

Product datasheet

Specifications



AC servo motor BSH - 0.5 N.m - 8000 rpm - keyed shaft - without brake - IP65

BSH0551T31A2A

EAN Code: 3389118158542

Main

Device short name	BSH
Product or component type	Servo motor
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 at 1.5 A, 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 at 1.5 A, 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 at 1.5 A, 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 at 1.5 A, 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

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

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 at 1.5 A, 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	IP65 standard IP67 with IP67 kit
Speed feedback resolution	131072 points/turn
Holding brake	Without
Mounting support	International standard flange
Electrical connection	Rotatable right-angled connectors

Complementary

Range compatibility	Lexium 15 Lexium 32 Lexium 05
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	Single turn SinCos Hiperface
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	3.0
Rotor inertia	0.059 kg.cm ²
Stator resistance	12.2 Ohm at 20 °C
Stator inductance	10.85 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
Type of cooling	Natural convection
Length	132.5 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	1.2 kg
Sizing reference	BSH0551T
Network number of phases	3
Accuracy error [angular]	1.4 °
Temperature copper hot	120 °C
Temperature magnet hot	100 °C
Temperature magnet rt	20 °C
Output current 3s peak	5.4 A
Inertia	0.0 kg.cm ² of brake 0.059 kg.cm ² of motor

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	800.0 g

Logistical informations

Country of origin DE

Contractual warranty

Warranty (in months) 18



Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

[Environmental Data explained >](#)

[How we assess product sustainability >](#)



Environmental footprint

Total lifecycle Carbon footprint	386 kg CO2 eq.
Carbon footprint of the manufacturing phase [A1 to A3]	4 kg CO2 eq.
Carbon footprint of the distribution phase [A4]	0.1 kg CO2 eq.
Carbon footprint of the installation phase [A5]	0 kg CO2 eq.
Carbon footprint of the use phase [B2, B3, B4, B6]	382 kg CO2 eq.
Carbon footprint of the end-of-life phase [C1 to C4]	0.1 kg CO2 eq.

Use Better



Materials and Substances

Packaging made with recycled cardboard	Yes
Packaging without single use plastic	No
SCIP Number	8c11b0c9-e501-4810-83eb-05fc6605ede4
EU RoHS Directive	Compliant By Exemption
REACH Regulation	Reference contains Substances of Very High Concern above the threshold
PVC free	Yes

Use Longer



Lifetime extension

Repair	No
--------	----

Use Again



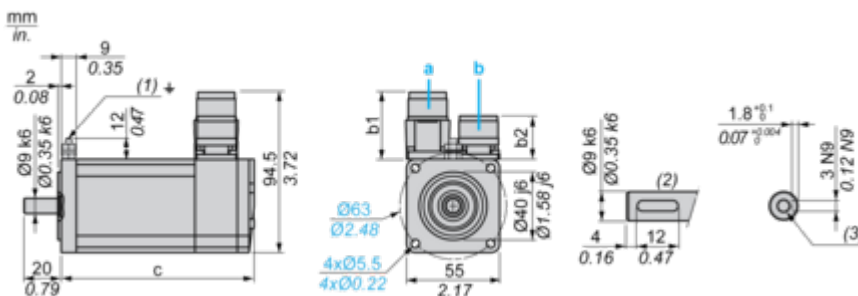
Repack and remanufacture

End of life manual availability	No need of specific recycling operations
Take-back	No
WEEE Label	 The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

Dimensions Drawings

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.

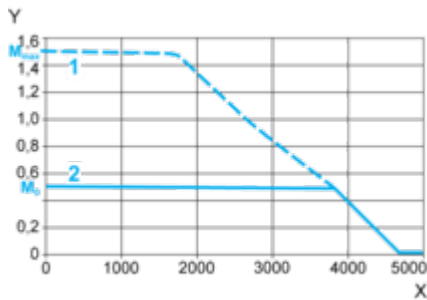
Straight connectors		Rotatable angled connectors		c (without brake)	c (with brake)
b	b1	b	b1		
1.55	1.00	1.55	1.55	5.21	6.25

Performance Curves

115 V Single-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32-U90M2 servo drive



X Speed in rpm

Y Torque in Nm

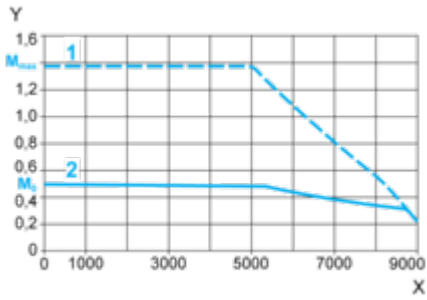
1 Peak torque

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