

# Product data sheet

Specifications



servo motor BSH, Lexium 32,  
27.8N.m, 3000rpm, 140mm, keyed  
shaft, Sincos single turn, without  
brake, IP65, straight

BSH1403T31A1P

! Discontinued

! Discontinued on: Jun 30, 2023

## Main

Device short name	BSH
Product or Component Type	Servo motor
Maximum mechanical speed	4800 rpm
Continuous stall torque	246.05 lbf.in (27.8 N.m) LXM32.D72N4 24 A, 400 V, three phase 246.05 lbf.in (27.8 N.m) LXM32.D72N4 24 A, 480 V, three phase
Peak stall torque	798.3 lbf.in (90.2 N.m) LXM32.D72N4 24 A, 400 V, three phase 798.3 lbf.in (90.2 N.m) LXM32.D72N4 24 A, 480 V, three phase
Nominal output power	4100 W LXM32.D72N4 24 A, 400 V, three phase 4100 W LXM32.D72N4 24 A, 480 V, three phase
Nominal torque	114.2 lbf.in (12.9 N.m) LXM32.D72N4 24 A, 400 V, three phase 114.2 lbf.in (12.9 N.m) LXM32.D72N4 24 A, 480 V, three phase
Nominal speed	3000 rpm LXM32.D72N4 24 A, 400 V, three phase 3000 rpm LXM32.D72N4 24 A, 480 V, three phase
Product compatibility	LXM32.D72N4 400 V three phase LXM32.D72N4 480 V three phase
Shaft end	Keyed
IP Degree of Protection	IP65 standard IP67 with IP67 kit
Speed feedback resolution	131072 points/turn
Holding brake	Without
Mounting Support	International standard
Electrical Connection	Straight connectors

## Complementary

Range Compatibility	Lexium 32
supply voltage max	480 V
Phase	Three phase
Continuous stall current	22.3 A
maximum continuous power	3.3 W
Maximum current Irms	72 A LXM32.D72N4
Maximum permanent current	81.3 A
Switching frequency	8 kHz
Second shaft	Without second shaft end

Price is "List Price" and may be subject to a trade discount – check with your local distributor or retailer for actual price.

Shaft diameter	0.9 in (24 mm)
Shaft length	2.0 in (50 mm)
Key width	1.6 in (40 mm)
Feedback type	Single turn SinCos Hiperface
Motor flange size	5.5 in (140 mm)
Number of motor stacks	3
Torque constant	1.25 N.m/A 248 °F (120 °C)
Back emf constant	105 V/krpm 248 °F (120 °C)
Number of motor poles	5.0
Rotor inertia	12.68 kg.cm <sup>2</sup>
Stator resistance	0.4 Ohm 68 °F (20 °C)
Stator inductance	1.35 mH 68 °F (20 °C)
Stator electrical time constant	12.75 ms 68 °F (20 °C)
Maximum radial force Fr	1780 N 3000 rpm 2030 N 2000 rpm 2560 N 1000 rpm
Maximum axial force Fa	0.2 x Fr
Type of cooling	Natural convection
Length	12.9 in (327.5 mm)
Centring collar diameter	5.1 in (130 mm)
Centring collar depth	0.1 in (3.5 mm)
Number of mounting holes	4
Mounting holes diameter	0.4 in (11 mm)
Circle diameter of the mounting holes	6.5 in (165 mm)
Net Weight	46.7 lb(US) (21.2 kg)
Sizing reference	BSH1403T
Network number of phases	3
Accuracy error [angular]	1.4 °
Temperature copper hot	248 °F (120 °C)
Temperature magnet hot	212 °F (100 °C)
Temperature magnet rt	68 °F (20 °C)
Output current 3s peak	81.3 A
Inertia	0.0 kg.cm <sup>2</sup> of brake 17.94 kg.cm <sup>2</sup> of motor

## Ordering and shipping details

GTIN	3606485201528
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## Packing Units

Unit Type of Package 1	PCE
Nbr. of units in pkg.	1
Package 1 Height	10.6 in (27.0 cm)

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<b>Package 1 Width</b>	10.6 in (27.0 cm)
<b>Package 1 Length</b>	19.0 in (48.2 cm)
<b>Package weight(Lbs)</b>	25.4 lb(US) (11.5 kg)

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## **Contractual warranty**

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<b>Warranty (in months)</b>	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	4 469 kg CO2 eq.
Carbon footprint of the manufacturing phase [A1 to A3]	50 kg CO2 eq.
Carbon footprint of the distribution phase [A4]	1 kg CO2 eq.
Carbon footprint of the installation phase [A5]	0.1 kg CO2 eq.
Carbon footprint of the use phase [B2, B3, B4, B6]	4 416 kg CO2 eq.
Carbon footprint of the end-of-life phase [C1 to C4]	1 kg CO2 eq.

## Use Better



### Materials and Substances

Packaging made with recycled cardboard	Yes
Packaging without single use plastic	No
<a href="#">EU RoHS Directive</a>	Pro-active compliance (Product out of EU RoHS legal scope)
REACH Regulation	<a href="#">REACH Declaration</a>
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 <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>

## Use Longer



### Lifetime extension

Repair	No
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## Use Again



### Repack and remanufacture

Circularity Profile	No need of specific recycling operations
Take-back	No

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 screws M8 x 19 mm/M8 x 0.75 in.

Dimensions in mm

Straight connectors			Rotatable angled connectors			c (without brake)	c (with brake)
b	b1	b2	b	b1	b2		
192.5	54	25.5	198.5	60	39.5	328	366

Dimensions in in.

Straight connectors			Rotatable angled connectors			c (without brake)	c (with brake)
b	b1	b2	b	b1	b2		
7.57	2.12	1.00	7.81	2.36	1.55	12.91	14.40

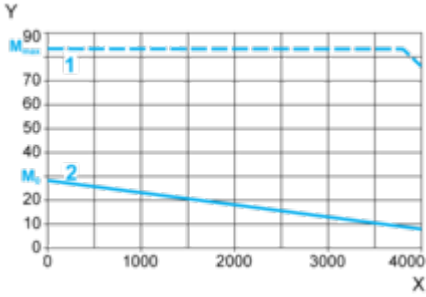
Performance Curves

400 V 3-Phase Supply Voltage

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Torque/Speed Curves

Servo motor with LXM32-D72N4 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

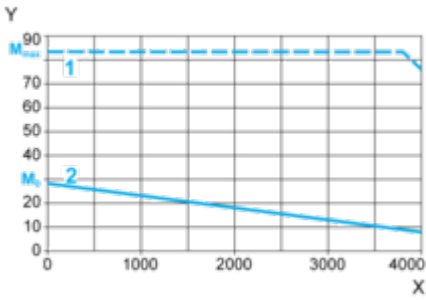
2 Continuous torque

480 V 3-Phase Supply Voltage

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Torque/Speed Curves

Servo motor with LXM32•D72N4 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque