

# Product data sheet

Specifications



servo motor BSH, Lexium 05,  
5.5N.m, 4000rpm, 100mm, keyed  
shaft, Sincos multi turn, without  
brake, IP50

BSH1002T12A2A

**Product availability: Non-Stock - Not normally stocked in  
distribution facility**

## Main

Device short name	BSH
Product or Component Type	Servo motor
Maximum mechanical speed	6000 rpm
Continuous stall torque	51.3 lbf.in (5.8 N.m) LXM32.D30M2 10 A, 230 V, single phase 48.7 lbf.in (5.5 N.m) LXM15LD28M3, 230 V, three phase 48.7 lbf.in (5.5 N.m) LXM05AD42M3X, 200...240 V, three phase 48.7 lbf.in (5.5 N.m) LXM05BD42M3X, 200...240 V, three phase 48.7 lbf.in (5.5 N.m) LXM05CD42M3X, 200...240 V, three phase
Peak stall torque	145.2 lbf.in (16.4 N.m) LXM32.D30M2 10 A, 230 V, single phase 102.58 lbf.in (11.59 N.m) LXM15LD28M3, 230 V, three phase 141.6 lbf.in (16 N.m) LXM05AD42M3X, 200...240 V, three phase 141.6 lbf.in (16 N.m) LXM05BD42M3X, 200...240 V, three phase 141.6 lbf.in (16 N.m) LXM05CD42M3X, 200...240 V, three phase
Nominal output power	1500 W LXM32.D30M2 10 A, 230 V, single phase 1400 W LXM05AD42M3X, 200...240 V, three phase 1400 W LXM05BD42M3X, 200...240 V, three phase 1400 W LXM05CD42M3X, 200...240 V, three phase 1700 W LXM15LD28M3, 230 V, three phase
Nominal torque	32.7 lbf.in (3.7 N.m) LXM32.D30M2 10 A, 230 V, single phase 35.4 lbf.in (4 N.m) LXM15LD28M3, 230 V, three phase 38.9 lbf.in (4.4 N.m) LXM05AD42M3X, 200...240 V, three phase 38.9 lbf.in (4.4 N.m) LXM05BD42M3X, 200...240 V, three phase 38.9 lbf.in (4.4 N.m) LXM05CD42M3X, 200...240 V, three phase
Nominal speed	4000 rpm LXM32.D30M2 10 A, 230 V, single phase 3000 rpm LXM05AD42M3X, 200...240 V, three phase 3000 rpm LXM05BD42M3X, 200...240 V, three phase 3000 rpm LXM05CD42M3X, 200...240 V, three phase 4000 rpm LXM15LD28M3, 230 V, three phase
Product compatibility	LXM32.D30M2 230 V single phase LXM05AD42M3X 200...240 V three phase LXM05BD42M3X 200...240 V three phase LXM05CD42M3X 200...240 V three phase LXM15LD28M3 230 V three phase
Shaft end	Keyed
IP Degree of Protection	IP50 standard
Speed feedback resolution	131072 points/turn x 4096 turns
Holding brake	Without
Mounting Support	International standard flange
Electrical Connection	Rotatable right-angled connectors

## Complementary

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

<b>Range Compatibility</b>	Lexium 05 Lexium 32 Lexium 15
<b>supply voltage max</b>	480 V
<b>Phase</b>	Three phase
<b>Continuous stall current</b>	9.9 A
<b>maximum continuous power</b>	2.51 W
<b>Maximum current Irms</b>	31.2 A LXM15LD28M3 35.4 A LXM05AD42M3X 35.4 A LXM05BD42M3X 35.4 A LXM05CD42M3X 30 A LXM32.D30M2
<b>Maximum permanent current</b>	35.4 A
<b>Switching frequency</b>	8 kHz
<b>Second shaft</b>	Without second shaft end
<b>Shaft diameter</b>	0.7 in (19 mm)
<b>Shaft length</b>	1.6 in (40 mm)
<b>Key width</b>	1.2 in (30 mm)
<b>Feedback type</b>	Multiturn SinCos Hiperface
<b>Motor flange size</b>	3.9 in (100 mm)
<b>Number of motor stacks</b>	2
<b>Torque constant</b>	0.59 N.m/A 248 °F (120 °C)
<b>Back emf constant</b>	37 V/krpm 248 °F (120 °C)
<b>Number of motor poles</b>	4.0
<b>Rotor inertia</b>	2.31 kg.cm <sup>2</sup>
<b>Stator resistance</b>	0.56 Ohm 68 °F (20 °C)
<b>Stator inductance</b>	1.55 mH 68 °F (20 °C)
<b>Stator electrical time constant</b>	5.36 ms 68 °F (20 °C)
<b>Maximum radial force Fr</b>	620 N 4000 rpm 690 N 3000 rpm 790 N 2000 rpm 990 N 1000 rpm
<b>Maximum axial force Fa</b>	0.2 x Fr
<b>Type of cooling</b>	Natural convection
<b>Length</b>	8.05 in (204.5 mm)
<b>Centring collar diameter</b>	3.7 in (95 mm)
<b>Centring collar depth</b>	0.1 in (3.5 mm)
<b>Number of mounting holes</b>	4
<b>Mounting holes diameter</b>	0.4 in (9 mm)
<b>Circle diameter of the mounting holes</b>	4.5 in (115 mm)
<b>Net Weight</b>	13.007 lb(US) (5.9 kg)
<b>Sizing reference</b>	BSH1002T
<b>Network number of phases</b>	3
<b>Accuracy error [angular]</b>	1.4 °
<b>Temperature copper hot</b>	248 °F (120 °C)

Temperature magnet hot	212 °F (100 °C)
Temperature magnet rt	68 °F (20 °C)
Output current 3s peak	35.4 A
Inertia	0.0 kg.cm <sup>2</sup> of brake 2.31 kg.cm <sup>2</sup> of motor

## Ordering and shipping details

Category	US1PC5318282
Discount Schedule	PC53
GTIN	3389118139534
Returnability	No
Country of origin	DE

## Packing Units

Unit Type of Package 1	PCE
Nbr. of units in pkg.	1
Package 1 Height	6.06 in (15.4 cm)
Package 1 Width	6.4 in (16.3 cm)
Package 1 Length	16.02 in (40.7 cm)
Package weight(Lbs)	12.8 lb(US) (5.8 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	1 868 kg CO2 eq.
Carbon footprint of the manufacturing phase [A1 to A3]	25 kg CO2 eq.
Carbon footprint of the distribution phase [A4]	0.7 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]	1 841 kg CO2 eq.
Carbon footprint of the end-of-life phase [C1 to C4]	0.5 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>
PVC free	Yes

## Use Longer



### Lifetime extension

Repair	No
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## Use Again



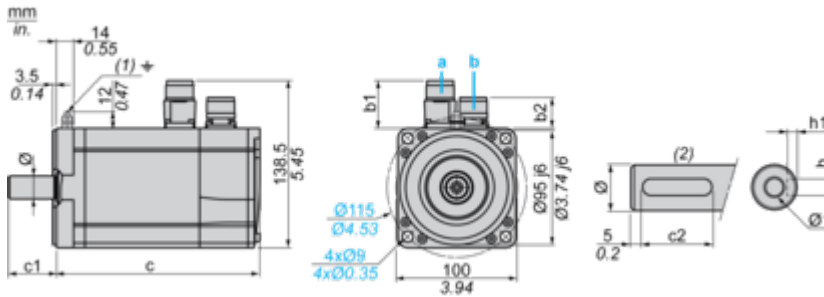
### Repack and remanufacture

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)

Dimensions in mm

Straight connectors		Rotatable angled connectors		c (without brake)	c (with brake)	c1	c2	h	h1	Ø	Ø1 for screws
b1	b2	b1	b2								
39.5	25.5	39.5	39.5	205	236	40	30	6 N9	3.5 <sup>+0.1</sup> <sub>0</sub>	19 k6	M6 x 16

Dimensions in in.

Straight connectors		Rotatable angled connectors		c (without brake)	c (with brake)	c1	c2	h	h1	Ø	Ø1 for screws
b1	b2	b1	b2								
1.55	1.00	1.55	1.55	8.07	9.29	1.57	1.18	0.24 N9	0.14 <sup>+0.1</sup> <sub>0</sub>	0.75 k6	M6 x 0.63

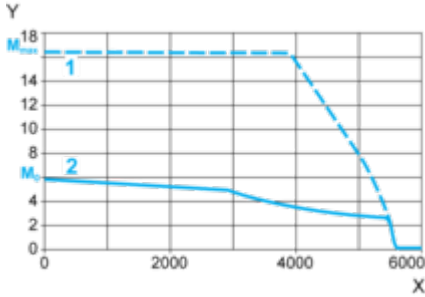
Performance Curves

230 V Single-Phase Supply Voltage

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Torque/Speed Curves

Servo motor with LXM32•D30M2 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque