

# BSH0703P22A2A

AC servo motor BSH - 1.1 N.m - 3000 rpm -  
untapped shaft - without brake - IP65



## Main

Product or component type	Servo motor
Device short name	BSH
Maximum mechanical speed	8000 rpm
Continuous stall torque	<p>2.83 N.m for LXM15LD21M3, 230 V, single phase</p> <p>1.1 N.m for LXM15LU60N4, 480 V, three phase</p> <p>1.1 N.m for LXM15LU60N4, 400 V, three phase</p> <p>1.5 N.m for LXM15LU60N4, 230 V, three phase</p> <p>2.23 N.m for LXM15LD13M3, 230 V, three phase</p> <p>2.4 N.m for LXM15LD10N4, 230 V, three phase</p> <p>2.4 N.m for LXM15LD10N4, 400 V, three phase</p> <p>2.4 N.m for LXM15LD10N4, 480 V, three phase</p> <p>2.83 N.m for LXM15LD17N4, 230 V, three phase</p> <p>2.83 N.m for LXM15LD17N4, 400 V, three phase</p> <p>2.83 N.m for LXM15LD17N4, 480 V, three phase</p> <p>2.83 N.m for LXM15LD21M3, 230 V, three phase</p> <p>2.8 N.m for LXM05AD17M2, 200...240 V, single phase</p> <p>2.8 N.m for LXM05AD17M3X, 200...240 V, three phase</p> <p>2.8 N.m for LXM05AD22N4, 380...480 V, three phase</p> <p>2.8 N.m for LXM05AD28M2, 200...240 V, single phase</p> <p>2.8 N.m for LXM05BD17M2, 200...240 V, single phase</p> <p>2.8 N.m for LXM05BD17M3X, 200...240 V, three phase</p> <p>2.8 N.m for LXM05BD22N4, 380...480 V, three phase</p> <p>2.8 N.m for LXM05BD28M2, 200...240 V, single phase</p> <p>2.8 N.m for LXM05CD17M2, 200...240 V, single phase</p> <p>2.8 N.m for LXM05CD17M3X, 200...240 V, three phase</p> <p>2.8 N.m for LXM05CD22N4, 380...480 V, three phase</p> <p>2.8 N.m for LXM05CD28M2, 200...240 V, single phase</p> <p>3.1 N.m for LXM32.D18N4 at 6 A, 400 V, three phase</p> <p>3.1 N.m for LXM32.D18N4 at 6 A, 480 V, three phase</p>
Peak stall torque	<p>5.99 N.m for LXM15LD21M3, 230 V, single phase</p> <p>7.16 N.m for LXM05AD17M2, 200...240 V, single phase</p> <p>10.3 N.m for LXM05AD28M2, 200...240 V, single phase</p> <p>7.16 N.m for LXM05BD17M2, 200...240 V, single phase</p> <p>10.3 N.m for LXM05BD28M2, 200...240 V, single phase</p> <p>7.16 N.m for LXM05CD17M2, 200...240 V, single phase</p> <p>10.3 N.m for LXM05CD28M2, 200...240 V, single phase</p> <p>3.3 N.m for LXM15LU60N4, 480 V, three phase</p> <p>3.3 N.m for LXM15LU60N4, 400 V, three phase</p>

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

	<p>3.3 N.m for LXM15LU60N4, 230 V, three phase  6 N.m for LXM15LD13M3, 230 V, three phase  5.3 N.m for LXM15LD10N4, 230 V, three phase  5.3 N.m for LXM15LD10N4, 400 V, three phase  5.3 N.m for LXM15LD10N4, 480 V, three phase  7.71 N.m for LXM15LD17N4, 230 V, three phase  7.71 N.m for LXM15LD17N4, 400 V, three phase  7.71 N.m for LXM15LD17N4, 480 V, three phase  9.28 N.m for LXM15LD21M3, 230 V, three phase  7.16 N.m for LXM05AD17M3X, 200...240 V, three phase  8.75 N.m for LXM05AD22N4, 380...480 V, three phase  7.16 N.m for LXM05BD17M3X, 200...240 V, three phase  8.75 N.m for LXM05BD22N4, 380...480 V, three phase  7.16 N.m for LXM05CD17M3X, 200...240 V, three phase  8.75 N.m for LXM05CD22N4, 380...480 V, three phase  11.3 N.m for LXM32.D18N4 at 6 A, 400 V, three phase  11.3 N.m for LXM32.D18N4 at 6 A, 480 V, three phase</p>
Nominal output power	<p>750 W for LXM05AD17M2, 200...240 V, single phase  750 W for LXM05AD28M2, 200...240 V, single phase  750 W for LXM05BD17M2, 200...240 V, single phase  750 W for LXM05BD28M2, 200...240 V, single phase  750 W for LXM05CD17M2, 200...240 V, single phase  750 W for LXM05CD28M2, 200...240 V, single phase  750 W for LXM15LD21M3, 230 V, single phase  1250 W for LXM15LD10N4, 400 V, three phase  1300 W for LXM15LD17N4, 400 V, three phase  1400 W for LXM15LD17N4, 480 V, three phase  1500 W for LXM15LD10N4, 480 V, three phase  350 W for LXM15LU60N4, 230 V, three phase  700 W for LXM15LD13M3, 230 V, three phase  700 W for LXM15LU60N4, 400 V, three phase  750 W for LXM05AD17M3X, 200...240 V, three phase  750 W for LXM05AD22N4, 380...480 V, three phase  750 W for LXM05BD17M3X, 200...240 V, three phase  750 W for LXM05BD22N4, 380...480 V, three phase  750 W for LXM05CD17M3X, 200...240 V, three phase  750 W for LXM05CD22N4, 380...480 V, three phase  750 W for LXM15LD10N4, 230 V, three phase  750 W for LXM15LD17N4, 230 V, three phase  750 W for LXM15LD21M3, 230 V, three phase  950 W for LXM15LU60N4, 480 V, three phase  1300 W for LXM32.D18N4 at 6 A, 400 V, three phase  1300 W for LXM32.D18N4 at 6 A, 480 V, three phase</p>
Nominal torque	<p>2.4 N.m for LXM05AD17M2, 200...240 V, single phase  2.4 N.m for LXM05AD28M2, 200...240 V, single phase  2.4 N.m for LXM05BD17M2, 200...240 V, single phase  2.4 N.m for LXM05BD28M2, 200...240 V, single phase  2.4 N.m for LXM05CD17M2, 200...240 V, single phase  2.4 N.m for LXM05CD28M2, 200...240 V, single phase  2.4 N.m for LXM15LD21M3, 230 V, single phase  1.12 N.m for LXM15LU60N4, 230 V, three phase  1.12 N.m for LXM15LU60N4, 400 V, three phase  1.12 N.m for LXM15LU60N4, 480 V, three phase  1.8 N.m for LXM15LD10N4, 480 V, three phase  1.96 N.m for LXM15LD17N4, 480 V, three phase  2 N.m for LXM15LD10N4, 400 V, three phase  2 N.m for LXM15LD17N4, 400 V, three phase  2.23 N.m for LXM15LD13M3, 230 V, three phase  2.4 N.m for LXM05AD17M3X, 200...240 V, three phase  2.4 N.m for LXM05AD22N4, 380...480 V, three phase  2.4 N.m for LXM05BD17M3X, 200...240 V, three phase  2.4 N.m for LXM05BD22N4, 380...480 V, three phase  2.4 N.m for LXM05CD17M3X, 200...240 V, three phase  2.4 N.m for LXM05CD22N4, 380...480 V, three phase  2.4 N.m for LXM15LD10N4, 230 V, three phase  2.4 N.m for LXM15LD17N4, 230 V, three phase  2.4 N.m for LXM15LD21M3, 230 V, three phase  2.44 N.m for LXM32.D18N4 at 6 A, 400 V, three phase  2.44 N.m for LXM32.D18N4 at 6 A, 480 V, three phase</p>
Nominal speed	<p>3000 rpm for LXM15LD13M3, 230 V, three phase  3000 rpm for LXM05AD17M2, 200...240 V, single phase  3000 rpm for LXM05BD17M2, 200...240 V, single phase  3000 rpm for LXM05CD17M2, 200...240 V, single phase  3000 rpm for LXM05AD17M3X, 200...240 V, three phase  3000 rpm for LXM05BD17M3X, 200...240 V, three phase</p>

3000 rpm for LXM05CD17M3X, 200...240 V, three phase  
 3000 rpm for LXM15LU60N4, 230 V, three phase  
 8000 rpm for LXM15LD10N4, 480 V, three phase  
 8000 rpm for LXM15LU60N4, 480 V, three phase  
 3000 rpm for LXM15LD10N4, 230 V, three phase  
 6000 rpm for LXM15LD10N4, 400 V, three phase  
 3000 rpm for LXM05AD28M2, 200...240 V, single phase  
 3000 rpm for LXM05BD28M2, 200...240 V, single phase  
 3000 rpm for LXM05CD28M2, 200...240 V, single phase  
 3000 rpm for LXM15LD21M3, 230 V, single phase  
 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  
 3000 rpm for LXM15LD17N4, 230 V, three phase  
 3000 rpm for LXM15LD21M3, 230 V, three phase  
 6000 rpm for LXM15LD17N4, 400 V, three phase  
 6000 rpm for LXM15LU60N4, 400 V, three phase  
 7000 rpm for LXM15LD17N4, 480 V, three phase  
 5000 rpm for LXM32.D18N4 at 6 A, 400 V, three phase  
 5000 rpm for LXM32.D18N4 at 6 A, 480 V, three phase

Product compatibility	LXM05AD17M2 at 200...240 V single phase LXM05AD28M2 at 200...240 V single phase LXM05BD17M2 at 200...240 V single phase LXM05BD28M2 at 200...240 V single phase LXM05CD17M2 at 200...240 V single phase LXM05CD28M2 at 200...240 V single phase LXM15LD21M3 at 230 V single phase LXM15LU60N4 at 230 V three phase LXM15LD13M3 at 230 V three phase LXM15LU60N4 at 400 V three phase LXM15LU60N4 at 480 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 LXM15LD17N4 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	Untapped
IP degree of protection	IP65 standard IP67 with IP67 kit
Speed feedback resolution	131072 points/turn x 4096 turns
Holding brake	Without
Mounting support	International standard flange
Electrical connection	Rotatable right-angled connectors

## Complementary

Range compatibility	Lexium 05 Lexium 32 Lexium 15
Supply voltage max	480 V
Network number of phases	Three phase
Continuous stall current	4.1 A
Maximum continuous power	1.7 W
Maximum current Irms	15.2 A for LXM15LD13M3 15.2 A for LXM15LD21M3 15.2 A for LXM15LD17N4 15.2 A for LXM15LU60N4 15.2 A for LXM15LD10N4 17 A for LXM05AD17M2 17 A for LXM05AD28M2

17 A for LXM05AD17M3X  
 17 A for LXM05AD22N4  
 17 A for LXM05BD17M2  
 17 A for LXM05BD28M2  
 17 A for LXM05BD17M3X  
 17 A for LXM05BD22N4  
 17 A for LXM05CD17M2  
 17 A for LXM05CD28M2  
 17 A for LXM05CD17M3X  
 17 A for LXM05CD22N4  
 17 A for LXM32.D18N4

Maximum permanent current	17 A
Switching frequency	8 kHz
Second shaft	Without second shaft end
Shaft diameter	14 mm
Shaft length	30 mm
Feedback type	Multiturn SinCos Hiperface
Motor flange size	70 mm
Number of motor stacks	3
Torque constant	0.78 N.m/A at 120 °C
Back emf constant	49 V/krpm at 120 °C
Number of motor poles	6
Rotor inertia	0.58 kg.cm <sup>2</sup>
Stator resistance	2.7 Ohm at 20 °C
Stator inductance	13 mH at 20 °C
Stator electrical time constant	4.82 ms at 20 °C
Maximum radial force Fr	400 N at 6000 rpm 430 N at 5000 rpm 460 N at 4000 rpm 510 N at 3000 rpm 580 N at 2000 rpm 730 N at 1000 rpm
Maximum axial force Fa	0.2 x Fr
Type of cooling	Natural convection
Length	220 mm
Centring collar diameter	60 mm
Centring collar depth	2.5 mm
Number of mounting holes	4
Mounting holes diameter	5.5 mm
Circle diameter of the mounting holes	82 mm
Product weight	3.62 kg

## Offer Sustainability

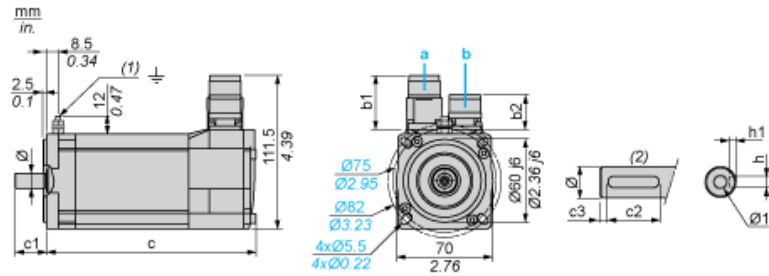
Sustainable offer status	Green Premium product
REACH Regulation	<a href="#">REACH Declaration</a>
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
Mercury free	Yes
RoHS exemption information	<a href="#">Yes</a>
China RoHS Regulation	<a href="#">China RoHS declaration</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

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

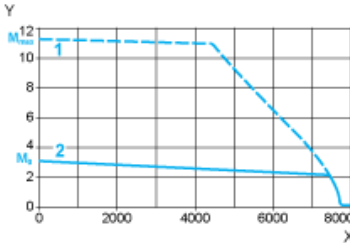
Dimensions in in.

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

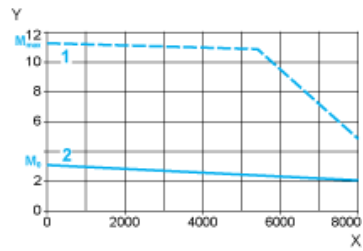
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480 V 3-Phase Supply Voltage

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Torque/Speed Curves

Servo motor with LXM32•D18N4 servo drive



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