

# Product data sheet

Specifications



servo motor BSH, Lexium 05,  
7.8N.m, 2500rpm, 100mm,  
untapped shaft, Sincos multi turn,  
with brake, IP65

BSH1003P22F2A

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

Price\*: 3,570.00 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, 200...240 V, single phase<br>69.04 lbf.in (7.8 N.m) LXM05AD28M2, 200...240 V, single phase<br>69.04 lbf.in (7.8 N.m) LXM05BD28M2, 200...240 V, single phase<br>69.04 lbf.in (7.8 N.m) LXM05BD34N4, 380...480 V, three phase<br>69.04 lbf.in (7.8 N.m) LXM05BD42M3X, 200...240 V, three phase<br>69.04 lbf.in (7.8 N.m) LXM05CD34N4, 380...480 V, three phase<br>69.04 lbf.in (7.8 N.m) LXM05CD42M3X, 200...240 V, three phase<br>59.30 lbf.in (6.7 N.m) LXM15LD21M3, 230 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) LXM15LD28M3, 230 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) LXM15MD40N4, 400 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, 380...480 V, three phase<br>69.04 lbf.in (7.8 N.m) LXM05AD42M3X, 200...240 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, 200...240 V, single phase<br>174.27 lbf.in (19.69 N.m) LXM05BD28M2, 200...240 V, single phase<br>174.27 lbf.in (19.69 N.m) LXM05CD28M2, 200...240 V, single phase<br>137.19 lbf.in (15.5 N.m) LXM15LD21M3, 230 V, three phase<br>110.63 lbf.in (12.5 N.m) LXM15LD17N4, 230 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) LXM15LD17N4, 480 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, 480 V, three phase<br>205.07 lbf.in (23.17 N.m) LXM15MD40N4, 400 V, three phase<br>205.07 lbf.in (23.17 N.m) LXM15MD40N4, 480 V, three phase<br>203.66 lbf.in (23.01 N.m) LXM05AD34N4, 380...480 V, three phase<br>205.07 lbf.in (23.17 N.m) LXM05AD42M3X, 200...240 V, three phase<br>203.66 lbf.in (23.01 N.m) LXM05BD34N4, 380...480 V, three phase<br>205.07 lbf.in (23.17 N.m) LXM05BD42M3X, 200...240 V, three phase<br>203.66 lbf.in (23.01 N.m) LXM05CD34N4, 380...480 V, three phase<br>205.07 lbf.in (23.17 N.m) LXM05CD42M3X, 200...240 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

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Nominal Output Power</b> | 2000 W LXM32.D30N4 10 A, 400 V, three phase<br>2600 W LXM32.D30N4 10 A, 480 V, three phase<br>1100 W LXM05AD28M2, 200...240 V, single phase<br>1100 W LXM05BD28M2, 200...240 V, single phase<br>1100 W LXM05CD28M2, 200...240 V, single phase<br>1100 W LXM05AD42M3X, 200...240 V, three phase<br>1100 W LXM05BD42M3X, 200...240 V, three phase<br>1100 W LXM05CD42M3X, 200...240 V, three phase<br>1300 W LXM15LD28M3, 230 V, three phase<br>1700 W LXM15LD17N4, 230 V, three phase<br>1700 W LXM15LD21M3, 230 V, three phase<br>1800 W LXM05AD34N4, 380...480 V, three phase<br>1800 W LXM05BD34N4, 380...480 V, three phase<br>1800 W LXM05CD34N4, 380...480 V, three phase<br>2000 W LXM15MD28N4, 400 V, three phase<br>2000 W LXM15MD40N4, 400 V, three phase<br>2200 W LXM15LD17N4, 400 V, three phase<br>2200 W LXM15MD28N4, 480 V, three phase<br>2200 W LXM15MD40N4, 480 V, three phase<br>2300 W LXM15LD17N4, 480 V, three phase                                                                                                                                                                                                                                                                                                                               |
| <b>Nominal Torque</b>       | 55.76 lbf.in (6.3 N.m) LXM32.D30N4 10 A, 400 V, three phase<br>55.76 lbf.in (6.3 N.m) LXM32.D30N4 10 A, 480 V, three phase<br>32.75 lbf.in (3.7 N.m) LXM15LD17N4, 480 V, three phase<br>59.57 lbf.in (6.73 N.m) LXM05AD28M2, 200...240 V, single phase<br>59.57 lbf.in (6.73 N.m) LXM05BD28M2, 200...240 V, single phase<br>59.57 lbf.in (6.73 N.m) LXM05CD28M2, 200...240 V, single phase<br>40.71 lbf.in (4.6 N.m) LXM15MD28N4, 480 V, three phase<br>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<br>44.25 lbf.in (5 N.m) LXM15MD40N4, 400 V, three phase<br>50.45 lbf.in (5.7 N.m) LXM05AD34N4, 380...480 V, three phase<br>50.45 lbf.in (5.7 N.m) LXM05BD34N4, 380...480 V, three phase<br>50.45 lbf.in (5.7 N.m) LXM05CD34N4, 380...480 V, three phase<br>53.10 lbf.in (6 N.m) LXM15LD17N4, 230 V, three phase<br>53.10 lbf.in (6 N.m) LXM15LD21M3, 230 V, three phase<br>55.76 lbf.in (6.3 N.m) LXM15LD28M3, 230 V, three phase<br>59.57 lbf.in (6.73 N.m) LXM05AD42M3X, 200...240 V, three phase<br>59.57 lbf.in (6.73 N.m) LXM05BD42M3X, 200...240 V, three phase<br>59.57 lbf.in (6.73 N.m) LXM05CD42M3X, 200...240 V, three phase |
| <b>Nominal Speed</b>        | 3000 rpm LXM32.D30N4 10 A, 400 V, three phase<br>4000 rpm LXM32.D30N4 10 A, 480 V, three phase<br>4500 rpm LXM15LD17N4, 400 V, three phase<br>6000 rpm LXM15LD17N4, 480 V, three phase<br>1500 rpm LXM05AD28M2, 200...240 V, single phase<br>1500 rpm LXM05BD28M2, 200...240 V, single phase<br>1500 rpm LXM05CD28M2, 200...240 V, single phase<br>1500 rpm LXM05AD42M3X, 200...240 V, three phase<br>1500 rpm LXM05BD42M3X, 200...240 V, three phase<br>1500 rpm LXM05CD42M3X, 200...240 V, three phase<br>2000 rpm LXM15LD28M3, 230 V, three phase<br>2500 rpm LXM15LD17N4, 230 V, three phase<br>2500 rpm LXM15LD21M3, 230 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>4000 rpm LXM15MD28N4, 400 V, three phase<br>4000 rpm LXM15MD40N4, 400 V, three phase<br>4500 rpm LXM15MD28N4, 480 V, three phase<br>4500 rpm LXM15MD40N4, 480 V, three phase                                                                                                                                                                                                                                                                                       |

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Compatibility     | LXM05AD28M2 200...240 V single phase<br>LXM05BD28M2 200...240 V single phase<br>LXM05CD28M2 200...240 V single phase<br>LXM15LD21M3 230 V three phase<br>LXM05AD42M3X 200...240 V three phase<br>LXM05BD42M3X 200...240 V three phase<br>LXM05CD42M3X 200...240 V three phase<br>LXM15LD17N4 230 V three phase<br>LXM15LD17N4 400 V three phase<br>LXM15LD17N4 480 V three phase<br>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>LXM32.D30N4 400 V three phase<br>LXM32.D30N4 480 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                                                                                                                                                                                                                                                                                                                                     |
| Phase                     | Three phase                                                                                                                                                                                                                                                                                                                               |
| Continuous Stall Current  | 6.6 A                                                                                                                                                                                                                                                                                                                                     |
| Maximum Continuous Power  | 3.14 W                                                                                                                                                                                                                                                                                                                                    |
| Maximum Current Irms      | 28.3 A LXM15LD21M3<br>28.3 A LXM15LD28M3<br>28.3 A LXM15LD17N4<br>28.3 A LXM15MD28N4<br>28.3 A LXM15MD40N4<br>28.3 A LXM05AD28M2<br>28.3 A LXM05AD42M3X<br>28.3 A LXM05AD34N4<br>28.3 A LXM05BD28M2<br>28.3 A LXM05BD42M3X<br>28.3 A LXM05BD34N4<br>28.3 A LXM05CD28M2<br>28.3 A LXM05CD42M3X<br>28.3 A LXM05CD34N4<br>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             | Multiturn 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.cm²                                                          |
| 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              | 3389118140189 |
| Returnability     | No            |
| Country Of Origin | DE            |

## Packing Units

|                              |                        |
|------------------------------|------------------------|
| 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



**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                   |     |

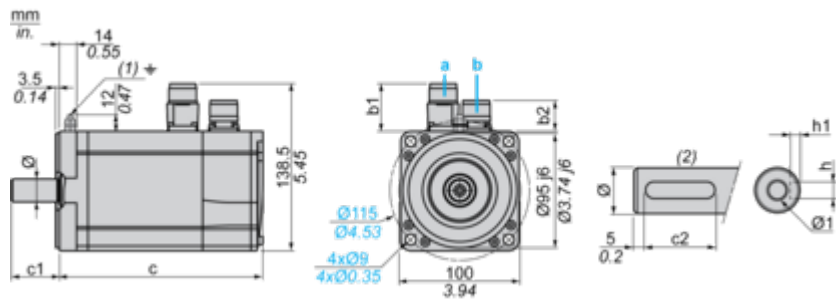
Certifications & Standards

|                           |                                                                                                                                                                                                                                                                 |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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="#">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 | 241               | 272            | 40 | 30 | 6<br>N9 | 3.5 <sup>+0.1</sup> <sub>0</sub> | 19<br>k6 | M6 x 16       |

Dimensions in in.

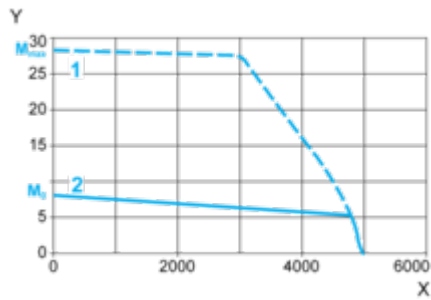
| Straight connectors |      | Rotatable angled connectors |      | c (without brake) | c (with brake) | c1   | c2   | h          | h1                                | Ø          | Ø1 for screws |
|---------------------|------|-----------------------------|------|-------------------|----------------|------|------|------------|-----------------------------------|------------|---------------|
| b1                  | b2   | b1                          | b2   |                   |                |      |      |            |                                   |            |               |
| 1.55                | 1.00 | 1.55                        | 1.55 | 9.48              | 10.70          | 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

400 V 3-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D30N4 servo drive

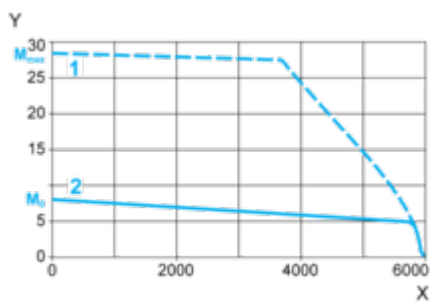


- X Speed in rpm
- Y Torque in Nm
- 1 Peak torque
- 2 Continuous torque

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