

VEICHI

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Official Website

*Version:2022 V1.1

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VEICHI

SD780 Series

General High-performance Servo System



CE  LISTED  EtherCAT 

Stock Code: 688698

About us

VEICHI Electric (Stock code: 688698), 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, 2022, a total of 140 patents have been granted, including 33 invention patents.

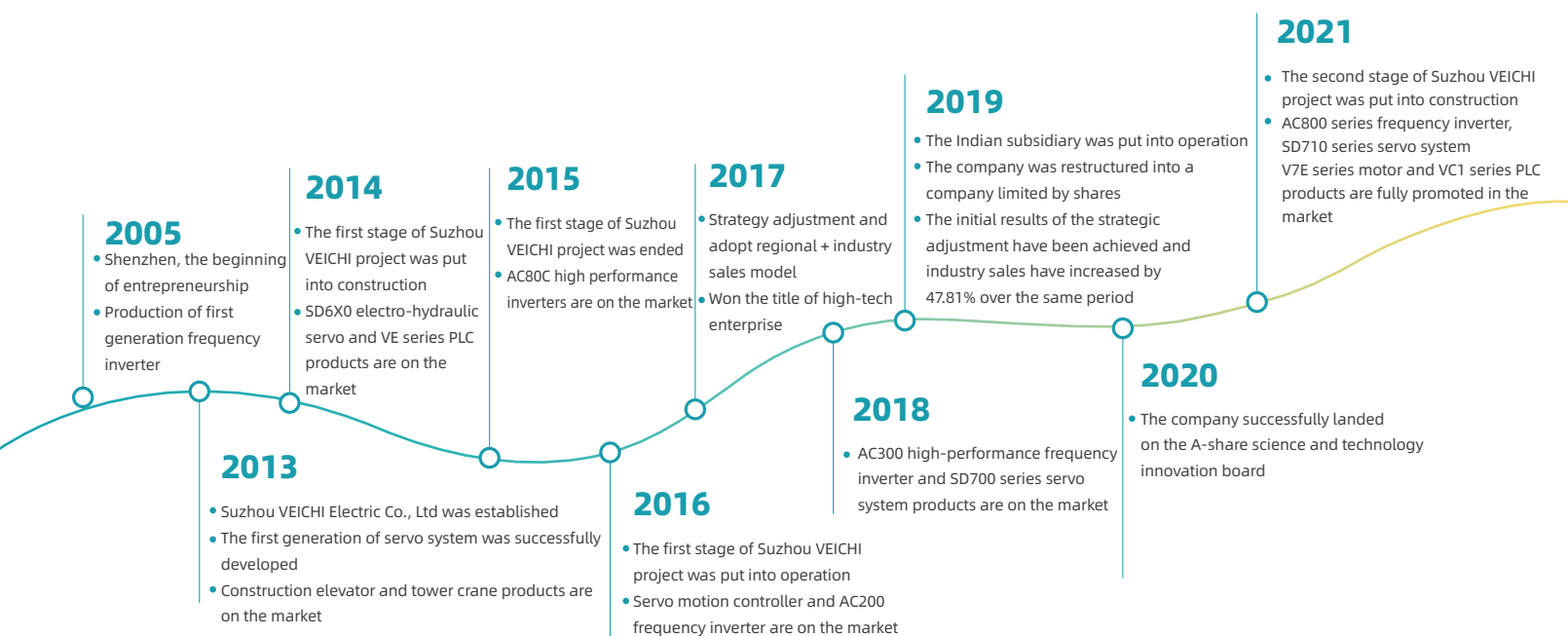
VEICHI has R&D and production bases in Suzhou and Shenzhen, and has established a wholly-owned subsidiary in India. At present, the company's business covers many countries and regions, providing global customers with competitive, safe and reliable products and services.

We supply a wide range of products, including inverters from 0.4kW to

5,600kW, 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 20 service outlets in China, and developed 153 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 IoT, 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.



SD780 General High-performance Servo System

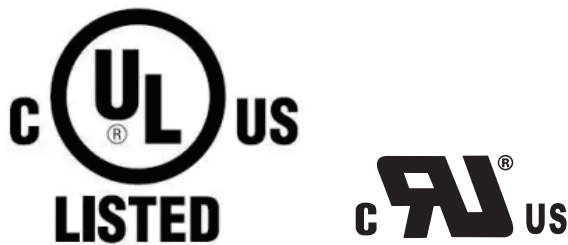


VEICHI SD780 Series
General High-performance
Servo System

Product features

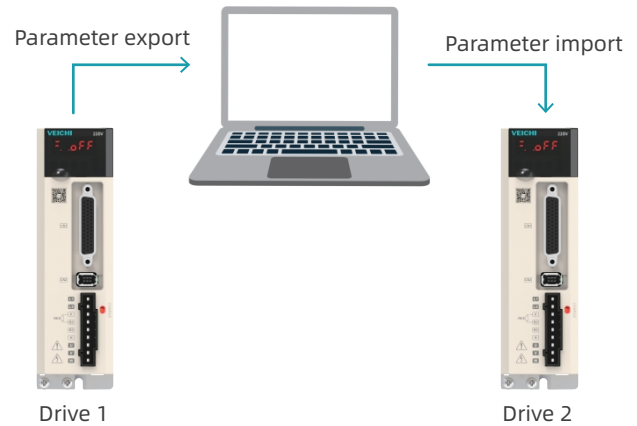
International standard UL certification

International standard UL certification, Applicable to all countries with UL certification requirements worldwide

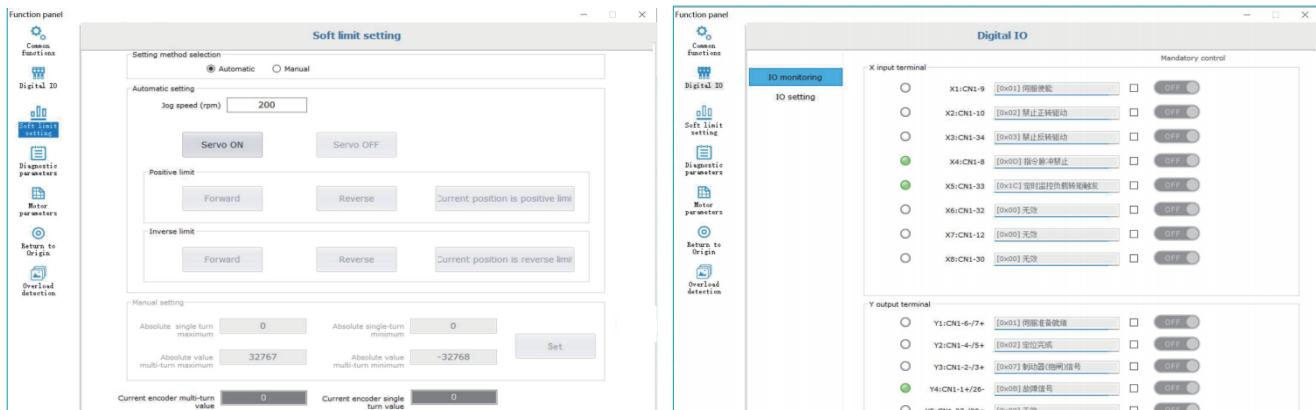


Data copy & Transfer

The debugging software has the function of copying drive parameters, eliminating the tedious operation of parameter setting of the same model.

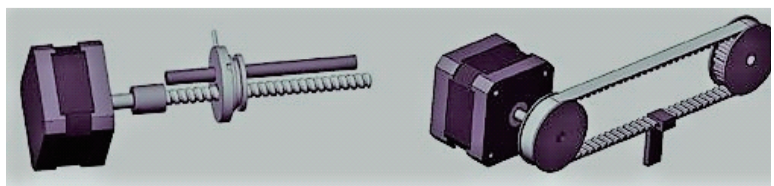


Simplified debugging panel



Self-adjusting for different applications

1. Treat differently according to different mechanical structures
2. Complete the intelligent setting of various complex loop parameters
3. Automatic setting according to mechanical conditions, no manual setting required
4. The fastest position setting time is up to 10ms

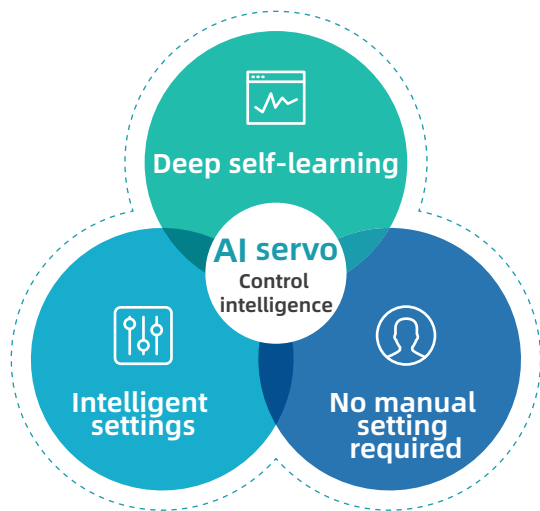


Mechanical structures such as lead screws, timing belts, and rigid bodies are treated differently

STO function

Standard SIL3 safety torque off function, suitable for new energy, lithium battery, photovoltaic equipment and other industries. Provide greater security to device users.

Intelligent settings

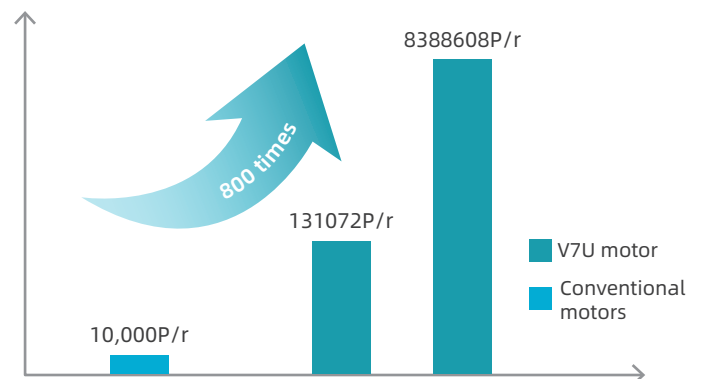


Compatible with 17bit/23bit absolute encoders

With absolute encoder, the position is remembered when the power is turned off.

Battery life is more than 3 years.

Encoders with different resolutions to meet different application options.

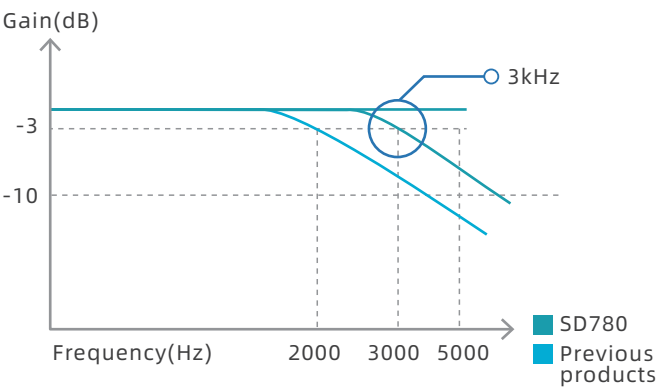


Powerful bus communication function



Micro USB	Micro USB host computer dedicated interface (Standard accessory)
RS485	RS485 communication (Standard accessory)
CANopen	CANopen communication (Optional accessory)
EtherCAT	EtherCAT communication (Optional accessory)

High-performance as ever

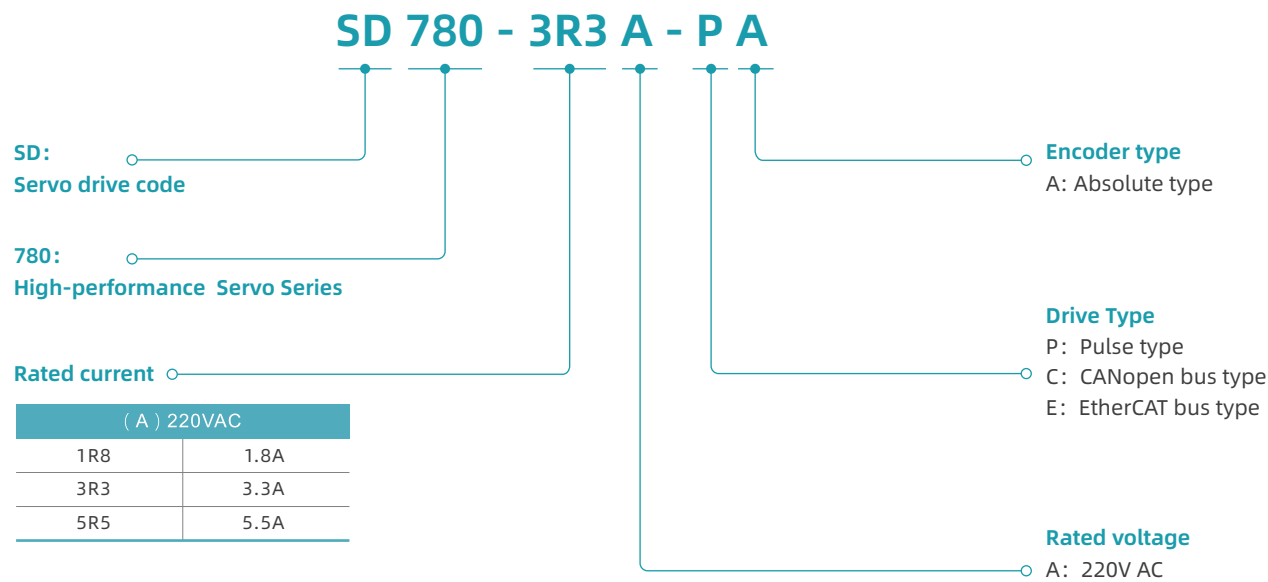


Upgraded hardware, Compacted structure

Hardware and structure upgrades, the size of the 5R5 model is reduced by 30%.



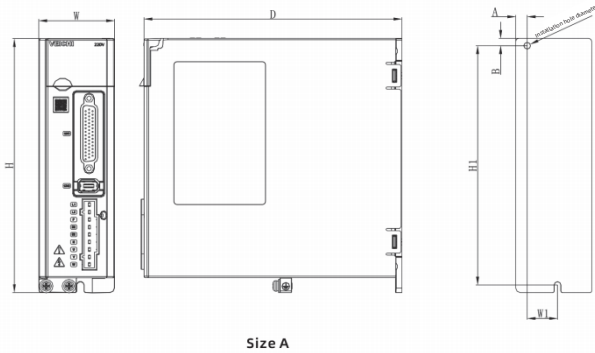
Drive Model Description



Drive power and chassis division

Model number	Input	Output		Chassis size
	Rated voltage (V)	Rated current (A)	Instantaneous current (A)	
SD780-1R8A	single-phase 220	1.8	6.3	A
SD780-3R3A	single-phase 220	3.3	11.6	
SD780-5R5A	single-phase /three-phase 220	5.5	16.5	

Drive dimension



Model	External dimensions (mm)			Installation dimension (mm)				Installation hole diameter
	W	H	D	W1	H1	A	B	-
SD780-1R8A-**-	50	170	170	20	160	7.5	5	2-M4
SD780-3R3A-**-								
SD780-5R5A-**-								

Technical Specifications

Items			Specification
Control method			IGBT, PWM control, sine wave current drive mode
Encoder feedback			Serial encoders: Absolute encoders
Environ- mental conditions	Operating temperature		0°C~55°C(55°C~60°C, can be used after reducing the rated value)
	Storage temperature		-20°C~65°C
	Operating humidity		Below 95%RH (no freezing, condensation)
	Storage humidity		Below 95%RH (no freezing, condensation)
	Seismic resistance		4.9m/s
	Impact resistance		19.6m/s ²
	Protection level		IP20
	Altitude		Below 1000m(When 1000m~2000m, need to reduce the rated value after use)
	Other		No electrostatic interference, strong electric field, strong magnetic field, radiation, etc
Speed Control	Speed control range		1: 5000
	Velocity fluctuation rate	Load fluctuation	Less than ±0.01% of rated speed
		Voltage fluctuation	0% of rated speed
		Temperature fluctuation	Less than ±0.01% of rated speed
Torque Control	Torque control accuracy		±1%
	Soft start time setting		0s~10s
Position control	Feed-forward compensation		0%~100%
	Command pulse	Command pulse pattern	It includes three command forms: "pulse+direction", "CW+CCW pulse sequence" and "A, B phase quadrature pulse"
		Input form	Linear drive, open collector
		Maximum input frequency	Differential input: high speed max. 4Mbps; Open collector: maximum 200Kpps;
Communi- cation function	485		Standard configuration
	CAN		Optional
	USB		Computer host, standard, USB 2.0 compliant (12Mbps)
Display function			CHARGE、8-segment LED× 5 digits
Panel operator function			Push button switch×4pcs
Regeneration treatment			Function can be built-in/external
Protection function			Overcurrent, overvoltage, undervoltage, overload, regenerative fault, encoder disconnection, overtravel protection, etc.
Auxiliary function			Gain adjustment, alarm recording, JOG operation, etc.
Encoder pulse frequency division output			Phase A, Phase B, Phase C: Linear drive output, number of divided pulses: 35~32767

Motor model description

V7U - L 06 A - R40 30 - D 1 □

Product Series V7U Internal management number

Inertia level
L: Low inertia
M: Medium inertia
H: High inertia

Installation flange
04: 40mm
06: 60mm
08: 80mm

The rated voltage
A: 220V AC

Rated power

Code	Power	Code	Power
R05	50W	R60	600W
R10	100W	R75	750W
R20	200W	1R0	1.0KW
R40	400W		

Code	Axis		Oil seal		Brake	
	Round shaft	Key Shaft	Yes	None	Yes	None
1		•	•			•
2		•	•		•	

Encoder type
D: 23-bit multi-turn absolute optical encoder
Q: 17-bit single-turn absolute magnetic encoder
R: 17-bit multiturn absolute magnetic encoder

Rated speed (RPM)	Motor brake power table (estimated values)	
	Installation flange	Brake power
15: 1500		
20: 2000	40	7W
25: 2500	60	10W
30: 3000	80	15W

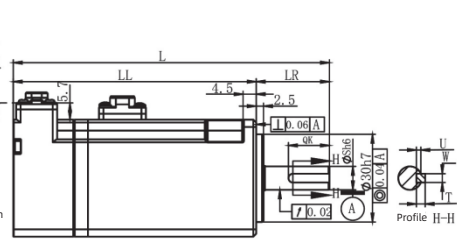


Motor features

V7U Model	Voltage (V)	Power (W)	Rated torque (N·m)	Rated speed (RPM)	Max Speed (RPM)	Rated current (A)	Max current (A)	Moment of inertia
V7U-L04A-R0530-□1	220	50	0.16	3000	6000	1	3	0.027kg·cm ²
V7U-R04A-R0530-□2	220	50	0.16	3000	6000	1	3	0.028kg·cm ²
V7U-L04A-R1030-□1	220	100	0.32	3000	6000	1	3	0.051kg·cm ²
V7U-L04A-R1030-□2	220	100	0.32	3000	6000	1	3	0.052kg·cm ²
V7U-L06A-R2030-□1	220	200	0.64	3000	6000	1.7	5.1	0.18kg·cm ²
V7U-L06A-R2030-□2	220	200	0.64	3000	6000	1.7	5.1	0.2kg·cm ²
V7U-L06A-R4030-□1	220	400	1.27	3000	6000	2.6	7.8	0.34kg·cm ²
V7U-L06A-R4030-□2	220	400	1.27	3000	6000	2.6	7.8	0.36kg·cm ²
V7U-M06A-R4030-□1	220	400	1.27	3000	6000	2.6	7.8	0.67kg·cm ²
V7U-M06A-R4030-□2	220	400	1.27	3000	6000	2.6	7.8	0.69kg·cm ²
V7U-L08A-R7530-□1	220	750	2.38	3000	6000	4.6	13.8	1.02kg·cm ²
V7U-L08A-R7530-□2	220	750	2.38	3000	6000	4.6	13.8	1.13kg·cm ²
V7U-L08A-R7530-□1L	220	750	2.38	3000	4000	3.1	9.3	1.02kg·cm ²
V7U-L08A-R7530-□2L	220	750	2.38	3000	4000	3.1	9.3	1.13kg·cm ²
V7U-M08A-R7530-□1	220	750	2.38	3000	6000	4.6	13.8	2.3kg·cm ²
V7U-M08A-R7530-□2	220	750	2.38	3000	6000	4.6	13.8	2.41kg·cm ²
V7U-M08A-R7530-□1L	220	750	2.38	3000	4000	3.1	9.3	2.3kg·cm ²
V7U-M08A-R7530-□2L	220	750	2.38	3000	4000	3.1	9.3	2.41kg·cm ²
V7U-L08A-1R030-□1	220	1000	3.18	3000	5000	5	16.5	1.34kg·cm ²
V7U-L08A-1R030-□2	220	1000	3.18	3000	5000	5	16.5	1.45kg·cm ²
V7U-M08A-1R030-□1	220	1000	3.18	3000	5000	5	15	2.62kg·cm ²
V7U-M08A-1R030-□2	220	1000	3.18	3000	5000	5	15	2.73kg·cm ²

Motor Dimension

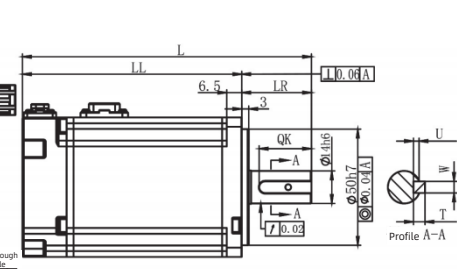
40 flange



Motor model	L	U	LP	S	OK	U	W	T
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Motor mode	L	LL	LR	S	QR	U	W	T
V7U-L04A-R0530-□1	94	69	25	8	14	1.5	3	3
V7U-L04A-R0530-□2	120	95	25	8	14	1.5	3	3
V7U-L04A-R1030-□1	108	83	25	8	14	1.5	3	3
V7U-L04A-R1030-□2	134	109	25	8	14	1.5	3	3

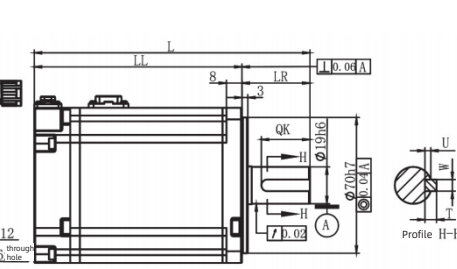
60 flange



Meter model	I	II	IB	S	OK	U	W	T
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Motor model	L	LL	LR	S	QR	U	W	T
V7U-L06A-R2030-□1	105.5	75.5	30	14	22.5	2.5	5	5
V7U-L06A-R2030-□2	136.5	106.5	30	14	22.5	2.5	5	5
V7U-L06A-R4030-□1	124.5	94.5	30	14	22.5	2.5	5	5
V7U-L06A-R4030-□2	155.5	125.5	30	14	22.5	2.5	5	5
V7U-M06A-R4030-□1	134.5	104.5	30	14	22.5	2.5	5	5
V7U-M06A-R4030-□2	165.5	135.5	30	14	22.5	2.5	5	5

80 flange

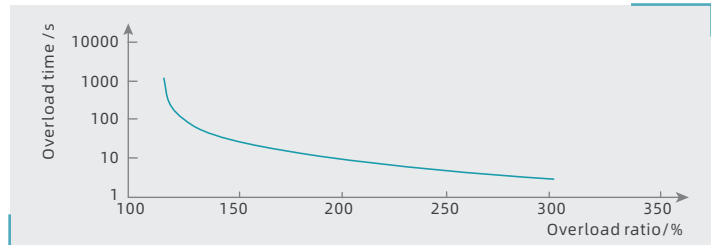


Motor model	L	H	LB	S	OK	U	W	T
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Motor model	L	LL	LR	S	QK	U	W	T
V7U-L08A-R7530-□1L	142	107	35	19	25	3	6	6
V7U-L08A-R7530-□2L	174	139	35	19	25	3	6	6
V7U-L08A-R7530-□1	142	107	35	19	25	3	6	6
V7U-L08A-R7530-□2	174	139	35	19	25	3	6	6
V7U-M08A-R7530-□1	152	117	35	19	25	3	6	6
V7U-M08A-R7530-□2	184.5	149.5	35	19	25	3	6	6
V7U-M08A-R7530-□1L	152	117	35	19	25	3	6	6
V7U-M08A-R7530-□2L	162	149	35	19	25	3	6	6
V7U-L08A-1R030-□1	156	121	35	19	25	3	6	6
V7U-L08A-1R030-□2	188	153	35	19	25	3	6	6
V7U-M08A-1R030-□1	166	131	35	19	25	3	6	6
V7U-M08A-1R030-□2	198	163	35	19	25	3	6	6

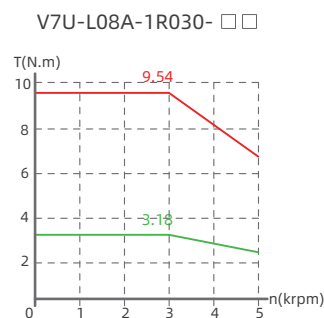
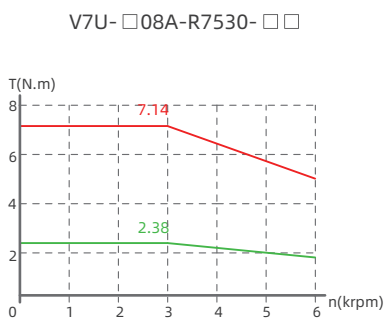
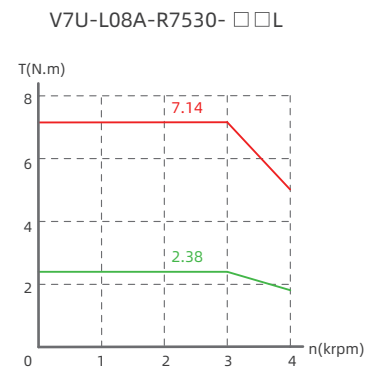
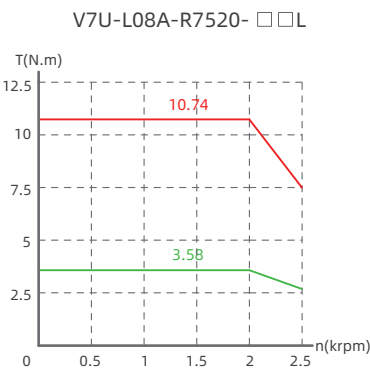
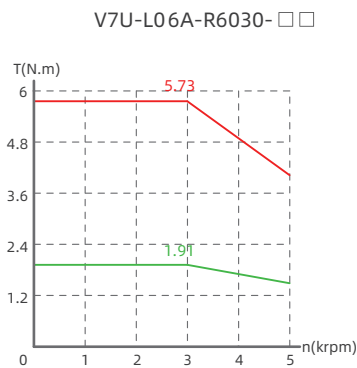
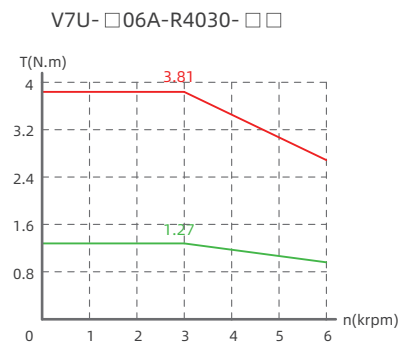
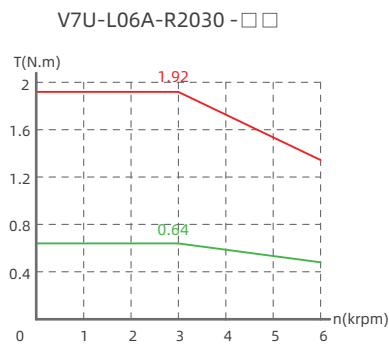
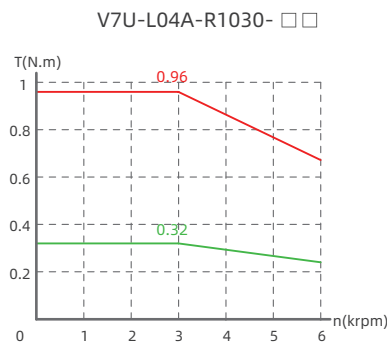
Motor overload characteristic curve

Overload ratio	Overload time /s	Overload ratio	Overload time /s
1.2	228	2.0	10
1.3	73	2.1	8
1.4	42	2.2	7
1.5	29	2.3	6
1.6	22	2.4	5
1.7	17	2.5	4.5
1.8	14	3.0	3
1.9	12		



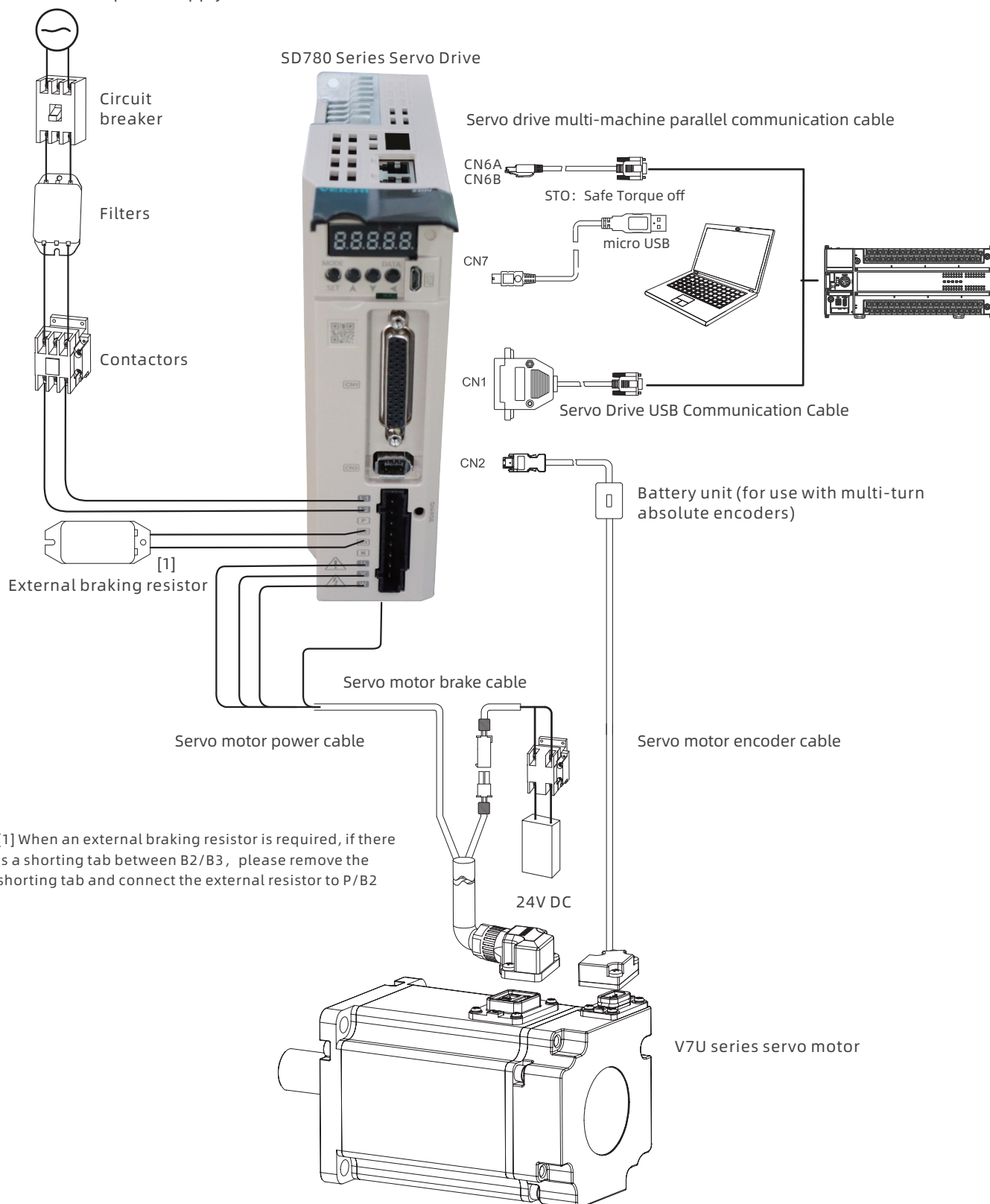
Torque characteristics of servo motor

Note: " — " is the rated torque " — " is the instantaneous maximum torque

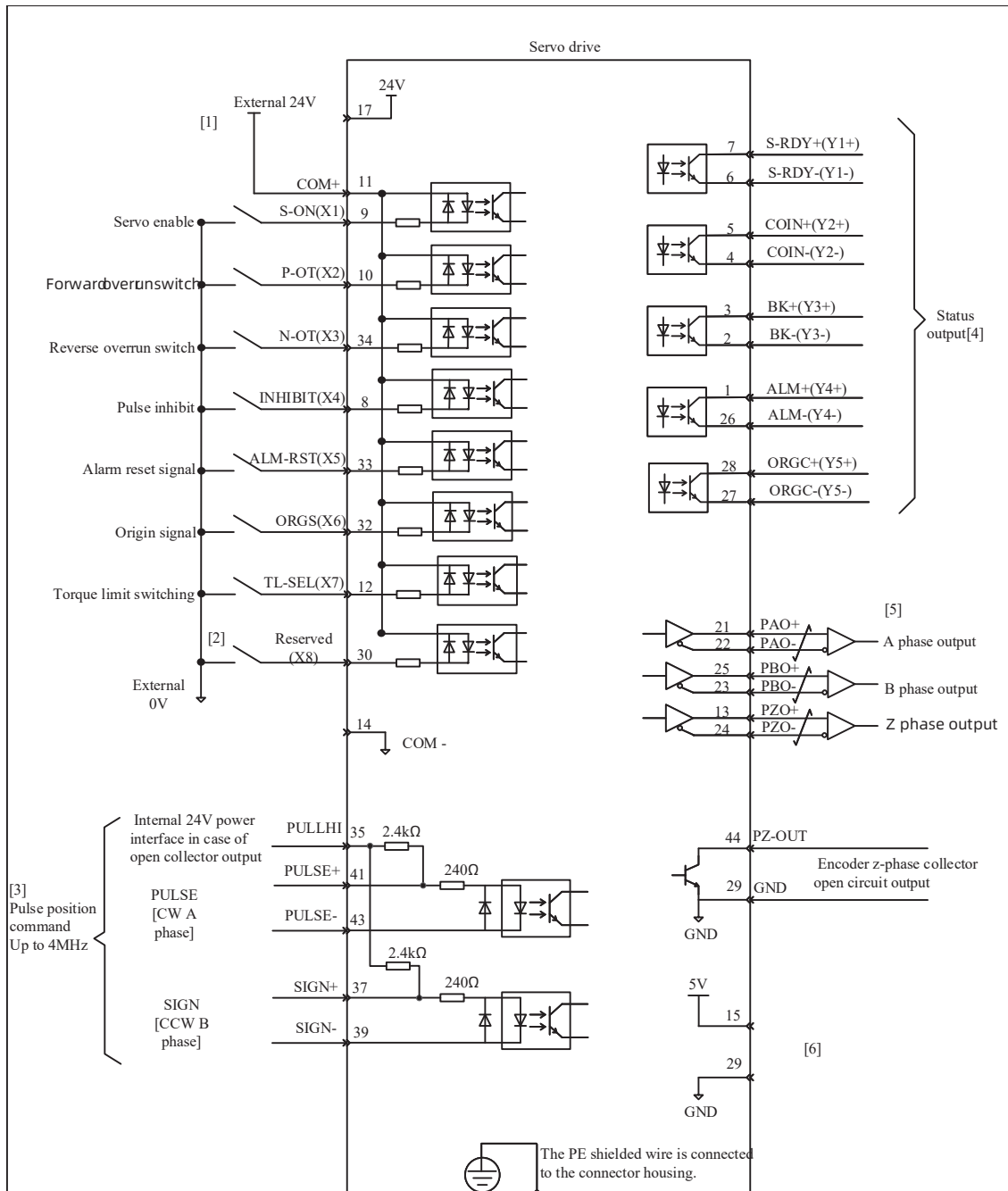


System application wiring guide

AC220V/AC400V power supply



Position control wiring diagram



[1] Example is external power supply wiring; if using internal 24V power supply, please connect pin 17 (24V positive) to pin 11, and the connection of input terminal corresponds to pin and pin 14 (COM-).

[2] X7 and X8 are high-speed DI terminals, please choose to use them according to the function.

[3] Pulse port wiring please use twisted shielded wire, the shield must be connected to PE at both ends, GND and the upper computer signal ground reliable connection.

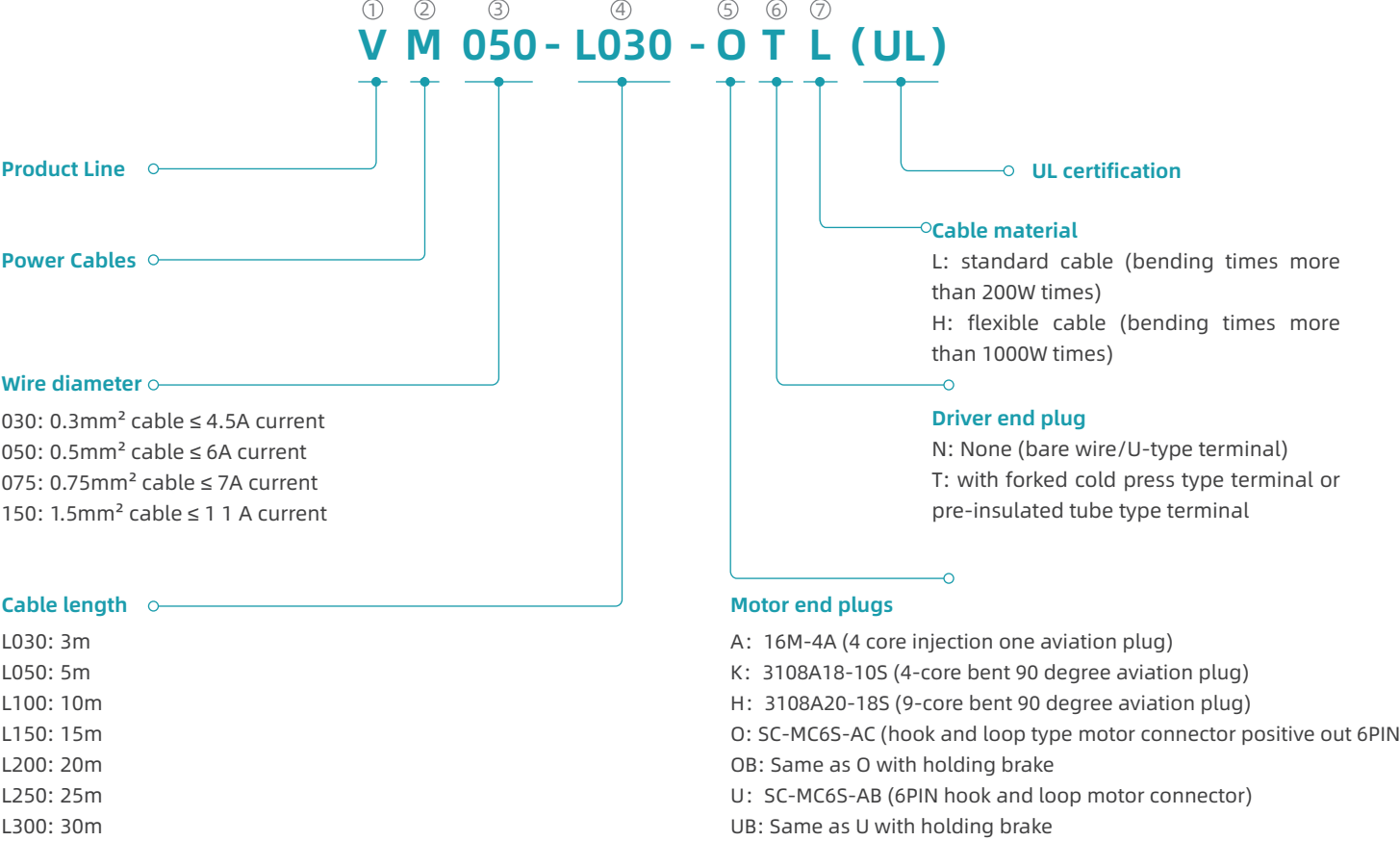
[4] Y output power supply is user-provided, the power supply range is 5~24V. Y port maximum allowable voltage DC30V, maximum allowable current 50mA.

[5] Please use twisted shielded cable for the encoder frequency divider output cable, the shield layer must be connected to PE at both ends, and GND must be connected to the signal ground of the upper computer reliably.

[6] Internal +5V power supply, maximum running current 200mA.

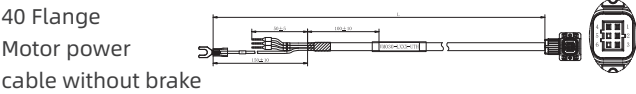
SD780 drive wire introduction

Power cable naming rules

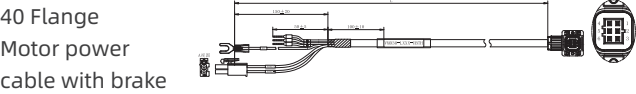


Motor power cord

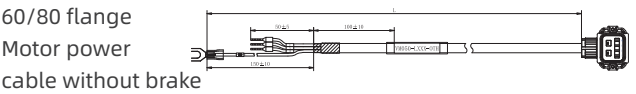
VM030-④-UT⑦ (UL)



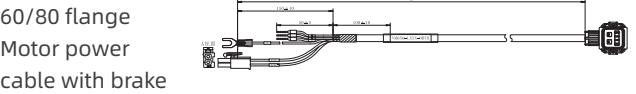
VM030-④-UBT⑦ (UL)



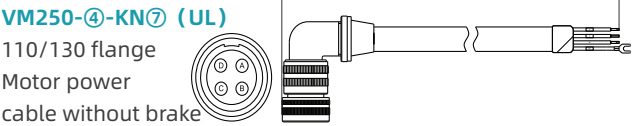
VM050-④-OT⑦ (UL)



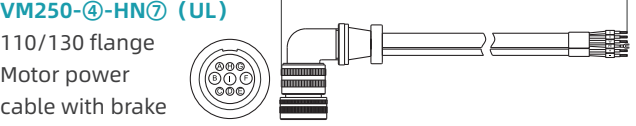
VM050-④-OBT⑦ (UL)



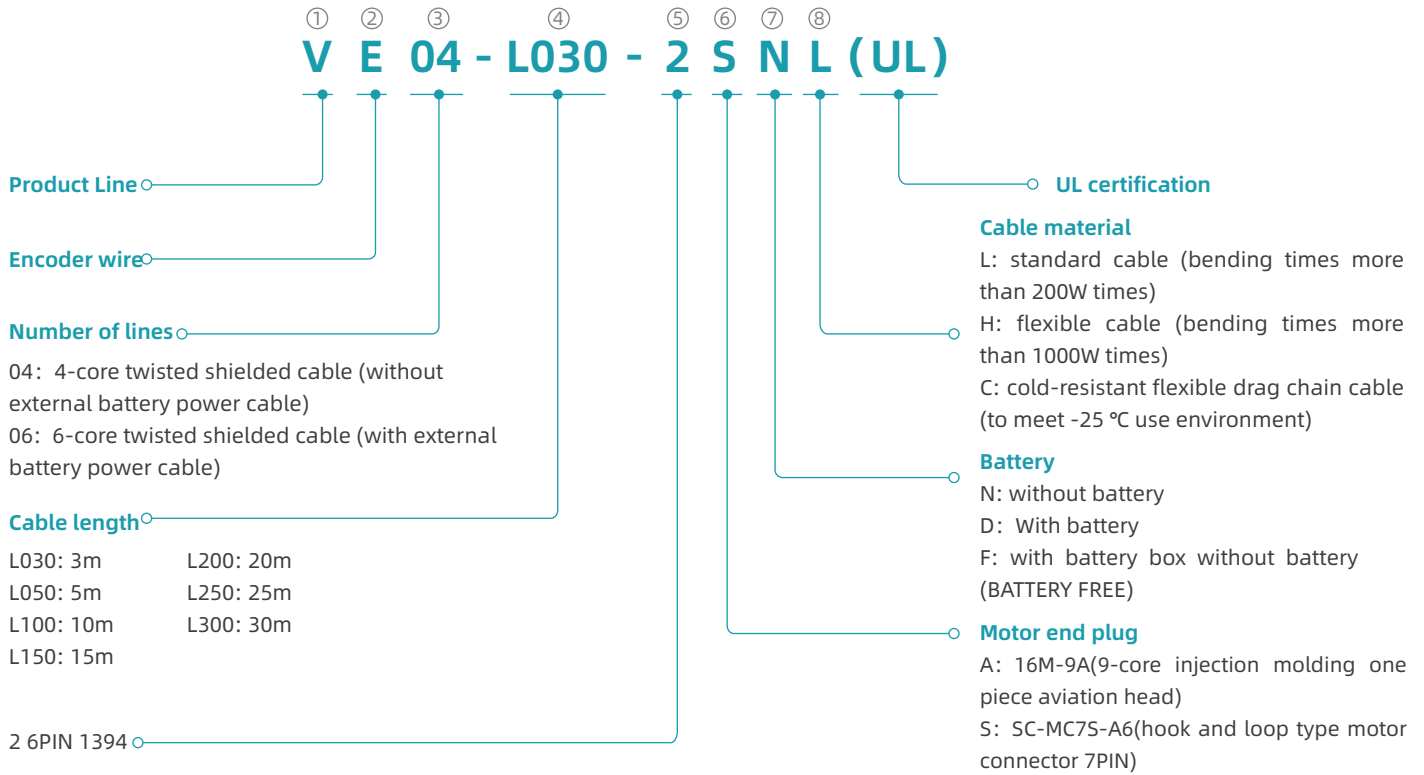
VM150-④-KN⑦ (UL)



VM150-④-HN⑦ (UL)



Encoder cable naming rules



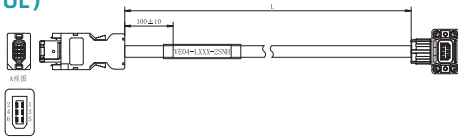
Note: The length of the encoder wire ⑤ ⑥ defined as "2S" is more than 15 meters, you need to use the encoder wire ⑤ ⑥ defined as "2A" plus adapter wire solution.

Encoder wire

VE04-④-2SN⑧ (UL)

40/60/80

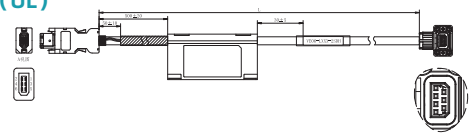
Flange motor
encoder cable
Without battery



VE06-④-2SD⑧ (UL)

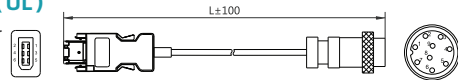
40/60/80

Flange motor
encoder cable
With battery



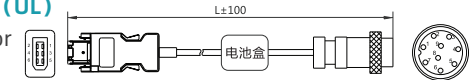
VE04-④-2AN⑧ (UL)

110 Flange motor
encoder cable
Without battery



VE06-④-2AD⑧ (UL)

110 Flange motor
encoder cable
With battery



Braking resistor selection

Model	Braking voltage	Built-in resistors	External resistor minimum	External resistor max
SD780-1R8A	380V	None	40Ω	200Ω
SD780-3R3A	380V	None	40Ω	100Ω
SD780-5R5A	380V	40Ω 60W	25Ω	70Ω

Motor brake 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

Applications



Printing and
Packaging



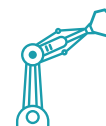
3C Products



Engraving Machine



Woodworking
Machine



Manipulator



New Energy
Vehicles



Power Battery

Service and Support

Technology innovation, service first

Practicing the service concept of "customer-centered" and create service system in five aspects .

Dual platform service of network and telephone, you can keep up with the service in real time. With the service of "Focused, patience and concentration". Really let our customers can buy products with confidence and use them comfortably".

Five major storage centers, national logistics and distribution, fast and worry-free

20 major cities

Set up permanent business and technical service teams in 20 major cities in China

5 large storage centers

24 hours

24-hour technical and after-sales service support

4 hours

Quick response, give a specific solution within 4 hours

