

BSH0551T31F2A

AC servo motor BSH, Lexium 05, 0.5N.m,
8000rpm, keyed shaft, with brake, IP65





Main

Device short name	BSH
Product or Component Type	Servo motor
Maximum mechanical speed	9000 rpm
Continuous stall torque	4.4 Lbf.In (0.5 N.m) LXM32.U90M2 3 A, 115 V, single phase 4.4 Lbf.In (0.5 N.m) LXM32.U45M2 1.5 A, 230 V, single phase 4.4 Lbf.In (0.5 N.m) LXM05CU70M2, 200...240 V, single phase 4.4 Lbf.In (0.5 N.m) LXM05AD10F1, 110...120 V, single phase 4.4 Lbf.In (0.5 N.m) LXM05AD10M2, 200...240 V, single phase 4.4 Lbf.In (0.5 N.m) LXM05BD10F1, 110...120 V, single phase 4.4 Lbf.In (0.5 N.m) LXM05BD10M2, 200...240 V, single phase 4.4 Lbf.In (0.5 N.m) LXM05CD10F1, 110...120 V, single phase 4.4 Lbf.In (0.5 N.m) LXM05CD10M2, 200...240 V, single phase 4.4 Lbf.In (0.5 N.m) LXM15LD13M3, 230 V, three phase 4.4 Lbf.In (0.5 N.m) LXM05AD10M3X, 200...240 V, three phase 4.4 Lbf.In (0.5 N.m) LXM05BD10M3X, 200...240 V, three phase 4.4 lbf.in (0.5 N.m) LXM05CD10M3X, 200...240 V, three phase
Peak stall torque	13.3 Lbf.In (1.5 N.m) LXM32.U90M2 3 A, 115 V, single phase 12.4 Lbf.In (1.4 N.m) LXM32.U45M2 1.5 A, 230 V, single phase 9.56 Lbf.In (1.08 N.m) LXM05CU70M2, 200...240 V, single phase 12.4 Lbf.In (1.4 N.m) LXM05AD10F1, 110...120 V, single phase 12.4 Lbf.In (1.4 N.m) LXM05AD10M2, 200...240 V, single phase 12.4 Lbf.In (1.4 N.m) LXM05BD10F1, 110...120 V, single phase 12.4 Lbf.In (1.4 N.m) LXM05BD10M2, 200...240 V, single phase 12.4 Lbf.In (1.4 N.m) LXM05CD10F1, 110...120 V, single phase 12.4 Lbf.In (1.4 N.m) LXM05CD10M2, 200...240 V, single phase 10.97 Lbf.In (1.24 N.m) LXM15LD13M3, 230 V, three phase 12.4 Lbf.In (1.4 N.m) LXM05AD10M3X, 200...240 V, three phase 12.4 Lbf.In (1.4 N.m) LXM05BD10M3X, 200...240 V, three phase 12.4 lbf.in (1.4 N.m) LXM05CD10M3X, 200...240 V, three phase
Nominal output power	150 W LXM32.U90M2 3 A, 115 V, single phase 300 W LXM32.U45M2 1.5 A, 230 V, single phase 150 W LXM05AD10F1, 110...120 V, single phase 150 W LXM05BD10F1, 110...120 V, single phase 150 W LXM05CD10F1, 110...120 V, single phase 150 W LXM05CU70M2, 200...240 V, single phase 270 W LXM05AD10M2, 200...240 V, single phase 270 W LXM05BD10M2, 200...240 V, single phase 270 W LXM05CD10M2, 200...240 V, single phase 270 W LXM05AD10M3X, 200...240 V, three phase 270 W LXM05BD10M3X, 200...240 V, three phase 270 W LXM05CD10M3X, 200...240 V, three phase 340 W LXM15LD13M3, 230 V, three phase

Nominal torque	4.34 Lbf.In (0.49 N.m) LXM32.U90M2 3 A, 115 V, single phase 3.98 Lbf.In (0.45 N.m) LXM32.U45M2 1.5 A, 230 V, single phase 3.81 Lbf.In (0.43 N.m) LXM05AD10M2, 200...240 V, single phase 3.81 Lbf.In (0.43 N.m) LXM05BD10M2, 200...240 V, single phase 3.81 Lbf.In (0.43 N.m) LXM05CD10M2, 200...240 V, single phase 4.07 Lbf.In (0.46 N.m) LXM05AD10F1, 110...120 V, single phase 4.07 Lbf.In (0.46 N.m) LXM05BD10F1, 110...120 V, single phase 4.07 Lbf.In (0.46 N.m) LXM05CD10F1, 110...120 V, single phase 4.07 Lbf.In (0.46 N.m) LXM05CU70M2, 200...240 V, single phase 3.63 Lbf.In (0.41 N.m) LXM15LD13M3, 230 V, three phase 3.81 Lbf.In (0.43 N.m) LXM05AD10M3X, 200...240 V, three phase 3.81 Lbf.In (0.43 N.m) LXM05BD10M3X, 200...240 V, three phase 3.81 lbf.in (0.43 N.m) LXM05CD10M3X, 200...240 V, three phase
Nominal speed	3000 rpm LXM32.U90M2 3 A, 115 V, single phase 6000 rpm LXM32.U45M2 1.5 A, 230 V, single phase 3000 rpm LXM05AD10F1, 110...120 V, single phase 3000 rpm LXM05BD10F1, 110...120 V, single phase 3000 rpm LXM05CD10F1, 110...120 V, single phase 3000 rpm LXM05CU70M2, 200...240 V, single phase 6000 rpm LXM05AD10M2, 200...240 V, single phase 6000 rpm LXM05BD10M2, 200...240 V, single phase 6000 rpm LXM05CD10M2, 200...240 V, single phase 6000 rpm LXM05AD10M3X, 200...240 V, three phase 6000 rpm LXM05BD10M3X, 200...240 V, three phase 6000 rpm LXM05CD10M3X, 200...240 V, three phase 8000 rpm LXM15LD13M3, 230 V, three phase
Product compatibility	LXM05AD10F1 110...120 V single phase LXM05AD10M2 200...240 V single phase LXM05BD10F1 110...120 V single phase LXM05BD10M2 200...240 V single phase LXM05CD10F1 110...120 V single phase LXM05CD10M2 200...240 V single phase LXM05CU70M2 200...240 V single phase LXM32.U90M2 115 V single phase LXM32.U45M2 230 V single phase LXM05AD10M3X 200...240 V three phase LXM05BD10M3X 200...240 V three phase LXM05CD10M3X 200...240 V three phase LXM15LD13M3 230 V three phase
Shaft end	Keyed
IP Degree of Protection	IP65 standard IP67 with IP67 kit
Speed feedback resolution	131072 points/turn
Holding brake	With
Mounting Support	International standard flange
Electrical Connection	Rotatable right-angled connectors

Complementary

Range Compatibility	Lexium 05 Lexium 15 Lexium 32
Supply voltage max	480 V
Phase	Three phase
Continuous stall current	1.4 A
Maximum continuous power	0.45 W
Maximum current Irms	6.2 A LXM15LD13M3 5.4 A LXM05AD10F1 5.4 A LXM05CU70M2 5.4 A LXM05AD10M2 5.4 A LXM05AD10M3X 5.4 A LXM05BD10F1 5.4 A LXM05BD10M2 5.4 A LXM05BD10M3X 5.4 A LXM05CD10F1 5.4 A LXM05CD10M2 5.4 A LXM05CD10M3X 5.4 A LXM32.U90M2 4.5 A LXM32.U45M2
Maximum permanent current	5.4 A
Switching frequency	8 kHz
Second shaft	Without second shaft end
Shaft diameter	0.4 in (9 mm)
Shaft length	0.8 in (20 mm)
Key width	0.5 in (12 mm)
Feedback type	Single turn SinCos Hiperface
Holding torque	7.08 lbf.in (0.8 N.m) holding brake
Motor flange size	2.2 in (55 mm)
Number of motor stacks	1
Torque constant	0.36 N.m/A 248.0000000000 °F (120 °C)
Back emf constant	22 V/krpm 248.0000000000 °F (120 °C)
Number of motor poles	6
Rotor inertia	0.0803 kg.cm ²
Stator resistance	12.2 Ohm 68.0000000000 °F (20 °C)
Stator inductance	20.8 mH 68.0000000000 °F (20 °C)
Stator electrical time constant	1.7 ms 68.0000000000 °F (20 °C)
Maximum radial force Fr	170 N 8000 rpm 180 N 7000 rpm 190 N 6000 rpm 200 N 5000 rpm 220 N 4000 rpm 240 N 3000 rpm 270 N 2000 rpm 340 N 1000 rpm
Maximum axial force Fa	0.2 x Fr
Brake pull-in power	10 W
Type of cooling	Natural convection
Length	6.3 in (159 mm)
Centring collar diameter	1.6 in (40 mm)
Centring collar depth	0.08 in (2 mm)
Number of mounting holes	4
Mounting holes diameter	0.2 in (5.5 mm)
Circle diameter of the mounting holes	2.5 in (63 mm)
Net Weight	2.9 lb(US) (1.3 kg)

Ordering and shipping details

Category	US1PC5318282
Discount Schedule	PC53
GTIN	3389118158566
Returnability	No
Country of origin	DE

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	4.5 in (11.5 cm)
Package 1 Width	7.5 in (19.0 cm)
Package 1 Length	15.6 in (39.5 cm)
Package 1 Weight	33.5 oz (950.0 g)

Offer Sustainability

Sustainable offer status	Green Premium product
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
Mercury free	Yes
China RoHS Regulation	China RoHS Declaration
RoHS exemption information	Yes
Environmental Disclosure	Product Environmental Profile
Circularity Profile	No need of specific recycling operations
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.
PVC free	Yes

Contractual warranty

Warranty	18 months
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Servo Motors Dimensions

Example with Straight Connectors



- a: Power supply for servo motor brake
b: Power supply for servo motor encoder
(1) M4 screw
(2) Shaft end, keyed slot (optional)
(3) For screw M3 x 9 mm/M3 x 0.35 in.

Dimensions in mm

Straight connectors		Rotatable angled connectors		c (without brake)	c (with brake)
b	b1	b	b1		
39.5	25.5	39.5	39.5	132.5	159

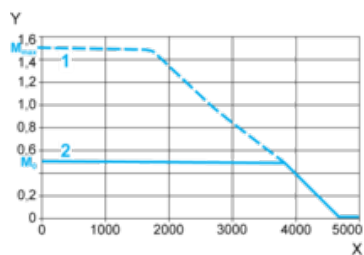
Dimensions in in.

Straight connectors		Rotatable angled connectors		c (without brake)	c (with brake)
b	b1	b	b1		
1.55	1.00	1.55	1.55	5.21	6.25

115 V Single-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•U90M2 servo drive



X Speed in rpm

Y Torque in Nm

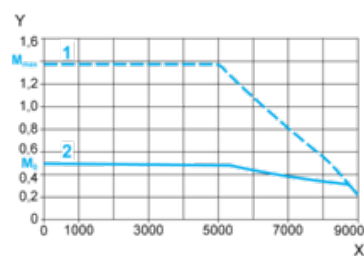
1 Peak torque

2 Continuous torque

230 V Single-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•U45M2 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque