

# Product data sheet

Specifications



AC servo motor BSH, Lexium 05,  
9.31N.m, 1500rpm, untapped shaft,  
with brake, IP65

BSH1004P22F2A

## Main

|                           |   |
|---------------------------|---|
| Product Or Component Type | Servo motor   |
| Device Short Name         | BSH   |
| Maximum Mechanical Speed  | 6000 rpm  |
| Continuous Stall Torque   | 8 N.m for LXM32.D30N4 at 10 A, 400 V, three phase<br>8 N.m for LXM32.D30N4 at 10 A, 480 V, three phase<br>9.31 N.m for LXM15MD40N4, 400 V, three phase<br>9.31 N.m for LXM15MD40N4, 480 V, three phase<br>9.31 N.m for LXM15MD28M3, 230 V, three phase<br>9.31 N.m for LXM15MD28N4, 230 V, three phase<br>9.31 N.m for LXM15MD28N4, 400 V, three phase<br>9.31 N.m for LXM15MD28N4, 480 V, three phase<br>9.31 N.m for LXM15MD40N4, 230 V, three phase<br>9.31 N.m for LXM05AD34N4, 380...480 V, three phase<br>9.31 N.m for LXM05AD42M3X, 200...240 V, three phase<br>9.31 N.m for LXM05AD57N4, 380...480 V, three phase<br>9.31 N.m for LXM05BD34N4, 380...480 V, three phase<br>9.31 N.m for LXM05BD42M3X, 200...240 V, three phase<br>9.31 N.m for LXM05BD57N4, 380...480 V, three phase<br>9.31 N.m for LXM05CD34N4, 380...480 V, three phase<br>9.31 N.m for LXM05CD42M3X, 200...240 V, three phase<br>9.31 N.m for LXM05CD57N4, 380...480 V, three phase             |
| Peak Stall Torque         | 37.9 N.m for LXM32.D30N4 at 10 A, 400 V, three phase<br>37.9 N.m for LXM32.D30N4 at 10 A, 480 V, three phase<br>25.7 N.m for LXM15MD28M3, 230 V, three phase<br>25.7 N.m for LXM15MD28N4, 230 V, three phase<br>25.7 N.m for LXM15MD28N4, 400 V, three phase<br>25.7 N.m for LXM15MD28N4, 480 V, three phase<br>33.83 N.m for LXM15MD40N4, 230 V, three phase<br>33.83 N.m for LXM15MD40N4, 400 V, three phase<br>33.83 N.m for LXM15MD40N4, 480 V, three phase<br>23.47 N.m for LXM05AD34N4, 380...480 V, three phase<br>35.7 N.m for LXM05AD42M3X, 200...240 V, three phase<br>35.7 N.m for LXM05AD57N4, 380...480 V, three phase<br>23.47 N.m for LXM05BD34N4, 380...480 V, three phase<br>35.7 N.m for LXM05BD42M3X, 200...240 V, three phase<br>35.7 N.m for LXM05BD57N4, 380...480 V, three phase<br>23.47 N.m for LXM05CD34N4, 380...480 V, three phase<br>35.7 N.m for LXM05CD42M3X, 200...240 V, three phase<br>35.7 N.m for LXM05CD57N4, 380...480 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 Output Power  | 2600 W for LXM32.D30N4 at 10 A, 480 V, three phase<br>2100 W for LXM32.D30N4 at 10 A, 400 V, three phase<br>1300 W for LXM05AD42M3X, 200...240 V, three phase<br>1300 W for LXM05BD42M3X, 200...240 V, three phase<br>1300 W for LXM05CD42M3X, 200...240 V, three phase<br>1300 W for LXM15MD28M3, 230 V, three phase<br>1300 W for LXM15MD28N4, 230 V, three phase<br>1300 W for LXM15MD40N4, 230 V, three phase<br>2200 W for LXM05AD34N4, 380...480 V, three phase<br>2200 W for LXM05AD57N4, 380...480 V, three phase<br>2200 W for LXM05BD34N4, 380...480 V, three phase<br>2200 W for LXM05BD57N4, 380...480 V, three phase<br>2200 W for LXM05CD34N4, 380...480 V, three phase<br>2200 W for LXM05CD57N4, 380...480 V, three phase<br>2200 W for LXM15MD28N4, 400 V, three phase<br>2300 W for LXM15MD40N4, 400 V, three phase<br>2400 W for LXM15MD40N4, 480 V, three phase<br>2700 W for LXM15MD28N4, 480 V, three phase                                     |
| Nominal Torque        | 8.3 N.m for LXM32.D30N4 at 10 A, 400 V, three phase<br>8.3 N.m for LXM32.D30N4 at 10 A, 480 V, three phase<br>6.5 N.m for LXM15MD28N4, 480 V, three phase<br>6.69 N.m for LXM15MD40N4, 480 V, three phase<br>7 N.m for LXM15MD28N4, 400 V, three phase<br>7.1 N.m for LXM05AD34N4, 380...480 V, three phase<br>7.1 N.m for LXM05AD57N4, 380...480 V, three phase<br>7.1 N.m for LXM05BD34N4, 380...480 V, three phase<br>7.1 N.m for LXM05BD57N4, 380...480 V, three phase<br>7.1 N.m for LXM05CD34N4, 380...480 V, three phase<br>7.1 N.m for LXM05CD57N4, 380...480 V, three phase<br>7.17 N.m for LXM15MD40N4, 400 V, three phase<br>8.18 N.m for LXM15MD40N4, 230 V, three phase<br>8.22 N.m for LXM05AD42M3X, 200...240 V, three phase<br>8.22 N.m for LXM05BD42M3X, 200...240 V, three phase<br>8.22 N.m for LXM05CD42M3X, 200...240 V, three phase<br>8.22 N.m for LXM15LD28M3, 230 V, three phase<br>8.22 N.m for LXM15MD28N4, 230 V, three phase             |
| Nominal Speed         | 2500 rpm for LXM32.D30N4 at 10 A, 400 V, three phase<br>3000 rpm for LXM32.D30N4 at 10 A, 480 V, three phase<br>1500 rpm for LXM05AD42M3X, 200...240 V, three phase<br>1500 rpm for LXM05BD42M3X, 200...240 V, three phase<br>1500 rpm for LXM05CD42M3X, 200...240 V, three phase<br>3000 rpm for LXM05AD34N4, 380...480 V, three phase<br>3000 rpm for LXM05BD34N4, 380...480 V, three phase<br>3000 rpm for LXM05CD34N4, 380...480 V, three phase<br>1500 rpm for LXM15MD28M3, 230 V, three phase<br>1500 rpm for LXM15MD28N4, 230 V, three phase<br>1500 rpm for LXM15MD40N4, 230 V, three phase<br>3000 rpm for LXM05AD57N4, 380...480 V, three phase<br>3000 rpm for LXM05BD57N4, 380...480 V, three phase<br>3000 rpm for LXM05CD57N4, 380...480 V, three phase<br>3000 rpm for LXM15MD28N4, 400 V, three phase<br>3000 rpm for LXM15MD40N4, 400 V, three phase<br>3500 rpm for LXM15MD40N4, 480 V, three phase<br>4000 rpm for LXM15MD28N4, 480 V, three phase |
| Product Compatibility | LXM05AD42M3X at 200...240 V three phase<br>LXM05BD42M3X at 200...240 V three phase<br>LXM05CD42M3X at 200...240 V three phase<br>LXM05AD34N4 at 380...480 V three phase<br>LXM05BD34N4 at 380...480 V three phase<br>LXM05CD34N4 at 380...480 V three phase<br>LXM15MD28N4 at 400 V three phase<br>LXM15MD28N4 at 480 V three phase<br>LXM15MD40N4 at 400 V three phase<br>LXM15MD40N4 at 480 V three phase<br>LXM32.D30N4 at 400 V three phase<br>LXM32.D30N4 at 480 V three phase<br>LXM05AD57N4 at 380...480 V three phase<br>LXM05BD57N4 at 380...480 V three phase<br>LXM05CD57N4 at 380...480 V three phase<br>LXM15MD28M3 at 230 V three phase<br>LXM15MD28N4 at 230 V three phase<br>LXM15MD40N4 at 230 V three phase   |
| Shaft End             | Untapped  |

|                           |                                     |
|---------------------------|-------------------------------------|
| Ip Degree Of Protection   | IP65 standard<br>IP67 with IP67 kit |
| Speed Feedback Resolution | 131072 points/turn x 4096 turns     |
| Holding Brake             | With                                |
| 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        | 6.2 A   |
| Maximum Continuous Power        | 3.64 W  |
| Maximum Current Irms            | 34.8 A for LXM15LD28M3<br>34.8 A for LXM15MD28N4<br>34.8 A for LXM15MD40N4<br>32.3 A for LXM05AD42M3X<br>32.3 A for LXM05AD34N4<br>32.3 A for LXM05AD57N4<br>32.3 A for LXM05BD42M3X<br>32.3 A for LXM05BD34N4<br>32.3 A for LXM05BD57N4<br>32.3 A for LXM05CD42M3X<br>32.3 A for LXM05CD34N4<br>32.3 A for LXM05CD57N4<br>30 A for LXM32.D30N4 |
| Maximum Permanent Current       | 32.3 A  |
| Switching Frequency             | 8 kHz   |
| Second Shaft                    | Without second shaft end  |
| Shaft Diameter                  | 24 mm   |
| Shaft Length                    | 50 mm   |
| Feedback Type                   | Multiturn SinCos Hiperface  |
| Holding Torque                  | 12 N.m holding brake  |
| Motor Flange Size               | 100 mm  |
| Number Of Motor Stacks          | 4   |
| Torque Constant                 | 1.62 N.m/A at 120 °C  |
| Back Emf Constant               | 103 V/krpm at 120 °C  |
| Number Of Motor Poles           | 8   |
| Rotor Inertia                   | 5.245 kg.cm²  |
| Stator Resistance               | 1.81 Ohm at 20 °C   |
| Stator Inductance               | 11.8 mH at 20 °C  |
| Stator Electrical Time Constant | 6.52 ms at 20 °C  |
| Maximum Radial Force Fr         | 1070 N at 1000 rpm<br>740 N at 3000 rpm<br>850 N at 2000 rpm  |
| Maximum Axial Force Fa          | 0.2 x Fr  |
| Brake Pull-In Power             | 17 W  |

|                                       |                    |
|---------------------------------------|--------------------|
| Type Of Cooling                       | Natural convection |
| Length                                | 307.5 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                            | 9.9 kg             |

## Packing Units

|                              |         |
|------------------------------|---------|
| Unit Type Of Package 1       | PCE     |
| Number Of Units In Package 1 | 1       |
| Package 1 Height             | 18.3 cm |
| Package 1 Width              | 16.3 cm |
| Package 1 Length             | 49.2 cm |
| Package 1 Weight             | 8.15 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

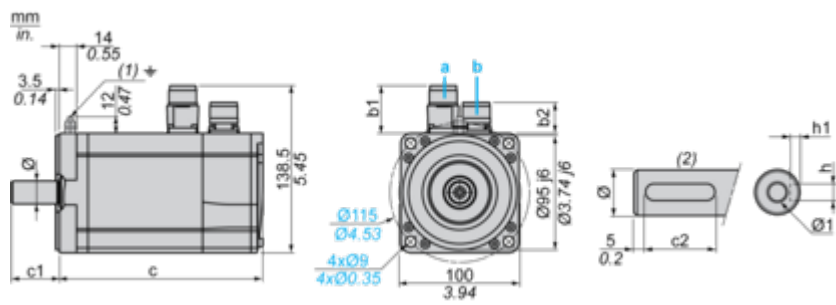
## Certifications & Standards

|                           |   |
|---------------------------|---|
| 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 | 277               | 308            | 50 | 40 | 8 N9 | 4 <sup>+0.1</sup> <sub>0</sub> | 24 k6 | M8 x 19       |

Dimensions in in.

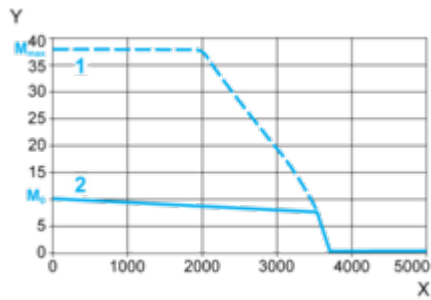
| Straight connectors |      | Rotatable angled connectors |      | c (without brake) | c (with brake) | c1   | c2   | h       | h1                                | Ø       | Ø1 for screws |
|---------------------|------|-----------------------------|------|-------------------|----------------|------|------|---------|-----------------------------------|---------|---------------|
| b1                  | b2   | b1                          | b2   |                   |                |      |      |         |                                   |         |               |
| 1.55                | 1.00 | 1.55                        | 1.55 | 10.90             | 12.12          | 1.96 | 1.57 | 0.31 N9 | 0.16 <sup>+0.1</sup> <sub>0</sub> | 0.94 k6 | M8 x 0.75     |

Performance Curves

400 V 3-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D30N4 servo drive

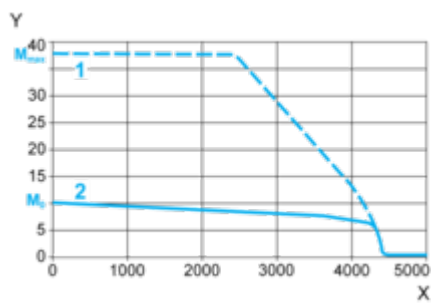


- X Speed in rpm
- Y Torque in Nm
- 1 Peak torque
- 2 Continuous torque

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