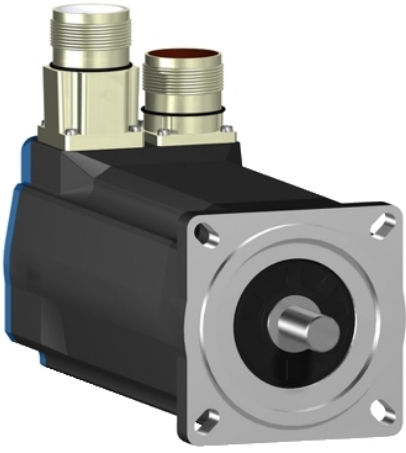


# BSH0703P12A1A

servo motor BSH, Lexium 05, 1.1N.m,  
3000rpm, 70mm, keyed shaft, Sincos multi  
turn, without brake, IP50, straight





## Main

Product or Component Type	Servo motor
Device short name	BSH
Maximum mechanical speed	8000 rpm
Continuous stall torque	<p>25.05 Lbf.In (2.83 N.m) LXM15LD21M3, 230 V, single phase</p> <p>9.74 Lbf.In (1.1 N.m) LXM15LU60N4, 480 V, three phase</p> <p>9.74 Lbf.In (1.1 N.m) LXM15LU60N4, 400 V, three phase</p> <p>13.28 Lbf.In (1.5 N.m) LXM15LU60N4, 230 V, three phase</p> <p>19.74 Lbf.In (2.23 N.m) LXM15LD13M3, 230 V, three phase</p> <p>21.24 Lbf.In (2.4 N.m) LXM15LD10N4, 230 V, three phase</p> <p>21.24 Lbf.In (2.4 N.m) LXM15LD10N4, 400 V, three phase</p> <p>21.24 Lbf.In (2.4 N.m) LXM15LD10N4, 480 V, three phase</p> <p>25.05 Lbf.In (2.83 N.m) LXM15LD17N4, 230 V, three phase</p> <p>25.05 Lbf.In (2.83 N.m) LXM15LD17N4, 400 V, three phase</p> <p>25.05 Lbf.In (2.83 N.m) LXM15LD17N4, 480 V, three phase</p> <p>25.05 Lbf.In (2.83 N.m) LXM15LD21M3, 230 V, three phase</p> <p>24.78 Lbf.In (2.8 N.m) LXM05AD17M2, 200...240 V, single phase</p> <p>24.78 Lbf.In (2.8 N.m) LXM05AD17M3X, 200...240 V, three phase</p> <p>24.78 Lbf.In (2.8 N.m) LXM05AD22N4, 380...480 V, three phase</p> <p>24.78 Lbf.In (2.8 N.m) LXM05AD28M2, 200...240 V, single phase</p> <p>24.78 Lbf.In (2.8 N.m) LXM05BD17M2, 200...240 V, single phase</p> <p>24.78 Lbf.In (2.8 N.m) LXM05BD17M3X, 200...240 V, three phase</p> <p>24.78 Lbf.In (2.8 N.m) LXM05BD22N4, 380...480 V, three phase</p> <p>24.78 Lbf.In (2.8 N.m) LXM05BD28M2, 200...240 V, single phase</p> <p>24.78 Lbf.In (2.8 N.m) LXM05CD17M2, 200...240 V, single phase</p> <p>24.78 Lbf.In (2.8 N.m) LXM05CD17M3X, 200...240 V, three phase</p> <p>24.78 Lbf.In (2.8 N.m) LXM05CD22N4, 380...480 V, three phase</p> <p>24.78 Lbf.In (2.8 N.m) LXM05CD28M2, 200...240 V, single phase</p> <p>27.44 Lbf.In (3.1 N.m) LXM32.D18N4 6 A, 400 V, three phase</p> <p>27.44 lbf.in (3.1 N.m) LXM32.D18N4 6 A, 480 V, three phase</p>

Peak stall torque	<p>53.02 Lbf.In (5.99 N.m) LXM15LD21M3, 230 V, single phase</p> <p>63.37 Lbf.In (7.16 N.m) LXM05AD17M2, 200...240 V, single phase</p> <p>91.16 Lbf.In (10.3 N.m) LXM05AD28M2, 200...240 V, single phase</p> <p>63.37 Lbf.In (7.16 N.m) LXM05BD17M2, 200...240 V, single phase</p> <p>91.16 Lbf.In (10.3 N.m) LXM05BD28M2, 200...240 V, single phase</p> <p>63.37 Lbf.In (7.16 N.m) LXM05CD17M2, 200...240 V, single phase</p> <p>91.16 Lbf.In (10.3 N.m) LXM05CD28M2, 200...240 V, single phase</p> <p>29.21 Lbf.In (3.3 N.m) LXM15LU60N4, 480 V, three phase</p> <p>29.21 Lbf.In (3.3 N.m) LXM15LU60N4, 400 V, three phase</p> <p>29.21 Lbf.In (3.3 N.m) LXM15LU60N4, 230 V, three phase</p> <p>53.10 Lbf.In (6 N.m) LXM15LD13M3, 230 V, three phase</p> <p>46.91 Lbf.In (5.3 N.m) LXM15LD10N4, 230 V, three phase</p> <p>46.91 Lbf.In (5.3 N.m) LXM15LD10N4, 400 V, three phase</p> <p>46.91 Lbf.In (5.3 N.m) LXM15LD10N4, 480 V, three phase</p> <p>68.24 Lbf.In (7.71 N.m) LXM15LD17N4, 230 V, three phase</p> <p>68.24 Lbf.In (7.71 N.m) LXM15LD17N4, 400 V, three phase</p> <p>68.24 Lbf.In (7.71 N.m) LXM15LD17N4, 480 V, three phase</p> <p>82.13 Lbf.In (9.28 N.m) LXM15LD21M3, 230 V, three phase</p> <p>63.37 Lbf.In (7.16 N.m) LXM05AD17M3X, 200...240 V, three phase</p> <p>77.44 Lbf.In (8.75 N.m) LXM05AD22N4, 380...480 V, three phase</p> <p>63.37 Lbf.In (7.16 N.m) LXM05BD17M3X, 200...240 V, three phase</p> <p>77.44 Lbf.In (8.75 N.m) LXM05BD22N4, 380...480 V, three phase</p> <p>63.37 Lbf.In (7.16 N.m) LXM05CD17M3X, 200...240 V, three phase</p> <p>77.44 Lbf.In (8.75 N.m) LXM05CD22N4, 380...480 V, three phase</p> <p>100.01 Lbf.In (11.3 N.m) LXM32.D18N4 6 A, 400 V, three phase</p> <p>100.01 lbf.in (11.3 N.m) LXM32.D18N4 6 A, 480 V, three phase</p>
Nominal output power	<p>750 W LXM05AD17M2, 200...240 V, single phase</p> <p>750 W LXM05AD28M2, 200...240 V, single phase</p> <p>750 W LXM05BD17M2, 200...240 V, single phase</p> <p>750 W LXM05BD28M2, 200...240 V, single phase</p> <p>750 W LXM05CD17M2, 200...240 V, single phase</p> <p>750 W LXM05CD28M2, 200...240 V, single phase</p> <p>750 W LXM15LD21M3, 230 V, single phase</p> <p>1250 W LXM15LD10N4, 400 V, three phase</p> <p>1300 W LXM15LD17N4, 400 V, three phase</p> <p>1400 W LXM15LD17N4, 480 V, three phase</p> <p>1500 W LXM15LD10N4, 480 V, three phase</p> <p>350 W LXM15LU60N4, 230 V, three phase</p> <p>700 W LXM15LD13M3, 230 V, three phase</p> <p>700 W LXM15LU60N4, 400 V, three phase</p> <p>750 W LXM05AD17M3X, 200...240 V, three phase</p> <p>750 W LXM05AD22N4, 380...480 V, three phase</p> <p>750 W LXM05BD17M3X, 200...240 V, three phase</p> <p>750 W LXM05BD22N4, 380...480 V, three phase</p> <p>750 W LXM05CD17M3X, 200...240 V, three phase</p> <p>750 W LXM05CD22N4, 380...480 V, three phase</p> <p>750 W LXM15LD10N4, 230 V, three phase</p> <p>750 W LXM15LD17N4, 230 V, three phase</p> <p>750 W LXM15LD21M3, 230 V, three phase</p> <p>950 W LXM15LU60N4, 480 V, three phase</p> <p>1300 W LXM32.D18N4 6 A, 400 V, three phase</p> <p>1300 W LXM32.D18N4 6 A, 480 V, three phase</p>

Nominal torque	21.24 Lbf.In (2.4 N.m) LXM05AD17M2, 200...240 V, single phase
	21.24 Lbf.In (2.4 N.m) LXM05AD28M2, 200...240 V, single phase
	21.24 Lbf.In (2.4 N.m) LXM05BD17M2, 200...240 V, single phase
	21.24 Lbf.In (2.4 N.m) LXM05BD28M2, 200...240 V, single phase
	21.24 Lbf.In (2.4 N.m) LXM05CD17M2, 200...240 V, single phase
	21.24 Lbf.In (2.4 N.m) LXM05CD28M2, 200...240 V, single phase
	21.24 Lbf.In (2.4 N.m) LXM15LD21M3, 230 V, single phase
	9.91 Lbf.In (1.12 N.m) LXM15LU60N4, 230 V, three phase
	9.91 Lbf.In (1.12 N.m) LXM15LU60N4, 400 V, three phase
	9.91 Lbf.In (1.12 N.m) LXM15LU60N4, 480 V, three phase
	15.93 Lbf.In (1.8 N.m) LXM15LD10N4, 480 V, three phase
	17.35 Lbf.In (1.96 N.m) LXM15LD17N4, 480 V, three phase
	17.70 Lbf.In (2 N.m) LXM15LD10N4, 400 V, three phase
	17.70 Lbf.In (2 N.m) LXM15LD17N4, 400 V, three phase
	19.74 Lbf.In (2.23 N.m) LXM15LD13M3, 230 V, three phase
	21.24 Lbf.In (2.4 N.m) LXM05AD17M3X, 200...240 V, three phase
	21.24 Lbf.In (2.4 N.m) LXM05AD22N4, 380...480 V, three phase
	21.24 Lbf.In (2.4 N.m) LXM05BD17M3X, 200...240 V, three phase
	21.24 Lbf.In (2.4 N.m) LXM05BD22N4, 380...480 V, three phase
	21.24 Lbf.In (2.4 N.m) LXM05CD17M3X, 200...240 V, three phase
	21.24 Lbf.In (2.4 N.m) LXM05CD22N4, 380...480 V, three phase
	21.24 Lbf.In (2.4 N.m) LXM15LD10N4, 230 V, three phase
	21.24 Lbf.In (2.4 N.m) LXM15LD17N4, 230 V, three phase
	21.24 Lbf.In (2.4 N.m) LXM15LD21M3, 230 V, three phase
	21.60 Lbf.In (2.44 N.m) LXM32.D18N4 6 A, 400 V, three phase
	21.60 lbf.in (2.44 N.m) LXM32.D18N4 6 A, 480 V, three phase

Nominal speed	<p>3000 rpm LXM15LD13M3, 230 V, three 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  3000 rpm LXM15LU60N4, 230 V, three phase  8000 rpm LXM15LD10N4, 480 V, three phase  8000 rpm LXM15LU60N4, 480 V, three phase  3000 rpm LXM15LD10N4, 230 V, three phase  6000 rpm LXM15LD10N4, 400 V, three 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 LXM15LD21M3, 230 V, single phase  3000 rpm LXM05AD22N4, 380...480 V, three phase  3000 rpm LXM05BD22N4, 380...480 V, three phase  3000 rpm LXM05CD22N4, 380...480 V, three phase  3000 rpm LXM15LD17N4, 230 V, three phase  3000 rpm LXM15LD21M3, 230 V, three phase  6000 rpm LXM15LD17N4, 400 V, three phase  6000 rpm LXM15LU60N4, 400 V, three phase  7000 rpm LXM15LD17N4, 480 V, three phase  5000 rpm LXM32.D18N4 6 A, 400 V, three phase  5000 rpm LXM32.D18N4 6 A, 480 V, three phase</p>
Product compatibility	<p>LXM05AD17M2 200...240 V single phase  LXM05AD28M2 200...240 V single phase  LXM05BD17M2 200...240 V single phase  LXM05BD28M2 200...240 V single phase  LXM05CD17M2 200...240 V single phase  LXM05CD28M2 200...240 V single phase  LXM15LD21M3 230 V single phase  LXM15LU60N4 230 V three phase  LXM15LD13M3 230 V three phase  LXM15LU60N4 400 V three phase  LXM15LU60N4 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  LXM15LD10N4 230 V three phase  LXM15LD10N4 480 V three phase  LXM15LD21M3 230 V three phase  LXM15LD17N4 230 V three phase  LXM05AD22N4 380...480 V three phase  LXM05BD22N4 380...480 V three phase  LXM05CD22N4 380...480 V three phase  LXM15LD17N4 400 V three phase  LXM15LD17N4 480 V three phase  LXM32.D18N4 400 V three phase  LXM32.D18N4 480 V three phase</p>
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	Straight connectors

## Complementary

Range Compatibility	Lexium 05 Lexium 15 Lexium 32
Supply voltage max	480 V
Phase	Three phase
Continuous stall current	4.1 A
Maximum continuous power	1.7 W
Maximum current Irms	15.2 A LXM15LD13M3 15.2 A LXM15LD21M3 15.2 A LXM15LD17N4 15.2 A LXM15LU60N4 15.2 A LXM15LD10N4 17 A LXM05AD17M2 17 A LXM05AD28M2 17 A LXM05AD17M3X 17 A LXM05AD22N4 17 A LXM05BD17M2 17 A LXM05BD28M2 17 A LXM05BD17M3X 17 A LXM05BD22N4 17 A LXM05CD17M2 17 A LXM05CD28M2 17 A LXM05CD17M3X 17 A LXM05CD22N4 17 A LXM32.D18N4
Maximum permanent current	17 A
Switching frequency	8 kHz
Second shaft	Without second shaft end
Shaft diameter	0.55 in (14 mm)
Shaft length	1.18 in (30 mm)
Key width	0.79 in (20 mm)
Feedback type	Multiturn SinCos Hiperface
Motor flange size	2.76 in (70 mm)
Number of motor stacks	3
Torque constant	0.78 N.m/A 248 °F (120 °C)
Back emf constant	49 V/krpm 248 °F (120 °C)
Number of motor poles	6
Rotor inertia	0.58 kg.cm <sup>2</sup>
Stator resistance	2.7 Ohm 68 °F (20 °C)
Stator inductance	13 mH 68 °F (20 °C)
Stator electrical time constant	4.82 ms 68 °F (20 °C)
Maximum radial force Fr	400 N 6000 rpm 430 N 5000 rpm 460 N 4000 rpm 510 N 3000 rpm 580 N 2000 rpm 730 N 1000 rpm
Maximum axial force Fa	0.2 x Fr
Type of cooling	Natural convection
Length	8.66 in (220 mm)
Centring collar diameter	2.36 in (60 mm)
Centring collar depth	0.10 in (2.5 mm)
Number of mounting holes	4
Mounting holes diameter	0.22 in (5.5 mm)
Circle diameter of the mounting holes	3.23 in (82 mm)
Net Weight	7.98 lb(US) (3.62 kg)

## Ordering and shipping details

Category	18282-LEXIUM 32 MOTORS
Discount Schedule	PC53
GTIN	3389118137240
Returnability	No
Country of origin	DE

## Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	4.84 in (12.3 cm)
Package 1 Width	5.04 in (12.8 cm)
Package 1 Length	14.84 in (37.7 cm)
Package 1 Weight	7.94 lb(US) (3.6 kg)

## Offer Sustainability

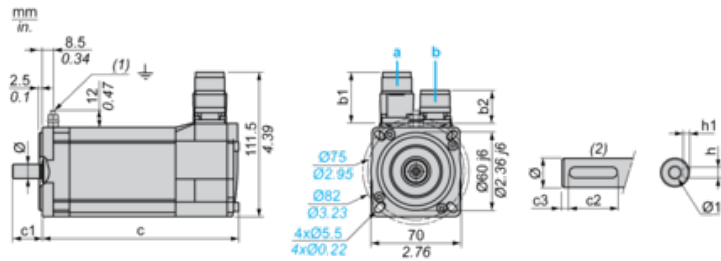
Sustainable offer status	Green Premium product
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>
REACH Regulation	<a href="#">REACH Declaration</a>
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
Mercury free	Yes
China RoHS Regulation	<a href="#">China RoHS Declaration</a>
RoHS exemption information	<a href="#">Yes</a>
Environmental Disclosure	<a href="#">Product Environmental Profile</a>
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
----------	-----------

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	220	254	30	20	5	5 N9	$3^{+0.1}_0$	14 k6	M5 x 12.5

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	8.66	10.00	1.18	0.78	0.19	0.20 N9	$0.12^{+0.004}_0$	0.55 k6	M5 x 0.49

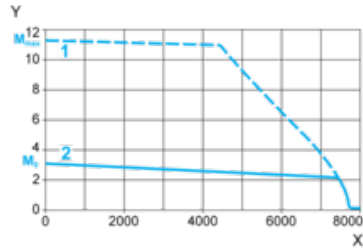
---

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

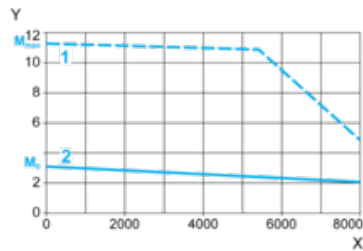
---

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