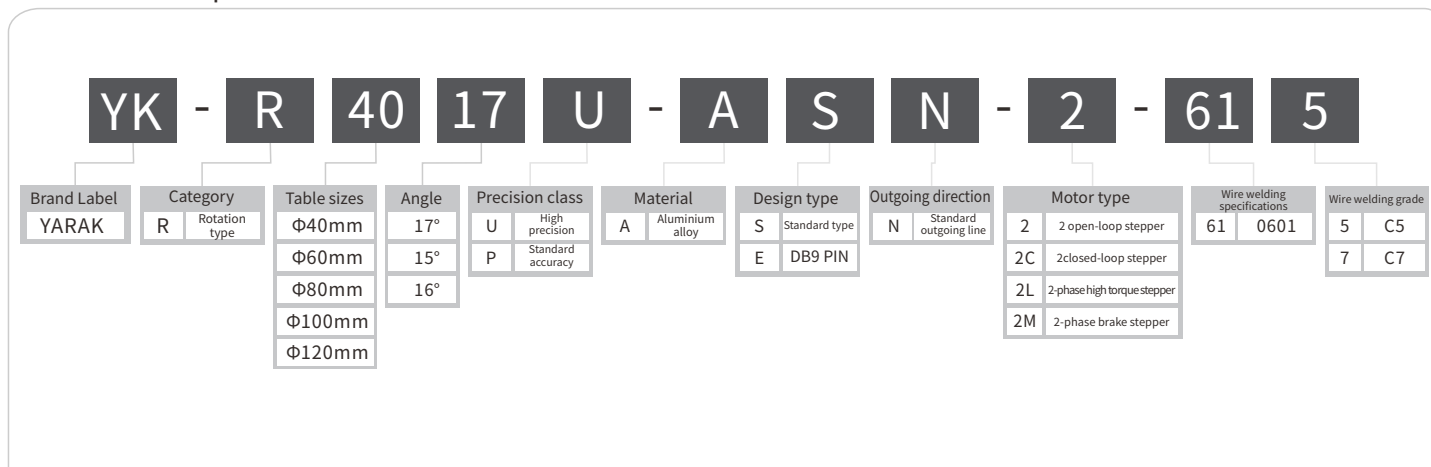


YK-LL60200

Three Views YK-LL60200



Model descriptions



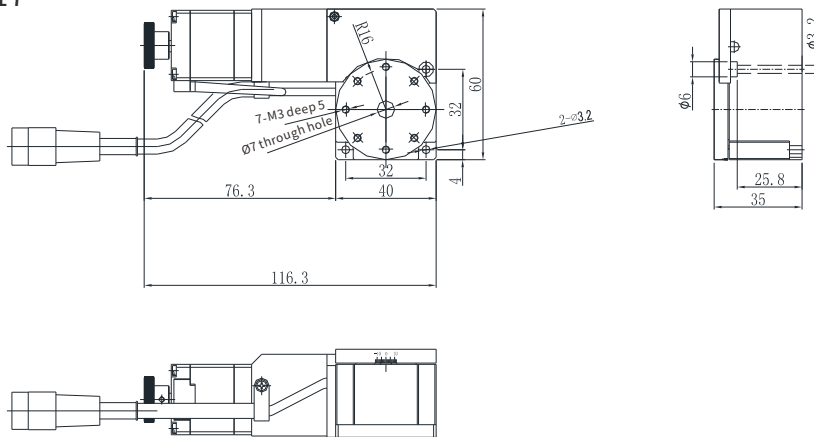
Model		YK-R4017 series		YK-R6015 series		YK-R8016 series		YK-R10016 series		YK-R12016 series	
Mechanical specifications	Table sizes	Φ40mm		Φ60mm		Φ80mm		Φ100mm		Φ120mm	
	Mobile travel	±8.5°		±7.5°				±8°			
	Body weight	0.4Kg		0.6Kg		0.8Kg		1.2Kg		1.8Kg	
	Type of lead screw	Ball leadscrew									
	Screw parameters	Diameter 6mm, pitch 1mm									
	Slide	Linear ball guide									
	Precision class	High precision	Standard accuracy	High precision	Standard accuracy	High precision	Standard accuracy	High precision	Standard accuracy	High precision	Standard accuracy
	Screw level	C5	C7	C5	C7	C5	C7	C5	C7	C5	C7
	Wiring method	/									
	Material	A= Aluminium alloy									
Precision specifications	Resolution(Full/Half)	0.01685°/0.008425°		0.0106°/0.0053°		0.00775°/0.003875°		0.0061°/0.00305°		0.0052°/0.0026°	
	Repeated positioning accuracy	U level ±0.005°	P level ±0.01°	U level ±0.005°	P level ±0.01°	U level ±0.005°	P level ±0.01°	U level ±0.005°	P level ±0.01°	U level ±0.005°	P level ±0.01°
	Reverse backlash	0.005°									
	Concentricity	0.03°									
	Face runout	0.05°									
	Drive current	0.7A									
	Maximum speed	307s									
	Load	39.2N(4kgf)									
Electrical specifications	Motor open loop	STP-28D1012-01									
	+Limit sensor	NPN Normally Closed									
	Origin sensor	NPN Normally Closed									
	Voltage of inductor	24V									
Optional	Motor closed loop	Y07-28D1-3401D-E1000									

YK-R4017

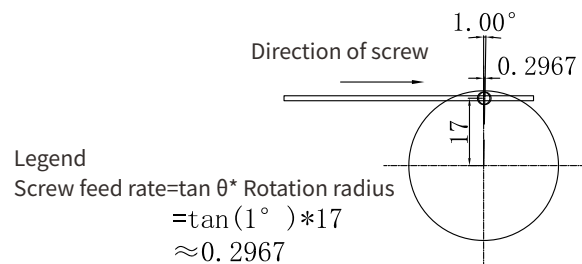
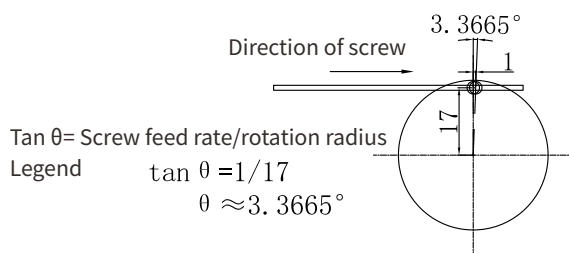
Physical image YK-R4017



Three Views YK-R4017



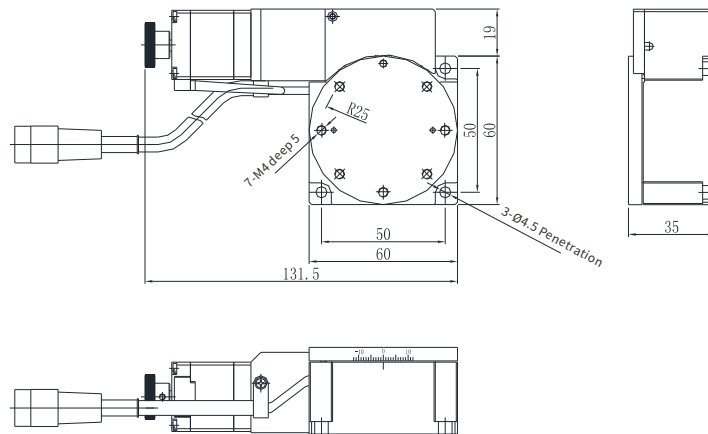
Algorithm diagram



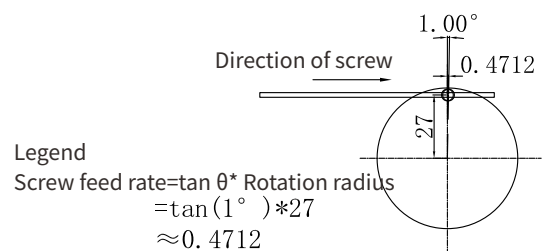
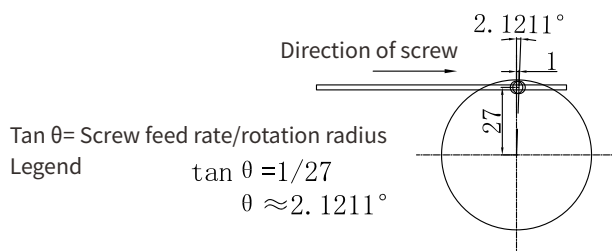
Physical image YK-R6015



Three Views YK-R6015



Algorithm diagram

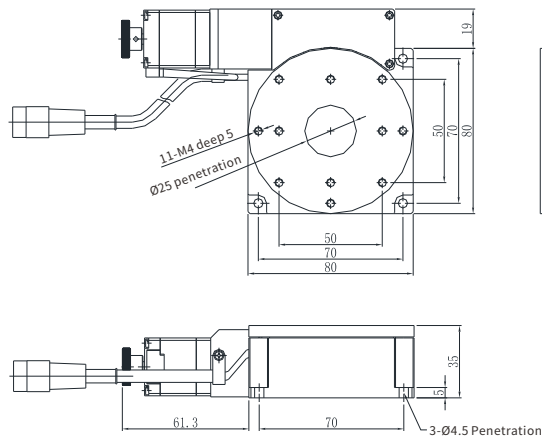


YK-R8016

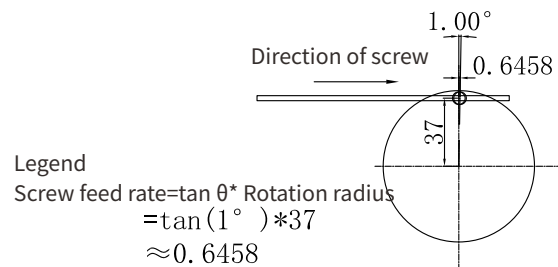
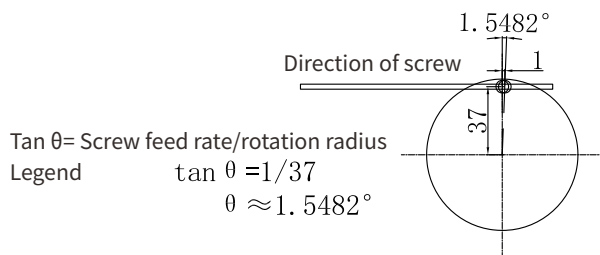
Physical image YK-R8016



Three Views YK-R8016



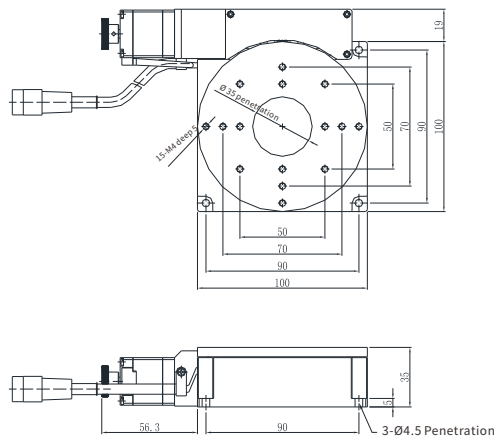
Algorithm diagram



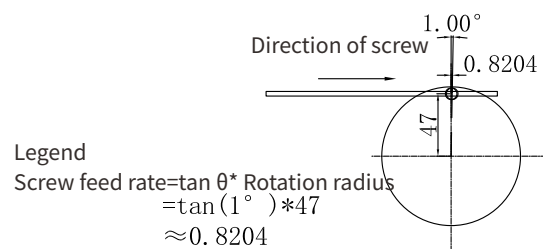
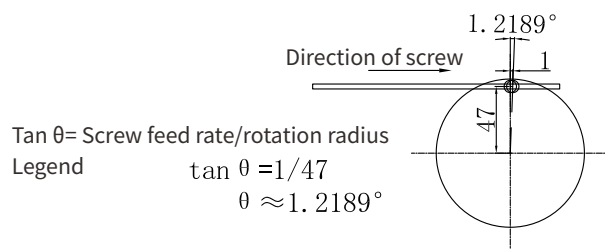
Physical image YK-R10016



Three Views YK-R10016



Algorithm diagram

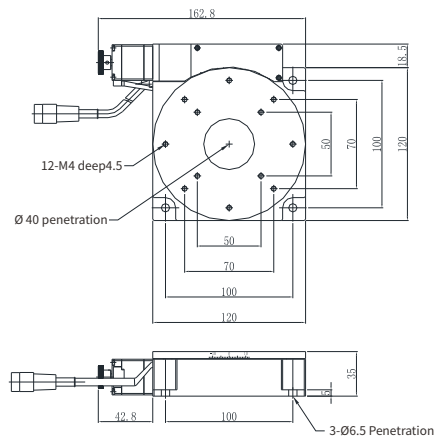


YK-R12016

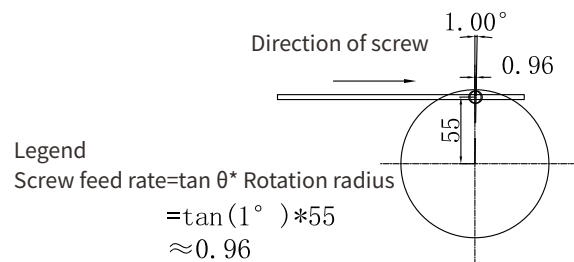
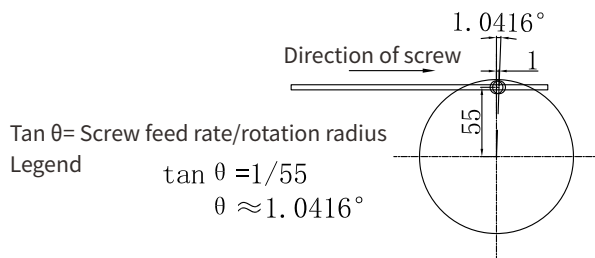
Physical image YK-R12016



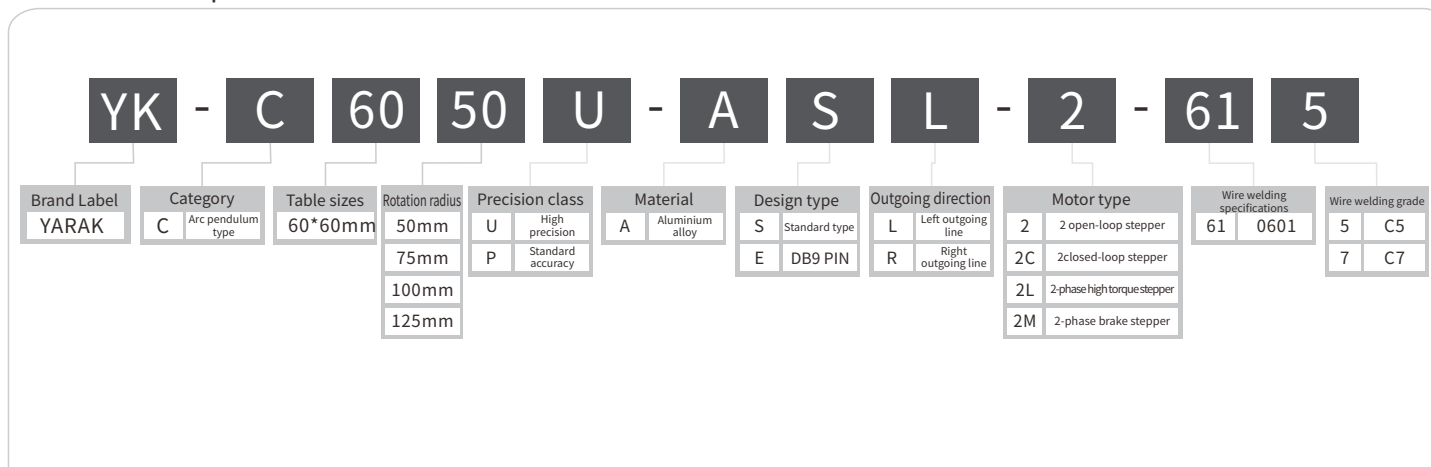
Three Views YK-R12016



Algorithm diagram



Model descriptions



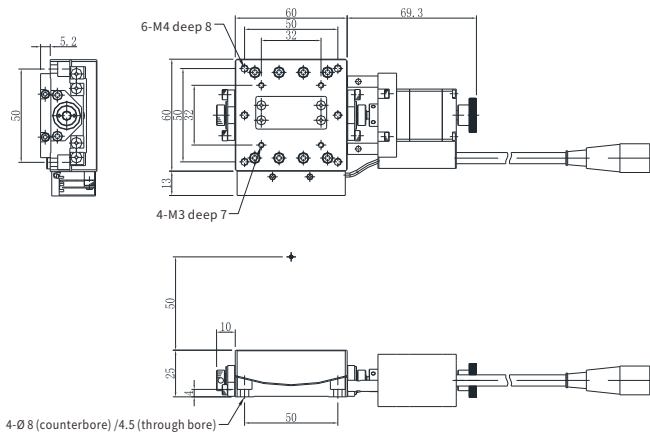
Model	YK-C6050 series		YK-C6075 series		YK-C60100 series		YK-C60125 series		
Mechanical Specifications	Table sizes	60*60mm							
	Mobile travel	±5.5°							
	Body weight	0.5Kg							
	Type of lead screw	Ball leadscrew							
	Screw parameters	Diameter 6mm, pitch 1mm							
	Slide	Linear ball guide							
	Precision class	High precision	Standard accuracy	High precision	Standard accuracy	High precision	Standard accuracy	High precision	Standard accuracy
	Screw level	C5	C7	C5	C7	C5	C7	C5	C7
	Wiring method	Left outlet/right outlet							
	Material	A= Aluminium alloy							
Precision specifications	Resolution(Full/Half)	0.0051°/0.00255°		0.0035°/0.00175°		0.0027°/0.00135°		0.00218°/0.00109°	
	Repeated positioning accuracy	U level ±0.005°	P level ±0.01°	U level ±0.005°	P level ±0.01°	U level ±0.005°	P level ±0.01°	U level ±0.005°	P level ±0.01°
	Reverse backlash	0.005°							
	Rotating center	50±0.4mm		75±0.4mm		100±0.4mm		125±0.4mm	
	Face runout	/							
	Drive current	0.7A							
	Maximum speed	10°/s		7°/s		5.5°/s		4.5°/s	
Electrical specifications	Load	49N(5kgf)							
	Motor open loop	STP-28D1012-01							
	+Limit sensor	NPN Normally Closed							
	Origin sensor	NPN Normally Closed							
	Voltage of inductor	24V							
Optional	Motor closed loop	Y07-28D1-3401D-E1000							

YK-C6050

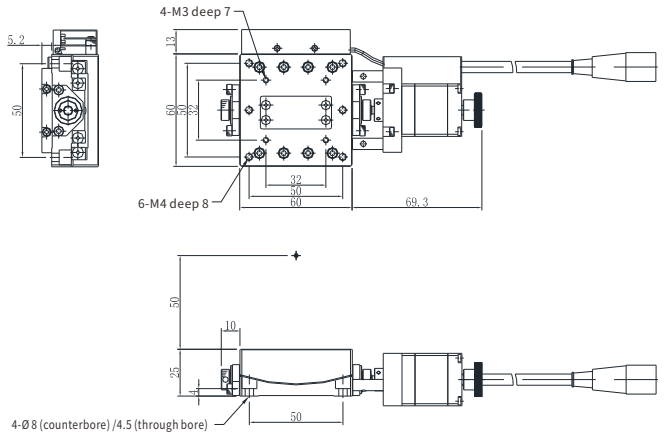
Physical image YK-C6050



Three Views YK-C6050U-ASL-2-615



Three Views YK-C6050U-ASR-2-615



Algorithm diagram

Tan θ = Screw feed rate / rotation radius

Legend

$$\tan \theta = 1/56$$

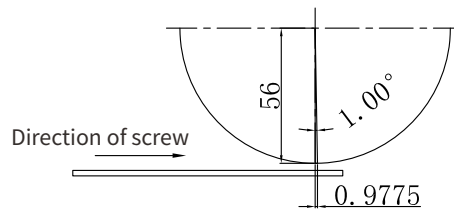
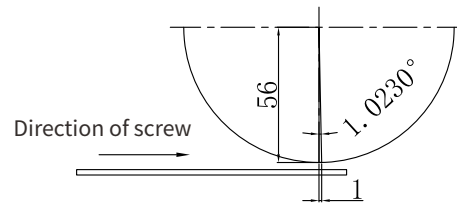
$$\theta \approx 1.0230^\circ$$

Legend

Screw feed rate = $\tan \theta \cdot$ Rotation radius

$$= \tan(1^\circ) \cdot 56$$

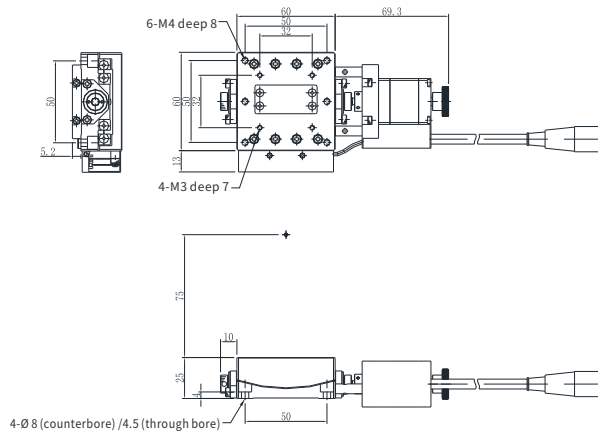
$$\approx 0.9775$$



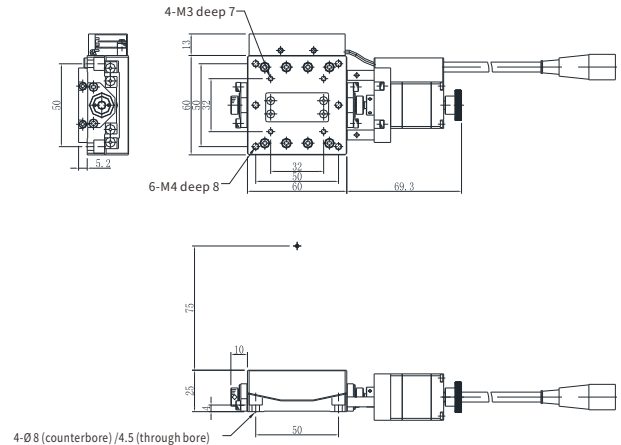
Physical image YK-C6075



Three Views YK-C6075U-ASL-2-615



Three Views YK-C6075U-ASR-2-615



Algorithm diagram

Tan θ = Screw feed rate/rotation radius
Legend

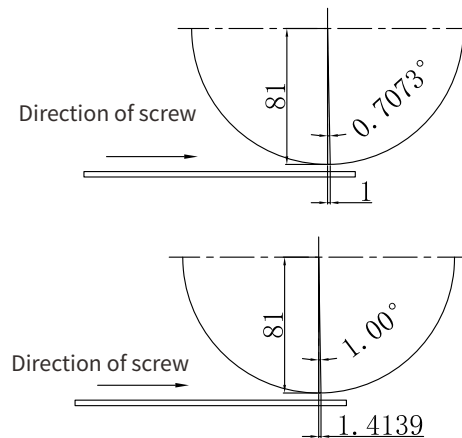
$$\tan \theta = 1/81$$

$$\theta \approx 0.7073^\circ$$

Legend
Screw feed rate = $\tan \theta$ * Rotation radius

$$= \tan(1^\circ) * 81$$

$$\approx 1.4139$$

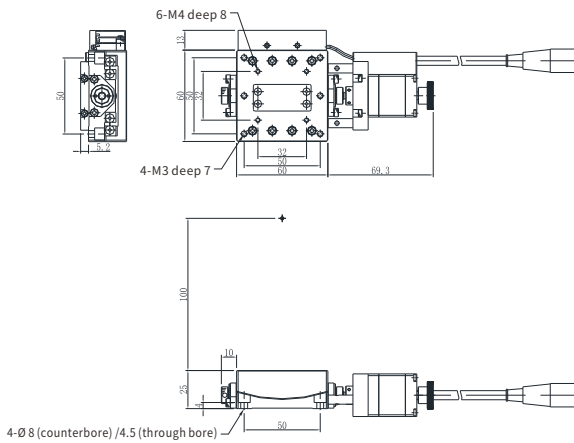


YK-C60100

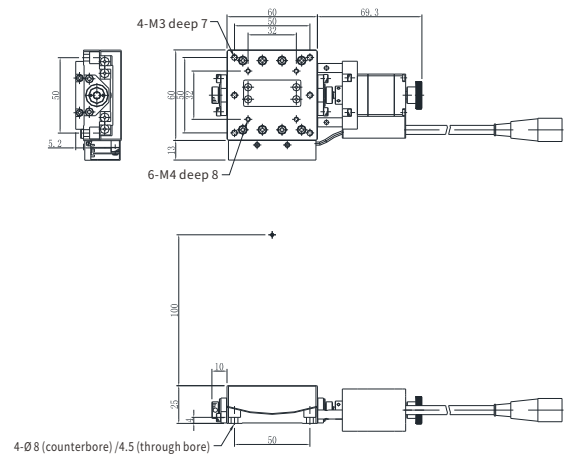
Physical image YK-C60100



Three Views YK-C60100U-ASL-2-615



Three Views YK-C60100U-ASR-2-615



Algorithm diagram

Tan θ = Screw feed rate/rotation radius
Legend

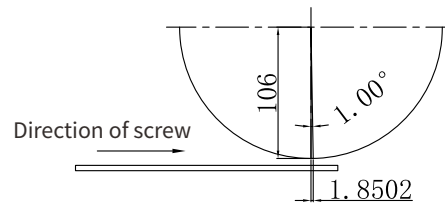
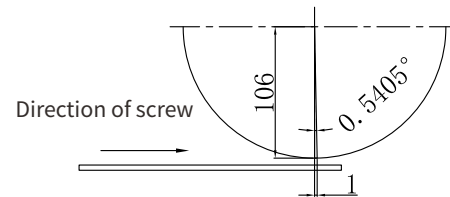
$$\tan \theta = 1/106$$

$$\theta \approx 0.5405^\circ$$

Legend
Screw feed rate = $\tan \theta \cdot$ Rotation radius

$$= \tan(1^\circ) \cdot 106$$

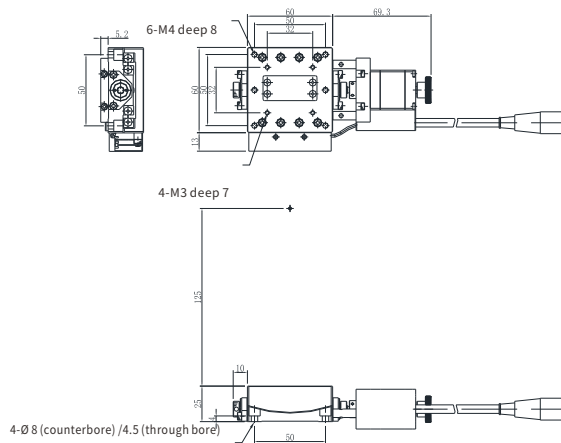
$$\approx 1.8502$$



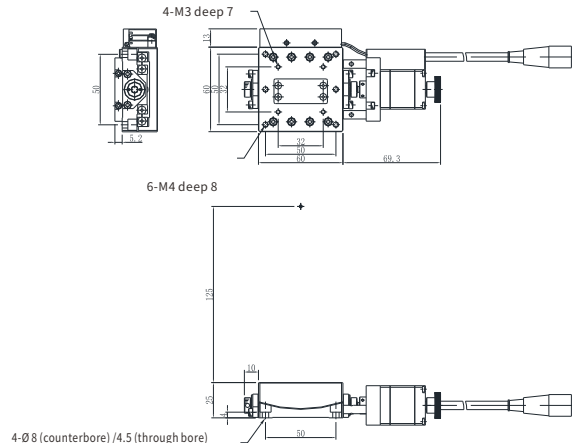
Physical image YK-C60125



Three Views YK-C60125U-ASL-2-615



Three Views YK-C60125U-ASR-2-615



Algorithm diagram

Tan θ = Screw feed rate / rotation radius
 Legend

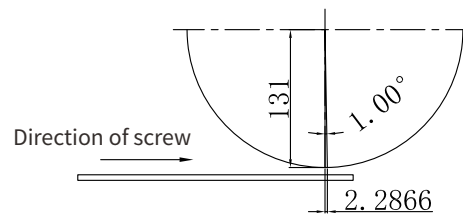
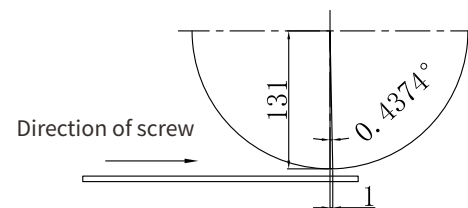
$$\tan \theta = 1/131$$

$$\theta \approx 0.4374^\circ$$

Legend
 Screw feed rate = tan θ * Rotation radius

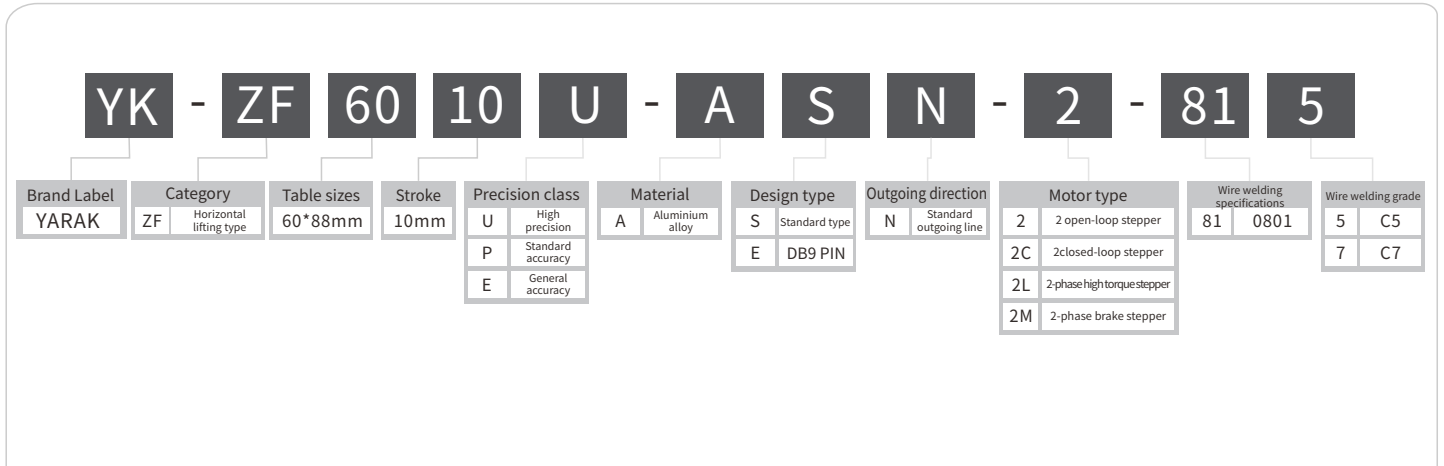
$$= \tan(1^\circ) * 131$$

$$\approx 2.2866$$



YK-ZF6010

Model descriptions

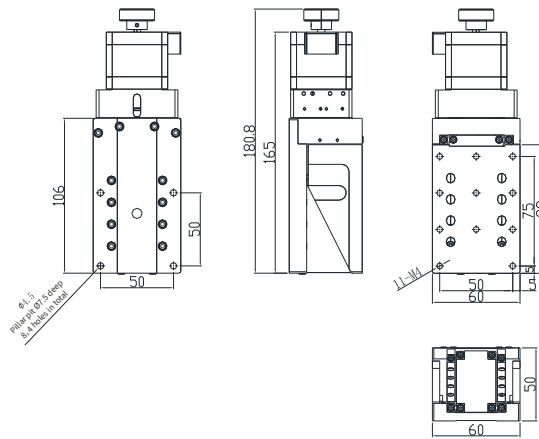


Model		YK-ZF6010 series		
Mechanical Specifications	Table sizes	60*88mm		
	Mobile travel	10mm		
	Body weight	0.86Kg		
	Type of lead screw	Ball leadscrew		
	Screw parameters	Diameter 8mm, pitch 1mm		
	Slide	Linear ball guide		
	Precision class	High precision	Standard accuracy	General accuracy
	Screw level	C5	C7	
	Wiring method	/		
	Material	A= Aluminium alloy		
Precision specifications	Resolution(Full/Half)	2.5µm/1.25µm		
	Repeated positioning accuracy	U level ± 1 µm	P-level ± 3 µ M	Grade E ± 10 µ M
	Positioning accuracy	10µm		
	Reverse backlash	/		
	Straightness	20µm		
	Parallelism	10µm		
	Drive current	0.7A		
	Maximum speed	8mm/s		
Electrical specifications	Load	5kg		
	Motor open loop	STP-28D1012-01		
	+Limit sensor	NPN Normally Closed		
	Origin sensor	NO		
	Voltage of inductor	24V		
Optional	Motor closed loop	Y07-28D1-3401D-E1000		

Physical image

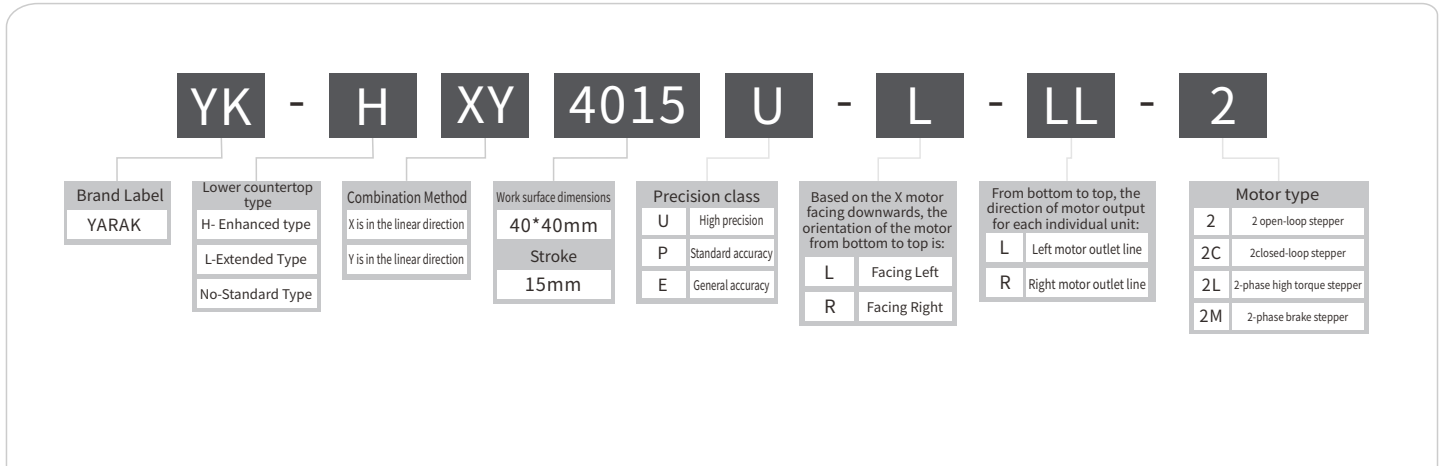


Three Views



YK-HXY4015

Model descriptions



Individual specifications

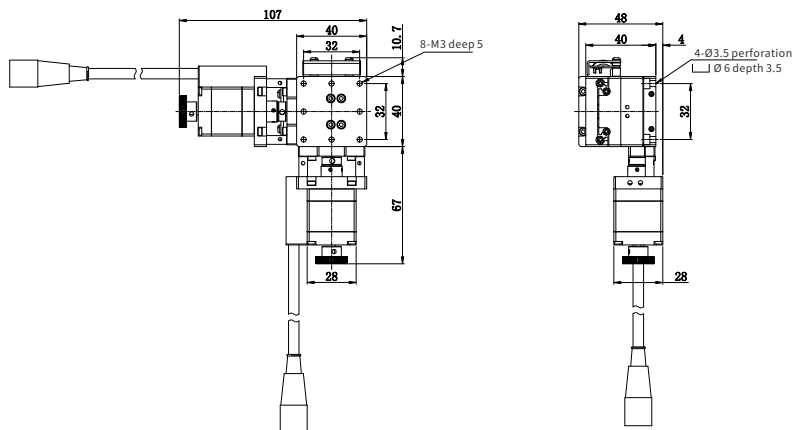
X	YK-L4015	P299
Y	YK-L4015	P299

The specific parameters can be viewed on the page number of the corresponding model

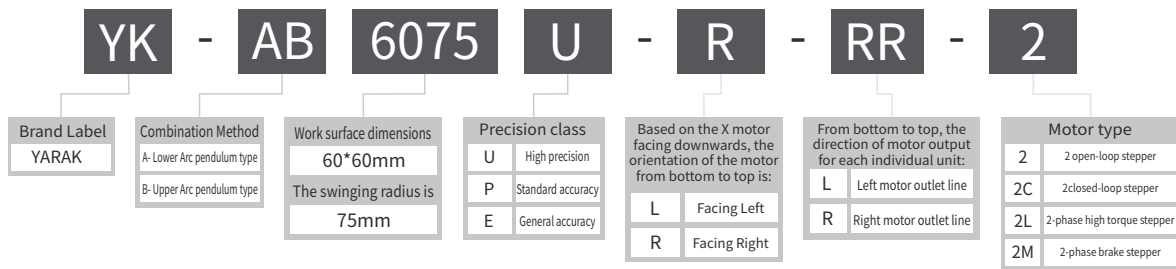
Physical image



Three Views YK-HXY4015



Model descriptions



Individual specifications

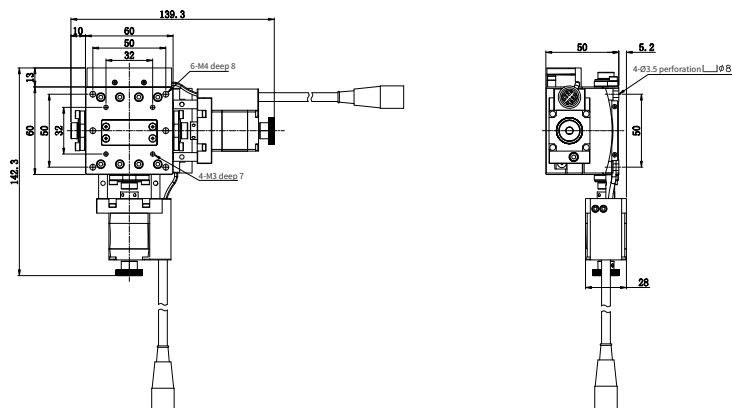
A	YK-C60100	P317
B	YK-C6075	P317

The specific parameters can be viewed on the page number of the corresponding model

Physical image



Three Views YK-AB6075



YK-HXYZ6020

Model descriptions

YK - H XYZ 6020 U - T 6030 - LD - LL - 2

Brand Label YARAK	Lower countertop type H Enhanced type L Extended type NO Standard type	Combination Method X - linear direction Y - linear direction Z- Upper Horizontal lifting type R- Upper rotation type	Work surface width 60mm Linear axis travel 20mm	Precision class U High precision P Standard accuracy E General accuracy	Upper trimming table type 6030	Adapter plate T Using the adapter board Void No Configuration	Based on the X motor facing downwards, the orientation of the motor from bottom to top is: L Facing Left R Facing Right D Downward U Upward	From bottom to top, the direction of motor output for each individual unit: L Left motor outlet line R Right motor outlet line	Motor type 2 2 open-loop stepper 2C 2closed-loop stepper 2L 2-phase high torque stepper 2M 2-phase brake stepper
-----------------------------	--	---	--	---	--	--	--	---	---

Individual specifications

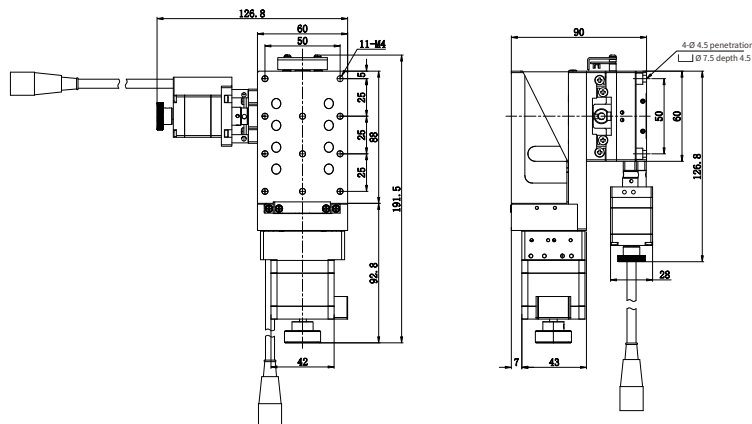
X	YK-L6020	P301
Y	YK-L6020	P301
Z	YK-ZF6010	P322

The specific parameters can be viewed on the page number of the corresponding model

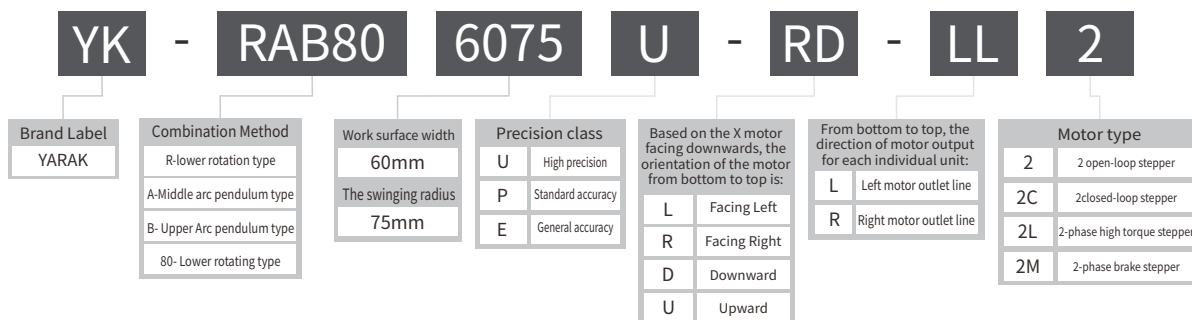
Physical image



Three Views YK-H-XYZ6020



Model descriptions



Individual specifications

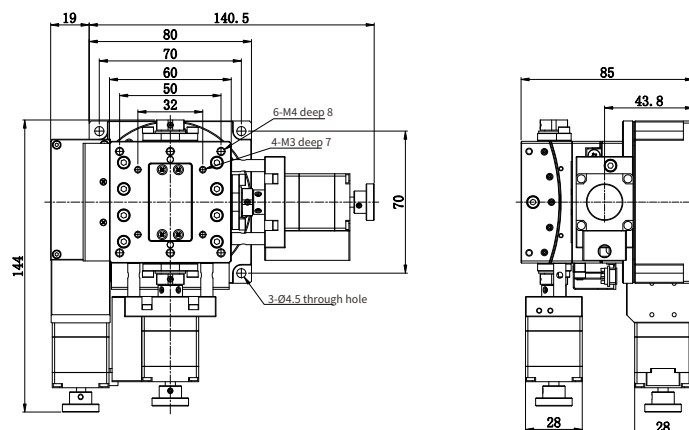
R	YK-R8016	P311
A	YK-C60100	P317
B	YK-C6075	P317

The specific parameters can be viewed on the page number of the corresponding model

Physical image

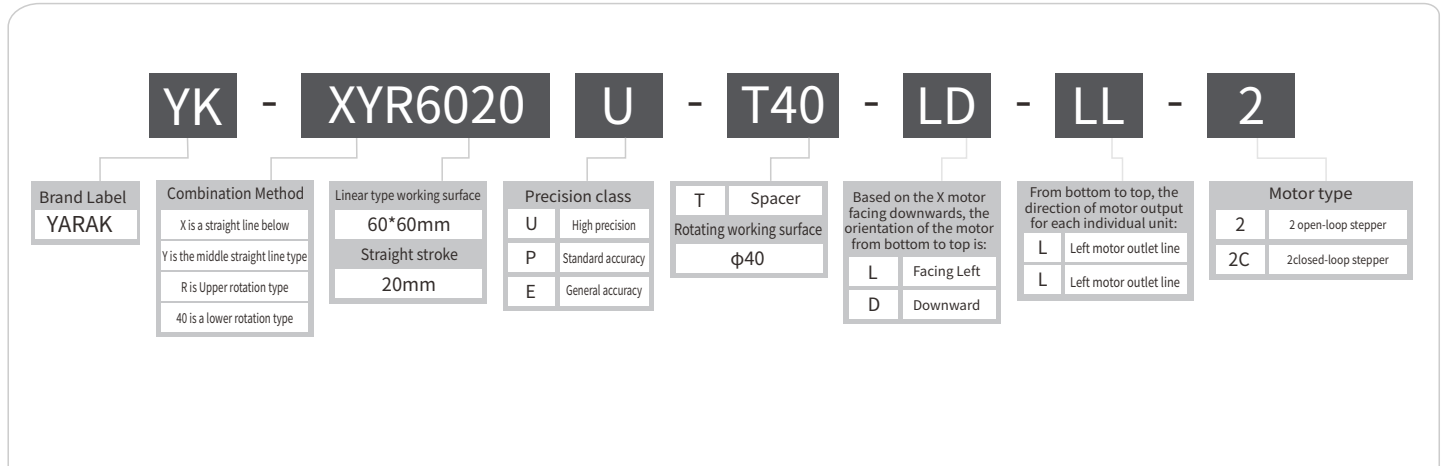


Three Views YK-RAB80-6075



YK-XYR6020

Model descriptions



Individual specifications

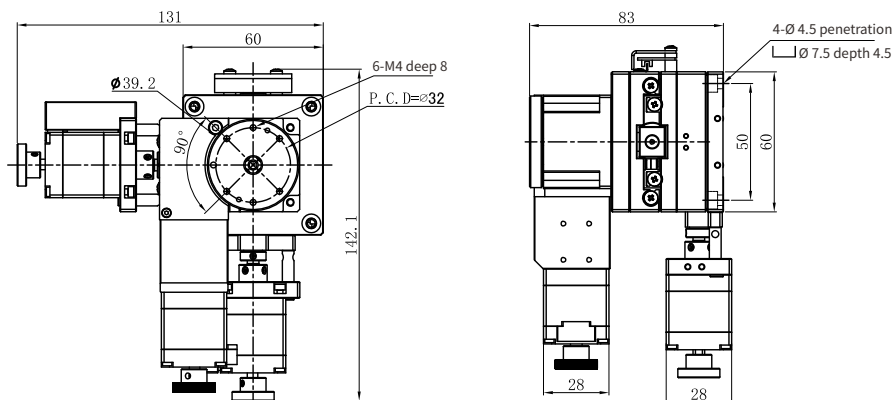
X	YK-L6020	P301
Y	YK-L6020	P301
R	YK-R4017	P311

The specific parameters can be viewed on the page number of the corresponding model

Physical image



Three Views YK-XYR6020



XXY alignment platform

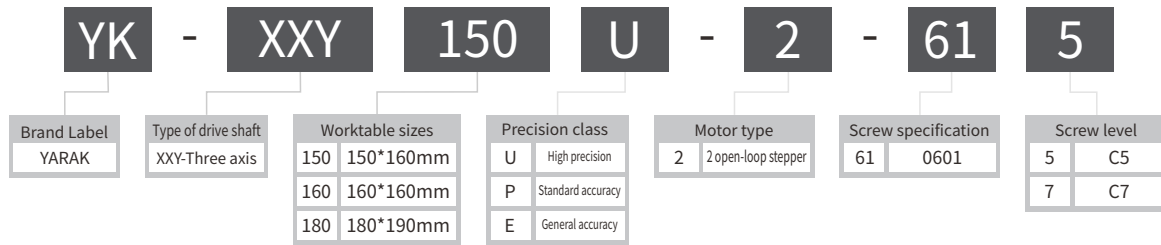


Fine tuning and high-quality products

Table specifications: 150, 160, 180, 250, 350, 450, 550, 600, 850, (unit: mm)

YK-XXY150

Model descriptions

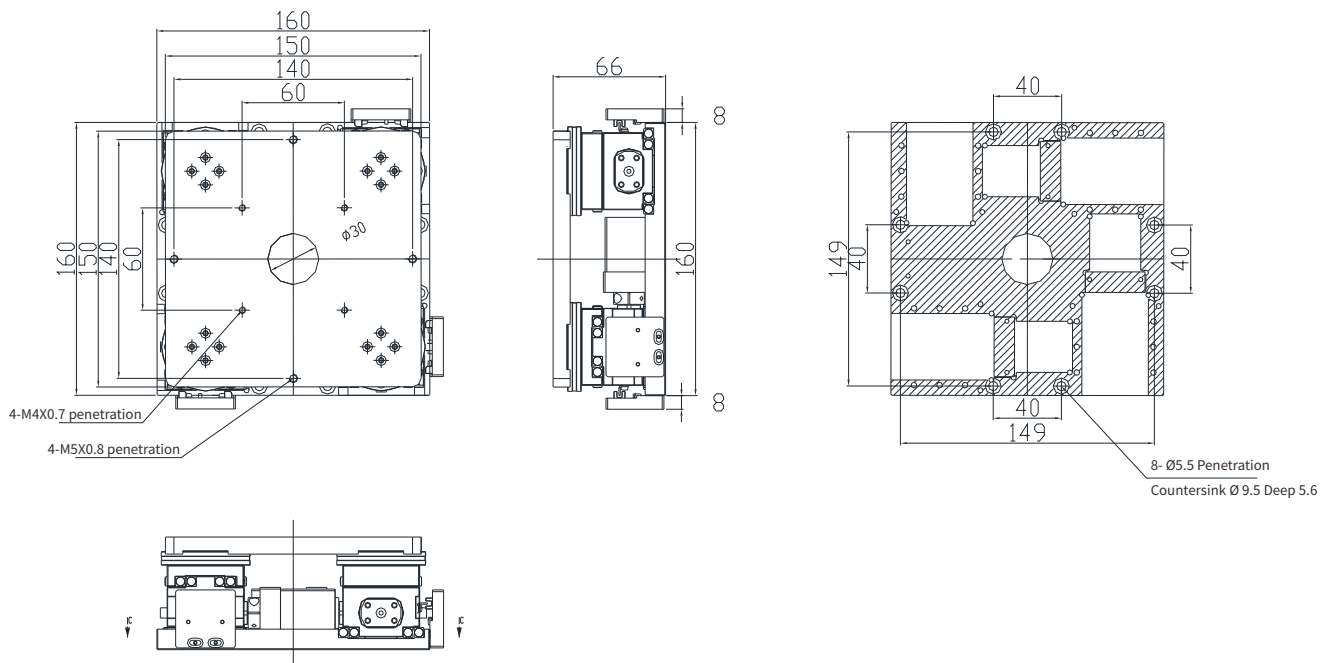


Model		YK-XXY150			YK-XXY160			YK-XXY180		
Product size	Upper table	150mm			160mm			180mm		
	Down table	160mm						190mm		
	Height	66mm								
Repeated positioning accuracy		U level ± 1 μm	P-level ± 3 μm	E level ± 10 μm	U level ± 1 μm	P-level ± 3 μm	E level ± 10 μm	U level ± 1 μm	P-level ± 3 μm	E level ± 10 μm
Stroke								±5mm		
Rotation angle								±3°		
Screw diameter								φ6mm		
Screw lead								1mm		
Linear orbit								VR2 TYPE		
Flatness								±0.02mm		
Parallelism of motion								±0.03mm		
Horizontal load								30kgf		
Material of body								Aluminium alloy		
Surface treatment								Anode black		
Body weight								5.3±2%kg		
Type of motor								Two phase stepper 28 motor		
Driver type								Please contact our engineer		
SENSOR								GYQ-L10 (NPN Normally closed)		

Physical image YK-XXY150



Dimension drawing YK-XXY150

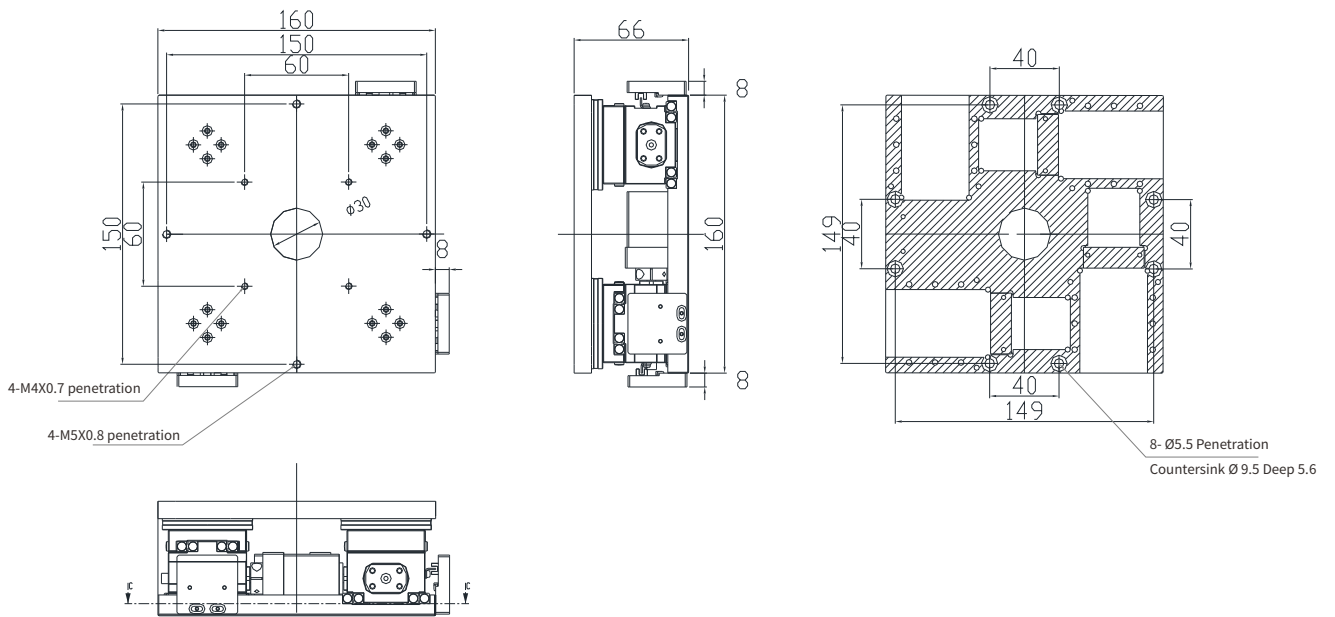


YK-XXY160

Physical image YK-XXY160



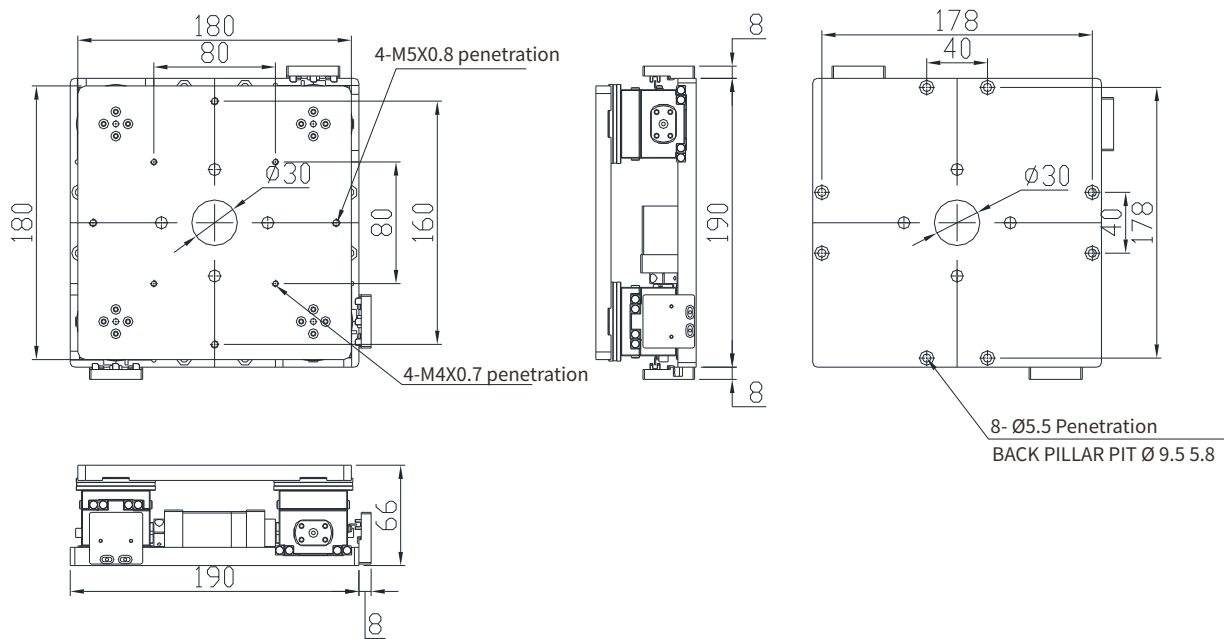
Dimension drawing YK-XXY160



Physical image YK-XXY180

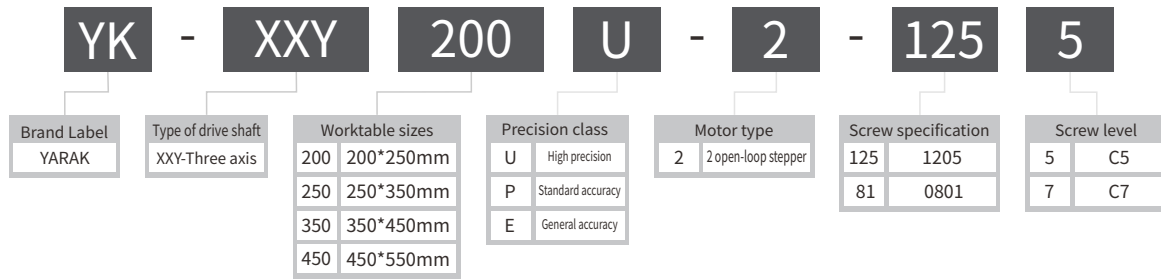


Dimension drawing YK-XXY180



YK-XXY200

Model descriptions

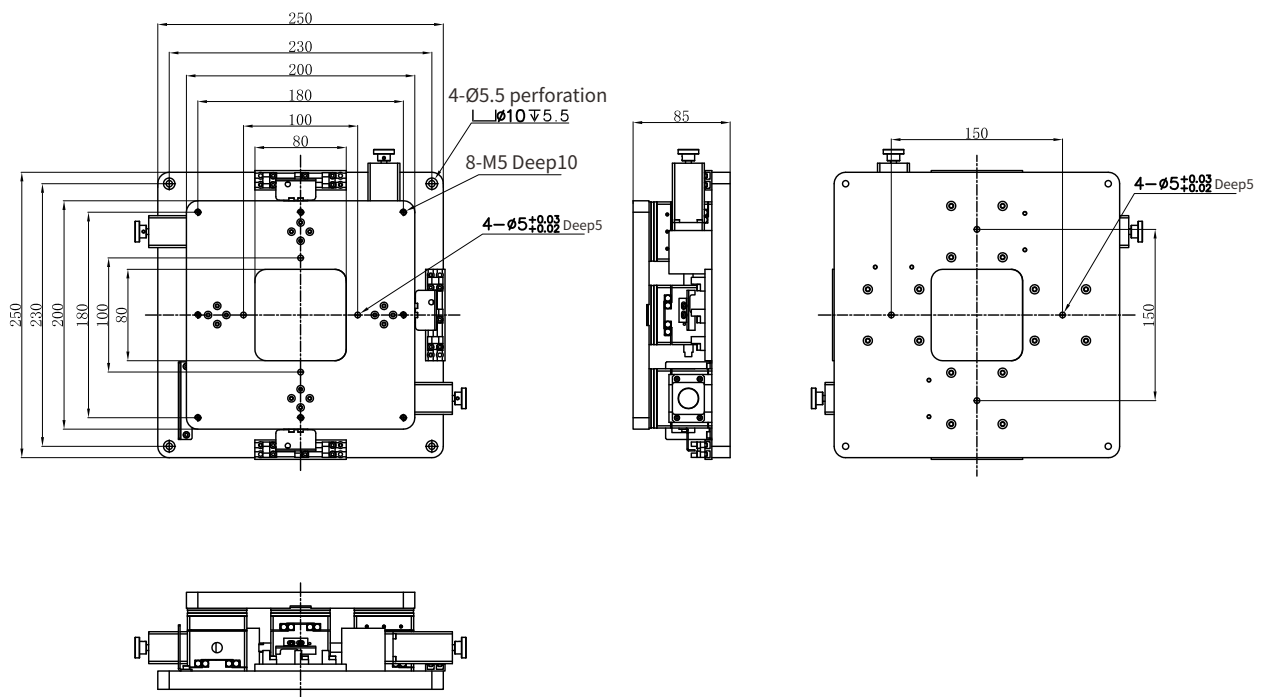


Model		YK-XXY200	YK-XXY250	YK-XXY350	YK-XXY450
Product size	Upper table	200mm	250mm	350mm	450mm
	Down table	250mm	350mm	450mm	550mm
	Height	85mm	95mm	105mm	
Repeated positioning accuracy		U level $\pm 1 \mu\text{m}$ / P-level $\pm 3 \mu\text{m}$ /E level $\pm 10 \mu\text{m}$			
Stroke		$\pm 8\text{mm}$	$\pm 10\text{mm}$	$\pm 12\text{mm}$	
Rotation angle		$\pm 5^\circ$			
Screw diameter		$\phi 8\text{mm}$	$\phi 12\text{mm}$		
Screw lead		1mm	5mm		
Linear orbit		VR2 TYPE		VR3 TYPE	
Flatness		$\pm 0.025\text{mm}$	$\pm 0.03\text{mm}$	$\pm 0.035\text{mm}$	$\pm 0.045\text{mm}$
Parallelism of motion		$\pm 0.03\text{mm}$	$\pm 0.04\text{mm}$	$\pm 0.045\text{mm}$	$\pm 0.055\text{mm}$
Horizontal load		30kgf	50kgf	80kgf	100kgf
Material of body		Aluminium alloy			
Surface treatment		Anode black			
Body weight		$8.33 \pm 2\% \text{kg}$	$14.2 \pm 2\% \text{kg}$	$22.2 \pm 2\% \text{kg}$	$26 \pm 2\% \text{kg}$
Type of motor		Two phase stepper 28 motor	Two phase stepper 42 motor		Two phase stepper 57 motor
Driver type		Please contact our engineer			
SENSOR		PM-L25 sensor			

Physical image YK-XXY200



Dimension drawing YK-XXY200

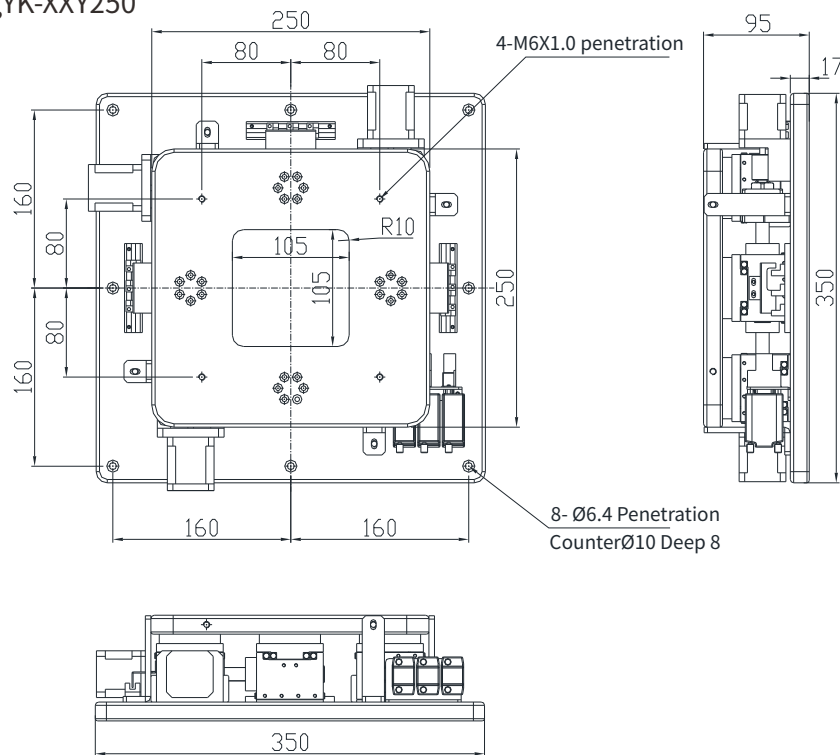


YK-XXY250

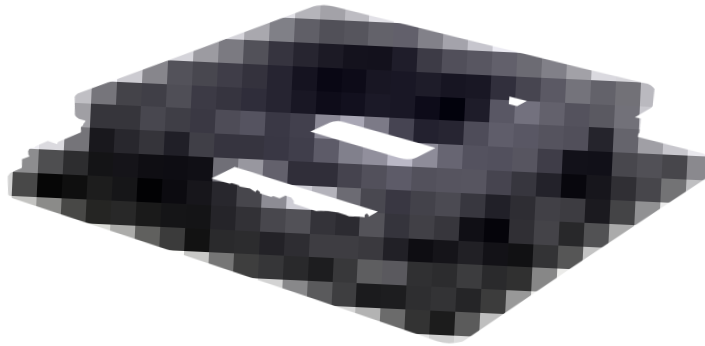
Physical image YK-XXY250



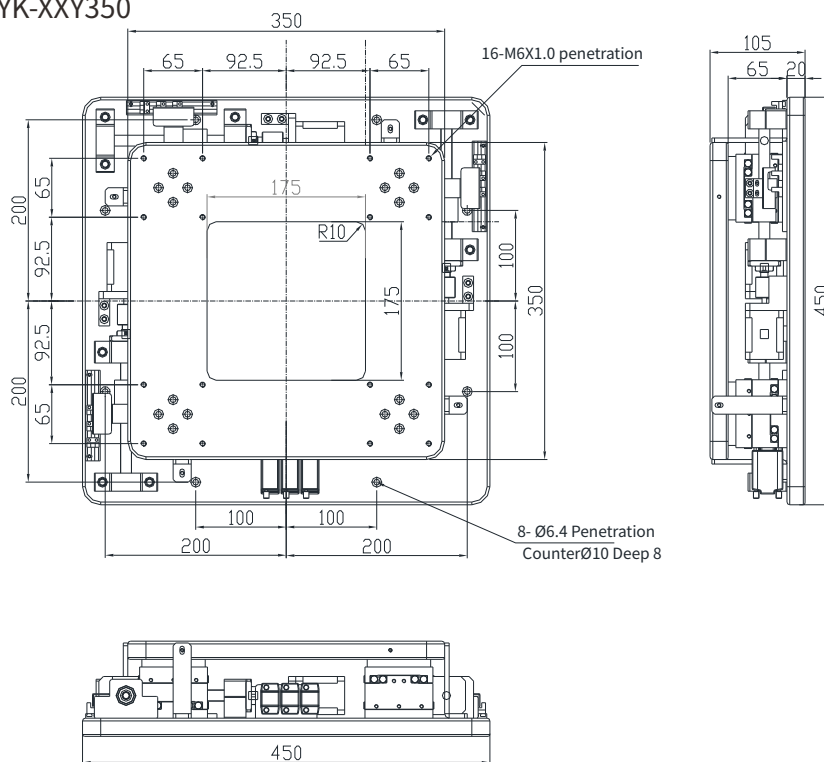
Dimension drawing YK-XXY250



Physical image YK-XXY350



Dimension drawing YK-XXY350

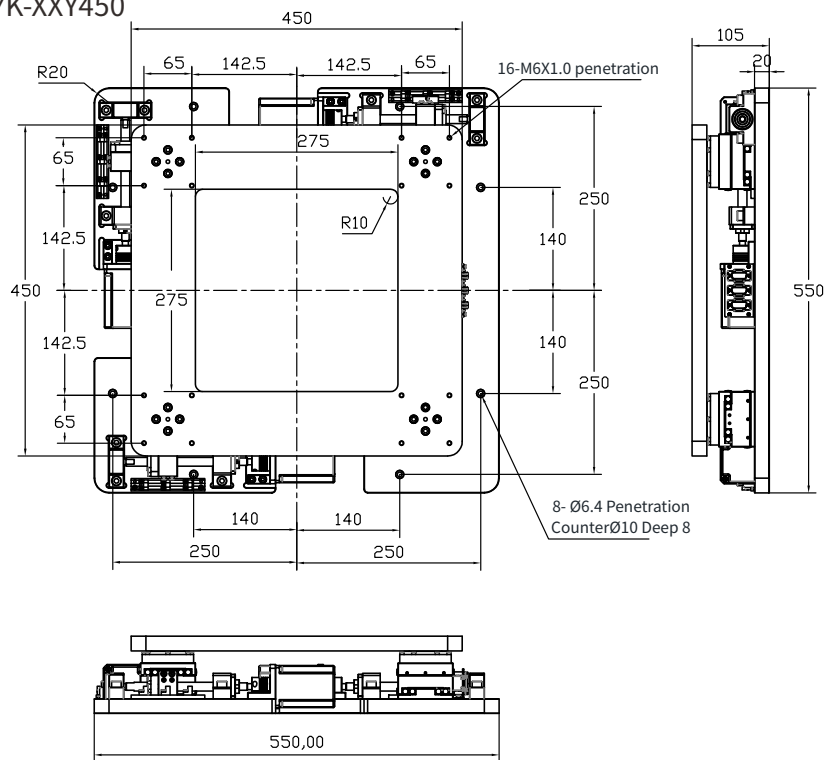


YK-XXY450

Physical image YK-XXY450

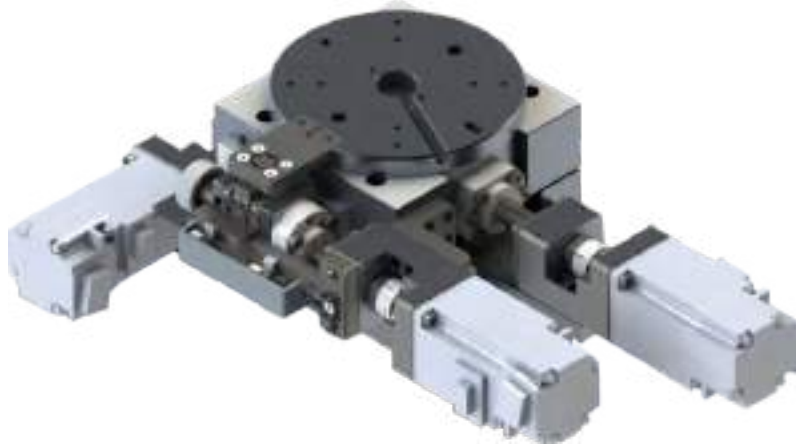


Dimension drawing YK-XXY450



Application cases of lamination stacking machine series

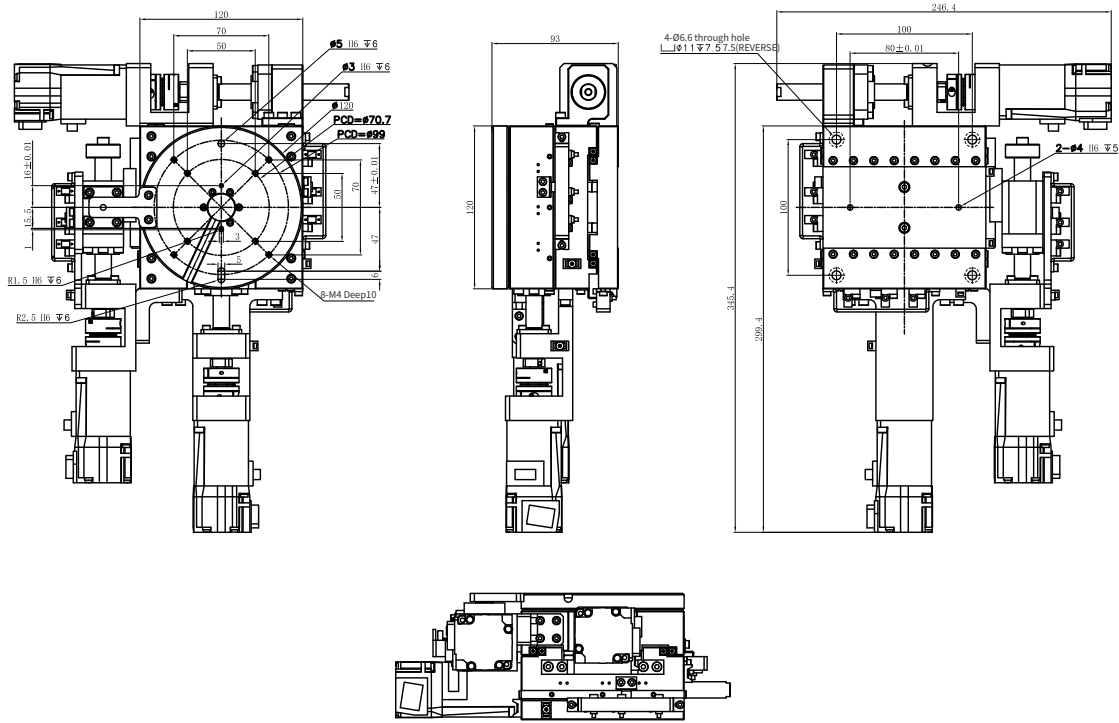
Physical image YK-XYR12040-RR-RRL-S1



Model		YK-XYR12040-RR-RRL-S1
Product size	Upper table	φ120mm
	Down table	120°120mm
	Height	93mm
X,Y Repeated positioning accuracy		±10μm
Stroke		±20mm
R Repeated positioning accuracy		±0.01°
Rotation angle		±10°
Screw diameter		φ12mm
Screw lead		5mm
Linear orbit		Linear guide rail
Flatness		±0.025mm
Parallelism of motion		0.05mm/300mm
Horizontal load		10kg
Material of body		Aluminium alloy
Surface treatment		Anode black
Body weight		5±0.5%kg
Type of motor		100Wservo motor(Supplied by customers)
Driver type		Driver supplied by the customer
SENSOR		PM-R25 and PM-F25 (Panasonic)

Application cases of lamination stacking machine series

Dimension drawing YK-XYR12040-RR-RRL-S1



Algorithm diagram

Legend

Tan θ = Screw feed rate/rotation radius

$$\tan \theta = 1/87$$

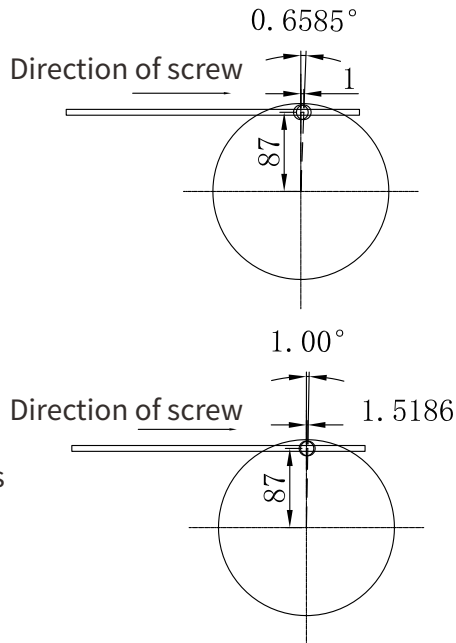
$$\theta \approx 0.6585^\circ$$

Legend

Screw feed rate = tan θ * Rotation radius

$$= \tan(1^\circ) * 87$$

$$\approx 1.5186$$



Application cases of lamination stacking machine series

Physical image YK-XXY6718E-S1-1257



Model		YK-XXY6718E-S1-1257
Product size	Upper table	670*180mm
	Down table	500*160mm
	Height	108mm
Repeated positioning accuracy		±10μm
Stroke		±15mm
Rotation angle		±5°
Screw diameter		φ12mm
Screw lead		5mm
Linear orbit		Linear guide rail
Flatness		±0.05mm
Parallelism of motion		±0.08mm
Horizontal load		30kg
Material of body		Aluminium alloy
Surface treatment		Anode black
Body weight		13±0.5%kg
Type of motor		100Wservo motor(Supplied by customers)
Driver type		Driver supplied by the customer
SENSOR		PM-R25 and PM-F25 (Panasonic)

Application cases of lamination stacking machine series

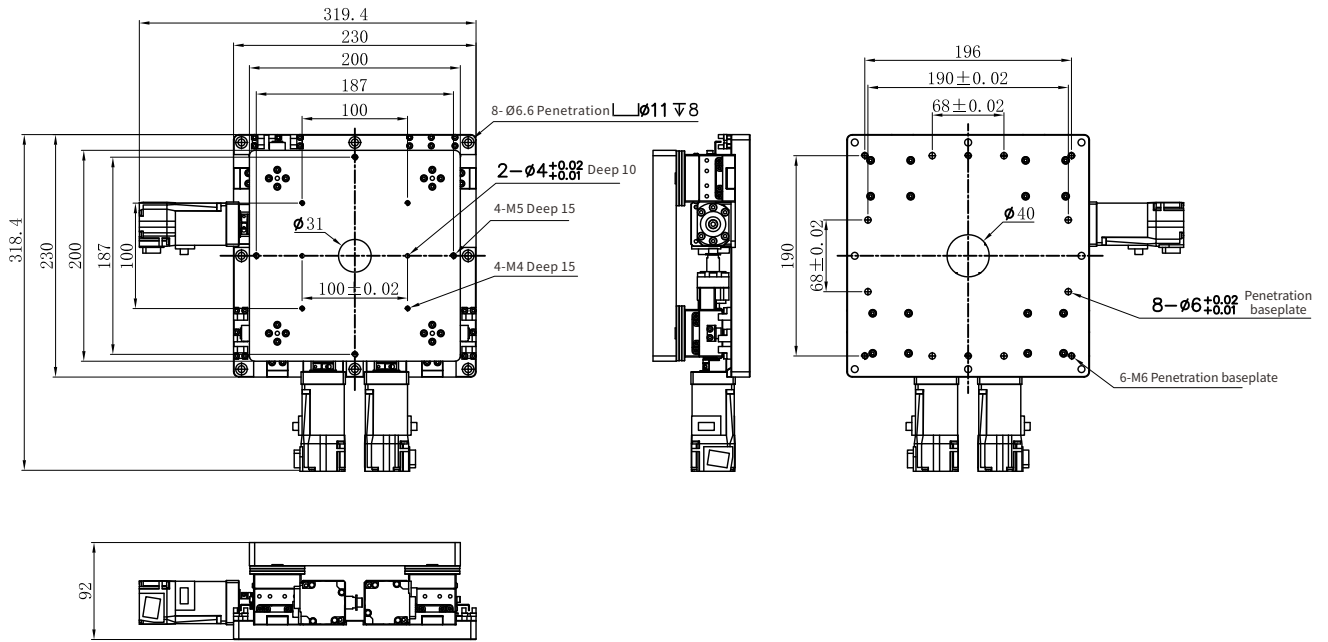
Physical image YK-XXY200PL-S1-1257



Model		YK-XXY200PL-S1-1257
Product size	Upper table	200mm
	Down table	230mm
	Height	92mm
Repeated positioning accuracy		$\pm 3\mu\text{m}$
Stroke		$\pm 10\text{mm}$
Rotation angle		$\pm 5.5^\circ$
Screw diameter		$\phi 12\text{mm}$
Screw lead		5mm
Linear orbit		Linear guide rail
Flatness		$\pm 0.025\text{mm}$
Parallelism of motion		$\pm 0.03\text{mm}$
Horizontal load		30kg
Material of body		Aluminium alloy
Surface treatment		Anode black
Body weight		$6.7 \pm 0.5\% \text{kg}$
Type of motor		100W servo motor (Supplied by customers)
Driver type		Driver supplied by the customer
SENSOR		PM-L25 sensor

Application cases of lamination stacking machine series

Dimension drawing YK-XXY200PL-S1-1257



Extension lines and accessories



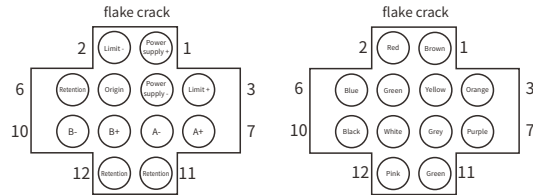
CN-RP12S

2

12 Core high flexible wire

Length of extension line	
2	2m
3	3m

Applicable to alignment platform of fine adjustment table



DSUB9

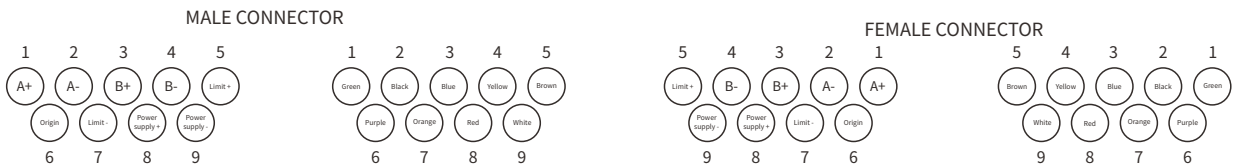
F

2

9 Core high flexible wire

Length of extension line	
2	2m
3	3m

Special for aligning platform



Grating automatic production platform accessories



Plug fitting



Platform cable CN-RP12S



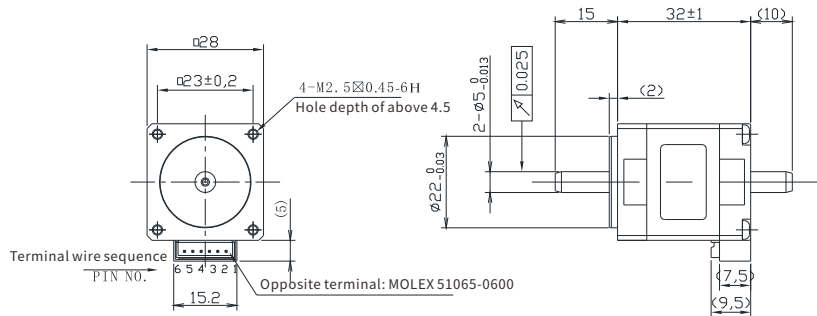
Grating signal extension cable CN-DS15S

Dimensional drawing of common motors

STP-28D1012-01

General technical parameters		Electrical technical parameter		Wiring diagram
Stepping angle	1.8°	Driving voltage	24V DC	
Number of phases	2	Rated current	0.7A	
Insulation resistance	100MΩ MIN (500V DC)	Resistance	4.5±10%Ω	
Class of insulation	Class B/winding	Inductor	3.2±20% mH	
Weight	About 110g	Holding torque	0.053N.m	
Braking torque	30gf.cm REF.	Rotational inertia	About 8g.cm ²	

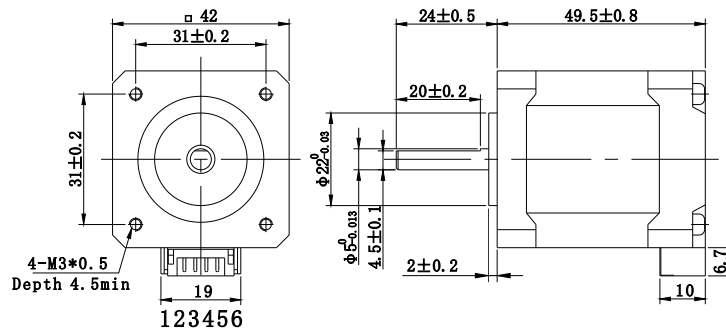
Overall dimension: unit=mm



Y07-43D4-5060

General technical parameters		Electrical technical parameter		Wiring diagram
Stepping angle	1.8°	Driving voltage	24V DC	
Number of phases	2	Rated current	2.0A	
Insulation resistance	100MΩ MIN (500V DC)	Resistance	1.8±15%Ω	
Class of insulation	Class B/winding	Inductor	4.0±20% mH	
Weight	About 380g	Holding torque	0.54N.m	
Braking torque	300gf.cm REF.	Rotational inertia	About 66g.cm ²	

Overall dimension: unit=mm



Schematic diagram of alignment platform algorithm

Q: How to calculate the rotation $\delta\theta$ of the platform's rotation (taking fitting as an example)?

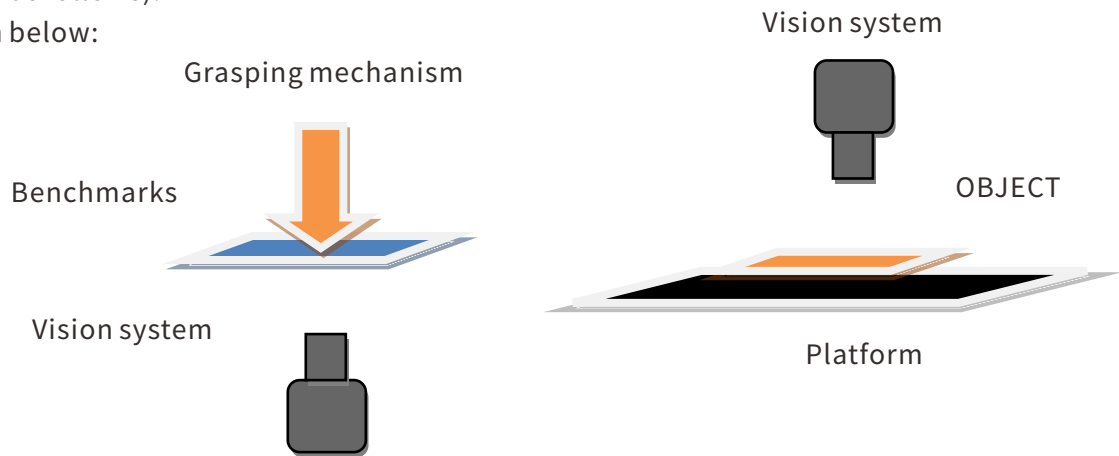
From the equation $\delta\theta = \delta_6 - \delta_5$

It can be deduced

A: For relatively small-sized products,

Two cameras can be employed to separately determine the reference and object positions (typically as follows):

As shown below:



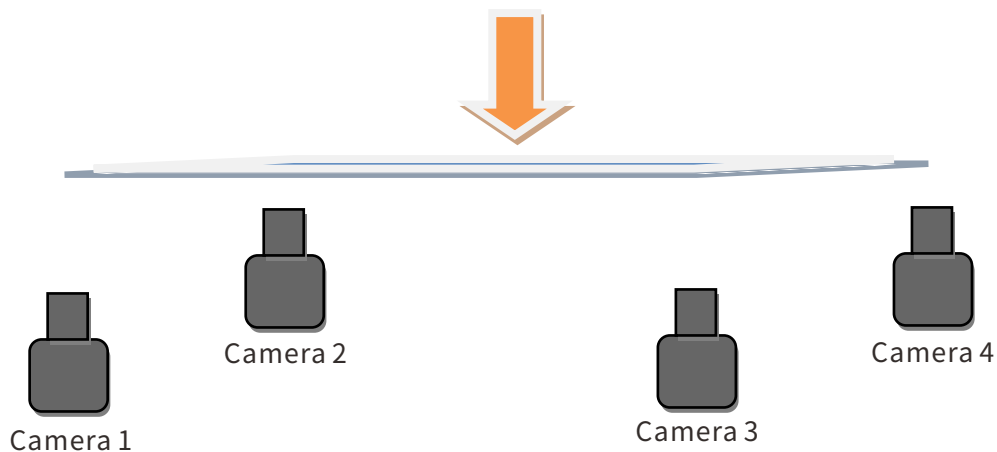
Visually, the template matching algorithm can be utilized to calculate the coordinates (X, Y, θ) of the reference ()

Similarly, the coordinates of the object can also be determined.

If dealing with larger-sized products, the center position and angle of the product can be calculated using diagonal gripping.

Using 4 cameras or 8 cameras can determine the positions of 2 products.

The following describes a simple model for positioning at the reference point using 8 cameras (4 for reference, 4 for the object).



The image coordinates of visual algorithms and the coordinate relationship of motor mechanisms need to be coordinated by software engineers and electrical engineers.

Schematic diagram of alignment platform algorithm

Assuming the position of the **object** obtained through image processing is (X5, Y5, δ5) in the X0Y coordinate system.

The position of the **reference** obtained through image processing is (X6, Y6, δ6) in the XY coordinate system.

The obtained rotation data is as follows:

$$\delta\theta = \delta 6 - \delta 5$$

$$X = X6 - X5$$

$$Y = Y6 - Y5$$

Assuming the initial position (typically set as the origin position, and needs to return to the origin after each alignment) is horizontal. At this point, it is considered that $\theta 0 = 0$

According to the UVW calculation formula :

$$\delta X1 = R * \cos(\delta\theta + \theta X1 + \theta 0) - R * \cos(+\theta X1 + \theta 0)$$

$$\delta X2 = R * \cos(\delta\theta + \theta X2 + \theta 0) - R * \cos(+\theta X2 + \theta 0)$$

$$\delta Y1 = R * \sin(\delta\theta + \theta Y1 + \theta 0) - R * \sin(+\theta Y1 + \theta 0)$$

Among $\delta\theta = 0$

$$\delta\theta = \delta 6 - \delta 5$$

$\theta X1 \theta X2 \theta Y1 R$ (already delivered from the factory) is known.

Can be obtained $\delta X1 \delta X2 \delta Y1$ (where the unit is mm)

Then, add (or subtract) the value of **XY** to obtain the distance (mm) that the actual platform needs to walk:

$$\delta X1 = \delta X1 + X$$

$$\delta X2 = \delta X2 + X$$

$$\delta Y1 = \delta Y1 + Y$$

Then, the number of pulses required to drive X1 shaft to move can be obtained:

$$X1 \text{ (pulse)} = \delta X1 * Mp \dots\dots\dots (1)$$

(Mp is the pulse equivalent, which is determined by the screw pitch and the encoder together. In the same way, the number of pulses for X2 axis walking can be obtained as:

$$X2 \text{ (pulse)} = \delta X2 * Mp \dots\dots\dots (2)$$

The number of pulses when axis Y1 moves is:

$$Y1 \text{ (pulse)} = \delta Y1 * Mp \dots\dots\dots (3)$$

Visual alignment system solutions

Visual alignment system solutions

■ Electronic manufacturing industry



CCD automatic alignment backlight fitting



Mobile phone binocular double-suction pen flying pendulum



CCD positioning mobile phone lens assembly



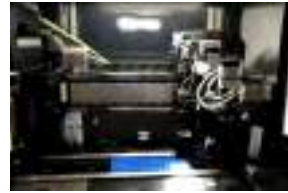
Double-station lithium battery CD automatic alignment laminating machine



Lithium battery CCD automatic alignment laminating machine



Visual guidance thermometer labeling



CCD high-speed adhesive bonding machine



Multi-head vertical CCD vision automatic soldering robot

■ Robot intelligent equipment industry



Application of ABB manipulator notebook auxiliary material fitting



Fitting of 6-axis manipulator laptop auxiliary materials



Photoelectric measurement application of visual guidance manipulator back



Visually guided manipulator screwing



Leather automatic positioning and fitting system



Carton automatic positioning and fitting system



Assembly application of CCD automatic positioning mobile phone accessories



Assembly application of CCD automatic positioning mobile phone accessories

■ Circuit board industry



Application of PCB hot-melt machine



FPC flexible circuit board full-automatic sticker punching machine



FPC steel sheet reinforcement machine

Application case of visual alignment system

■ Exposure machine



Visual resistance welder



Visual line machine



CCD automatic alignment exposure machine

■ Food and pharmaceutical industry



Medical device sorting



Medical needle assembly equipment



Assembly of cardiac surgical instruments

■ Laser application industry



Welding application of mobile phone speaker



Application of vision guided laser marking



Application of LaserLights Visual Marking Hardware Industry

Visual alignment system solutions

CCD alignment system

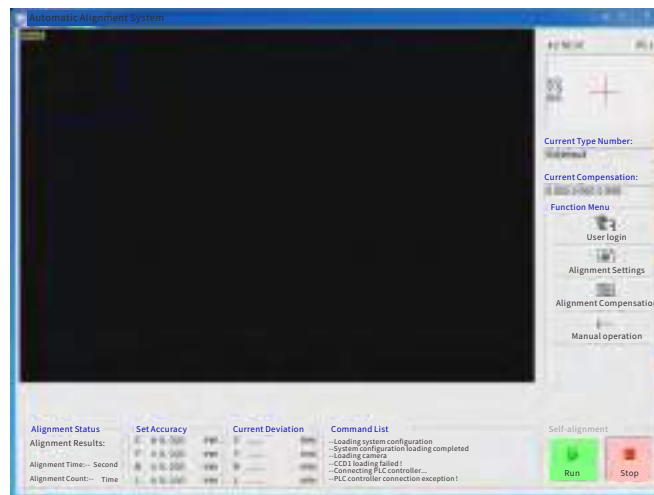
■ CCD automatic alignment



● System Advantages:

1. Rapid and precise CCD image processing without being constrained by image characteristics; any type of image can be used as a target.
2. Flexible configuration of CCD camera quantity and parameters, supporting up to 6 cameras.
3. Vision alignment algorithm with high accuracy, efficiency, and stability.
4. Product parameters can be saved for each product variant. During subsequent production, these parameters can be directly retrieved, eliminating the need for repetitive machine adjustments.
5. Stable and efficient production achieved; CCD capture and processing take less than 0.5 seconds to complete.
6. Open support for commonly used industry-standard PLC communication protocols, allowing compatibility with a range of customer hardware choices.
7. Specifically designed algorithm library for alignment stage products. Coupled with XYθ offset values provided by CCD imaging, this enables automatic control of the reverse movement of the motion platform by a corresponding amount. This correction compensates for the position of the measured object, achieving precise automatic positioning.

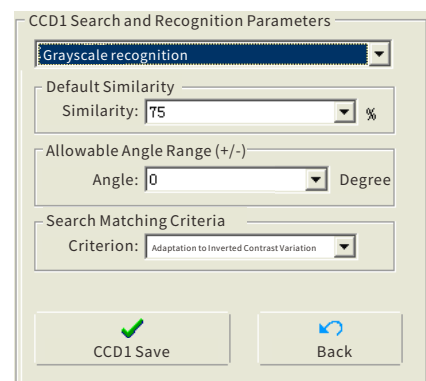
■ Interface Function Analysis



(Automatic Alignment System Interface)

● Image Recognition, with the option to choose between grayscale recognition and pattern recognition.

1. Grayscale Recognition: Mainly used for recognizing images with unclear and irregular contours; advantages include high recognition rate, while the downside is slightly lower accuracy. Grayscale recognition parameters are set as shown in the following figure:



(Grayscale recognition)

Visual alignment system solutions

2. Pattern Recognition: Mainly used for identifying images with clear and regular contours. Its advantage lies in its high precision, but a drawback is that recognition rates may decrease when dealing with images of poor quality. Pattern recognition parameters are configured as shown in the following diagram:

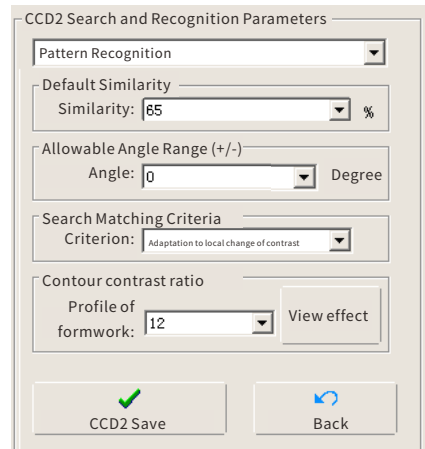
Similarity Threshold: The default similarity threshold during template creation. Templates that have already been created require setting a similarity value in the template candidate list. Similarity refers to the degree of resemblance when matching and recognizing based on the template. A higher value leads to greater accuracy, but it becomes more sensitive to poor image quality, potentially resulting in failures in recognition. A lower value increases recognition rates, but may introduce the possibility of recognition errors. Set the value according to the actual image conditions. In summary, whenever accurate recognition is achievable, strive to set a higher similarity threshold.

Angle Tolerance Range: In cases where the image target features non-symmetric patterns with variations in angle, an angle tolerance range needs to be set. A larger angle range leads to longer image search times. It's generally advisable to keep it at zero unless the image angle variations are significant. For circular or symmetrical targets, zero can be set.

Contour Contrast: This parameter extracts the contour values for pattern recognition. Click to view the effect, and adjust the slider as shown in the diagram to appropriately extract the contour of the marked pattern.

Remarks

1. Each CCD's recognition parameters can be independently configured.
2. Recognition parameters for each template in the candidate list can also be independently configured.



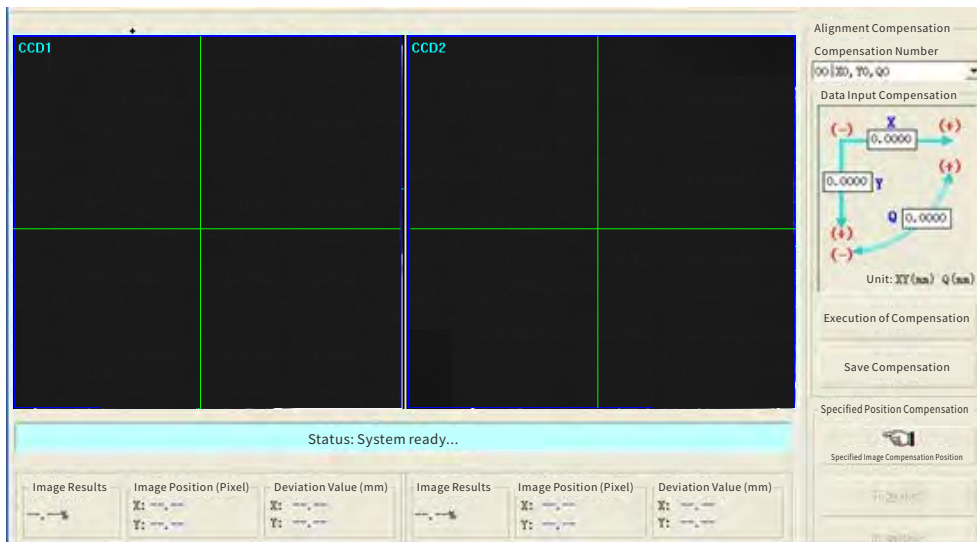
(Pattern Recognition)



(Edge profile)

- The interface allows for autonomous setting of correction range, determination accuracy, and display of deviation values. It can perform positional compensation based on the displayed values, resulting in higher precision.

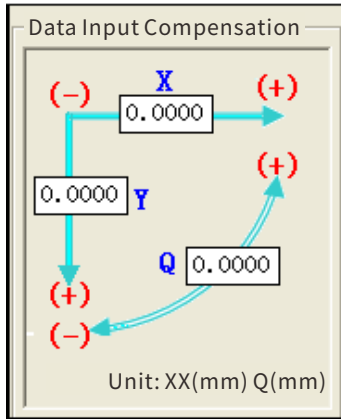
Positional compensation refers to making adjustments to the alignment position when it is in the OK state. In this system, there are two types of compensation for positional alignment: data input compensation and designated compensation position. By clicking on the "Positional Compensation Function" on the main screen, you can access the positional compensation interface, as shown in the diagram below.



(Positional Compensation Function)

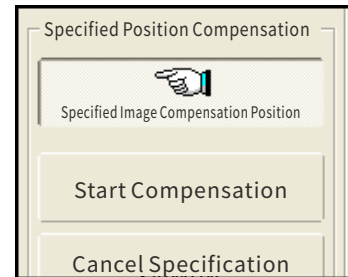
Visual alignment system solutions

1. Data Input Compensation: Compensation data corresponding to actual situations can be input for adjustments in cases of minor deviations. Compensation direction is determined by the positive or negative input data. After completing the movement, click "Save Compensation" to save the set compensation data in the system.



(Data Input Compensation)

2. Specified Position Compensation: Automatically compensates to the designated position and saves the compensation amount, suitable for adjustments in cases of significant deviations.



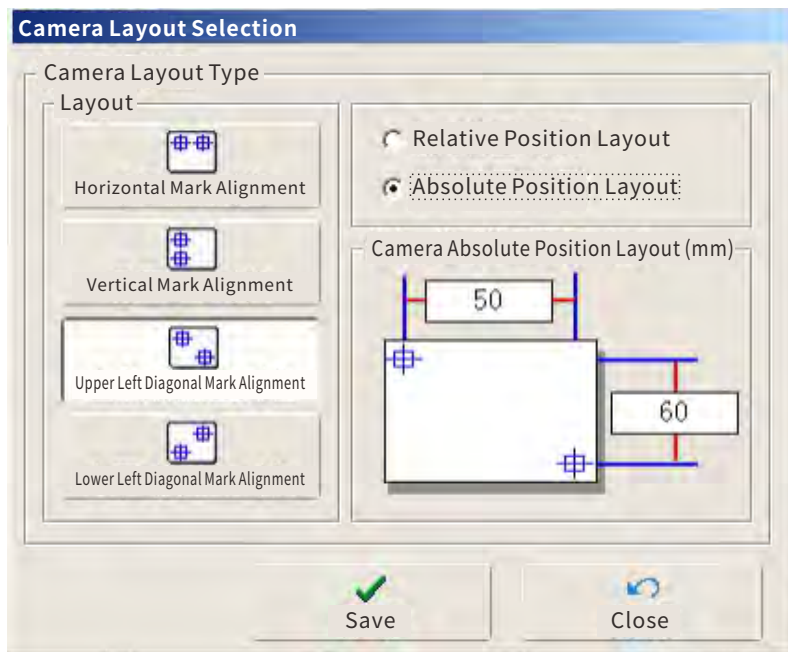
(Specified Position Compensation)

Different identification numbers can be assigned to the compensation data corresponding to the above position compensation functions and saved in the system.

Note: Compensation in the X, Y, and θ directions is based on the center position between CCDs. When compensation numbers are not visible, the system has not enabled this function.

● Simple Camera Layout Configuration

In a 2-CCD alignment mode, camera layout selection is necessary. Choose according to the actual camera orientation. If the installation distance between cameras is uncertain, choose "Relative Layout" for the system to determine automatically. If camera installation positions are known, choose "Absolute Layout" and input the corresponding camera distances.



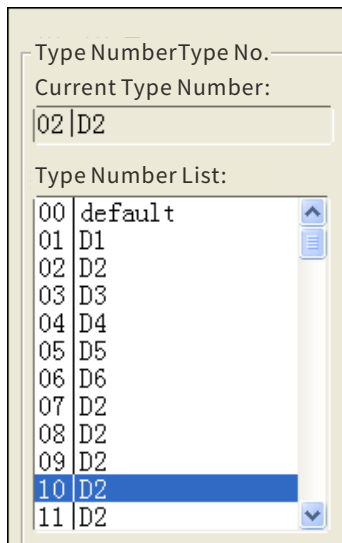
(Camera Layout Selection)

Note: If the camera positions remain fixed, there is no need to reconfigure this option after setting it.

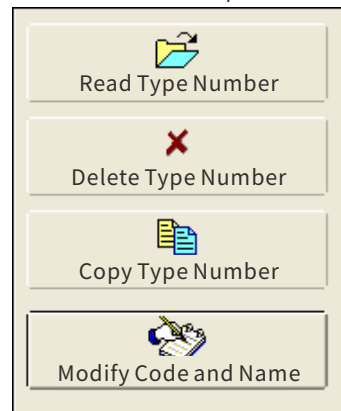
Visual alignment system solutions

● Convenient type numbering

Support for storage and usage of product numbers 0-99 is provided. Once parameters for a product are debugged, a product type number can be saved. This allows direct recall for subsequent production of the same product.



(Type Number List)



(Type Number Operation Interface)

Upon entering the window, the type number area on the right side becomes visible. Its functions are as follows:

Current Type Number	Currently Used Product Type Number
Type Number List	The alignment system supports storage and usage of product numbers 0-99.
Read Type Number	Clicking transfers all data of the selected type number from the type number list to the currently used type number.
Delete Type Number	Clicking at the center of the window prompts a confirmation dialog as shown in the diagram. Clicking "Yes" deletes the selected type number from the type number list, while clicking "No" cancels the deletion.
Copy Type Number	Clicking on the right side of the window automatically transforms it as shown, enabling copying of all data of a specific item in the type number list to another selected type number.
Modify Number Name	Clicking opens a virtual keyboard to input the type number name. Modify it as required and save.
Save Type Number	Save the configured operations mentioned above.
Back	Return to main screen

Visual alignment system solutions

YK-S3131



Small fanless
BOX machine



YK-310D-H11



High-performance
special video host



YK-P4133



10.1-12.1 Inch all-in-
one machine with touch



YK-D1818



Customized
industrial computer



Visual alignment system solutions

YK-S3131

Model	YK-S3131	
Chassis	Color	Available in silver/elegant black
	Dimensions	132*128*NEMA 17(L*D*H)
	Architecture	All-aluminum cooling structure without fan
	Material	Aluminum profileIntel
Performance	Processor	Intel BroCeleron N3160 CPU (quad-core four-thread)
	Graphics card	CPU integrated intel HD400 high-performance core graphics card
	Memory	Laptop DDR3, max. 16G
	Storage	Supports M-SATA solid disk
System feature	Cyber	2 Gigabit network interface
	USB	4*USB2.0
	Serial port	1*COM
	Display	VGA+HDMI
	Audio frequency	1*Line-out, 1* Mic-in
	Indicator light	Power light
	System control	Power switch
	GPIO	Built-in 4 in 4 out pin
	Wireless	WIFI / 3G(optional)
Power supply	Power supply	DC12V5A Power
Reliability	Installation method	Wall or Flat
	Operating temperature	0°C~60°C
	Storage Temperature	-20°C~70°C

YK-310D-H11

Model	YK-310D-H11	
Chassis	Color	Bright silver
	Dimensions	242*247*93mm(L*D*H)
	Architecture	With fan cooling structure
	Material	Galvanized steel plate
Performance	Processor	Supports generation 6/7 Core I3/I5/I7
	Graphics card	CPU Integration
	Memory	Desk top DDR4, max. 32G
	Storage	M-SATA solid disk or 2.5-inch hard disk
System feature	Cyber	Intel gigabit network port (extensible to 6 network ports)
	USB	4*USB3.0+2*USB2.0
	Serial port	5*COM
	Display	VGA+HDMI+DP
	Audio frequency	1* Mic-in+1* Line-out
	Indicator light	Power light
	System control	Power switch
	GPIO	Built-in 4 in 4 out pin
	Wireless	WIFI/3G
Power supply	Power supply	180W Power
Reliability	Installation method	Wall or Flat
	Operating temperature	0°C~60°C
	Storage Temperature	-20°C~70°C

YK-P4133

Structural Parameters	
Front panel level	The housing is of aluminum magnesium alloy structure, with fan for active heat dissipation
Installation method	Support wall mounted, standing (optional for recessed)
Panel Color	Black/silver white optional
Power input	DC 12V, 5A
CPU	Intel i5-4300U, dual-core four-thread 1.9GHz, smart prefrequency 2.9GHz
Chipset	Intel Hawell-U/Broadwell-USOC
Graphics card	Integrated Intel HD Graphics 4400 core graphics card
Memory	Support DDR3 Notebook Memory
Hard disk	Supports M-SATA solid disk
On-board network port LAN	2 Intel 211 gigabit network ports
Audio frequency	Ruiyu ALC662 chip, providing 6-channel output
External interface	2*COM(RS232),4*USB 2*LAN,1*Audio,1*VGA,1*HDMI
Optional interface	WIFI (optional)
Display	12.1 Diagonal TFT Color Industrial Display
Show aspect ratio	4:03
Screen resolution	1024x768
Touch screen type	Wire Resistor Touch Screen (USB)
Surface hardness	3H
Response time	<5ms
Light transmittance	81%
Operating temperature	0°C~50°C
Storage Temperature	-10°C~60°C

YK-D1818

Model	YK-D1818	
Chassis	Color	Black
	Dimensions	224*200*88mm(L*D*H)
	Architecture	With fan cooling structure
	Material	Steel sheet
Performance	Processor	Intel H81 high-speed chipset, supporting fourth generation I7/I5/I3 processing
	Graphics card	CPU integrated Intel HD high-performance core graphics card
	Memory	Desk top DDR3, max. 16G
	Storage	M-SATA solid disk or 2.5-inch hard disk
System feature	Cyber	2*Intel Gigabit network interface
	USB	4*USB3.0+2*USB3.0
	Serial port	5*COM
	Display	2*VGA
	Audio frequency	1*Line-out
	Expansion slot	2 MINI-PCIE (one M-SATA)
	Indicator light	Power light
	System control	Power switch
	GPIO	Built-in 4 in 4 out pin
Wireless	WIFI /3G(optional)	
Power supply	Power supply	180W Power
Reliability	Installation method	Wall-mounted or lay-flat
	Operating temperature	0°C~60°C
	Storage Temperature	-20°C~70°C

Description of detection mode

◆ Precision test



The laser interferometer can cooperate with various refractors and reflectors to measure the linear position, speed, angle, true flatness, true straightness, parallelism and perpendicularity, and can be used as the calibration of precision tools or measuring instruments.



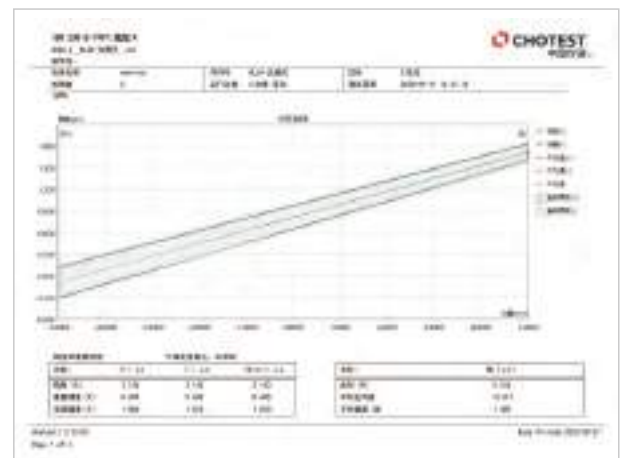
◆ Operation interface

Strict aging test shall be carried out for the products manufactured and researched by the Company before delivery. Defects can be found in a short time by overloading the electronic products and all precision parts and accessories, so as to avoid faults in the use period and continuously improve the excellent performance of the products.



◆ Product aging test

◆ Test data report



Options of high -precision 3D trajectory



YK-AB6075U-R-RR-2



YK-HXYABR6075U-LDLD-LLRR-2



YK-XR6015U-D-R-2



YK-HXY6050U-R-NN-2C



YK-HXYR100U-8050-RD-2



YK-LXY60200U-6020-R-L-2

Options of 3D trajectory

Options of high -precision 3D trajectory



YK-RAB80U-60100-RD-RLL-2C



YK-XYC6020U-T6075-LD-LLL-2C



YK-XYR4015U-LD-LL-2C



YK-XYR6020U-T40-LD-LL-2



YK-XYZ6020U-RD-LL-2



YK-ZR60U-TC6075-RD-R-2










Form of selection and subscription

Name of Client: _____

Date: _____

Type	YK-L series	YK-HL series	YK-R series	YK-C series	YK-ZF series	YK-XXY series
						
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Model	YK-L40 <input type="checkbox"/> YK-L60 <input type="checkbox"/> YK-LL60 <input type="checkbox"/>	YK-HL60 <input type="checkbox"/> YK-HL80 <input type="checkbox"/>	YK-R40 <input type="checkbox"/> YK-R60 <input type="checkbox"/> YK-R80 <input type="checkbox"/> YK-R100 <input type="checkbox"/> YK-R120 <input type="checkbox"/>	YK-C60 <input type="checkbox"/>	YK-ZF60 <input type="checkbox"/>	YK-XXY150 <input type="checkbox"/> YK-XXY160 <input type="checkbox"/> YK-XXY180 <input type="checkbox"/> YK-XXY200 <input type="checkbox"/> YK-XXY250 <input type="checkbox"/> YK-XXY350 <input type="checkbox"/> YK-XXY450 <input type="checkbox"/>
Lead	15mm <input type="checkbox"/> 20mm <input type="checkbox"/> 30mm <input type="checkbox"/> 50mm <input type="checkbox"/> 100mm <input type="checkbox"/> 200mm <input type="checkbox"/>	20mm <input type="checkbox"/> 30mm <input type="checkbox"/> 50mm <input type="checkbox"/>	$\pm 7.5^\circ$ <input type="checkbox"/> $\pm 8^\circ$ <input type="checkbox"/> $\pm 8.5^\circ$ <input type="checkbox"/>	R50 <input type="checkbox"/> R75 <input type="checkbox"/> R100 <input type="checkbox"/> R125 <input type="checkbox"/> Non-standard:	10mm <input type="checkbox"/>	$\pm 5\text{mm}$ <input type="checkbox"/> $\pm 10\text{mm}$ <input type="checkbox"/> $\pm 12\text{mm}$ <input type="checkbox"/>
	Non-standard: _____	Non-standard: _____	Non-standard: _____	Mobile travel ± 5.5	Non-standard: _____	Non-standard: _____
Positioning accuracy	10μm <input type="checkbox"/> 20μm <input type="checkbox"/> 30μm <input type="checkbox"/> Non-standard: _____	15μm <input type="checkbox"/> 30μm <input type="checkbox"/> Non-standard: _____			10μm <input type="checkbox"/> Non-standard: _____	
Repeated positioning accuracy	$\pm 1\mu\text{m}$ <input type="checkbox"/> $\pm 3\mu\text{m}$ <input type="checkbox"/> $\pm 10\mu\text{m}$ <input type="checkbox"/> Non-standard: _____	$\pm 1\mu\text{m}$ <input type="checkbox"/> $\pm 3\mu\text{m}$ <input type="checkbox"/> $\pm 10\mu\text{m}$ <input type="checkbox"/> Non-standard: _____	$\pm 0.005^\circ$ <input type="checkbox"/> $\pm 0.01^\circ$ <input type="checkbox"/> Non-standard: _____	$\pm 0.005^\circ$ <input type="checkbox"/> $\pm 0.01^\circ$ <input type="checkbox"/> Non-standard: _____	$\pm 1\mu\text{m}$ <input type="checkbox"/> $\pm 3\mu\text{m}$ <input type="checkbox"/> $\pm 10\mu\text{m}$ <input type="checkbox"/> Non-standard: _____	$\pm 1\mu\text{m}$ <input type="checkbox"/> $\pm 3\mu\text{m}$ <input type="checkbox"/> $\pm 10\mu\text{m}$ <input type="checkbox"/> Non-standard: _____
Load	10kgf <input type="checkbox"/> 15kgf <input type="checkbox"/> Non-standard: _____	15kgf <input type="checkbox"/> Non-standard: _____	4kgf <input type="checkbox"/> Non-standard: _____	5kgf <input type="checkbox"/> Non-standard: _____	8kgf <input type="checkbox"/> Non-standard: _____	30kgf <input type="checkbox"/> 50kgf <input type="checkbox"/> 80kgf <input type="checkbox"/> 100kgf <input type="checkbox"/> Non-standard: _____

Form of selection and subscription

Speed	10mm/s <input type="checkbox"/> 20mm/s <input type="checkbox"/>	10mm/s <input type="checkbox"/>	30°/s <input type="checkbox"/>	4.5°/s <input type="checkbox"/> 5.5°/s <input type="checkbox"/> 7°/s <input type="checkbox"/> 10°/s <input type="checkbox"/>	8mm/s <input type="checkbox"/>	10mm/s <input type="checkbox"/> 20mm/s <input type="checkbox"/> 40mm/s <input type="checkbox"/> 50mm/s <input type="checkbox"/>
	Non-standard: _____	Non-standard: _____	Non-standard: _____	Non-standard: _____	Non-standard: _____	Non-standard: _____
Installation method						
	Horizontal installation <input type="checkbox"/>	X Mount down <input type="checkbox"/>	Y Install downward <input type="checkbox"/>	Reversal installation <input type="checkbox"/>		
Combined type	YK-XY4015		Two-phase open-loop stepper <input type="checkbox"/> Two-phase closed-loop stepper <input type="checkbox"/> Non-standard: _____			
	YK-AB6075		Two-phase open-loop stepper <input type="checkbox"/> Two-phase closed-loop stepper <input type="checkbox"/> Non-standard: _____			
	YK-XYZ6020		Two-phase open-loop stepper <input type="checkbox"/> Two-phase closed-loop stepper <input type="checkbox"/> Non-standard: _____			
	YK-RAB80		Two-phase open-loop stepper <input type="checkbox"/> Two-phase closed-loop stepper <input type="checkbox"/> Non-standard: _____			
	YK-XYR6020		Two-phase open-loop stepper <input type="checkbox"/> Two-phase closed-loop stepper <input type="checkbox"/> Non-standard: _____			