

# KNC-SRV-SMH150D Servo Motor



FEATURES

- 150mm Frame Size
- Power Rating up to 3800 Watts
- Rated Torque up to 2549 oz-in
- 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

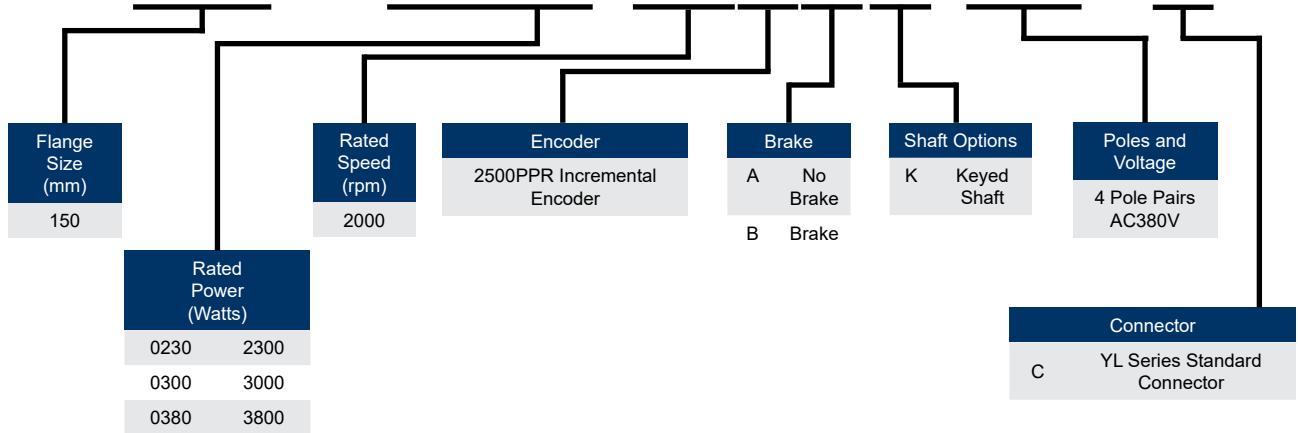


DESCRIPTION

The KNC-SRV-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 1571-2549 oz-in 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.

ORDERING INFORMATION

## SMH150D-0230-20AAK-4HKC



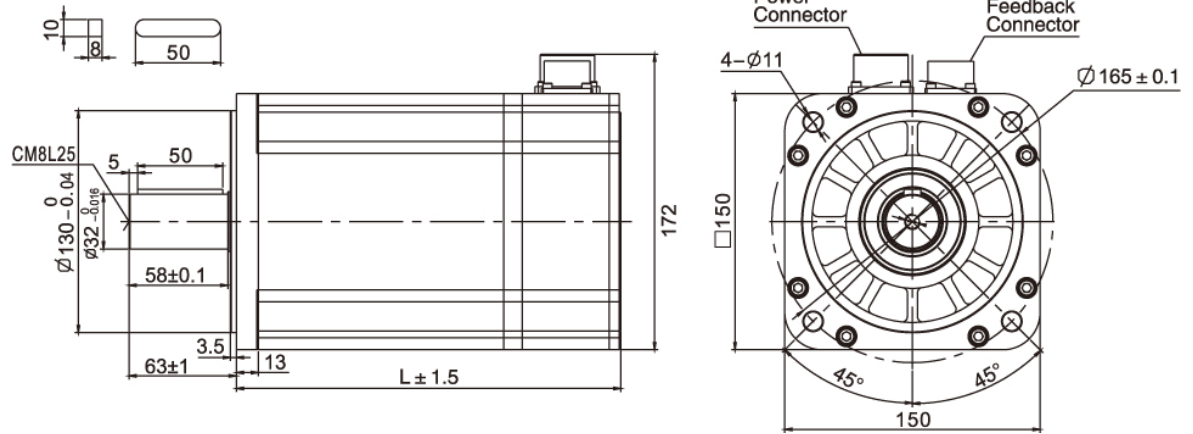
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Model	KNC-SRV-SMH150D-0230-20AAK-4HKC KNC-SRV-SMH150D-0230-20ABK-4HKC	KNC-SRV-SMH150D-0300-20AAK-4HKC KNC-SRV-SMH150D-0300-20ABK-4HKC	KNC-SRV-SMH150D-0380-20AAK-4HKC KNC-SRV-SMH150D-0380-20ABK-4HKC
Compatible Driver	KNC-SRV-FD622S-(EA/LA/AA/CA) CD622S-AA-000	JD630-(AA/LA)	JD630-(AA/LA)
DC Link Voltage (VDC)	540	540	540
Rated Power (W)	2300	3000	3800
Rated Torque (oz-in)	1571	2025	2549
Rated Speed (RPM)	2000	2000	2000
Max Speed (RPM)	3800	3500	3000
Rated Current (A)	7.1	8.5	9.3
Maximum Torque (oz-in)	3800	3500	3000
Maximum Current (A)	17.75	21.25	23.25
Standstill Torque (oz-in)	1713	2227	2803
Standstill Current (A)	7.81	9.35	10.23
Resistance Line-Line ( $\Omega$ )	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 (oz-in/A)	233	250	293
Rotor Moment of Inertia Jm (Kg. cm <sup>2</sup> )	33.5 33.6 (with brake)	47.6 47.7 (with brake)	63.1 63.2 (with brake)
Brake Holding Torque (oz-in)	2265.8	2265.8	4248.3
Pole Pair Number	4	4	4
Maximum Voltage Rising du/dt (KV/ $\mu$ s)	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)	26.45 34.17 (with brake)	33.06 40.78 (with brake)	39.68 49.60 (with brake)

\*Note: Part Numbers with -20ABK are equipped with a brake

### SMH150D Dimension Drawing

Units are in mm.



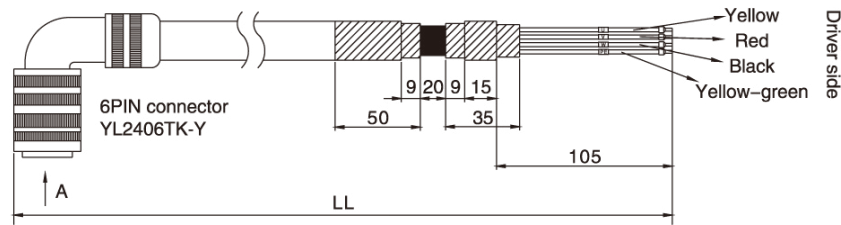
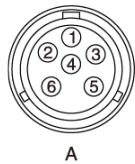
DIMENSIONS

Model	KNC-SRV-SMH150D-0230-20AAK-4HKC KNC-SRV-SMH150D-0230-20ABK-4HKC	KNC-SRV-SMH150D-0300-20AAK-4HKC KNC-SRV-SMH150D-0300-20ABK-4HKC	KNC-SRV-SMH150D-0380-20AAK-4HKC KNC-SRV-SMH150D-0380-20ABK-4HKC
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: KNC-SRV-MOT-008-05-KC2 for KNC-SRV-SMH150D-0230/0300/0380

### MOT-008-05-KC2

Power cable O-2395 4C x 1.5mm<sup>2</sup>(30/0.25B)



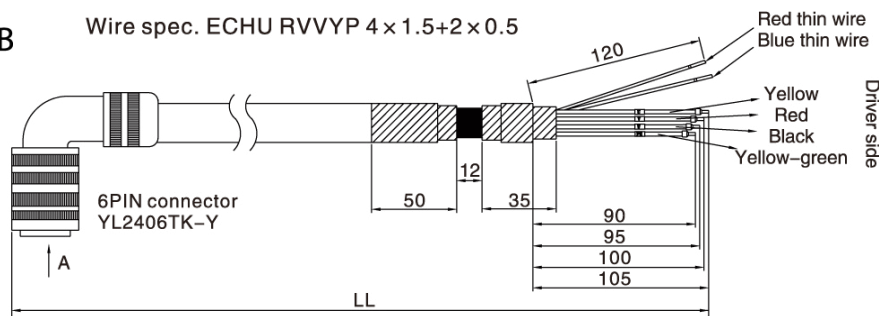
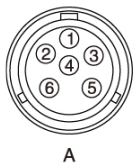
KNC-SRV-MOT-008-05-KC2		
Cable Color	Signal	PIN #
Yellow	U	PIN 1
Red	V	PIN 2
Black	W	PIN 3
Yellow-Green	PE	PIN 4

WIRING PINOUT

Motor Cable with Brake: KNC-SRV-MOT-008-05-KC2-B for KNC-SRV-SMH150D-0230/0300/0380

### MOT-008-05-KC2-B

Wire spec. ECHU RRVYP 4 x 1.5+2 x 0.5

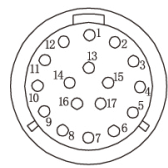
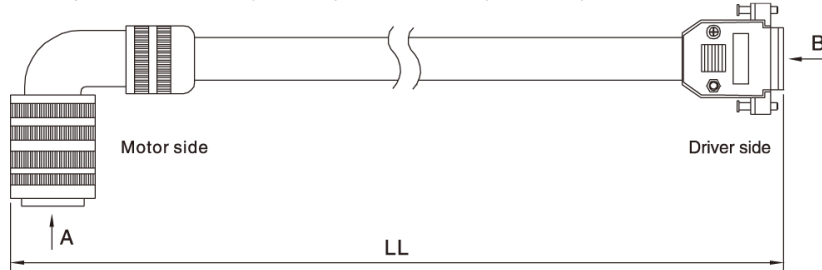


KNC-SRV-MOT-008-05-KC2-B		
Cable Color	Signal	PIN #
Yellow	U	PIN 1
Red	V	PIN 2
Black	W	PIN 3
Yellow-Green	PE	PIN 4
Red(thin)	brake+	PIN 5
Blue(thin)	Brake-	PIN 6
Shield Terminal	Shield	Metal Ring

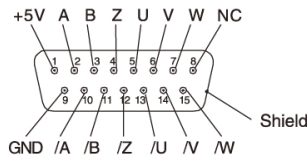
Encoder Cable: KNC-SRV-ENCCA-05-KC1 for KNC-SRV-SMH150D-0230/0300/0380

**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

KNC-SRV-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

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

Model	KNC-SRV-SMH150D-0230-20AAK-4HKC KNC-SRV-SMH150D-0230-20ABK-4HKC	KNC-SRV-SMH150D-0300-20AAK-4HKC KNC-SRV-SMH150D-0300-20ABK-4HKC	KNC-SRV-SMH150D-0380-20AAK-4HKC KNC-SRV-SMH150D-0380-20ABK-4HKC
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		
Environmental Conditions of Operation	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	