

BSH0551T12F2A

AC servo motor BSH, Lexium 05, 0.5N.m,
8000rpm, keyed shaft, with brake, IP50





Main

Product or component type	Servo motor
Device short name	BSH
Maximum mechanical speed	9000 rpm
Continuous stall torque	0.5 N.M for LXM32.U90M2 at 3 A, 115 V, single phase 0.5 N.M for LXM32.U45M2 at 1.5 A, 230 V, single phase 0.5 N.M for LXM05CU70M2, 200...240 V, single phase 0.5 N.M for LXM05AD10F1, 110...120 V, single phase 0.5 N.M for LXM05AD10M2, 200...240 V, single phase 0.5 N.M for LXM05BD10F1, 110...120 V, single phase 0.5 N.M for LXM05BD10M2, 200...240 V, single phase 0.5 N.M for LXM05CD10F1, 110...120 V, single phase 0.5 N.M for LXM05CD10M2, 200...240 V, single phase 0.5 N.M for LXM15LD13M3, 230 V, three phase 0.5 N.M for LXM05AD10M3X, 200...240 V, three phase 0.5 N.M for LXM05BD10M3X, 200...240 V, three phase 0.5 N.m for LXM05CD10M3X, 200...240 V, three phase
Peak stall torque	1.5 N.M for LXM32.U90M2 at 3 A, 115 V, single phase 1.4 N.M for LXM32.U45M2 at 1.5 A, 230 V, single phase 1.08 N.M for LXM05CU70M2, 200...240 V, single phase 1.4 N.M for LXM05AD10F1, 110...120 V, single phase 1.4 N.M for LXM05AD10M2, 200...240 V, single phase 1.4 N.M for LXM05BD10F1, 110...120 V, single phase 1.4 N.M for LXM05BD10M2, 200...240 V, single phase 1.4 N.M for LXM05CD10F1, 110...120 V, single phase 1.4 N.M for LXM05CD10M2, 200...240 V, single phase 1.24 N.M for LXM15LD13M3, 230 V, three phase 1.4 N.M for LXM05AD10M3X, 200...240 V, three phase 1.4 N.M for LXM05BD10M3X, 200...240 V, three phase 1.4 N.m for LXM05CD10M3X, 200...240 V, three phase

Nominal output power	150 W for LXM32.U90M2 at 3 A, 115 V, single phase 300 W for LXM32.U45M2 at 1.5 A, 230 V, single phase 150 W for LXM05AD10F1, 110...120 V, single phase 150 W for LXM05BD10F1, 110...120 V, single phase 150 W for LXM05CD10F1, 110...120 V, single phase 150 W for LXM05CU70M2, 200...240 V, single phase 270 W for LXM05AD10M2, 200...240 V, single phase 270 W for LXM05BD10M2, 200...240 V, single phase 270 W for LXM05CD10M2, 200...240 V, single phase 270 W for LXM05AD10M3X, 200...240 V, three phase 270 W for LXM05BD10M3X, 200...240 V, three phase 270 W for LXM05CD10M3X, 200...240 V, three phase 340 W for LXM15LD13M3, 230 V, three phase
Nominal torque	0.49 N.M for LXM32.U90M2 at 3 A, 115 V, single phase 0.45 N.M for LXM32.U45M2 at 1.5 A, 230 V, single phase 0.43 N.M for LXM05AD10M2, 200...240 V, single phase 0.43 N.M for LXM05BD10M2, 200...240 V, single phase 0.43 N.M for LXM05CD10M2, 200...240 V, single phase 0.46 N.M for LXM05AD10F1, 110...120 V, single phase 0.46 N.M for LXM05BD10F1, 110...120 V, single phase 0.46 N.M for LXM05CD10F1, 110...120 V, single phase 0.46 N.M for LXM05CU70M2, 200...240 V, single phase 0.41 N.M for LXM15LD13M3, 230 V, three phase 0.43 N.M for LXM05AD10M3X, 200...240 V, three phase 0.43 N.M for LXM05BD10M3X, 200...240 V, three phase 0.43 N.m for LXM05CD10M3X, 200...240 V, three phase
Nominal speed	3000 rpm for LXM32.U90M2 at 3 A, 115 V, single phase 6000 rpm for LXM32.U45M2 at 1.5 A, 230 V, single phase 3000 rpm for LXM05AD10F1, 110...120 V, single phase 3000 rpm for LXM05BD10F1, 110...120 V, single phase 3000 rpm for LXM05CD10F1, 110...120 V, single phase 3000 rpm for LXM05CU70M2, 200...240 V, single phase 6000 rpm for LXM05AD10M2, 200...240 V, single phase 6000 rpm for LXM05BD10M2, 200...240 V, single phase 6000 rpm for LXM05CD10M2, 200...240 V, single phase 6000 rpm for LXM05AD10M3X, 200...240 V, three phase 6000 rpm for LXM05BD10M3X, 200...240 V, three phase 6000 rpm for LXM05CD10M3X, 200...240 V, three phase 8000 rpm for LXM15LD13M3, 230 V, three phase

Product compatibility	LXM05AD10F1 at 110...120 V single phase LXM05AD10M2 at 200...240 V single phase LXM05BD10F1 at 110...120 V single phase LXM05BD10M2 at 200...240 V single phase LXM05CD10F1 at 110...120 V single phase LXM05CD10M2 at 200...240 V single phase LXM05CU70M2 at 200...240 V single phase LXM32.U90M2 at 115 V single phase LXM32.U45M2 at 230 V single phase LXM05AD10M3X at 200...240 V three phase LXM05BD10M3X at 200...240 V three phase LXM05CD10M3X at 200...240 V three phase LXM15LD13M3 at 230 V three phase
Shaft end	Keyed
IP degree of protection	IP50 standard
Speed feedback resolution	131072 points/turn x 4096 turns
Holding brake	With
Mounting support	International standard flange
Electrical connection	Rotatable right-angled connectors

Complementary

Range compatibility	Lexium 32 Lexium 05 Lexium 15
Supply voltage max	480 V
Network number of phases	Three phase
Continuous stall current	1.4 A
Maximum continuous power	0.45 W
Maximum current Irms	6.2 A for LXM15LD13M3 5.4 A for LXM05AD10F1 5.4 A for LXM05CU70M2 5.4 A for LXM05AD10M2 5.4 A for LXM05AD10M3X 5.4 A for LXM05BD10F1 5.4 A for LXM05BD10M2 5.4 A for LXM05BD10M3X 5.4 A for LXM05CD10F1 5.4 A for LXM05CD10M2 5.4 A for LXM05CD10M3X 5.4 A for LXM32.U90M2 4.5 A for LXM32.U45M2
Maximum permanent current	5.4 A
Switching frequency	8 kHz
Second shaft	Without second shaft end
Shaft diameter	9 mm
Shaft length	20 mm
Key width	12 mm
Feedback type	Multiturn SinCos Hiperface
Holding torque	0.8 N.m holding brake
Motor flange size	55 mm
Number of motor stacks	1
Torque constant	0.36 N.m/A at 120 °C
Back emf constant	22 V/krpm at 120 °C
Number of motor poles	6
Rotor inertia	0.0803 kg.cm²
Stator resistance	12.2 Ohm at 20 °C
Stator inductance	20.8 mH at 20 °C
Stator electrical time constant	1.7 ms at 20 °C

Maximum radial force Fr	170 N at 8000 rpm 180 N at 7000 rpm 190 N at 6000 rpm 200 N at 5000 rpm 220 N at 4000 rpm 240 N at 3000 rpm 270 N at 2000 rpm 340 N at 1000 rpm
Maximum axial force Fa	0.2 x Fr
Brake pull-in power	10 W
Type of cooling	Natural convection
Length	159 mm
Centring collar diameter	40 mm
Centring collar depth	2 mm
Number of mounting holes	4
Mounting holes diameter	5.5 mm
Circle diameter of the mounting holes	63 mm
Net weight	1.3 kg

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	11.5 cm
Package 1 Width	19.0 cm
Package 1 Length	39.5 cm
Package 1 Weight	950.0 g

Offer Sustainability

Sustainable offer status	Green Premium product
REACH Regulation	 REACH Declaration
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

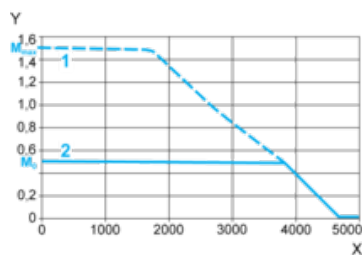
Dimensions in in.

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

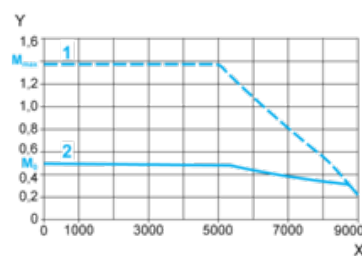
1 Peak torque

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