

# BSH1401P22F2A

servo motor BSH, Lexium 05, 11.1N.m,  
1500rpm, 140mm, untapped shaft, Sincos multi  
turn, with brake, IP65





## Main

|                           |   |
|---------------------------|---|
| Device short name         | BSH   |
| Product or Component Type | Servo motor   |
| Maximum mechanical speed  | 4000 rpm  |
| Continuous stall torque   | 98.2 Lbf.In (11.1 N.m) LXM32.D30N4 10 A, 400 V, three phase<br>98.2 Lbf.In (11.1 N.m) LXM32.D30N4 10 A, 480 V, three phase<br>98.2 Lbf.In (11.1 N.m) LXM15MD28N4, 400 V, three phase<br>98.2 Lbf.In (11.1 N.m) LXM15MD28N4, 480 V, three phase<br>98.2 Lbf.In (11.1 N.m) LXM15MD28N4, 230 V, three phase<br>98.2 Lbf.In (11.1 N.m) LXM15MD40N4, 400 V, three phase<br>98.2 Lbf.In (11.1 N.m) LXM15MD40N4, 480 V, three phase<br>98.2 Lbf.In (11.1 N.m) LXM15LD28M3, 230 V, three phase<br>100.9 Lbf.In (11.4 N.m) LXM05AD34N4, 380...480 V, three phase<br>100.9 Lbf.In (11.4 N.m) LXM05BD34N4, 380...480 V, three phase<br>100.9 lbf.in (11.4 N.m) LXM05CD34N4, 380...480 V, three phase                     |
| Peak stall torque         | 239.0 Lbf.In (27 N.m) LXM32.D30N4 10 A, 400 V, three phase<br>239.0 Lbf.In (27 N.m) LXM32.D30N4 10 A, 480 V, three phase<br>206.49 Lbf.In (23.33 N.m) LXM15MD28N4, 230 V, three phase<br>206.49 Lbf.In (23.33 N.m) LXM15MD28N4, 400 V, three phase<br>206.49 Lbf.In (23.33 N.m) LXM15MD28N4, 480 V, three phase<br>206.49 Lbf.In (23.33 N.m) LXM15MD40N4, 400 V, three phase<br>206.49 Lbf.In (23.33 N.m) LXM15MD40N4, 480 V, three phase<br>210.6 Lbf.In (23.8 N.m) LXM15LD28M3, 230 V, three phase<br>206.49 Lbf.In (23.33 N.m) LXM05AD34N4, 380...480 V, three phase<br>206.49 Lbf.In (23.33 N.m) LXM05BD34N4, 380...480 V, three phase<br>206.49 lbf.in (23.33 N.m) LXM05CD34N4, 380...480 V, three phase |
| Nominal output power      | 2500 W LXM32.D30N4 10 A, 400 V, three phase<br>3000 W LXM32.D30N4 10 A, 480 V, three phase<br>2000 W LXM15MD28N4, 400 V, three phase<br>2000 W LXM15MD40N4, 400 V, three phase<br>2200 W LXM05AD34N4, 380...480 V, three phase<br>2200 W LXM05BD34N4, 380...480 V, three phase<br>2200 W LXM05CD34N4, 380...480 V, three phase<br>1400 W LXM15LD28M3, 230 V, three phase<br>1400 W LXM15MD28N4, 230 V, three phase<br>2150 W LXM15MD28N4, 480 V, three phase<br>2150 W LXM15MD40N4, 480 V, three phase  |

|                           |  |
|---------------------------|--|
| Nominal torque            | 84.08 Lbf.In (9.5 N.m) LXM32.D30N4 10 A, 400 V, three phase<br>84.08 Lbf.In (9.5 N.m) LXM32.D30N4 10 A, 480 V, three phase<br>60.2 Lbf.In (6.8 N.m) LXM15MD28N4, 480 V, three phase<br>60.2 Lbf.In (6.8 N.m) LXM15MD40N4, 480 V, three phase<br>61.07 Lbf.In (6.9 N.m) LXM05AD34N4, 380...480 V, three phase<br>61.07 Lbf.In (6.9 N.m) LXM05BD34N4, 380...480 V, three phase<br>61.07 Lbf.In (6.9 N.m) LXM05CD34N4, 380...480 V, three phase<br>67.53 Lbf.In (7.63 N.m) LXM15MD28N4, 400 V, three phase<br>67.53 Lbf.In (7.63 N.m) LXM15MD40N4, 400 V, three phase<br>80.5 Lbf.In (9.1 N.m) LXM15LD28M3, 230 V, three phase<br>80.5 lbf.in (9.1 N.m) LXM15MD28N4, 230 V, three phase |
| Nominal speed             | 2500 rpm LXM32.D30N4 10 A, 400 V, three phase<br>3000 rpm LXM32.D30N4 10 A, 480 V, three phase<br>3000 rpm LXM05AD34N4, 380...480 V, three phase<br>3000 rpm LXM05BD34N4, 380...480 V, three phase<br>3000 rpm LXM05CD34N4, 380...480 V, three phase<br>1500 rpm LXM15MD28N4, 230 V, three phase<br>1500 rpm LXM15LD28M3, 230 V, three phase<br>2500 rpm LXM15MD28N4, 400 V, three phase<br>2500 rpm LXM15MD40N4, 400 V, three phase<br>3000 rpm LXM15MD28N4, 480 V, three phase<br>3000 rpm LXM15MD40N4, 480 V, three phase   |
| Product compatibility     | LXM15LD28M3 230 V three phase<br>LXM05AD34N4 380...480 V three phase<br>LXM05BD34N4 380...480 V three phase<br>LXM05CD34N4 380...480 V three phase<br>LXM15MD28N4 400 V three phase<br>LXM15MD28N4 480 V three phase<br>LXM15MD40N4 400 V three phase<br>LXM15MD40N4 480 V three phase<br>LXM15MD28N4 230 V three phase  |
| Shaft end                 | Untapped   |
| IP Degree of Protection   | IP65 standard<br>IP67 with IP67 kit  |
| Speed feedback resolution | 131072 points/turn x 4096 turns  |
| Holding brake             | With   |
| Mounting Support          | International standard flange  |
| Electrical Connection     | Rotatable right-angled connectors  |

## Complementary

|                           |  |
|---------------------------|--|
| Range Compatibility       | Lexium 05<br>Lexium 32<br>Lexium 15  |
| Supply voltage max        | 480 V  |
| Phase                     | Three phase  |
| Continuous stall current  | 7.8 A  |
| Maximum continuous power  | 3.6 W  |
| Maximum current Irms      | 20.8 A LXM15LD28M3<br>20.8 A LXM15MD28N4<br>20.8 A LXM15MD40N4<br>20.8 A LXM05AD34N4<br>20.8 A LXM05BD34N4<br>20.8 A LXM05CD34N4<br>20.8 A LXM32.D30N4 |
| Maximum permanent current | 20.8 A   |
| Switching frequency       | 8 kHz  |
| Second shaft              | Without second shaft end   |
| Shaft diameter            | 0.9 in (24 mm)   |
| Shaft length              | 2.0 in (50 mm)   |

|                                       |   |
|---------------------------------------|---|
| Feedback type                         | Multiturn SinCos Hiperface                            |
| Holding torque                        | 203.6 lbf.in (23 N.m) holding brake                   |
| Motor flange size                     | 5.5 in (140 mm)                                       |
| Number of motor stacks                | 1   |
| Torque constant                       | 1.43 N.m/A 248.0000000000 °F (120 °C)                 |
| Back emf constant                     | 100 V/krpm 248.0000000000 °F (120 °C)                 |
| Number of motor poles                 | 10  |
| Rotor inertia                         | 9.21 kg.cm <sup>2</sup>                               |
| Stator resistance                     | 1.41 Ohm 68.0000000000 °F (20 °C)                     |
| Stator inductance                     | 15.6 mH 68.0000000000 °F (20 °C)                      |
| Stator electrical time constant       | 11.06 ms 68.0000000000 °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              | 5.1 in (130 mm)                                       |
| Centring collar depth                 | 0.1 in (3.5 mm)                                       |
| Number of mounting holes              | 4   |
| Mounting holes diameter               | 0.4 in (11 mm)  |
| Circle diameter of the mounting holes | 6.5 in (165 mm)                                       |
| Net Weight                            | 28.7 lb(US) (13 kg)                                   |




### Ordering and shipping details

|                   |               |
|-------------------|---------------|
| Category          | US1PC5318282  |
| Discount Schedule | PC53          |
| GTIN              | 3389118140899 |
| Returnability     | No            |
| Country of origin | DE            |

### Packing Units

|                              |                         |
|------------------------------|-------------------------|
| Unit Type of Package 1       | PCE                     |
| Number of Units in Package 1 | 1                       |
| Package 1 Height             | 10.20 in (25.91 cm)     |
| Package 1 Width              | 7.90 in (20.07 cm)      |
| Package 1 Length             | 23.40 in (59.44 cm)     |
| Package 1 Weight             | 31.26 lb(US) (14.18 kg) |

### Offer Sustainability

|                            |   |
|----------------------------|---|
| Sustainable offer status   | Green Premium product   |
| 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> |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope)  |
| Mercury free               | Yes   |
| China RoHS Regulation      |  <a href="#">China RoHS Declaration</a>  |
| RoHS exemption information |  Yes   |
| Environmental Disclosure   |  <a href="#">Product Environmental Profile</a>   |
| Circularity Profile        | No need of specific recycling operations  |
| WEEE                       | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.  |
| PVC free                   | Yes   |

## Contractual warranty

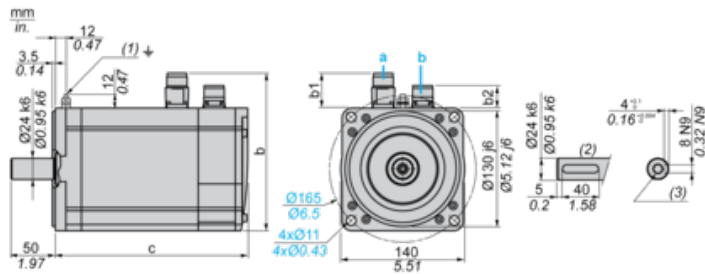
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|          |           |
|----------|-----------|
| Warranty | 18 months |
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Servo Motors Dimensions

Example with Straight Connectors



- a: Power supply for servo motor brake
- b: Power supply for servo motor encoder
- (1) M4 screw
- (2) Shaft end, keyed slot (optional)
- (3) For screws M8 x 19 mm/M8 x 0.75 in.

Dimensions in mm

| Straight connectors |      |      | Rotatable angled connectors |      |      | c (without brake) | c (with brake) |
|---------------------|------|------|-----------------------------|------|------|-------------------|----------------|
| b                   | b1   | b2   | b                           | b1   | b2   |                   |                |
| 178                 | 39.5 | 25.5 | 178                         | 39.5 | 39.5 | 218               | 256            |

Dimensions in in.

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

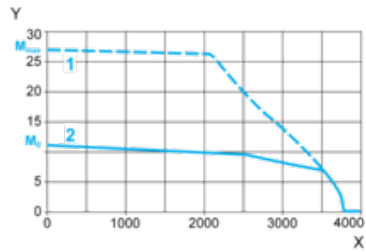
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400 V 3-Phase Supply Voltage

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Torque/Speed Curves

Servo motor with LXM32-D30N4 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque

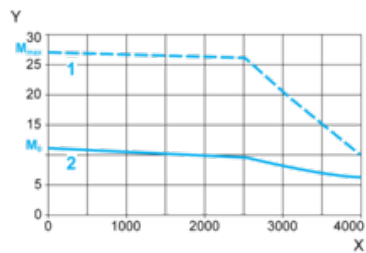
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480 V 3-Phase Supply Voltage

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Torque/Speed Curves

Servo motor with LXM32-D30N4 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque