

# Product datasheet

Specifications



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

BSH0703P31A2A

EAN Code: 3389118137370

### Main

Device short name	BSH
Product or component type	Servo motor
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 at 6 A, 200...240 V, three phase</p> <p>2.8 N.m for LXM05BD22N4 at 6 A, 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> <p>3.3 N.m for LXM15LU60N4, 230 V, three phase</p> <p>6 N.m for LXM15LD13M3, 230 V, three phase</p> <p>5.3 N.m for LXM15LD10N4, 230 V, three phase</p> <p>5.3 N.m for LXM15LD10N4, 400 V, three phase</p> <p>5.3 N.m for LXM15LD10N4, 480 V, three phase</p> <p>7.71 N.m for LXM15LD17N4, 230 V, three phase</p> <p>7.71 N.m for LXM15LD17N4, 400 V, three phase</p> <p>7.71 N.m for LXM15LD17N4, 480 V, three phase</p> <p>9.28 N.m for LXM15LD21M3 at 6 A, 230 V, three phase</p> <p>7.16 N.m for LXM05AD17M3X at 6 A, 200...240 V, three phase</p> <p>8.75 N.m for LXM05AD22N4, 380...480 V, three phase</p> <p>7.16 N.m for LXM05BD17M3X, 200...240 V, three phase</p> <p>8.75 N.m for LXM05BD22N4, 380...480 V, three phase</p> <p>7.16 N.m for LXM05CD17M3X, 200...240 V, three phase</p> <p>8.75 N.m for LXM05CD22N4, 380...480 V, three phase</p> <p>11.3 N.m for LXM32.D18N4 at 6 A, 400 V, three phase</p> <p>11.3 N.m for LXM32.D18N4 at 6 A, 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**

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 at 6 A, 380...480 V, three phase  
750 W for LXM05CD17M3X at 6 A, 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

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**Nominal torque**

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 at 6 A, 200...240 V, three phase  
2.4 N.m for LXM05BD22N4 at 6 A, 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

<b>Nominal speed</b>	<p>3000 rpm for LXM15LD13M3, 230 V, three phase</p> <p>3000 rpm for LXM05AD17M2, 200...240 V, single phase</p> <p>3000 rpm for LXM05BD17M2, 200...240 V, single phase</p> <p>3000 rpm for LXM05CD17M2, 200...240 V, single phase</p> <p>3000 rpm for LXM05AD17M3X, 200...240 V, three phase</p> <p>3000 rpm for LXM05BD17M3X, 200...240 V, three phase</p> <p>3000 rpm for LXM05CD17M3X, 200...240 V, three phase</p> <p>3000 rpm for LXM15LU60N4, 230 V, three phase</p> <p>8000 rpm for LXM15LD10N4, 480 V, three phase</p> <p>8000 rpm for LXM15LU60N4, 480 V, three phase</p> <p>3000 rpm for LXM15LD10N4, 230 V, three phase</p> <p>6000 rpm for LXM15LD10N4, 400 V, three phase</p> <p>3000 rpm for LXM05AD28M2, 200...240 V, single phase</p> <p>3000 rpm for LXM05BD28M2, 200...240 V, single phase</p> <p>3000 rpm for LXM05CD28M2, 200...240 V, single phase</p> <p>3000 rpm for LXM15LD21M3, 230 V, single phase</p> <p>3000 rpm for LXM05AD22N4, 380...480 V, three phase</p> <p>3000 rpm for LXM05BD22N4 at 6 A, 380...480 V, three phase</p> <p>3000 rpm for LXM05CD22N4 at 6 A, 380...480 V, three phase</p> <p>3000 rpm for LXM15LD17N4, 230 V, three phase</p> <p>3000 rpm for LXM15LD21M3, 230 V, three phase</p> <p>6000 rpm for LXM15LD17N4, 400 V, three phase</p> <p>6000 rpm for LXM15LU60N4, 400 V, three phase</p> <p>7000 rpm for LXM15LD17N4, 480 V, three phase</p> <p>5000 rpm for LXM32.D18N4 at 6 A, 400 V, three phase</p> <p>5000 rpm for LXM32.D18N4 at 6 A, 480 V, three phase</p>
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<b>Product compatibility</b>	<p>LXM05AD17M2 at 200...240 V single phase</p> <p>LXM05AD28M2 at 200...240 V single phase</p> <p>LXM05BD17M2 at 200...240 V single phase</p> <p>LXM05BD28M2 at 200...240 V single phase</p> <p>LXM05CD17M2 at 200...240 V single phase</p> <p>LXM05CD28M2 at 200...240 V single phase</p> <p>LXM15LD21M3 at 230 V single phase</p> <p>LXM15LU60N4 at 230 V three phase</p> <p>LXM15LD13M3 at 230 V three phase</p> <p>LXM15LU60N4 at 400 V three phase</p> <p>LXM15LU60N4 at 480 V three phase</p> <p>LXM15LD10N4 at 400 V three phase</p> <p>LXM05AD17M3X at 200...240 V three phase</p> <p>LXM05BD17M3X at 200...240 V three phase</p> <p>LXM05CD17M3X at 200...240 V three phase</p> <p>LXM15LD10N4 at 230 V three phase</p> <p>LXM15LD10N4 at 480 V three phase</p> <p>LXM15LD21M3 at 230 V three phase</p> <p>LXM15LD17N4 at 230 V three phase</p> <p>LXM05AD22N4 at 380...480 V three phase</p> <p>LXM05BD22N4 at 380...480 V three phase</p> <p>LXM05CD22N4 at 380...480 V three phase</p> <p>LXM15LD17N4 at 400 V three phase</p> <p>LXM15LD17N4 at 480 V three phase</p> <p>LXM32.D18N4 at 400 V three phase</p> <p>LXM32.D18N4 at 480 V three phase</p>
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<b>Shaft end</b>	Keyed
<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>	Rotatable right-angled connectors

## Complementary

<b>Range compatibility</b>	Lexium 05 Lexium 15 Lexium 32
<b>supply voltage max</b>	480 V
<b>Network number of phases</b>	Three phase
<b>Continuous stall current</b>	4.1 A

<b>maximum continuous power</b>	1.7 W
<b>Maximum current I<sub>rms</sub></b>	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
<b>Maximum permanent current</b>	17 A
<b>Switching frequency</b>	8 kHz
<b>Second shaft</b>	Without second shaft end
<b>Shaft diameter</b>	14 mm
<b>Shaft length</b>	30 mm
<b>Key width</b>	20 mm
<b>Feedback type</b>	Single turn SinCos Hiperface
<b>Motor flange size</b>	70 mm
<b>Number of motor stacks</b>	3
<b>Torque constant</b>	0.78 N.m/A at 120 °C
<b>Back emf constant</b>	49 V/krpm at 120 °C
<b>Number of motor poles</b>	3.0
<b>Rotor inertia</b>	0.58 kg.cm <sup>2</sup>
<b>Stator resistance</b>	2.7 Ohm at 20 °C
<b>Stator inductance</b>	7.3 mH at 20 °C
<b>Stator electrical time constant</b>	4.82 ms at 20 °C
<b>Maximum radial force Fr</b>	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
<b>Maximum axial force Fa</b>	0.2 x Fr
<b>Type of cooling</b>	Natural convection
<b>Length</b>	220 mm
<b>Centring collar diameter</b>	60 mm
<b>Centring collar depth</b>	2.5 mm
<b>Number of mounting holes</b>	4
<b>Mounting holes diameter</b>	5.5 mm
<b>Circle diameter of the mounting holes</b>	82 mm
<b>Net weight</b>	3.62 kg
<b>Sizing reference</b>	BSH0703P

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
Output current 3s peak	17.0 A
Inertia	0.0 kg.cm <sup>2</sup> of brake 0.58 kg.cm <sup>2</sup> of motor

## Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	12.300 cm
Package 1 Width	12.800 cm
Package 1 Length	37.700 cm
Package 1 Weight	3.600 kg
Unit Type of Package 2	S04
Number of Units in Package 2	2
Package 2 Height	30.000 cm
Package 2 Width	40.000 cm
Package 2 Length	60.000 cm
Package 2 Weight	7.850 kg
Unit Type of Package 3	P12
Number of Units in Package 3	8
Package 3 Height	45.000 cm
Package 3 Width	80.000 cm
Package 3 Length	120.000 cm
Package 3 Weight	43.400 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 >](#)

### Environmental footprint

Total lifecycle Carbon footprint 1643

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](#)

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

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



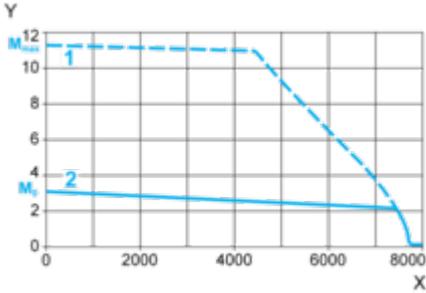
Performance Curves

400 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

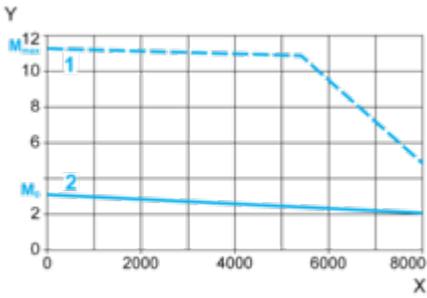
2 Continuous torque

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