

Product data sheet

Specifications



servo motor BSH, Lexium 05,
3.39N.m, 4000rpm, 100mm,
untapped shaft, Sincos multi turn,
without brake, IP50, straight

BSH1001T02A1A

ⓘ Discontinued

ⓘ Discontinued on: Jun 30, 2023

Main

Device short name	BSH
Product or component type	Servo motor
Maximum mechanical speed	6000 rpm
Continuous stall torque	29.2 lbf.in (3.3 N.m) LXM32.D30M2 10 A, 115 V, single phase 30.004 lbf.in (3.39 N.m) LXM15LD28M3, 230 V, three phase 30.09 lbf.in (3.4 N.m) LXM05AD28F1, 110...120 V, single phase 30.09 lbf.in (3.4 N.m) LXM05AD28M2 6 A, 200...240 V, single phase 30.09 lbf.in (3.4 N.m) LXM05AD42M3X, 200...240 V, three phase 30.09 lbf.in (3.4 N.m) LXM05BD28F1, 110...120 V, single phase 30.09 lbf.in (3.4 N.m) LXM05BD28M2, 200...240 V, single phase 30.09 lbf.in (3.4 N.m) LXM05BD42M3X, 200...240 V, three phase 30.09 lbf.in (3.4 N.m) LXM05CD28F1, 110...120 V, single phase 30.09 lbf.in (3.4 N.m) LXM05CD28M2, 200...240 V, single phase 30.09 lbf.in (3.4 N.m) LXM05CD42M3X, 200...240 V, three phase 23.9 lbf.in (2.7 N.m) LXM32.D18M2 6 A, 230 V, single phase
Peak stall torque	55.8 lbf.in (6.3 N.m) LXM32.D30M2 10 A, 115 V, single phase 75.2 lbf.in (8.5 N.m) LXM05AD28F1, 110...120 V, single phase 75.2 lbf.in (8.5 N.m) LXM05AD28M2, 200...240 V, single phase 75.2 lbf.in (8.5 N.m) LXM05BD28F1, 110...120 V, single phase 75.2 lbf.in (8.5 N.m) LXM05BD28M2, 200...240 V, single phase 75.2 lbf.in (8.5 N.m) LXM05CD28F1, 110...120 V, single phase 75.2 lbf.in (8.5 N.m) LXM05CD28M2, 200...240 V, single phase 66.4 lbf.in (7.5 N.m) LXM32.D18M2 6 A, 230 V, single phase 75.2 lbf.in (8.5 N.m) LXM15LD28M3, 230 V, three phase 75.2 lbf.in (8.5 N.m) LXM05AD42M3X, 200...240 V, three phase 75.2 lbf.in (8.5 N.m) LXM05BD42M3X 6 A, 200...240 V, three phase 75.2 lbf.in (8.5 N.m) LXM05CD42M3X, 200...240 V, three phase
Nominal output power	700 W LXM32.D30M2 10 A, 115 V, single phase 900 W LXM32.D18M2 6 A, 230 V, single phase 500 W LXM05AD28F1, 110...120 V, single phase 500 W LXM05BD28F1, 110...120 V, single phase 500 W LXM05CD28F1 6 A, 110...120 V, single phase 900 W LXM05AD28M2, 200...240 V, single phase 900 W LXM05BD28M2, 200...240 V, single phase 900 W LXM05CD28M2, 200...240 V, single phase 1150 W LXM15LD28M3, 230 V, three phase 900 W LXM05AD42M3X, 200...240 V, three phase 900 W LXM05BD42M3X, 200...240 V, three phase 900 W LXM05CD42M3X, 200...240 V, three phase
Nominal torque	24.34 lbf.in (2.75 N.m) LXM32.D30M2 10 A, 115 V, single phase 25.7 lbf.in (2.9 N.m) LXM05AD28M2, 200...240 V, single phase 25.7 lbf.in (2.9 N.m) LXM05BD28M2, 200...240 V, single phase 25.7 lbf.in (2.9 N.m) LXM05CD28M2, 200...240 V, single phase 27.97 lbf.in (3.16 N.m) LXM05AD28F1, 110...120 V, single phase 27.97 lbf.in (3.16 N.m) LXM05BD28F1, 110...120 V, single phase 27.97 lbf.in (3.16 N.m) LXM05CD28F1, 110...120 V, single phase 19.5 lbf.in (2.2 N.m) LXM32.D18M2 6 A, 230 V, single phase 24.34 lbf.in (2.75 N.m) LXM15LD28M3, 230 V, three phase 25.7 lbf.in (2.9 N.m) LXM05AD42M3X, 200...240 V, three phase 25.7 lbf.in (2.9 N.m) LXM05BD42M3X 6 A, 200...240 V, three phase 25.7 lbf.in (2.9 N.m) LXM05CD42M3X, 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	2500 rpm LXM32.D30M2 10 A, 115 V, single phase 3000 rpm LXM05AD28M2, 200...240 V, single phase 3000 rpm LXM05BD28M2, 200...240 V, single phase 3000 rpm LXM05CD28M2, 200...240 V, single phase 3000 rpm LXM05AD42M3X, 200...240 V, three phase 3000 rpm LXM05BD42M3X, 200...240 V, three phase 3000 rpm LXM05CD42M3X, 200...240 V, three phase 4000 rpm LXM32.D18M2 6 A, 230 V, single phase 1500 rpm LXM05AD28F1, 110...120 V, single phase 1500 rpm LXM05BD28F1, 110...120 V, single phase 1500 rpm LXM05CD28F1 6 A, 110...120 V, single phase 4000 rpm LXM15LD28M3, 230 V, three phase
Product compatibility	LXM05AD28F1 110...120 V single phase LXM05AD28M2 200...240 V single phase LXM05BD28F1 110...120 V single phase LXM05BD28M2 200...240 V single phase LXM05CD28F1 110...120 V single phase LXM05CD28M2 200...240 V single phase LXM32.D30M2 115 V single phase LXM32.D18M2 230 V single phase LXM05AD42M3X 200...240 V three phase LXM05BD42M3X 200...240 V three phase LXM05CD42M3X 200...240 V three phase LXM15LD28M3 230 V three phase
Shaft end	Untapped
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	Straight connectors

Complementary

Range compatibility	Lexium 05 Lexium 32 Lexium 15
supply voltage max	480 V
Network number of phases	Three phase
Continuous stall current	7.3 A
maximum continuous power	1.6 W
Maximum current Irms	18 A LXM32.D18M2 230 V 15 A LXM32.D30M2 115 V 23 A LXM15LD28M3 25.1 A LXM05AD28F1 25.1 A LXM05AD28M2 115 V 25.1 A LXM05AD42M3X 25.1 A LXM05BD28F1 25.1 A LXM05BD28M2 25.1 A LXM05BD42M3X 25.1 A LXM05CD28F1 25.1 A LXM05CD28M2 25.1 A LXM05CD42M3X
Maximum permanent current	25.1 A
Switching frequency	8 kHz
Second shaft	Without second shaft end
Shaft diameter	0.7 in (19 mm)
Shaft length	1.6 in (40 mm)
Feedback type	Multiturn SinCos Hiperface
Motor flange size	3.9 in (100 mm)

Number of motor stacks	1
Torque constant	0.45 N.m/A 248 °F (120 °C)
Back emf constant	29 V/krpm 248 °F (120 °C)
Number of motor poles	8
Rotor inertia	1.4 kg.cm ²
Stator resistance	0.87 Ohm 68 °F (20 °C)
Stator inductance	4 mH 68 °F (20 °C)
Stator electrical time constant	4.6 ms 68 °F (20 °C)
Maximum radial force Fr	530 N 5000 rpm 570 N 4000 rpm 630 N 3000 rpm 720 N 2000 rpm 900 N 1000 rpm
Maximum axial force Fa	0.2 x Fr
Type of cooling	Natural convection
Length	6.6 in (168.5 mm)
Centring collar diameter	3.7 in (95 mm)
Centring collar depth	0.1 in (3.5 mm)
Number of mounting holes	4
Mounting holes diameter	0.4 in (9 mm)
Circle diameter of the mounting holes	4.5 in (115 mm)
Net weight	9.3 lb(US) (4.2 kg)
Sizing reference	BSH1001T
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)

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	6.06 in (15.4 cm)
Package 1 Width	6.4 in (16.3 cm)
Package 1 Length	16.02 in (40.7 cm)
Package 1 Weight	9.5 lb(US) (4.3 kg)

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 >](#)

Use Better



Materials and Substances

EU RoHS Directive

[Compliant By Exemption](#)

PVC free

Yes

Use Longer



Lifetime extension

Repair

No

Use Again



Repack and remanufacture

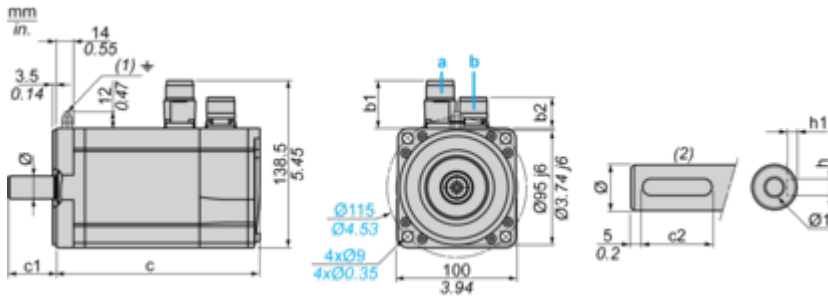
Circularity Profile

No need of specific recycling operations

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)

Dimensions in mm

Straight connectors		Rotatable angled connectors		c (without brake)	c (with brake)	c1	c2	h	h1	Ø	Ø1 for screws
b1	b2	b1	b2								
39.5	25.5	39.5	39.5	169	200	40	30	6 N9	3.5 ^{+0.1} ₀	19 k6	M6 x 16

Dimensions in in.

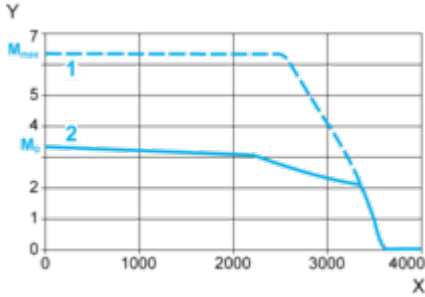
Straight connectors		Rotatable angled connectors		c (without brake)	c (with brake)	c1	c2	h	h1	Ø	Ø1 for screws
b1	b2	b1	b2								
1.55	1.00	1.55	1.55	6.65	7.87	1.57	1.18	0.24 N9	0.14 ^{+0.1} ₀	0.75 k6	M6 x 0.63

Performance Curves

115 V Single-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32-D30M2 servo drive

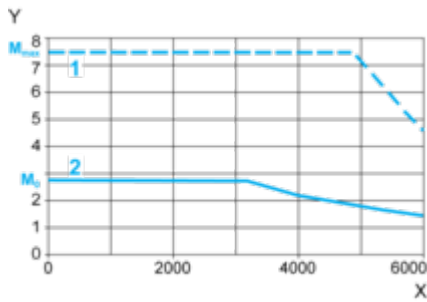


- X Speed in rpm
- Y Torque in Nm
- 1 Peak torque
- 2 Continuous torque

230 V Single-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D18M2 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque