## Product data sheet

Specifications





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

BSH1401P22F1A

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

### Price\*: 4,005.00 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) LXM15D28M3, 230 V, three phase<br>100.90 lbf.in (11.4 N.m) LXM05AD34N4, 380480 V, three phase<br>100.90 lbf.in (11.4 N.m) LXM05D34N4, 380480 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, 480 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 (23.33 N.m) LXM15LD28M3, 230 V, three phase<br>206.49 lbf.in (23.33 N.m) LXM15LD28M3, 230 V, three phase<br>206.49 lbf.in (23.33 N.m) LXM05AD34N4, 380480 V, three phase<br>206.49 lbf.in (23.33 N.m) LXM05BD34N4, 380480 V, three phase<br>206.49 lbf.in (23.33 N.m) LXM05BD34N4, 380480 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, 380480 V, three phase<br>2200 W LXM05BD34N4, 380480 V, three phase<br>2200 W LXM05CD34N4, 380480 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 LXM15MD28N4, 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, 380480 V, three phase<br>61.07 lbf.in (6.9 N.m) LXM05DD34N4, 380480 V, three phase<br>61.07 lbf.in (6.9 N.m) LXM05CD34N4, 380480 V, three phase<br>61.07 lbf.in (6.9 N.m) LXM05CD34N4, 380480 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) LXM15MD28N4, 400 V, three phase<br>80.54 lbf.in (9.1 N.m) LXM15DD28M3, 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.

| Nominal Speed             | 2500 rpm LXM32.D30N4 10 A, 400 V, three phase |  |  |  |
|---------------------------|-----------------------------------------------|--|--|--|
|                           | 3000 rpm LXM32.D30N4 10 A, 480 V, three phase |  |  |  |
|                           | 3000 rpm LXM05AD34N4, 380480 V, three phase   |  |  |  |
|                           | 3000 rpm LXM05BD34N4, 380480 V, three phase   |  |  |  |
|                           | 3000 rpm LXM05CD34N4, 380480 V, three phase   |  |  |  |
|                           | 1500 rpm LXM15MD28N4, 230 V, three phase      |  |  |  |
|                           | 1500 rpm LXM15LD28M3, 230 V, three phase      |  |  |  |
|                           | 2500 rpm LXM15MD28N4, 400 V, three phase      |  |  |  |
|                           | 2500 rpm LXM15MD40N4, 400 V, three phase      |  |  |  |
|                           | 3000 rpm LXM15MD28N4, 480 V, three phase      |  |  |  |
|                           | 3000 rpm LXM15MD40N4, 480 V, three phase      |  |  |  |
| Product Compatibility     | LXM15LD28M3 230 V three phase                 |  |  |  |
|                           | LXM05AD34N4 380480 V three phase              |  |  |  |
|                           | LXM05BD34N4 380480 V three phase              |  |  |  |
|                           | LXM05CD34N4 380480 V three phase              |  |  |  |
|                           | LXM15MD28N4 400 V three phase                 |  |  |  |
|                           | LXM15MD28N4 480 V three phase                 |  |  |  |
|                           | LXM15MD40N4 400 V three phase                 |  |  |  |
|                           | LXM15MD40N4 480 V three phase                 |  |  |  |
|                           | LXM15MD28N4 230 V three phase                 |  |  |  |
| Shaft End                 | Untapped                                      |  |  |  |
| Ip Degree Of Protection   | IP65 standard                                 |  |  |  |
|                           | IP67 with IP67 kit                            |  |  |  |
| Speed Feedback Resolution | 131072 points/turn x 4096 turns               |  |  |  |
| Holding Brake             | With                                          |  |  |  |
| Mounting Support          | rt International standard flange              |  |  |  |
| Electrical Connection     | Straight connectors                           |  |  |  |
|                           |                                               |  |  |  |

## Complementary

| e emprementar y                              |                                      |  |  |  |  |
|----------------------------------------------|--------------------------------------|--|--|--|--|
| Range Compatibility                          | Lexium 32                            |  |  |  |  |
| hange compatibility                          | Lexium 15                            |  |  |  |  |
|                                              |                                      |  |  |  |  |
|                                              | 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                   |  |  |  |  |
|                                              | 20.8 A LXM15MD28N4                   |  |  |  |  |
|                                              | 20.8 A LXM15MD40N4                   |  |  |  |  |
|                                              | 20.8 A LXM05AD34N4                   |  |  |  |  |
|                                              | 20.8 A LXM05BD34N4                   |  |  |  |  |
|                                              | 20.8 A LXM05CD34N4                   |  |  |  |  |
|                                              | 20.8 A LXM32.D30N4                   |  |  |  |  |
|                                              | 20.0 A LAWIOZ. DOUN4                 |  |  |  |  |
| 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                                | Multiturn 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.cm <sup>2</sup>                               |  |  |  |  |
| 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<br>Holes | 6.50 in (165 mm)                                      |  |  |  |  |
| Net Weight                               | 28.66 lb(US) (13 kg)                                  |  |  |  |  |

## Ordering and shipping details

| Category          | US1PC5318282  |  |  |  |
|-------------------|---------------|--|--|--|
| Discount Schedule | PC53          |  |  |  |
| Gtin              | 3389118140882 |  |  |  |
| 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 Screen Premium

**Green Premium<sup>TM</sup> label** is Schneider Electric's commitment to delivering products with best-inclass 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



Rohs Exemption Information
Yes

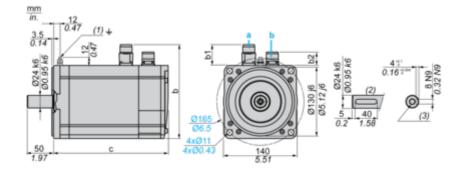
## **Certifications & Standards**

| 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<br>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<br>compounds, which is known to the State of California to cause cancer and birth<br>defects or other reproductive harm. For more information go to<br>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

| Straig | ght conn | ectors | Rotatable angled connectors |      |      |                   | e (with heales) |
|--------|----------|--------|-----------------------------|------|------|-------------------|-----------------|
| b      | b1       | b2     | b                           | b1   | b2   | c (without brake) | c (with brake)  |
| 178    | 39.5     | 25.5   | 178                         | 39.5 | 39.5 | 218               | 256             |

Dimensions in in.

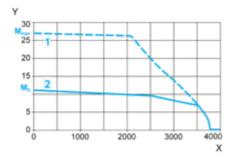
| Straig | Straight connectors |      | Rotatable angled connectors |      |      |                   | a (with healta) |
|--------|---------------------|------|-----------------------------|------|------|-------------------|-----------------|
| b      | b1                  | b2   | b                           | b1   | b2   | c (without brake) | c (with brake)  |
| 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



 $\boldsymbol{X}$  Speed in rpm

Y Torque in Nm

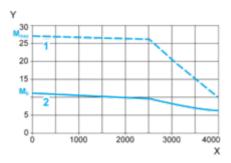
1 Peak torque

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