

# Product datasheet

Specifications



## AC servo motor BSH - 1.3 N.m - 3000 rpm - untapped shaft - without brake - IP65

BSH0553P22A1A

### Main

<b>Device short name</b>	BSH
<b>Product or component type</b>	Servo motor
<b>Maximum mechanical speed</b>	9000 rpm
<b>Continuous stall torque</b>	<p>1.05 N.m for LXM32.U60N4 at 1.5 A, 480 V, three phase</p> <p>1.05 N.m for LXM32.U60N4 at 1.5 A, 400 V, three phase</p> <p>1.3 N.m for LXM05AD10M2, 200...240 V, single phase</p> <p>1.3 N.m for LXM05BD10M2, 200...240 V, single phase</p> <p>1.3 N.m for LXM05CD10M2, 200...240 V, single phase</p> <p>1.3 N.m for LXM05AD10M3X, 200...240 V, three phase</p> <p>1.3 N.m for LXM05BD10M3X at 1.5 A, 200...240 V, three phase</p> <p>1.3 N.m for LXM05CD10M3X, 200...240 V, three phase</p> <p>1.3 N.m for LXM15LD13M3, 230 V, single phase</p> <p>1.3 N.m for LXM15LD13M3, 230 V, three phase</p> <p>1.3 N.m for LXM15LD10N4, 400 V, three phase</p> <p>1.3 N.m for LXM05AD14N4, 380...480 V, three phase</p> <p>1.3 N.m for LXM05BD14N4, 380...480 V, three phase</p> <p>1.3 N.m for LXM05CD14N4, 380...480 V, three phase</p>
<b>Peak stall torque</b>	<p>3.5 N.m for LXM32.U60N4 at 1.5 A, 480 V, three phase</p> <p>3.5 N.m for LXM32.U60N4 at 1.5 A, 400 V, three phase</p> <p>2.7 N.m for LXM15LD13M3, 230 V, single phase</p> <p>3.18 N.m for LXM05AD10M2, 200...240 V, single phase</p> <p>3.18 N.m for LXM05BD10M2, 200...240 V, single phase</p> <p>3.18 N.m for LXM05CD10M2, 200...240 V, single phase</p> <p>2.7 N.m for LXM15LD13M3 at 1.5 A, 230 V, three phase</p> <p>3.87 N.m for LXM15LD10N4, 400 V, three phase</p> <p>3.18 N.m for LXM05AD10M3X, 200...240 V, three phase</p> <p>3.87 N.m for LXM05AD14N4, 380...480 V, three phase</p> <p>3.18 N.m for LXM05BD10M3X, 200...240 V, three phase</p> <p>3.87 N.m for LXM05BD14N4, 380...480 V, three phase</p> <p>3.18 N.m for LXM05CD10M3X, 200...240 V, three phase</p> <p>3.87 N.m for LXM05CD14N4, 380...480 V, three phase</p>
<b>Nominal output power</b>	<p>400 W for LXM32.U60N4 at 1.5 A, 400 V, three phase</p> <p>400 W for LXM32.U60N4 at 1.5 A, 480 V, three phase</p> <p>340 W for LXM15LD13M3, 230 V, three phase</p> <p>340 W for LXM15LD13M3, 230 V, single phase</p> <p>350 W for LXM05AD10M2, 200...240 V, single phase</p> <p>350 W for LXM05BD10M2, 200...240 V, single phase</p> <p>350 W for LXM05CD10M2 at 1.5 A, 200...240 V, single phase</p> <p>350 W for LXM05AD10M3X, 200...240 V, three phase</p> <p>350 W for LXM05AD14N4, 380...480 V, three phase</p> <p>350 W for LXM05BD10M3X, 200...240 V, three phase</p> <p>350 W for LXM05BD14N4, 380...480 V, three phase</p> <p>350 W for LXM05CD10M3X, 200...240 V, three phase</p> <p>350 W for LXM05CD14N4, 380...480 V, three phase</p> <p>670 W for LXM15LD10N4, 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

<b>Nominal torque</b>	<p>0.65 N.m for LXM32.U60N4 at 1.5 A, 400 V, three phase  0.65 N.m for LXM32.U60N4 at 1.5 A, 480 V, three phase  1.08 N.m for LXM15LD13M3, 230 V, single phase  1.1 N.m for LXM05AD10M2, 200...240 V, single phase  1.1 N.m for LXM05BD10M2, 200...240 V, single phase  1.1 N.m for LXM05CD10M2, 200...240 V, single phase  0.8 N.m for LXM15LD10N4 at 1.5 A, 400 V, three phase  1.08 N.m for LXM15LD13M3, 230 V, three phase  1.1 N.m for LXM05AD10M3X, 200...240 V, three phase  1.1 N.m for LXM05AD14N4, 380...480 V, three phase  1.1 N.m for LXM05BD10M3X, 200...240 V, three phase  1.1 N.m for LXM05BD14N4, 380...480 V, three phase  1.1 N.m for LXM05CD10M3X, 200...240 V, three phase  1.1 N.m for LXM05CD14N4, 380...480 V, three phase</p>
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<b>Nominal speed</b>	<p>6000 rpm for LXM32.U60N4 at 1.5 A, 400 V, three phase  6000 rpm for LXM32.U60N4 at 1.5 A, 480 V, three phase  3000 rpm for LXM05AD10M2, 200...240 V, single phase  3000 rpm for LXM05BD10M2, 200...240 V, single phase  3000 rpm for LXM05CD10M2, 200...240 V, single phase  3000 rpm for LXM05AD10M3X, 200...240 V, three phase  3000 rpm for LXM05AD14N4 at 1.5 A, 380...480 V, three phase  3000 rpm for LXM05BD10M3X, 200...240 V, three phase  3000 rpm for LXM05BD14N4, 380...480 V, three phase  3000 rpm for LXM05CD10M3X, 200...240 V, three phase  3000 rpm for LXM05CD14N4, 380...480 V, three phase  3000 rpm for LXM15LD13M3, 230 V, single phase  3000 rpm for LXM15LD13M3, 230 V, three phase  8000 rpm for LXM15LD10N4, 400 V, three phase</p>
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<b>Product compatibility</b>	<p>LXM05AD10M2 at 200...240 V single phase  LXM05BD10M2 at 200...240 V single phase  LXM05CD10M2 at 200...240 V single phase  LXM15LD13M3 at 230 V single phase  LXM32.U60N4 at 400 V three phase  LXM32.U60N4 at 480 V three phase  LXM05AD10M3X at 200...240 V three phase  LXM05BD10M3X at 200...240 V three phase  LXM05CD10M3X at 200...240 V three phase  LXM15LD13M3 at 230 V three phase  LXM05AD14N4 at 380...480 V three phase  LXM05BD14N4 at 380...480 V three phase  LXM05CD14N4 at 380...480 V three phase  LXM15LD10N4 at 400 V three phase</p>
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<b>Shaft end</b>	Untapped
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<b>IP degree of protection</b>	<p>IP65 standard  IP67 with IP67 kit</p>
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<b>Speed feedback resolution</b>	131072 points/turn x 4096 turns
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<b>Holding brake</b>	Without
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<b>Mounting support</b>	International standard flange
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<b>Electrical connection</b>	Straight connectors
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## Complementary

<b>Range compatibility</b>	<p>Lexium 05  Lexium 32  Lexium 15</p>
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<b>supply voltage max</b>	480 V
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<b>Network number of phases</b>	Three phase
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<b>Continuous stall current</b>	1.7 A
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<b>maximum continuous power</b>	0.97 W
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<b>Maximum current Irms</b>	8.7 A for LXM15LD13M3 8.7 A for LXM15LD10N4 6.5 A for LXM05AD10M2 6.5 A for LXM05AD10M3X 6.5 A for LXM05AD14N4 6.5 A for LXM05BD10M2 6.5 A for LXM05BD10M3X 6.5 A for LXM05BD14N4 6.5 A for LXM05CD10M2 6.5 A for LXM05CD10M3X 6.5 A for LXM05CD14N4 6 A for LXM32.U60N4
<b>Maximum permanent current</b>	6.5 A
<b>Switching frequency</b>	8 kHz
<b>Second shaft</b>	Without second shaft end
<b>Shaft diameter</b>	9 mm
<b>Shaft length</b>	20 mm
<b>Feedback type</b>	Multiturn SinCos Hiperface
<b>Motor flange size</b>	55 mm
<b>Number of motor stacks</b>	3
<b>Torque constant</b>	0.7 N.m/A at 120 °C
<b>Back emf constant</b>	41 V/krpm at 120 °C
<b>Number of motor poles</b>	3.0
<b>Rotor inertia</b>	0.134 kg.cm <sup>2</sup>
<b>Stator resistance</b>	10.4 Ohm at 20 °C
<b>Stator inductance</b>	13.02 mH at 20 °C
<b>Stator electrical time constant</b>	2.4 ms at 20 °C
<b>Maximum radial force Fr</b>	190 N at 8000 rpm 200 N at 7000 rpm 210 N at 6000 rpm 230 N at 5000 rpm 240 N at 4000 rpm 270 N at 3000 rpm 310 N at 2000 rpm 390 N at 1000 rpm
<b>Maximum axial force Fa</b>	0.2 x Fr
<b>Type of cooling</b>	Natural convection
<b>Length</b>	176.5 mm
<b>Centring collar diameter</b>	40 mm
<b>Centring collar depth</b>	2 mm
<b>Number of mounting holes</b>	4
<b>Mounting holes diameter</b>	5.5 mm
<b>Circle diameter of the mounting holes</b>	63 mm
<b>Net weight</b>	1.76 kg
<b>Sizing reference</b>	BSH0553P
<b>Network number of phases</b>	3
<b>Accuracy error [angular]</b>	1.4 °
<b>Temperature copper hot</b>	120 °C
<b>Temperature magnet hot</b>	100 °C

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Temperature magnet rt	20 °C
Output current 3s peak	6.5 A
Inertia	0.0 kg.cm <sup>2</sup> of brake 0.134 kg.cm <sup>2</sup> of motor

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## Packing Units

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Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	12.3 cm
Package 1 Width	12.8 cm
Package 1 Length	37.7 cm
Package 1 Weight	1.4 kg

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## Contractual warranty

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Warranty (in months)	18
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## Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

[Environmental Data explained >](#)

[How we assess product sustainability >](#)



### Environmental footprint

Total lifecycle Carbon footprint	743 kg CO2 eq.
Carbon footprint of the manufacturing phase [A1 to A3]	6 kg CO2 eq.
Carbon footprint of the distribution phase [A4]	0.2 kg CO2 eq.
Carbon footprint of the installation phase [A5]	0 kg CO2 eq.
Carbon footprint of the use phase [B2, B3, B4, B6]	736 kg CO2 eq.
Carbon footprint of the end-of-life phase [C1 to C4]	0.1 kg CO2 eq.

## Use Better



### Materials and Substances

Packaging made with recycled cardboard	Yes
Packaging without single use plastic	No
<a href="#">EU RoHS Directive</a>	Pro-active compliance (Product out of EU RoHS legal scope)
SCIP Number	8c11b0c9-e501-4810-83eb-05fc6605ede4
REACH Regulation	<a href="#">REACH Declaration</a>
PVC free	Yes

## Use Longer



### Lifetime extension

Repair	No
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## Use Again



### Repack and remanufacture

End of life manual availability	No need of specific recycling operations
Take-back	No
WEEE Label	 The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

Dimensions Drawings

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)
- (3) For screw M3 x 9 mm/M3 x 0.35 in.

Dimensions in mm

Straight connectors		Rotatable angled connectors		c (without brake)	c (with brake)
b	b1	b	b1		
39.5	25.5	39.5	39.5	176.5	203

Dimensions in in.

Straight connectors		Rotatable angled connectors		c (without brake)	c (with brake)
b	b1	b	b1		
1.55	1.00	1.55	1.55	6.94	7.99

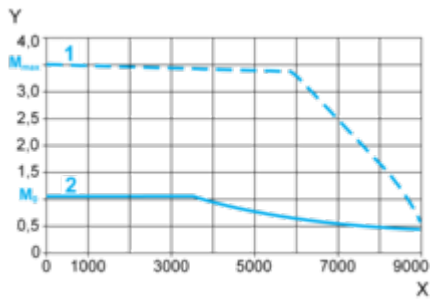
Performance Curves

400 V 3-Phase Supply Voltage

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Torque/Speed Curves

Servo motor with LXM32-U60N4 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

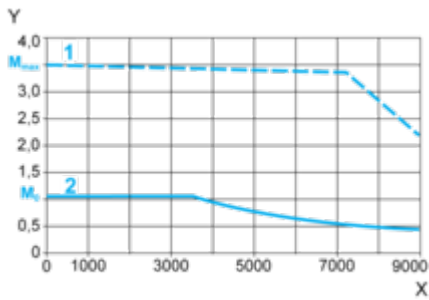
2 Continuous torque

480 V 3-Phase Supply Voltage

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Torque/Speed Curves

Servo motor with LXM32•U60N4 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque