

# KNC-SRV-SMH130D Servo Motor



FEATURES

- 130mm Frame Size
- Power Rating up to 2100 Watts
- Rated Torque up to 1416 oz-in
- Rated Speed of 2000 RPM
- Maximum Speed 3250 RPM
- Brake Option Available
- 2500PPR Incremental Encoder
- Totally Enclosed, Non-Ventilated
- IP65 Protection for Body, IP54 Shaft Sealing

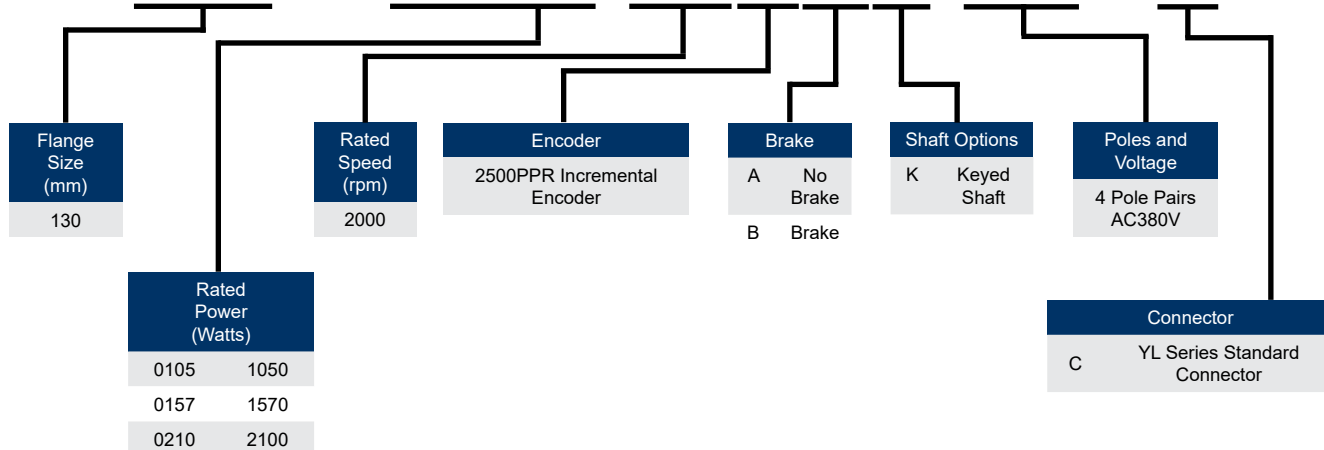


DESCRIPTION

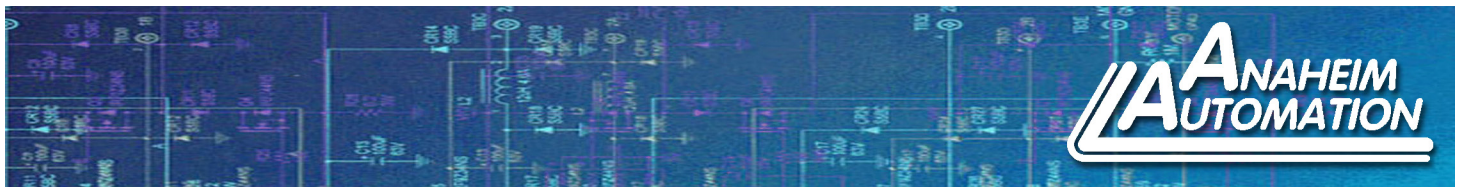
The KNC-SRV-SMH130D Series Servo Motor offers a solution to servo applications requiring position and speed control. This servo motor series comes standard with a 2,500 Pulses per Revolution (PPR) Incremental Encoder, runs at a rated speed of 2000 RPM, provides peak values up to 300% of the rated torque and current values, and has a rated torque of 708-1416 oz-in with a 1050-2100 Watt power rating. This servo motor series enables industrial motion control applications to attain a great combination of position and speed functionality.

ORDERING INFORMATION

## SMH130D-0105-20AAK-4HKC



L011530

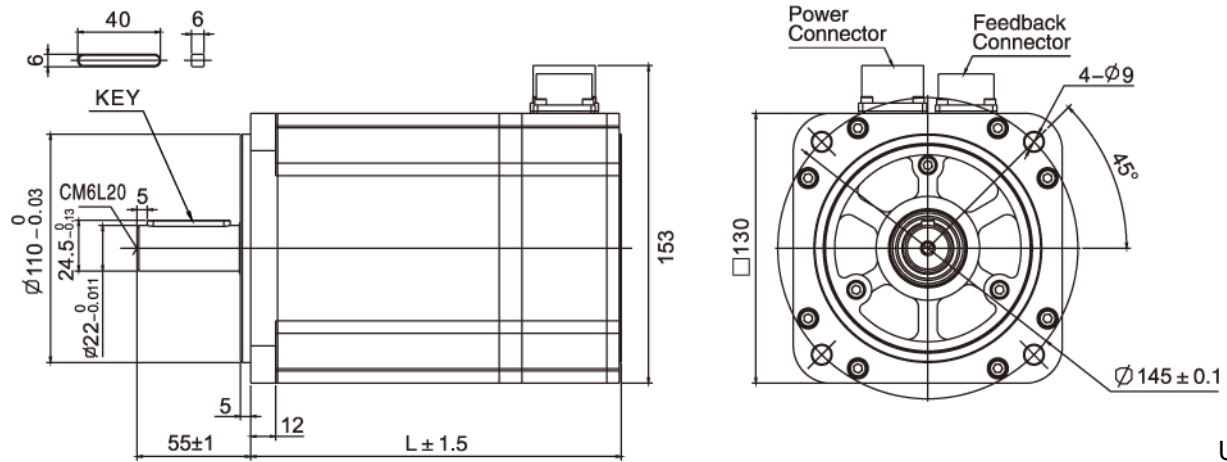


SPECIFICATIONS

Model	KNC-SRV-SMH130D-0105-20AAK-4HKC KNC-SRV-SMH130D-0105-20ABK-4HKC	KNC-SRV-SMH130D-0157-20AAK-4HKC KNC-SRV-SMH130D-0157-20ABK-4HKC	KNC-SRV-SMH130D-0210-20AAK-4HKC KNC-SRV-SMH130D-0210-20ABK-4HKC
Compatible Driver	KNC-SRV-FD622S-(EA/LA/AA/CA) JD620-AA-000 CD622S-AA-000	KNC-SRV-FD622S-(EA/LA/AA/CA) JD620-AA-000 CD622S-AA-000	KNC-SRV-FD622S-(EA/LA/AA/CA) JD620-AA-000 CD622S-AA-000
DC Link Voltage (VDC)	540	540	540
Rated Power (W)	1050	1570	2100
Rated Torque (oz-in)	708	1062	1416
Rated Speed (RPM)	2000	2000	2000
Max Speed (RPM)	3250	3250	3150
Rated Current (A)	4.3	6.3	7.6
Maximum Torque (oz-in)	1770	2655	3540
Maximum Current (A)	10.75	15.75	19
Standstill Torque (oz-in)	778	1168	1557
Standstill Current (A)	4.73	6.93	8.36
Resistance Line-Line ( $\Omega$ )	1.85	1.17	0.98
Inductance Line-Line (mH)	23.7	16.2	14.3
Electrical Time Constant (ms)	12.81	13.846	14.592
Mechanical Time Constant (ms)	2.868	2.529	2.268
Reverse Voltage Constant Ke (V/krpm)	70	72	80
Torque Constant Kt (oz-in/A)	163	168	187
Rotor Moment of Inertia Jm (Kg. cm <sup>2</sup> )	12 12.04 (with brake)	17.7 17.74 (with brake)	23.4 23.44 (with brake)
Brake Holding Torque (oz-in)	1416.1	1416.1	1416.1
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)	900	900	900
Maximum Axial Force F (N)	450	450	450
Weight (lbs)	16.53 21.38 (with brake)	20.06 24.91 (with brake)	23.58 28.43 (with brake)

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

### SMH130D Dimension Drawing



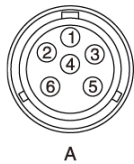
Units are in mm.

Model	KNC-SRV-SMH130D-0105-20AAK-4HKC KNC-SRV-SMH130D-0105-20ABK-4HKC	KNC-SRV-SMH130D-0157-20AAK-4HKC KNC-SRV-SMH130D-0157-20ABK-4HKC	KNC-SRV-SMH130D-0210-20AAK-4HKC KNC-SRV-SMH130D-0210-20ABK-4HKC
Length of Motor "L"(mm)	159 ± 1.5 220 ± 1.5 (with brake)	179 ± 1.5 240 ± 1.5 (with brake)	199 ± 1.5 260 ± 1.5 (with brake)

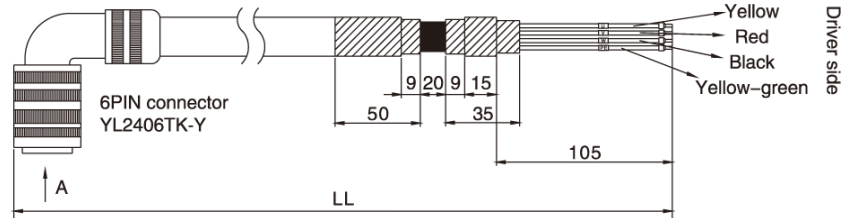
Motor Cable: KNC-SRV-MOT-008-05-KC2 for KNC-SRV-SMH130D-0105/0157/0210

### MOT-008-05-KC2

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



A

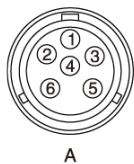


KNC-SRV-MOT-008-05-KC2		
Cable Color	Signal	PIN #
Yellow	U	PIN 1
Red	V	PIN 2
Black	W	PIN 3
Yellow-Green	PE	PIN 4

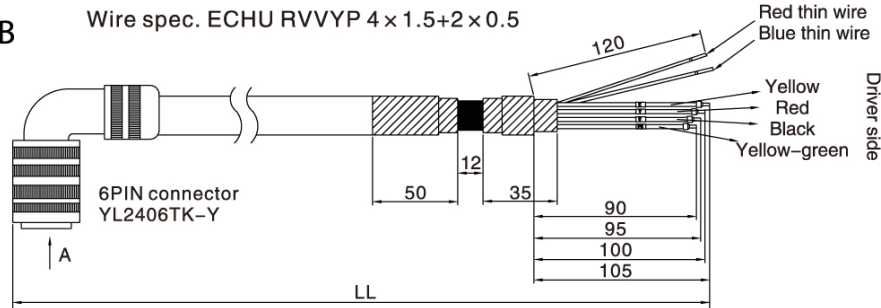
Motor Cable with Brake: KNC-SRV-MOT-008-05-KC2-B for KNC-SRV-SMH130D-0105/0157/0210

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

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



A



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

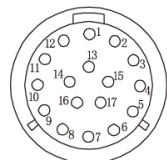
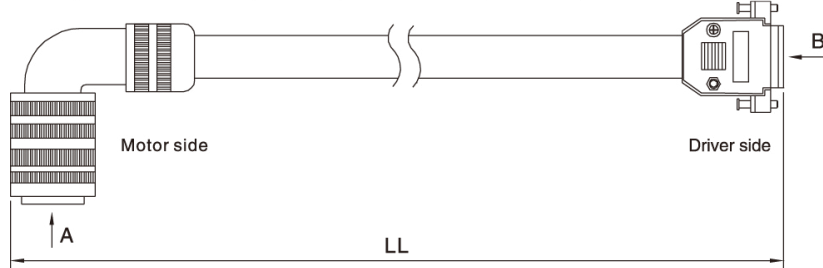
DIMENSIONS

WIRING PINOUT

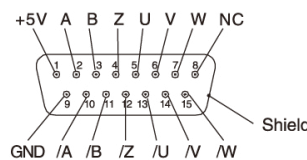
Encoder Cable: KNC-SRV-ENCCA-05-KC1 for KNC-SRV-SMH130D-0105/0157/0210

**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

ENCODER PINOUT

SPECIFICATIONS

Model	Motor Cable	Motor Cable with Brake	Encoder Cable
KNC-SRV-SMH130D-0105-20AAK-4HKC KNC-SRV-SMH130D-0157-20AAK-4HKC KNC-SRV-SMH130D-0210-20AAK-4HKC	KNC-SRV-MOT-008-05-KC2	--	KNC-SRV-ENCCA-05-KC1
KNC-SRV-SMH130D-0105-20ABK-4HKC KNC-SRV-SMH130D-0157-20ABK-4HKC KNC-SRV-SMH130D-0210-20ABK-4HKC	--	KNC-SRV-MOT-008-05-KC2-B	KNC-SRV-ENCCA-05-KC1

Model	KNC-SRV-SMH130D-0105-20AAK-4HKC KNC-SRV-SMH130D-0105-20ABK-4HKC	KNC-SRV-SMH130D-0157-20AAK-4HKC KNC-SRV-SMH130D-0157-20ABK-4HKC	KNC-SRV-SMH130D-0210-20AAK-4HKC KNC-SRV-SMH130D-0210-20ABK-4HKC
Length of Motor L (mm)	159 ± 1.5 220 ± 1.5 (with brake)	179 ± 1.5 240 ± 1.5 (with brake)	199 ± 1.5 260 ± 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		