

BSM-Series

Brushless Servo Motors

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- CE listed, and UL approved
- Higher Speeds
- Longer Life
- Cleaner Operations
- Higher Duty Cycles

BSM-series of brush-less servo motors offer powerful eight pole motors that have been custom engineered to offer higher performance in a smaller envelope and at a lower cost

Servo Motors

NUTEC BSM series of brush-less servo motors have been custom engineered to offer higher performance in a smaller envelope and at a lower cost than standard off-the-shelf brushless servo motors. Powerful eight pole (40, 60 and 80mm SQ size motors) with rare earth magnets and skewed windings to reduce cogging, and class 3 ABEC bearings provide high speed, high torque, long life, and very smooth low speed operation, features required in complex servo systems.

Advantages of Servo

Brushless servo motors are a class of servo motors that operate by using electronic commutation rather than electromechanical commutation as used in brush-type motors. Brushless motors have a permanent magnet rotor and the wound stator is on the outside allowing for greater heat dissipation. As electronic commutation is a function of rotor position there are no brushes to wear out, limit speed, cause electrical noise, or create contamination.

video inspection, micro-machining, laser machining, high-speed fabrication, laser and inspection work. Many customers utilize the stage with manual turn knobs, because of the insufficient precision performance of conventional microscope stages.

Features and Benefits

- Rare earth Neodymiumboron – iron magnets.
- Peak torque to 850 oz-in.
- IP65 sealing
- High-flex cables
- Protection from overheating
- Optional encoder
- Optional Fail-safe brake

BSM-Series Specifications

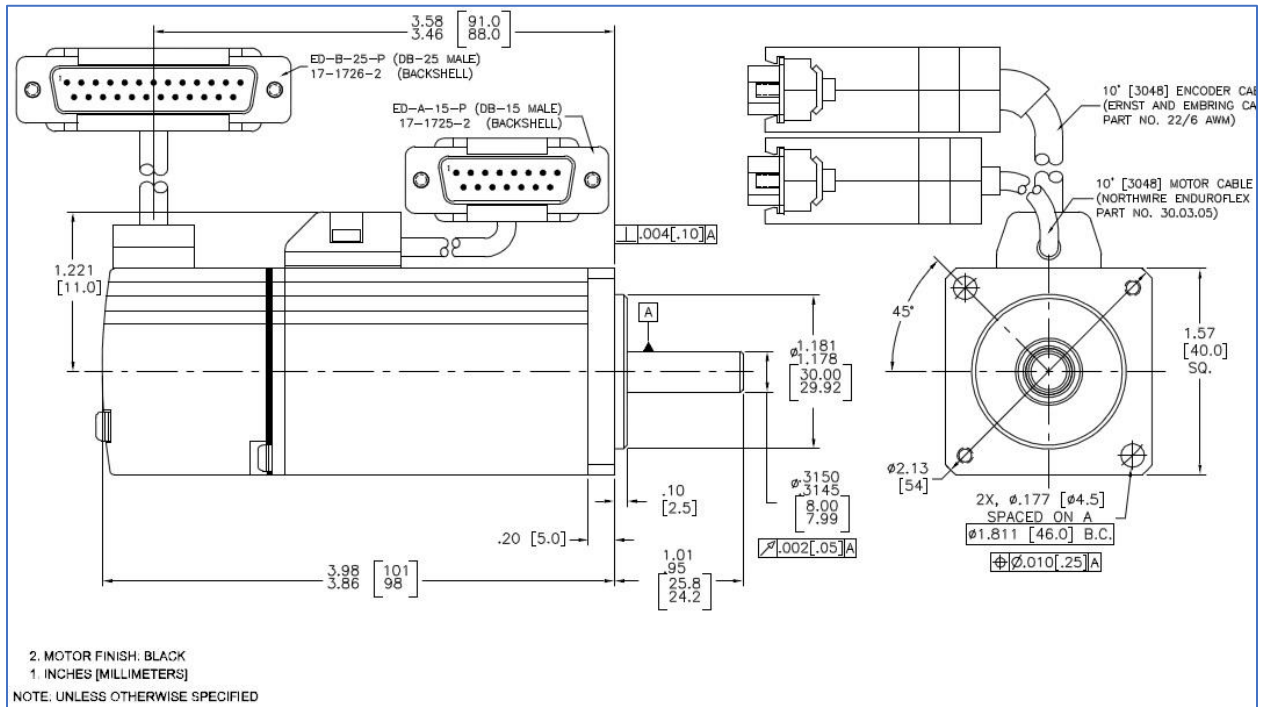
Model	BSM40-45	BSM60-45	BSM60-175	BSM80-275
Motor Frame Size, SQ	40 x 40mm	60 x 60mm	60 x 60mm	80 x 80mm
Motor Power	100 Watts	100 Watts	200 Watts	600 Watts
Continuous Stall Torque	0.3 N-m (45 oz-in)	0.3 N-m (45 oz-in)	1.3 N-m (180 oz-in)	2.0 N- (280 oz-in)
Peak Torque	1 N-m (140 oz-in)	1 N-m (140 oz-in)	2 N-m (280 oz-in)	6 N-m (850 oz-in)
Continuous Current	1.4 Amps	1.6 Amps	1.6 Amps	3.6 Amps
Peak Current	4.1 Amps	4.9 Amps	4.9 Amps	10.7 Amps
Torque Constant (Kt)	0.25 N-m/A	0.21 N-m/A	0.42 N-m/A	0.55 N-m/A
DC Resistance (Ra)	6.9 ohms	2.5 ohms	4.2 ohms	1.4 ohms
Inductance	6.7 mH	7.4 mH	15.2 mH	9.2 mH
Back EMF	13Vrms/KRPM	14Vrms/KRPM	30V/RPM	35V/KRPM
Maximum Speed, Rated Motor only (See Stage)	3000 RPM			
Bus Voltage	320 VDC			
Cable Length	10 ft			
Motor Connector	DB 15 Male			
Encoder Connector	DB 25 Male			

Rotary Encoder Data	BSMxx-xx-250
Encoder Lines	2500/rev
Encoder Counts	10000/rev
Home Index	1 per rev
Max. RPM	2500 RPM
Supply Voltage	1+5VDC regulated $\pm 5\%$
Output	4 channel TTL Square Wave
Option	BSMxx-xx-xxx-BAK
-BAK	Fail-safe brake

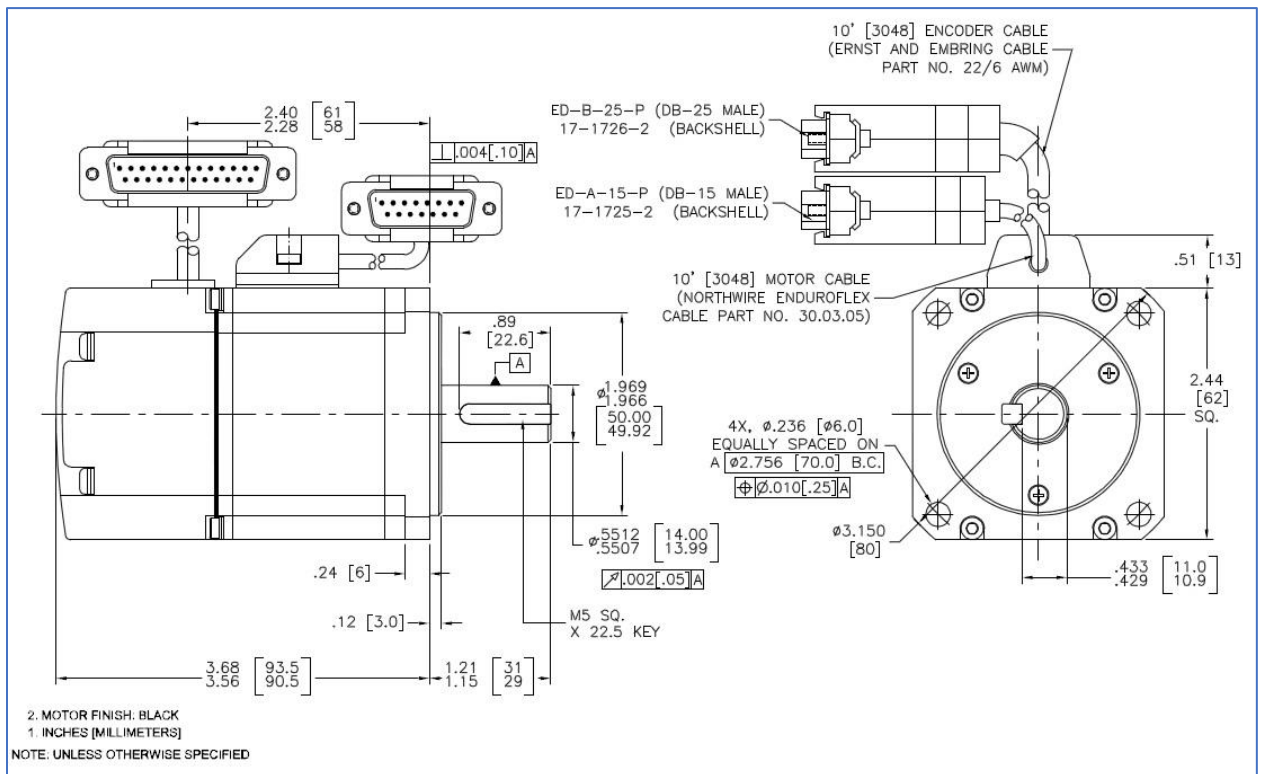
Connector

DB15M Motor		DB25M Encoder	
Pin	Function	Pin	Function
1	Motor T	1	Encoder +5VDC
2	Motor S	2	Ground
3	Motor R	3	Channel A+
4	Motor Ground	4	Channel B+
		5	Channel C+
		9	N/C
		11	Hall V
		15	Shield
		16	Channel A-
		17	Channel B-
		18	Channel C-
		19	N/C
		21	N/C
		23	Hall U
		24	Hall W
		Case	Shield

BSM40-45 Interface



BSM60-45 Interface



BSM60-175 Interface

