

SMH60S-0020 Servo Motor



FEATURES

- 120 - 220 VAC
- 200 W Power Rating
- Rated Torque of 0.64 Nm
- Maximum Speed of 6200 RPM
- 2500 PPR Incremental Encoder
- IP65 for Body, IP54 Shaft Seal
- 60mm Frame Size
- CE Certified



DESCRIPTION

The SMH60S 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 3000 RPM, provides peak values up to 300% of the rated torque and current values, and has a rated torque of 0.64 Nm with a 200 Watt power rating. This servo motor series enables industrial motion control applications to attain a great combination of position and speed functionality.

SPECIFICATIONS

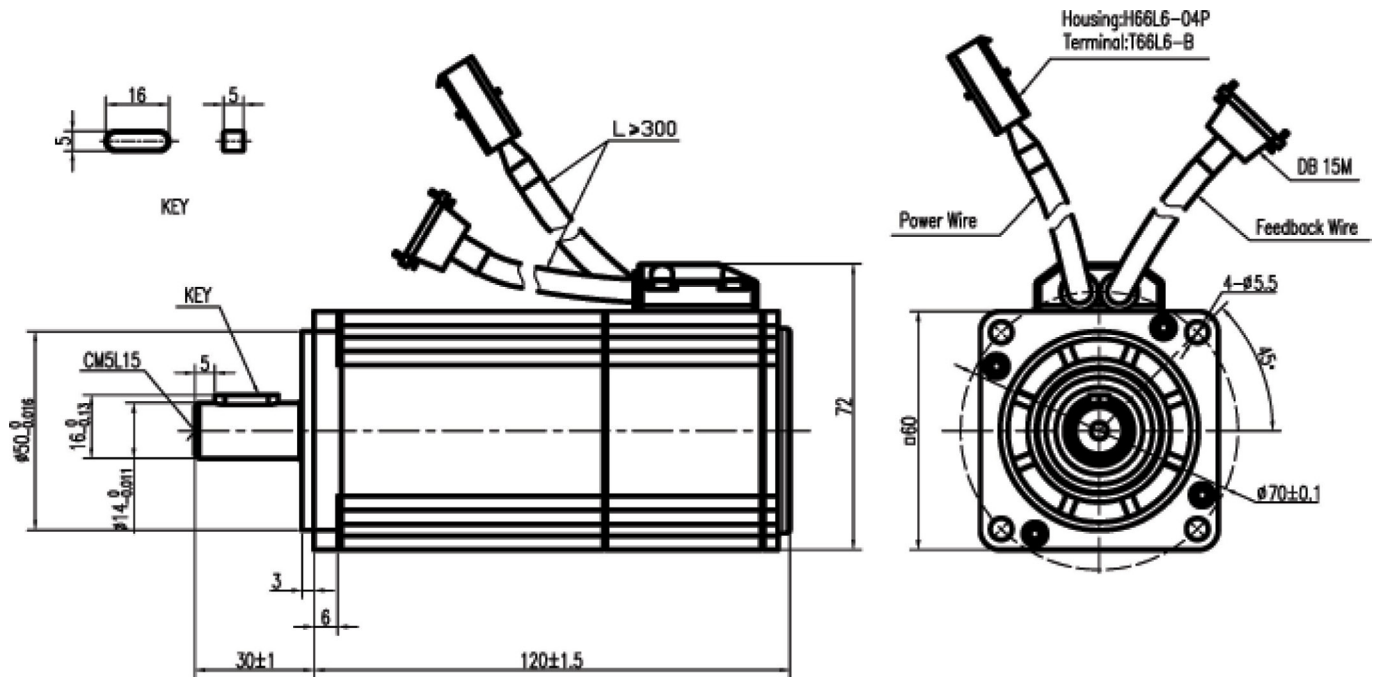
Model	SMH60S-0020-30AAK-3AKH SMH60S-0020-30ABK-3AKH	SMH60S-0020-30AAK-3LKH SMH60S-0020-30AAK-3LKN SMH60S-0020-30ABK-3LKH
Compatible Driver	FD322S-LA-000	FD422-LA-000
DC Link Voltage (VDC)	155	300
Rated Power (W)	200	200
Rated Torque (Nm)	0.64	0.64
Rated Speed (RPM)	3000	3000
Max Speed (RPM)	6200	6200
Rated Current (A)	2.7	1.6
Maximum Torque (Nm)	1.92	1.92
Maximum Current (A)	8.1	4.8
Standstill Torque (oz-in)	0.7	0.7
Standstill Current (A)	3	1.79
Resistance Line-Line (Ω)	2.1	8.02
Inductance Line-Line (mH)	4.1	16.3
Electrical Time Constant (ms)	1.95	2.03
Mechanical Time Constant (ms)	1.63	2.26
Torque Constant Kt (Nm/A)	0.24	0.47
Rotor Moment of Inertia Jm (kg-cm ²)	0.258	0.375
Brake Holding Torque (Nm)	1.3	1.3
Pole Pair Number	3	3
Maximum Voltage Rising du/dt (KV/ μ s)	8	8
Insulation Class	F	F
Maximum Radial Force F (N)	180	180
Maximum Axial Force F (N)	90	90
Weight (Kg)	1.3 1.8 (with brake)	1.3 1.8 (with brake)

L011610 *Note: Part Numbers with -30ABK are equipped with a brake

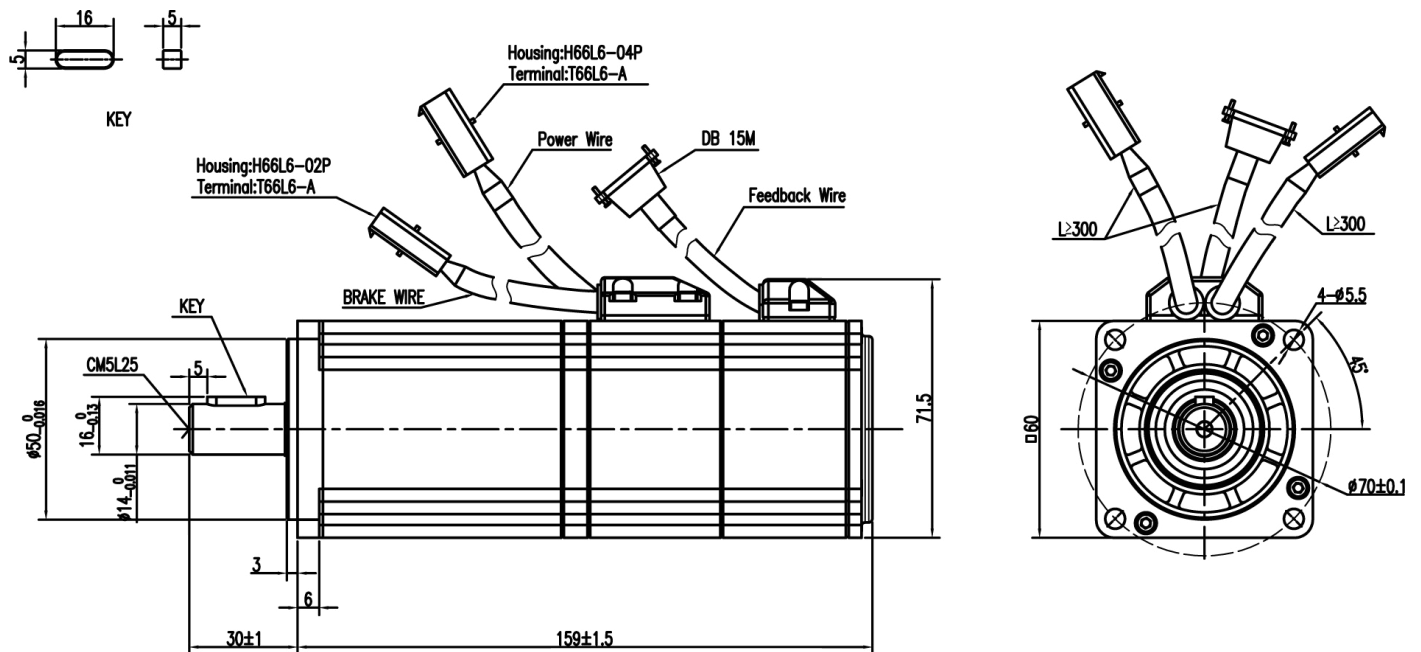
SMH60S-0020 Servo Motor



SMH60S-0020-30AAK-3AKH & SMH60S-0020-30AAK-3LKH



SMH60S-0020-30ABK-3AKH & SMH60S-0020-30ABK-3LKH



DIMENSIONS

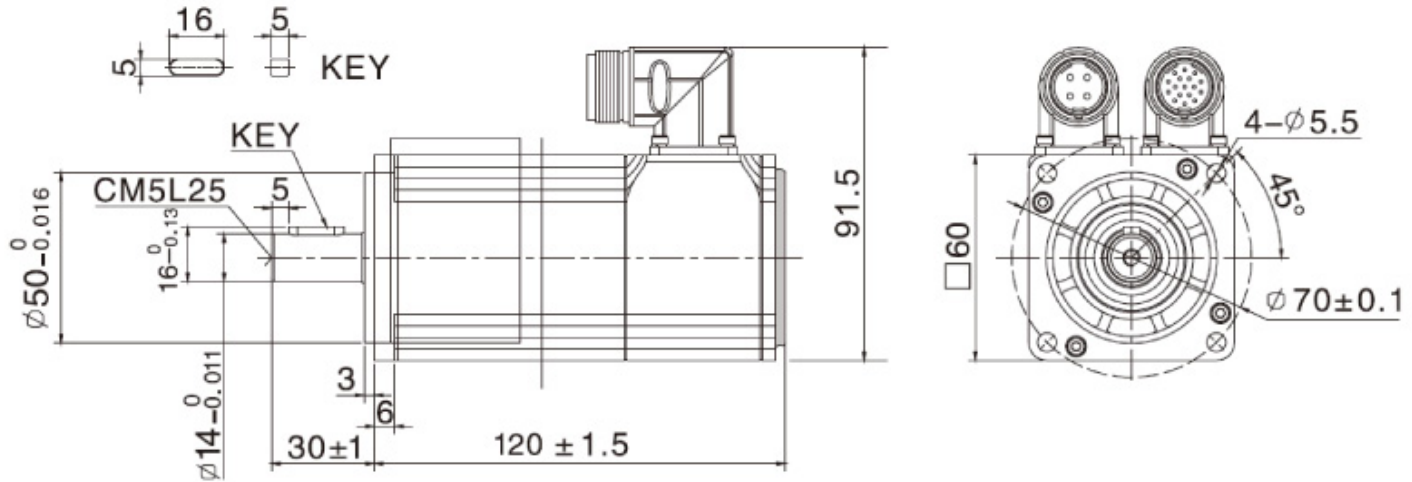
SMH60S-0020 Servo Motor



Dimensions are in mm

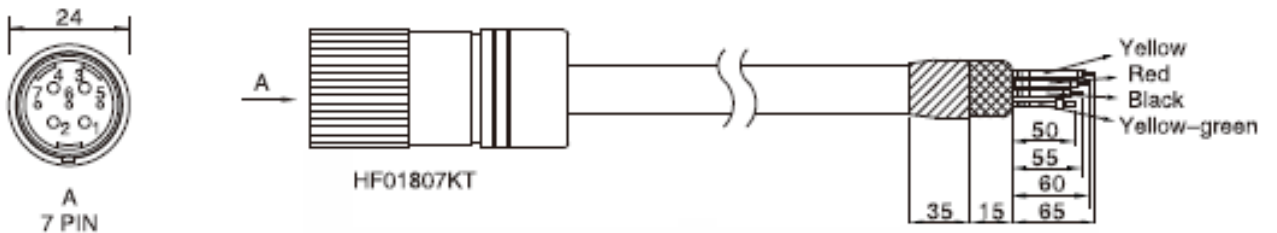
SMH60S-0020-30AAK-3LKN

DIMENSIONS



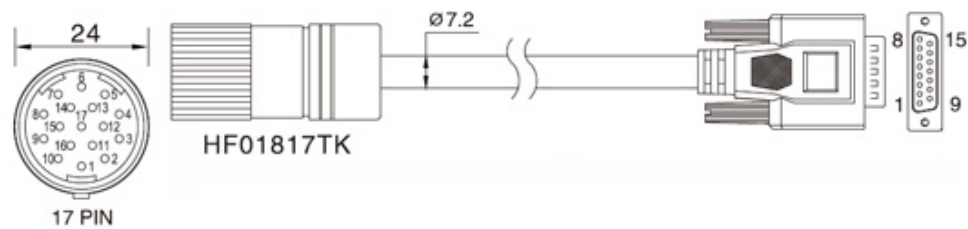
Motor Cable: MOT-005-05-KC0 for SMH60S-0020-30AAK-3LKN

WIRING PINOUTS



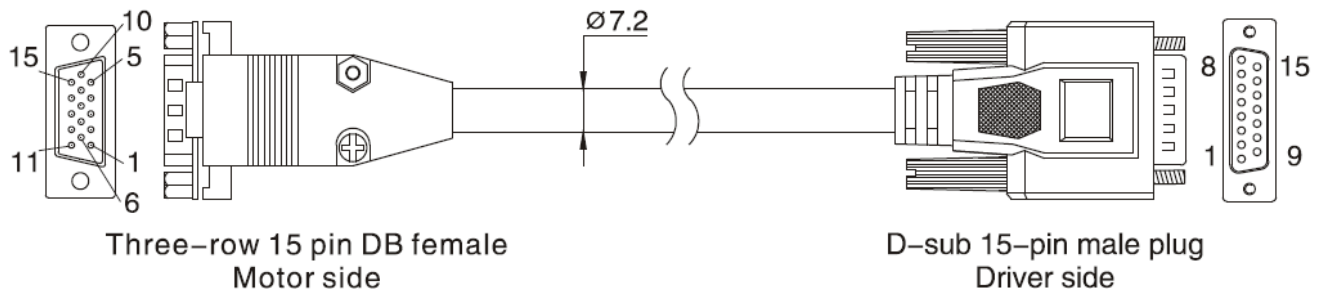
MOT-005-05-KC0		
Cable Color	Signal	PIN #
Yellow	U	PIN 2
Red	V	PIN 3
Black	W	PIN 4
Yellow-green	PE	PIN 1
Metal-ring	Shield	Shield Terminal

Encoder Cable: ENCCA-05-KC0 for SMH60S-0020-30AAK-3LKN



ENCCA-05-KC0				
17 Pin DB	Two-row 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 Cable: ENCCA-05-KH for SMH60S-0020-30AAK-3AKH, SMH60S-0020-30ABK-3AKH, SMH60S-0020-30AAK-3LKH, and SMH60S-0020-30ABK-3LKH



WIRING PINOUTS

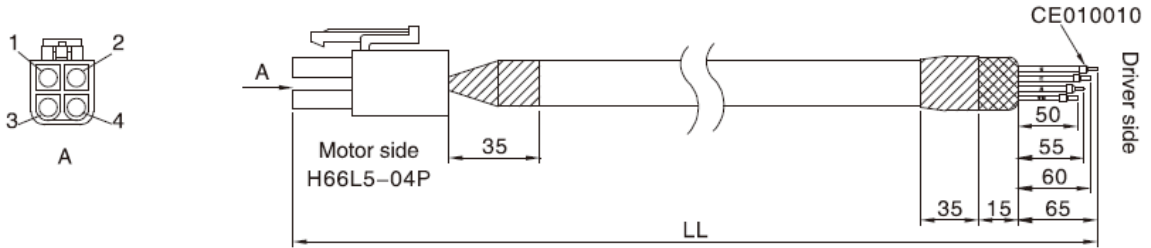
ENCCA-05-KH				
Three-row 15 Pin DB	Two-row 15 pin DB	Signal	External Wire Color	Motor Wire Color
PIN 1	PIN 1	+5V	Red (thick)	Red
PIN 8	PIN 2	A	Orange	Blue-black
PIN 7	PIN 3	B	Yellow	Green
PIN 6	PIN 4	Z	Green	Yellow
PIN 4	PIN 5	U	Brown	Brown-black
PIN 10	PIN 6	V	Purple	White-black
PIN 9	PIN 7	W	Blue	Gray-black
PIN 2	PIN 9	GND	Black (thick)	Black
PIN 13	PIN 10	/A	Orange-White	Blue
PIN 12	PIN 11	/B	Yellow-White	Green-Black
PIN 11	PIN 12	/Z	Green-White	Yellow-Black
PIN 5	PIN 13	/U	Brown-White	Brown
PIN 15	PIN 14	/V	Purple-White	White
PIN 14	PIN 15	/W	Blue-White	Gray
PIN 3 empty	PIN 8 empty	--	--	--
Internal Metal Ring	DB Metal Shell	Shield	Shield	Metal Shell

SMH60S Servo Motor



Motor Cable: MOT-005-05-KL for SMH60S-0020-30AAK-3AKH, SMH60S-0020-30ABK-3AKH, SMH60S-0020-30AAK-3LKH, and SMH60S-0020-30ABK-3LKH

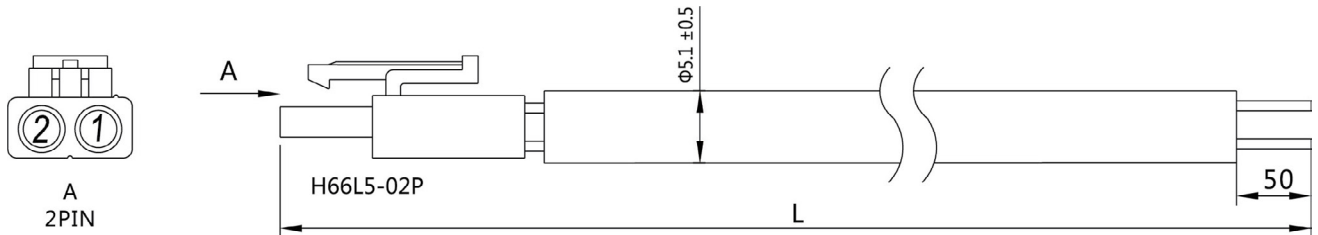
Wire spec. UI20328 4C × 18AWG(41/0.16T) black



MOT-005-05-KL		
Cable Color	Signal	PIN #
Yellow	U	PIN 1
Red	V	PIN 2
Black	W	PIN 3
Yellow-green	PE	PIN 4

WIRING PINOUTS

Brake Cable: BRA-05-KL for SMH60S-0020-30ABK-3AKH and SMH60S-0020-30ABK-3LKH



BRA-05-KL		
Cable Color	Signal	PIN #
Red	Brake+	PIN 1
Blue	Brake-	PIN 2

SMH60S Servo Motor



SPECIFICATIONS

Model	Motor Cable	Encoder Cable	Brake Cable
SMH60S-0020-30AAK-3AKH			-
SMH60S-0020-30ABK-3AKH	MOT-005-05-KCL	ENCCA-05-KCH	BRA-05-KL
SMH60S-0020-30AAK-3LKH			-
SMH60S-0020-30ABK-3LKH			BRA-05-KL
SMH60S-0020-30AAK-3LKN	MOT-005-05-KC0	ENCCA-05-KC0	-

Cooling Method	Totally Enclosed, Non-Ventilated	
Protection Level	IP65 for Body, Shaft Sealing IP54	
Environmental Conditions of Operation	Temperature	-20°C~40°C
	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