

# Product datasheet

Specifications



servo motor BSH, Lexium 05,  
9.31N.m, 1500rpm, 100mm,  
untapped shaft, Sincos single turn,  
without brake, IP65, straight

BSH1004P21A1A

! Discontinued

! Discontinued on: 30 Jun 2023

## Main

Device short name	BSH
Product or component type	Servo motor
Maximum mechanical speed	6000 rpm
Continuous stall torque	<p>8 N.m for LXM32.D30N4 at 10 A, 400 V, three phase</p> <p>8 N.m for LXM32.D30N4 at 10 A, 480 V, three phase</p> <p>9.31 N.m for LXM15MD40N4, 400 V, three phase</p> <p>9.31 N.m for LXM15MD40N4, 480 V, three phase</p> <p>9.31 N.m for LXM15MD28M3, 230 V, three phase</p> <p>9.31 N.m for LXM15MD28N4, 230 V, three phase</p> <p>9.31 N.m for LXM15MD28N4, 400 V, three phase</p> <p>9.31 N.m for LXM15MD28N4, 480 V, three phase</p> <p>9.31 N.m for LXM15MD40N4, 230 V, three phase</p> <p>9.31 N.m for LXM05AD34N4, 380...480 V, three phase</p> <p>9.31 N.m for LXM05AD42M3X at 10 A, 200...240 V, three phase</p> <p>9.31 N.m for LXM05AD57N4, 380...480 V, three phase</p> <p>9.31 N.m for LXM05BD34N4, 380...480 V, three phase</p> <p>9.31 N.m for LXM05BD42M3X, 200...240 V, three phase</p> <p>9.31 N.m for LXM05BD57N4, 380...480 V, three phase</p> <p>9.31 N.m for LXM05CD34N4, 380...480 V, three phase</p> <p>9.31 N.m for LXM05CD42M3X, 200...240 V, three phase</p> <p>9.31 N.m for LXM05CD57N4, 380...480 V, three phase</p>
Peak stall torque	<p>37.9 N.m for LXM32.D30N4 at 10 A, 400 V, three phase</p> <p>37.9 N.m for LXM32.D30N4 at 10 A, 480 V, three phase</p> <p>25.7 N.m for LXM15MD28M3, 230 V, three phase</p> <p>25.7 N.m for LXM15MD28N4, 230 V, three phase</p> <p>25.7 N.m for LXM15MD28N4, 400 V, three phase</p> <p>25.7 N.m for LXM15MD28N4, 480 V, three phase</p> <p>33.83 N.m for LXM15MD40N4, 230 V, three phase</p> <p>33.83 N.m for LXM15MD40N4, 400 V, three phase</p> <p>33.83 N.m for LXM15MD40N4, 480 V, three phase</p> <p>23.47 N.m for LXM05AD34N4, 380...480 V, three phase</p> <p>35.7 N.m for LXM05AD42M3X at 10 A, 200...240 V, three phase</p> <p>35.7 N.m for LXM05AD57N4, 380...480 V, three phase</p> <p>23.47 N.m for LXM05BD34N4, 380...480 V, three phase</p> <p>35.7 N.m for LXM05BD42M3X, 200...240 V, three phase</p> <p>35.7 N.m for LXM05BD57N4, 380...480 V, three phase</p> <p>23.47 N.m for LXM05CD34N4, 380...480 V, three phase</p> <p>35.7 N.m for LXM05CD42M3X, 200...240 V, three phase</p> <p>35.7 N.m for LXM05CD57N4, 380...480 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 output power</b>	<p>2600 W for LXM32.D30N4 at 10 A, 480 V, three phase  2100 W for LXM32.D30N4 at 10 A, 400 V, three phase  1300 W for LXM05AD42M3X, 200...240 V, three phase  1300 W for LXM05BD42M3X, 200...240 V, three phase  1300 W for LXM05CD42M3X, 200...240 V, three phase  1300 W for LXM15MD28M3, 230 V, three phase  1300 W for LXM15MD28N4, 230 V, three phase  1300 W for LXM15MD40N4, 230 V, three phase  2200 W for LXM05AD34N4, 380...480 V, three phase  2200 W for LXM05AD57N4, 380...480 V, three phase  2200 W for LXM05BD34N4 at 10 A, 380...480 V, three phase  2200 W for LXM05BD57N4, 380...480 V, three phase  2200 W for LXM05CD34N4, 380...480 V, three phase  2200 W for LXM05CD57N4, 380...480 V, three phase  2200 W for LXM15MD28N4, 400 V, three phase  2300 W for LXM15MD40N4, 400 V, three phase  2400 W for LXM15MD40N4, 480 V, three phase  2700 W for LXM15MD28N4, 480 V, three phase</p>
<b>Nominal torque</b>	<p>8.3 N.m for LXM32.D30N4 at 10 A, 400 V, three phase  8.3 N.m for LXM32.D30N4 at 10 A, 480 V, three phase  6.5 N.m for LXM15MD28N4, 480 V, three phase  6.69 N.m for LXM15MD40N4, 480 V, three phase  7 N.m for LXM15MD28N4, 400 V, three phase  7.1 N.m for LXM05AD34N4, 380...480 V, three phase  7.1 N.m for LXM05AD57N4, 380...480 V, three phase  7.1 N.m for LXM05BD34N4, 380...480 V, three phase  7.1 N.m for LXM05BD57N4, 380...480 V, three phase  7.1 N.m for LXM05CD34N4, 380...480 V, three phase  7.1 N.m for LXM05CD57N4 at 10 A, 380...480 V, three phase  7.17 N.m for LXM15MD40N4, 400 V, three phase  8.18 N.m for LXM15MD40N4, 230 V, three phase  8.22 N.m for LXM05AD42M3X, 200...240 V, three phase  8.22 N.m for LXM05BD42M3X, 200...240 V, three phase  8.22 N.m for LXM05CD42M3X, 200...240 V, three phase  8.22 N.m for LXM15LD28M3, 230 V, three phase  8.22 N.m for LXM15MD28N4, 230 V, three phase</p>
<b>Nominal speed</b>	<p>2500 rpm for LXM32.D30N4 at 10 A, 400 V, three phase  3000 rpm for LXM32.D30N4 at 10 A, 480 V, three phase  1500 rpm for LXM05AD42M3X, 200...240 V, three phase  1500 rpm for LXM05BD42M3X, 200...240 V, three phase  1500 rpm for LXM05CD42M3X, 200...240 V, three phase  3000 rpm for LXM05AD34N4, 380...480 V, three phase  3000 rpm for LXM05BD34N4, 380...480 V, three phase  3000 rpm for LXM05CD34N4, 380...480 V, three phase  1500 rpm for LXM15MD28M3, 230 V, three phase  1500 rpm for LXM15MD28N4, 230 V, three phase  1500 rpm for LXM15MD40N4 at 10 A, 230 V, three phase  3000 rpm for LXM05AD57N4, 380...480 V, three phase  3000 rpm for LXM05BD57N4, 380...480 V, three phase  3000 rpm for LXM05CD57N4, 380...480 V, three phase  3000 rpm for LXM15MD28N4, 400 V, three phase  3000 rpm for LXM15MD40N4, 400 V, three phase  3500 rpm for LXM15MD40N4, 480 V, three phase  4000 rpm for LXM15MD28N4, 480 V, three phase</p>
<b>Product compatibility</b>	<p>LXM05AD42M3X at 200...240 V three phase  LXM05BD42M3X at 200...240 V three phase  LXM05CD42M3X at 200...240 V three phase  LXM05AD34N4 at 380...480 V three phase  LXM05BD34N4 at 380...480 V three phase  LXM05CD34N4 at 380...480 V three phase  LXM15MD28N4 at 400 V three phase  LXM15MD28N4 at 480 V three phase  LXM15MD40N4 at 400 V three phase  LXM15MD40N4 at 480 V three phase  LXM32.D30N4 at 400 V three phase  LXM32.D30N4 at 480 V three phase  LXM05AD57N4 at 380...480 V three phase  LXM05BD57N4 at 380...480 V three phase  LXM05CD57N4 at 380...480 V three phase  LXM15MD28M3 at 230 V three phase  LXM15MD28N4 at 230 V three phase  LXM15MD40N4 at 230 V three phase</p>
<b>Shaft end</b>	Untapped

<b>IP degree of protection</b>	IP65 standard IP67 with IP67 kit
<b>Speed feedback resolution</b>	131072 points/turn
<b>Holding brake</b>	Without
<b>Mounting support</b>	International standard flange
<b>Electrical connection</b>	Straight connectors

## Complementary

<b>Range compatibility</b>	Lexium 15 Lexium 32 Lexium 05
<b>supply voltage max</b>	480 V
<b>Network number of phases</b>	Three phase
<b>Continuous stall current</b>	6.2 A
<b>maximum continuous power</b>	3.64 W
<b>Maximum current Irms</b>	34.8 A for LXM15LD28M3 34.8 A for LXM15MD28N4 34.8 A for LXM15MD40N4 32.3 A for LXM05AD42M3X 32.3 A for LXM05AD34N4 32.3 A for LXM05AD57N4 32.3 A for LXM05BD42M3X 32.3 A for LXM05BD34N4 32.3 A for LXM05BD57N4 32.3 A for LXM05CD42M3X 32.3 A for LXM05CD34N4 32.3 A for LXM05CD57N4 30 A for LXM32.D30N4
<b>Maximum permanent current</b>	32.3 A
<b>Switching frequency</b>	8 kHz
<b>Second shaft</b>	Without second shaft end
<b>Shaft diameter</b>	24 mm
<b>Shaft length</b>	50 mm
<b>Feedback type</b>	Single turn SinCos Hiperface
<b>Motor flange size</b>	100 mm
<b>Number of motor stacks</b>	4
<b>Torque constant</b>	1.62 N.m/A at 120 °C
<b>Back emf constant</b>	103 V/krpm at 120 °C
<b>Number of motor poles</b>	8
<b>Rotor inertia</b>	4.22 kg.cm <sup>2</sup>
<b>Stator resistance</b>	1.81 Ohm at 20 °C
<b>Stator inductance</b>	11.8 mH at 20 °C
<b>Stator electrical time constant</b>	6.52 ms at 20 °C
<b>Maximum radial force Fr</b>	1070 N at 1000 rpm 740 N at 3000 rpm 850 N at 2000 rpm
<b>Maximum axial force Fa</b>	0.2 x Fr
<b>Type of cooling</b>	Natural convection
<b>Length</b>	276.5 mm

Centring collar diameter	95 mm
Centring collar depth	3.5 mm
Number of mounting holes	4
Mounting holes diameter	9 mm
Circle diameter of the mounting holes	115 mm
Net weight	9.5 kg
Sizing reference	BSH1004P
Network number of phases	3
Accuracy error [angular]	1.4 °
Temperature copper hot	120 °C
Temperature magnet hot	100 °C
Temperature magnet rt	20 °C

## Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	18.3 cm
Package 1 Width	16.3 cm
Package 1 Length	49.2 cm
Package 1 Weight	7.5 kg

## Contractual warranty

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 >](#)

### Use Better



#### Materials and Substances

EU RoHS Directive

[Compliant By Exemption](#)

PVC free

Yes

### Use Longer



#### Lifetime extension

Repair

No

### Use Again



#### Repack and remanufacture

End of life manual availability

No need of specific recycling operations

WEEE Label

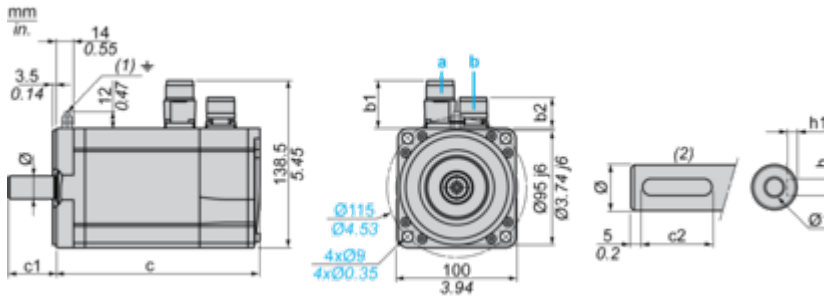


The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

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)

Dimensions in mm

Straight connectors		Rotatable angled connectors		c (without brake)	c (with brake)	c1	c2	h	h1	Ø	Ø1 for screws
b1	b2	b1	b2								
39.5	25.5	39.5	39.5	277	308	50	40	8 N9	4 <sup>+0.1</sup> <sub>0</sub>	24 k6	M8 x 19

Dimensions in in.

Straight connectors		Rotatable angled connectors		c (without brake)	c (with brake)	c1	c2	h	h1	Ø	Ø1 for screws
b1	b2	b1	b2								
1.55	1.00	1.55	1.55	10.90	12.12	1.96	1.57	0.31 N9	0.16 <sup>+0.1</sup> <sub>0</sub>	0.94 k6	M8 x 0.75

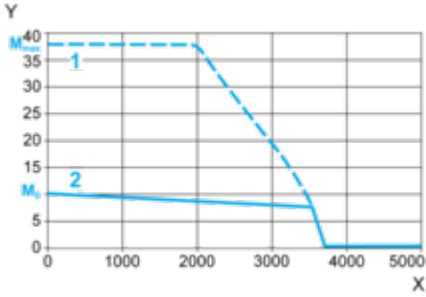
Performance Curves

400 V 3-Phase Supply Voltage

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Torque/Speed Curves

Servo motor with LXM32•D30N4 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

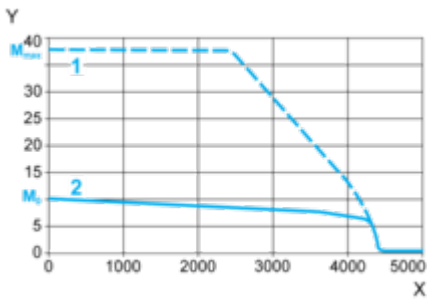
2 Continuous torque

480 V 3-Phase Supply Voltage

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Torque/Speed Curves

Servo motor with LXM32•D30N4 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque