

VEICHI

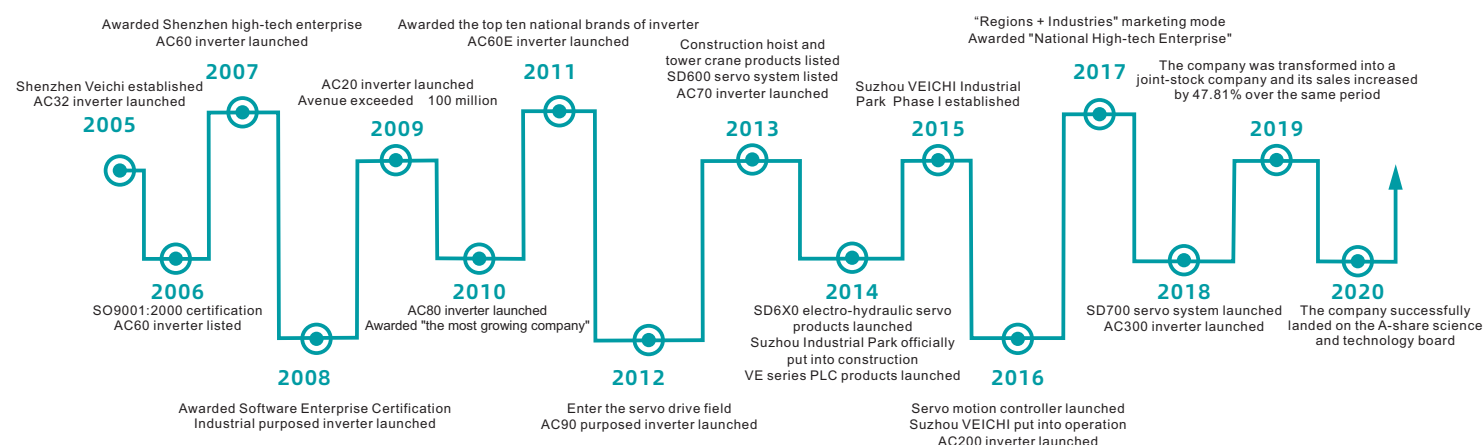
SD700 Series High Performance Servo System

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About us



VEICHI Electric, a high-tech enterprise engaged in the R&D, production and sales of industrial automation products, has always focused on the fields of electric drive and industrial control since its establishment. It has been listed as the "Jiangsu Provincial Enterprise Technology Center", "Jiangsu Private Technology Enterprise", "Jiangsu Provincial Specialized and New Giant Enterprise", "Jiangsu Provincial Engineering Technology Research Center", "Suzhou Gazelle Enterprise" and "Competitive Brand in Motion Control Field". After years of independent R&D and innovation, VEICHI has developed a series of independent intellectual property rights. By the end of June 30, 2021, a total of 108 patents have been granted, including 21 invention patents. VEICHI has R&D and production bases in Suzhou and Shenzhen, and has established a wholly-owned subsidiary in India. At present, the company's business covers many countries and regions, providing global customers with competitive, safe and reliable products and services.

We supply a wide range of products, including inverters from 0.4kW to 1,200kW, servo systems from 50W to 200kW, motion controllers, PLCs and HMIs, to diverse customers in lifting and mining equipment, rail transportation, machine tools, compressors, plastics, solar water pumping, building materials, robots or manipulators, printing and packaging, textile and chemical fiber, metallurgy, municipal, petroleum, chemical and other industries. VEICHI has established 13 service outlets in China, and developed 122 channel dealers, covering 31 provinces and Hong Kong, Macao and Taiwan regions across the country, forming a wide-ranging and efficient distribution and service network to provide customers with high-quality products and efficient Service.

VEICHI will continue to adhere to the business philosophy of "Guided by market demand, Driven by technological innovation", to expand and strengthen the core businesses of inverters, servo systems and motion controllers, and intelligent Internet of Things, and always insist on providing customers with best products and services. VEICHI will spare no effort to make contributions to promote the development of electric drive and industrial control.

Smarter & More efficient

SD700 Series High Performance Servo Drive

Latest software
algorithm design

Latest hardware
platform design

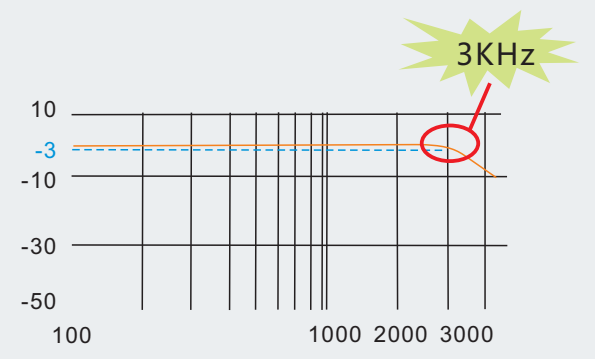
Latest structure
appearance design



Product features

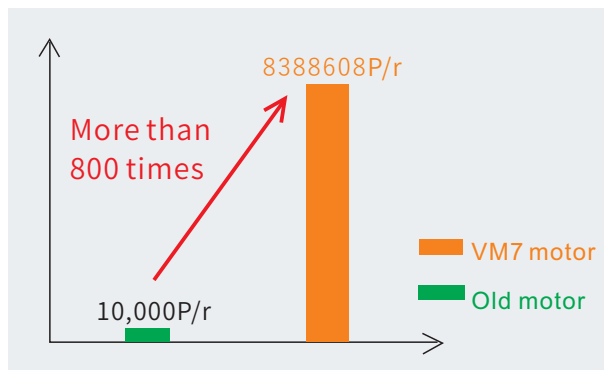
3KHz speed loop response bandwidth

The unique current algorithm can effectively improve the speed loop bandwidth which can greatly reduce the adjusting time and improve production efficiency. The fastest adjusting time can reach 1ms.



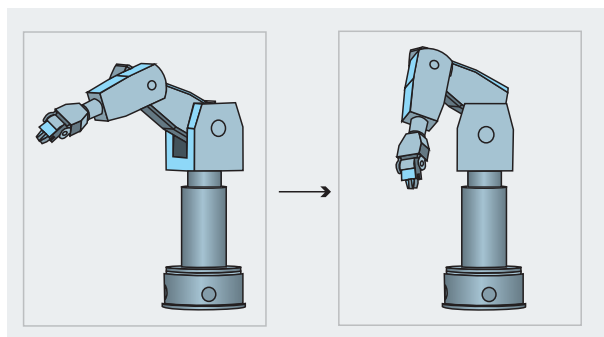
23-Bit absolute encoder

The standard 23 bit multi turn absolute encoder has 8388608 pulses per turn and the communication speed can reach 2.5 Mpps. The positioning is more accurate, the low speed is more stable, and the power-off position is not lost.



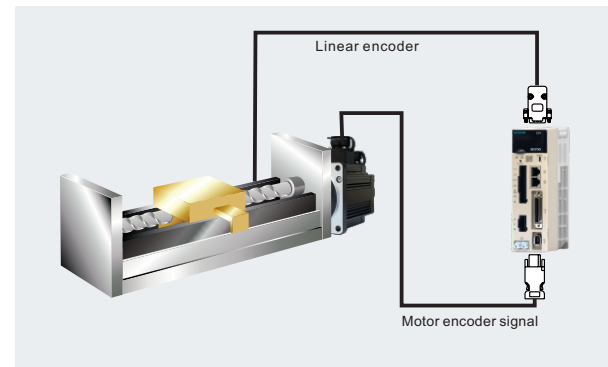
Robust control

Adopt latest control theory algorithm to achieve load rotating inertia within 30 times (even load changes during processing). It can ensure stable operation without parameter adjustment and can be used only after installation. This function is widely used in manipulator.



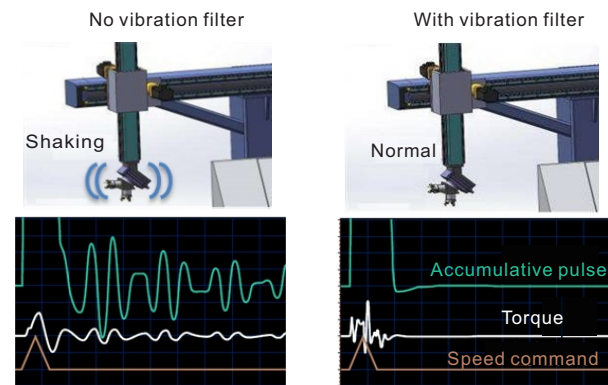
Support full closed-loop mode

The full closed loop mode supports external second encoder or linear encoder to reduce mechanical transmission gaps and increase the actual positioning accuracy. (Supported by all the models)



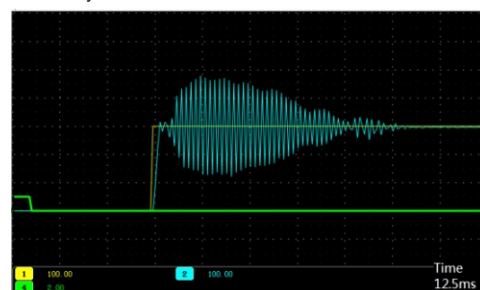
Low frequency vibration suppression function

The vibration filter can be set via the PC software to effectively eliminate the inherent vibration frequency, greatly reduce the stop axis jitter (sloshing) and effectively suppress vibration in 0~100Hz frequency. This function is often used to eliminate the end shaking when the injection molding manipulator and stacker stop.



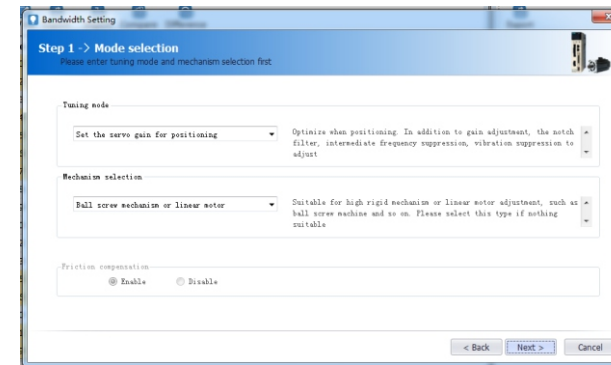
Auto set notch filter

There is no need to do complex vibration frequency measurement and analysis. The notch filter is quickly searched and automatically set through the single parameter adjustment function of the PC software. It features easy to use, and the shortest time is within 70ms. It can greatly reduce the noise and vibration due to the equipment mechanical resonance so as to achieve more rapid response. This function is widely used in CNC machines.



Intelligent setting

Automatic gain adjustment, guidance setting mode, and sequential setting can complete the servo gain settings. It also provides more adjustment modes for different mechanical structure and technological characteristics, so that the machine can reach the optimum state.



Powerful bus communication function

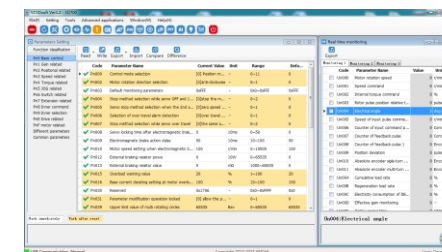
Support RS-485, EtherCAT, CANopen, MECHATROLINK II, MECHATROLINKIII and other mainstream bus protocols.



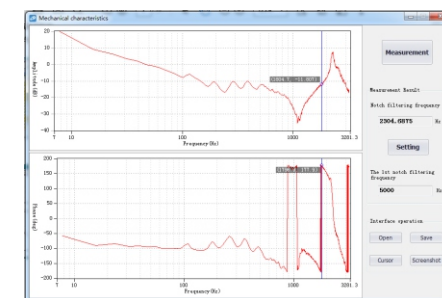
Powerful PC software

Debugging software free of installation.

The USB communication between the drive and computer is simple and easy to use.



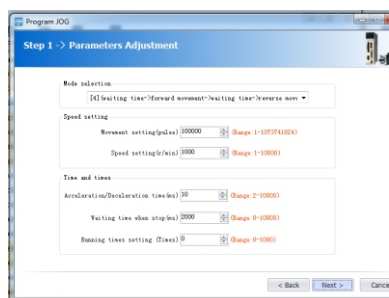
Batch parameter reading and writing



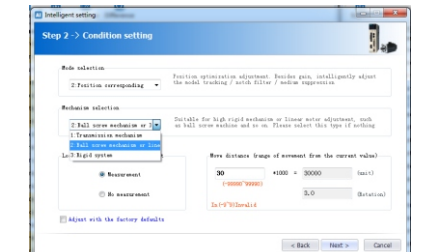
Mechanical characteristics analysis, automatic resonance suppression



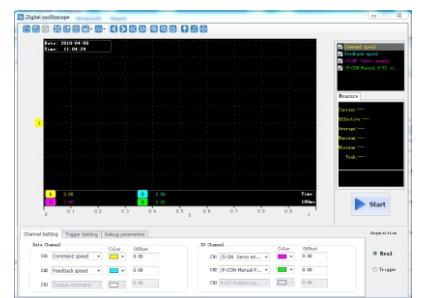
Inertia identification



Internal position loop program JOG, easy to debug



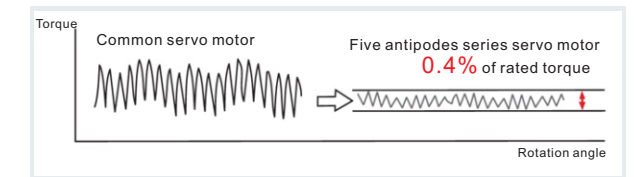
PID parameters for different mechanical structures



The online oscilloscope can monitor in real-time (125us) with multi-channels

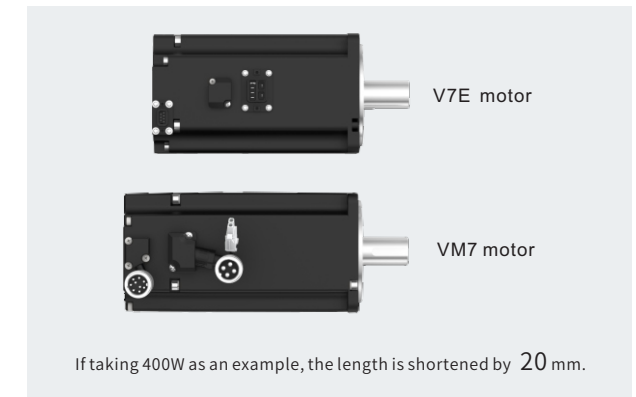
Greatly reduce motor ripple torque, stable operation at low speed

Adopting 10 stages rotor and 12 slots stator, the unique magnetic circuit design can effectively suppress slot effect and greatly reduce ripple torque to ensure constant motor speed and stable operation at low speed.



Motor miniaturization, high dynamic performance

Adopt the latest manufacturing techniques to optimize magnetic circuit design and reduce magnetic loss, achieving motor high dynamic response; The motor length is shortened by about 2cm, the temperature rise is reduced by 5 ~ 10°C, the shaft jump accuracy is higher, the wiring is simpler, and the whole series motors are with IP67 high protection.



Servo drive model description

SD 700 - 3R3 A - P A □

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① SD: Servo product code

⑤ Drive type
P: Pulse type
S: Standard type
C: CANopen bus type
E: EtherCAT bus type
M: MECHATROLINK II bus type
L: MECHATROLINK III bus type
N: PROFINET

② 700: High performance servo drive series

⑥ Encoder type
A: Absolute type
B: Biss type

③ Rated current

(A) 220VAC				(D) 400VAC							
1R8	1.8A	120	12A	3R8	3.8A	240	24A	800	80A	421	420A
3R3	3.3A	160	16A	6R0	6.0A	300	30A	121	120A	521	520A
5R5	5.5A			8R4	8.4A	500	50A	171	170A		
7R6	7.6A			110	11A	600	60A	221	220A		
9R5	9.5A			170	17A	700	70A	321	320A		

⑦ Product management code
Standard product default

④ Rated voltage

A: 220VAC
D: 400VAC

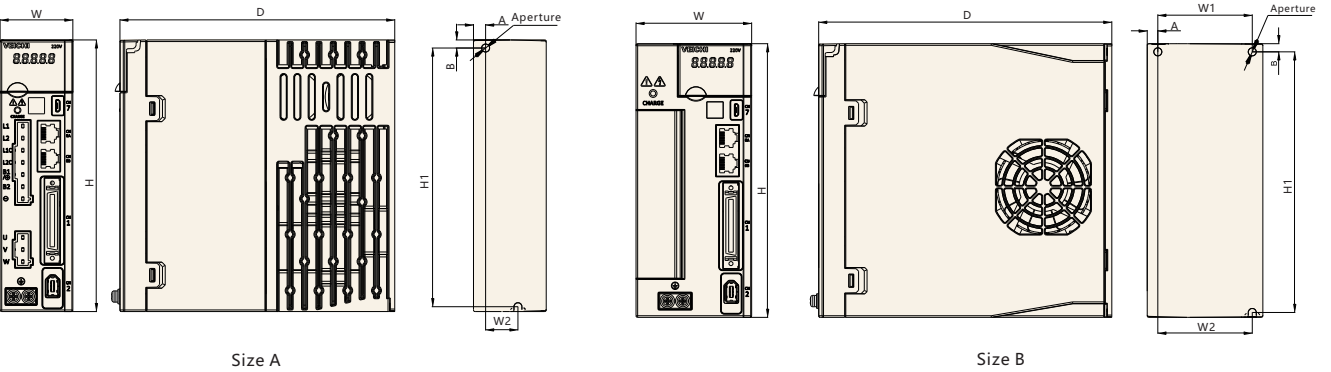
Code	Model	Pulse input	16 bit analog	Full closed loop	RS485	CANopen	EtherCAT	MECHATRO LINK II	MECHATRO LINK III	PROFINET
P	Pulse type	√	○	√	√	×	×	×	×	×
S	Standard type	√	√	√	√	√	×	×	×	×
C	CANopen type	√	○	√	√	√	×	×	×	×
E	EtherCAT type	×	×	△	√	×	√	×	×	×
M	MECHATROLINK II type	×	×	△	√	×	×	√	×	×
L	MECHATROLINK III type	×	×	△	√	×	×	×	√	×
N	PROFINET type	×	×	△	√	×	×	×	×	√

○ : support 12 bit analog √ : standard configured △ : optional × : not configured

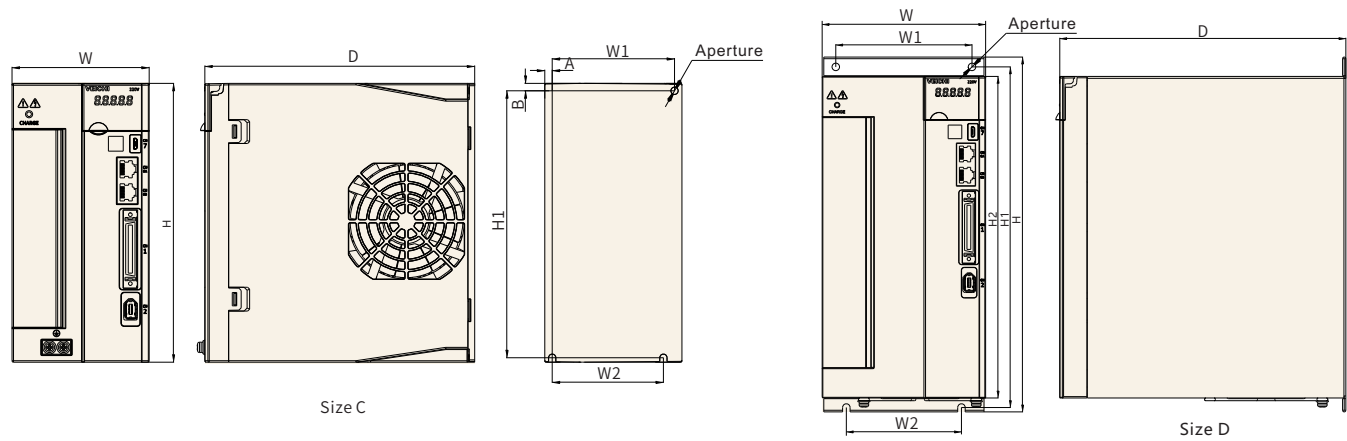
Drive power and Chassis type

Model	Input	Output		Chassis size
	Rated voltage(V)	Rated current(A)	Instantaneous current(A)	
SD700-1R1A	single phase 220	1.1	3.9	A
SD700-1R8A	single phase 220	1.8	6.3	
SD700-3R3A	single phase 220	3.3	11.6	
SD700-5R5A	single / three phase 220	5.5	16.5	B
SD700-7R6A	single / three phase 220	7.6	22.8	
SD700-9R5A	three phase 220	9.5	23.8	C
SD700-120A	three phase 220	12.0	36.0	
SD700-160A	three phase 220	16.0	40.0	
SD700-2R5D	three phase 400	2.5	7.5	B
SD700-3R8D	three phase 400	3.8	11.4	C
SD700-6R0D	three phase 400	6.0	18.0	
SD700-8R4D	three phase 400	8.4	25.2	
SD700-110D	three phase 400	11.0	27.5	D
SD700-170D	three phase 400	17.0	42.5	
SD700-240D	three phase 400	24.0	60.0	
SD700-300D	three phase 400	30.0	70.0	E
SD700-500D	three phase 400	50.0	115.0	
SD700-600D	three phase 400	60.0	120.0	
SD700-700D	three phase 400	70.0	140.0	F
SD700-800D	three phase 400	80.0	160.0	
SD700-121D	three phase 400	120.0	240.0	
SD700-171D	three phase 400	170.0	340.0	
SD700-221D	three phase 400	220.0	440.0	
SD700-321D	three phase 400	320.0	640.0	
SD700-421D	three phase 400	420.0	840.0	
SD700-521D	three phase 400	520.0	1040.0	

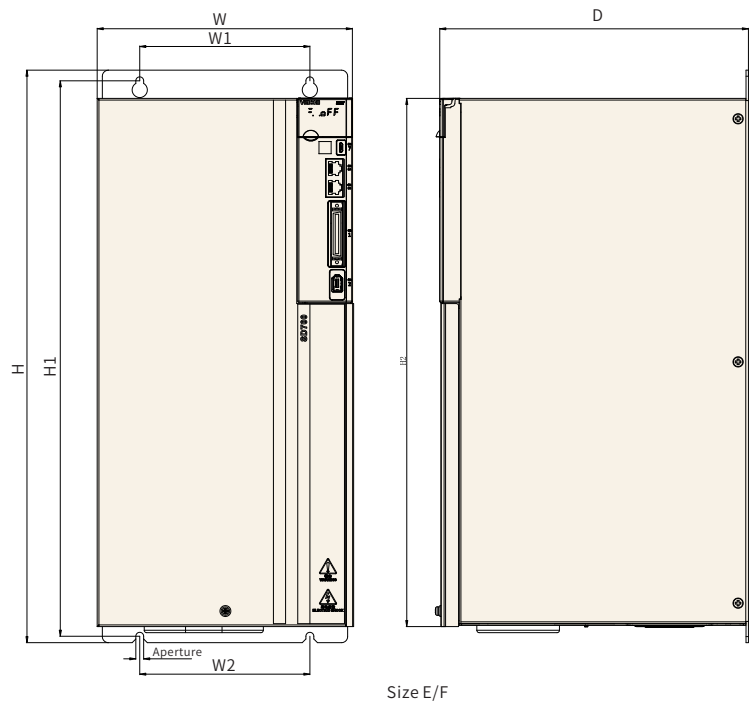
Drive appearance & Installation dimension



Chassis size	Model	Overall dimension(mm)			Installation dimension (mm)						Aperture
		W	H	D	W1	W2	H1	H2	A	B	
A	SD700-1R1A-**	45	168	170	\	20	160	\	7.5	5	2-M4
	SD700-1R8A-**										
	SD700-3R3A-**										
B	SD700-5R5A-**	71	168	180	58	58	160	\	6.5	5	3-M4
	SD700-7R6A-**										
	SD700-9R5A-**										
	SD700-2R5D-**										
	SD700-3R8D-**										



Chassis size	Model	Overall dimension (mm)			Installation dimension (mm)						Aperture
		W	H	D	W1	W2	H1	H2	A	B	
C	SD700-120A-**-	92.5	188	182	82.5	75	180	\	5	5	3-M4
	SD700-160A-**-										
	SD700-6R0D-**-										
	SD700-8R4D-**-										
	SD700-110D-**-										
D	SD700-170D-**-	120	260	210	100	84.5	250	236	\	\	4-M5
	SD700-240D-**-										
	SD700-300D-**-										



Size E/F

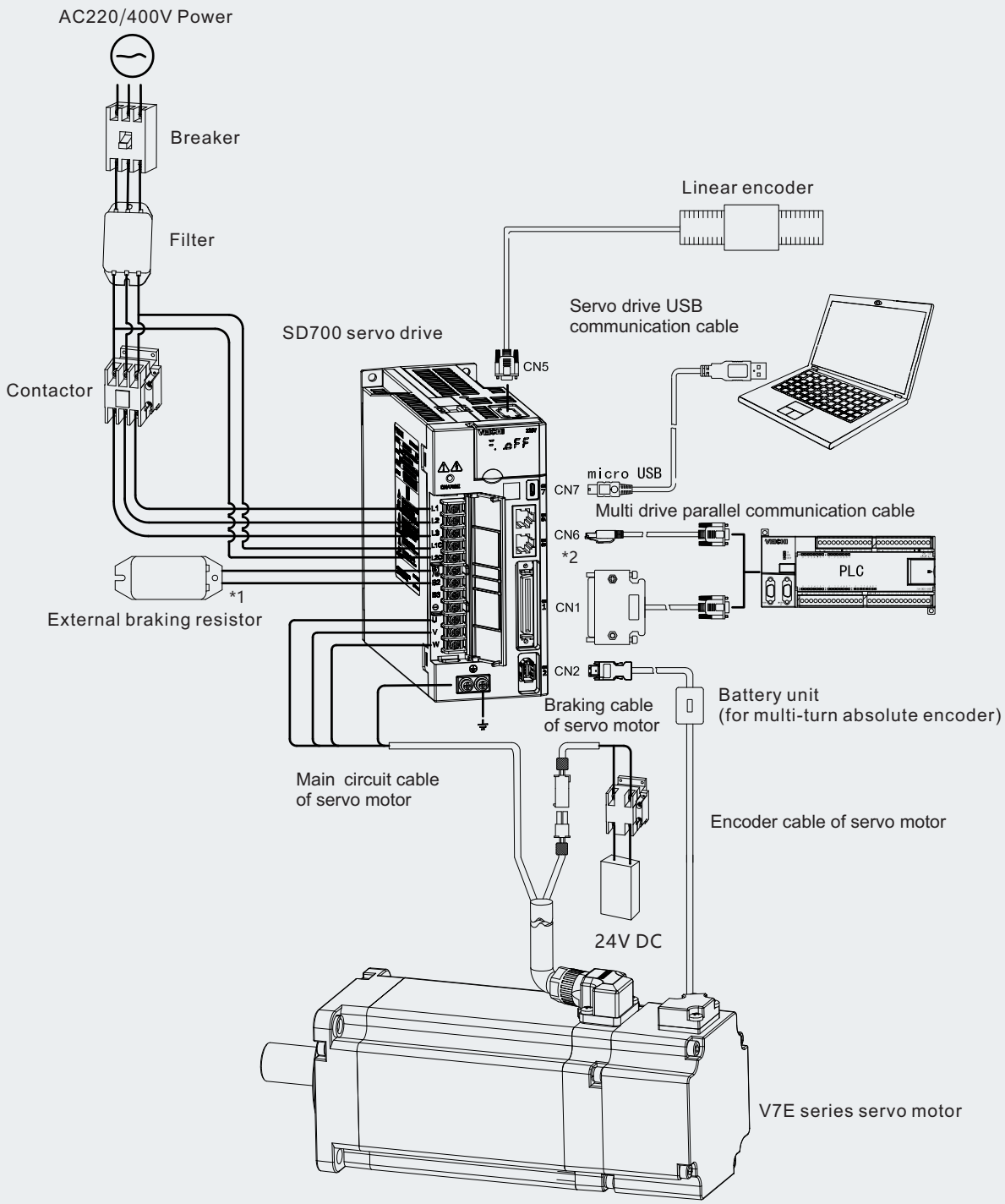
Chassis size	Model	Overall dimension (mm)			Installation dimension (mm)						Aperture
		W	H	D	W1	W2	H1	H2	A	B	
E	SD700-500D-**-	210	471	254	140	140	457	434.5	\	\	4-M6
	SD700-600D-**-										
F	SD700-700D-**-	240	558	310	176	176	544	520	\	\	4-M6
	SD700-800D-**-										
	SD700-121D-**-										
	SD700-171D-**-										
	SD700-221D-**-	350	738	405	220	220	715	680	\	\	4-M10
	SD700-321D-**-	360	940	495	200	200	911	880	\	\	4-M18
	SD700-421D-**-	370	1140	565	200	200	1111	1080	\	\	4-M18
	SD700-521D-**-	420	1250	590	240	240	1213	1180	\	\	4-M20

Drive specifications

Items			Specifications
Control mode			IGBT PWM control; sine wave current drive mode
Feedback	Rotating motor combination		Serial Communication Type Encoder: 17-bit, 23-bit absolute encoder
	Ambient temperature		-5℃ ~ 55℃(derating use at 55℃ ~ 60℃)
	Storage temperature		-20℃ ~ 85℃
	Ambient humidity		Below 95%RH (no freezing, no condensation)
	Storage humidity		Below 95%RH (no freezing, no condensation)
	Vibration resistance		4.9m/s²
	Impact resistance		19.6m/s²
	Protection class		IP20
	Cleanliness		No corrosive gases or flammable gases
			No water, oil or chemicals
			Environment with less dust, ash, salt, and metal powders
Altitude		Below 1000m (derating use at 1000m to 2000m)	
Others		No static interference, strong electric field, strong magnetic sound, radiation and so on	
Applicable standard			EN 61800-5-1:2007 EN 61800-3:2004/A1:2012
Installation type			Base mounting type: all models
			Shelf mounting type: all models
Performance	Speed control range		1: 6000 (the lower limit of speed control range is the value under the condition of not stop with rated torque load)
	Speed fluctuation rate	Load fluctuation	Below rated speed ±0.01% (load fluctuation:0%~100%)
		Voltage fluctuation	Rated speed 0% (rated voltage±10%)
		Temperature fluctuation	Below rated speed ±0.1% (temperature fluctuation:25±25℃)
Torque control accuracy		±1%	
Soft start time setting			0~30s (acceleration and deceleration can be set separately)
Communication function	Host communication	Communication mode	Rs485, CANopen, EtherCAT, MECHATROLINK-II, MECHATROLINK-III
	USB communication	Axis address setting	Parameters setting
		Equipment connection	Computer
			According to USB1.1 specifications(12M)
Display function			CHARGE indicator
Keypad operator function			Button switch ×4
Input/output signal	Encoder pulse division output		A phase, B phase, C phase: number of pulse frequency-division output for linear drive can be arbitrarily set
	Sequential control input signal	Assignable input signal	Working voltage range: DC24V±20%
			Input points:9
			Input mode: common collector input, common emitter input
			Input signal
			Servo ON (/S-ON)
			P action/P-CON
			Origin reset deceleration switch signal (/DEC)
			Forward drive banned (P-OT), reverse drive banned (N-OT)
			Alarm reset (/ALM-RST)
			Torque limit selection (/TLC)
			Speed rotation direction selection signal (/SPD-D)
			Internal speed setting selection (/SPD-A, /SPD-B)
			Control mode switch (/C-SEL)
			Zero position fixed (/ZCLAMP)
			Command pulse inhibited (/INHIBIT)
			Magnetic poles detection input (/P-DET) signal
			Gain switch (/G-SEL)
			Command pulse input rate switch (/PSEL)
			Assignable signals and variable positive / negative logic

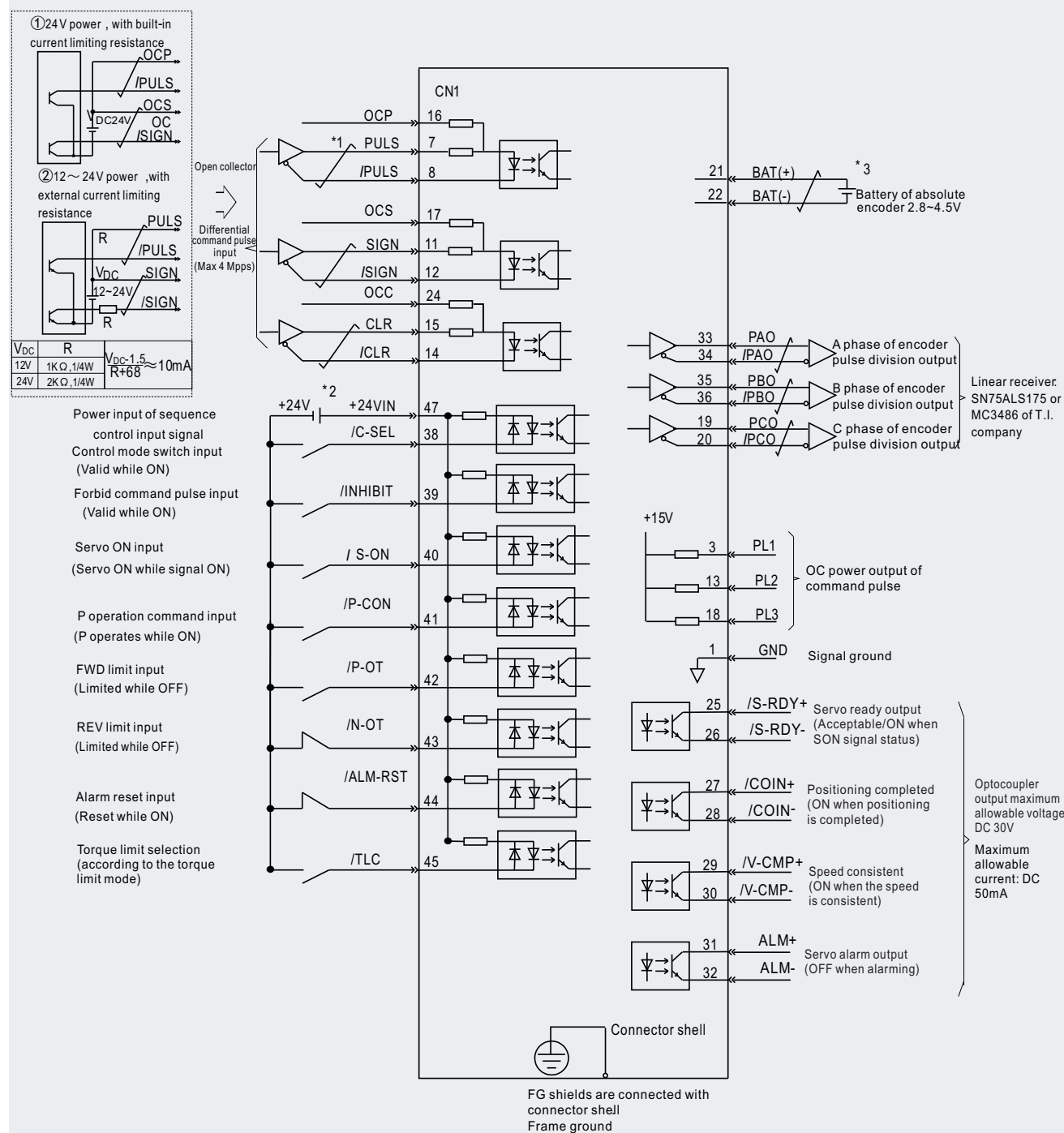
Items				Specifications			
Input/ output signal	Sequential control output signal	Fixed output		Working voltage range: DC5V~DC30V			
				Output points:1			
				Output signal:servo alarm (ALM)			
		Assignable output signals		Working voltage range: DC5V~DC30V			
				Output points:3			
				Input method: optocoupler output (isolated)			
				Output signal			
				Position finished(/COIN)			
				Rotational detection (/TGON)			
				Servo ready(S-RDY)			
				Torque limited detection (/CLT)			
				Speed limit detection (/VLT)			
				Brake (/BK)			
				Warning (/WARN)			
				Location nearby (/NEAR)			
				Assignable output signals and change positive / negative logic			
				Dynamic brake		Operate when the main power OFF, servo alarm, servo OFF, Over travel(OT) (only for AC220V A,B model)	
				Regeneration treatment		Built-in function, see “Brake resistance selection”	
		Over travel (OT) prevention		Dynamic brake (DB) stop, DEC stop, or free stop when P-OT, N-OT inputs operate			
Protection function		Over current, over voltage, under voltage, overload, regeneration fault, etc					
Auxiliary function		Gain adjustment, alarm record, JOG operation, origin search, etc					
Security function		Input		STO, base block signal for the power module			
Control	Position control	Feedforward compensation		0%~100%			
		Position arrived range		0~1073741824 Command unit			
		Input signal	Command pulse	Command pulse morphology	Choose one of the following		
				Symbol + pulse sequence, CW+CCW pulse sequence,two-phase pulse of 90°difference			
				Input morphology	Linear drive, open collector		
				Maximum input frequency	Line drive	Symbol + pulse sequence, CW+CCW pulse sequence: 4Mpps	
			Two-phase pulse of 90°difference: 1Mpps				
			Open collector		Symbol + pulse sequence, CW+CCW pulse sequence: 200Kpps		
					Two-phase pulse of 90°difference: 200Kpps		
			Input rate switching	1~100 times			
		signal clearance		Clearance of position deviation			
		speed control	Soft start time setting		0~30s(set acceleration and deceleration respectively)		
			Input signal	Command voltage	Maximum input voltage: ±10V (motor runs forwardly under positive voltage command)		
					Rated speed at DC6V [factory setting]		
	Variable input gain setting						
	Internal set speed control		Input impedance	About 14KΩ			
			Loop time parameter	30μs			
			Rotation direction selection	Inner speed set selection (/SPD-A,/SDP-B)			
			Speed selection	Rotary direction selection (/SPD-D)			
			Stop or change to other control modes when both sides are OFF				
	Torque control		Input signal	Command voltage	Maximum input voltage: ±10V (motor runs forwardly under positive voltage command)		
					Rated torque at DC3V [factory setting]		
		Variable input gain setting					
		Input impedance		About 14KΩ			
		Loop time setting		16μs			

System configuration drawing



*1: When using the external braking resistor, please disconnect the short wire between B2-B3 terminals at first;
*2: CN6A and CN6B are two fully consistent communication interface, which could be used freely between them;
Except for Ethercat communication, the EtherCAT bus wiring must be top in and bottom out.

Standard wiring diagram - position mode



*1. ∇ is the twisted shields

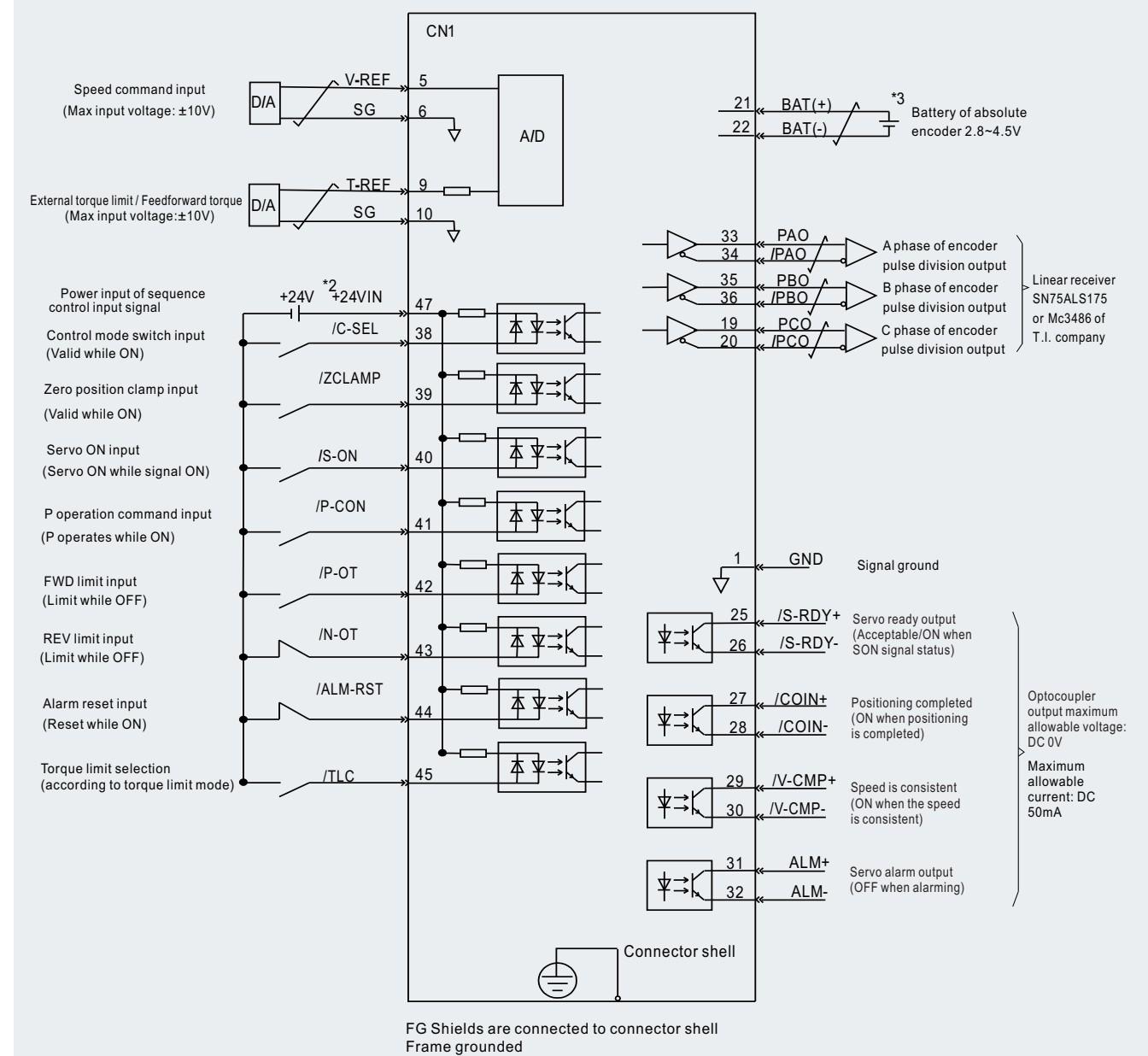
*2. DC24V power should be prepared by user. Double insulation or reinforced insulation equipments should be used for DC24V power

*3. Connected while using absolute encoder. But never connect with CN1-21, CN1-22 pins while using encoder cables with battery unit

*4. Output signal should be received by linear receiver

(Note) While using 24V braker, DC24V power should be separated from the power for input and output signal (CN1). Please prepare other power individually, otherwise, there may be misoperation of input and output signal while power on.

Standard wiring diagram - speed / torque mode



*1. ∇ is the twisted shields

*2. DC24V power should be prepared by user. Double insulation or reinforced insulation equipments should be used for DC24V power

*3. Connected while using absolute encoder. But never connect with CN1-21, CN1-22 pins while using encoder cables with battery unit

*4. Output signal should be received by linear receiver

(Note) While using 24V braker, DC24V power should be separated from the power for input and output signal (CN1). Please prepare other power individually, otherwise, there may be misoperation of input and output signal while power on.

Servo motor model description

V7E - L 06 A - 1R0 15 - D 1 □

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① Product series
V7E
VM5
VM7

⑥ Rated speed(RPM)
15 : 1500
20: 2000
25: 2500
30: 3000

Motor braking power chart
(Estimated) :

Flange	Braking power
40	7W
60	10W
80	15W
110	15W
130	20W
180	30W

② Inertia level
L: low inertia
M: medium inertia
H: high inertia

⑦ Encoder type
D: 23 bit multi-turn absolute optical encoder
Q: 17 bit single-turn absolute magnetic encoder
R: 17 bit multi-turn absolute magnetic encoder
S: 20 bit multi-turn absolute optical cross shaft encoder

③ Flange
04: 40mm 13: 130mm
06: 60mm 18: 180mm
08: 80mm 20: 200mm
10: 100mm 26: 260mm
11: 110mm 32: 320mm

Mark	Axis		Oil seal		Brake	
	Round shaft	Key shaft	Yes	No	Yes	No
1		●	●			●
2		●	●		●	

④ Rated voltage
A: 220VAC
D: 380 VAC

⑨ Factory management code

⑤ Rated power

Mark	Power	Mark	Power	Mark	Power	Mark	Power
R05	50W	1R2	1.2kW	4R4	4.4kW	037	37kW
R10	100W	1R3	1.3kW	5R5	5.5kW	045	45kW
R20	200W	1R5	1.5kW	7R5	7.5kW	055	55kW
R40	400W	1R8	1.8kW	011	11kW	075	75kW
R60	600W	2R0	2.0kW	015	15kW	090	90kW
R75	750W	2R3	2.3kW	020	20kW	110	110kW
R85	850W	2R9	2.9kW	022	22kW	150	150kW
1R0	1.0kW	3R0	3.0kW	030	30kW	200	200kW

Servo motor specifications (General model)

Model	Voltage (V)	Power (W)	Rated torque (N·m)	Rated speed (RPM)	Max speed (RPM)	Rated current (A)	Max current (A)	Moment of inertia
V7E-L04A-R1030-□1	220	100	0.32	3000	6000	1	3	0.051kg·cm ²
V7E-L04A-R1030-□2	220	100	0.32	3000	6000	1	3	0.052kg·cm ²
V7E-L06A-R2030-□1	220	200	0.64	3000	6000	1.7	5.1	0.18kg·cm ²
V7E-L06A-R2030-□2	220	200	0.64	3000	6000	1.7	5.1	0.2kg·cm ²
V7E-L06A-R4030-□1	220	400	1.27	3000	6000	2.6	7.8	0.34kg·cm ²
V7E-L06A-R4030-□2	220	400	1.27	3000	6000	2.6	7.8	0.36kg·cm ²
V7E-M06A-R4030-□1	220	400	1.27	3000	6000	2.6	7.8	0.67kg·cm ²
V7E-M06A-R4030-□2	220	400	1.27	3000	6000	2.6	7.8	0.69kg·cm ²
V7E-L06A-R6030-□1	220	600	1.91	3000	5000	3.3	9.9	0.51kg·cm ²
V7E-L06A-R6030-□2	220	600	1.91	3000	5000	3.3	9.9	0.53kg·cm ²
V7E-L08A-R7530-□1	220	750	2.38	3000	4000	4.6	13.8	1.02kg·cm ²
V7E-L08A-R7530-□2	220	750	2.38	3000	4000	4.6	13.8	1.13kg·cm ²
V7E-M08A-R7530-□1	220	750	2.38	3000	4000	4.6	13.8	2.3kg·cm ²
V7E-M08A-R7530-□2	220	750	2.38	3000	4000	4.6	13.8	2.41kg·cm ²
V7E-L08A-1R030-□1	220	1000	3.18	3000	5000	5	16.5	1.34kg·cm ²
V7E-L08A-1R030-□2	220	1000	3.18	3000	5000	5	16.5	1.45kg·cm ²
V7E-M11A-1R230-□1	220	1200	3.82	3000	5000	6.3	18.9	4.91kg·cm ²
V7E-M11A-1R230-□2	220	1200	3.82	3000	5000	6.3	18.9	5.52kg·cm ²
V7E-M11A-1R530-□1	220	1500	4.78	3000	5000	7.6	22.8	6.1kg·cm ²
V7E-M11A-1R530-□2	220	1500	4.78	3000	5000	7.6	22.8	6.71kg·cm ²
V7E-M11A-1R830-□1	220	1800	5.73	3000	5000	9.3	27.9	7.28kg·cm ²
V7E-M11A-1R830-□2	220	1800	5.73	3000	5000	9.3	27.9	7.89kg·cm ²
V7E-M13A-R8515-□1	220	850	5.41	1500	3000	5.4	16.2	12.98kg·cm ²
V7E-M13A-R8515-□2	220	850	5.41	1500	3000	5.4	16.2	15.12kg·cm ²
V7E-M13A-1R315-□1	220	1300	8.28	1500	3000	8.2	23.7	18.38kg·cm ²
V7E-M13A-1R315-□2	220	1300	8.28	1500	3000	8.2	23.7	20.52kg·cm ²
V7E-M13A-1R815-□1	220	1800	11.46	1500	3000	10.9	32.7	25.85kg·cm ²
V7E-M13A-1R815-□2	220	1800	11.46	1500	3000	10.9	32.7	27.72kg·cm ²
V7E-M13A-2R315-□1	220	2300	14.64	1500	2000	14	42	36.38kg·cm ²
V7E-M13A-2R315-□2	220	2300	14.64	1500	2000	14	42	38.52kg·cm ²
V7E-M18A-2R915-□1	220	2900	18.46	1500	2000	12	36	49.56kg·cm ²
V7E-M18A-2R915-□2	220	2900	18.46	1500	2000	12	36	56.05kg·cm ²
V7E-M18A-4R415-□1	220	4400	28.01	1500	1800	16	48	68.9kg·cm ²
V7E-M18A-4R415-□2	220	4400	28.01	1500	1800	16	48	75.39kg·cm ²
V7E-M13D-R8515-□1	380	850	5.41	1500	3000	3.3	9.9	12.98kg·cm ²
V7E-M13D-R8515-□2	380	850	5.41	1500	3000	3.3	9.9	15.12kg·cm ²
V7E-M13D-1R315-□1	380	1300	8.28	1500	3000	4.8	14.4	18.38kg·cm ²
V7E-M13D-1R315-□2	380	1300	8.28	1500	3000	4.8	14.4	20.52kg·cm ²
V7E-M13D-1R815-□1	380	1800	11.46	1500	3000	6.6	19.8	25.58kg·cm ²
V7E-M13D-1R815-□2	380	1800	11.46	1500	3000	6.6	19.8	27.72kg·cm ²
V7E-M13D-2R315-□1	380	2300	14.64	1500	2000	8.4	25.2	36.38kg·cm ²
V7E-M13D-2R315-□2	380	2300	14.64	1500	2000	8.4	25.2	38.52kg·cm ²
V7E-M18D-2R915-□1	380	2900	18.46	1500	2000	7.1	17.8	49.56kg·cm ²
V7E-M18D-2R915-□2	380	2900	18.46	1500	2000	7.1	17.8	56.05kg·cm ²

Servo motor specifications (General model)

Model	Voltage (V)	Power (W)	Rated torque (N・m)	Rated speed (RPM)	Max speed (RPM)	Rated current (A)	Max current (A)	Moment of inertia
V7E-M18D-4R415-□1	380	4400	28.01	1500	3000	10.9	27.3	68.9kg・cm ²
V7E-M18D-4R415-□2	380	4400	28.01	1500	3000	10.9	27.3	75.39kg・cm ²
V7E-M18D-5R515-□1	380	5500	35.02	1500	2000	13.4	33.5	110.11kg・cm ²
V7E-M18D-5R515-□2	380	5500	35.02	1500	2000	13.4	33.5	116.6kg・cm ²
V7E-M18D-7R515-□1	380	7500	47.75	1500	2000	17	42.5	156.61kg・cm ²
V7E-M18D-7R515-□2	380	7500	47.75	1500	2000	17	42.5	163.09kg・cm ²

Servo motor specifications (Purposed model)

Model	Voltage (V)	Power (W)	Rated torque (N・m)	Rated speed (RPM)	Max speed (RPM)	Rated current (A)	Max current (A)	Moment of inertia
V7E-L08A-R7520-□1L	220	750	3.58	2000	2500	3	9	1.34kg・cm ²
V7E-L08A-R7520-□2L	220	750	3.58	2000	2500	3	9	1.45kg・cm ²
V7E-L08A-R7530-□1L	220	750	2.38	3000	4000	3.1	9.3	1.02kg・cm ²
V7E-L08A-R7530-□2L	220	750	2.38	3000	4000	3.1	9.3	1.13kg・cm ²
V7E-M13A-R8515-□1B	220	850	5.41	1500	3000	5.4	16.2	12.98kg・cm ²
V7E-M13A-R8515-□2B	220	850	5.41	1500	3000	5.4	16.2	15.12kg・cm ²
V7E-M13A-1R020-□1	220	1000	4.78	2000	3000	4.9	14.7	12.98kg・cm ²
V7E-M13A-1R020-□2	220	1000	4.78	2000	3000	4.9	14.7	15.12kg・cm ²
V7E-M13A-1R520-□1	220	1500	7.16	2000	3000	7.1	21.3	18.38kg・cm ²
V7E-M13A-1R520-□2	220	1500	7.16	2000	3000	7.1	21.3	20.52kg・cm ²
V7E-M13A-1R815-□1B	220	1800	11.46	1500	3000	10.9	32.7	25.58kg・cm ²
V7E-M13A-1R815-□2B	220	1800	11.46	1500	3000	10.9	32.7	27.72kg・cm ²
V7E-M13A-2R020-□1	220	2000	9.55	2000	3000	9.4	28.2	25.58kg・cm ²
V7E-M13A-2R020-□2	220	2000	9.55	2000	3000	9.4	28.2	27.72kg・cm ²
V7E-M13A-2R315-□1L	220	2300	14.64	1500	2000	9.5	28.5	36.38kg・cm ²
V7E-M13A-2R315-□2L	220	2300	14.64	1500	2000	9.5	28.5	38.52kg・cm ²
V7E-M13A-3R020-□1	220	3000	14.33	2000	3000	14	42	36.38kg・cm ²
V7E-M13A-3R020-□2	220	3000	14.33	2000	3000	14	42	38.52kg・cm ²
V7E-M18A-2R915-□1H	220	2900	18.46	1500	3000	16	40	49.56kg・cm ²
V7E-M18A-2R915-□2H	220	2900	18.46	1500	3000	16	40	56.05kg・cm ²
V7E-M13D-R8515-□1B	380	850	5.41	1500	3000	3.3	9.9	12.98kg・cm ²
V7E-M13D-R8515-□2B	380	850	5.41	1500	3000	3.3	9.9	15.12kg・cm ²
V7E-M13D-1R020-□1	380	1000	4.78	2000	3000	3.2	9.6	12.98kg・cm ²
V7E-M13D-1R020-□2	380	1000	4.78	2000	3000	3.2	9.6	15.12kg・cm ²
V7E-M13D-1R520-□1	380	1000	7.16	2000	3000	4.4	13.2	18.38kg・cm ²
V7E-M13D-1R520-□2	380	1000	7.16	2000	3000	4.4	13.2	20.52kg・cm ²
V7E-M13D-1R815-□1B	380	1800	11.46	1500	3000	6.6	19.8	25.58kg・cm ²
V7E-M13D-1R815-□2B	380	1800	11.46	1500	3000	6.6	19.8	27.72kg・cm ²
V7E-M13D-2R020-□1	380	1000	9.55	2000	3000	5.5	16.5	25.58kg・cm ²
V7E-M13D-2R020-□2	380	1000	9.55	2000	3000	5.5	16.5	27.72kg・cm ²

Servo motor specifications (Purposed model)

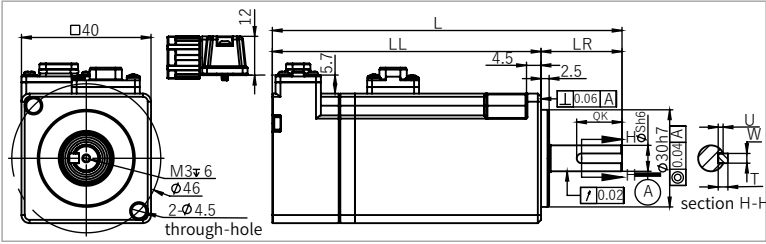
Model	Voltage (V)	Power (W)	Rated torque (N・m)	Rated speed (RPM)	Max speed (RPM)	Rated current (A)	Max current (A)	Moment of inertia
V7E-M13D-2R315-□1L	380	2300	14.64	1500	2000	5.6	16.8	36.38kg・cm ²
V7E-M13D-2R315-□2L	380	2300	14.64	1500	2000	5.6	16.8	38.52kg・cm ²
V7E-M13D-3R020-□1	380	3000	14.33	2000	3000	8.3	24.9	36.38kg・cm ²
V7E-M13D-3R020-□2	380	3000	14.33	2000	3000	8.3	24.9	38.52kg・cm ²
V7E-M18D-2R915-□1H	380	2900	18.46	1500	3000	10.7	26.8	49.56kg・cm ²
V7E-M18D-2R915-□2H	380	2900	18.46	1500	3000	10.7	26.8	56.05kg・cm ²
V7E-M18D-4R415-□1H	380	4400	28.01	1500	3000	16.2	40.5	68.9kg・cm ²
V7E-M18D-4R415-□2H	380	4400	28.01	1500	3000	16.2	40.5	75.39kg・cm ²
V7E-M18D-5R515-□1H	380	5500	35.02	1500	3000	19	47.5	110.11kg・cm ²
V7E-M18D-5R515-□2H	380	5500	35.02	1500	3000	19	47.5	116.6kg・cm ²
V7E-M18D-5R515-□1BH	380	5500	35.02	1500	3000	19	47.5	110.11kg・cm ²
V7E-M18D-5R515-□2BH	380	5500	35.02	1500	3000	19	47.5	116.6kg・cm ²
V7E-M18D-7R515-□1H	380	7500	47.75	1500	3000	26	65	156.6kg・cm ²
V7E-M18D-7R515-□2H	380	7500	47.75	1500	3000	26	65	163.09kg・cm ²
V7E-M18D-7R515-□1BH	380	7500	47.75	1500	3000	26	65	156.6kg・cm ²
V7E-M18D-7R515-□2BH	380	7500	47.75	1500	3000	26	65	163.09kg・cm ²

Servo motor specifications (High power)

Model	Voltage (V)	Power (W)	Rated torque (N・m)	Rated speed (RPM)	Max speed (RPM)	Rated current (A)	Max current (A)	Moment of inertia
VM7-M20D-01115-D1FN	380	11000	70	1500	2000	21	42	70kg・cm ²
VM7-M20D-01115-D2FN	380	11000	70	1500	2000	21	42	80kg・cm ²
VM7-M20D-01115-D1FNH	380	11000	70	1500	3000	30	60	70kg・cm ²
VM7-M20D-01515-D1FN	380	15000	96	1500	2000	29	58	100kg・cm ²
VM7-M20D-01515-D2FN	380	15000	96	1500	2000	29	58	110kg・cm ²
VM7-M20D-01515-D2FNH	380	15000	95	1500	3000	34	72	133kg・cm ²
VM7-M20D-02015-D1FN	380	20000	127	1500	2000	38.5	77	147kg・cm ²
VM7-M20D-02015-D2FN	380	20000	127	1500	2000	38.5	77	157kg・cm ²
VM7-M20D-02215-D1FN	380	22000	140	1500	2000	42	84	171kg・cm ²
VM7-M20D-02215-D2FN	380	22000	140	1500	2000	42	85	180kg・cm ²
VM7-M26D-03015-D1FN	380	30000	191	1500	2000	58	116	372kg・cm ²
VM7-M26D-03015-D2FN	380	30000	191	1500	2000	58	116	382kg・cm ²
VM7-M26D-03715-D1FN	380	37000	236	1500	2000	72	144	461kg・cm ²
VM7-M26D-03715-D2FN	380	37000	235	1500	2000	70	151	445kg・cm ²
VM7-M26D-04515-D1FN	380	45000	286	1500	2000	87	174	550kg・cm ²
VM7-M26D-04515-D2FN	380	45000	285	1500	2000	82	177	529kg・cm ²
VM7-M26D-05515-D1FN	380	55000	350	1500	2000	106	212	639kg・cm ²
VM7-M32D-05510-S1FN	380	55000	525	1000	1300	110	215	1370kg・cm ²
VM7-M32D-07510-S1FN	380	75000	716	1000	1300	142	280	1830kg・cm ²
VM7-H40D-07506-S1W	380	75000	1200	600	720	160	352	5294kg・cm ²
VM7-M32D-09010-S1FN	380	90000	859	1000	1300	171	339	2290kg・cm ²
VM7-M32D-10815-S1FN	380	108000	690	1500	2000	206	411	1830kg・cm ²
VM7-M32D-11010-S1FN	380	110000	1050	1000	1300	199	385	2750kg・cm ²

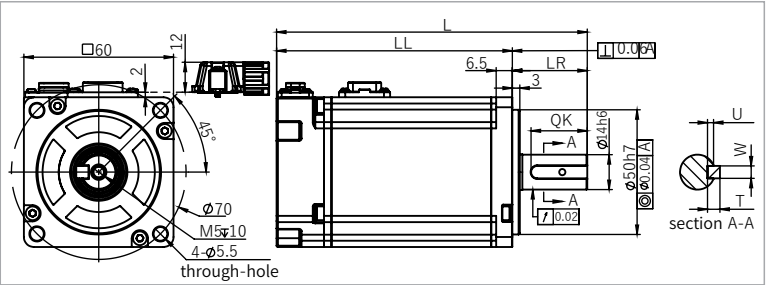
Servo motor installation dimension

40mm flange



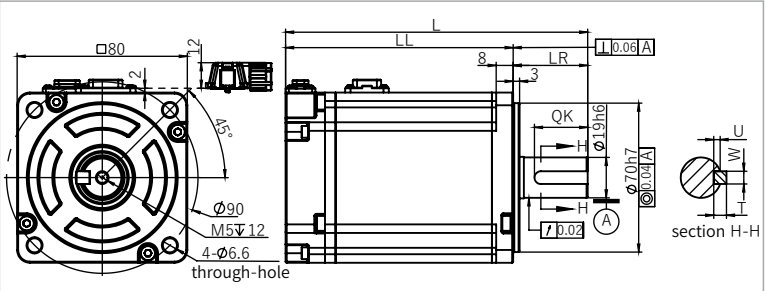
Model	L	LL	LR	S	QK	U	W	T
V7E-L04A-R1030-□1	108	83	25	8	14	1.5	3	3
V7E-L04A-R1030-□2	134	109	25	8	14	1.5	3	3

60mm flange



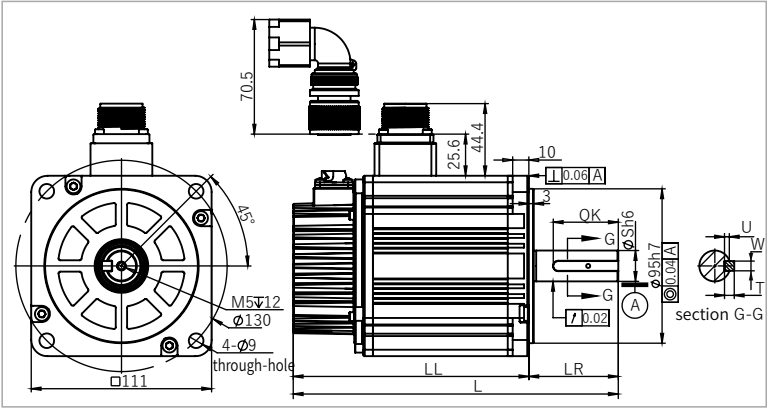
Model	L	LL	LR	S	QK	U	W	T
V7E-L06A-R2030-□1	105.5	75.5	30	14	22.5	2.5	5	5
V7E-L06A-R2030-□2	136.5	106.5	30	14	22.5	2.5	5	5
V7E-L06A-R4030-□1	124.5	94.5	30	14	22.5	2.5	5	5
V7E-L06A-R4030-□2	155.5	125.5	30	14	22.5	2.5	5	5
V7E-L06A-R6030-□1	143.5	113.5	30	14	22.5	2.5	5	5
V7E-L06A-R6030-□2	174.5	144.5	30	14	22.5	2.5	5	5

80mm flange



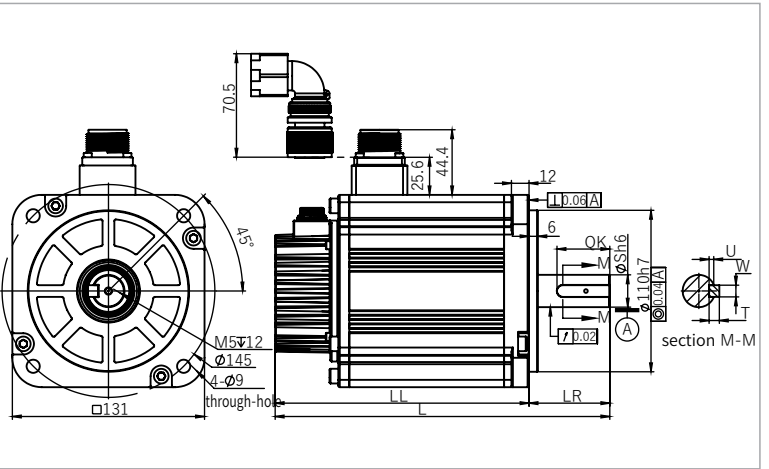
Model	L	LL	LR	S	QK	U	W	T
V7E-L08A-R7520-□1L	156	121	35	19	25	3	6	6
V7E-L08A-R7520-□2L	188	153	35	19	25	3	6	6
V7E-L08A-R7530-□1L	142	107	35	19	25	3	6	6
V7E-L08A-R7530-□2L	174	139	35	19	25	3	6	6
V7E-M08A-R7530-□1L	152	117	35	19	25	3	6	6
V7E-M08A-R7530-□2L	184.5	149.5	35	19	25	3	6	6
V7E-L08A-R7530-□1	142	107	35	19	25	3	6	6
V7E-L08A-R7530-□2	174	139	35	19	25	3	6	6
V7E-M08A-R7530-□1	152	117	35	19	25	3	6	6
V7E-M08A-R7530-□2	184.5	149.5	35	19	25	3	6	6
V7E-L08A-1R030-□1	156	121	35	19	25	3	6	6
V7E-L08A-1R030-□2	188	153	35	19	25	3	6	6

110mm flange



Model	L	LL	LR	S	QK	U	W	T
V7E-M11A-1R230-□1	190	135	55	19	40	3	6	6
V7E-M11A-1R230-□2	221.2	166.2	55	19	40	3	6	6
V7E-M11A-1R530-□1	200	145	55	19	40	3	6	6
V7E-M11A-1R530-□2	231.2	176.2	55	19	40	3	6	6
V7E-M11A-1R830-□1	210	155	55	19	40	3	6	6
V7E-M11A-1R830-□2	241.2	186.2	55	19	40	3	6	6

130mm flange



Model	L	LL	LR	S	QK	U	W	T
V7E-M13A-R8515-□1	193	138	55	22	36	3.2	8	7
V7E-M13A-R8515-□2	221.2	166.2	55	22	36	3.2	8	7
V7E-M13A-1R020-□1	193	138	55	22	36	3.2	8	7
V7E-M13A-1R020-□2	221.2	166.2	55	22	36	3.2	8	7
V7E-M13A-1R315-□1	208	153	55	22	36	3.2	8	7
V7E-M13A-1R315-□2	236.2	181.2	55	22	36	3.2	8	7
V7E-M13A-1R520-□1	208	153	55	22	36	3.2	8	7
V7E-M13A-1R520-□2	236.2	181.2	55	22	36	3.2	8	7
V7E-M13A-2R020-□1	228	173	55	22	36	3.2	8	7
V7E-M13A-2R020-□2	256.2	201.2	55	22	36	3.2	8	7
V7E-M13A-2R315-□1L	258	203	55	22	36	3.2	8	7
V7E-M13A-2R315-□2L	286.2	231.2	55	22	36	3.2	8	7
V7E-M13A-3R020-□1L	258	203	55	22	36	3.2	8	7
V7E-M13A-3R020-□2L	286.2	231.2	55	22	36	3.2	8	7
V7E-M13D-1R020-□1	193	138	55	22	36	3.2	8	7
V7E-M13D-1R020-□2	221.2	166.2	55	22	36	3.2	8	7
V7E-M13D-1R315-□1	208	153	55	22	36	3.2	8	7
V7E-M13D-1R315-□2	236.2	181.2	55	22	36	3.2	8	7
V7E-M13D-1R520-□1	208	153	55	22	36	3.2	8	7
V7E-M13D-1R520-□2	236.2	181.2	55	22	36	3.2	8	7
V7E-M13D-2R020-□1	228	173	55	22	36	3.2	8	7
V7E-M13D-2R020-□2	256.2	201.2	55	22	36	3.2	8	7
V7E-M13D-2R315-□1L	258	203	55	22	36	3.2	8	7
V7E-M13D-2R315-□2L	286.2	231.2	55	22	36	3.2	8	7
V7E-M13A-R8515-□1B	193	138	55	19	40	3.1	6	6
V7E-M13A-R8515-□2B	221.2	166.2	55	19	40	3.1	6	6
V7E-M13A-1R815-□1B	228	173	55	24	36	3.3	8	7
V7E-M13A-1R815-□2B	256.2	201.2	55	24	36	3.3	8	7
V7E-M13D-R8515-□1B	193	138	55	19	40	3.1	6	6
V7E-M13D-R8515-□2B	221.2	166.2	55	19	40	3.1	6	6
V7E-M13D-1R815-□1B	193	138	55	24	36	3.3	8	7
V7E-M13D-1R815-□2B	221.2	166.2	55	24	36	3.3	8	7

Unit: mm									
Model	L	LL	LR	S	U	W	T	QK	
VM7-M20D-01115-□1FN	451	369	82	42	4	12	8	70	
VM7-M20D-01515-□1FN	488	406	82	42	4	12	8	70	
VM7-M20D-02015-□1FN	560	478	82	42	4	12	8	70	
VM7-M20D-02215-□1FN	607	525	82	42	4	12	8	70	

[illegible]

263mm flange

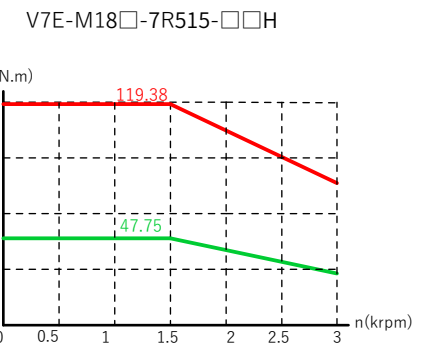
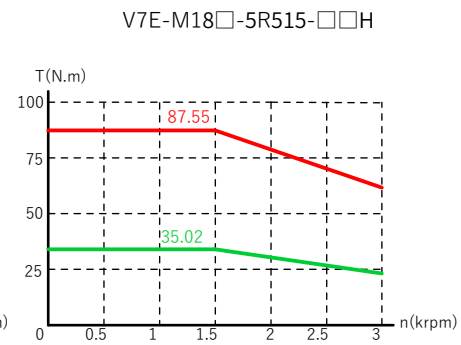
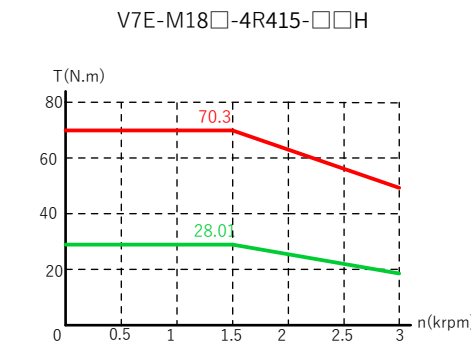
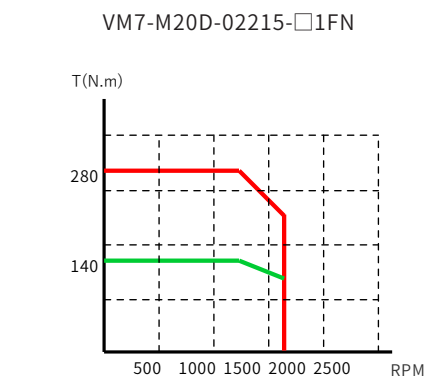
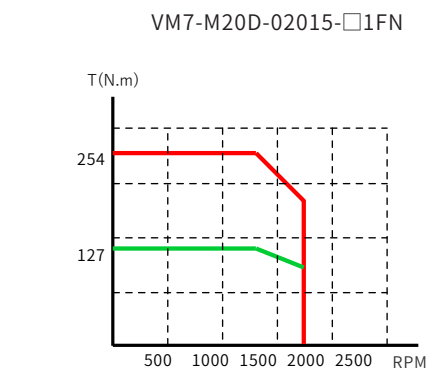
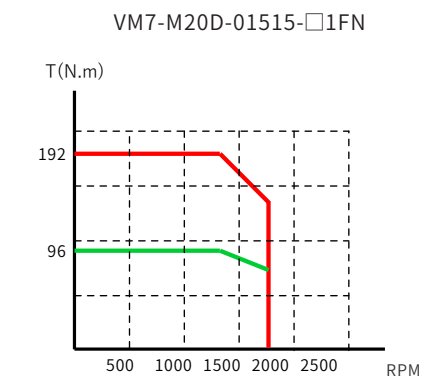
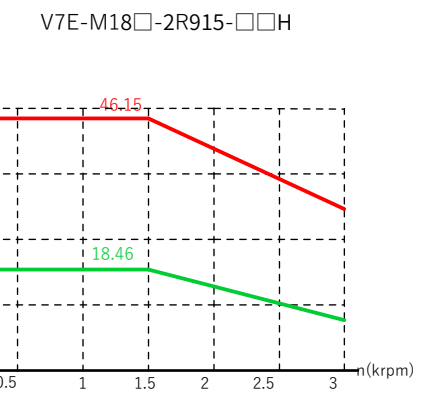
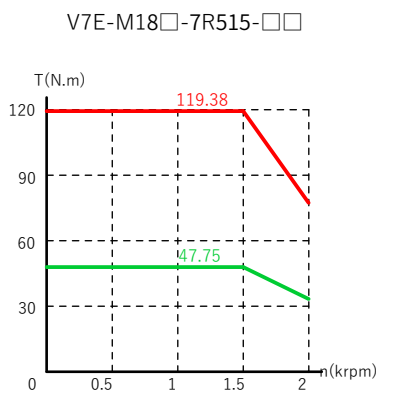
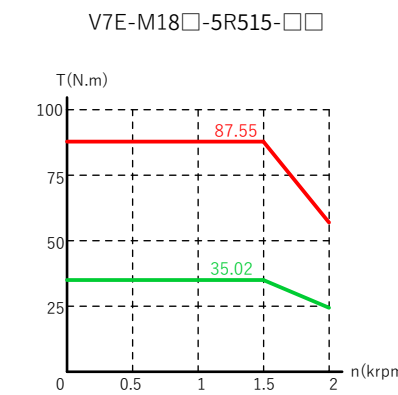
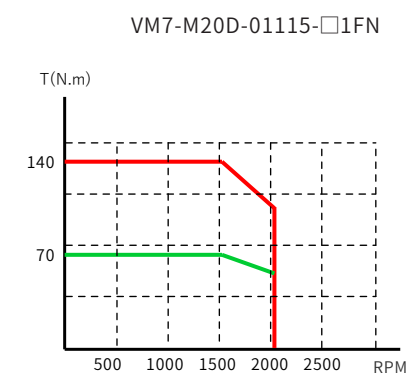
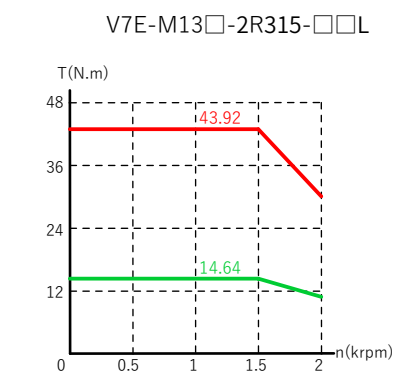
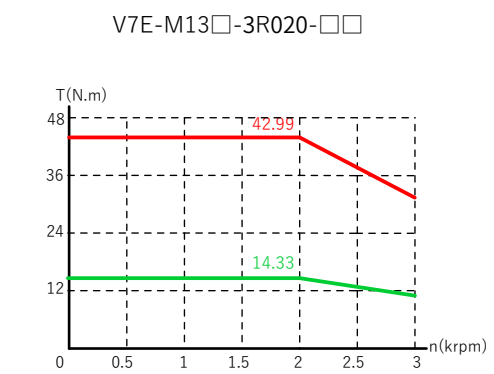
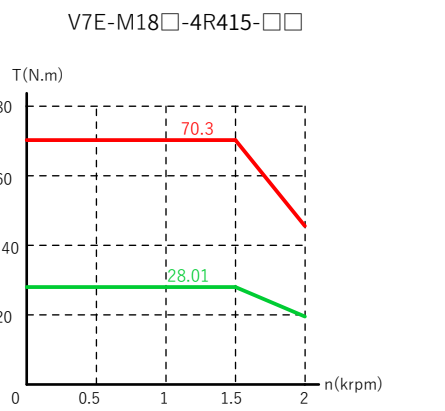
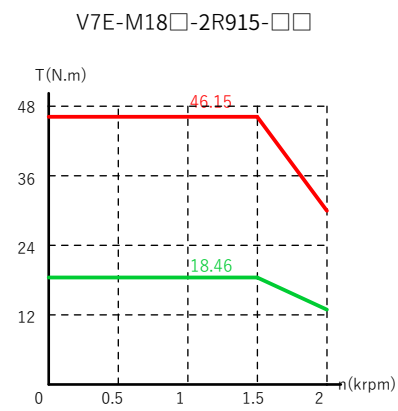
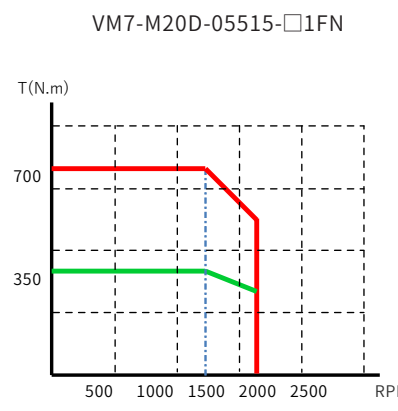
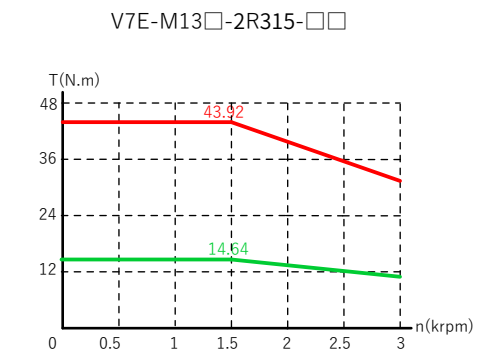
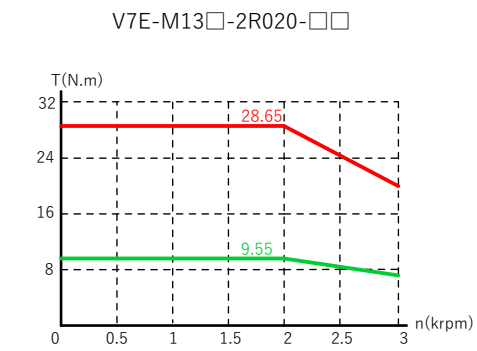
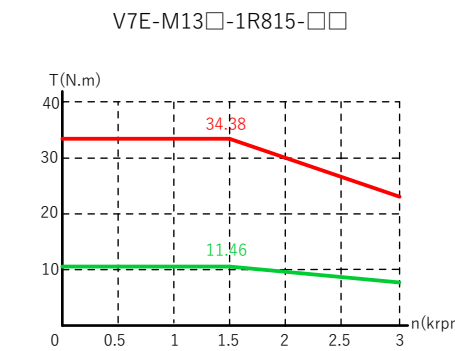
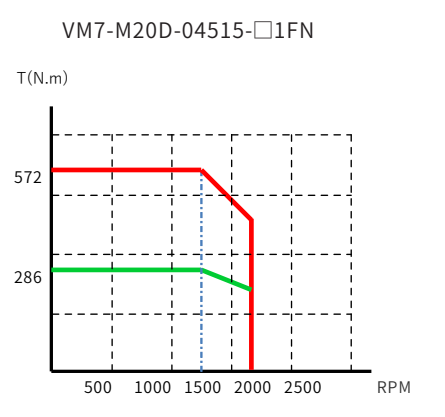
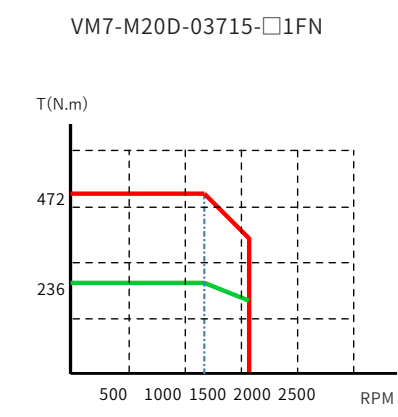
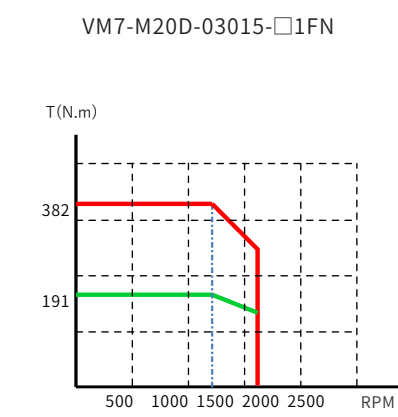
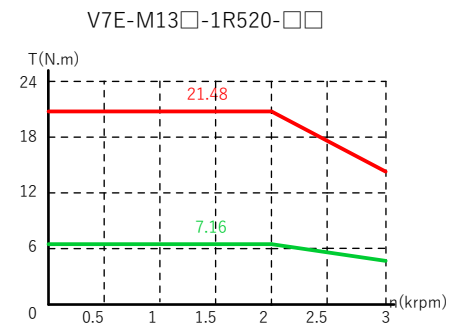
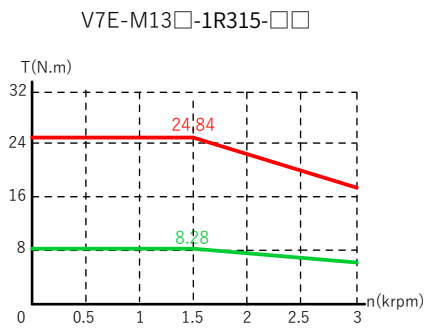
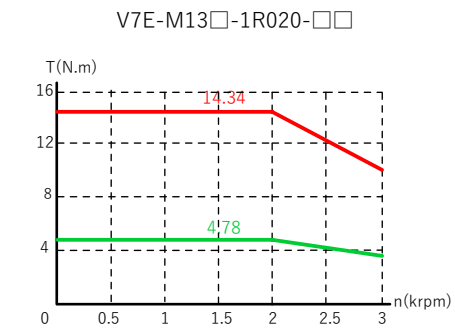
V7E-M13 □ R8515 □ □

T(N.m)

16.23

5.41

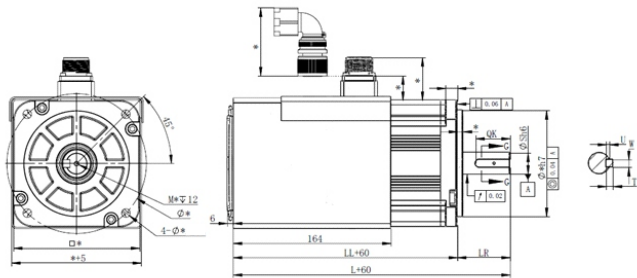
n(krpm)



Fan column

Fans are optional for 110 / 130 / 180 flange motors. For motors with fans, add "F" after the original model.

Motor dimension with fans



After the motor is equipped with fan, the machine length is increased by 60mm, and the other dimensions remain unchanged.

Fan specification

	F12038N27A230
Voltage level / V	230±15AC
Rated current / A	0.135A
Rated air volume / CFM	89
Rated speed / rpm	2650

Braking column

	Model	Static torque / N.m	Rated voltage/ V	Rated current / A
40	Z092-S040B(24V)0.38G8.5-001	0.38	24±10%	0.25
60	Z029-S060B(24V)1.5G12	1.5	24±10%	0.32
80	Z122-S080B(24V)3.8G16-002	3.8	24±10%	0.35
110	Z029-S110B(24V)10G21	10	24±10%	0.81
130	Z092-S130B(24V)16C25-002	16	24±10%	1
180	Z176-S180(24V)50C38	50	24±10%	2

SD700 Servo drive cable introduction

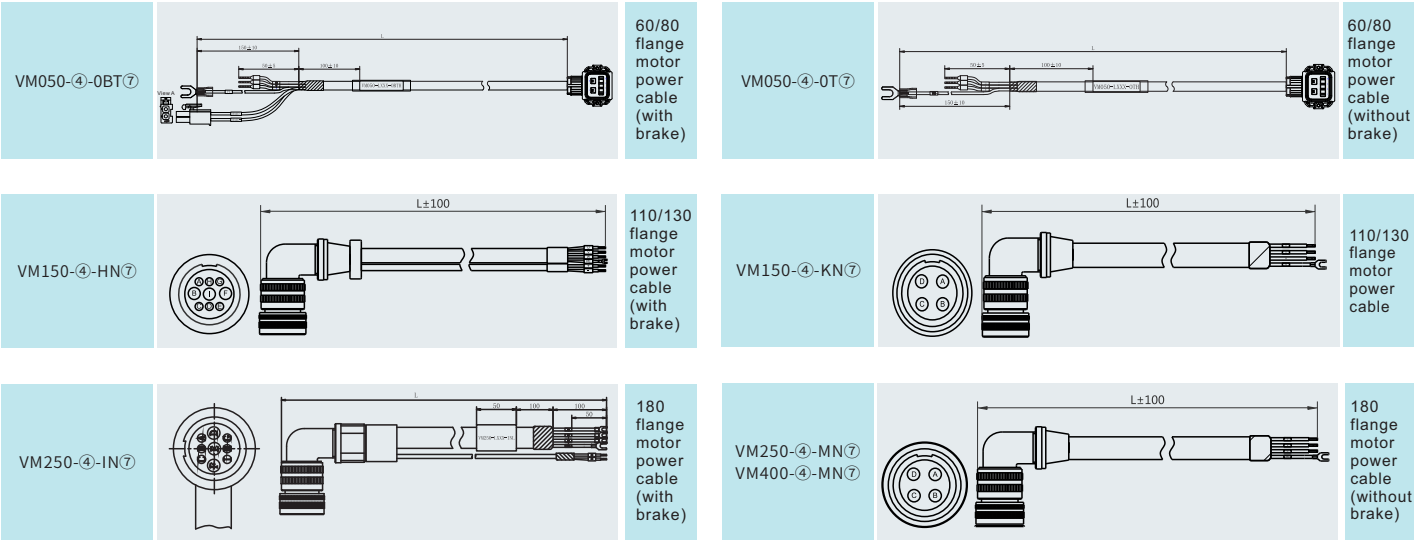
Power cable naming rules

V
M
075
-
L030
-
A
N
L
1
2
3
4
5
6
7

① Product series	⑤ Motor end plug A: 16M-4A (4-pin integrated injection molding aviation plug) K: 3108A18-10S (4-pin curved 90 degrees aviation plug) H: 3108A20-18S (9-pin curved 90 degrees aviation plug) I: 3108A24-11S (9-pin curved 90 degrees military aviation plug, 6 welding wires, 180 brake head) O: SC-MC6S-AC (Motor connector, forward outgoing lines 6-pin) OB: same as O; with brake U: SC-MC6S-AB (Motor connector 6-pin) UB: same as U, with brake M: 3108A22-22S (4-pin curved 90 degrees aviation plug)
② Power cable	⑥ Drive end plug N: None (Bare wire / U terminal) T: Fork type cold pressed or pre-insulated tube type terminal)
③ Cable diameter 030: 0.3mm ² cable ≤ 4.5A current 050: 0.5mm ² cable ≤ 6A current 075: 0.75mm ² cable ≤ 6A current 150: 1.5mm ² cable ≤ 11A current 250: 2.5mm ² cable ≤ 18A current 400: 4mm ² cable ≤ 30A current	⑦ Cable material L: Standard cable (bending times over 2million) H: Flexible cable (bending times over 10 million)
④ Cable length L030: 3m L050: 5m L100: 10m L150: 15m L200: 20m L250: 25m L300: 30m	

Motor power cable

VM030-④-UBT⑦		40 flange motor power cable (with brake)
VM030-④-UT⑦		40 flange motor power cable (without brake)



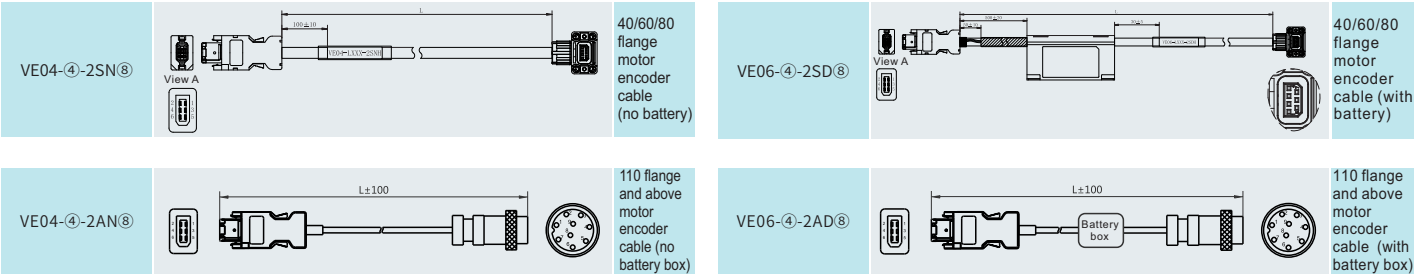
Encoder cable naming rules

V E 06 - L030 - 2 A N L

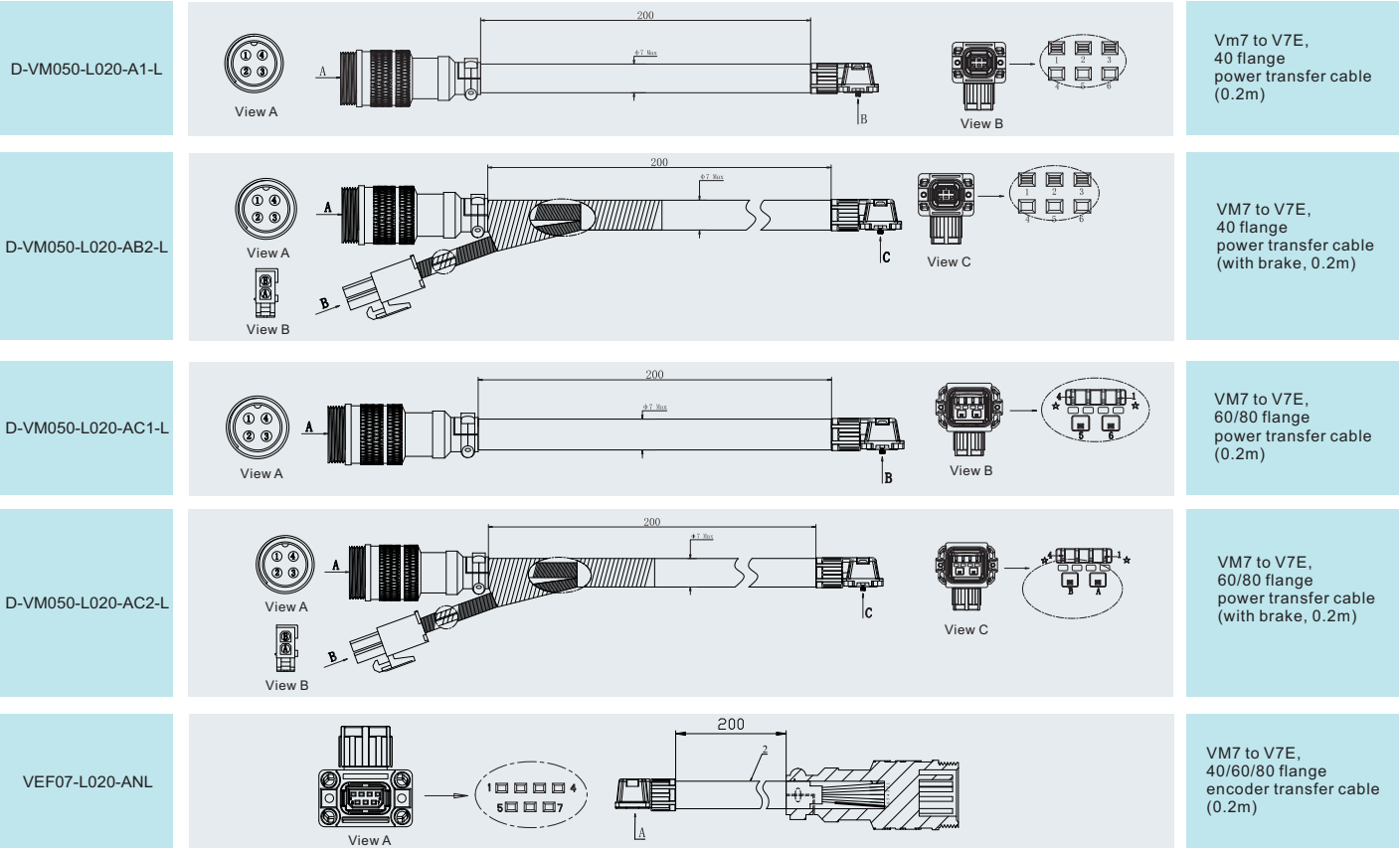
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Product series	⑤ Drive end plug 2: 6 pin 1394 plug
② Encoder cable	⑥ Motor end plug A: 16M-9A (9-pin integrated injection molding aviation plug) S: SC-MC7S-A6 (7-pin motor connector)
③ Number of lines 04: 4-pin twisted shielded cable (no external battery power cable) 06: 6-pin twisted shielded cable (with external battery power cable)	⑦ Battery N: No battery D: With battery F: With battery box, but no battery (Battery free)
④ Cable length L030: 3 m L050: 5m L100: 10m L150: 15m L200: 20 m L250: 25m L300: 30m	⑧ Cable material L: Standard cable (bending times over 2 million) H: Flexible cable (bending times over 10 million) C: Hardy flexible towline cable (meet the ambient temperature of -25℃)

Encoder cable



Transfer cable



Braking resistor selection

Model	Braking voltage	Internal resistor	Min external resistance	Max external resistance
SD700-1R1A	380V	None	40Ω	400Ω
SD700-1R8A	380V	None	40Ω	200Ω
SD700-3R3A	380V	None	40Ω	100Ω
SD700-5R5A	380V	40Ω 60W	25Ω	70Ω
SD700-7R6A	380V	40Ω 60W	15Ω	50Ω
SD700-9R5A	380V	40Ω 60W	15Ω	40Ω
SD700-120A	380V	30Ω 200W	10Ω	30Ω
SD700-160A	380V	30Ω 200W	10Ω	30Ω
SD700-2R5D	700V	80Ω 60W	80Ω	225Ω
SD700-3R8D	700V	80Ω 60W	55Ω	180Ω
SD700-6R0D	700V	40Ω 60W	35Ω	110Ω
SD700-8R4D	700V	40Ω 60W	25Ω	85Ω
SD700-110D	700V	40Ω 60W	25Ω	70Ω
SD700-170D	700V	30Ω 200W	30Ω	50Ω
SD700-240D	700V	30Ω 200W	15Ω	40Ω
SD700-300D	700V	30Ω 200W	15Ω	30Ω
SD700-500D	700V	None	10Ω	20Ω
SD700-600D	700V	None	10Ω	20Ω
SD700-700D	700V	None	10Ω	15Ω
SD700-800D	700V	None	10Ω	15Ω
SD700-121D	700V	None	8Ω	10Ω
SD700-171D	700V	None	6Ω	8Ω