

BSH1001P31A2A

servo motor BSH, Lexium 05, 2.7N.m,
3000rpm, 100mm, keyed shaft, Sincos single
turn, without brake, IP65





Main

Product or component type	Servo motor
Device short name	BSH
Maximum mechanical speed	6000 rpm
Continuous stall torque	3.39 N.M for LXM15LD21M3, 230 V, single phase 2.7 N.M for LXM15LD10N4, 230 V, three phase 3.39 N.M for LXM15LD10N4, 400 V, three phase 3.39 N.M for LXM15LD10N4, 480 V, three phase 3.39 N.M for LXM15LD21M3, 230 V, three phase 3.39 N.M for LXM15LD17N4, 230 V, three phase 3.39 N.M for LXM15LD17N4, 400 V, three phase 3.39 N.M for LXM15LD17N4, 480 V, three phase 3.4 N.M for LXM05AD17M3X, 200...240 V, three phase 3.4 N.M for LXM05AD22N4, 380...480 V, three phase 3.4 N.M for LXM05BD17M3X, 200...240 V, three phase 3.4 N.M for LXM05BD22N4, 380...480 V, three phase 3.4 N.M for LXM05CD17M3X, 200...240 V, three phase 3.4 N.M for LXM05CD22N4, 380...480 V, three phase 3.3 N.M for LXM32.D18N4 at 6 A, 400 V, three phase 3.3 N.m for LXM32.D18N4 at 6 A, 480 V, three phase
Peak stall torque	7.08 N.M for LXM15LD21M3, 230 V, single phase 6.19 N.M for LXM15LD10N4, 230 V, three phase 6.19 N.M for LXM15LD10N4, 400 V, three phase 6.19 N.M for LXM15LD10N4, 480 V, three phase 7.08 N.M for LXM15LD21M3, 230 V, three phase 7.08 N.M for LXM15LD17N4, 230 V, three phase 7.08 N.M for LXM15LD17N4, 400 V, three phase 7.08 N.M for LXM15LD17N4, 480 V, three phase 7.1 N.M for LXM05AD17M3X, 200...240 V, three phase 7.1 N.M for LXM05AD22N4, 380...480 V, three phase 7.1 N.M for LXM05BD17M3X, 200...240 V, three phase 7.1 N.M for LXM05BD22N4, 380...480 V, three phase 7.1 N.M for LXM05CD17M3X, 200...240 V, three phase 7.1 N.M for LXM05CD22N4, 380...480 V, three phase 9.6 N.M for LXM32.D18N4 at 6 A, 400 V, three phase 9.6 N.m for LXM32.D18N4 at 6 A, 480 V, three phase
Nominal output power	1300 W for LXM15LD17N4, 400 V, three phase 1500 W for LXM15LD10N4, 480 V, three phase 950 W for LXM15LD21M3, 230 V, single phase 1300 W for LXM15LD10N4, 400 V, three phase 1500 W for LXM15LD17N4, 480 V, three phase 500 W for LXM05AD17M3X, 200...240 V, three phase 500 W for LXM05BD17M3X, 200...240 V, three phase 500 W for LXM05CD17M3X, 200...240 V, three phase 850 W for LXM15LD10N4, 230 V, three phase 900 W for LXM05AD22N4, 380...480 V, three phase 900 W for LXM05BD22N4, 380...480 V, three phase 900 W for LXM05CD22N4, 380...480 V, three phase 950 W for LXM15LD17N4, 230 V, three phase 950 W for LXM15LD21M3, 230 V, three phase 1100 W for LXM32.D18N4 at 6 A, 400 V, three phase 1100 W for LXM32.D18N4 at 6 A, 480 V, three phase

Nominal torque	<p>3 N.M for LXM15LD21M3, 230 V, single phase</p> <p>2.5 N.M for LXM15LD10N4, 480 V, three phase</p> <p>2.5 N.M for LXM15LD17N4, 480 V, three phase</p> <p>2.7 N.M for LXM15LD10N4, 230 V, three phase</p> <p>2.7 N.M for LXM15LD10N4, 400 V, three phase</p> <p>2.7 N.M for LXM15LD17N4, 400 V, three phase</p> <p>2.92 N.M for LXM05AD22N4, 380...480 V, three phase</p> <p>2.92 N.M for LXM05BD22N4, 380...480 V, three phase</p> <p>2.92 N.M for LXM05CD22N4, 380...480 V, three phase</p> <p>3 N.M for LXM15LD17N4, 230 V, three phase</p> <p>3 N.M for LXM15LD21M3, 230 V, three phase</p> <p>3.16 N.M for LXM05AD17M3X, 200...240 V, three phase</p> <p>3.16 N.M for LXM05BD17M3X, 200...240 V, three phase</p> <p>3.16 N.M for LXM05CD17M3X, 200...240 V, three phase</p> <p>2.7 N.M for LXM32.D18N4 at 6 A, 400 V, three phase</p> <p>2.7 N.m for LXM32.D18N4 at 6 A, 480 V, three phase</p>
Nominal speed	<p>3000 rpm for LXM15LD10N4, 230 V, three phase</p> <p>3000 rpm for LXM15LD21M3, 230 V, single phase</p> <p>3000 rpm for LXM05AD22N4, 380...480 V, three phase</p> <p>3000 rpm for LXM05BD22N4, 380...480 V, three phase</p> <p>3000 rpm for LXM05CD22N4, 380...480 V, three phase</p> <p>3000 rpm for LXM15LD17N4, 230 V, three phase</p> <p>3000 rpm for LXM15LD21M3, 230 V, three phase</p> <p>1500 rpm for LXM05AD17M3X, 200...240 V, three phase</p> <p>1500 rpm for LXM05BD17M3X, 200...240 V, three phase</p> <p>1500 rpm for LXM05CD17M3X, 200...240 V, three phase</p> <p>4500 rpm for LXM15LD10N4, 400 V, three phase</p> <p>4500 rpm for LXM15LD17N4, 400 V, three phase</p> <p>6000 rpm for LXM15LD10N4, 480 V, three phase</p> <p>6000 rpm for LXM15LD17N4, 480 V, three phase</p> <p>4000 rpm for LXM32.D18N4 at 6 A, 400 V, three phase</p> <p>4000 rpm for LXM32.D18N4 at 6 A, 480 V, three phase</p>
Product compatibility	<p>LXM15LD21M3 at 230 V single phase</p> <p>LXM15LD10N4 at 400 V three phase</p> <p>LXM05AD17M3X at 200...240 V three phase</p> <p>LXM05BD17M3X at 200...240 V three phase</p> <p>LXM05CD17M3X at 200...240 V three phase</p> <p>LXM15LD10N4 at 230 V three phase</p> <p>LXM15LD10N4 at 480 V three phase</p> <p>LXM15LD21M3 at 230 V three phase</p> <p>LXM15LD17N4 at 230 V three phase</p> <p>LXM05AD22N4 at 380...480 V three phase</p> <p>LXM05BD22N4 at 380...480 V three phase</p> <p>LXM05CD22N4 at 380...480 V three phase</p> <p>LXM15LD17N4 at 400 V three phase</p> <p>LXM15LD17N4 at 480 V three phase</p> <p>LXM32.D18N4 at 400 V three phase</p> <p>LXM32.D18N4 at 480 V three phase</p>
Shaft end	Keyed
IP degree of protection	<p>IP65 standard</p> <p>IP67 with IP67 kit</p>
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	3.5 A
Maximum continuous power	1.6 W
Maximum current Irms	12 A for LXM15LD21M3 12 A for LXM15LD10N4 12 A for LXM15LD17N4 12 A for LXM05AD17M3X 12 A for LXM05AD22N4 12 A for LXM05BD17M3X 12 A for LXM05BD22N4 12 A for LXM05CD17M3X 12 A for LXM05CD22N4 12 A for LXM32.D18N4
Maximum permanent current	12 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	Single turn SinCos Hiperface
Motor flange size	100 mm
Number of motor stacks	1
Torque constant	0.89 N.m/A at 120 °C
Back emf constant	60 V/krpm at 120 °C
Number of motor poles	8
Rotor inertia	1.4 kg.cm ²
Stator resistance	3.8 Ohm at 20 °C
Stator inductance	17.6 mH at 20 °C
Stator electrical time constant	4.63 ms at 20 °C
Maximum radial force Fr	530 N at 5000 rpm 570 N at 4000 rpm 630 N at 3000 rpm 720 N at 2000 rpm 900 N at 1000 rpm
Maximum axial force Fa	0.2 x Fr
Type of cooling	Natural convection
Length	168.5 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	4.2 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	4.3 kg
Unit Type of Package 2	P06
Number of Units in Package 2	6
Package 2 Height	77.0 cm

Package 2 Width	80.0 cm
Package 2 Length	60.0 cm
Package 2 Weight	40.216 kg

Offer Sustainability

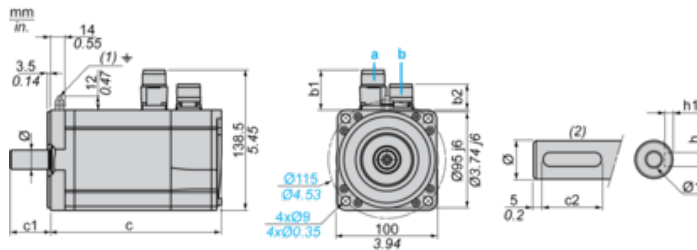
Sustainable offer status	Green Premium product
REACH Regulation	REACH Declaration
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
Mercury free	Yes
China RoHS Regulation	China RoHS Declaration
RoHS exemption information	Yes
Environmental Disclosure	Product Environmental Profile
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)

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

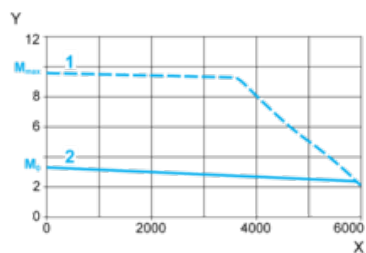
Dimensions in in.

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

400 V 3-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32-D18N4 servo drive



X Speed in rpm

Y Torque in Nm

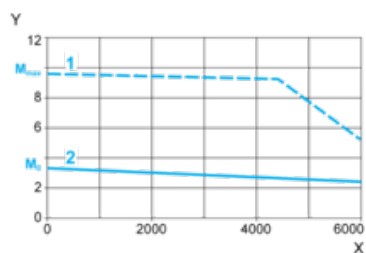
1 Peak torque

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