

# Product datasheet

Specifications



servo motor BSH, Lexium 05,  
0.9N.m, 6000rpm, 55mm, keyed  
shaft, Sincos single turn, with brake,  
IP65, straight

BSH0552T31F1A

! Discontinued

! Discontinued on: 9 Feb 2023

## Main

Device short name	BSH
Product or component type	Servo motor
Maximum mechanical speed	9000 rpm
Continuous stall torque	0.8 N.m for LXM32.U90M2 at 3 A, 115 V, single phase 0.8 N.m for LXM32.U90M2 at 3 A, 230 V, single phase 0.9 N.m for LXM05AD10M2, 200...240 V, single phase 0.9 N.m for LXM05BD10M2, 200...240 V, single phase 0.9 N.m for LXM05CD10M2, 200...240 V, single phase 0.9 N.m for LXM05AD10M3X, 200...240 V, three phase 0.9 N.m for LXM05BD10M3X, 200...240 V, three phase 0.9 N.m for LXM05CD10M3X, 200...240 V, three phase 0.9 N.m for LXM15LD13M3, 230 V, single phase 0.9 N.m for LXM15LD13M3 at 3 A, 230 V, three phase 0.77 N.m for LXM05CU70M2, 200...240 V, single phase 0.9 N.m for LXM05AD10F1, 110...120 V, single phase 0.9 N.m for LXM05AD17F1, 110...120 V, single phase 0.9 N.m for LXM05BD10F1, 110...120 V, single phase 0.9 N.m for LXM05BD17F1, 110...120 V, single phase 0.9 N.m for LXM05CD10F1, 110...120 V, single phase 0.9 N.m for LXM05CD17F1, 110...120 V, single phase
Peak stall torque	1.9 N.m for LXM32.U90M2 at 3 A, 115 V, single phase 2.5 N.m for LXM32.U90M2 at 3 A, 230 V, single phase 1.5 N.m for LXM15LD13M3, 230 V, single phase 1.31 N.m for LXM05CU70M2, 200...240 V, single phase 1.77 N.m for LXM05AD10F1, 110...120 V, single phase 1.77 N.m for LXM05AD10M2, 200...240 V, single phase 2.7 N.m for LXM05AD17F1, 110...120 V, single phase 1.77 N.m for LXM05BD10F1, 110...120 V, single phase 1.77 N.m for LXM05BD10M2, 200...240 V, single phase 2.7 N.m for LXM05BD17F1 at 3 A, 110...120 V, single phase 1.77 N.m for LXM05CD10F1, 110...120 V, single phase 1.77 N.m for LXM05CD10M2, 200...240 V, single phase 2.7 N.m for LXM05CD17F1, 110...120 V, single phase 1.5 N.m for LXM15LD13M3, 230 V, three phase 1.77 N.m for LXM05AD10M3X, 200...240 V, three phase 1.77 N.m for LXM05BD10M3X, 200...240 V, three phase 1.77 N.m for LXM05CD10M3X, 200...240 V, three phase

<b>Nominal output power</b>	<p>250 W for LXM32.U90M2 at 3 A, 115 V, single phase  450 W for LXM32.U90M2 at 3 A, 230 V, single phase  240 W for LXM05CU70M2, 200...240 V, single phase  250 W for LXM05AD10F1, 110...120 V, single phase  250 W for LXM05AD17F1, 110...120 V, single phase  250 W for LXM05BD10F1, 110...120 V, single phase  250 W for LXM05BD17F1, 110...120 V, single phase  250 W for LXM05CD10F1, 110...120 V, single phase  250 W for LXM05CD17F1, 110...120 V, single phase  450 W for LXM05AD10M2 at 3 A, 200...240 V, single phase  450 W for LXM05BD10M2, 200...240 V, single phase  450 W for LXM05CD10M2, 200...240 V, single phase  450 W for LXM15LD13M3, 230 V, single phase  450 W for LXM05AD10M3X, 200...240 V, three phase  450 W for LXM05BD10M3X, 200...240 V, three phase  450 W for LXM05CD10M3X, 200...240 V, three phase  570 W for LXM15LD13M3, 230 V, three phase</p>
<b>Nominal torque</b>	<p>0.77 N.m for LXM32.U90M2 at 3 A, 115 V, single phase  0.74 N.m for LXM32.U90M2 at 3 A, 230 V, single phase  0.72 N.m for LXM15LD13M3, 230 V, single phase  0.77 N.m for LXM05CU70M2, 200...240 V, single phase  0.9 N.m for LXM05AD10F1, 110...120 V, single phase  0.9 N.m for LXM05AD10M2, 200...240 V, single phase  0.9 N.m for LXM05AD17F1, 110...120 V, single phase  0.9 N.m for LXM05BD10F1, 110...120 V, single phase  0.9 N.m for LXM05BD10M2, 200...240 V, single phase  0.9 N.m for LXM05BD17F1 at 3 A, 110...120 V, single phase  0.9 N.m for LXM05CD10F1, 110...120 V, single phase  0.9 N.m for LXM05CD10M2, 200...240 V, single phase  0.9 N.m for LXM05CD17F1, 110...120 V, single phase  0.68 N.m for LXM15LD13M3, 230 V, three phase  0.9 N.m for LXM05AD10M3X, 200...240 V, three phase  0.9 N.m for LXM05BD10M3X, 200...240 V, three phase  0.9 N.m for LXM05CD10M3X, 200...240 V, three phase</p>
<b>Nominal speed</b>	<p>3000 rpm for LXM32.U90M2 at 3 A, 115 V, single phase  6000 rpm for LXM32.U90M2 at 3 A, 230 V, single phase  3000 rpm for LXM05AD10F1, 110...120 V, single phase  3000 rpm for LXM05BD10F1, 110...120 V, single phase  3000 rpm for LXM05CD10F1, 110...120 V, single phase  3000 rpm for LXM05CU70M2, 200...240 V, single phase  6000 rpm for LXM05AD10M2, 200...240 V, single phase  6000 rpm for LXM05BD10M2, 200...240 V, single phase  6000 rpm for LXM05CD10M2, 200...240 V, single phase  6000 rpm for LXM05AD10M3X at 3 A, 200...240 V, three phase  6000 rpm for LXM05BD10M3X, 200...240 V, three phase  6000 rpm for LXM05CD10M3X, 200...240 V, three phase  8000 rpm for LXM15LD13M3, 230 V, three 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  6000 rpm for LXM15LD13M3, 230 V, single phase</p>
<b>Product compatibility</b>	<p>LXM05AD10F1 at 110...120 V single phase  LXM05AD10M2 at 200...240 V single phase  LXM05AD17F1 at 110...120 V single phase  LXM05BD10F1 at 110...120 V single phase  LXM05BD10M2 at 200...240 V single phase  LXM05BD17F1 at 110...120 V single phase  LXM05CD10F1 at 110...120 V single phase  LXM05CD10M2 at 200...240 V single phase  LXM05CD17F1 at 110...120 V single phase  LXM05CU70M2 at 200...240 V single phase  LXM15LD13M3 at 230 V single phase  LXM32.U90M2 at 115 V single phase  LXM32.U90M2 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  LXM15LD13M3 at 230 V three phase</p>
<b>Shaft end</b>	Keyed
<b>IP degree of protection</b>	<p>IP65 standard  IP67 with IP67 kit</p>
<b>Speed feedback resolution</b>	131072 points/turn
<b>Holding brake</b>	With

Mounting support	International standard flange
Electrical connection	Straight connectors

## Complementary

Range compatibility	Lexium 32 Lexium 05 Lexium 15
supply voltage max	480 V
Network number of phases	Three phase
Continuous stall current	2.2 A
maximum continuous power	0.67 W
Maximum current Irms	6 A for LXM32.U90M2 at 115 V 8.8 A for LXM32.U90M2 at 230 V 10.3 A for LXM15LD13M3 8.8 A for LXM05AD10F1 8.8 A for LXM05AD17F1 8.8 A for LXM05CU70M2 8.8 A for LXM05AD10M2 8.8 A for LXM05AD10M3X 8.8 A for LXM05BD10F1 at 230 V 8.8 A for LXM05BD17F1 8.8 A for LXM05BD10M2 8.8 A for LXM05BD10M3X 8.8 A for LXM05CD10F1 8.8 A for LXM05CD17F1 8.8 A for LXM05CD10M2 8.8 A for LXM05CD10M3X
Maximum permanent current	8.8 A
Switching frequency	8 kHz
Second shaft	Without second shaft end
Shaft diameter	9 mm
Shaft length	20 mm
Key width	12 mm
Feedback type	Single turn SinCos Hiperface
Holding torque	0.8 N.m holding brake
Motor flange size	55 mm
Number of motor stacks	2
Torque constant	0.36 N.m/A at 120 °C
Back emf constant	22 V/krpm at 120 °C
Rotor inertia	0.1173 kg.cm <sup>2</sup>
Stator resistance	5.2 Ohm at 20 °C
Stator inductance	10.6 mH at 20 °C
Stator electrical time constant	2.04 ms at 20 °C
Maximum radial force Fr	190 N at 7000 rpm 190 N at 8000 rpm 200 N at 6000 rpm 220 N at 5000 rpm 230 N at 4000 rpm 260 N at 3000 rpm 290 N at 2000 rpm 370 N at 1000 rpm
Maximum axial force Fa	0.2 x Fr
Brake pull-in power	10 W

Type of cooling	Natural convection
Length	181 mm
Centring collar diameter	40 mm
Centring collar depth	2 mm
Number of mounting holes	4
Mounting holes diameter	5.5 mm
Circle diameter of the mounting holes	63 mm
Product weight	1.6 kg
Sizing reference	BSH0552T
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	1.25 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](#)

### Use Longer



#### Lifetime extension

Repair

No

### Use Again



#### Repack and remanufacture

End of life manual availability

No need of specific recycling operations

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	154.5	181

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	6.08	7.12

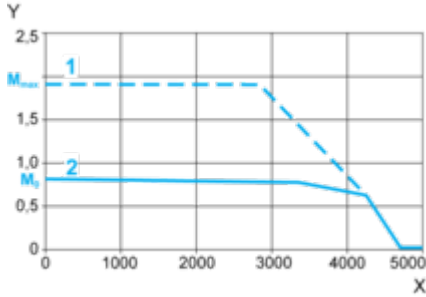
Performance Curves

115 V Single-Phase Supply Voltage

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Torque/Speed Curves

Servo motor with LXM32-U90M2 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

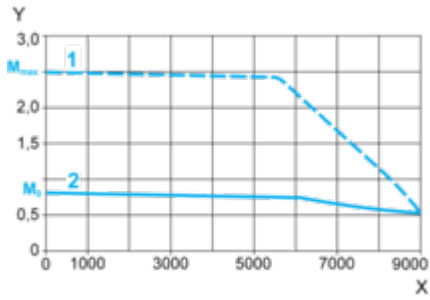
2 Continuous torque

230 V Single-Phase Supply Voltage

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Torque/Speed Curves

Servo motor with LXM32-U90M2 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque