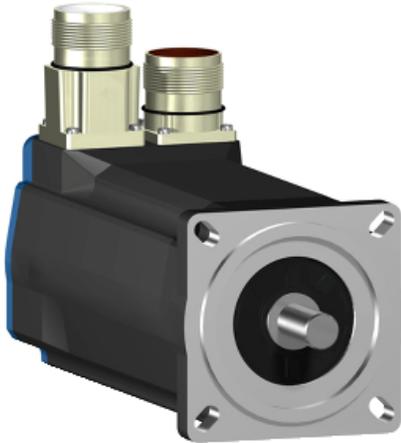


# BSH0702T31A1A

AC servo motor BSH - 2.12 N.m - 6000 rpm -  
keyed shaft - without brake - IP65



## Main

Product or component type	Servo motor
Device short name	BSH
Maximum mechanical speed	8000 rpm
Continuous stall torque	<p>2.2 N.m for LXM32.D30M2 at 10 A, 115 V, single phase</p> <p>2.12 N.m for LXM05AD17M2, 200...240 V, single phase</p> <p>2.12 N.m for LXM05BD17M2, 200...240 V, single phase</p> <p>2.12 N.m for LXM05CD17M2, 200...240 V, single phase</p> <p>2.2 N.m for LXM32.D18M2 at 6 A, 230 V, single phase</p> <p>2.12 N.m for LXM05AD17F1, 110...120 V, single phase</p> <p>2.12 N.m for LXM05AD28M2, 200...240 V, single phase</p> <p>2.12 N.m for LXM05BD17F1, 110...120 V, single phase</p> <p>2.12 N.m for LXM05BD28M2, 200...240 V, single phase</p> <p>2.12 N.m for LXM05CD17F1, 110...120 V, single phase</p> <p>2.12 N.m for LXM05CD28M2, 200...240 V, single phase</p> <p>2.12 N.m for LXM15LD17N4, 230 V, three phase</p> <p>2.12 N.m for LXM15LD21M3, 230 V, three phase</p> <p>2.12 N.m for LXM05AD42M3X, 200...240 V, three phase</p> <p>2.12 N.m for LXM05BD42M3X, 200...240 V, three phase</p> <p>2.12 N.m for LXM05CD42M3X, 200...240 V, three phase</p>
Peak stall torque	<p>6.1 N.m for LXM32.D30M2 at 10 A, 115 V, single phase</p> <p>7.2 N.m for LXM32.D18M2 at 6 A, 230 V, single phase</p> <p>4.14 N.m for LXM05AD17F1, 110...120 V, single phase</p> <p>4.14 N.m for LXM05AD17M2, 200...240 V, single phase</p> <p>4.14 N.m for LXM05BD17F1, 110...120 V, single phase</p> <p>4.14 N.m for LXM05BD17M2, 200...240 V, single phase</p> <p>4.14 N.m for LXM05CD17F1, 110...120 V, single phase</p> <p>4.14 N.m for LXM05CD17M2, 200...240 V, single phase</p> <p>6.8 N.m for LXM05AD28M2, 200...240 V, single phase</p> <p>6.8 N.m for LXM05BD28M2, 200...240 V, single phase</p> <p>6.8 N.m for LXM05CD28M2, 200...240 V, single phase</p> <p>4.47 N.m for LXM15LD17N4, 230 V, three phase</p> <p>5.45 N.m for LXM15LD21M3, 230 V, three phase</p> <p>6.8 N.m for LXM05AD42M3X, 200...240 V, three phase</p> <p>6.8 N.m for LXM05BD42M3X, 200...240 V, three phase</p> <p>6.8 N.m for LXM05CD42M3X, 200...240 V, three phase</p>
Nominal output power	<p>550 W for LXM32.D30M2 at 10 A, 115 V, single phase</p> <p>600 W for LXM05AD17M2, 200...240 V, single 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>600 W for LXM05BD17M2, 200...240 V, single phase  600 W for LXM05CD17M2, 200...240 V, single phase  570 W for LXM05AD17F1, 110...120 V, single phase  570 W for LXM05BD17F1, 110...120 V, single phase  570 W for LXM05CD17F1, 110...120 V, single phase  600 W for LXM05AD28M2, 200...240 V, single phase  600 W for LXM05BD28M2, 200...240 V, single phase  600 W for LXM05CD28M2, 200...240 V, single phase  950 W for LXM32.D18M2 at 6 A, 230 V, single phase  1000 W for LXM15LD17N4, 230 V, three phase  1000 W for LXM15LD21M3, 230 V, three phase  600 W for LXM05AD42M3X, 200...240 V, three phase  600 W for LXM05BD42M3X, 200...240 V, three phase  600 W for LXM05CD42M3X, 200...240 V, three phase</p>
Nominal torque	<p>2.07 N.m for LXM32.D30M2 at 10 A, 115 V, single phase  1.9 N.m for LXM05AD17M2, 200...240 V, single phase  1.9 N.m for LXM05BD17M2, 200...240 V, single phase  1.9 N.m for LXM05CD17M2, 200...240 V, single phase  1.83 N.m for LXM05AD17F1, 110...120 V, single phase  1.83 N.m for LXM05BD17F1, 110...120 V, single phase  1.83 N.m for LXM05CD17F1, 110...120 V, single phase  1.9 N.m for LXM05AD28M2, 200...240 V, single phase  1.9 N.m for LXM05BD28M2, 200...240 V, single phase  1.9 N.m for LXM05CD28M2, 200...240 V, single phase  1.8 N.m for LXM32.D18M2 at 6 A, 230 V, single phase  1.66 N.m for LXM15LD17N4, 230 V, three phase  1.66 N.m for LXM15LD21M3, 230 V, three phase  1.9 N.m for LXM05AD42M3X, 200...240 V, three phase  1.9 N.m for LXM05BD42M3X, 200...240 V, three phase  1.9 N.m for LXM05CD42M3X, 200...240 V, three phase</p>
Nominal speed	<p>2500 rpm for LXM32.D30M2 at 10 A, 115 V, single phase  3000 rpm for LXM05AD17F1, 110...120 V, single phase  3000 rpm for LXM05BD17F1, 110...120 V, single phase  3000 rpm for LXM05CD17F1, 110...120 V, single 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 LXM05AD28M2, 200...240 V, single phase  3000 rpm for LXM05BD28M2, 200...240 V, single phase  3000 rpm for LXM05CD28M2, 200...240 V, single phase  5000 rpm for LXM32.D18M2 at 6 A, 230 V, single phase  3000 rpm for LXM05AD42M3X, 200...240 V, three phase  3000 rpm for LXM05BD42M3X, 200...240 V, three phase  3000 rpm for LXM05CD42M3X, 200...240 V, three phase  6000 rpm for LXM15LD17N4, 230 V, three phase  6000 rpm for LXM15LD21M3, 230 V, three phase</p>
Product compatibility	<p>LXM05AD17F1 at 110...120 V single phase  LXM05AD17M2 at 200...240 V single phase  LXM05AD28M2 at 200...240 V single phase  LXM05BD17F1 at 110...120 V single phase  LXM05BD17M2 at 200...240 V single phase  LXM05BD28M2 at 200...240 V single phase  LXM05CD17F1 at 110...120 V single phase  LXM05CD17M2 at 200...240 V single phase  LXM05CD28M2 at 200...240 V single phase  LXM32.D30M2 at 115 V single phase  LXM32.D18M2 at 230 V single phase  LXM15LD21M3 at 230 V three phase  LXM05AD42M3X at 200...240 V three phase  LXM05BD42M3X at 200...240 V three phase  LXM05CD42M3X at 200...240 V three phase  LXM15LD17N4 at 230 V three phase</p>
Shaft end	Keyed
IP degree of protection	<p>IP65 standard  IP67 with IP67 kit</p>
Speed feedback resolution	131072 points/turn
Holding brake	Without
Mounting support	International standard flange
Electrical connection	Straight connectors

## Complementary

Range compatibility	Lexium 32 Lexium 15 Lexium 05
Supply voltage max	480 V
Network number of phases	Three phase
Continuous stall current	4.9 A
Maximum continuous power	1.51 W
Maximum current Irms	20.6 A for LXM15LD21M3 20.6 A for LXM15LD17N4 19.9 A for LXM05AD17F1 19.9 A for LXM05AD17M2 19.9 A for LXM05AD28M2 19.9 A for LXM05AD42M3X 19.9 A for LXM05BD17F1 19.9 A for LXM05BD17M2 19.9 A for LXM05BD28M2 19.9 A for LXM05BD42M3X 19.9 A for LXM05CD17F1 19.9 A for LXM05CD17M2 19.9 A for LXM05CD28M2 19.9 A for LXM05CD42M3X 15 A for LXM32.D30M2 18 A for LXM32.D18M2
Maximum permanent current	19.9 A
Switching frequency	8 kHz
Second shaft	Without second shaft end
Shaft diameter	11 mm
Shaft length	23 mm
Key width	18 mm
Feedback type	Single turn SinCos Hiperface
Motor flange size	70 mm
Number of motor stacks	2
Torque constant	0.45 N.m/A at 120 °C
Back emf constant	28 V/krpm at 120 °C
Number of motor poles	6
Rotor inertia	0.41 kg.cm <sup>2</sup>
Stator resistance	1.5 Ohm at 20 °C
Stator inductance	6.7 mH at 20 °C
Stator electrical time constant	4.47 ms at 20 °C
Maximum radial force Fr	390 N at 6000 rpm 410 N at 5000 rpm 450 N at 4000 rpm 490 N at 3000 rpm 560 N at 2000 rpm 710 N at 1000 rpm
Maximum axial force Fa	0.2 x Fr
Type of cooling	Natural convection
Length	187 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	2.89 kg

## Offer Sustainability

Sustainable offer status	Green Premium product
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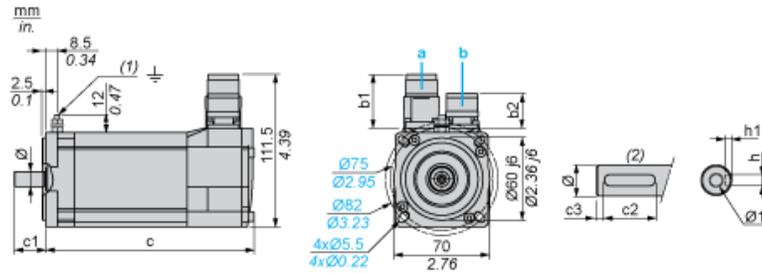
REACH Regulation	<a href="#">REACH Declaration</a>
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
Mercury free	Yes
RoHS exemption information	<a href="#">Yes</a>
China RoHS Regulation	<a href="#">China RoHS declaration</a>
Environmental 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		c (without brak	c (with brak	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 <sup>+0.1</sup> <sub>0</sub>	11 k6	M4 x 10

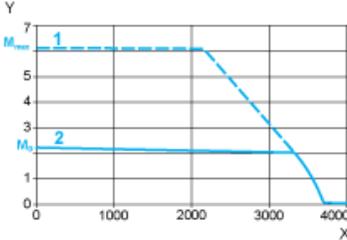
Dimensions in in.

Straight connecto		Rotatable angled		c (without br	c (with br	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 <sup>+0.004</sup> <sub>0</sub>	0.43 k6	M4 x 0.39

115 V Single-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D30M2 servo drive



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

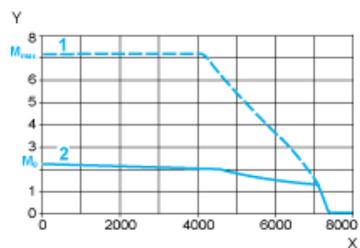
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230 V Single-Phase Supply Voltage

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Torque/Speed Curves

Servo motor with LXM32•D18M2 servo drive



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