# Product data sheet

Specifications





# AC servo motor BSH, Lexium 05, 7.8N.m, 2500rpm, untapped shaft, with brake, IP50

BSH1003P01F1A

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

## Price\*: 4,443.75 USD

# Main

| Product Or Component Type | Servo motor   |  |  |  |  |  |  |
|---------------------------|---|--|--|--|--|--|--|
| Device Short Name         | BSH   |  |  |  |  |  |  |
| Maximum Mechanical Speed  | 6000 rpm  |  |  |  |  |  |  |
| Continuous Stall Torque   | 70.81 lbf.in (8 N.m) LXM32.D30N4 10 A, 400 V, three phase<br>70.81 lbf.in (8 N.m) LXM32.D30N4 10 A, 480 V, three phase<br>69.04 lbf.in (7.8 N.m) LXM05CD28M2, 200240 V, single phase<br>69.04 lbf.in (7.8 N.m) LXM05AD28M2, 200240 V, single phase<br>69.04 lbf.in (7.8 N.m) LXM05BD28M2, 200240 V, single phase<br>69.04 lbf.in (7.8 N.m) LXM05BD24M3X, 200240 V, three phase<br>69.04 lbf.in (7.8 N.m) LXM05BD42M3X, 200240 V, three phase<br>69.04 lbf.in (7.8 N.m) LXM05BD42M3X, 200240 V, three phase<br>69.04 lbf.in (7.8 N.m) LXM05CD34N4, 380480 V, three phase<br>69.04 lbf.in (7.8 N.m) LXM05CD42M3X, 200240 V, three phase<br>69.04 lbf.in (7.8 N.m) LXM05CD42M3X, 200240 V, three phase<br>59.30 lbf.in (6.7 N.m) LXM15LD17N4, 230 V, three phase<br>59.30 lbf.in (6.7 N.m) LXM15LD17N4, 400 V, three phase<br>59.30 lbf.in (6.7 N.m) LXM15LD17N4, 480 V, three phase<br>69.04 lbf.in (7.8 N.m) LXM15LD17N4, 480 V, three phase<br>69.04 lbf.in (7.8 N.m) LXM15LD28N4, 400 V, three phase<br>69.04 lbf.in (7.8 N.m) LXM15MD28N4, 400 V, three phase<br>69.04 lbf.in (7.8 N.m) LXM15MD28N4, 480 V, three phase<br>69.04 lbf.in (7.8 N.m) LXM15MD28N4, 480 V, three phase<br>69.04 lbf.in (7.8 N.m) LXM15MD40N4, 480 V, three phase<br>69.04 lbf.in (7.8 N.m) LXM05AD34N4, 380480 V, three phase |  |  |  |  |  |  |
| Peak Stall Torque         | 250.48 lbf.in (28.3 N.m) LXM32.D30N4 10 A, 400 V, three phase<br>250.48 lbf.in (28.3 N.m) LXM32.D30N4 10 A, 480 V, three phase<br>174.27 lbf.in (19.69 N.m) LXM05AD28M2, 200240 V, single phase<br>174.27 lbf.in (19.69 N.m) LXM05BD28M2, 200240 V, single phase<br>174.27 lbf.in (19.69 N.m) LXM05DD28M2, 200240 V, single phase<br>137.19 lbf.in (15.5 N.m) LXM05LD28M2, 200240 V, single phase<br>137.19 lbf.in (12.5 N.m) LXM15LD21M3, 230 V, three phase<br>110.63 lbf.in (12.5 N.m) LXM15LD17N4, 430 V, three phase<br>110.63 lbf.in (12.5 N.m) LXM15LD17N4, 400 V, three phase<br>110.63 lbf.in (12.5 N.m) LXM15LD28M3, 230 V, three phase<br>174.27 lbf.in (19.69 N.m) LXM15LD28M3, 230 V, three phase<br>174.27 lbf.in (19.69 N.m) LXM15MD28N4, 400 V, three phase<br>174.27 lbf.in (19.69 N.m) LXM15MD28N4, 400 V, three phase<br>205.07 lbf.in (23.17 N.m) LXM15MD40N4, 480 V, three phase<br>205.07 lbf.in (23.17 N.m) LXM15MD40N4, 480 V, three phase<br>205.07 lbf.in (23.01 N.m) LXM05AD34N4, 380480 V, three phase<br>205.07 lbf.in (23.17 N.m) LXM05BD34N4, 380480 V, three phase<br>203.66 lbf.in (23.17 N.m) LXM05BD42M3X, 200240 V, three phase<br>203.66 lbf.in (23.17 N.m) LXM05BD42M3X, 200240 V, three phase<br>203.66 lbf.in (23.01 N.m) LXM05BD42M3X, 200240 V, three phase<br>203.66 lbf.in (23.01 N.m) LXM05BD42M3X, 200240 V, three phase<br>203.66 lbf.in (23.17 N.m) LXM05CD34N4, 380480 V, three phase<br>203.66 lbf.in (23.17 N.m) LXM05CD34N4, 380480 V, three phase<br>205.07 lbf.in (23.17 N.m) LXM05CD34N4, 380240 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.

| 000 W LXM32.D30N4 10 A, 400 V, three phase<br>600 W LXM32.D30N4 10 A, 480 V, three phase<br>100 W LXM05AD28M2, 200240 V, single phase<br>100 W LXM05BD28M2, 200240 V, single phase<br>100 W LXM05CD28M2, 200240 V, single phase<br>100 W LXM05AD42M3X, 200240 V, three phase<br>100 W LXM05BD42M3X, 200240 V, three phase<br>100 W LXM05CD42M3X, 200240 V, three phase |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|
| 100 W LXM05AD28M2, 200240 V, single phase<br>100 W LXM05BD28M2, 200240 V, single phase<br>100 W LXM05CD28M2, 200240 V, single phase<br>100 W LXM05AD42M3X, 200240 V, three phase<br>100 W LXM05BD42M3X, 200240 V, three phase  |  |  |  |  |  |  |  |  |
| 100 W LXM05BD28M2, 200240 V, single phase<br>100 W LXM05CD28M2, 200240 V, single phase<br>100 W LXM05AD42M3X, 200240 V, three phase<br>100 W LXM05BD42M3X, 200240 V, three phase   |  |  |  |  |  |  |  |  |
| 100 W LXM05CD28M2, 200240 V, single phase<br>100 W LXM05AD42M3X, 200240 V, three phase<br>100 W LXM05BD42M3X, 200240 V, three phase  |  |  |  |  |  |  |  |  |
| 100 W LXM05AD42M3X, 200240 V, three phase<br>100 W LXM05BD42M3X, 200240 V, three phase   |  |  |  |  |  |  |  |  |
| 100 W LXM05BD42M3X, 200240 V, three phase  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| 100 W LXM05CD42M3X, 200240 V, three phase  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| 300 W LXM15LD28M3, 230 V, three phase  |  |  |  |  |  |  |  |  |
| 700 W LXM15LD17N4, 230 V, three phase  |  |  |  |  |  |  |  |  |
| 700 W LXM15LD21M3, 230 V, three phase  |  |  |  |  |  |  |  |  |
| 800 W LXM05AD34N4, 380480 V, three phase   |  |  |  |  |  |  |  |  |
| 800 W LXM05BD34N4, 380480 V, three phase   |  |  |  |  |  |  |  |  |
| 800 W LXM05CD34N4, 380480 V, three phase   |  |  |  |  |  |  |  |  |
| 000 W LXM15MD28N4, 400 V, three phase  |  |  |  |  |  |  |  |  |
| 000 W LXM15MD40N4, 400 V, three phase  |  |  |  |  |  |  |  |  |
| 200 W LXM15LD17N4, 400 V, three phase  |  |  |  |  |  |  |  |  |
| 200 W LXM15MD28N4, 480 V, three phase  |  |  |  |  |  |  |  |  |
| 200 W LXM15MD40N4, 480 V, three phase  |  |  |  |  |  |  |  |  |
| 300 W LXM15LD17N4, 480 V, three phase  |  |  |  |  |  |  |  |  |
| 5.76 lbf.in (6.3 N.m) LXM32.D30N4 10 A, 400 V, three phase   |  |  |  |  |  |  |  |  |
| 5.76 lbf.in (6.3 N.m) LXM32.D30N4 10 A, 480 V, three phase   |  |  |  |  |  |  |  |  |
| 2.75 lbf.in (3.7 N.m) LXM15LD17N4, 480 V, three phase  |  |  |  |  |  |  |  |  |
| 9.57 lbf.in (6.73 N.m) LXM05AD28M2, 200240 V, single phase   |  |  |  |  |  |  |  |  |
| 9.57 lbf.in (6.73 N.m) LXM05BD28M2, 200240 V, single phase   |  |  |  |  |  |  |  |  |
| 9.57 lbf.in (6.73 N.m) LXM05CD28M2, 200240 V, single phase   |  |  |  |  |  |  |  |  |
| 0.71 lbf.in (4.6 N.m) LXM15MD28N4, 480 V, three phase  |  |  |  |  |  |  |  |  |
| 40.71 lbf.in (4.6 N.m) LXM15MD40N4, 480 V, three phase<br>41.60 lbf.in (4.7 N.m) LXM15LD17N4, 400 V, three phase<br>44.25 lbf.in (5 N.m) LXM15MD28N4, 400 V, three phase   |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 4.25 lbf.in (5 N.m) LXM15MD40N4, 400 V, three phase      |
|  |  |  |  |  |  |  |  | 0.45 lbf.in (5.7 N.m) LXM05AD34N4, 380480 V, three phase |
| 0.45 lbf.in (5.7 N.m) LXM05BD34N4, 380480 V, three phase   |  |  |  |  |  |  |  |  |
| 0.45 lbf.in (5.7 N.m) LXM05CD34N4, 380480 V, three phase   |  |  |  |  |  |  |  |  |
| 3.10 lbf.in (6 N.m) LXM15LD17N4, 230 V, three phase  |  |  |  |  |  |  |  |  |
| 3.10 lbf.in (6 N.m) LXM15LD21M3, 230 V, three phase  |  |  |  |  |  |  |  |  |
| 5.76 lbf.in (6.3 N.m) LXM15LD28M3, 230 V, three phase  |  |  |  |  |  |  |  |  |
| 9.57 lbf.in (6.73 N.m) LXM05AD42M3X, 200240 V, three phase   |  |  |  |  |  |  |  |  |
| 9.57 lbf.in (6.73 N.m) LXM05BD42M3X, 200240 V, three phase   |  |  |  |  |  |  |  |  |
| 9.57 lbf.in (6.73 N.m) LXM05CD42M3X, 200240 V, three phase   |  |  |  |  |  |  |  |  |
| 000 rpm LXM32.D30N4 10 A, 400 V, three phase   |  |  |  |  |  |  |  |  |
| 000 rpm LXM32.D30N4 10 A, 480 V, three phase   |  |  |  |  |  |  |  |  |
| 500 rpm LXM15LD17N4, 400 V, three phase  |  |  |  |  |  |  |  |  |
| 000 rpm LXM15LD17N4, 480 V, three phase  |  |  |  |  |  |  |  |  |
| 500 rpm LXM05AD28M2, 200240 V, single phase  |  |  |  |  |  |  |  |  |
| 500 rpm LXM05BD28M2, 200240 V, single phase  |  |  |  |  |  |  |  |  |
| 500 rpm LXM05CD28M2, 200240 V, single phase  |  |  |  |  |  |  |  |  |
| 500 rpm LXM05AD42M3X, 200240 V, three phase  |  |  |  |  |  |  |  |  |
| 500 rpm LXM05BD42M3X, 200240 V, three phase  |  |  |  |  |  |  |  |  |
| 500 rpm LXM05CD42M3X, 200240 V, three phase  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| UUU IDIII LAWI IDLDZOWID. ZOU V. UIIEE DIIASE  |  |  |  |  |  |  |  |  |
| 000 rpm LXM15LD28M3, 230 V, three phase<br>500 rpm LXM15LD17N4_230 V, three phase  |  |  |  |  |  |  |  |  |
| 500 rpm LXM15LD17N4, 230 V, three phase  |  |  |  |  |  |  |  |  |
| 500 rpm LXM15LD17N4, 230 V, three phase<br>500 rpm LXM15LD21M3, 230 V, three phase   |  |  |  |  |  |  |  |  |
| 500 rpm LXM15LD17N4, 230 V, three phase<br>500 rpm LXM15LD21M3, 230 V, three phase<br>000 rpm LXM05AD34N4, 380480 V, three phase   |  |  |  |  |  |  |  |  |
| 500 rpm LXM15LD17N4, 230 V, three phase<br>500 rpm LXM15LD21M3, 230 V, three phase<br>000 rpm LXM05AD34N4, 380480 V, three phase<br>000 rpm LXM05BD34N4, 380480 V, three phase   |  |  |  |  |  |  |  |  |
| 500 rpm LXM15LD17N4, 230 V, three phase<br>500 rpm LXM15LD21M3, 230 V, three phase<br>000 rpm LXM05AD34N4, 380480 V, three phase<br>000 rpm LXM05BD34N4, 380480 V, three phase<br>000 rpm LXM05CD34N4, 380480 V, three phase   |  |  |  |  |  |  |  |  |
| 500 rpm LXM15LD17N4, 230 V, three phase<br>500 rpm LXM15LD21M3, 230 V, three phase<br>000 rpm LXM05AD34N4, 380480 V, three phase<br>000 rpm LXM05BD34N4, 380480 V, three phase<br>000 rpm LXM05CD34N4, 380480 V, three phase<br>000 rpm LXM15MD28N4, 400 V, three phase  |  |  |  |  |  |  |  |  |
| 500 rpm LXM15LD17N4, 230 V, three phase<br>500 rpm LXM15LD21M3, 230 V, three phase<br>000 rpm LXM05AD34N4, 380480 V, three phase<br>000 rpm LXM05BD34N4, 380480 V, three phase<br>000 rpm LXM05CD34N4, 380480 V, three phase<br>000 rpm LXM15MD28N4, 400 V, three phase<br>000 rpm LXM15MD40N4, 400 V, three phase   |  |  |  |  |  |  |  |  |
| 500 rpm LXM15LD17N4, 230 V, three phase<br>500 rpm LXM15LD21M3, 230 V, three phase<br>000 rpm LXM05AD34N4, 380480 V, three phase<br>000 rpm LXM05BD34N4, 380480 V, three phase<br>000 rpm LXM05CD34N4, 380480 V, three phase<br>000 rpm LXM15MD28N4, 400 V, three phase  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

| Product Compatibility     | LXM05AD28M2 200240 V single phase |
|---------------------------|-----------------------------------|
|                           | LXM05BD28M2 200240 V single phase |
|                           | LXM05CD28M2 200240 V single phase |
|                           | LXM15LD21M3 230 V three phase     |
|                           | LXM05AD42M3X 200240 V three phase |
|                           | LXM05BD42M3X 200240 V three phase |
|                           | LXM05CD42M3X 200240 V three phase |
|                           | LXM15LD17N4 230 V three phase     |
|                           | LXM15LD17N4 400 V three phase     |
|                           | LXM15LD17N4 480 V three phase     |
|                           | 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     |
|                           | LXM32.D30N4 400 V three phase     |
|                           | LXM32.D30N4 480 V three phase     |
| Shaft End                 | Untapped                          |
| Ip Degree Of Protection   | IP50 standard                     |
| Speed Feedback Resolution | 131072 points/turn                |
| Holding Brake             | With                              |
| Mounting Support          | International standard flange     |
| Electrical Connection     | Straight connectors               |

# Complementary

| Range Compatibility       | Lexium 05                          |
|---------------------------|------------------------------------|
| <b>o</b> , <b>y</b>       | Lexium 32                          |
|                           | Lexium 15                          |
|                           |                                    |
| Supply Voltage Max        | 480 V                              |
| Phase                     | Three phase                        |
| Continuous Stall Current  | 6.6 A                              |
| Maximum Continuous Power  | 3.14 W                             |
| Maximum Current Irms      | 28.3 A LXM15LD21M3                 |
|                           | 28.3 A LXM15LD28M3                 |
|                           | 28.3 A LXM15LD17N4                 |
|                           | 28.3 A LXM15MD28N4                 |
|                           | 28.3 A LXM15MD40N4                 |
|                           | 28.3 A LXM05AD28M2                 |
|                           | 28.3 A LXM05AD42M3X                |
|                           | 28.3 A LXM05AD34N4                 |
|                           | 28.3 A LXM05BD28M2                 |
|                           | 28.3 A LXM05BD42M3X                |
|                           | 28.3 A LXM05BD34N4                 |
|                           | 28.3 A LXM05CD28M2                 |
|                           | 28.3 A LXM05CD42M3X                |
|                           | 28.3 A LXM05CD34N4                 |
|                           | 28.3 A LXM32.D30N4                 |
|                           |                                    |
| Maximum Permanent Current | 28.3 A                             |
| Switching Frequency       | 8 kHz                              |
| Second Shaft              | Without second shaft end           |
| Shaft Diameter            | 0.75 in (19 mm)                    |
| Shaft Length              | 1.57 in (40 mm)                    |
| Feedback Type             | Single turn SinCos Hiperface       |
| Holding Torque            | 79.66 lbf.in (9 N.m) holding brake |
| Motor Flange Size         | 3.94 in (100 mm)                   |

| Number Of Motor Stacks                | 3   |
|---------------------------------------|---|
| Torque Constant                       | 1.22 N.m/A 248 °F (120 °C)  |
| Back Emf Constant                     | 77 V/krpm 248 °F (120 °C)   |
| Number Of Motor Poles                 | 8   |
| Rotor Inertia                         | 3.838 kg.cm <sup>2</sup>  |
| Stator Resistance                     | 1.43 Ohm 68 °F (20 °C)  |
| Stator Inductance                     | 8.8 mH 68 °F (20 °C)  |
| Stator Electrical Time Constant       | 6.15 ms 68 °F (20 °C)   |
| Maximum Radial Force Fr               | 1050 N 1000 rpm<br>660 N 4000 rpm<br>730 N 3000 rpm<br>830 N 2000 rpm |
| Maximum Axial Force Fa                | 0.2 x Fr  |
| Brake Pull-In Power                   | 18 W  |
| Type Of Cooling                       | Natural convection  |
| Length                                | 10.69 in (271.5 mm)   |
| Centring Collar Diameter              | 3.74 in (95 mm)   |
| Centring Collar Depth                 | 0.14 in (3.5 mm)  |
| Number Of Mounting Holes              | 4   |
| Mounting Holes Diameter               | 0.35 in (9 mm)  |
| Circle Diameter Of The Mounting Holes | 4.53 in (115 mm)  |
| Net Weight                            | 17.64 lb(US) (8 kg)   |

# Ordering and shipping details

| Category          | US1PC5318282  |
|-------------------|---------------|
| Discount Schedule | PC53          |
| Gtin              | 3389118140073 |
| Returnability     | No            |
| Country Of Origin | DE            |

# **Packing Units**

| U                            |                        |
|------------------------------|------------------------|
| Unit Type Of Package 1       | PCE                    |
| Number Of Units In Package 1 | 1                      |
| Package 1 Height             | 8.27 in (21.0 cm)      |
| Package 1 Width              | 7.09 in (18.0 cm)      |
| Package 1 Length             | 23.03 in (58.5 cm)     |
| Package 1 Weight             | 17.97 lb(US) (8.15 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

Mercury Free
Rohs Exemption Information Yes
Pvc Free

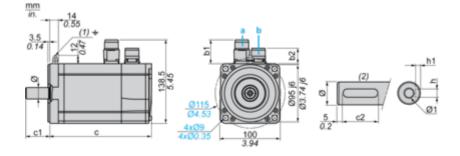
## **Certifications & Standards**

| 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 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)

Dimensions in mm

| Straight connectors |      | Rotatable angled connectors |      | c (without | c (with | c1 | c2 | h       | h1                    | ø        | Ø1 for  |
|---------------------|------|-----------------------------|------|------------|---------|----|----|---------|-----------------------|----------|---------|
| b1                  | b2   | b1                          | b2   | brake)     | brake)  |    |    |         |                       |          | screws  |
| 39.5                | 25.5 | 39.5                        | 39.5 | 241        | 272     | 40 | 30 | 6<br>N9 | 3.5 <sup>+0.1</sup> 0 | 19<br>k6 | M6 x 16 |

Dimensions in in.

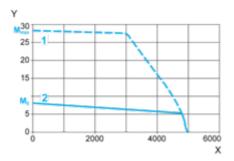
| Straight Rotatable angled connectors connectors |      |      | c (with | c1     | c2     | h    | h1   | ø          | Ø1 for                 |            |              |
|---|------|------|---------|--------|--------|------|------|------------|------------------------|------------|--------------|
| b1  | b2   | b1   | b2      | brake) | brake) |      |      |            |                        |            | screws       |
| 1.55  | 1.00 | 1.55 | 1.55    | 9.48   | 10.70  | 1.57 | 1.18 | 0.24<br>N9 | 0.14 <sup>+0.1</sup> 0 | 0.75<br>k6 | M6 x<br>0.63 |

### 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

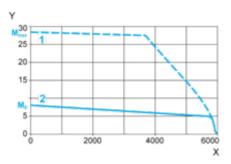
1 Peak torque

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