

# Product data sheet

Specifications



servo motor BSH, Lexium 05,  
3.39N.m, 4000rpm, 100mm, keyed  
shaft, Sincos single turn, without  
brake, IP65

BSH1001T31A2A

## Main

|                           |   |
|---------------------------|---|
| Product Or Component Type | Servo motor   |
| Device Short Name         | BSH   |
| Maximum Mechanical Speed  | 6000 rpm  |
| Continuous Stall Torque   | 3.3 N.m for LXM32.D30M2 at 10 A, 115 V, single phase<br>3.39 N.m for LXM15LD28M3, 230 V, three phase<br>3.4 N.m for LXM05AD28F1, 110...120 V, single phase<br>3.4 N.m for LXM05AD28M2, 200...240 V, single phase<br>3.4 N.m for LXM05AD42M3X, 200...240 V, three phase<br>3.4 N.m for LXM05BD28F1, 110...120 V, single phase<br>3.4 N.m for LXM05BD28M2, 200...240 V, single phase<br>3.4 N.m for LXM05BD42M3X, 200...240 V, three phase<br>3.4 N.m for LXM05CD28F1, 110...120 V, single phase<br>3.4 N.m for LXM05CD28M2, 200...240 V, single phase<br>3.4 N.m for LXM05CD42M3X, 200...240 V, three phase<br>2.7 N.m for LXM32.D18M2 at 6 A, 230 V, single phase     |
| Peak Stall Torque         | 6.3 N.m for LXM32.D30M2 at 10 A, 115 V, single phase<br>8.5 N.m for LXM05AD28F1, 110...120 V, single phase<br>8.5 N.m for LXM05AD28M2, 200...240 V, single phase<br>8.5 N.m for LXM05BD28F1, 110...120 V, single phase<br>8.5 N.m for LXM05BD28M2, 200...240 V, single phase<br>8.5 N.m for LXM05CD28F1, 110...120 V, single phase<br>8.5 N.m for LXM05CD28M2, 200...240 V, single phase<br>7.5 N.m for LXM32.D18M2 at 6 A, 230 V, single phase<br>8.5 N.m for LXM15LD28M3, 230 V, three phase<br>8.5 N.m for LXM05AD42M3X, 200...240 V, three phase<br>8.5 N.m for LXM05BD42M3X, 200...240 V, three phase<br>8.5 N.m for LXM05CD42M3X, 200...240 V, three phase      |
| Nominal Output Power      | 700 W for LXM32.D30M2 at 10 A, 115 V, single phase<br>900 W for LXM32.D18M2 at 6 A, 230 V, single phase<br>500 W for LXM05AD28F1, 110...120 V, single phase<br>500 W for LXM05BD28F1, 110...120 V, single phase<br>500 W for LXM05CD28F1, 110...120 V, single phase<br>900 W for LXM05AD28M2, 200...240 V, single phase<br>900 W for LXM05BD28M2, 200...240 V, single phase<br>900 W for LXM05CD28M2, 200...240 V, single phase<br>1150 W for LXM15LD28M3, 230 V, three phase<br>900 W for LXM05AD42M3X, 200...240 V, three phase<br>900 W for LXM05BD42M3X, 200...240 V, three phase<br>900 W for LXM05CD42M3X, 200...240 V, three phase                             |
| Nominal Torque            | 2.75 N.m for LXM32.D30M2 at 10 A, 115 V, single phase<br>2.9 N.m for LXM05AD28M2, 200...240 V, single phase<br>2.9 N.m for LXM05BD28M2, 200...240 V, single phase<br>2.9 N.m for LXM05CD28M2, 200...240 V, single phase<br>3.16 N.m for LXM05AD28F1, 110...120 V, single phase<br>3.16 N.m for LXM05BD28F1, 110...120 V, single phase<br>3.16 N.m for LXM05CD28F1, 110...120 V, single phase<br>2.2 N.m for LXM32.D18M2 at 6 A, 230 V, single phase<br>2.75 N.m for LXM15LD28M3, 230 V, three phase<br>2.9 N.m for LXM05AD42M3X, 200...240 V, three phase<br>2.9 N.m for LXM05BD42M3X, 200...240 V, three phase<br>2.9 N.m for LXM05CD42M3X, 200...240 V, three phase |

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

|                           |  |
|---------------------------|--|
| Nominal Speed             | 2500 rpm for LXM32.D30M2 at 10 A, 115 V, single phase<br>3000 rpm for LXM05AD28M2, 200...240 V, single phase<br>3000 rpm for LXM05BD28M2, 200...240 V, single phase<br>3000 rpm for LXM05CD28M2, 200...240 V, single phase<br>3000 rpm for LXM05AD42M3X, 200...240 V, three phase<br>3000 rpm for LXM05BD42M3X, 200...240 V, three phase<br>3000 rpm for LXM05CD42M3X, 200...240 V, three phase<br>4000 rpm for LXM32.D18M2 at 6 A, 230 V, single phase<br>1500 rpm for LXM05AD28F1, 110...120 V, single phase<br>1500 rpm for LXM05BD28F1, 110...120 V, single phase<br>1500 rpm for LXM05CD28F1, 110...120 V, single phase<br>4000 rpm for LXM15LD28M3, 230 V, three phase |
| Product Compatibility     | LXM05AD28F1 at 110...120 V single phase<br>LXM05AD28M2 at 200...240 V single phase<br>LXM05BD28F1 at 110...120 V single phase<br>LXM05BD28M2 at 200...240 V single phase<br>LXM05CD28F1 at 110...120 V single phase<br>LXM05CD28M2 at 200...240 V single phase<br>LXM32.D30M2 at 115 V single phase<br>LXM32.D18M2 at 230 V single phase<br>LXM05AD42M3X at 200...240 V three phase<br>LXM05BD42M3X at 200...240 V three phase<br>LXM05CD42M3X at 200...240 V three phase<br>LXM15LD28M3 at 230 V three phase  |
| Shaft End                 | Keyed  |
| Ip Degree Of Protection   | IP65 standard<br>IP67 with IP67 kit  |
| Speed Feedback Resolution | 131072 points/turn   |
| Holding Brake             | Without  |
| Mounting Support          | International standard flange  |
| Electrical Connection     | Rotatable right-angled connectors  |

## Complementary

|                           |   |
|---------------------------|---|
| Range Compatibility       | Lexium 05<br>Lexium 15<br>Lexium 32   |
| Supply Voltage Max        | 480 V   |
| Network Number Of Phases  | Three phase   |
| Continuous Stall Current  | 7.3 A   |
| Maximum Continuous Power  | 1.6 W   |
| Maximum Current Irms      | 18 A for LXM32.D18M2 at 230 V<br>15 A for LXM32.D30M2 at 115 V<br>23 A for LXM15LD28M3<br>25.1 A for LXM05AD28F1<br>25.1 A for LXM05AD28M2<br>25.1 A for LXM05AD42M3X<br>25.1 A for LXM05BD28F1<br>25.1 A for LXM05BD28M2<br>25.1 A for LXM05BD42M3X<br>25.1 A for LXM05CD28F1<br>25.1 A for LXM05CD28M2<br>25.1 A for LXM05CD42M3X |
| Maximum Permanent Current | 25.1 A  |
| Switching Frequency       | 8 kHz   |
| Second Shaft              | Without second shaft end  |
| Shaft Diameter            | 19 mm   |
| Shaft Length              | 40 mm   |
| Key Width                 | 30 mm   |
| Feedback Type             | Single turn SinCos Hiperface  |

|                                       |   |
|---------------------------------------|---|
| Motor Flange Size                     | 100 mm  |
| Number Of Motor Stacks                | 1   |
| Torque Constant                       | 0.45 N.m/A at 120 °C  |
| Back Emf Constant                     | 29 V/krpm at 120 °C   |
| Number Of Motor Poles                 | 8   |
| Rotor Inertia                         | 1.4 kg.cm <sup>2</sup>  |
| Stator Resistance                     | 0.87 Ohm at 20 °C   |
| Stator Inductance                     | 4 mH at 20 °C   |
| Stator Electrical Time Constant       | 4.6 ms at 20 °C   |
| Maximum Radial Force Fr               | 530 N at 5000 rpm<br>570 N at 4000 rpm<br>630 N at 3000 rpm<br>720 N at 2000 rpm<br>900 N at 1000 rpm |
| Maximum Axial Force Fa                | 0.2 x Fr  |
| Type Of Cooling                       | Natural convection  |
| Length                                | 168.5 mm  |
| Centring Collar Diameter              | 95 mm   |
| Centring Collar Depth                 | 3.5 mm  |
| Number Of Mounting Holes              | 4   |
| Mounting Holes Diameter               | 9 mm  |
| Circle Diameter Of The Mounting Holes | 115 mm  |
| Net Weight                            | 4.2 kg  |

## Packing Units

|                              |         |
|------------------------------|---------|
| Unit Type Of Package 1       | PCE     |
| Number Of Units In Package 1 | 1       |
| Package 1 Height             | 15.4 cm |
| Package 1 Width              | 16.3 cm |
| Package 1 Length             | 40.7 cm |
| Package 1 Weight             | 4.3 kg  |

## Contractual warranty

|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

## Sustainability

**Green Premium™** label is Schneider Electric's commitment to delivering products with best-in-class environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO<sub>2</sub> products.

**Guide to assessing product sustainability** is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

[Learn more about Green Premium >](#)

[Guide to assess a product's sustainability >](#)



Transparency   RoHS/REACH

## Well-being performance

✓ Mercury Free

✓ Rohs Exemption Information   [Yes](#)

✓ Pvc Free

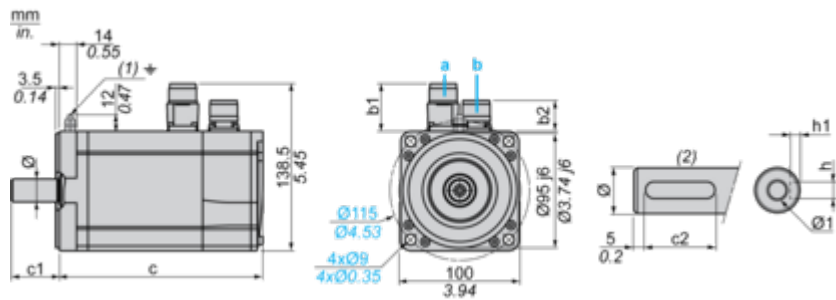
## Certifications & Standards

|                           |   |
|---------------------------|---|
| Reach Regulation          | <a href="#">REACH Declaration</a>   |
| Eu Rohs Directive         | Pro-active compliance (Product out of EU RoHS legal scope)  |
| China Rohs Regulation     | <a href="#">China RoHS declaration</a>  |
| Environmental Disclosure  | <a href="#">Product Environmental Profile</a>   |
| Weee                      | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins   |
| Circularity Profile       | No need of specific recycling operations  |
| 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> |

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 | 169               | 200            | 40 | 30 | 6<br>N9 | 3.5 <sup>+0.1</sup> <sub>0</sub> | 19<br>k6 | M6 x 16       |

Dimensions in in.

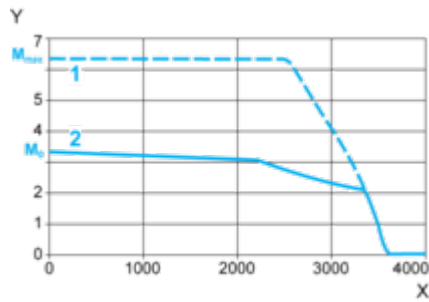
| Straight connectors |      | Rotatable angled connectors |      | c (without brake) | c (with brake) | c1   | c2   | h          | h1                                | Ø          | Ø1 for screws |
|---------------------|------|-----------------------------|------|-------------------|----------------|------|------|------------|-----------------------------------|------------|---------------|
| b1                  | b2   | b1                          | b2   |                   |                |      |      |            |                                   |            |               |
| 1.55                | 1.00 | 1.55                        | 1.55 | 6.65              | 7.87           | 1.57 | 1.18 | 0.24<br>N9 | 0.14 <sup>+0.1</sup> <sub>0</sub> | 0.75<br>k6 | M6 x<br>0.63  |

Performance Curves

115 V Single-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D30M2 servo drive

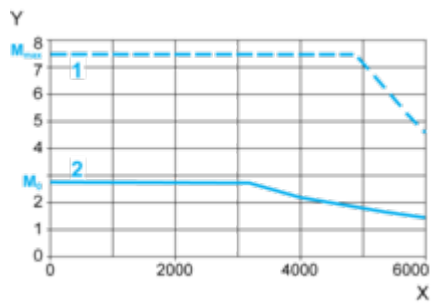


- X Speed in rpm
- Y Torque in Nm
- 1 Peak torque
- 2 Continuous torque

230 V Single-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D18M2 servo drive



- X Speed in rpm
- Y Torque in Nm
- 1 Peak torque
- 2 Continuous torque