

SMC80S-0100-30MxK-5DSU
 SMC80S-0100-30AxK-5DSH
 Servo Motor



FEATURES

- 24-70VDC
- 1000W Power Rating
- Rated Torque of 450 oz-in
- Maximum Speed of 4200 RPM
- Magnetolectric Encoder (DSU) or 2500 PPR Incremental Encoder (DSH)
- IP65 for Body, IP54 Shaft Seal
- Insulation Class F

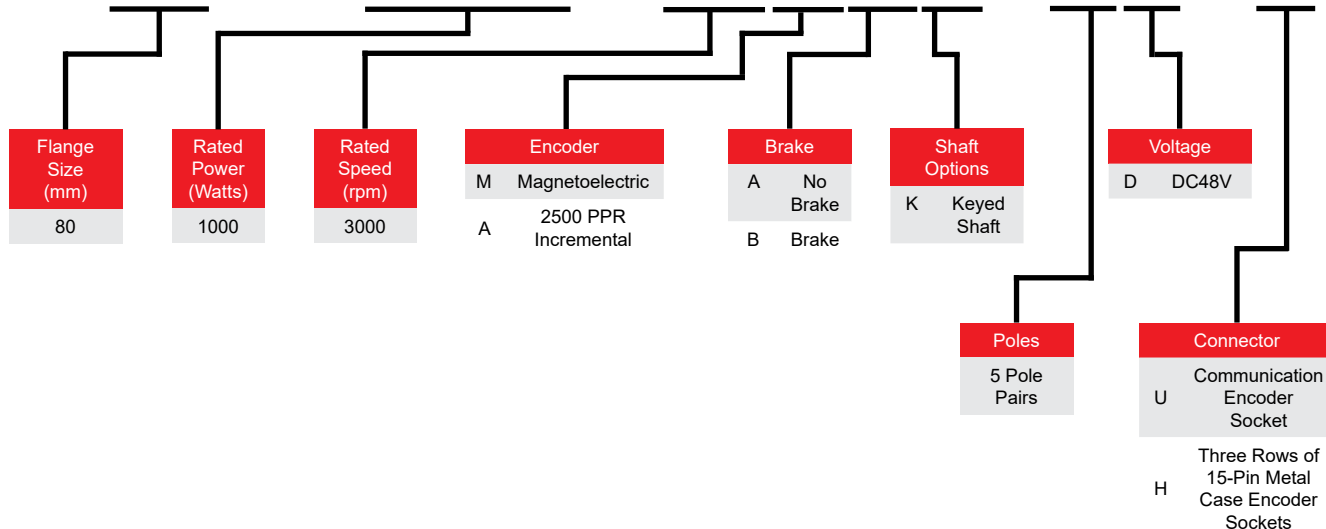


DESCRIPTION

The SMC80S-0100-30 Series Servo Motor offers a low-cost solution for motion control applications requiring position and speed control. With the Magnetolectric Encoder or 2500 PPR Incremental Encoder, it allows for better cushioning ability and higher cost-performance ratio. These Servo Motors have Insulation Class F which is the best Insulation Class on the market. They are very quiet with high reliability and stability in high temperature environments. These Servo Motors boast peak torque values up to 9.54 Nm, provide excellent dynamic response, allow for 3 times the overload capacity, and has a rated torque of 3.18 Nm. It is available in a 80mm square flange size, with a brake option.

ORDERING INFORMATION

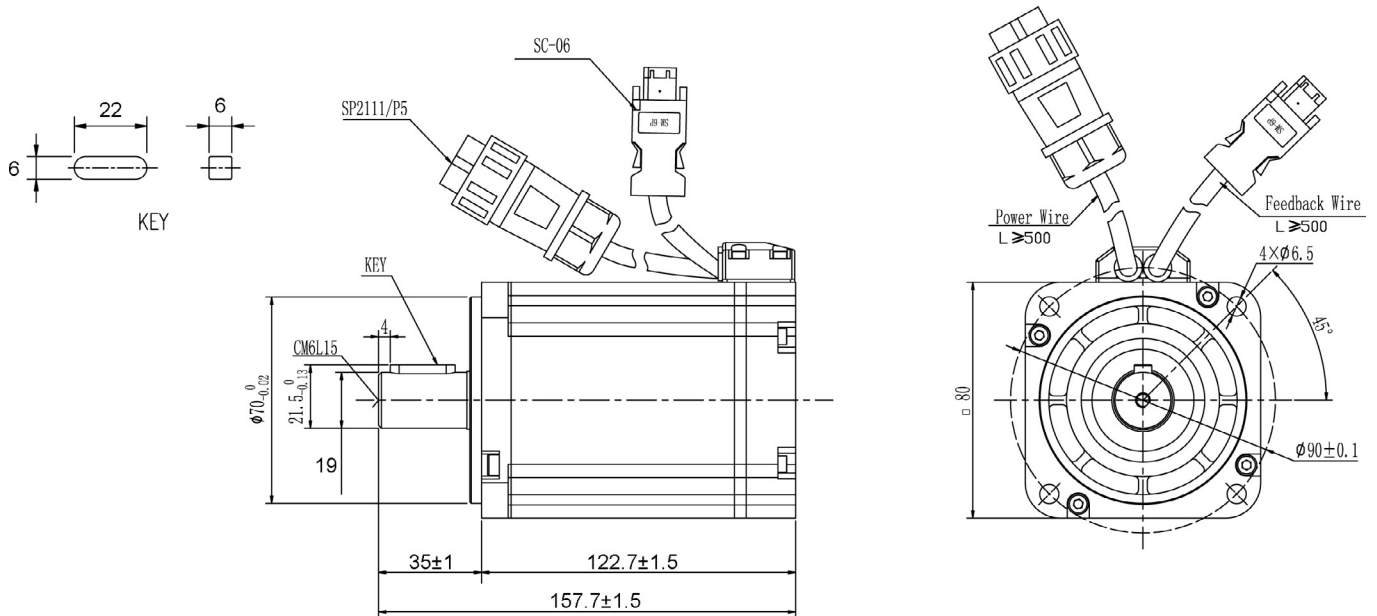
SMC80S - 0100 - 30MAK - 5DSU



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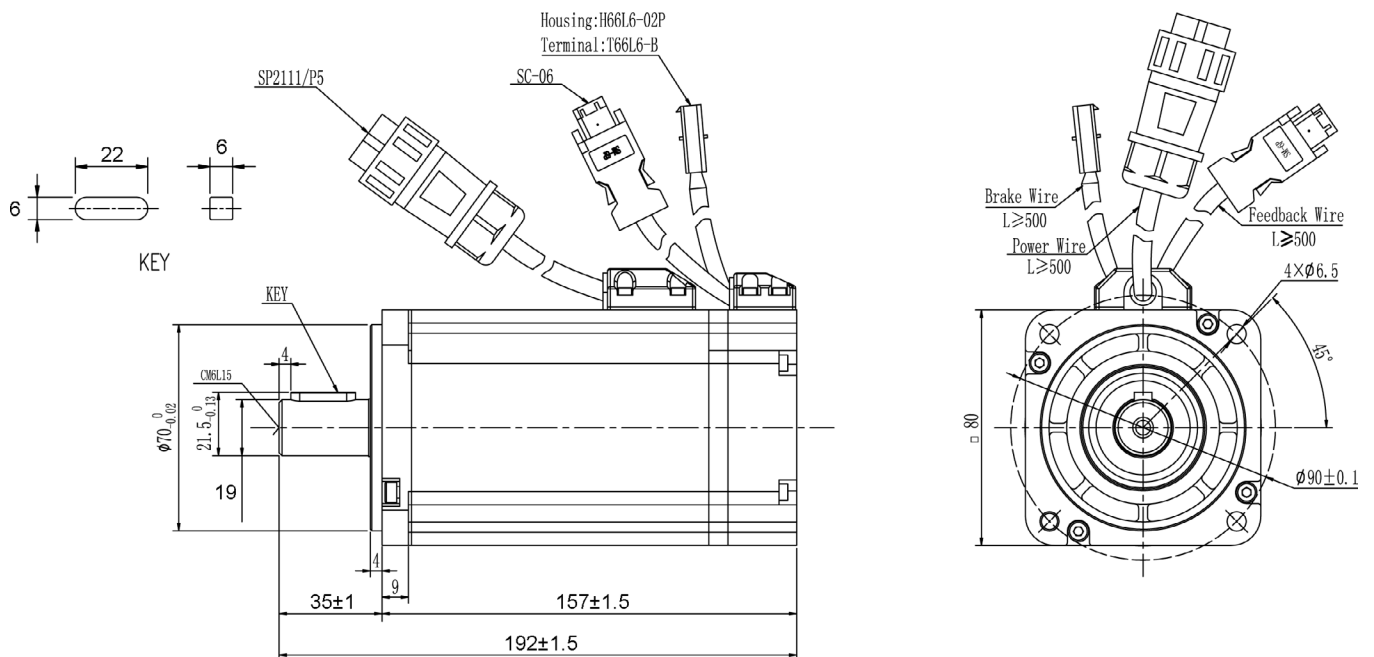
Model	SMC80S-0100-30MAK-5DSU SMC80S-0100-30MBK-5DSU SMC80S-0100-30AAK-5DSH SMC80S-0100-30ABK-5DSH
Compatible Driver	FD144S-LA-000 FD144S-LB-000
DC Link Voltage (VDC)	48
Rated Power (W)	1000
Rated Torque (Nm)	3.18
Rated Speed (RPM)	3000
Max Speed (RPM)	4100
Rated Current (A)	26.4
Maximum Torque (Nm)	9.54
Maximum Current (A)	59.7
Rated Standstill Torque (Nm)	3.4
Rated Standstill Current (A)	28
Resistance Line-Line (Ω)	0.047
Inductance Line-Line (mH)	0.2
Electrical Time Constant (ms)	4.25
Mechanical Time Constant (ms)	4.09
Torque Constant Kt (Nm/A)	0.124
Rotor Moment of Inertia Jm (Kg-cm ²)	1.36 1.41 (with brake)
Pole Pair Number	5
Voltage Constant Ke (V/Krpm)	8
Insulation Class	F
Maximum Radial Force F (N)	335
Maximum Axial Force F (N)	167
Weight (Kg)	2.8 3.3 (with brake)
Length of Motor (mm)	122.7 \pm 1.5 157 \pm 1.5 (with brake)

SMC80S-0100-30MAK-5DSU & SMC80S-0100-30AAK-5DSH



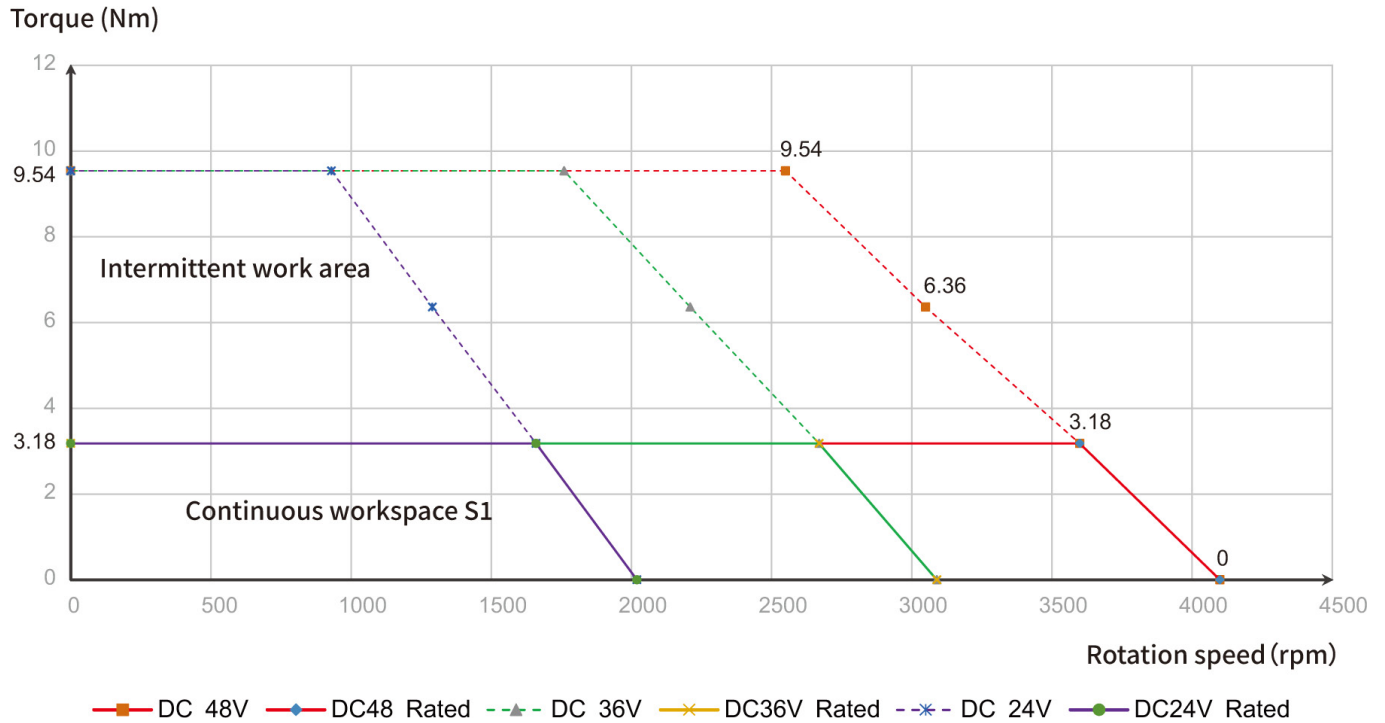
Dimensions are in mm

SMC80S-0100-30MBK-5DSU & SMC80S-0100-30ABK-5DSH (Brake Option)



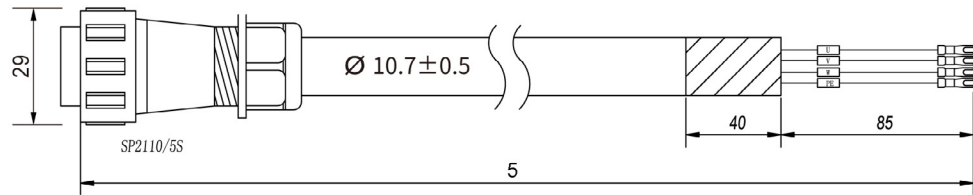
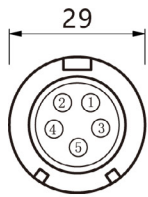
SMC80S-0100-30MAK-5DSU, SMC80S-0100-30AAK-5DSH, SMC80S-0100-30MBK-5DSU & SMC80S-0100-30ABK-5DSH

TORQUE CURVE



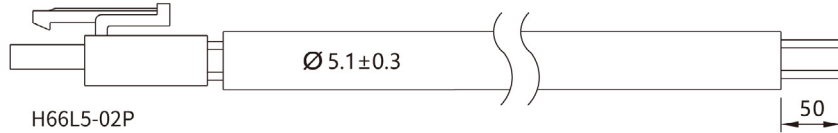
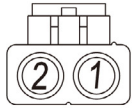
Motor Cable: MOTF-030-05-KL-SP for SMC80S-0100-30MAK-5DSU, SMC80S-0100-30AAK-5DSH, SMC80S-0100-30MBK-5DSU & SMC80S-0100-30ABK-5DSH

WIRING PINOUT



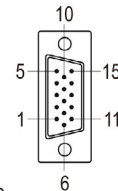
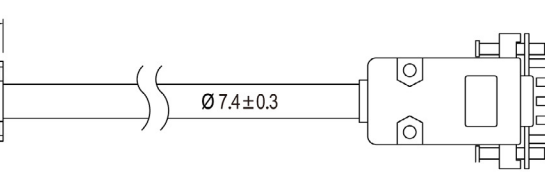
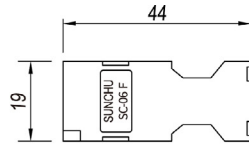
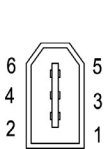
MOTF-030-05-KL-SP		
Color	Signal	5PIN Air Insertion
Yellow	U	PIN1
Red	V	PIN2
Black	W	PIN3
Yellow Green + Shielding	PE+Shielding	PIN4
NC	NC	PIN5

Brake Cable: BRA-05-KL for SMC80S-0100-30MBK-5DSU & SMC80S-0100-30ABK-5DSH



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

Encoder Cable: ENCHG-05-GU for SMC80S-0100-30MAK-5DSU & SMC80S-0100-30MBK-5DSU



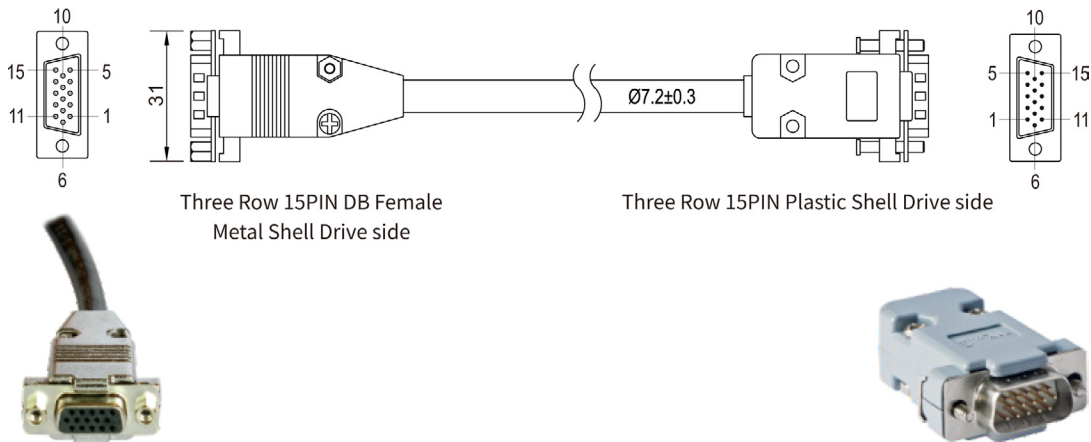
SC-06 Male
Motor side

Three row 15PIN DB Female
Driver side



ENCHG-05-GU				
Wiring Cable	Color	Signal 1	Signal 2	DB15
PIN 1	Red	VDD	VDD	PIN1
PIN 2	Black	GND	GND	PIN2
PIN 3	Brown	MA_P+	\	PIN10
PIN 4	Blue	MA_N-	\	PIN15
PIN 5	Yellow	SLO_P+	SD	PIN9
PIN 6	Green	SLO_N-	/SD	PIN14
SHELL	SHIELD	SHIELD	SHIELD	SHELL

Encoder Cable: ENCHA-05-KH for SMC80S-0100-30AAK-5DSH & SMC80S-0100-30ABK-5DSH



ENCHA-05-KH			
Three Rows of 15PIN DB Female	Three Rows of 15PIN DB Male	Signal	Color
PIN1	PIN1	+5V	Red (Thick)
PIN8	PIN8	A	Orange
PIN7	PIN7	B	Yellow
PIN6	PIN6	Z	Green
PIN4	PIN4	U	Brown
PIN10	PIN10	V	Purple
PIN9	PIN9	W	Blue
PIN2	PIN2	GND	Black (Thick)
PIN13	PIN13	/A	Orange White
PIN12	PIN12	/B	Yellow White
PIN11	PIN11	/Z	Green White
PIN5	PIN5	/U	Brown White
PIN15	PIN15	/V	Purple White
PIN14	PIN14	/W	Blue White
Shell	Shell	Shielded	Shielded Wire

SPECIFICATIONS

Model	Motor Cable	Encoder Cable	Brake Cable
SMC80S-0100-30MAK-5DSU	MOTF-030-05-KL-SP	ENCHG-05-GU	-
SMC80S-0100-30MBK-5DSU			BRA-05-KL
SMC80S-0100-30AAK-5DSH		ENCHA-05-KH	-
SMC80S-0100-30ABK-5DSH			BRA-05-KL

Model	SMC80S-0100-30MAK-5DSU SMC80S-0100-30MBK-5DSU SMC80S-0100-30AAK-5DSH SMC80S-0100-30ABK-5DSH
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Length of Motor L(mm)	122.7 ± 1.5 157 ± 1.5 (with brake)	
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