



Smart solutions.
Strong relationships.



SERVO SYSTEM FOR MODERN AUTOMATION

Smart Control, Seamless Automation

SERVO SYSTEM SERIES:

Empowering Automation with High-Performance Servo Solutions



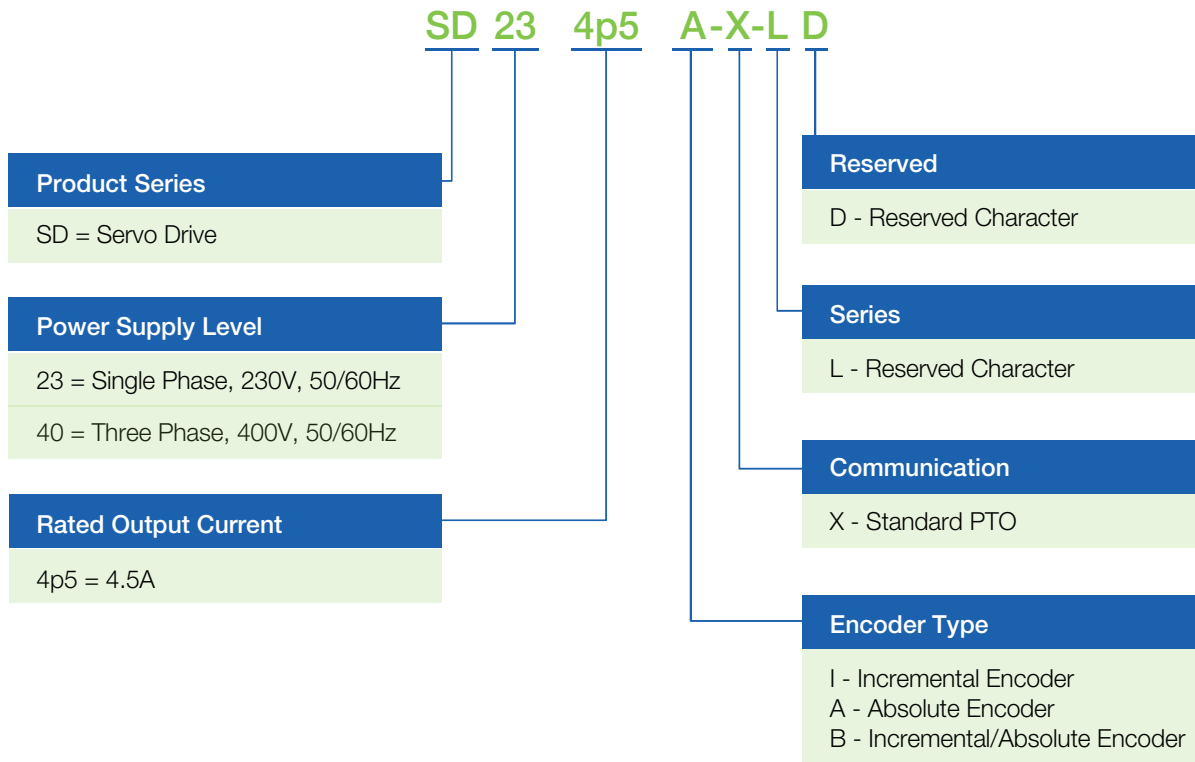
Main Features:

- Full coverage from 100W to 7.5kW.
- Speed ring bandwidth of 1.6 kHz for quick and precise adjustments.
- Supports 17/23-bit optical, and 17-bit magnetic encoders.
- Multi-speed section design reduces vibration effectively.
- Self-adaptation parameters include inertia identification, zero position identification, and rigid rating function.
- Handles overloads up to 300% capacity.
- PC software enables status upload and parameter download.
- Interlocked driver, and accurate hardware over-current protection system.
- Advanced protections including braking curve, overload, parameter, and algorithm safeguards.
- Plug and play terminal is designed to be more reliable and convenient.
- Optimize the layout of board lines for stronger interference resistance.
- External brake resistors make switching easier.

Model Explanation:

Model Shown on the Product Nameplate Showcases the Following Information.

Servo Drive:



Types and Ratings: Pulse Type Servo Drive:

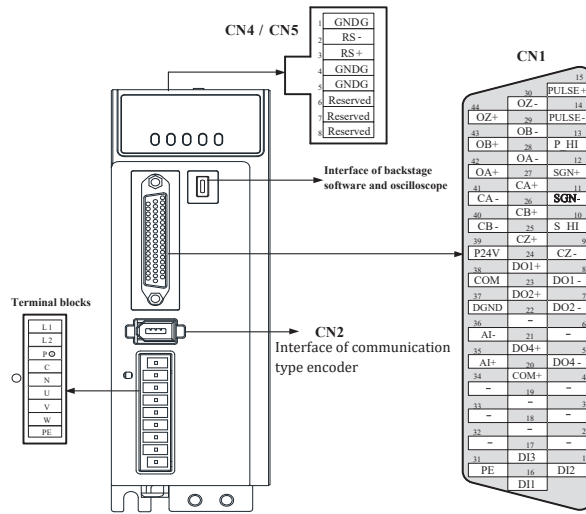
Drive Model	Rated Output Current	Max. Output Current	Voltage Grade	Brake Resistance
Single-phase 220V±10%, 50/60Hz				
SD23-003A-XND	3	9	1-Phase 220V	Built-in as standard configuration
SD23-4p5A-XND	4.5	13.5	1-Phase 220V	
SD23-006A-XND	6	18	1-Phase 220V	
SD23-010A-XND	10	30	1-phase 220V/ 3-phase 220V	
SD23-014A-XND	14	42	1-phase 220V/ 3-phase 220V	
Three-phase 380V±10%, 50/60Hz				
SD40-8p5A-XND	8.5	25.5	Three-phase 380V	Built-in as standard configuration
SD40-012A-XND	12	36	Three-phase 380V	
SD40-020A-XLD	20	60	Three-phase 380V	

Technical Specifications:

Servo Product Specification		
Control method		Position, speed and torque control
Regenerative brake		Internal
Encoder feedback		Absolute encoder
Configuration	24V power	P24V-COM, maximum output 200mA
	5V power	P5V-GND, maximum output 200mA
	Pulse input	P_HI, PULSE+, PULSE-, S_HI, SGN+, SGN-, Differential input/ open collector input is available.
	Digital input	8-channel digital input terminals (DI1~DI8).[*Optional]
	Digital output	4-channel digital output terminals (DO1~DO4).[*Optional]
	Analog input	1-channel analog input (AIN), DC±10V, 12-bit conversion accuracy
	Analog output	1-channel analog output (AO+, AO-), DC±10V.[*Optional]
	Frequency-dividing output	Differential output (≤ 500kHz), collector output (≤ 200kHz)
Control feature	Speed bandwidth response	Above 2kHz
	Speed fluctuation ratio	<±1.5% (Load 0-100%); <±0.3% (Power -15~+10%)
	Speed regulation ratio	1:30000
	Input pulse frequency	≤ 500 kHz
Position Control	Electronic gear ratio	1~65535/1~65535
	Input way	Pulse + sign; CW pulse + CCW pulse; Orthorhombic AB phase pulse
Feedback pulse		32~32768 Pulses / rev., settable
Feedback way		Motor shaft end encoder feedback
Parameter setting		Input via keyboard; RS485 MODBUS communication
Load inertia		Less than 20 times motor inertia
Braking mode		Resistance energy consumption braking, Optional: Dynamic braking
Built-in	Overtravel prevention	Stopped immediately if CWL or CCWL acts
	Protection function	Over-current, overvoltage, overload, main circuit detection abnormality, radiator overheat, power phase missing, over-speed, encoder abnormality, CUP abnormality, parameter abnormality
	LED display function	Main power indicator CHARGE, 5-bit LED
	Connecting device	RS485
	Communication protocol	MODBUS
	1:N communication	When RS485, up to N=247 stations
	Shaft address setting	According to the user setting
	Others	Gain control, alarm recording, JOG operation
Environment requirements	Ambient temperature	0 ~ 45°C (derating if the ambient temperature is above 45°C)
	Storage temperature	-20~+70°C
	Humidity	90%RH or less (no condensation)
	Vibration	4.9m/s ²
	Protection level	IP10
	Pollution level	2
	Altitude	Below 1000m

Drive Terminal and Pins Distribution:

Size – A



Pulse Input Signal:

Signal Name	Pin No.	Function	
PULSE+	15	Pulse command input mode 1. Differential drive input 2. Open collector	Impulse pulse form 1. Direction + pulse 2. Phase A and B of orthogonal pulse 3. Pulse sequence CW/ACW
PULSE-	14		
SGN+	12		
SGN-	11		
P_HI	13	External power input interface of command pulse	
S_HI	10		
DGND	37	Digital signal ground	

Digital Input/Output Signal:

Standard configuration includes 3 DI channels (DI1~DI3) and 3 DO channels (DO1, DO2, DO4)
 SIZE-C type, optional with 8 DI and 4 DO channels.

Signal Name	Pin No.	Function
P24V	39	Internal 24V power supply, voltage range +20~28V, max. output current: 200mA
COM	38	Internal 0V
COM+	20	Common terminal of DI signal input (12V~24V) (Modify resistance value if 12V voltage is used)
DI1	16	DI1 signal input end, SON servo enabling is set by default
DI2	1	DI2 signal input, EMGS servo emergency stop is set by default
DI3	17	DI3 signal input end, CCWL forward rotation limit is set by default
DI4	2	DI4 signal input end, CWL inversion restriction is set by default
DI5	18	DI5 signal input end, CCLR clearing pulse counter is set by default
DI6	3	DI6 signal input end, INHP position instruction prohibition is set by default
DI7	19	DI7 signal input end, TRLM forward rotation torque restriction is set by default
DI8	4	DI8 signal input end, TLLM inversion torque restriction is set by default
DO1+	24	DO1 signal output + end, SDRY servo preparation + is set by default
DO1-	8	DO1 signal output - end, SDRY servo preparation - is set by default
DO2+	23	DO2 signal output + end, ALRM servo alarm + is set by default
DO2-	7	DO2 signal output - end, ALRM servo alarm is set by default
DO3+	22	DO3 signal output + end, TTQR servo torque reaching + is set by default
DO3-	6	DO3 signal output - end, TTQR servo torque reaching - is set by default
DO4+	21	DO4 signal output + end, BRK servo brake output + is set by default
DO4-	5	DO4 signal output - end, BRK servo brake output - is set by default

Frequency Division Output Signal of Encoder:

Signal Name	Pin No.	Function	
CA+	27	Phase A frequency division output (collector signal)	Orthogonal frequency division pulse output signal of A, B
CA-	41		
OA+	42	Phase A frequency division output (differential signal)	
OA-	28		
CB+	26	Phase B frequency division output (collector signal)	
CB-	40		
OB+	43	Phase B frequency division output (differential signal)	
OB-	29		
CZ+	25	Phase B frequency division output (differential signal)	Origin pulse output signal
CZ-	9		
OZ+	44	Phase B frequency division output (differential signal)	
OZ-	30		
PE		Shielding ground	

Analog Input/Output Signal:

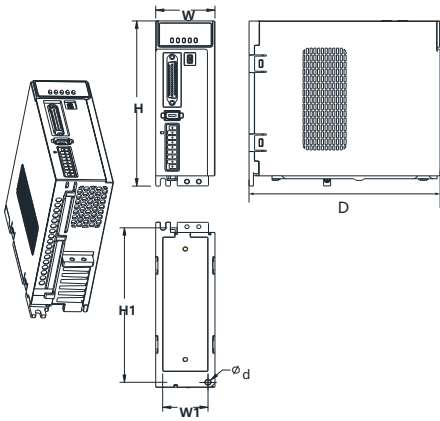
The analog output signal function defaults to none and requires additional optional configuration

Signal Name	Pin No.	Function
AI+	35	Analog input signal, Scope of voltage input: -10V~10V, resolution 12-bit Input impedance: about 9kΩ
AI-	36	
AO+	32	Analog output signal, Scope of voltage output: -10V~10V Max. output current: 1mA
AO-	33	
AGND	34	Analog signal ground

Note: Layout of terminal pins and pins configuration will be varying depends on the model

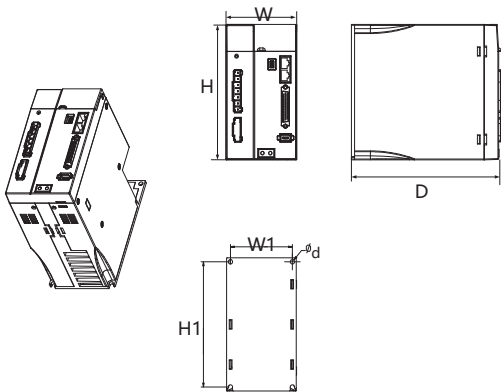
Mounting Dimensions:

Size – A



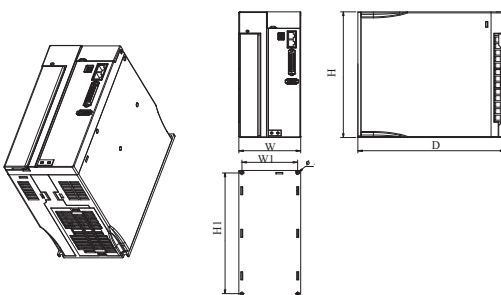
Model	W	W1	H	H1	D	Φd
SD23-003A-XND	55	55	170	159.5	177.3	5
SD23-4p5A-XND						
SD23-006A-XND						

Size – B



Model	W	W1	H	H1	D
SD23-010A-XND	90	80	166	156	189.6
SD23-014A-XND					
SD40-8p5A-XND					
SD40-012A-XND					

Size – C



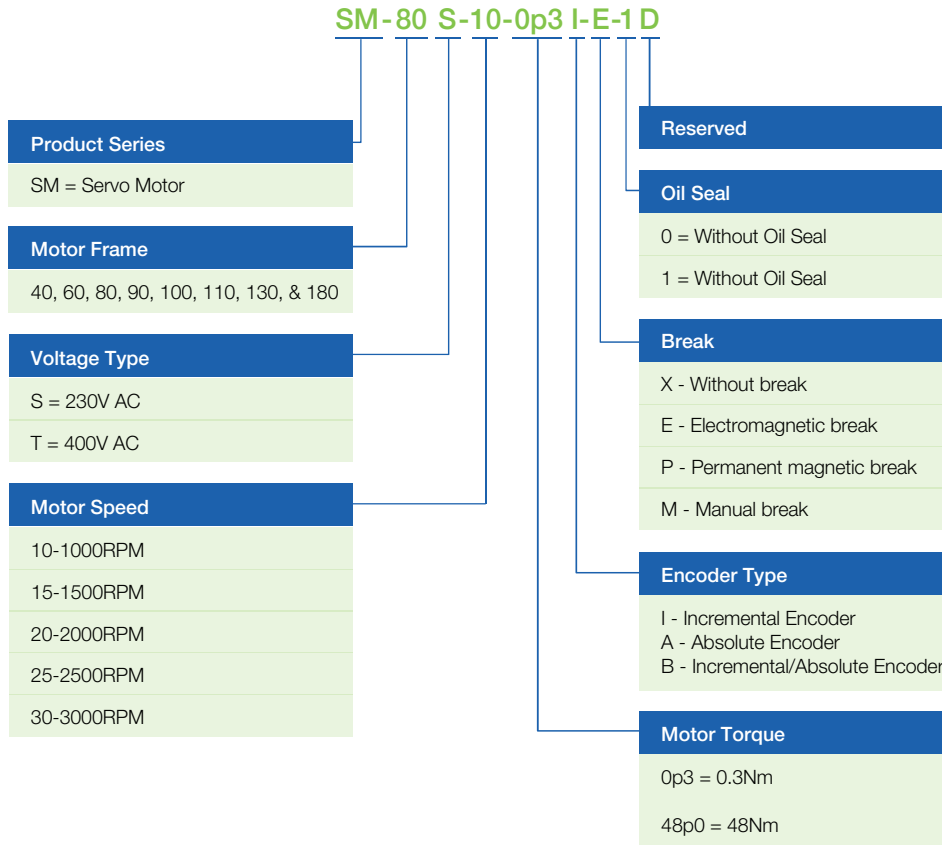
Model	W	W1	H	H1	D	Φd
SD40-020A-XLD	100	90	251	241	237.7	5.5

Servo Motor:

We offer SM series servo motors with over Multi frames of torque, speed, and frame sizes. Equipped with 17 bit and 23 bit high precision absolute encoders, they deliver fast response, high accuracy, strong performance, and reliable operation for textile, printing, packaging, machine tool, and general automation applications.

Model Explanation:

Model Shown on the Product Nameplate Showcases the Following Information.

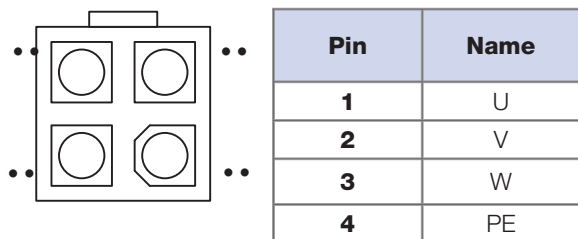


Specification:

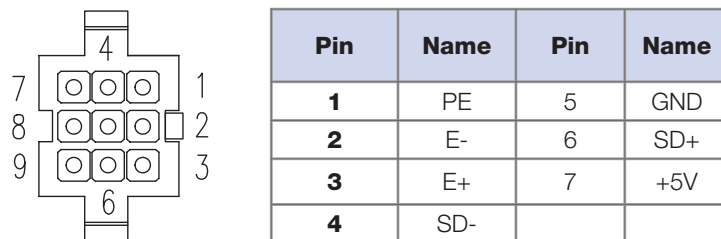
Item	Description
Rated Period	Continuous
Vibration Grade	V15
Insulation Grade	Over DC500V, 10MΩ
Ambient Temperature	-20°C ~ 40°C
Excitation Mode	Permanent magnet type
Mounting Type	Flange type
Classification of Electrical Insulation	Class F
Insulation Voltage	AC1500V1 min (Class 200V) AC1800V1 min (Class 400V)
Shell Protection Mode	IP65 (except for axis cut-through part)
Ambient Humidity	<90% (no condensation)
Connection Mode	Direct connection
Revolving Direction	Upon release of forward revolving command, be revolving anticlockwise (CCW) when observed from load side

Servo Motors							Servo Drives
Models	Rated Power (kW)	Rated Current (A)	Max Current (A)	Max RPM	Inertia	Inertia Class	Recommended Model
Driver: Single Phase 220V (17-bit absolute encoder)							
SM40S3000p3MX1D	0.1	1	3	6000	0.05	Medium	SD23-003A-XND
SM60S3000p6MX1D	0.2	1.7	5.1	6000	0.28	Medium	SD23-003A-XND
SM60S3001p3MX1D	0.4	2.5	7.5	6000	0.52	Medium	SD23-003A-XND
SM60S3001p9MX1D	0.6	4.1	12.3	6000	0.78	Medium	SD23-4p5A-XND
SM80S3002p4MX1D	0.75	5	13.2	6000	1.48	Medium	SD23-006A-XND
SM80S3003p3MX1D	1	5.8	17.4	6000	2.27	Medium	SD23-006A-XND
SM110S300004MX1D	1.2	5.7	17.1	4500	5.5	Medium	SD23-006A-XND
SM110S300006MX1D	1.8	6.1	18.3	3500	8.1	Medium	SD23-006A-XND
SM130S1505p4MX1D	0.85	5.4	15.9	3000	7.2	Medium	SD23-006A-XND
SM130S1508p3MX1D	1.3	7.5	22.5	3000	10.3	Medium	SD23-010A-XND
SM130S1511p5MX1D	3	10.5	31.5	3000	12.7	Medium	SD23-010A-XND
SM130S1514p6MX1D	2.3	14	42	3000	19.7	Medium	SD23-014A-XND
SM130S1517p8MX1D	2.8	12.5	37.5	2000	45.4	Medium	SD23-014A-XND
Driver: Three Phase 400V (17-bit absolute encoder)							
SM130T1505p4MX1D	0.85	3.4	10.2	3000	12.5	Medium	SD40-8p5A-XND
SM130T1508p3MX1D	1.3	4.7	14.1	3000	17.8	Medium	SD40-8p5A-XND
SM130T1511p5MX1D	1.8	6.2	18.8	3000	24.1	Medium	SD40-8p5A-XND
SM130T1514p6MX1D	2.3	8.4	25.2	3000	31.5	Medium	SD40-8p5A-XND
SM130T1517p8MX1D	2.8	12	30	3000	45.4	Medium	SD40-012A-XND
SM180T1518p6MX1D	2.9	10	30	2500	59	Medium	SD40-012A-XND
SM180T1528p4MX1D	4.4	10	30	2000	66	Medium	SD40-012A-XND
SM180T150035MX1D	5.5	17.6	44	2000	102	Medium	SD40-020A-XLD
SM180T150048MX1D	7.5	18	45	2000	130	Medium	SD40-020A-XLD
Driver: Single Phase 220V (23-bit absolute encoder)							
SM40S3000p3AX1D	0.1	1	3	6000	0.05	Medium	SD23-003A-XND
SM60S3000p6AX1D	0.2	1.7	5.1	6000	0.28	Medium	SD23-003A-XND
SM60S3001p3AX1D	0.4	2.5	7.5	6000	0.52	Medium	SD23-003A-XND
SM60S3001p9AX1D	0.6	4.1	12.3	6000	0.78	Medium	SD23-4p5A-XND
SM80S3002p4AX1D	0.75	5	13.2	6000	1.48	Medium	SD23-006A-XND
SM80S3003p3AX1D	1	5.8	17.4	6000	2.27	Medium	SD23-006A-XND
SM110S300004AX1D	1.2	5.7	17.1	4500	5.5	Medium	SD23-006A-XND
SM110S300006AX1D	1.8	6.1	18.3	3500	8.1	Medium	SD23-006A-XND
SM130S1505p4AX1D	0.85	5.4	15.9	3000	7.2	Medium	SD23-006A-XND
SM130S1508p3AX1D	1.3	7.5	22.5	3000	10.3	Medium	SD23-010A-XND
SM130S1511p5AX1D	3	10.5	31.5	3000	12.7	Medium	SD23-010A-XND
SM130S1514p6AX1D	2.3	14	42	3000	19.7	Medium	SD23-014A-XND
SM130S1517p8AX1D	2.8	12.5	37.5	2000	45.4	Medium	SD23-014A-XND
Driver: Three Phase 400V (23-bit absolute encoder)							
SM130T1505p4AX1D	0.85	3.4	10.2	3000	12.5	Medium	SD40-8p5A-XND
SM130T1508p3AX1D	1.3	4.7	14.1	3000	17.8	Medium	SD40-8p5A-XND
SM130T1511p5AX1D	1.8	6.2	18.8	3000	24.1	Medium	SD40-8p5A-XND
SM130T1514p6AX1D	2.3	8.4	25.2	3000	31.5	Medium	SD40-8p5A-XND
SM130T1517p8AX1D	2.8	12	30	3000	45.4	Medium	SD40-012A-XND
SM180T1518p6AX1D	2.9	10	30	2500	59	Medium	SD40-012A-XND
SM180T1528p4AX1D	4.4	10	30	2000	66	Medium	SD40-012A-XND
SM180T150035AX1D	5.5	17.6	44	2000	102	Medium	SD40-020A-XLD
SM180T150048AX1D	7.5	18	45	2000	130	Medium	SD40-020A-XLD

Servo Cable: Terminal Definition Suitable for 40/60/80 Flange Motors

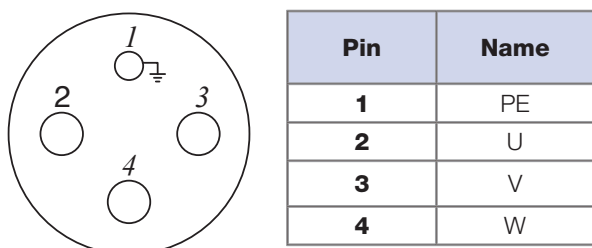


Power Line Ordinary Plug

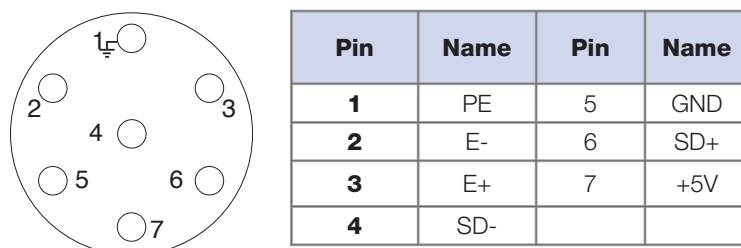


Encoder Cable Ordinary Plug

Suitable for 100/110/130 Flange Motors

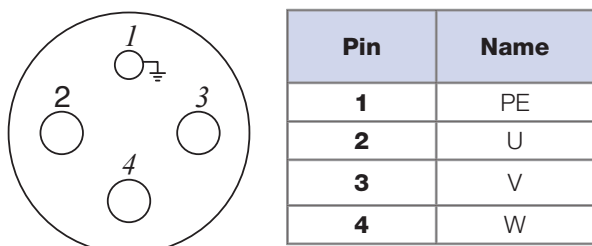


Power Line Aviation Plug

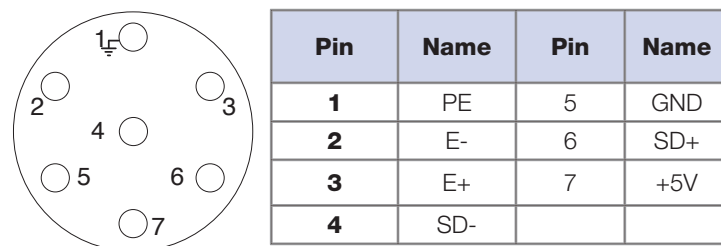


Communication Encoder Cable Aviation Plug

Suitable for 180 Flange Motors



Power Line Aviation Plug



Communication Encoder Cable Aviation Plug

Specification of Servo Motor Cable:

CG Part Code	Description
SC-PA1-M3D	Power cable, 3mtr.
SC-PA2-M3D	Power cable, 3mtr.
SC-PB1-M3D	Power cable, 3mtr.
SC-PB2-M3D	Power cable, 3mtr.
SC-PB3-M3D	Power cable, 3mtr.
SC-PB4-M3D	Power cable, 3mtr.
SC-PC3-M3D	Power cable, 3mtr.
SC-PC5-M3D	Power cable, 3mtr.

Specification of Servo Encoder Cable:

CG Part Code	Description
SC-EA2B1-M3D	Encoder cable, 3mtr.
SC-EA2F1-M3D	Encoder cable, 3mtr.

Registered Office

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