VEICHI

SD700 Series
High Performance Servo System

VEICHI

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Founded in 2005, VEICHI Electric is a national high-tech and a “dual-soft” enterprise engaged in the research, development, production and sales of industrial automation products. It has established two research and production bases with independent intellectual rights in Shenzhen and Suzhou. The ever-increasing ability to innovate, highlighting flexible customization capabilities, and increasingly improved delivery capabilities have earned the trust and cooperation of customers around the world.

The company's products cover the general VFD, servo and motion control system, integrated special drive and Internet of Things, etc., and provide advanced industry integraed solution and design for printing and packaging, pumps, machine tools and compressors, hydraulic servo, lifting, textile and other industries. Product development and design, comprehensive product development testing and automated information production,to provide customers with the most optimized industrial automation system solutions.

The core talents and backbone talents in the product R&D field of the industry meet the needs of talents in future R&D planning. The company has independent intellectual property rights and core technologies, and at least 10% of annual sales revenue will be invested in product development.

In the future, VEICHI Electric will continue to drive the endless brand strength and create a better tomorrow with you.

SD700 Series
High Performance Servo System

Latest software algorithm design

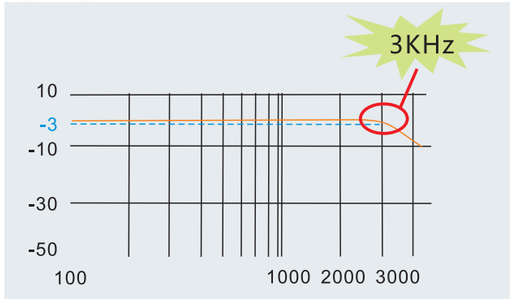
Latest hardware platform design

Latest structure appearance design

Product features

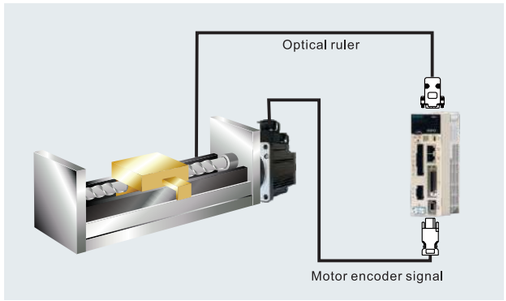
3KHz speed loop response bandwidth

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.



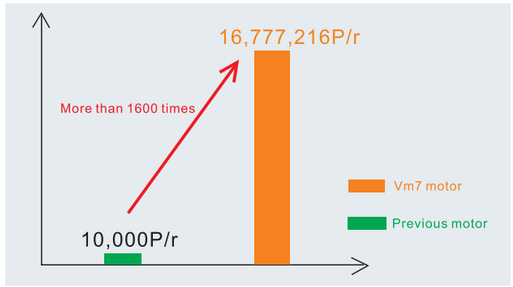
Support full closed loop mode

The full closed loop mode supports external second encoder or grating ruler to reduce mechanical transmission gaps and increase the actual positioning accuracy.



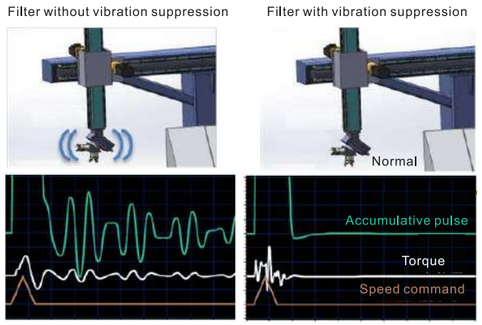
24-bit absolute encoder

Use the industrial top level 24-bit absolute encoder which single loop is up to 16,777,216 pulses and communication speed is up to 4Mpps. It can achieve more accurate positioning, more stability at low speed and no loss under power failure.



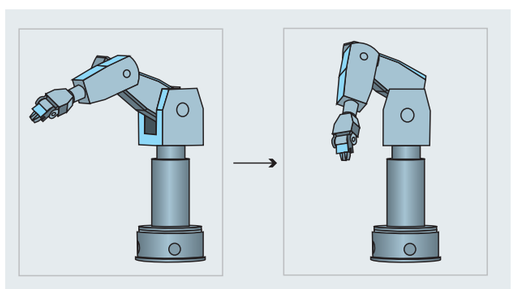
Low frequency vibration suppression function

The vibration filter can be set manually or automatically via the upper machine softwares to effectively eliminate the inherent vibration frequency, greatly reduce the stop axis jitter (sloshing) and effectively suppress vibration in 0~100Hz frequency.



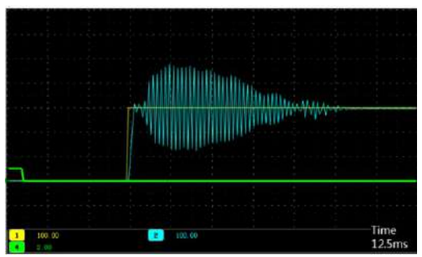
Robust control

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 after installation.



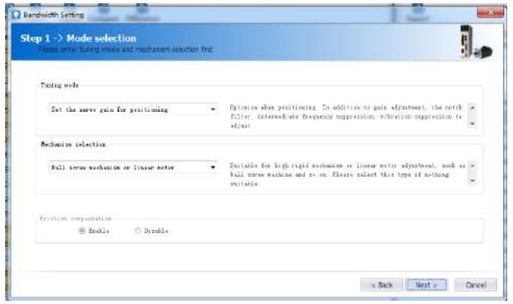
Auto set notch filter

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 upper machine. 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 operation.



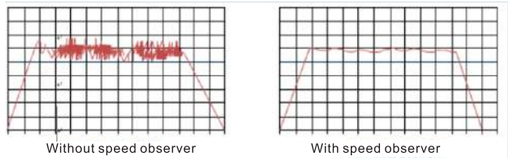
Intelligent setting

Automatic gain adjustment, guided setting mode,and sequential setting can complete servo gain settings,which is easy to use. It also provides more adjustment modes, which can be adjusted according to different mechanical structure and technological characteristics, so that the machine can reach the optimum state.



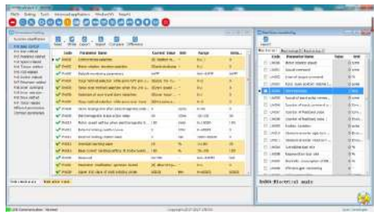
Speed observer

It can effectively eliminate noise feedback from low resolution encoder and improve speed loop response bandwidth.



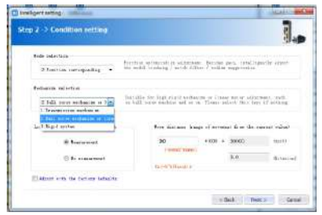
Powerful PC software

Debugging software free of installation.
The USB communication between the drive and computer is simple and easy to use.

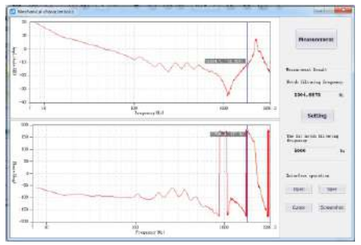


Batch parameter reading and writing

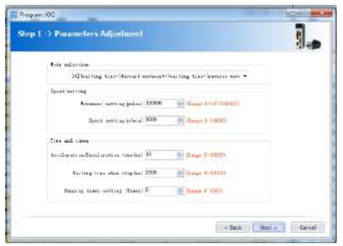
Inertia identification



Guide PID parameters according to different mechanical structures



Mechanical characteristics analysis, automatic resonance suppression

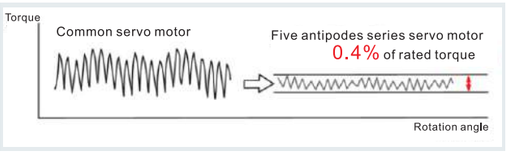


Internal position loop program JOB facilitates easy debugging

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

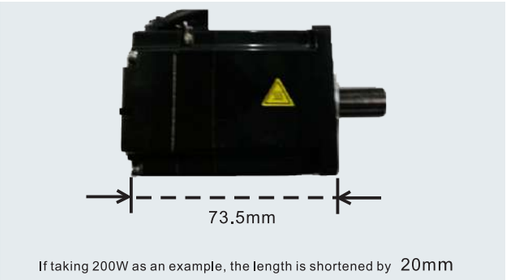
Greatly reduce motor ripple torque and stably operate at low speed

10 stages rotor and 12 slots stator are adopted. 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 and high dynamic performance

Adopt the latest manufacturing techniques to optimize magnetic circuit design and reduce magnetic loss, achieving motor high dynamic response performances; Besides, the motor volume is reduced by 20%.



Servo Drive Model Introduction

SD 700 - 3R3 A - P A □

SD：Servo product Code

700：Rotary servo motor series

Rated current

(A) 220VAC				(D) 400VAC							
1R1	1.1A	7R6	7.6A	2R5	2.5A	110	11A	500	50A	121	120A
1R8	1.8A	9R5	9.5A	3R8	3.8A	170	17A	600	60A		
3R3	3.3A	120	12A	6R0	6.0A	240	24A	700	70A		
5R5	5.5A	160	16A	8R4	8.4A	300	30A	800	80A		

Rated voltage
A：220VAC
D：400VAC

Drive type
P：Pulse type
S：Standard type
C：Canopen bus type
E：EtherCAT bus type
M：MECHATROLINK-Ⅱbus type
L：MECHATROLINK-Ⅲbus type

Encoder type
A：Absolute type

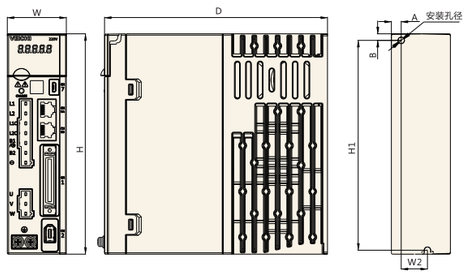
Products management number
Standard product defaults

Code	Model	Pulse input	16 bit analog	Full closed loop	RS485	CANopen	EtherCAT	MECHATRO LINK Ⅱ	MECHATRO LINK Ⅲ
P	Pulse type	√	×	√	√	×	×	×	×
S	Standard type	√	√	√	√	√	×	×	×
C	CANopen type	√	×	√	√	√	×	×	×
E	EtherCAT type	×	×	√	√	×	√	×	×
M	MECHATROLINKⅡ type	×	×	√	√	×	×	√	×
L	MECHATROLINKⅢ type	×	×	√	√	×	×	×	√

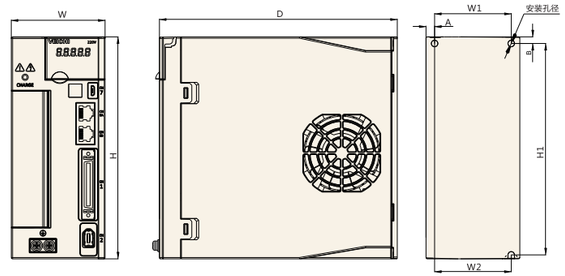
Drive Power & Chassis Division

Model	Input	Output		Chassis Size
	Rated Voltage(V)	Rated Current(A)	Instant 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	
SD700-120A	Three Phase 220	12.0	36.0	C
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	
SD700-6R0D	Three Phase 400	6.0	18.0	C
SD700-8R4D	Three Phase 400	8.4	25.2	
SD700-110D	Three Phase 400	11.0	27.5	
SD700-170D	Three Phase 400	17.0	42.5	D
SD700-240D	Three Phase 400	24.0	60.0	
SD700-300D	Three Phase 400	30.0	70.0	
SD700-500D	Three Phase 400	50.0	115.0	E
SD700-600D	Three Phase 400	60.0	120.0	
SD700-700D	Three Phase 400	70.0	161.0	F
SD700-800D	Three Phase 400	80.0	160.0	
SD700-121D	Three Phase 400	120.0	240.0	

Drive Appearance & Installation Dimension

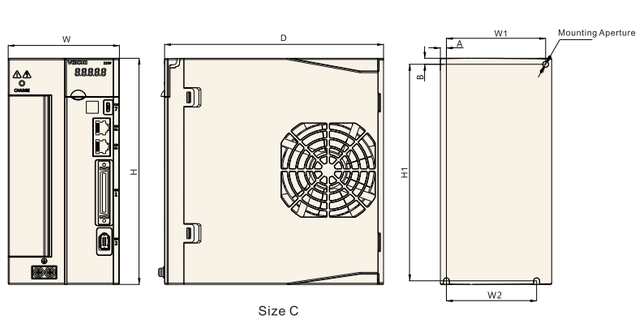


Size A

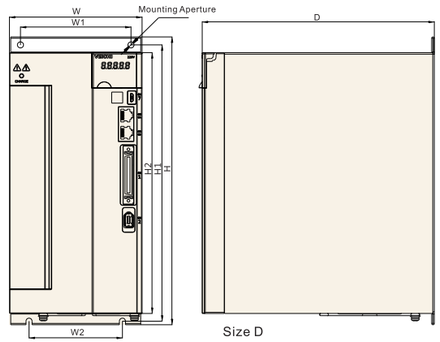


Size B

Chassis Size	Model	Overall Dimension (mm)			Installation Dimension (mm)						Mounting 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-**										

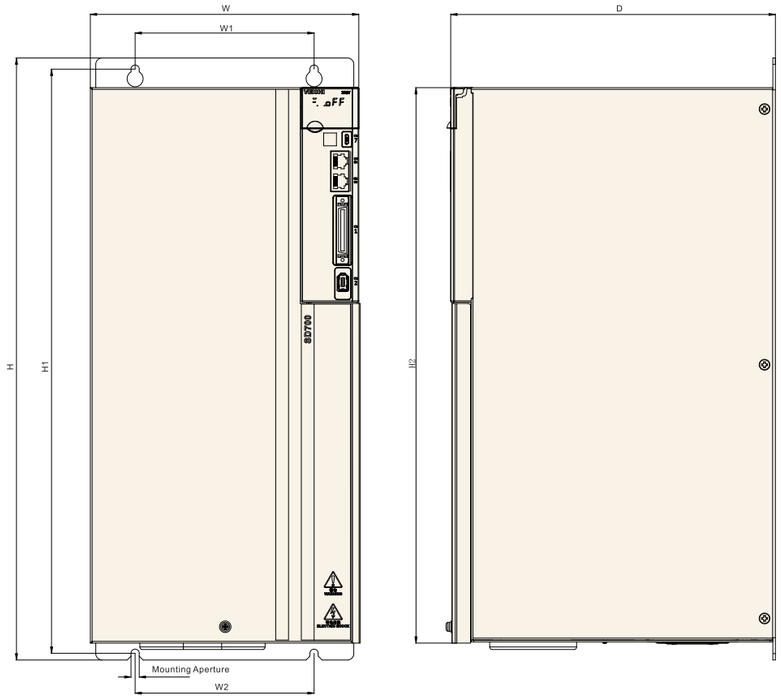


Size C



Size D

Chassis Size	Model	Overall Dimension (mm)			Installation Dimension (mm)						Mounting 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

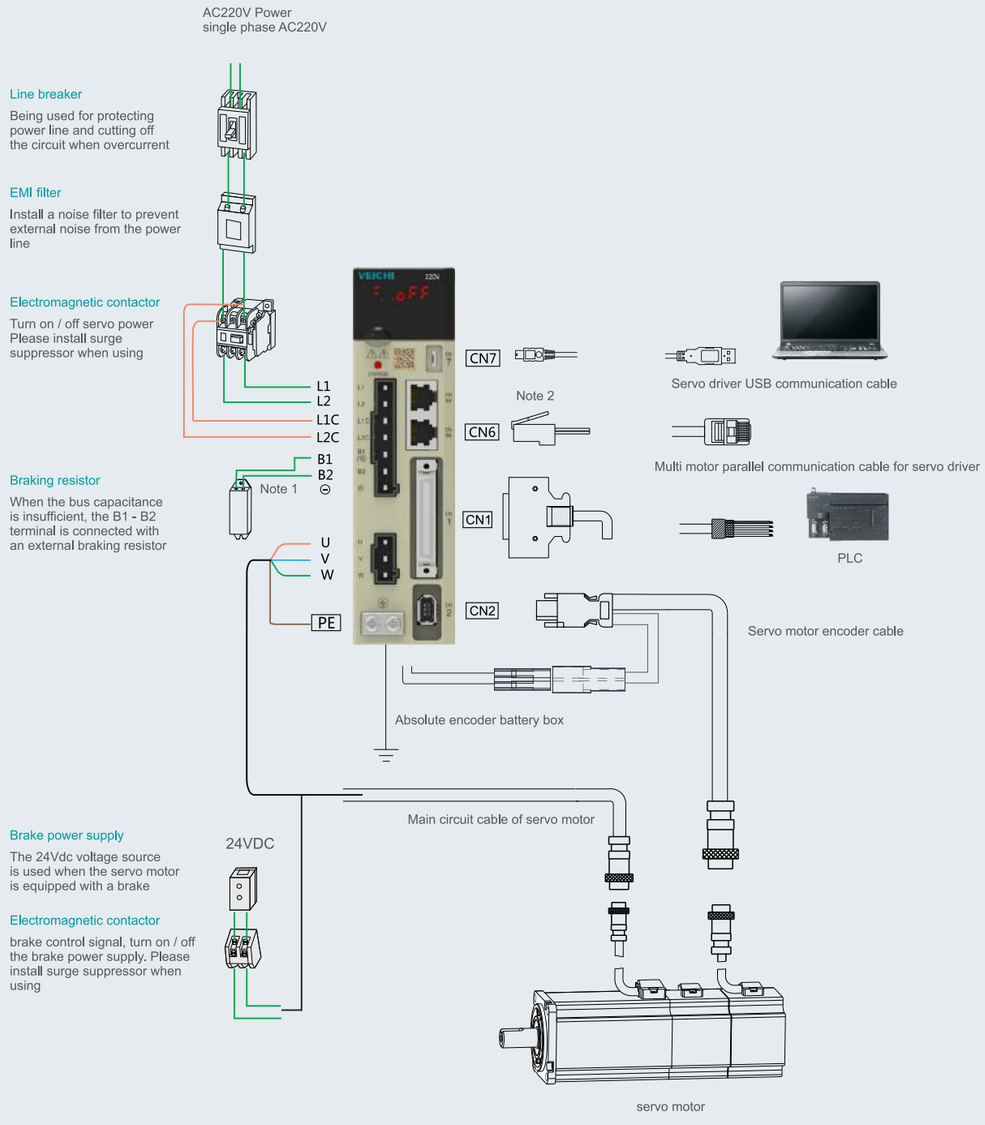
Chassis Size	Model	Overall Dimension (mm)			Installation Dimension (mm)						Mounting Aperture
		W	H	D	W1	W2	H1	H2	A	B	
E	SD700-500D-**	210	471	254	140	140	457	434.5	\	\	4-M6
	SD700-600D-**										
F	SD700-700D-**	240	558	310	176	176	544	520	\	\	4-M6
	SD700-800D-**										
	SD700-121D-**										

Drive specifications (50W~7.5kW)

Items			Specifications
Control mode			IGBT PWM control; sine wave current drive mode
Feedback	Rotating motor combination		Serial communication encoder: 19-bit, 20-bit, 23-bit ,24-bit (absolute encoder)
Environment condition	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		1:5000 (the lower limit of speed control range is the value under the rated torque load condition but not stop)
	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		0～10s (Can set ACC and DEC separately)
Communication function	RS-485	1:N communication	For RS-485 port,Nmax==127
		Axis address setting	Parameters setting
	USB communication	Equipment connection	Computer
		Communication specifications	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 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 operation (/P-ON)
			Origin reset deceleration switch signal (/DEC)
			Forward drive banned (P-OT), reverse drive banned (N-OT)
			Alarm reset (/ALM-RST)
			FWD side external torque limit (/P-CL) REV side external torque limit (/N-CL)
			Signal of speed rotation direction selection (/SPD-D)
			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)
			SEN input (/SEN) signal
			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 loop power OFF, servo alarm, servo OFF, Over travel(OT),only AC200V degree A,B type support this function
Regeneration treatment					Built-in function,see “Brake resistance selection”
Over travel (OT) prevention					the dynamic brake (DB) stops, DEC stops, or free stops 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			0～10s(setting 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
			Input impedance		About 14KΩ
		Internal set speed control	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 speed at DC3V [factory setting]
					Variable input gain setting
			Input impedance		About 14KΩ
			Loop time setting		16μs

Series configuration drawing



Note 1: when the external braking resistor is removed, disconnect the servo drive B2-B3 terminal before shorting the connection.

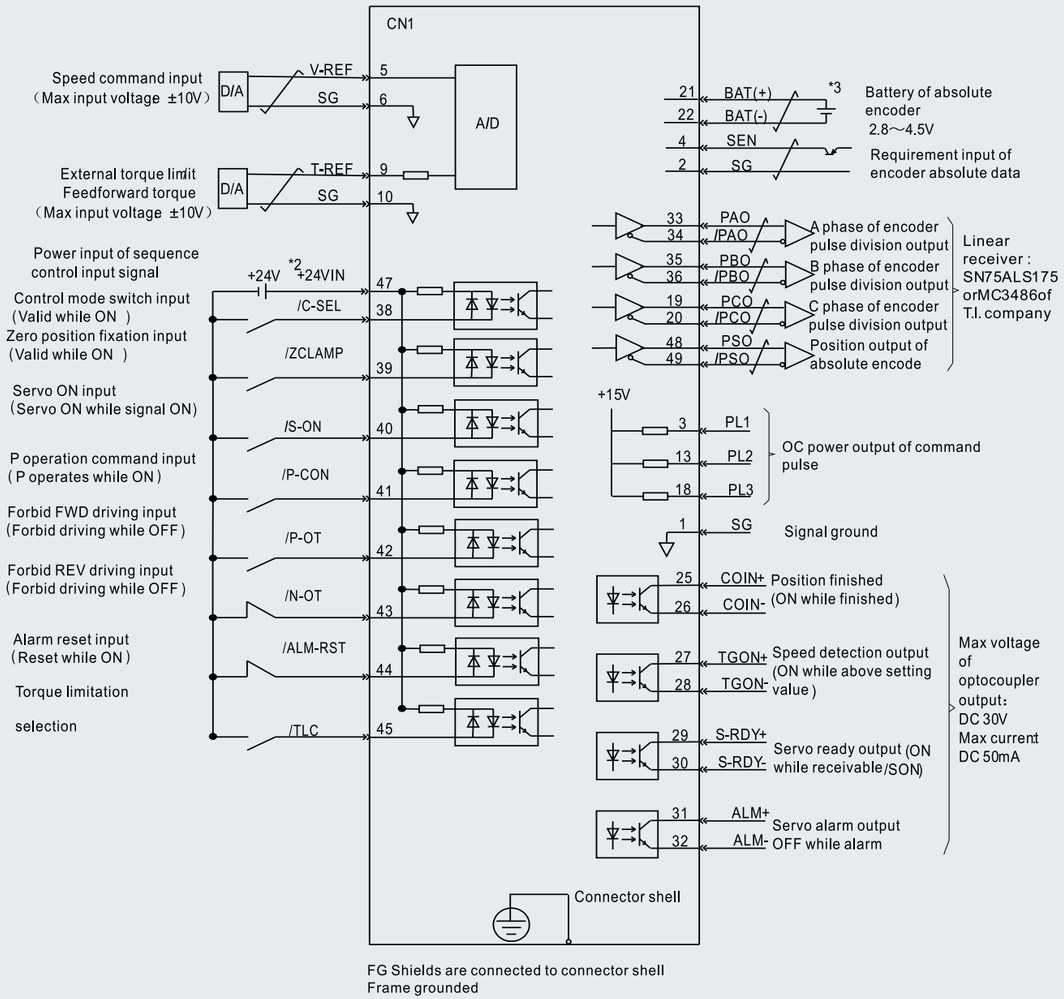
Note 2:CN3 and CN4 define a fully consistent communication interface for the two pin, which can be used arbitrarily between the two.

Note 3: this diagram is of the 220V driver.

Note 4: SD700-3R3A-** , SD700-1R8A-** , SD700-1R1A-** , no built-in brake resistance and B3 terminals; Drive rated current beyond 5R5 (B, C, D type) connect to external braking resistance ,B2-B3 should disconnect first before connecting resistance to B1-B2.

Note 4: CN6A and CN6B are same “Rj45” physical structure as communication port, but the upper one(CN6A) should be input, the down one (CN6B)should be output .

Standard wiring diagram - speed mode



FG Shields are connected to connector shell
Frame grounded

*1. ≠ is the twisted shields

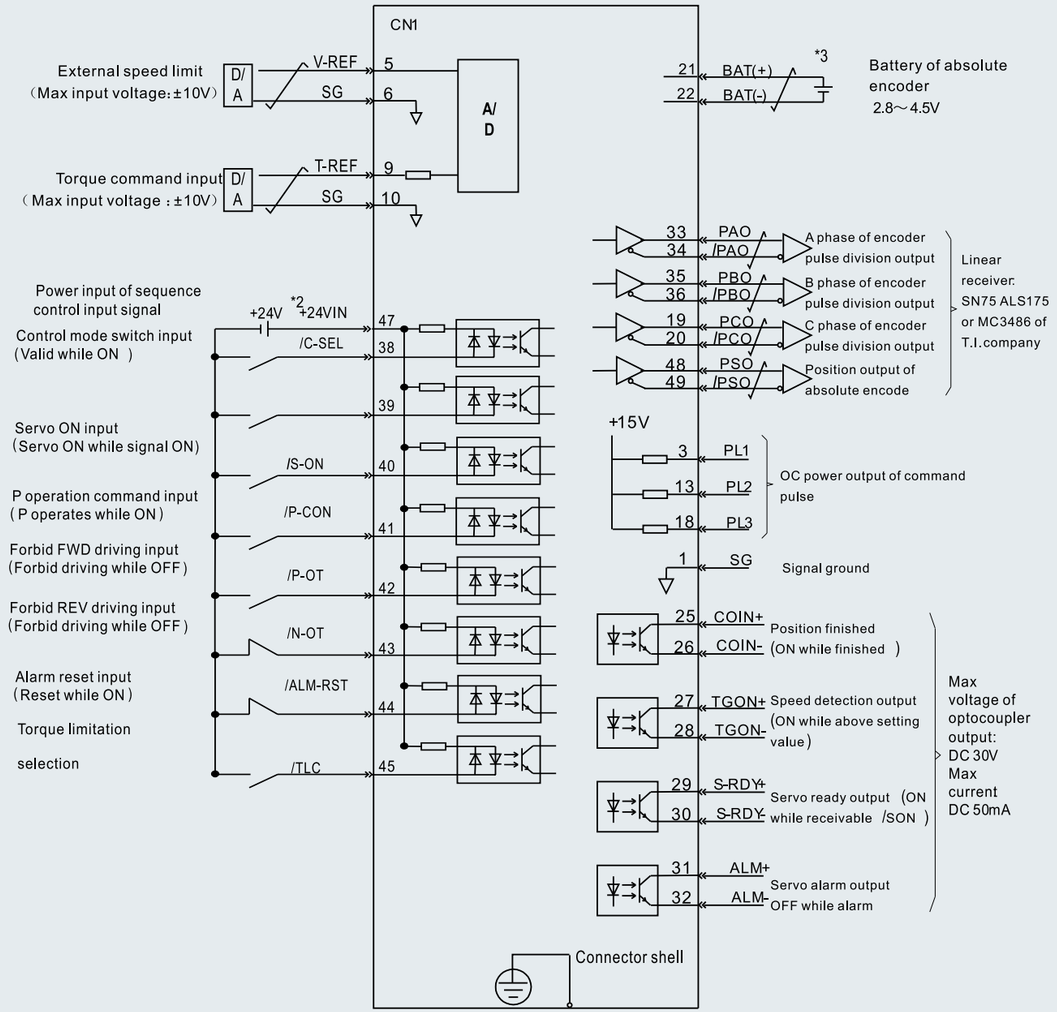
*2. DC24V power should be prepared by user. Double insulation or reinforced insulation equipments should be used for DC24V power.

*3.Connected while using absolute encoder. But never connect backup battery 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 Form 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 - torque mode



FG Shields are connected to connector shell
Frame grounded

*1. ≠ is the twisted shields

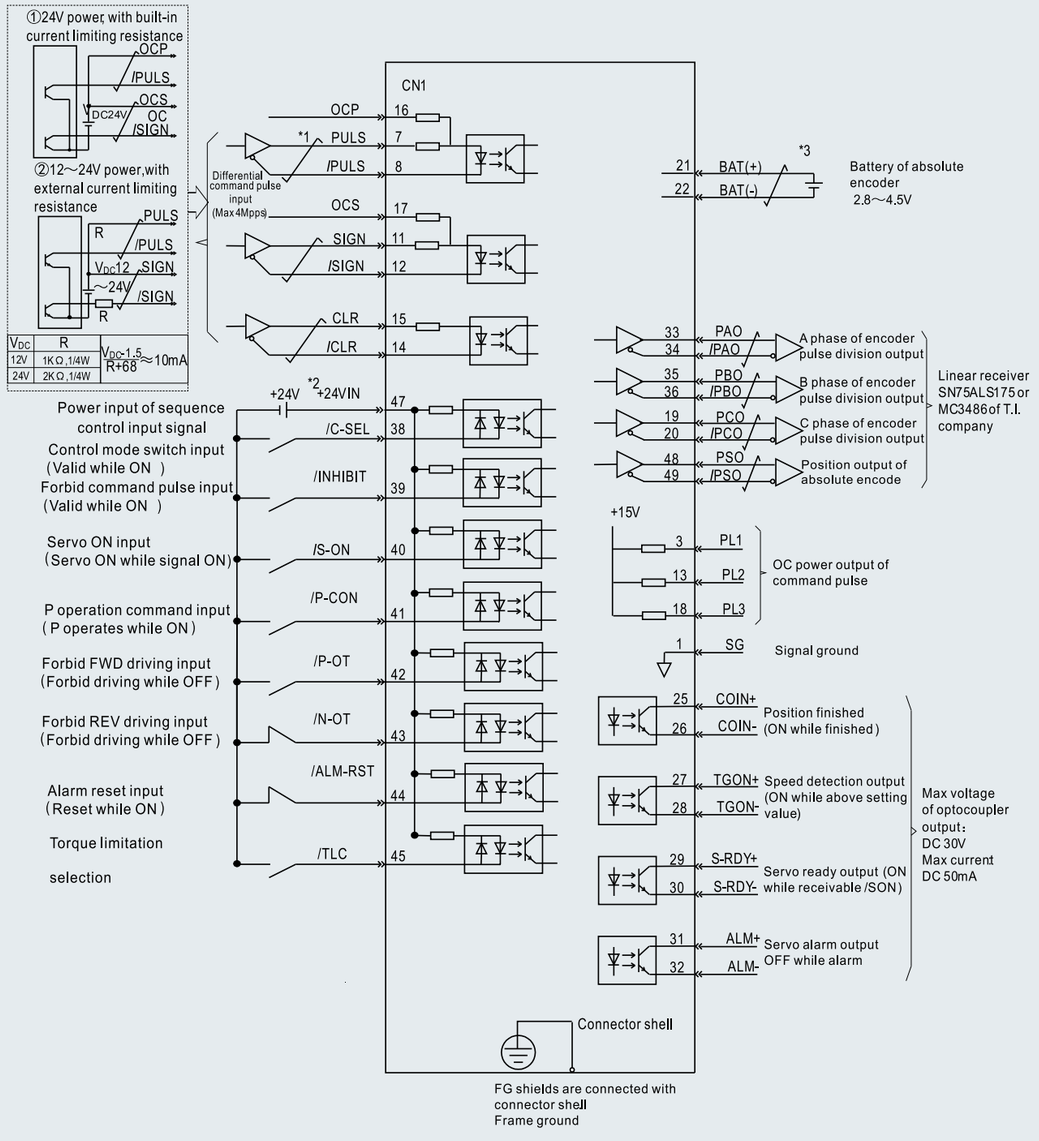
*2. DC24V power should be prepared by user . And double insulation or reinforced insulation equipments should be used for DC24V power.

*3. Connected while using absolute encoder . But never connect backup battery while using encoder cables with battery unit

*4. Output signal should be received by linear receiver

（Note）While using 24V BRaker, DC 24 V power should be separated Form 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 - position mode



*1. ≠ is twisted shields

*2. DC24V poweR should be prepared by user. And double insulation or reinforced insulation equipments should be used for DC 24V power.

*3. Connected while using absolute encoder. But never connect backup battery 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 Form 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 Introduction

VM7 - L 06 A - 1R0 15 - D 1 □

Product Series
VM5
VM7

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

Installation Flange
04 : 40mm 11 : 110mm
06 : 60mm 13 : 130mm
08 : 80mm 18 : 180mm
10 : 100mm

Rated Voltage
A : 220VAC
D : 400 VAC

Rated Power

Mark	Power	Mark	Power(W)	Mark	Power(W)	Mark	Power(W)
R05	50W	1R0	1KW	2R6	2.6KW	020	20KW
R10	100W	1R2	1.2KW	2R9	2.9KW	022	22KW
R20	200W	1R3	1.3KW	4R4	4.4KW	030	30KW
R40	400W	1R5	1.5KW	5R5	5.5KW	037	37KW
R60	600W	1R8	1.8KW	7R5	7.5KW	045	45KW
R75	750W	2R0	2.0KW	011	11KW	055	55KW
R85	850W	2R3	2.3KW	015	15KW		

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

Encoder Type
D:23-bit integrated multi-turn absolute encoder
Q:17-bit single-turn absolute magnetic encoder
R:17 bit multi-turn absolute magnetic encoder

	Axis		Oil seal		Brake	
Mark	Optical Axis	Key Axis	Yes	No	Yes	No
1		●	●			●
2		●	●		●	

Internal Management Number

*Selecting different types of encoders does not cause a change in the size of the motor.

Servo Motor Specification(A type Axis)

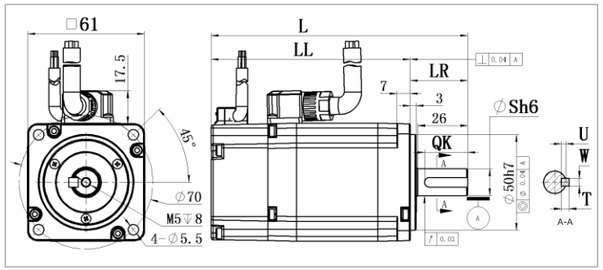
Motor Model VM□-	L06A-R2030-□□	L06A-R4030-□□	L06A-R6030-□□	L08A-R7530-□□L	M08A-R7530-□□L	L08A-R7530-□□	M08A-R7530-□□	L08A-1R030-□□	M13A-1R020-□□	M13A-1R520-□□	M13A-2R020-□□	M13A-2R315-□□L
Rated Voltage (V)	220	220	220	220	220	220	220	220	220	220	220	220
Rated Power (W)	200	400	600	750	750	750	750	1000	1000	1500	2000	2300
Rated speed (RPM)	3000	3000	3000	3000	3000	3000	3000	3000	2000	2000	2000	1500
Max Speed (RPM)	6000	6000	5000	4000	4000	6000	6000	5000	3000	3000	3000	2000
Rated Torque (N.m)	0.64	1.27	1.91	2.4	2.4	2.4	2.4	3.18	4.77	7.16	9.5	14.6
Max Torque (N.m)	1.92	3.81	5.73	7.2	7.2	7.2	7.2	9.54	14.3	21.48	28.5	43.8
Rated Current (A)	1.6	2.5	3.3	3.3	3.3	4.8	4.8	5.3	4.9	7.1	9.1	9.4
Max Current (A)	4.8	7.5	9.9	9.9	9.9	14.4	14.4	15.9	14.7	21.3	27.3	28.2
Torque Factor (N.m/A)	0.44	0.51	0.62	0.77	0.77	0.54	0.54	0.6	1.03	1.06	1.06	1.61
Rotary Inertia (With brake) (kg.cm²)	0.21 (0.25)	0.44 (0.50)	0.67 (0.75)	1.30 (1.50)	2.30 (2.50)	1.30 (1.50)	2.30 (2.50)	1.66 (1.89)	13.1 (15.2)	18.7 (21.5)	24.3 (27.3)	37.2 (40.2)

Motor Model Vm□-	M13A-2R625-□□L	M11A-1R230-□□	M11A-1R530-□□	M11A-1R830-□□	M13D-1R020-□□	M13D-1R520-□□	M13D-2R020-□□	M13D-2R315-□□L	M13D-2R625-□□L	M13D-3R825-□□	M18D-2R915-□□	M18D-4R415-□□
Rated Voltage (V)	220	220	220	220	400	400	400	400	400	400	400	400
Rated Power (W)	2600	1200	1500	1800	1000	1500	2000	2300	2600	3800	2900	4400
Rated speed (RPM)	2500	3000	3000	3000	2000	2000	2000	1500	2500	2500	1500	1500
Max Speed (RPM)	3000	3500	5000	5000	3000	3000	3000	2000	3000	3000	2000	2000
Rated Torque (N.m)	10	3.82	4.77	5.73	4.77	7.16	9.5	14.6	10	14.5	18.5	28.1
Max Torque (N.m)	30	11.46	14.31	17.19	14.3	21.48	28.5	43.8	30	43.5	46.3	70.3
Rated Current (A)	9.4	4.2	7.6	9.2	3.2	5.1	5.7	5.3	5.7	8.2	7.1	11
Max Current (A)	28.2	12.6	22.8	27.6	9.6	15.3	17.1	15.9	17.1	24.6	17.8	27.5
Torque Factor (N.m/A)	1.11	1.02	0.66	0.66	1.49	1.4	1.67	2.76	1.75	1.77	2.75	2.56
Rotary Inertia (With brake) (kg.cm²)	24.3 (27.2)	4.83 (5.8)	7.24 (8.2)	7.84 (8.8)	13.1 (15.2)	18.7 (21.5)	24.3 (27.3)	37.2 (40.2)	24.3 (27.2)	43.1 (46.2)	47.9 (53.7)	72.3 (78.1)

Motor Model Vm□-	M18D-5R515-□□	M18D-7R515-□□	M20D-01115-□1FN	M20D-01515-□1FN	M20D-02015-□1FN	M20D-02215-□1FN	M26D-03015-□1FN	M26D-03715-□1FN	M26D-04515-□1FN	M26D-05515-□1FN
Rated Voltage (V)	400	400	380	380	380	380	380	380	380	380
Rated Power (W)	5500	7500	11000	15000	20000	22000	30000	37000	45000	55000
Rated speed (RPM)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Max Speed (RPM)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Rated Torque (N.m)	35	47.7	70	96	127	140	191	236	286	350
Max Torque (N.m)	105	119.3	140	192	254	280	382	472	572	700
Rated Current (A)	14.1	19.1	21	29	38.5	42	58	72	87	106
Max Current (A)	35.3	47.8	42	58	77	84	116	144	174	212
Torque Factor (N.m/A)	2.48	2.67	3.33	3.31	3.3	3.33	3.29	3.28	3.29	3.3
Rotary Inertia (With brake) (kg.cm²)	110.1 (115.8)	156.9 (162.7)	70	100	147	171	372	461	550	639

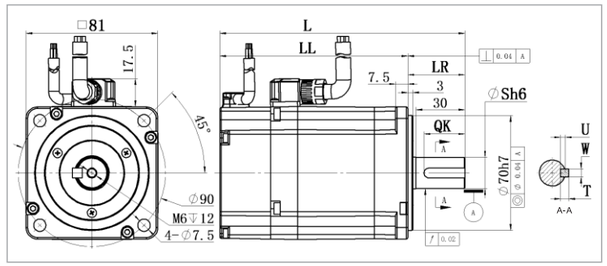
Servo Motor Installation Dimension (A type Axis)

60 mm flange(A type Axis)



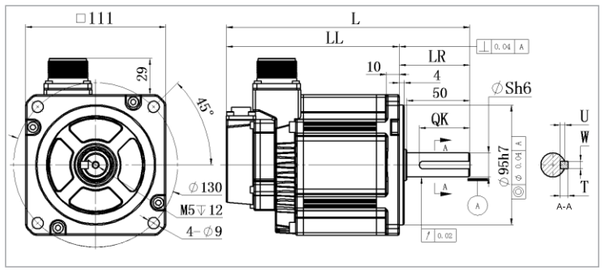
Motor model	L	LL	LR	S	U	W	T	QK
VM7-L06A-R2030-□1	116	86	30	14	3	5	5	22.5
VM7-L06A-R2030-□2	153	123	30	14	3	5	5	22.5
VM7-L06A-R4030-□1	138	108	30	14	3	5	5	22.5
VM7-L06A-R4030-□2	175	145	30	14	3	5	5	22.5
VM7-L06A-R6030-□1	162	132	30	14	3	5	5	22.5
VM7-L06A-R6030-□2	194	164	30	14	3	5	5	22.5

80 mm flange(A type Axis)



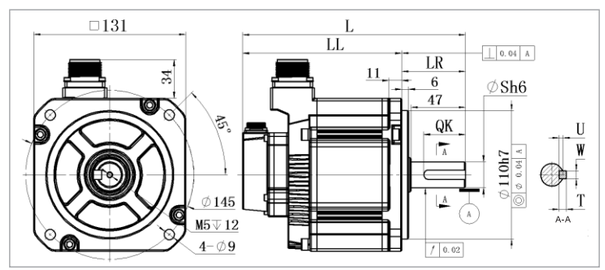
Motor model	L	LL	LR	S	U	W	T	QK
VM7-L08A-R7530-□1L	151	116	35	19	3.5	6	6	25
VM7-L08A-R7530-□2L	194	159	35	19	3.5	6	6	25
VM7-L08A-R7530-□1	151	116	35	19	3.5	6	6	25
VM7-L08A-R7530-□2	194	159	35	19	3.5	6	6	25
VM7-M08A-R7530-□1L	161	126	35	19	3.5	6	6	25
VM7-M08A-R7530-□2L	205	170	35	19	3.5	6	6	25
VM7-M08A-R7530-□1	161	126	35	19	3.5	6	6	25
VM7-M08A-R7530-□2	205	170	35	19	3.5	6	6	25
VM7-L08A-1R030-□1	174	139	35	19	3.5	6	6	25
VM7-L08A-1R030-□2	207	172	35	19	3.5	6	6	25

110 mm flange(A type Axis)



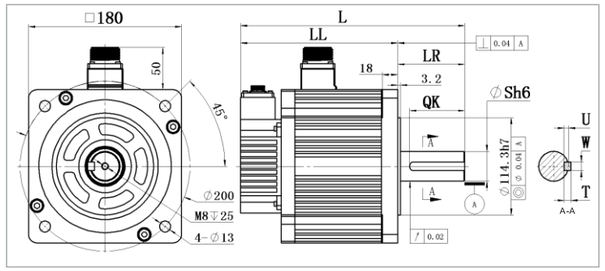
Motor model	L	LL	LR	S	U	W	T	QK
VM7-M11A-1R230-□1	193	137	56	19	3.5	6	6	40
VM7-M11A-1R230-□2	227	171	56	19	3.5	6	6	40
VM7-M11A-1R530-□1	213	157	56	19	3.5	6	6	40
VM7-M11A-1R530-□2	247	191	56	19	3.5	6	6	40
VM7-M11A-1R830-□1	218	162	56	19	3.5	6	6	40
VM7-M11A-1R830-□2	252	196	56	19	3.5	6	6	40

130 mm flange(A type Axis)



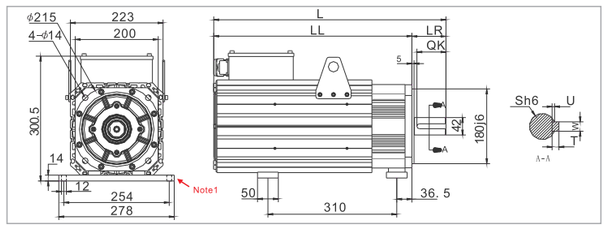
Motor model	L	LL	LR	S	U	W	T	QK
VM7-M13□-1R020-□1	192	137	55	22	4	8	7	36
VM7-M13□-1R020-□2	229	174	55	22	4	8	7	36
VM7-M13□-1R520-□1	207	152	55	22	4	8	7	36
VM7-M13□-1R520-□2	244	189	55	22	4	8	7	36
VM7-M13□-2R020-□1	222	167	55	22	4	8	7	36
VM7-M13□-2R020-□2	259	204	55	22	4	8	7	36
VM7-M13□-2R315-□1L	257	202	55	22	4	8	7	36
VM7-M13□-2R315-□2L	299	244	55	22	4	8	7	36
VM7-M13□-2R625-□1L	222	167	55	22	4	8	7	36
VM7-M13□-2R625-□2L	259	204	55	22	4	8	7	36
VM7-M13□-3R825-□1	272	217	55	22	4	8	7	36
VM7-M13□-3R825-□2	314	259	55	22	4	8	7	36

180 mm flange(A type Axis)



Motor model	L	LL	LR	S	U	W	T	QK
VM5-M18D-2R915-□1	264	185	79	35	5	10	8	65
VM5-M18D-2R915-□2	325	246	79	35	5	10	8	65
VM5-M18D-4R415-□1	288	209	79	35	5	10	8	65
VM5-M18D-4R415-□2	371	292	79	35	5	10	8	65
VM5-M18D-5R515-□1	325	246	79	35	5	10	8	65
VM5-M18D-5R515-□2	371	292	79	35	5	10	8	65
VM5-M18D-7R515-□1	371	292	79	35	5	10	8	65
VM5-M18D-7R515-□2	427	348	79	35	5	10	8	65

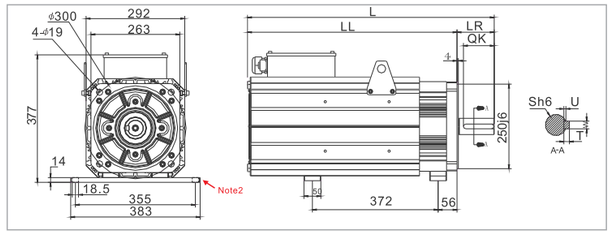
200 mm flange(A type Axis)



Motor 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

Note 1: 200 flange motor foot plate set (this is an optional accessory)
Model: S18 Part No.: 600000008

260 mm flange(A type Axis)



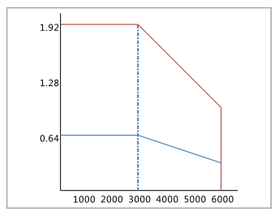
Motor model	L	LL	LR	S	U	W	T	QK
VM7-M26D-03015-□1FN	640	530	110	48	4.5	14	9	90
VM7-M26D-03715-□1FN	684	574	110	48	4.5	14	9	90
VM7-M26D-04515-□1FN	727	617	110	48	4.5	14	9	90
VM7-M26D-05515-□1FN	795	685	110	48	4.5	14	9	90

Note 2: 260 flange motor foot plate set (except VM7-M26D-05515 model standard, other models Machine is optional)
Model: S25 Part No.: 600000007

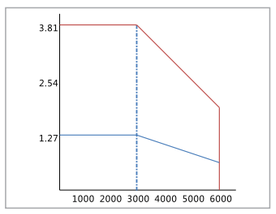
Servo motor torque characteristics (A output shaft)

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

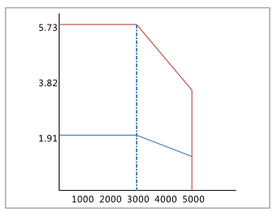
VM7-L06A-R2030-□ □



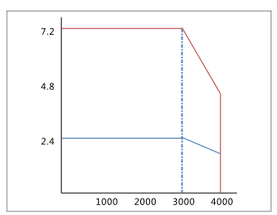
VM7-L06A-R4030-□ □



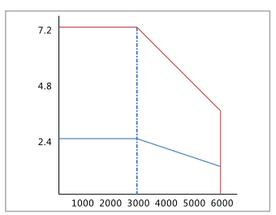
VM7-L06A-R6030-□ □



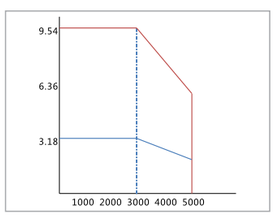
VM7-L08A-R7530-□ □L



VM7-L08A-R7530-□ □



VM7-L08A-1R030-□ □



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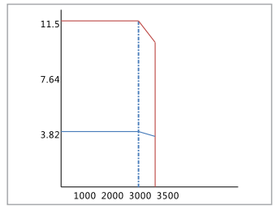
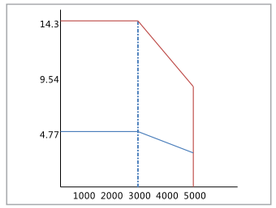
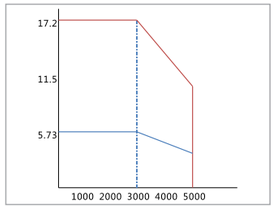


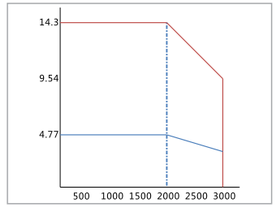
VM7-M11A-1R530-□ □



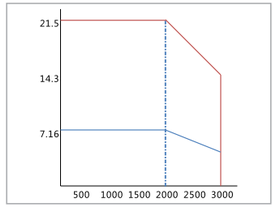
VM7-M11A-1R830-□ □



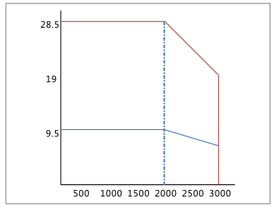
VM7-M13□-1R015-□ □



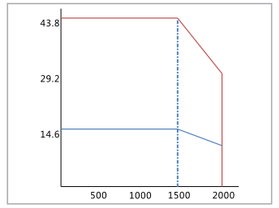
VM7-M13□-1R515-□ □



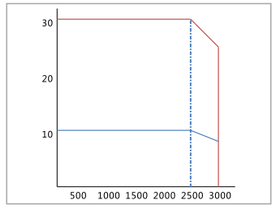
VM7-M13□-2R015-□ □



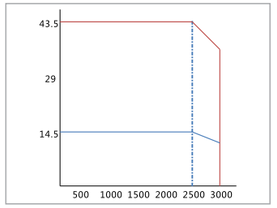
VM7-M13□-2R315-□ □L



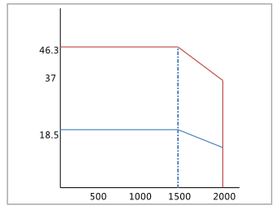
VM7M13□-2R625-□ □L



VM7-M13□-3R825-□ □



VM5-M18D-2R915-□ □



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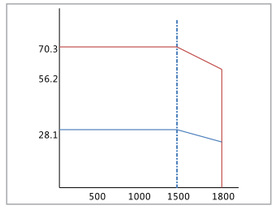
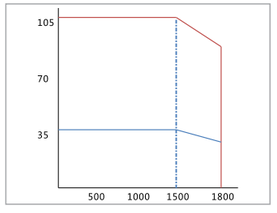
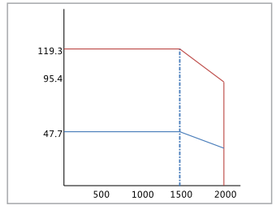


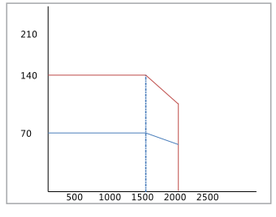
VM5-M18D-5R515-□ □



VM5-M18D-7R515-□ □



VM7-M20D-01115-□1FN



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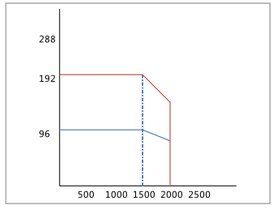
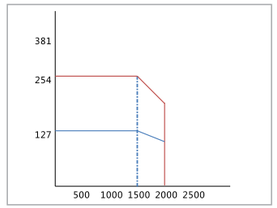


VM7-M20D-02015-□1FN



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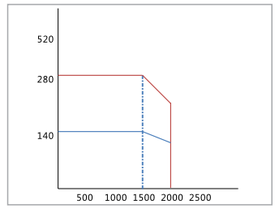

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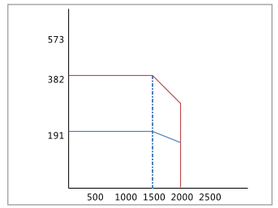

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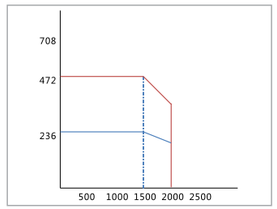
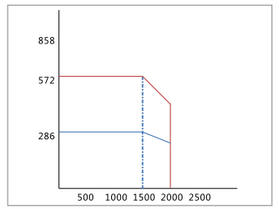
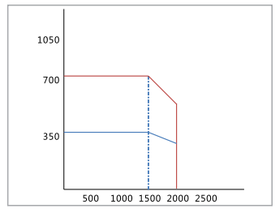


VM7-M20D-04515-□1FN



VM7-M20D-05515-□1FN

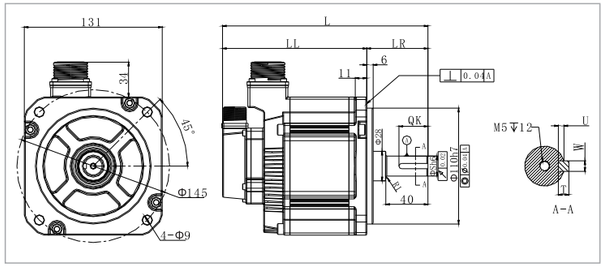


Servo motor technical parameters (B output shaft)

Motor type Vm7-	M13A-R8515-□□	M13A-1R315-□□	M13A-1R815-□□	M13D-R8515-□□	M13D-1R315-□□	M13D-1R815-□□	M18D-2R915-□□	M18D-4R415-□□	M18D-5R515-□□	M18D-7R515-□□
Rated Voltage (V)	220	220	220	380	380	380	380	380	380	380
Rated Power (W)	850	1300	1800	850	1300	1800	2900	4400	5500	7500
Rated speed (RPM)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Max Speed (RPM)	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
Rated Torque (N.m)	5.3	8.3	11.5	5.3	8.3	11.5	18.5	28.1	35	47.7
Instantaneous maximum torque(N.m)	15.9	24.9	34.5	15.9	24.9	34.5	46.3	70.3	87.5	119.3
Rated Current (A)	6.4	9.2	12	3.2	4.9	7.1	10.6	16	20	27.6
Instantaneous maximum current (A)	16.5	22.8	36	9.6	14.7	21.3	26.5	40	50	69
Torque coefficient (N.m/A)	0.964	1.092	0.99	1.656	1.694	1.62	1.745	1.081	1.75	1.728
Moment of inertia (with brake) (kg.cm²)	13.1 (15.2)	19.2 (21.3)	24.3 (26.4)	13.1 (15.2)	18.7 (20.8)	24.3 (26.4)	47.9 (44.4)	72.3 (78.9)	111 (117.5)	156.9 (163.4)

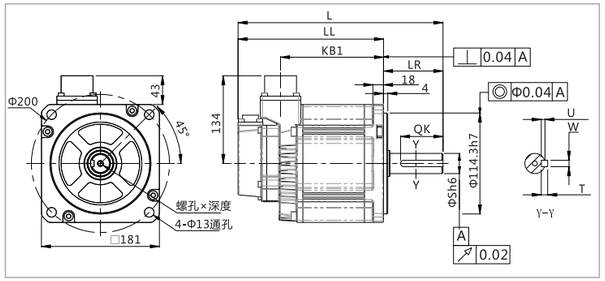
Servo motor mounting size (B out shaft)

130 flange (B out shaft)



Motor model	L	LL	LR	S	U	W	T	QK
VM7-M13□-R8515-□1	195	137	58	19	3	5	5	27.5
VM7-M13□-R8515-□2	232	174	58	19	3	5	5	27.5
VM7-M13□-1R315-□1	210	152	58	22	3.5	6	6	28
VM7-M13□-1R315-□2	247	189	58	22	3.5	6	6	28
VM7-M13□-1R815-□1	225	167	58	24	4	8	7	29
VM7-M13□-1R815-□2	262	204	58	24	4	8	7	29

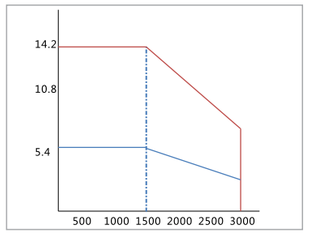
180 flange (B out shaft)



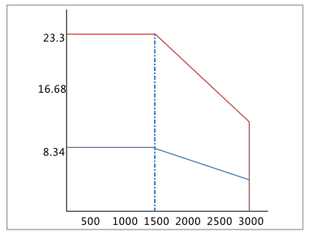
motor model	L	LL	LR	S	U	W	T	QK
VM7-M18D-2R915-□1	239	160	79	35	5	10	8	65
VM7-M18D-2R915-□2	294	215	79	35	5	10	8	65
VM7-M18D-4R415-□1	263	184	79	35	5	10	8	65
VM7-M18D-4R415-□2	318	239	79	35	5	10	8	65
VM7-M18D-5R515-□1	334	221	113	42	5	10	8	96
VM7-M18D-5R515-□2	389	276	113	42	5	10	8	96
VM7-M18D-7R515-□1	380	267	113	42	5	10	8	96
VM7-M18D-7R515-□2	435	322	113	42	5	10	8	96

Servo motor torque characteristics (B output shaft)

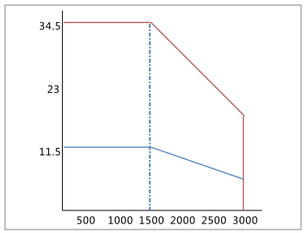
VM7-M13□-R8515-□ □



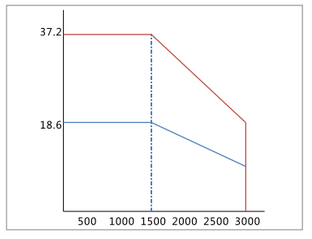
VM7-M13□-1R315-□ □



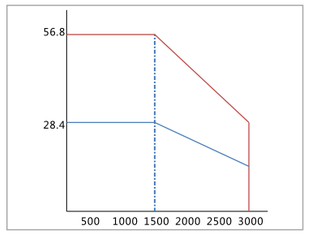
VM7-M13D -1R815-□ □



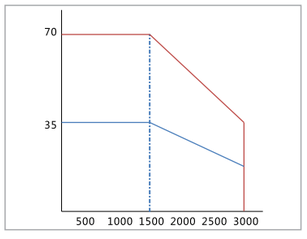
VM7-M18D -2R915-□ □



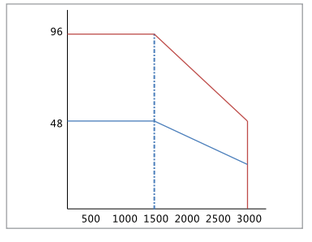
VM7-M18D -4R415-□ □



VM7-M18D -5R515-□ □



VM7-M18D -7R515-□ □



Sd700 servo drive wire introduction

Power cable naming rules

V M 075 - L030 - A N L

Product Series

Power cable

Wire diameter
075: 0.75mm²Cable ⩽ 6A current
150: 1.5mm²Cable ⩽ 11A current
250: 2.5mm²Cable ⩽ 18A current
400: 4mm²Cable ⩽ 30A current
600: 6mm²Cable ⩽ 45A current

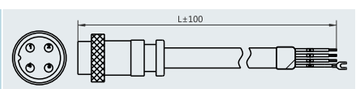
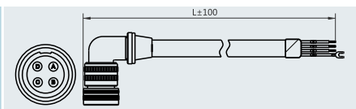
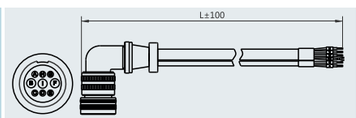
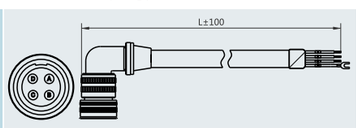
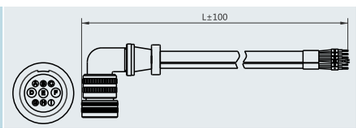
Length
L030 : 3Meter L050 : 5Meter
L100 : 10Meter L150 : 15Meter
L200 : 20Meter L250 : 25Meter
L300 : 30Meter

Motor end plug
A : 16M-4A(4-core injection integrated aviation plug)
K : 3108A18-10S(4-core curved 90 degree aviation plug)
H : 3108A20-18S (9 core curved 90 degree aviation plug)
M : 3108A22-22S(4-core curved 90 degree aviation plug)
I : 3108A24-11S(9-core 90 degree military air plug)

Drive end plug
N : None (bare line)

Cable material
L : Standard cable
H : Flexible cable

Motor power line

VM075-□-□N□ Motor plug A		40/60/80 Flange motor power line
VM150-□-□N□ Motor plug K		100/110/130 Flange motor power line
VM150-④-⑤N⑦ Motor plug H		110/130 Flange with brake motor power line
VM250-□-□N□ VM400-□-□N□ Motor plug M		180 Flange motor power line
VM250-④-⑤N⑦ VM400-④-⑤N⑦ Motor plug I		180 Flange with brake motor power line

Brake cable naming rules

V B - L030 - B L

Product Series

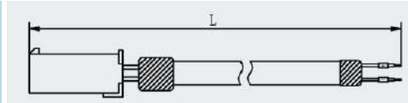
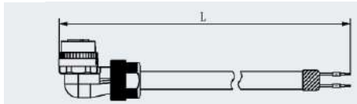
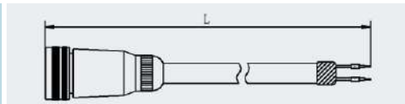
Brake cable

Cable length
L030 : 3Meter L050 : 5Meter
L100 : 10Meter L150 : 15Meter
L200 : 20Meter L250 : 25Meter
L300 : 30Meter

Motor end plug
B : 2PIN (Amp 172157-1 plastic plug)
C : 2PIN(SC-CMV1-AP02C-2Core bend plug)
D : 3PIN(YDB16K3TQ-3-core straight through)

Cable material
L : Standard cable
H : Flexible cable

Brake line

VB-□-B□	
VB-□-C□	
VB-□-D□	

Encoder cable naming rules

V E 06 - L030 - 2 A N L

Product Series

Encoder line

Number of lines
04: 4-core twisted pair shielded cable
06: 6-core twisted pair shielded cable

Cable length
L030: 3 meters
L050: 5 meters
L100: 10 meters
L150: 15 meters
L200: 20 meters
L250: 25 meters
L300: 30 meters

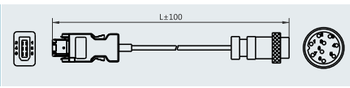
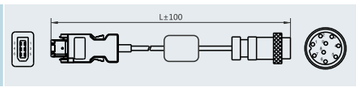
Drive end plug
2:6PIN 1394 plug

Motor end plug
A: 16M-9A (9-core injection molding integrated aviation head)

battery
N: no battery
D: with battery

Cable material
L: standard cable
H: flexible cable

Encoder line

VE04-□-2AN□		Without battery box encoder line
VE06-□-2AD□		Battery pack encoder cable

Brake resistor selection

model	Brake voltage	Built-in resistor	Min external resistance	Max External Resistance
SD700-1R1A	380	None	40	400
SD700-1R8A	380	None	40	200
SD700-3R3A	380	None	40	100
SD700-5R5A	380	40Ω 60W	25	70
SD700-7R6A	380	40Ω 60W	15	50
SD700-9R5A	380	40Ω 60W	15	40
SD700-120A	380	30Ω 200W	10	30
SD700-160A	380	30Ω 200W	10	30
SD700-2R5D	700	80Ω 60W	80	225
SD700-3R8D	700	80Ω 60W	55	180
SD700-6R0D	700	40Ω 60W	35	110
SD700-8R4D	700	40Ω 60W	25	85
SD700-110D	700	40Ω 60W	25	70
SD700-170D	700	30Ω 200W	30	50
SD700-240D	700	30Ω 200W	15	40
SD700-300D	700	30Ω 200W	15	30
SD700-500D	700	None	10	20
SD700-600D	700	None	10	20
SD700-700D	700	None	10	15
SD700-800D	700	None	10	15
SD700-121D	700	None	8	12