

# KNC-SRV-SMH60S-0020 Servo Motor



## FEATURES

- 120 - 220 VAC
- 200 W Power Rating
- Rated Torque of 90 oz-in
- Maximum Speed of 6200 RPM
- 2500 PPR Incremental Encoder
- IP65 for Body, IP54 Shaft Seal
- 60mm Frame Size
- CE Certified

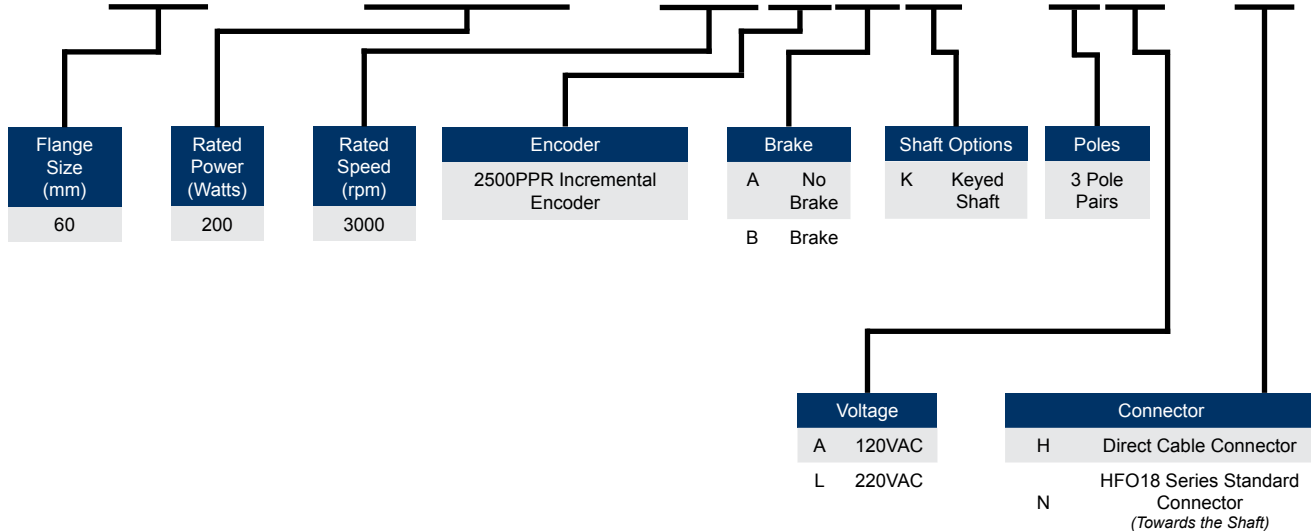


## DESCRIPTION

The KNC-SRV-SMH60S-0020 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 90 oz-in 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.

## ORDERING INFORMATION

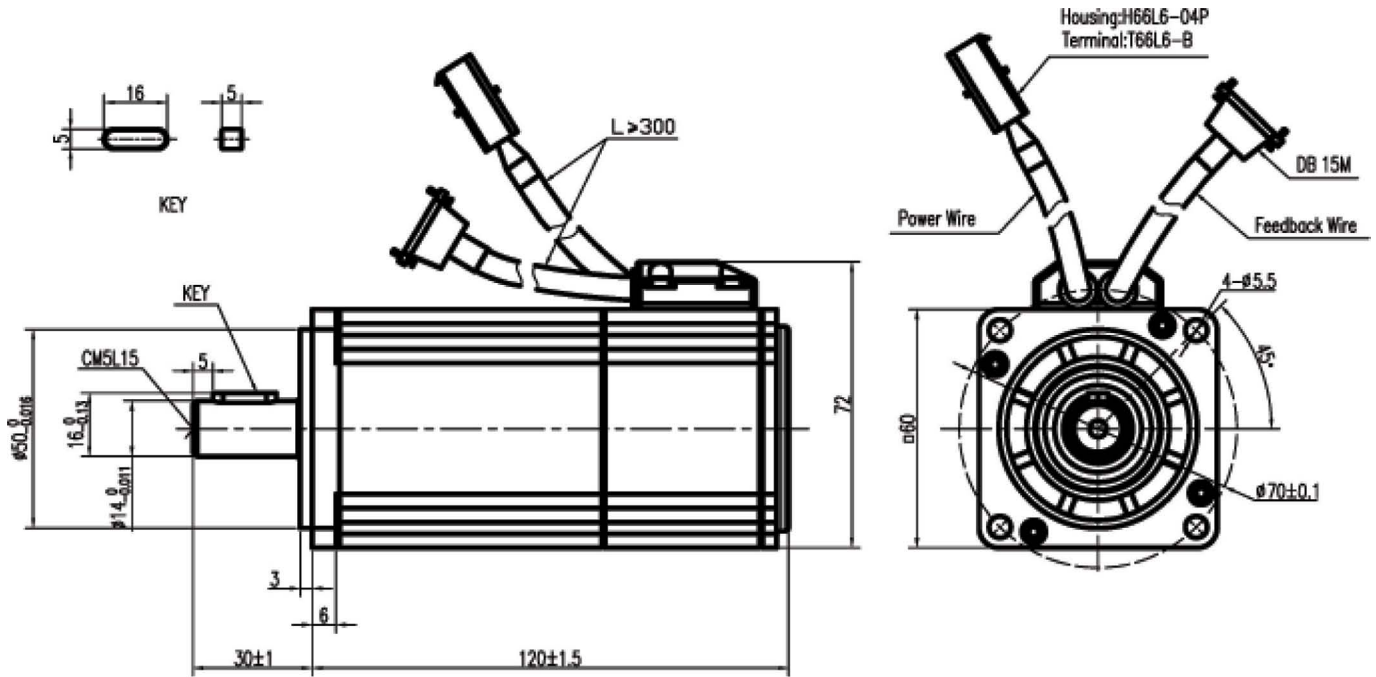
# SMH60S - 0020 - 30AAK - 3AKH



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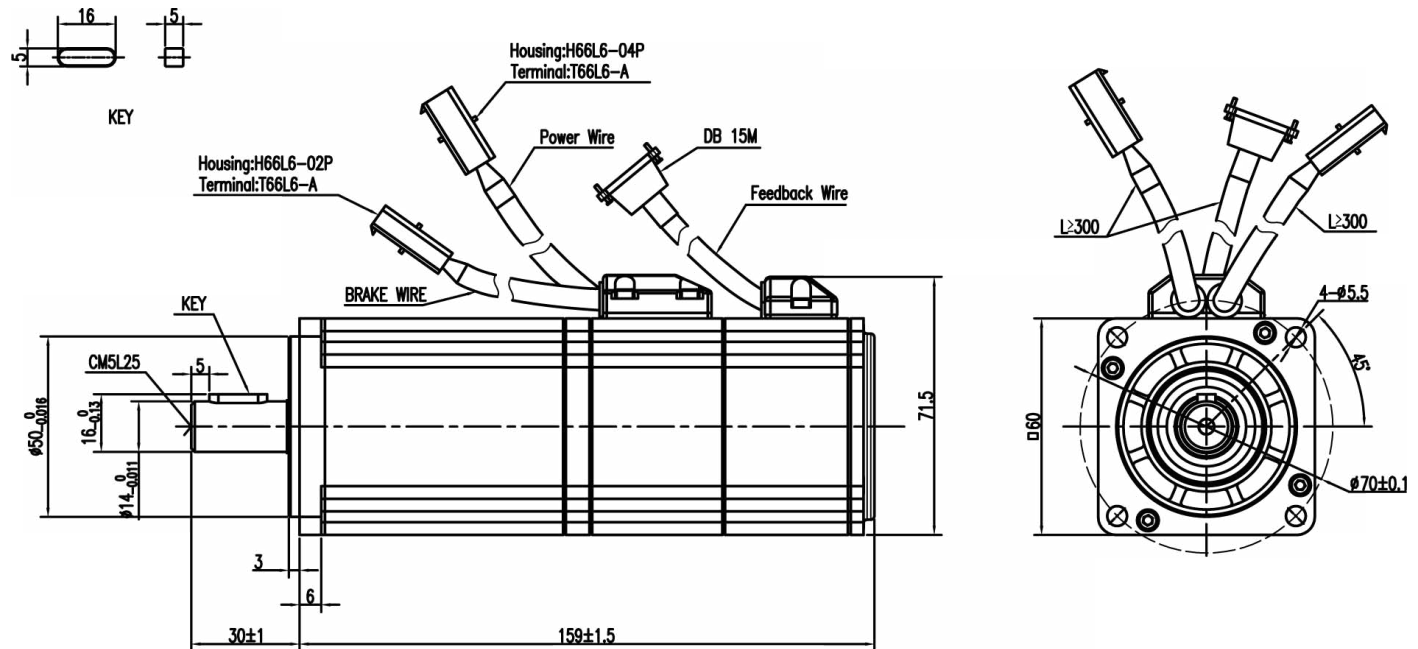
Model	KNC-SRV-SMH60S-0020-30AAK-3AKH KNC-SRV-SMH60S-0020-30ABK-3AKH	KNC-SRV-SMH60S-0020-30AAK-3LKH KNC-SRV-SMH60S-0020-30AAK-3LKN KNC-SRV-SMH60S-0020-30ABK-3LKH
Compatible Driver	KNC-SRV-FD322S-LA-000	KNC-SRV-FD422-(LA/CA/AA)-000 KNC-SRV-FD422S-(LA/CA/AA)-000
DC Link Voltage (VDC)	155	300
Rated Power (W)	200	200
Rated Torque (oz-in)	90	90
Rated Speed (RPM)	3000	3000
Max Speed (RPM)	6200	6200
Rated Current (A)	2.7	1.6
Maximum Torque (oz-in)	271	271
Maximum Current (A)	8.1	4.8
Standstill Torque (oz-in)	99	99
Standstill Current (A)	3	1.79
Resistance Line-Line ( $\Omega$ )	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 (oz-in/A)	33.9	67.0
Rotor Moment of Inertia Jm (oz-in-s <sup>2</sup> )	0.00365 0.00365 (with brake)	0.00531 0.00536 (with brake)
Pole Pair Number	3	3
Maximum Voltage Rising du/dt (KV/ $\mu$ s)	8	8
Insulation Class	F	F
Maximum Radial Force F (N)	180	180
Maximum Axial Force F (N)	90	90
Weight (lbs)	2.87 / 3.97 (with brake)	2.87 / 3.97 (with brake)

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



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

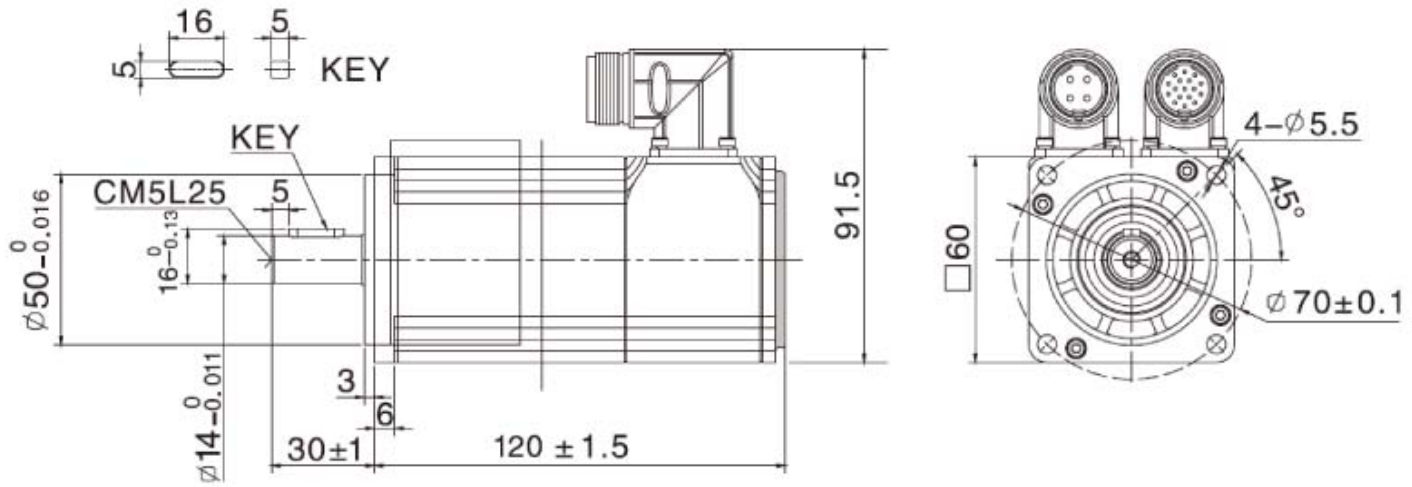
Dimensions are in mm



DIMENSIONS

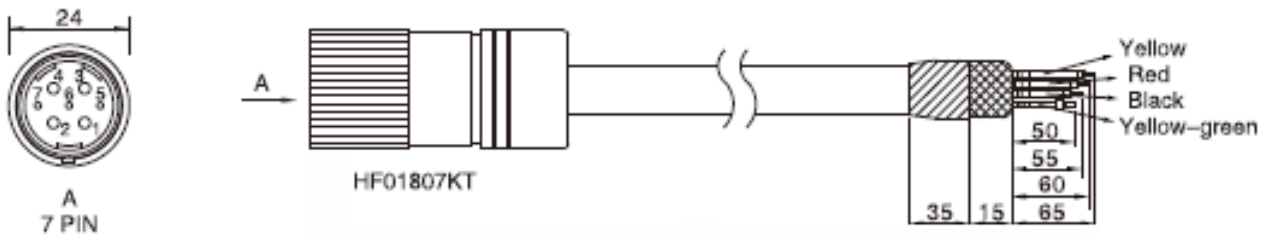
DIMENSIONS

KNC-SRV-SMH60S-0020-30AAK-3LKN



WIRING PINOUTS

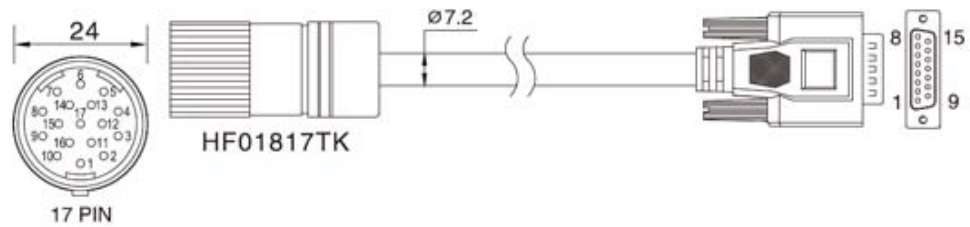
Motor Cable: KNC-SRV-MOT-005-05-KC0 for KNC-SRV-SMH60S-0020-30AAK-3LKN



KNC-SRV-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

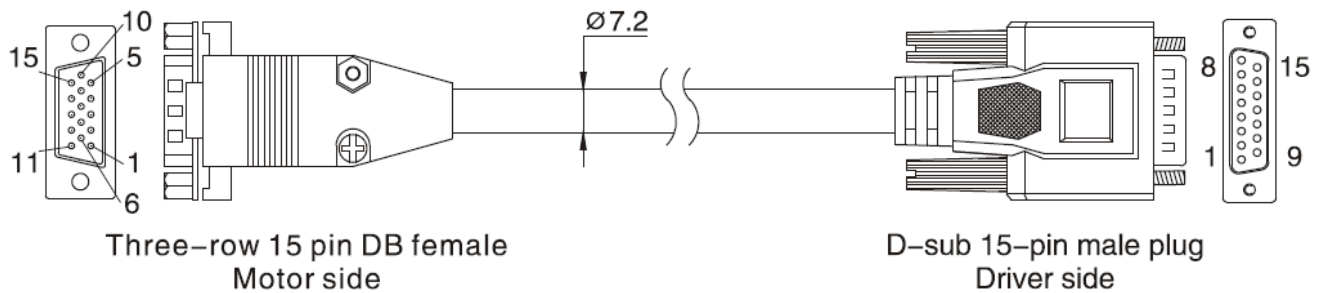


Encoder Cable: KNC-SRV-ENCCA-05-KC0 for KNC-SRV-SMH60S-0020-30AAK-3LKN



KNC-SRV-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

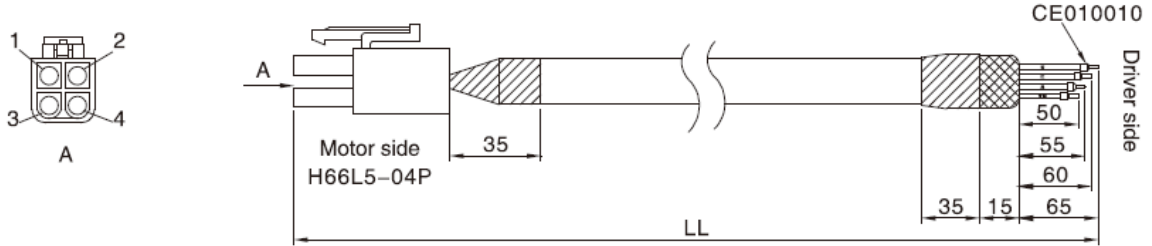
Encoder Cable: ENCCA-05-KH for KNC-SRV-SMH60S-0020-30AAK-3AKH, KNC-SRV-SMH60S-0020-30ABK-3AKH, KNC-SRV-SMH60S-0020-30AAK-3LKH, and KNC-SRV-SMH60S-0020-30ABK-3LKH



KNC-SRV-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

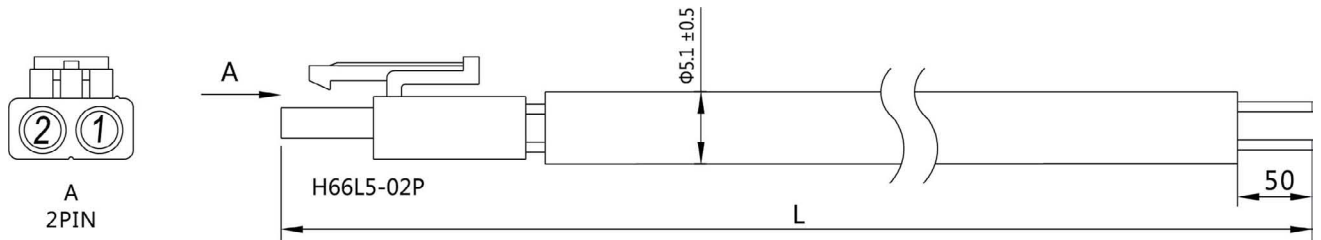
Motor Cable: KNC-SRV-MOT-005-05-KL for KNC-SRV-SMH60S-0020-30AAK-3AKH, KNC-SRV-SMH60S-0020-30ABK-3AKH, KNC-SRV-SMH60S-0020-30AAK-3LKH, and KNC-SRV-SMH60S-0020-30ABK-3LKH

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



KNC-SRV-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

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



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

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