

SMH60S-0020 & SMH60S-0040 120V Servo Motor

Kinco

FEATURES

- **120 VAC**
- **200-400 W Power Rating**
- **Rated Torque of 90-179 oz-in**
- **Maximum Speed of 6000-6200 RPM**
- **2500 PPR Incremental Encoder**
- **IP65 for Body, IP54 Shaft Seal**
- **60mm Frame Size**
- **CE Certified**



DESCRIPTION

The SMH60S Series AC Motors are a low-cost solution for many motion control applications requiring a low inertia design to maximize torque at high speeds. These motors boast peak torque values up to 272 oz-in and 539 oz-in, provide dynamic response, allow for 3 times the overload capacity, and come equipped with a 2,500 PPR Incremental Encoder. It is available in a 60mm square flange size, with a brake option.

SPECIFICATIONS

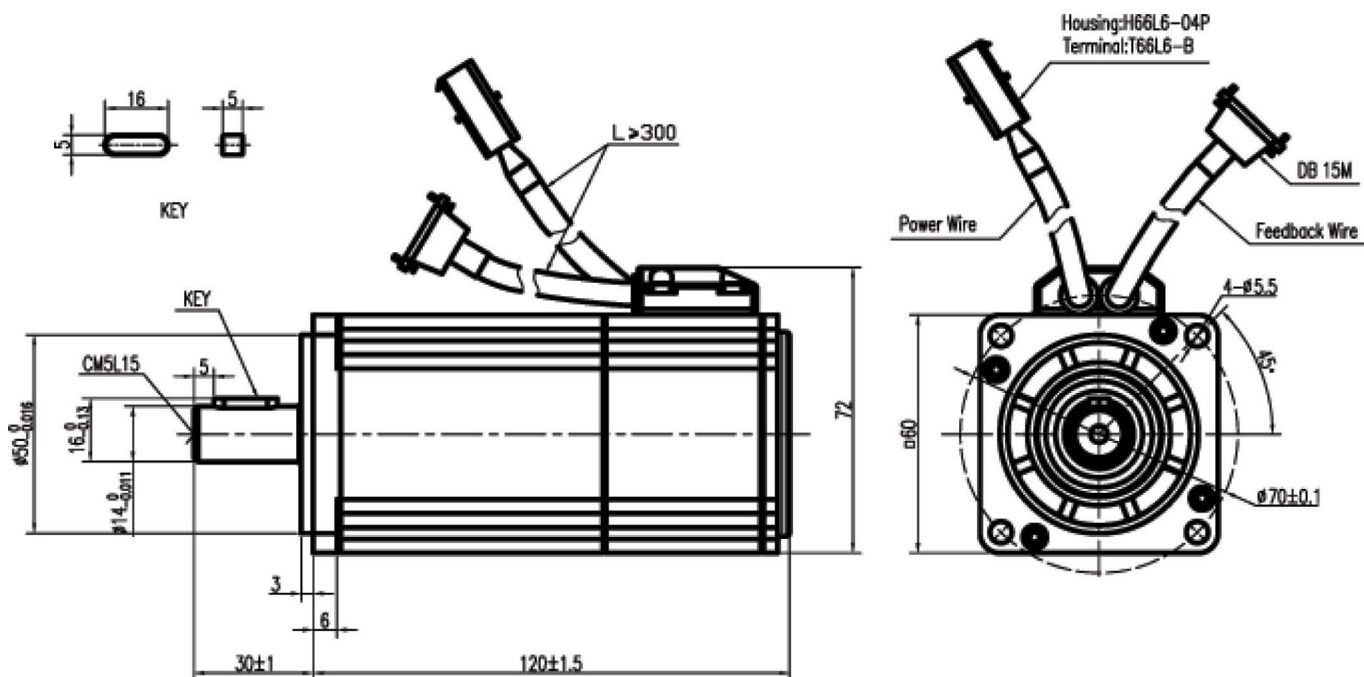
Model	SMH60S-0020-30AAK-3AKH SMH60S-0020-30ABK-3AKH	SMH60S-0040-30AAK-3AKH SMH60S-0040-30ABK-3AKH
Compatible Driver	FD322S-LA-000	
DC Link Voltage (VDC)	155	155
Rated Power (W)	200	400
Rated Torque (oz-in)	90	179
Rated Speed (RPM)	3000	3000
Max Speed (RPM)	6000	6000
Rated Current (A)	2.7	4
Maximum Torque (oz-in)	271	539
Maximum Current (A)	8.1	12
Standstill Torque (oz-in)	99	198
Standstill Current (A)	3	4.4
Resistance Line-Line (Ω)	2.1	1.7
Inductance Line-Line (mH)	4.1	3.5
Electrical Time Constant (ms)	1.95	2
Mechanical Time Constant (ms)	1.63	12.6
Torque Constant Kt (oz-in/A)	33.9	46.8
Rotor Moment of Inertia Jm (oz-in-s ²)	0.00365	0.00678
Pole Pair Number	6	6
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 (lbs)	2.8 3.9 (with brake)	3.9 5.07 (with brake)

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

SMH60S Servo Motor

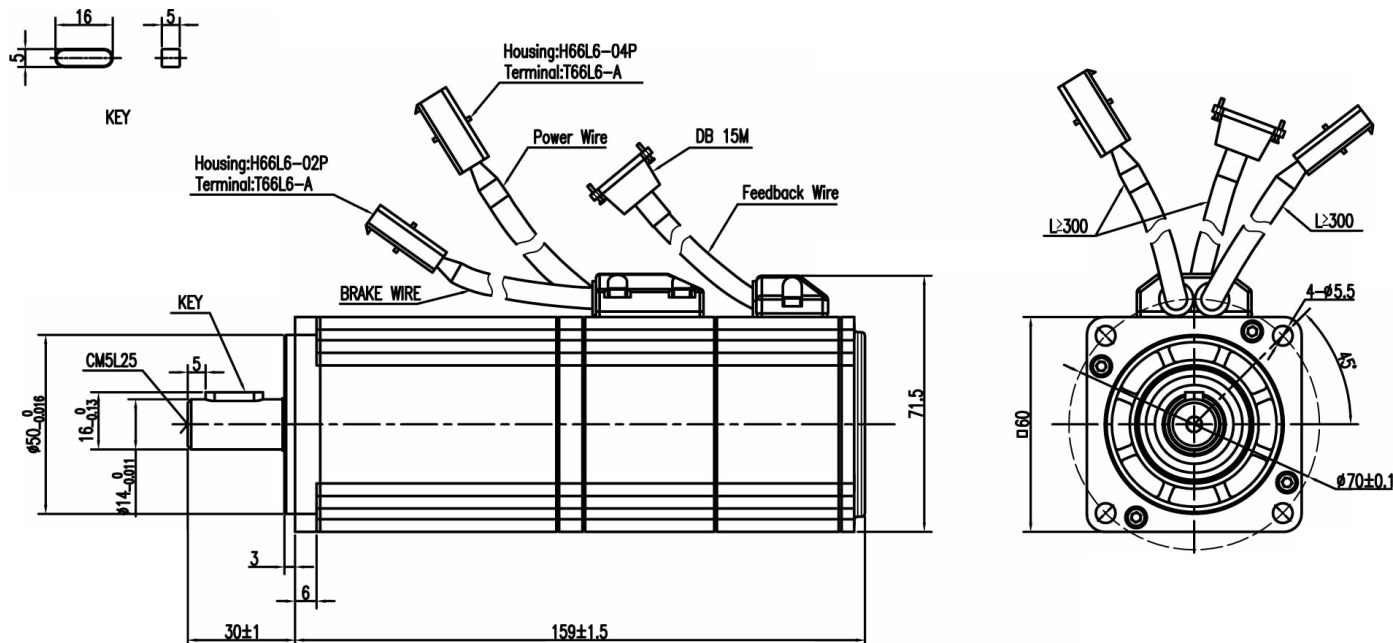
Kinco

SMH60S-0020-30AAK-3AKH



SMH60S-0020-30ABK-3AKH

Dimensions are in mm

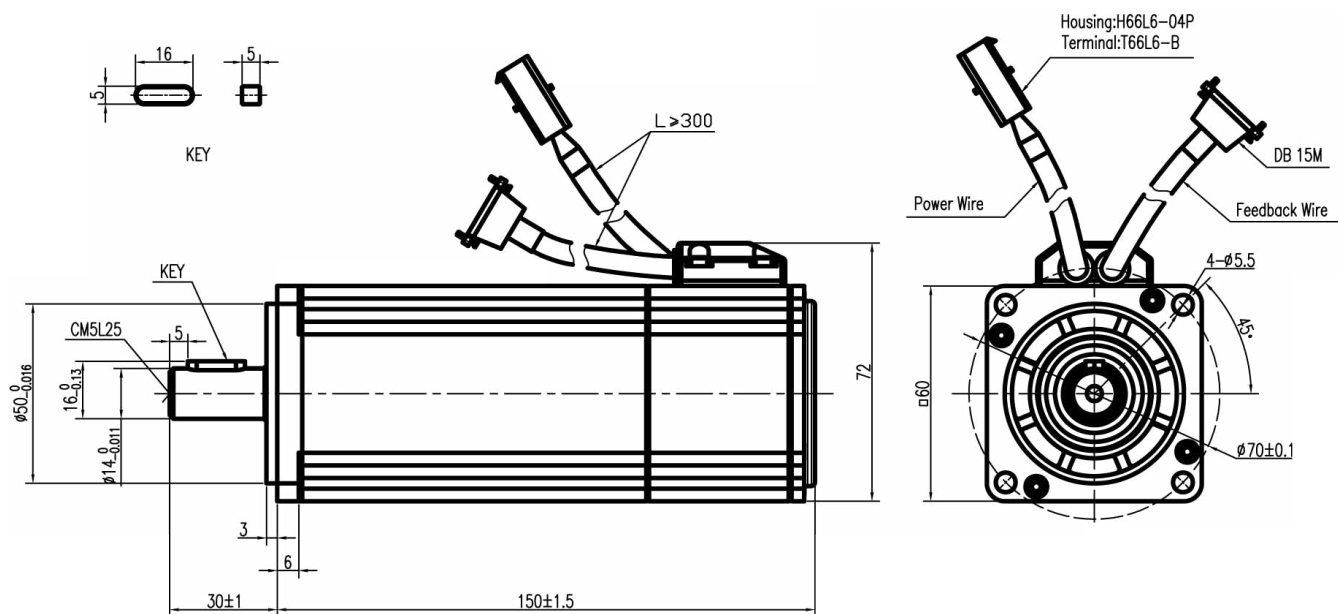


Model	SMH60S-0020-30AAK-3AKH SMH60S-0020-30ABK-3AKH	SMH60S-0040-30AAK-3AKH SMH60S-0040-30ABK-3AKH
Length of Motor L (mm)	120 159 (with brake)	150 189 (with brake)

SMH60S Servo Motor

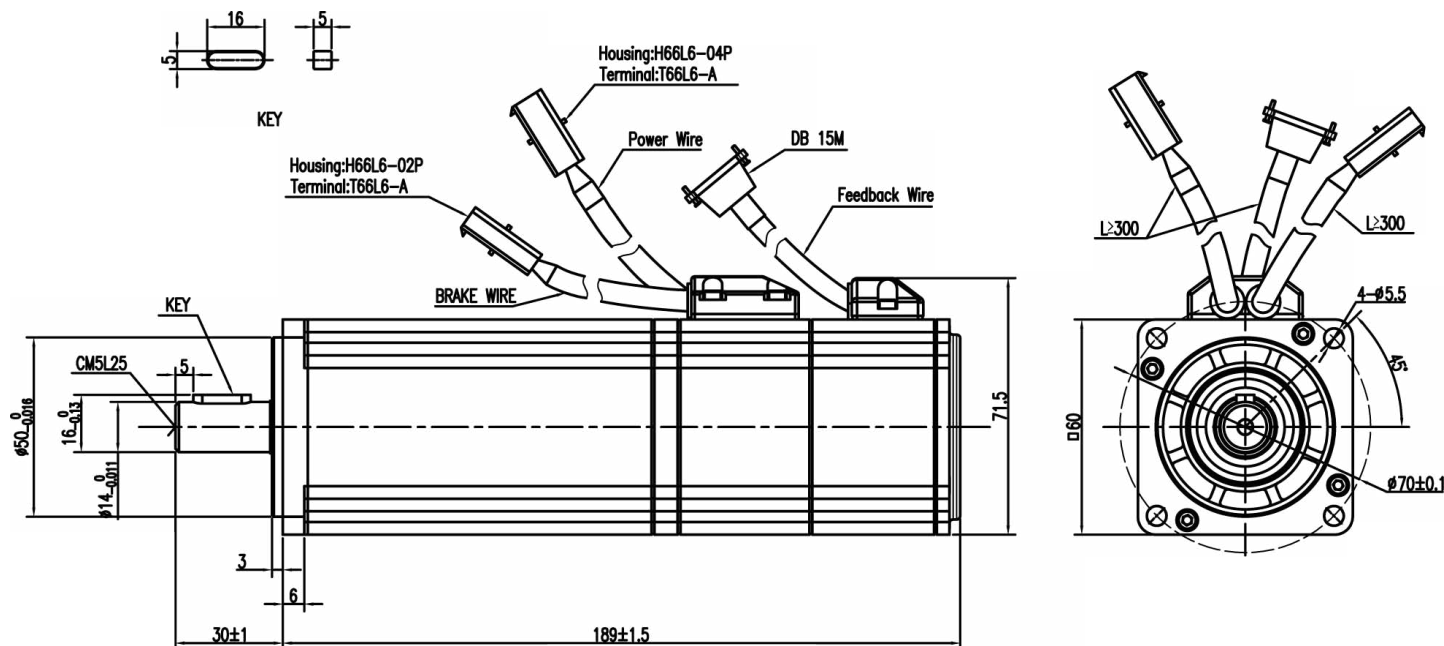
Kinco

SMH60S-0040-30AAK-3AKH



Dimensions are in mm

SMH60S-0040-30ABK-3AKH

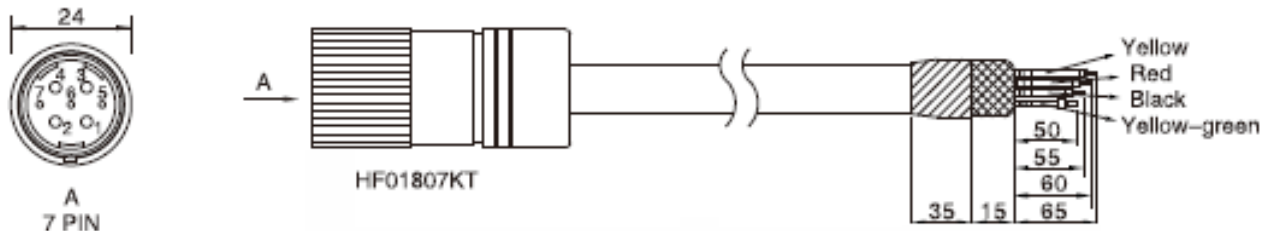


Model	SMH60S-0020-30AAK-3AKH SMH60S-0020-30ABK-3AKH	SMH60S-0040-30AAK-3AKH SMH60S-0040-30ABK-3AKH
Length of Motor L (mm)	120 159 (with brake)	150 189 (with brake)

SMH60S Servo Motor

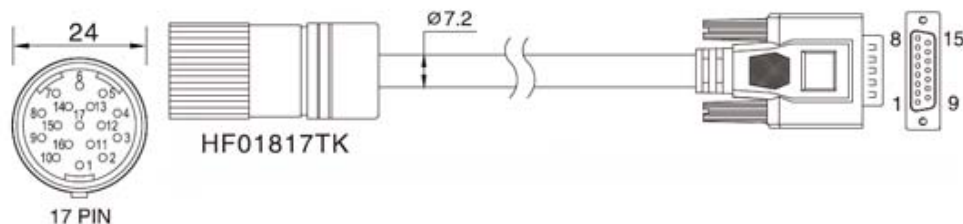
Kinco

Motor Cable: MOT-005-05-KC0 for SMH60S-0020-30AAK-3AKH and SMH60S-0040-30AAK-3AKH



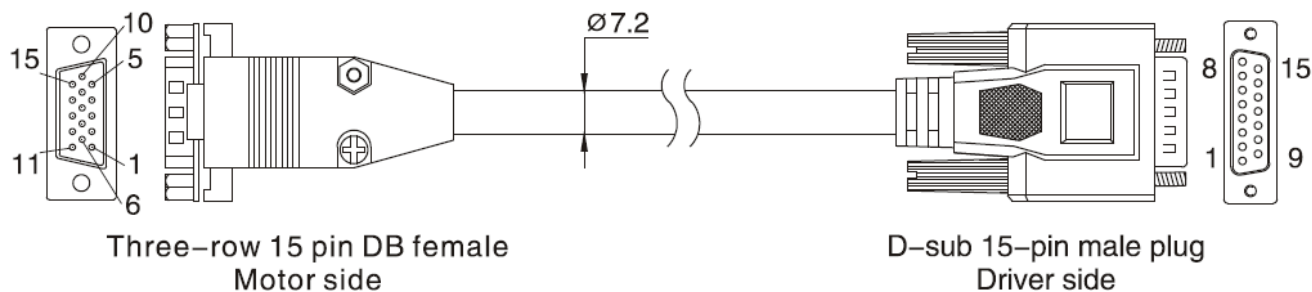
MOT-005-LL-KC0		
Cable Color	Signal	PIN #
Yellow	U	PIN 2
Red	V	PIN 3
Black	W	PIN 4
Yellow-green	PE	PIN 1
Metal-ring	Shield	Shield Terminal

Encoder Cable: ENCCA-05-KC0 for SMH60S-0020-30AAK-3AKH and SMH60S-0040-30AAK-3AKH



ENCCA-LL-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-0040-30AAK-3AKH, SMH60S-0020-30ABK-3AKH, and SMH60S-0040-30ABK-3AKH



WIRING PINOUTS

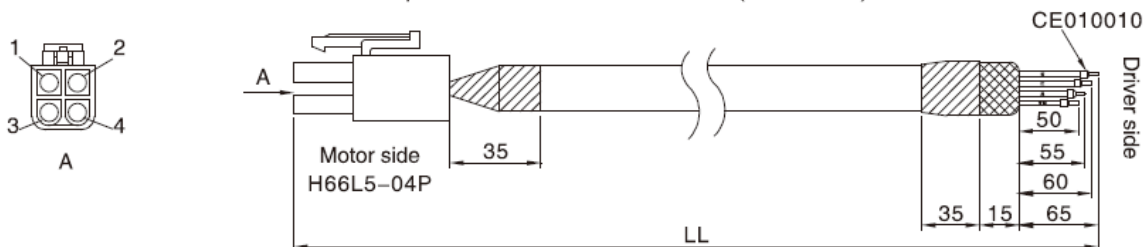
ENCCA-05-KH				
Three-row 15 Pin DB	Two-row 15 pin DB	Signal	External Wire Color	Motor Wire Color
PIN 1	PIN 1	+5V	Red (thick)	Red
PIN 8	PIN 2	A	Orange	Blue-black
PIN 7	PIN 3	B	Yellow	Green
PIN 6	PIN 4	Z	Green	Yellow
PIN 4	PIN 5	U	Brown	Brown-black
PIN 10	PIN 6	V	Purple	White-black
PIN 9	PIN 7	W	Blue	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

Kinco

Motor Cable: MOT-005-05-KL for SMH60S-0020-30AAK-3AKH, SMH60S-0020-30ABK-3AKH, SMH60S-0040-30AAK-3AKH, and SMH60S-0040-30ABK-3AKH

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

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-0040-30AAK-3AKH SMH60S-0040-30ABK-3AKH	MOT-005-05-KCL	ENCCA-05-KCH	BRA-05-KL

Model	SMH60S-0020-30AAK-3AKH SMH60S-0020-30ABK-3AKH	SMH60S-0040-30AAK-3AKH SMH60S-0040-30ABK-3AKH
Length of Motor L (mm)	120 159 (with brake)	150 189 (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	
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	