Product data sheet

Specifications

servo motor BSH, Lexium 05, 0.5N.m, 8000rpm, 55mm, keyed shaft, Sincos multi turn, without brake, IP50

BSH0551T12A2A

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 1.5 A, 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 1.5 A, 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 1.5 A, 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 1.5 A, 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

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 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 1.5 A, 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	IP50 standard
Speed feedback resolution	131072 points/turn x 4096 turns
Holding brake	Without
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
Network number of phases	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	Multiturn SinCos Hiperface
Motor flange size	2.2 in (55 mm)
Number of motor stacks	1
Torque constant	0.36 N.m/A 248 °F (120 °C)
Back emf constant	22 V/krpm 248 °F (120 °C)
Number of motor poles	3.0
Rotor inertia	0.059 kg.cm²
Stator resistance	12.2 Ohm 68 °F (20 °C)
Stator inductance	10.85 mH 68 °F (20 °C)
Stator electrical time constant	1.7 ms 68 °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
Type of cooling	Natural convection
Length	5.2 in (132.5 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	2.6 lb(US) (1.2 kg)
Sizing reference	BSH0551T
Network number of phases	3
Accuracy error [angular]	1.4 °
Temperature copper hot	248 °F (120 °C)
Temperature magnet hot	212 °F (100 °C)
Temperature magnet rt	68 °F (20 °C)
Output current 3s peak	5.4 A
Inertia	0.0 kg.cm² of brake 0.059 kg.cm² of motor

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	28.2 oz (800.0 g)

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

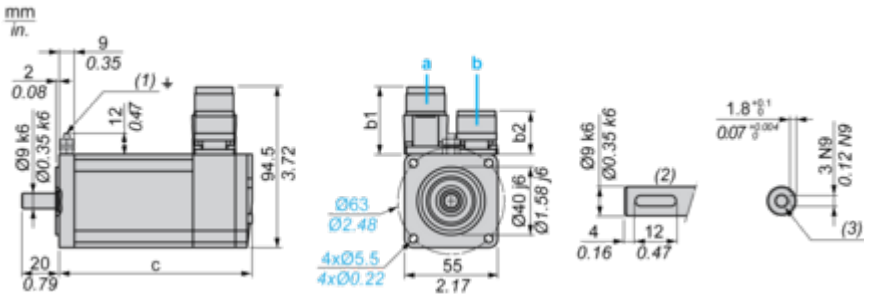
Repack and remanufacture

Circularity Profile	**No need of specific recycling operations**
Take-back	**Nej**
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.

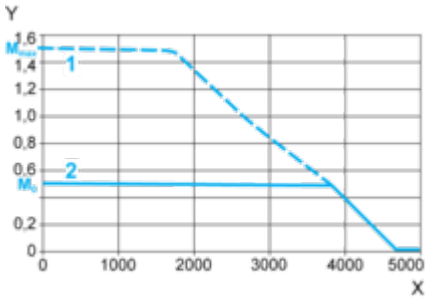
Straight connectors		Rotatable angled connectors		c (without brake)	c (with brake)
b	b1	b	b1		
1.55	1.00	1.55	1.55	5.21	6.25

Performance Curves

115 V Single-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•U90M2 servo drive

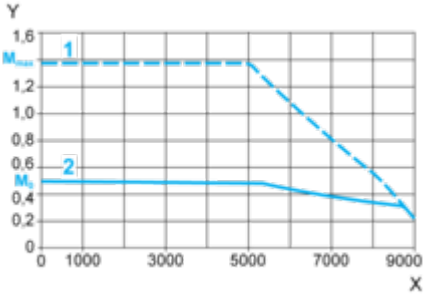


X Speed in rpm
Y Torque in Nm
1 Peak torque
2 Continuous torque

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