

# Product data sheet

Specifications



servo motor BSH, Lexium 05,  
2.2N.m, 3000rpm, 70mm, keyed  
shaft, Sincos single turn, with brake,  
IP50

BSH0702P11F2A

## Main

<b>Device short name</b>	BSH
<b>Product or component type</b>	Servo motor
<b>Maximum mechanical speed</b>	8000 rpm
<b>Continuous stall torque</b>	<p>2.2 N.m for LXM32.D12N4 at 3 A, 400 V, three phase</p> <p>2.2 N.m for LXM32.D12N4 at 3 A, 480 V, three phase</p> <p>2.12 N.m for LXM05AD10M2, 200...240 V, single phase</p> <p>2.12 N.m for LXM05AD10M3X, 200...240 V, three phase</p> <p>2.12 N.m for LXM05BD10M2, 200...240 V, single phase</p> <p>2.12 N.m for LXM05BD10M3X, 200...240 V, three phase</p> <p>2.12 N.m for LXM05CD10M2, 200...240 V, single phase</p> <p>2.12 N.m for LXM05CD10M3X, 200...240 V, three phase</p> <p>2.2 N.m for LXM15LD13M3, 230 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 at 3 A, 200...240 V, single phase</p> <p>2.2 N.m for LXM15LD10N4, 480 V, three phase</p> <p>2.12 N.m for LXM05AD17M3X, 200...240 V, three phase</p> <p>2.12 N.m for LXM05AD14N4, 380...480 V, three phase</p> <p>2.12 N.m for LXM05BD17M3X, 200...240 V, three phase</p> <p>2.12 N.m for LXM05BD14N4, 380...480 V, three phase</p> <p>2.12 N.m for LXM05CD17M3X, 200...240 V, three phase</p> <p>2.12 N.m for LXM05CD14N4, 380...480 V, three phase</p> <p>2.2 N.m for LXM15LD10N4, 230 V, three phase</p> <p>2.2 N.m for LXM15LD10N4, 400 V, three phase</p>
<b>Peak stall torque</b>	<p>7.6 N.m for LXM32.D12N4 at 3 A, 400 V, three phase</p> <p>7.6 N.m for LXM32.D12N4 at 3 A, 480 V, three phase</p> <p>5.63 N.m for LXM15LD13M3, 230 V, single phase</p> <p>4.57 N.m for LXM05AD10M2, 200...240 V, single phase</p> <p>5.63 N.m for LXM05AD17M2, 200...240 V, single phase</p> <p>4.57 N.m for LXM05BD10M2, 200...240 V, single phase</p> <p>5.63 N.m for LXM05BD17M2, 200...240 V, single phase</p> <p>4.57 N.m for LXM05CD10M2, 200...240 V, single phase</p> <p>5.63 N.m for LXM05CD17M2, 200...240 V, single phase</p> <p>4.85 N.m for LXM15LD10N4, 230 V, three phase</p> <p>4.85 N.m for LXM15LD10N4, 400 V, three phase</p> <p>4.85 N.m for LXM15LD10N4 at 3 A, 480 V, three phase</p> <p>4.57 N.m for LXM05AD10M3X, 200...240 V, three phase</p> <p>5.63 N.m for LXM05AD17M3X, 200...240 V, three phase</p> <p>5.63 N.m for LXM05AD14N4, 380...480 V, three phase</p> <p>4.57 N.m for LXM05BD10M3X, 200...240 V, three phase</p> <p>5.63 N.m for LXM05BD17M3X, 200...240 V, three phase</p> <p>5.63 N.m for LXM05BD14N4, 380...480 V, three phase</p> <p>4.57 N.m for LXM05CD10M3X, 200...240 V, three phase</p> <p>5.63 N.m for LXM05CD17M3X, 200...240 V, three phase</p> <p>5.63 N.m for LXM05CD14N4, 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

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**Nominal output power**

850 W for LXM32.D12N4 at 3 A, 400 V, three phase  
850 W for LXM32.D12N4 at 3 A, 480 V, three phase  
1000 W for LXM15LD10N4, 400 V, three phase  
597 W for LXM15LD13M3, 230 V, single phase  
600 W for LXM05AD10M2, 200...240 V, single phase  
600 W for LXM05AD17M2, 200...240 V, single phase  
600 W for LXM05BD10M2, 200...240 V, single phase  
600 W for LXM05BD17M2, 200...240 V, single phase  
600 W for LXM05CD10M2, 200...240 V, single phase  
600 W for LXM05CD17M2, 200...240 V, single phase  
1300 W for LXM15LD10N4, 480 V, three phase  
597 W for LXM15LD10N4 at 3 A, 230 V, three phase  
600 W for LXM05AD10M3X, 200...240 V, three phase  
600 W for LXM05AD14N4, 380...480 V, three phase  
600 W for LXM05AD17M3X, 200...240 V, three phase  
600 W for LXM05BD10M3X, 200...240 V, three phase  
600 W for LXM05BD14N4, 380...480 V, three phase  
600 W for LXM05BD17M3X, 200...240 V, three phase  
600 W for LXM05CD10M3X, 200...240 V, three phase  
600 W for LXM05CD14N4, 380...480 V, three phase  
600 W for LXM05CD17M3X, 200...240 V, three phase

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**Nominal torque**

1.64 N.m for LXM32.D12N4 at 3 A, 400 V, three phase  
1.64 N.m for LXM32.D12N4 at 3 A, 480 V, three phase  
1.9 N.m for LXM05AD10M2, 200...240 V, single phase  
1.9 N.m for LXM05AD17M2, 200...240 V, single phase  
1.9 N.m for LXM05BD10M2, 200...240 V, single phase  
1.9 N.m for LXM05BD17M2, 200...240 V, single phase  
1.9 N.m for LXM05CD10M2, 200...240 V, single phase  
1.9 N.m for LXM05CD17M2, 200...240 V, single phase  
1.9 N.m for LXM15LD13M3, 230 V, single phase  
1.55 N.m for LXM15LD10N4, 480 V, three phase  
1.65 N.m for LXM15LD10N4, 400 V, three phase  
1.9 N.m for LXM05AD10M3X at 3 A, 200...240 V, three phase  
1.9 N.m for LXM05AD14N4, 380...480 V, three phase  
1.9 N.m for LXM05AD17M3X, 200...240 V, three phase  
1.9 N.m for LXM05BD10M3X, 200...240 V, three phase  
1.9 N.m for LXM05BD14N4, 380...480 V, three phase  
1.9 N.m for LXM05BD17M3X, 200...240 V, three phase  
1.9 N.m for LXM05CD10M3X, 200...240 V, three phase  
1.9 N.m for LXM05CD14N4, 380...480 V, three phase  
1.9 N.m for LXM05CD17M3X, 200...240 V, three phase  
1.9 N.m for LXM15LD10N4, 230 V, three phase

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**Nominal speed**

5000 rpm for LXM32.D12N4 at 3 A, 400 V, three phase  
5000 rpm for LXM32.D12N4 at 3 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, 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 at 3 A, 230 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 LXM05AD17M3X, 200...240 V, three phase  
3000 rpm for LXM05BD17M3X, 200...240 V, three phase  
3000 rpm for LXM05CD17M3X, 200...240 V, three phase  
8000 rpm for LXM15LD10N4, 480 V, three phase  
3000 rpm for LXM15LD10N4, 230 V, three phase  
6000 rpm for LXM15LD10N4, 400 V, three phase

<b>Product compatibility</b>	LXM05AD10M2 at 200...240 V single phase LXM05AD17M2 at 200...240 V single phase LXM05BD10M2 at 200...240 V single phase LXM05BD17M2 at 200...240 V single phase LXM05CD10M2 at 200...240 V single phase LXM05CD17M2 at 200...240 V single phase LXM15LD13M3 at 230 V single phase LXM05AD10M3X at 200...240 V three phase LXM05BD10M3X at 200...240 V three phase LXM05CD10M3X at 200...240 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 LXM05AD17M3X at 200...240 V three phase LXM05BD17M3X at 200...240 V three phase LXM05CD17M3X at 200...240 V three phase LXM32.D12N4 at 400 V three phase LXM32.D12N4 at 480 V three phase LXM15LD10N4 at 230 V three phase LXM15LD10N4 at 480 V three phase
<b>Shaft end</b>	Keyed
<b>IP degree of protection</b>	IP50 standard
<b>Speed feedback resolution</b>	131072 points/turn
<b>Holding brake</b>	With
<b>Mounting support</b>	International standard flange
<b>Electrical connection</b>	Rotatable right-angled 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>	2.9 A
<b>maximum continuous power</b>	1.51 W
<b>Maximum current Irms</b>	11.8 A for LXM15LD13M3 11.8 A for LXM15LD10N4 11.8 A for LXM05AD10M2 11.8 A for LXM05AD17M2 11.8 A for LXM05AD10M3X 11.8 A for LXM05AD17M3X 11.8 A for LXM05AD14N4 11.8 A for LXM05BD10M2 11.8 A for LXM05BD17M2 11.8 A for LXM05BD10M3X 11.8 A for LXM05BD17M3X 11.8 A for LXM05BD14N4 11.8 A for LXM05CD10M2 11.8 A for LXM05CD17M2 11.8 A for LXM05CD10M3X 11.8 A for LXM05CD17M3X 11.8 A for LXM05CD14N4 11.8 A for LXM32.D12N4
<b>Maximum permanent current</b>	11.8 A
<b>Switching frequency</b>	8 kHz
<b>Second shaft</b>	Without second shaft end
<b>Shaft diameter</b>	11 mm
<b>Shaft length</b>	23 mm
<b>Key width</b>	18 mm

Feedback type	Single turn SinCos Hiperface
Holding torque	2 N.m holding brake
Motor flange size	70 mm
Number of motor stacks	2
Torque constant	0.77 N.m/A at 120 °C
Back emf constant	48 V/krpm at 120 °C
Number of motor poles	3.0
Rotor inertia	0.482 kg.cm <sup>2</sup>
Stator resistance	4.2 Ohm at 20 °C
Stator inductance	10.65 mH at 20 °C
Stator electrical time constant	4.52 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
Brake pull-in power	10 W
Type of cooling	Natural convection
Length	212.5 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
Net weight	3 kg
Sizing reference	BSH0702P
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	12.3 cm
Package 1 Width	12.8 cm
Package 1 Length	37.7 cm
Package 1 Weight	3.25 kg

## Contractual warranty

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Warranty

18 months



## 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 1427

Environmental Disclosure [Product Environmental Profile](#)

## Use Better

### Materials and Substances

Packaging made with recycled cardboard Yes

Packaging without single use plastic No

[EU RoHS Directive](#) Pro-active compliance (Product out of EU RoHS legal scope)

SCIP Number 8c11b0c9-e501-4810-83eb-05fc6605ede4

REACH Regulation [REACH Declaration](#)

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 [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

PVC free Yes

## Use Again

### Repack and remanufacture

End of life manual availability No need of specific recycling operations

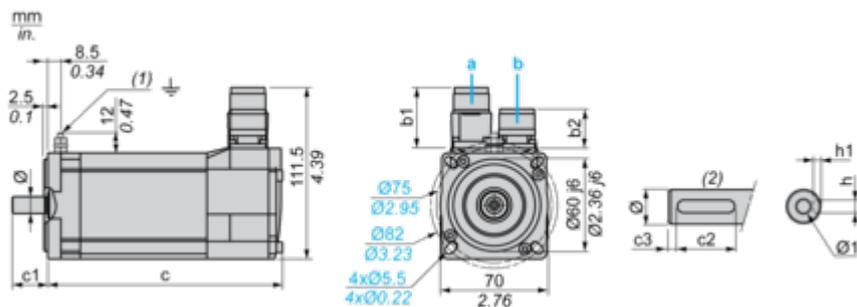
Take-back No

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)

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	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 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	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

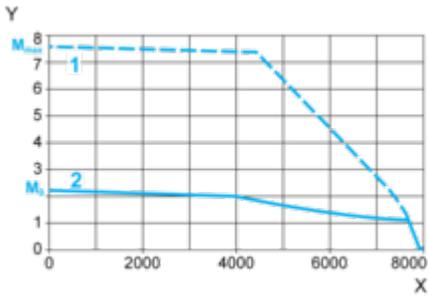
Performance Curves

400 V 3-Phase Supply Voltage

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Torque/Speed Curves

Servo motor with LXM32-D12N4 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

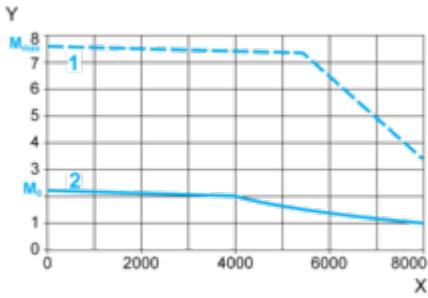
2 Continuous torque

480 V 3-Phase Supply Voltage

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Torque/Speed Curves

Servo motor with LXM32•D12N4 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque