Product datasheet

Specifications

servo motor BSH, Lexium 05, 3.4N.m, 2500rpm, 100mm, keyed shaft, Sincos multi turn, with brake, IP50

BSH1002P12F2A

Main

Product Or Component Type	Servo motor
Device Short Name	BSH
Maximum Mechanical Speed	6000 rpm
Continuous Stall Torque	4.5 N.m for LXM15LD21M3, 230 V, single phase 3.4 N.m for LXM15LD13M3, 230 V, three phase 3.4 N.m for LXM15LD10N4, 230 V, three phase 3.4 N.m for LXM15LD10N4, 400 V, three phase 3.4 N.m for LXM15LD10N4, 480 V, three phase 5.8 N.m for LXM15LD17N4, 400 V, three phase 5.8 N.m for LXM15LD17N4, 480 V, three phase 5.8 N.m for LXM15LD21M3, 230 V, three phase 5.5 N.m for LXM05AD17M3X, 200...240 V, three phase 5.5 N.m for LXM05AD22N4, 380...480 V, three phase 5.5 N.m for LXM05AD28M2, 200...240 V, single phase 5.5 N.m for LXM05BD17M3X, 200...240 V, three phase 5.5 N.m for LXM05BD22N4, 380...480 V, three phase 5.5 N.m for LXM05BD28M2, 200...240 V, single phase 5.5 N.m for LXM05CD17M3X, 200...240 V, three phase 5.5 N.m for LXM05CD22N4, 380...480 V, three phase 5.5 N.m for LXM05CD28M2, 200...240 V, single phase 5.8 N.m for LXM32.D18N4 at 6 A, 400 V, three phase 5.8 N.m for LXM32.D18N4 at 6 A, 480 V, three phase
Peak Stall Torque	9.39 N.m for LXM15LD21M3, 230 V, single phase 5.6 N.m for LXM15LD13M3, 230 V, three phase 8 N.m for LXM15LD10N4, 230 V, three phase 8 N.m for LXM15LD10N4, 400 V, three phase 8 N.m for LXM15LD10N4, 480 V, three phase 12.13 N.m for LXM15LD17N4, 400 V, three phase 12.13 N.m for LXM15LD17N4, 480 V, three phase 14.79 N.m for LXM15LD21M3, 230 V, three phase 11.23 N.m for LXM05AD17M3X, 200...240 V, three phase 13.92 N.m for LXM05AD22N4, 380...480 V, three phase 16 N.m for LXM05AD28M2, 200...240 V, single phase 11.23 N.m for LXM05BD17M3X, 200...240 V, three phase 13.92 N.m for LXM05BD22N4, 380...480 V, three phase 16 N.m for LXM05BD28M2, 200...240 V, single phase 11.23 N.m for LXM05CD17M3X, 200...240 V, three phase 13.92 N.m for LXM05CD22N4, 380...480 V, three phase 16 N.m for LXM05CD28M2, 200...240 V, single phase 18.3 N.m for LXM32.D18N4 at 6 A, 400 V, three phase 18.3 N.m for LXM32.D18N4 at 6 A, 480 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 Output Power	950 W for LXM15LD21M3, 230 V, single phase 950 W for LXM15LD21M3, 230 V, three phase 780 W for LXM05AD28M2, 200...240 V, single phase 780 W for LXM05BD28M2, 200...240 V, single phase 780 W for LXM05CD28M2, 200...240 V, single phase 1400 W for LXM05AD22N4, 380...480 V, three phase 1400 W for LXM05BD22N4, 380...480 V, three phase 1400 W for LXM05CD22N4, 380...480 V, three phase 1600 W for LXM15LD10N4, 400 V, three phase 1700 W for LXM15LD17N4, 400 V, three phase 1950 W for LXM15LD17N4, 480 V, three phase 2150 W for LXM15LD10N4, 480 V, three phase 780 W for LXM05AD17M3X, 200...240 V, three phase 780 W for LXM05BD17M3X, 200...240 V, three phase 780 W for LXM05CD17M3X, 200...240 V, three phase 840 W for LXM15LD13M3, 230 V, three phase 890 W for LXM15LD10N4, 230 V, three phase 1700 W for LXM32.D18N4 at 6 A, 400 V, three phase 1700 W for LXM32.D18N4 at 6 A, 480 V, three phase
Nominal Torque	4.5 N.m for LXM15LD21M3, 230 V, single phase 4.96 N.m for LXM05AD28M2, 200...240 V, single phase 4.96 N.m for LXM05BD28M2, 200...240 V, single phase 4.96 N.m for LXM05CD28M2, 200...240 V, single phase 3.4 N.m for LXM15LD10N4, 230 V, three phase 3.4 N.m for LXM15LD10N4, 400 V, three phase 3.4 N.m for LXM15LD10N4, 480 V, three phase 3.4 N.m for LXM15LD13M3, 230 V, three phase 3.7 N.m for LXM15LD17N4, 480 V, three phase 4 N.m for LXM15LD17N4, 400 V, three phase 4.4 N.m for LXM05AD22N4, 380...480 V, three phase 4.4 N.m for LXM05BD22N4, 380...480 V, three phase 4.4 N.m for LXM05CD22N4, 380...480 V, three phase 4.96 N.m for LXM05AD17M3X, 200...240 V, three phase 4.96 N.m for LXM05BD17M3X, 200...240 V, three phase 4.96 N.m for LXM05CD17M3X, 200...240 V, three phase 5.8 N.m for LXM15LD21M3, 230 V, three phase 4 N.m for LXM32.D18N4 at 6 A, 400 V, three phase 4 N.m for LXM32.D18N4 at 6 A, 480 V, three phase
Nominal Speed	3000 rpm for LXM05AD22N4, 380...480 V, three phase 3000 rpm for LXM05BD22N4, 380...480 V, three phase 3000 rpm for LXM05CD22N4, 380...480 V, three phase 1500 rpm for LXM05AD17M3X, 200...240 V, three phase 1500 rpm for LXM05BD17M3X, 200...240 V, three phase 1500 rpm for LXM05CD17M3X, 200...240 V, three phase 4500 rpm for LXM15LD10N4, 400 V, three phase 6000 rpm for LXM15LD10N4, 480 V, three phase 4000 rpm for LXM32.D18N4 at 6 A, 400 V, three phase 4000 rpm for LXM32.D18N4 at 6 A, 480 V, three phase 1500 rpm for LXM05AD28M2, 200...240 V, single phase 1500 rpm for LXM05BD28M2, 200...240 V, single phase 1500 rpm for LXM05CD28M2, 200...240 V, single phase 2000 rpm for LXM15LD21M3, 230 V, single phase 2000 rpm for LXM15LD21M3, 230 V, three phase 2500 rpm for LXM15LD10N4, 230 V, three phase 2500 rpm for LXM15LD13M3, 230 V, three phase 4000 rpm for LXM15LD17N4, 400 V, three phase 5000 rpm for LXM15LD17N4, 480 V, three phase
Product Compatibility	LXM05AD28M2 at 200...240 V single phase LXM05BD28M2 at 200...240 V single phase LXM05CD28M2 at 200...240 V single phase LXM15LD21M3 at 230 V single phase LXM15LD13M3 at 230 V three phase LXM15LD10N4 at 400 V three phase LXM05AD17M3X at 200...240 V three phase LXM05BD17M3X at 200...240 V three phase LXM05CD17M3X at 200...240 V three phase LXM15LD10N4 at 230 V three phase LXM15LD10N4 at 480 V three phase LXM15LD21M3 at 230 V three phase LXM05AD22N4 at 380...480 V three phase LXM05BD22N4 at 380...480 V three phase LXM05CD22N4 at 380...480 V three phase LXM15LD17N4 at 400 V three phase LXM15LD17N4 at 480 V three phase LXM32.D18N4 at 400 V three phase LXM32.D18N4 at 480 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	4.8 A
Maximum Continuous Power	2.51 W
Maximum Current Irms	17.1 A for LXM15LD13M3 17.1 A for LXM15LD21M3 17.1 A for LXM15LD10N4 17.1 A for LXM15LD17N4 17.1 A for LXM05AD28M2 17.1 A for LXM05AD17M3X 17.1 A for LXM05AD22N4 17.1 A for LXM05BD28M2 17.1 A for LXM05BD17M3X 17.1 A for LXM05BD22N4 17.1 A for LXM05CD28M2 17.1 A for LXM05CD17M3X 17.1 A for LXM05CD22N4 17.1 A for LXM32.D18N4
Maximum Permanent Current	17.1 A
Switching Frequency	8 kHz
Second Shaft	Without second shaft end
Shaft Diameter	19 mm
Shaft Length	40 mm
Key Width	30 mm
Feedback Type	Multiturn SinCos Hiperface
Holding Torque	9 N.m holding brake
Motor Flange Size	100 mm
Number Of Motor Stacks	2
Torque Constant	1.21 N.m/A at 120 °C
Back Emf Constant	77 V/krpm at 120 °C
Number Of Motor Poles	8
Rotor Inertia	2.928 kg.cm²
Stator Resistance	2.4 Ohm at 20 °C
Stator Inductance	12.7 mH at 20 °C
Stator Electrical Time Constant	5.29 ms at 20 °C
Maximum Radial Force Fr	620 N at 4000 rpm 690 N at 3000 rpm 790 N at 2000 rpm 990 N at 1000 rpm

Maximum Axial Force Fa	0.2 x Fr
Brake Pull-In Power	18 W
Type Of Cooling	Natural convection
Length	235.5 mm
Centring Collar Diameter	95 mm
Centring Collar Depth	3.5 mm
Number Of Mounting Holes	4
Mounting Holes Diameter	9 mm
Circle Diameter Of The Mounting Holes	115 mm
Net Weight	6.3 kg

Packing Units

Unit Type Of Package 1	PCE
Number Of Units In Package 1	1
Package 1 Height	15.4 cm
Package 1 Width	16.3 cm
Package 1 Length	40.7 cm
Package 1 Weight	6.45 kg

Contractual warranty

Warranty	18 months

Sustainability

Green Premium™ label is Schneider Electric's commitment to delivering products with best-in-class environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO_2 products.

Guide to assessing product sustainability is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

Learn more about Green Premium >

Guide to assess a product's sustainability >

Transparency RoHS/REACh

Well-being performance

Mercury Free	
Rohs Exemption Information	Yes
Pvc Free	

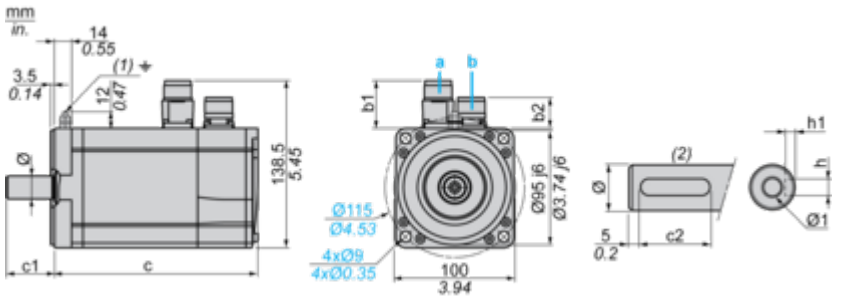
Certifications & Standards

Reach Regulation	REACh Declaration
Eu Rohs Directive	Pro-active compliance (Product out of EU RoHS legal scope)
China Rohs Regulation	China RoHS declaration
Environmental Disclosure	Product Environmental Profile
Weee	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins
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	205	236	40	30	6 N9	$3.5^{+0.1}_{0}$	19 k6	M6 x 16

Dimensions in in.

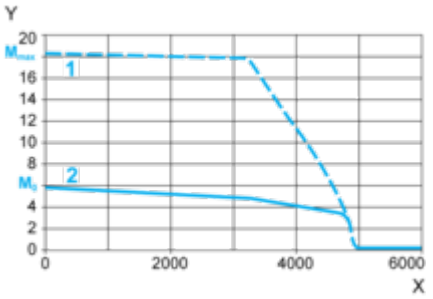
Straight connectors		Rotatable angled connectors		c (without brake)	c (with brake)	c1	c2	h	h1	Ø	Ø1 for screws
b1	b2	b1	b2								
1.55	1.00	1.55	1.55	8.07	9.29	1.57	1.18	0.24 N9	$0.14^{+0.1}_{0}$	0.75 k6	M6 x 0.63

Performance Curves

400 V 3-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D18N4 servo drive

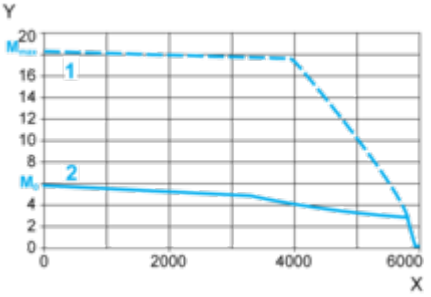


X Speed in rpm
Y Torque in Nm
1 Peak torque
2 Continuous torque

480 V 3-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D18N4 servo drive



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