

SMH150D Servo Motor

Kinco

FEATURES

- **150mm Frame Size**
- **Power Rating up to 3800 Watts**
- **Rated Torque up to 18.0 Nm**
- **Rated Speed of 2000 RPM**
- **Maximum Speed 3800 RPM**
- **Brake Option Available**
- **2500PPR Incremental Encoder**
- **Totally Enclosed, Non-Ventilated**
- **IP65 Protection for Body, IP54 Shaft Sealing**



DESCRIPTION

The SMH150D Series Servo Motor offers a solution to servo applications requiring position and speed control. This servo motor series comes standard with a 2,500 Pulses per Revolution (PPR) Incremental Encoder, runs at a rated speed of 2000 RPM, provides peak values up to 300% of the rated torque and current values, and has a rated torque of 11.1 to 18 Nm with a 2300-3800 Watt power rating. This servo motor series enables industrial motion control applications to attain a great combination of position and speed functionality.

CUSTOM ORDER LAYOUT

Model	SMH150D-0230-20AAK-4HKC SMH150D-0230-20AAK-4HKD SMH150D-0230-20ABK-4HKC SMH150D-0230-20ABK-4HKD	SMH150D-0300-20AAK-4HKC SMH150D-0300-20AAK-4HKD SMH150D-0300-20ABK-4HKC SMH150D-0300-20ABK-4HKD	SMH150D-0380-20AAK-4HKC SMH150D-0380-20AAK-4HKD SMH150D-0380-20ABK-4HKC SMH150D-0380-20ABK-4HKD
Compatible Driver	FD622-CA/AA/LA	JD630-AA/LA	JD630-AA/LA
DC Link Voltage (VDC)	560	560	560
Rated Power (W)	2300	3000	3800
Rated Torque (Nm)	11.1	14.3	18.0
Rated Speed (RPM)	2000	2000	2000
Max Speed (RPM)	3800	3500	3000
Rated Current (A)	7.1	8.5	9.3
Maximum Torque (Nm)	27.5	35.75	45.0
Maximum Current (A)	17.75	21.25	23.25
Standstill Torque (Nm)	12.10	15.73	19.80
Standstill Current (A)	7.81	9.35	10.23
Resistance Line-Line (Ω)	2.2	1.4	1.3
Inductance Line-Line (mH)	14	10.6	10.5
Electrical Time Constant (ms)	6.36	7.57	8.08
Mechanical Time Constant (ms)	4.68	3.68	3.32
Reverse Voltage Constant Ke (V/krpm)	100	107	125
Torque Constant Kt (Nm/A)	1.65	1.77	2.07
Rotor Moment of Inertia Jm (Kg. cm ²)	33.5 33.6 (with brake)	47.6 47.7 (with brake)	63.1 63.2 (with brake)
Pole Pair Number	4	4	4
Maximum Voltage Rising du/dt (KV/μs)	8	8	8
Insulation Class	F	F	F
Maximum Radical Force F (N)	1200	1200	1200
Maximum Axial Force F (N)	600	600	600
Weight (lbs)	12.0 15.5 (with brake)	15.0 18.5 (with brake)	18.0 22.5 (with brake)

L011538

*Note: Part Nubers with -20ABK are equipped with a brake.

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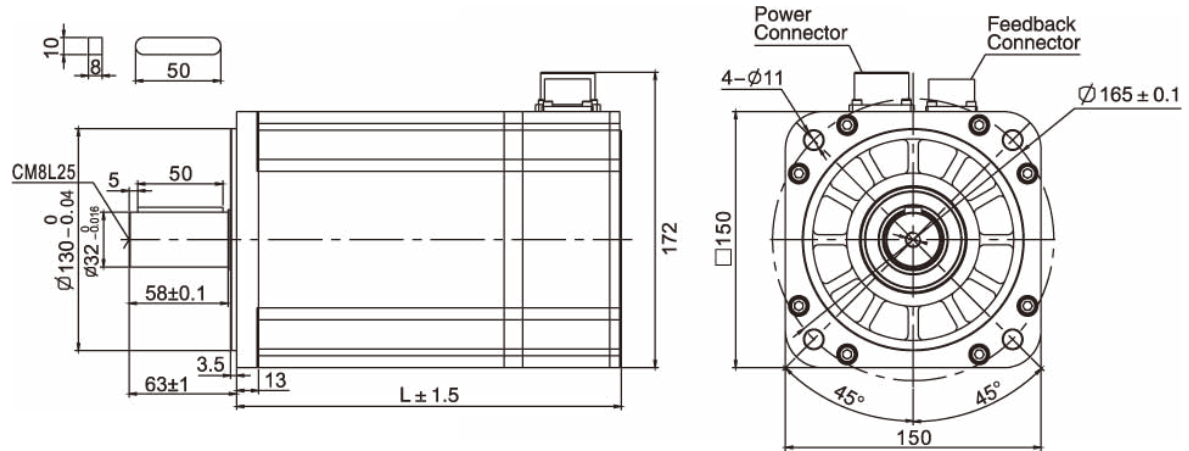
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SMH150D Servo Motor

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SMH150D Dimension Drawing

Units are in mm.

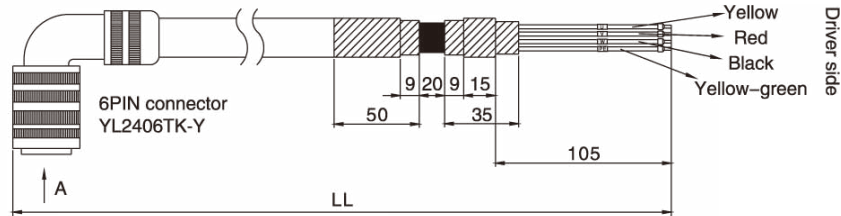
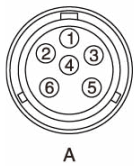


Model	SMH150D-0230-20AAK-4HKC SMH150D-0230-20AAK-4HKD SMH150D-0230-20ABK-4HKC SMH150D-0230-20ABK-4HKD	SMH150D-0300-20AAK-4HKC SMH150D-0300-20AAK-4HKD SMH150D-0300-20ABK-4HKC SMH150D-0300-20ABK-4HKD	SMH150D-0380-20AAK-4HKC SMH150D-0380-20AAK-4HKD SMH150D-0380-20ABK-4HKC SMH150D-0380-20ABK-4HKD
Length of Motor "L"(mm)	226 ± 1.5 292 ± 1.5 (with brake)	254 ± 1.5 320 ± 1.5 (with brake)	282 ± 1.5 352 ± 1.5 (with brake)

Motor Cable: MOT-008-05-KC2 for SMH150D-0230/0300

MOT-008-05-KC2

Power cable O-2395 4C × 1.5mm² (30/0.25B)

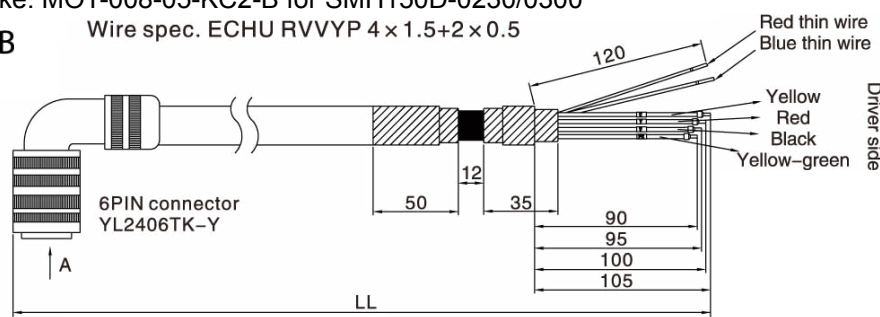


MOT-008-05-KC2		
Cable Color	Signal	PIN #
Yellow	U	PIN 1
Red	V	PIN 2
Black	W	PIN 3
Yellow-Green	PE	PIN 4

Motor Cable with Brake: MOT-008-05-KC2-B for SMH150D-0230/0300

MOT-008-05-KC2-B

Wire spec. ECHU RVVYP 4 × 1.5+2 × 0.5



MOT-008-05-KC2-B		
Cable Color	Signal	PIN #
Yellow	U	PIN 1
Red	V	PIN 2
Black	W	PIN 3
Yellow-Green	PE	PIN 4
Red(thin)	brake+	PIN 5
Blue(thin)	Brake-	PIN 6
Shield Terminal	Shield	Metal Ring

SMH150D Servo Motor

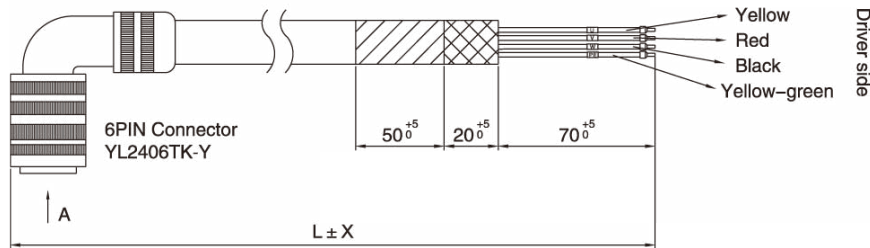
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WIRING PINOUT

Motor Cable: MOT-015-05-KC2 for SMH150D-0380

MOT-015-05-KC2

Power cable Cableplus UL2856 4 × 14AWG(50/0.25T)

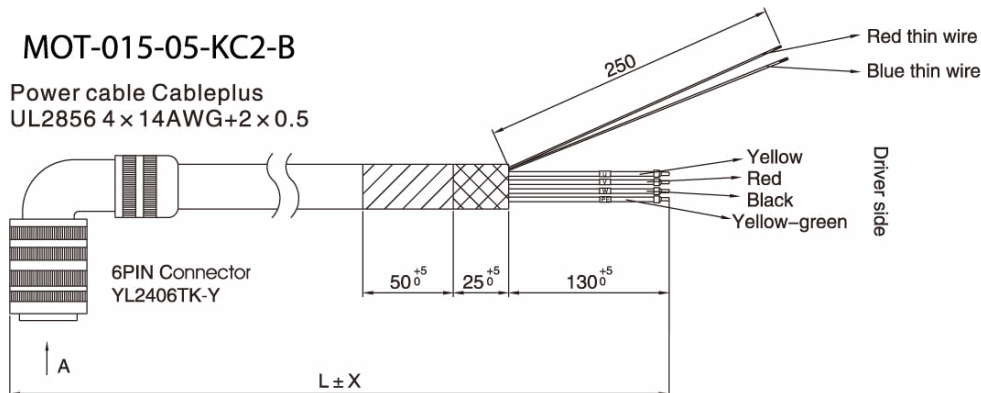


MOT-015-05-KC2		
Cable Color	Signal	PIN #
Yellow	U	PIN 1
Red	V	PIN 2
Black	W	PIN 3
Yellow-Green	PE	PIN 4
Shield	Shield	Metal Ring

Motor Cable with Brake: MOT-015-05-KC2-B for SMH150D-0380

MOT-015-05-KC2-B

Power cable Cableplus UL2856 4 × 14AWG+2 × 0.5

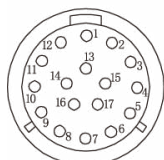
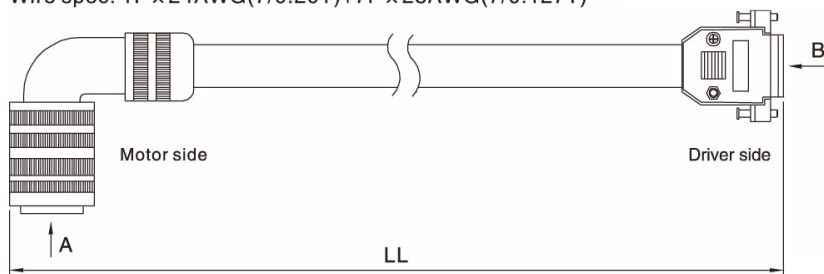


MOT-015-05-KC2-B		
Cable Color	Signal	PIN #
Yellow	U	PIN 1
Red	V	PIN 2
Black	W	PIN 3
Yellow-Green	PE	PIN 4
Red(thin)	brake+	PIN 5
Blue(thin)	Brake-	PIN 6
Shield Terminal	Shield	Metal Ring

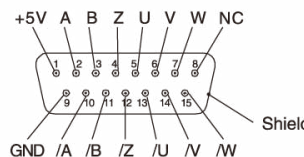
Encoder Cable: ENCCA-05-KC1 for SMH150D-0230/0300/0380

ENCCA-05-KC1

Wire spec. 1P × 24AWG(7/0.20T)+7P × 28AWG(7/0.127T)



A
YL 2217TK



B
D-sub 15-pin male plug

ENCCA-05-KC1				
17 PIN	15 PIN DB	Signal	External Wire Color	Motor Wire Color
PIN 1	PIN 1	+5V	Red (thick)	Red
PIN 3	PIN 2	A	Orange	Blue
PIN 5	PIN 3	B	Yellow	Green
PIN 14	PIN 4	Z	Green	Yellow
PIN 9	PIN 5	U	Brown	Brown
PIN 11	PIN 6	V	Purple	Gray
PIN 16	PIN 7	W	Blue	White
PIN 2	PIN 9	GND	Black (thick)	Black
PIN 4	PIN 10	/A	Orange-White	Blue-Black
PIN 6	PIN 11	/B	Yellow-White	Green-Black
PIN 15	PIN 12	/Z	Green-White	Yellow-Black
PIN 10	PIN 13	/U	Brown-White	Brown-Black
PIN 12	PIN 14	/V	Purple-White	Gray-Black
PIN 17	PIN 15	/W	Blue-White	White-Black
Internal Metal Ring	DB Metal Shell	Shield	Shield	Shield

ENCODER PINOUT

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Model	Motor Cable	Motor Cable with Brake	Encoder Cable
SMH150D-0230-20AAK-4HKC SMH150D-0230-20AAK-4HKD SMH150D-0300-20AAK-4HKC SMH150D-0300-20AAK-4HKD	MOT-008-05-KC2	--	ENCCA-05-KC1
SMH150D-0230-20ABK-4HKC SMH150D-0230-20ABK-4HKD SMH150D-0300-20ABK-4HKC SMH150D-0300-20ABK-4HKD	--	MOT-008-05-KC2-B	ENCCA-05-KC1
SMH150D-0380-20AAK-4HKC SMH150D-0380-20AAK-4HKD	MOT-015-05-KC2	--	ENCCA-05-KC1
SMH150D-0380-20ABK-4HKC SMH150D-0380-20ABK-4HKD	--	MOT-015-05-KC2-B	ENCCA-05-KC1

Model	SMH150D-0230-20AAK-4HKC SMH150D-0230-20AAK-4HKD SMH150D-0230-20ABK-4HKC SMH150D-0230-20ABK-4HKD	SMH150D-0300-20AAK-4HKC SMH150D-0300-20AAK-4HKD SMH150D-0300-20ABK-4HKC SMH150D-0300-20ABK-4HKD	SMH150D-0380-20AAK-4HKC SMH150D-0380-20AAK-4HKD SMH150D-0380-20ABK-4HKC SMH150D-0380-20ABK-4HKD
Length of Motor L (mm)	226 ± 1.5 292 ± 1.5 (with brake)	254 ± 1.5 320 ± 1.5 (with brake)	282 ± 1.5 352 ± 1.5 (with brake)
Position Feedback Device	Incremental Encoder 2500PPR		
Cooling Method	Totally Enclosed, Non-Ventilated		
Protection Level	IP65 for Body, Shaft Sealing IP54		
Temperature	-20°C~40°C (Non-Freezing)		
Humidity	Below 90% RH (Non-Condensing)		
Ambient Environment	Away from active gas, combustible gas, oil drops and dust		
Altitude	Maximum Altitude 4000m, Rated Power at 1000m or Below, Above 1000m: Decreasing 1.5% per 100m Rise		

SPECIFICATIONS