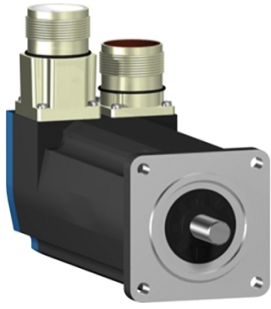


# Product datasheet

Specifications



servo motor BSH, Lexium 05,  
0.5N.m, 8000rpm, 55mm, untapped  
shaft, Sincos single turn, with brake,  
IP65, straight

BSH0551T21F1A

! 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	0.5 N.m for LXM32.U90M2 at 3 A, 115 V, single phase 0.5 N.m for LXM32.U45M2 at 1.5 A, 230 V, single phase 0.5 N.m for LXM05CU70M2, 200...240 V, single phase 0.5 N.m for LXM05AD10F1, 110...120 V, single phase 0.5 N.m for LXM05AD10M2, 200...240 V, single phase 0.5 N.m for LXM05BD10F1 at 1.5 A, 110...120 V, single phase 0.5 N.m for LXM05BD10M2, 200...240 V, single phase 0.5 N.m for LXM05CD10F1, 110...120 V, single phase 0.5 N.m for LXM05CD10M2, 200...240 V, single phase 0.5 N.m for LXM15LD13M3, 230 V, three phase 0.5 N.m for LXM05AD10M3X, 200...240 V, three phase 0.5 N.m for LXM05BD10M3X, 200...240 V, three phase 0.5 N.m for LXM05CD10M3X, 200...240 V, three phase
Peak stall torque	1.5 N.m for LXM32.U90M2 at 3 A, 115 V, single phase 1.4 N.m for LXM32.U45M2 at 1.5 A, 230 V, single phase 1.08 N.m for LXM05CU70M2, 200...240 V, single phase 1.4 N.m for LXM05AD10F1, 110...120 V, single phase 1.4 N.m for LXM05AD10M2, 200...240 V, single phase 1.4 N.m for LXM05BD10F1 at 1.5 A, 110...120 V, single phase 1.4 N.m for LXM05BD10M2, 200...240 V, single phase 1.4 N.m for LXM05CD10F1, 110...120 V, single phase 1.4 N.m for LXM05CD10M2, 200...240 V, single phase 1.24 N.m for LXM15LD13M3, 230 V, three phase 1.4 N.m for LXM05AD10M3X, 200...240 V, three phase 1.4 N.m for LXM05BD10M3X, 200...240 V, three phase 1.4 N.m for LXM05CD10M3X, 200...240 V, three phase
Nominal output power	150 W for LXM32.U90M2 at 3 A, 115 V, single phase 300 W for LXM32.U45M2 at 1.5 A, 230 V, single phase 150 W for LXM05AD10F1, 110...120 V, single phase 150 W for LXM05BD10F1, 110...120 V, single phase 150 W for LXM05CD10F1, 110...120 V, single phase 150 W for LXM05CU70M2 at 1.5 A, 200...240 V, single phase 270 W for LXM05AD10M2, 200...240 V, single phase 270 W for LXM05BD10M2, 200...240 V, single phase 270 W for LXM05CD10M2, 200...240 V, single phase 270 W for LXM05AD10M3X, 200...240 V, three phase 270 W for LXM05BD10M3X, 200...240 V, three phase 270 W for LXM05CD10M3X, 200...240 V, three phase 340 W for LXM15LD13M3, 230 V, three phase

<b>Nominal torque</b>	0.49 N.m for LXM32.U90M2 at 3 A, 115 V, single phase 0.45 N.m for LXM32.U45M2 at 1.5 A, 230 V, single phase 0.43 N.m for LXM05AD10M2, 200...240 V, single phase 0.43 N.m for LXM05BD10M2, 200...240 V, single phase 0.43 N.m for LXM05CD10M2, 200...240 V, single phase 0.46 N.m for LXM05AD10F1 at 1.5 A, 110...120 V, single phase 0.46 N.m for LXM05BD10F1, 110...120 V, single phase 0.46 N.m for LXM05CD10F1, 110...120 V, single phase 0.46 N.m for LXM05CU70M2, 200...240 V, single phase 0.41 N.m for LXM15LD13M3, 230 V, three phase 0.43 N.m for LXM05AD10M3X, 200...240 V, three phase 0.43 N.m for LXM05BD10M3X, 200...240 V, three phase 0.43 N.m for LXM05CD10M3X, 200...240 V, three phase
<b>Nominal speed</b>	3000 rpm for LXM32.U90M2 at 3 A, 115 V, single phase 6000 rpm for LXM32.U45M2 at 1.5 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 at 1.5 A, 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, 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
<b>Product compatibility</b>	LXM05AD10F1 at 110...120 V single phase LXM05AD10M2 at 200...240 V single phase LXM05BD10F1 at 110...120 V single phase LXM05BD10M2 at 200...240 V single phase LXM05CD10F1 at 110...120 V single phase LXM05CD10M2 at 200...240 V single phase LXM05CU70M2 at 200...240 V single phase LXM32.U90M2 at 115 V single phase LXM32.U45M2 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
<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>	With
<b>Mounting support</b>	International standard flange
<b>Electrical connection</b>	Straight connectors

## Complementary

<b>Range compatibility</b>	Lexium 15 Lexium 05 Lexium 32
<b>supply voltage max</b>	480 V
<b>Network number of phases</b>	Three phase
<b>Continuous stall current</b>	1.4 A
<b>maximum continuous power</b>	0.45 W

<b>Maximum current Irms</b>	6.2 A for LXM15LD13M3 5.4 A for LXM05AD10F1 5.4 A for LXM05CU70M2 5.4 A for LXM05AD10M2 5.4 A for LXM05AD10M3X 5.4 A for LXM05BD10F1 5.4 A for LXM05BD10M2 5.4 A for LXM05BD10M3X 5.4 A for LXM05CD10F1 5.4 A for LXM05CD10M2 5.4 A for LXM05CD10M3X 5.4 A for LXM32.U90M2 4.5 A for LXM32.U45M2
<b>Maximum permanent current</b>	5.4 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>	Single turn SinCos Hiperface
<b>Holding torque</b>	0.8 N.m holding brake
<b>Motor flange size</b>	55 mm
<b>Number of motor stacks</b>	1
<b>Torque constant</b>	0.36 N.m/A at 120 °C
<b>Back emf constant</b>	22 V/krpm at 120 °C
<b>Rotor inertia</b>	0.0803 kg.cm <sup>2</sup>
<b>Stator resistance</b>	12.2 Ohm at 20 °C
<b>Stator inductance</b>	20.8 mH at 20 °C
<b>Stator electrical time constant</b>	1.7 ms at 20 °C
<b>Maximum radial force Fr</b>	170 N at 8000 rpm 180 N at 7000 rpm 190 N at 6000 rpm 200 N at 5000 rpm 220 N at 4000 rpm 240 N at 3000 rpm 270 N at 2000 rpm 340 N at 1000 rpm
<b>Maximum axial force Fa</b>	0.2 x Fr
<b>Brake pull-in power</b>	10 W
<b>Type of cooling</b>	Natural convection
<b>Length</b>	159 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>	1.3 kg
<b>Sizing reference</b>	BSH0551T
<b>Network number of phases</b>	3
<b>Accuracy error [angular]</b>	1.4 °
<b>Temperature copper hot</b>	120 °C

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Temperature magnet hot	100 °C
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Temperature magnet rt	20 °C
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## Packing Units

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Unit Type of Package 1	PCE
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Number of Units in Package 1	1
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Package 1 Height	11.5 cm
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Package 1 Width	19.0 cm
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Package 1 Length	39.5 cm
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Package 1 Weight	950.0 g
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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 >](#)

### 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

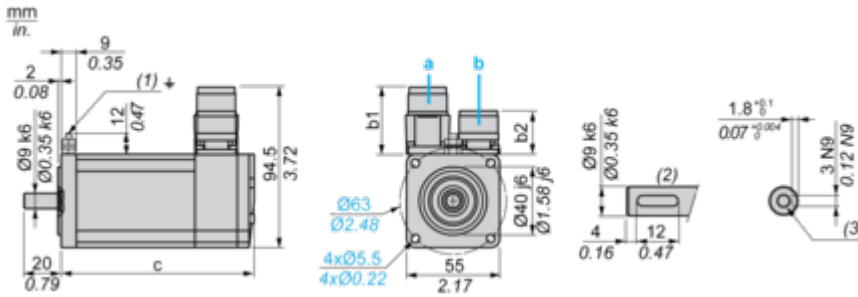


The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

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)
- (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	132.5	159

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	5.21	6.25

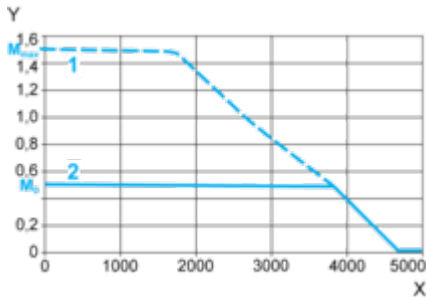
Performance Curves

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

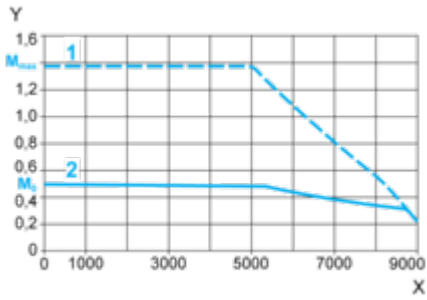
2 Continuous torque

230 V Single-Phase Supply Voltage

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Torque/Speed Curves

Servo motor with LXM32•U45M2 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque