# Product data sheet

Specifications

## AC servo motor BSH, Lexium 05, 11.1N.m, 1500rpm, untapped shaft, with brake, IP65

BSH1401P21F1A

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

**Price*: 3,517.50 USD**

## Main

| | |
|---|---|
| **Product Or Component Type** | Servo motor |
| **Device Short Name** | BSH |
| **Maximum Mechanical Speed** | 4000 rpm |
| **Continuous Stall Torque** | 98.24 lbf.in (11.1 N.m) LXM32.D30N4 10 A, 400 V, three phase<br>98.24 lbf.in (11.1 N.m) LXM32.D30N4 10 A, 480 V, three phase<br>98.24 lbf.in (11.1 N.m) LXM15MD28N4, 400 V, three phase<br>98.24 lbf.in (11.1 N.m) LXM15MD28N4, 480 V, three phase<br>98.24 lbf.in (11.1 N.m) LXM15MD28N4, 230 V, three phase<br>98.24 lbf.in (11.1 N.m) LXM15MD40N4, 400 V, three phase<br>98.24 lbf.in (11.1 N.m) LXM15MD40N4, 480 V, three phase<br>98.24 lbf.in (11.1 N.m) LXM15LD28M3, 230 V, three phase<br>100.90 lbf.in (11.4 N.m) LXM05AD34N4, 380...480 V, three phase<br>100.90 lbf.in (11.4 N.m) LXM05BD34N4, 380...480 V, three phase<br>100.90 lbf.in (11.4 N.m) LXM05CD34N4, 380...480 V, three phase |
| **Peak Stall Torque** | 238.97 lbf.in (27 N.m) LXM32.D30N4 10 A, 400 V, three phase<br>238.97 lbf.in (27 N.m) LXM32.D30N4 10 A, 480 V, three phase<br>206.49 lbf.in (23.33 N.m) LXM15MD28N4, 230 V, three phase<br>206.49 lbf.in (23.33 N.m) LXM15MD28N4, 400 V, three phase<br>206.49 lbf.in (23.33 N.m) LXM15MD28N4, 480 V, three phase<br>206.49 lbf.in (23.33 N.m) LXM15MD40N4, 400 V, three phase<br>206.49 lbf.in (23.33 N.m) LXM15MD40N4, 480 V, three phase<br>210.65 lbf.in (23.8 N.m) LXM15LD28M3, 230 V, three phase<br>206.49 lbf.in (23.33 N.m) LXM05AD34N4, 380...480 V, three phase<br>206.49 lbf.in (23.33 N.m) LXM05BD34N4, 380...480 V, three phase<br>206.49 lbf.in (23.33 N.m) LXM05CD34N4, 380...480 V, three phase |
| **Nominal Output Power** | 2500 W LXM32.D30N4 10 A, 400 V, three phase<br>3000 W LXM32.D30N4 10 A, 480 V, three phase<br>2000 W LXM15MD28N4, 400 V, three phase<br>2000 W LXM15MD40N4, 400 V, three phase<br>2200 W LXM05AD34N4, 380...480 V, three phase<br>2200 W LXM05BD34N4, 380...480 V, three phase<br>2200 W LXM05CD34N4, 380...480 V, three phase<br>1400 W LXM15LD28M3, 230 V, three phase<br>1400 W LXM15MD28N4, 230 V, three phase<br>2150 W LXM15MD28N4, 480 V, three phase<br>2150 W LXM15MD40N4, 480 V, three phase |
| **Nominal Torque** | 84.08 lbf.in (9.5 N.m) LXM32.D30N4 10 A, 400 V, three phase<br>84.08 lbf.in (9.5 N.m) LXM32.D30N4 10 A, 480 V, three phase<br>60.18 lbf.in (6.8 N.m) LXM15MD28N4, 480 V, three phase<br>60.18 lbf.in (6.8 N.m) LXM15MD40N4, 480 V, three phase<br>61.07 lbf.in (6.9 N.m) LXM05AD34N4, 380...480 V, three phase<br>61.07 lbf.in (6.9 N.m) LXM05BD34N4, 380...480 V, three phase<br>61.07 lbf.in (6.9 N.m) LXM05CD34N4, 380...480 V, three phase<br>67.53 lbf.in (7.63 N.m) LXM15MD28N4, 400 V, three phase<br>67.53 lbf.in (7.63 N.m) LXM15MD40N4, 400 V, three phase<br>80.54 lbf.in (9.1 N.m) LXM15LD28M3, 230 V, three phase<br>80.54 lbf.in (9.1 N.m) LXM15MD28N4, 230 V, three phase |

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

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 LXM32.D30N4 10 A, 400 V, three phase<br>3000 rpm LXM32.D30N4 10 A, 480 V, three phase<br>3000 rpm LXM05AD34N4, 380...480 V, three phase<br>3000 rpm LXM05BD34N4, 380...480 V, three phase<br>3000 rpm LXM05CD34N4, 380...480 V, three phase<br>1500 rpm LXM15MD28N4, 230 V, three phase<br>1500 rpm LXM15LD28M3, 230 V, three phase<br>2500 rpm LXM15MD28N4, 400 V, three phase<br>2500 rpm LXM15MD40N4, 400 V, three phase<br>3000 rpm LXM15MD28N4, 480 V, three phase<br>3000 rpm LXM15MD40N4, 480 V, three phase |
| **Product Compatibility** | LXM15LD28M3 230 V three phase<br>LXM05AD34N4 380...480 V three phase<br>LXM05BD34N4 380...480 V three phase<br>LXM05CD34N4 380...480 V three phase<br>LXM15MD28N4 400 V three phase<br>LXM15MD28N4 480 V three phase<br>LXM15MD40N4 400 V three phase<br>LXM15MD40N4 480 V three phase<br>LXM15MD28N4 230 V three phase |
| **Shaft End** | Untapped |
| **Ip Degree Of Protection** | IP65 standard<br>IP67 with IP67 kit |
| **Speed Feedback Resolution** | 131072 points/turn |
| **Holding Brake** | With |
| **Mounting Support** | International standard flange |
| **Electrical Connection** | Straight connectors |

## Complementary

| | |
|---|---|
| **Range Compatibility** | Lexium 15<br>Lexium 32<br>Lexium 05 |
| **Supply Voltage Max** | 480 V |
| **Phase** | Three phase |
| **Continuous Stall Current** | 7.8 A |
| **Maximum Continuous Power** | 3.6 W |
| **Maximum Current Irms** | 20.8 A LXM15LD28M3<br>20.8 A LXM15MD28N4<br>20.8 A LXM15MD40N4<br>20.8 A LXM05AD34N4<br>20.8 A LXM05BD34N4<br>20.8 A LXM05CD34N4<br>20.8 A LXM32.D30N4 |
| **Maximum Permanent Current** | 20.8 A |
| **Switching Frequency** | 8 kHz |
| **Second Shaft** | Without second shaft end |
| **Shaft Diameter** | 0.94 in (24 mm) |
| **Shaft Length** | 1.97 in (50 mm) |
| **Feedback Type** | Single turn SinCos Hiperface |
| **Holding Torque** | 203.57 lbf.in (23 N.m) holding brake |
| **Motor Flange Size** | 5.51 in (140 mm) |
| **Number Of Motor Stacks** | 1 |
| **Torque Constant** | 1.43 N.m/A 248 °F (120 °C) |
| **Back Emf Constant** | 100 V/krpm 248 °F (120 °C) |

| | |
|---|---|
| **Number Of Motor Poles** | 10 |
| **Rotor Inertia** | 9.21 kg.cm² |
| **Stator Resistance** | 1.41 Ohm 68 °F (20 °C) |
| **Stator Inductance** | 15.6 mH 68 °F (20 °C) |
| **Stator Electrical Time Constant** | 11.06 ms 68 °F (20 °C) |
| **Maximum Radial Force Fr** | 1530 N 3000 rpm<br>1760 N 2000 rpm<br>2210 N 1000 rpm |
| **Maximum Axial Force Fa** | 0.2 x Fr |
| **Brake Pull-In Power** | 24 W |
| **Type Of Cooling** | Natural convection |
| **Length** | 10.06 in (255.5 mm) |
| **Centring Collar Diameter** | 5.12 in (130 mm) |
| **Centring Collar Depth** | 0.14 in (3.5 mm) |
| **Number Of Mounting Holes** | 4 |
| **Mounting Holes Diameter** | 0.43 in (11 mm) |
| **Circle Diameter Of The Mounting Holes** | 6.50 in (165 mm) |
| **Net Weight** | 28.66 lb(US) (13 kg) |

## Ordering and shipping details

| | |
|---|---|
| **Category** | US1PC5318282 |
| **Discount Schedule** | PC53 |
| **Gtin** | 3389118140868 |
| **Returnability** | No |
| **Country Of Origin** | DE |

## Packing Units

| | |
|---|---|
| **Unit Type Of Package 1** | PCE |
| **Number Of Units In Package 1** | 1 |
| **Package 1 Height** | 10.63 in (27.0 cm) |
| **Package 1 Width** | 10.63 in (27.0 cm) |
| **Package 1 Length** | 18.98 in (48.2 cm) |
| **Package 1 Weight** | 21.58 lb(US) (9.79 kg) |

## Contractual warranty

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

## Sustainability

**Green Premium$^{TM}$ 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-$CO_2$ 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 |

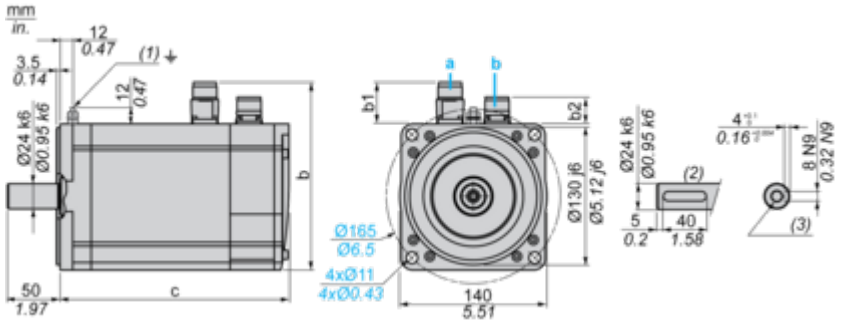
## Certifications & Standards

| | |
|---|---|
| **Reach Regulation** | REACh Declaration |
| **Eu Rohs Directive** | Pro-active compliance (Product out of EU RoHS legal scope) |
| **China Rohs Regulation** | China RoHS declaration |
| **Environmental Disclosure** | Product Environmental Profile |
| **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 www.P65Warnings.ca.gov |

## 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 | | |
| 178 | 39.5 | 25.5 | 178 | 39.5 | 39.5 | 218 | 256 |

Dimensions in in.

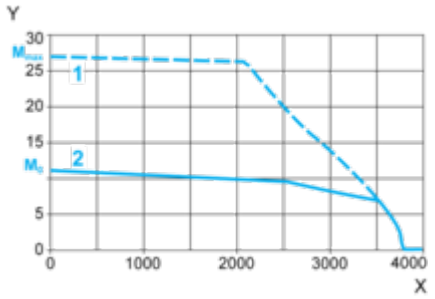
| Straight connectors | | | Rotatable angled connectors | | | c (without brake) | c (with brake) |
|---|---|---|---|---|---|---|---|
| b | b1 | b2 | b | b1 | b2 | | |
| 7.00 | 1.55 | 1.00 | 7.00 | 1.55 | 1.55 | 8.58 | 10.07 |

## Performance Curves

### 400 V 3-Phase Supply Voltage

#### Torque/Speed Curves

**Servo motor with LXM32•D30N4 servo drive**

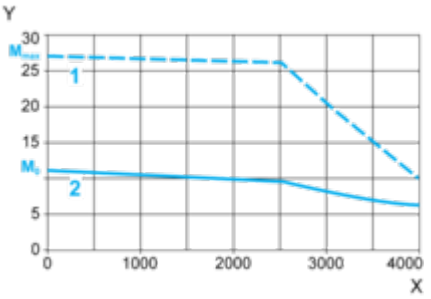



**X** Speed in rpm
**Y** Torque in Nm
**1** Peak torque
**2** Continuous torque

## 480 V 3-Phase Supply Voltage

### Torque/Speed Curves

**Servo motor with LXM32•D30N4 servo drive**




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