

BSH0702P31A1A

servo motor BSH, Lexium 05, 2.2N.m,
3000rpm, 70mm, keyed shaft, Sincos single
turn, without brake, IP65, straight





Main

Device short name	BSH
Product or Component Type	Servo motor
Maximum mechanical speed	8000 rpm
Continuous stall torque	19.5 Lbf.In (2.2 N.m) LXM32.D12N4 3 A, 400 V, three phase 19.5 Lbf.In (2.2 N.m) LXM32.D12N4 3 A, 480 V, three phase 18.76 Lbf.In (2.12 N.m) LXM05AD10M2, 200...240 V, single phase 18.76 Lbf.In (2.12 N.m) LXM05AD10M3X, 200...240 V, three phase 18.76 Lbf.In (2.12 N.m) LXM05BD10M2, 200...240 V, single phase 18.76 Lbf.In (2.12 N.m) LXM05BD10M3X, 200...240 V, three phase 18.76 Lbf.In (2.12 N.m) LXM05CD10M2, 200...240 V, single phase 18.76 Lbf.In (2.12 N.m) LXM05CD10M3X, 200...240 V, three phase 19.5 Lbf.In (2.2 N.m) LXM15LD13M3, 230 V, single phase 18.76 Lbf.In (2.12 N.m) LXM05AD17M2, 200...240 V, single phase 18.76 Lbf.In (2.12 N.m) LXM05BD17M2, 200...240 V, single phase 18.76 Lbf.In (2.12 N.m) LXM05CD17M2, 200...240 V, single phase 19.5 Lbf.In (2.2 N.m) LXM15LD10N4, 480 V, three phase 18.76 Lbf.In (2.12 N.m) LXM05AD17M3X, 200...240 V, three phase 18.76 Lbf.In (2.12 N.m) LXM05AD14N4, 380...480 V, three phase 18.76 Lbf.In (2.12 N.m) LXM05BD17M3X, 200...240 V, three phase 18.76 Lbf.In (2.12 N.m) LXM05BD14N4, 380...480 V, three phase 18.76 Lbf.In (2.12 N.m) LXM05CD17M3X, 200...240 V, three phase 18.76 Lbf.In (2.12 N.m) LXM05CD14N4, 380...480 V, three phase 19.5 Lbf.In (2.2 N.m) LXM15LD10N4, 230 V, three phase 19.5 lbf.in (2.2 N.m) LXM15LD10N4, 400 V, three phase

Peak stall torque	67.3 Lbf.In (7.6 N.m) LXM32.D12N4 3 A, 400 V, three phase 67.3 Lbf.In (7.6 N.m) LXM32.D12N4 3 A, 480 V, three phase 49.83 Lbf.In (5.63 N.m) LXM15LD13M3, 230 V, single phase 40.45 Lbf.In (4.57 N.m) LXM05AD10M2, 200...240 V, single phase 49.83 Lbf.In (5.63 N.m) LXM05AD17M2, 200...240 V, single phase 40.45 Lbf.In (4.57 N.m) LXM05BD10M2, 200...240 V, single phase 49.83 Lbf.In (5.63 N.m) LXM05BD17M2, 200...240 V, single phase 40.45 Lbf.In (4.57 N.m) LXM05CD10M2, 200...240 V, single phase 49.83 Lbf.In (5.63 N.m) LXM05CD17M2, 200...240 V, single phase 42.93 Lbf.In (4.85 N.m) LXM15LD10N4, 230 V, three phase 42.93 Lbf.In (4.85 N.m) LXM15LD10N4, 400 V, three phase 42.93 Lbf.In (4.85 N.m) LXM15LD10N4, 480 V, three phase 40.45 Lbf.In (4.57 N.m) LXM05AD10M3X, 200...240 V, three phase 49.83 Lbf.In (5.63 N.m) LXM05AD17M3X, 200...240 V, three phase 49.83 Lbf.In (5.63 N.m) LXM05AD14N4, 380...480 V, three phase 40.45 Lbf.In (4.57 N.m) LXM05BD10M3X, 200...240 V, three phase 49.83 Lbf.In (5.63 N.m) LXM05BD17M3X, 200...240 V, three phase 49.83 Lbf.In (5.63 N.m) LXM05BD14N4, 380...480 V, three phase 40.45 Lbf.In (4.57 N.m) LXM05CD10M3X, 200...240 V, three phase 49.83 Lbf.In (5.63 N.m) LXM05CD17M3X, 200...240 V, three phase 49.83 lbf.in (5.63 N.m) LXM05CD14N4, 380...480 V, three phase
Nominal output power	850 W LXM32.D12N4 3 A, 400 V, three phase 850 W LXM32.D12N4 3 A, 480 V, three phase 1000 W LXM15LD10N4, 400 V, three phase 597 W LXM15LD13M3, 230 V, single phase 600 W LXM05AD10M2, 200...240 V, single phase 600 W LXM05AD17M2, 200...240 V, single phase 600 W LXM05BD10M2, 200...240 V, single phase 600 W LXM05BD17M2, 200...240 V, single phase 600 W LXM05CD10M2, 200...240 V, single phase 600 W LXM05CD17M2, 200...240 V, single phase 1300 W LXM15LD10N4, 480 V, three phase 597 W LXM15LD10N4, 230 V, three phase 600 W LXM05AD10M3X, 200...240 V, three phase 600 W LXM05AD14N4, 380...480 V, three phase 600 W LXM05AD17M3X, 200...240 V, three phase 600 W LXM05BD10M3X, 200...240 V, three phase 600 W LXM05BD14N4, 380...480 V, three phase 600 W LXM05BD17M3X, 200...240 V, three phase 600 W LXM05CD10M3X, 200...240 V, three phase 600 W LXM05CD14N4, 380...480 V, three phase 600 W LXM05CD17M3X, 200...240 V, three phase

Nominal torque	14.52 Lbf.In (1.64 N.m) LXM32.D12N4 3 A, 400 V, three phase 14.52 Lbf.In (1.64 N.m) LXM32.D12N4 3 A, 480 V, three phase 16.8 Lbf.In (1.9 N.m) LXM05AD10M2, 200...240 V, single phase 16.8 Lbf.In (1.9 N.m) LXM05AD17M2, 200...240 V, single phase 16.8 Lbf.In (1.9 N.m) LXM05BD10M2, 200...240 V, single phase 16.8 Lbf.In (1.9 N.m) LXM05BD17M2, 200...240 V, single phase 16.8 Lbf.In (1.9 N.m) LXM05CD10M2, 200...240 V, single phase 16.8 Lbf.In (1.9 N.m) LXM05CD17M2, 200...240 V, single phase 16.8 Lbf.In (1.9 N.m) LXM15LD13M3, 230 V, single phase 13.72 Lbf.In (1.55 N.m) LXM15LD10N4, 480 V, three phase 14.60 Lbf.In (1.65 N.m) LXM15LD10N4, 400 V, three phase 16.8 Lbf.In (1.9 N.m) LXM05AD10M3X, 200...240 V, three phase 16.8 Lbf.In (1.9 N.m) LXM05AD14N4, 380...480 V, three phase 16.8 Lbf.In (1.9 N.m) LXM05AD17M3X, 200...240 V, three phase 16.8 Lbf.In (1.9 N.m) LXM05BD10M3X, 200...240 V, three phase 16.8 Lbf.In (1.9 N.m) LXM05BD14N4, 380...480 V, three phase 16.8 Lbf.In (1.9 N.m) LXM05BD17M3X, 200...240 V, three phase 16.8 Lbf.In (1.9 N.m) LXM05CD10M3X, 200...240 V, three phase 16.8 Lbf.In (1.9 N.m) LXM05CD14N4, 380...480 V, three phase 16.8 Lbf.In (1.9 N.m) LXM05CD17M3X, 200...240 V, three phase 16.8 lbf.in (1.9 N.m) LXM15LD10N4, 230 V, three phase
Nominal speed	5000 rpm LXM32.D12N4 3 A, 400 V, three phase 5000 rpm LXM32.D12N4 3 A, 480 V, three phase 3000 rpm LXM05AD10M2, 200...240 V, single phase 3000 rpm LXM05BD10M2, 200...240 V, single phase 3000 rpm LXM05CD10M2, 200...240 V, single phase 3000 rpm LXM05AD10M3X, 200...240 V, three phase 3000 rpm LXM05AD14N4, 380...480 V, three phase 3000 rpm LXM05BD10M3X, 200...240 V, three phase 3000 rpm LXM05BD14N4, 380...480 V, three phase 3000 rpm LXM05CD10M3X, 200...240 V, three phase 3000 rpm LXM05CD14N4, 380...480 V, three phase 3000 rpm LXM15LD13M3, 230 V, single phase 3000 rpm LXM05AD17M2, 200...240 V, single phase 3000 rpm LXM05BD17M2, 200...240 V, single phase 3000 rpm LXM05CD17M2, 200...240 V, single phase 3000 rpm LXM05AD17M3X, 200...240 V, three phase 3000 rpm LXM05BD17M3X, 200...240 V, three phase 3000 rpm LXM05CD17M3X, 200...240 V, three phase 8000 rpm LXM15LD10N4, 480 V, three phase 3000 rpm LXM15LD10N4, 230 V, three phase 6000 rpm LXM15LD10N4, 400 V, three phase

Product compatibility	LXM05AD10M2 200...240 V single phase LXM05AD17M2 200...240 V single phase LXM05BD10M2 200...240 V single phase LXM05BD17M2 200...240 V single phase LXM05CD10M2 200...240 V single phase LXM05CD17M2 200...240 V single phase LXM15LD13M3 230 V single phase LXM05AD10M3X 200...240 V three phase LXM05BD10M3X 200...240 V three phase LXM05CD10M3X 200...240 V three phase LXM05AD14N4 380...480 V three phase LXM05BD14N4 380...480 V three phase LXM05CD14N4 380...480 V three phase LXM15LD10N4 400 V three phase LXM05AD17M3X 200...240 V three phase LXM05BD17M3X 200...240 V three phase LXM05CD17M3X 200...240 V three phase LXM32.D12N4 400 V three phase LXM32.D12N4 480 V three phase LXM15LD10N4 230 V three phase LXM15LD10N4 480 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	Straight connectors

Complementary

Range Compatibility	Lexium 05 Lexium 15 Lexium 32
Supply voltage max	480 V
Phase	Three phase
Continuous stall current	2.9 A
Maximum continuous power	1.51 W
Maximum current Irms	11.8 A LXM15LD13M3 11.8 A LXM15LD10N4 11.8 A LXM05AD10M2 11.8 A LXM05AD17M2 11.8 A LXM05AD10M3X 11.8 A LXM05AD17M3X 11.8 A LXM05AD14N4 11.8 A LXM05BD10M2 11.8 A LXM05BD17M2 11.8 A LXM05BD10M3X 11.8 A LXM05BD17M3X 11.8 A LXM05BD14N4 11.8 A LXM05CD10M2 11.8 A LXM05CD17M2 11.8 A LXM05CD10M3X 11.8 A LXM05CD17M3X 11.8 A LXM05CD14N4 11.8 A LXM32.D12N4
Maximum permanent current	11.8 A
Switching frequency	8 kHz
Second shaft	Without second shaft end
Shaft diameter	0.4 in (11 mm)
Shaft length	0.9 in (23 mm)
Key width	0.7 in (18 mm)
Feedback type	Single turn SinCos Hiperface
Motor flange size	2.8 in (70 mm)
Number of motor stacks	2
Torque constant	0.77 N.m/A 248.0000000000 °F (120 °C)
Back emf constant	48 V/krpm 248.0000000000 °F (120 °C)
Number of motor poles	6

Rotor inertia	0.41 kg.cm ²
Stator resistance	4.2 Ohm 68.0000000000 °F (20 °C)
Stator inductance	19 mH 68.0000000000 °F (20 °C)
Stator electrical time constant	4.52 ms 68.0000000000 °F (20 °C)
Maximum radial force Fr	390 N 6000 rpm 410 N 5000 rpm 450 N 4000 rpm 490 N 3000 rpm 560 N 2000 rpm 710 N 1000 rpm
Maximum axial force Fa	0.2 x Fr
Type of cooling	Natural convection
Length	7.4 in (187 mm)
Centring collar diameter	2.4 in (60 mm)
Centring collar depth	0.10 in (2.5 mm)
Number of mounting holes	4
Mounting holes diameter	0.2 in (5.5 mm)
Circle diameter of the mounting holes	3.2 in (82 mm)
Net Weight	6.37 lb(US) (2.89 kg)

Ordering and shipping details

Category	US1PC5318282
Discount Schedule	PC53
GTIN	3389118136427
Returnability	No
Country of origin	DE

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	4.8 in (12.3 cm)
Package 1 Width	5.04 in (12.8 cm)
Package 1 Length	14.8 in (37.7 cm)
Package 1 Weight	6.2 lb(US) (2.8 kg)

Offer Sustainability

Sustainable offer status	Green Premium product
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov
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	c3	h	h1	Ø	Ø1 for screws
b1	b2	b1	b2									
39.5	25.5	39.5	39.5	187	213	23	18	2.5	4 N9	2.5 ^{+0.1} ₀	11 k6	M4 x 10

Dimensions in in.

Straight connectors		Rotatable angled connectors		c (without brake)	c (with brake)	c1	c2	c3	h	h1	Ø	Ø1 for screws
b1	b2	b1	b2									
1.55	1.00	1.55	1.55	7.36	8.38	0.90	0.70	0.09	0.16 N9	0.01 ^{+0.004} ₀	0.43 k6	M4 x 0.39

400 V 3-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D12N4 servo drive



X Speed in rpm

Y Torque in Nm

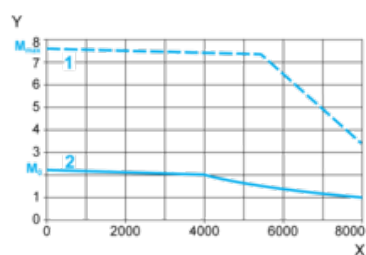
1 Peak torque

2 Continuous torque

480 V 3-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D12N4 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque