

BSH1003P12F2A

servo motor BSH, Lexium 05, 7.8N.m,
2500rpm, 100mm, keyed shaft, Sincos multi
turn, with brake, IP50





Main

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|---------------------------|---|
| Product or Component Type | Servo motor |
| Device short name | BSH |
| Maximum mechanical speed | 6000 rpm |
| Continuous stall torque | <p>70.81 Lbf.In (8 N.m) LXM32.D30N4 10 A, 400 V, three phase</p> <p>70.81 Lbf.In (8 N.m) LXM32.D30N4 10 A, 480 V, three phase</p> <p>69.04 Lbf.In (7.8 N.m) LXM05CD28M2, 200...240 V, single phase</p> <p>69.04 Lbf.In (7.8 N.m) LXM05AD28M2, 200...240 V, single phase</p> <p>69.04 Lbf.In (7.8 N.m) LXM05BD28M2, 200...240 V, single phase</p> <p>69.04 Lbf.In (7.8 N.m) LXM05BD34N4, 380...480 V, three phase</p> <p>69.04 Lbf.In (7.8 N.m) LXM05BD42M3X, 200...240 V, three phase</p> <p>69.04 Lbf.In (7.8 N.m) LXM05CD34N4, 380...480 V, three phase</p> <p>69.04 Lbf.In (7.8 N.m) LXM05CD42M3X, 200...240 V, three phase</p> <p>59.30 Lbf.In (6.7 N.m) LXM15LD21M3, 230 V, three phase</p> <p>59.30 Lbf.In (6.7 N.m) LXM15LD17N4, 230 V, three phase</p> <p>59.30 Lbf.In (6.7 N.m) LXM15LD17N4, 400 V, three phase</p> <p>59.30 Lbf.In (6.7 N.m) LXM15LD17N4, 480 V, three phase</p> <p>69.04 Lbf.In (7.8 N.m) LXM15LD28M3, 230 V, three phase</p> <p>69.04 Lbf.In (7.8 N.m) LXM15MD28N4, 400 V, three phase</p> <p>69.04 Lbf.In (7.8 N.m) LXM15MD28N4, 480 V, three phase</p> <p>69.04 Lbf.In (7.8 N.m) LXM15MD40N4, 400 V, three phase</p> <p>69.04 Lbf.In (7.8 N.m) LXM15MD40N4, 480 V, three phase</p> <p>69.04 Lbf.In (7.8 N.m) LXM05AD34N4, 380...480 V, three phase</p> <p>69.04 Lbf.In (7.8 N.m) LXM05AD42M3X, 200...240 V, three phase</p> |

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| Peak stall torque | <p>250.48 Lbf.In (28.3 N.m) LXM32.D30N4 10 A, 400 V, three phase</p> <p>250.48 Lbf.In (28.3 N.m) LXM32.D30N4 10 A, 480 V, three phase</p> <p>174.27 Lbf.In (19.69 N.m) LXM05AD28M2, 200...240 V, single phase</p> <p>174.27 Lbf.In (19.69 N.m) LXM05BD28M2, 200...240 V, single phase</p> <p>174.27 Lbf.In (19.69 N.m) LXM05CD28M2, 200...240 V, single phase</p> <p>137.19 Lbf.In (15.5 N.m) LXM15LD21M3, 230 V, three phase</p> <p>110.63 Lbf.In (12.5 N.m) LXM15LD17N4, 230 V, three phase</p> <p>110.63 Lbf.In (12.5 N.m) LXM15LD17N4, 400 V, three phase</p> <p>110.63 Lbf.In (12.5 N.m) LXM15LD17N4, 480 V, three phase</p> <p>174.27 Lbf.In (19.69 N.m) LXM15LD28M3, 230 V, three phase</p> <p>174.27 Lbf.In (19.69 N.m) LXM15MD28N4, 400 V, three phase</p> <p>174.27 Lbf.In (19.69 N.m) LXM15MD28N4, 480 V, three phase</p> <p>205.07 Lbf.In (23.17 N.m) LXM15MD40N4, 400 V, three phase</p> <p>205.07 Lbf.In (23.17 N.m) LXM15MD40N4, 480 V, three phase</p> <p>203.66 Lbf.In (23.01 N.m) LXM05AD34N4, 380...480 V, three phase</p> <p>205.07 Lbf.In (23.17 N.m) LXM05AD42M3X, 200...240 V, three phase</p> <p>203.66 Lbf.In (23.01 N.m) LXM05BD34N4, 380...480 V, three phase</p> <p>205.07 Lbf.In (23.17 N.m) LXM05BD42M3X, 200...240 V, three phase</p> <p>203.66 Lbf.In (23.01 N.m) LXM05CD34N4, 380...480 V, three phase</p> <p>205.07 Lbf.in (23.17 N.m) LXM05CD42M3X, 200...240 V, three phase</p> |
| Nominal output power | <p>2000 W LXM32.D30N4 10 A, 400 V, three phase</p> <p>2600 W LXM32.D30N4 10 A, 480 V, three phase</p> <p>1100 W LXM05AD28M2, 200...240 V, single phase</p> <p>1100 W LXM05BD28M2, 200...240 V, single phase</p> <p>1100 W LXM05CD28M2, 200...240 V, single phase</p> <p>1100 W LXM05AD42M3X, 200...240 V, three phase</p> <p>1100 W LXM05BD42M3X, 200...240 V, three phase</p> <p>1100 W LXM05CD42M3X, 200...240 V, three phase</p> <p>1300 W LXM15LD28M3, 230 V, three phase</p> <p>1700 W LXM15LD17N4, 230 V, three phase</p> <p>1700 W LXM15LD21M3, 230 V, three phase</p> <p>1800 W LXM05AD34N4, 380...480 V, three phase</p> <p>1800 W LXM05BD34N4, 380...480 V, three phase</p> <p>1800 W LXM05CD34N4, 380...480 V, three phase</p> <p>2000 W LXM15MD28N4, 400 V, three phase</p> <p>2000 W LXM15MD40N4, 400 V, three phase</p> <p>2200 W LXM15LD17N4, 400 V, three phase</p> <p>2200 W LXM15MD28N4, 480 V, three phase</p> <p>2200 W LXM15MD40N4, 480 V, three phase</p> <p>2300 W LXM15LD17N4, 480 V, three phase</p> |

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| Nominal torque | <p>55.76 Lbf.In (6.3 N.m) LXM32.D30N4 10 A, 400 V, three phase</p> <p>55.76 Lbf.In (6.3 N.m) LXM32.D30N4 10 A, 480 V, three phase</p> <p>32.75 Lbf.In (3.7 N.m) LXM15LD17N4, 480 V, three phase</p> <p>59.57 Lbf.In (6.73 N.m) LXM05AD28M2, 200...240 V, single phase</p> <p>59.57 Lbf.In (6.73 N.m) LXM05BD28M2, 200...240 V, single phase</p> <p>59.57 Lbf.In (6.73 N.m) LXM05CD28M2, 200...240 V, single phase</p> <p>40.71 Lbf.In (4.6 N.m) LXM15MD28N4, 480 V, three phase</p> <p>40.71 Lbf.In (4.6 N.m) LXM15MD40N4, 480 V, three phase</p> <p>41.60 Lbf.In (4.7 N.m) LXM15LD17N4, 400 V, three phase</p> <p>44.25 Lbf.In (5 N.m) LXM15MD28N4, 400 V, three phase</p> <p>44.25 Lbf.In (5 N.m) LXM15MD40N4, 400 V, three phase</p> <p>50.45 Lbf.In (5.7 N.m) LXM05AD34N4, 380...480 V, three phase</p> <p>50.45 Lbf.In (5.7 N.m) LXM05BD34N4, 380...480 V, three phase</p> <p>50.45 Lbf.In (5.7 N.m) LXM05CD34N4, 380...480 V, three phase</p> <p>53.10 Lbf.In (6 N.m) LXM15LD17N4, 230 V, three phase</p> <p>53.10 Lbf.In (6 N.m) LXM15LD21M3, 230 V, three phase</p> <p>55.76 Lbf.In (6.3 N.m) LXM15LD28M3, 230 V, three phase</p> <p>59.57 Lbf.In (6.73 N.m) LXM05AD42M3X, 200...240 V, three phase</p> <p>59.57 Lbf.In (6.73 N.m) LXM05BD42M3X, 200...240 V, three phase</p> <p>59.57 lbf.in (6.73 N.m) LXM05CD42M3X, 200...240 V, three phase</p> |
| Nominal speed | <p>3000 rpm LXM32.D30N4 10 A, 400 V, three phase</p> <p>4000 rpm LXM32.D30N4 10 A, 480 V, three phase</p> <p>4500 rpm LXM15LD17N4, 400 V, three phase</p> <p>6000 rpm LXM15LD17N4, 480 V, three phase</p> <p>1500 rpm LXM05AD28M2, 200...240 V, single phase</p> <p>1500 rpm LXM05BD28M2, 200...240 V, single phase</p> <p>1500 rpm LXM05CD28M2, 200...240 V, single phase</p> <p>1500 rpm LXM05AD42M3X, 200...240 V, three phase</p> <p>1500 rpm LXM05BD42M3X, 200...240 V, three phase</p> <p>1500 rpm LXM05CD42M3X, 200...240 V, three phase</p> <p>2000 rpm LXM15LD28M3, 230 V, three phase</p> <p>2500 rpm LXM15LD17N4, 230 V, three phase</p> <p>2500 rpm LXM15LD21M3, 230 V, three phase</p> <p>3000 rpm LXM05AD34N4, 380...480 V, three phase</p> <p>3000 rpm LXM05BD34N4, 380...480 V, three phase</p> <p>3000 rpm LXM05CD34N4, 380...480 V, three phase</p> <p>4000 rpm LXM15MD28N4, 400 V, three phase</p> <p>4000 rpm LXM15MD40N4, 400 V, three phase</p> <p>4500 rpm LXM15MD28N4, 480 V, three phase</p> <p>4500 rpm LXM15MD40N4, 480 V, three phase</p> |

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| Product compatibility | LXM05AD28M2 200...240 V single phase LXM05BD28M2 200...240 V single phase LXM05CD28M2 200...240 V single phase LXM15LD21M3 230 V three phase LXM05AD42M3X 200...240 V three phase LXM05BD42M3X 200...240 V three phase LXM05CD42M3X 200...240 V three phase LXM15LD17N4 230 V three phase LXM15LD17N4 400 V three phase LXM15LD17N4 480 V three phase LXM15LD28M3 230 V three phase LXM05AD34N4 380...480 V three phase LXM05BD34N4 380...480 V three phase LXM05CD34N4 380...480 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 | Keyed |
| IP Degree of Protection | IP50 standard |
| Speed feedback resolution | 131072 points/turn x 4096 turns |
| Holding brake | With |
| Mounting Support | International standard flange |
| Electrical Connection | Rotatable right-angled connectors |

Complementary

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|---------------------------|---|
| Range Compatibility | Lexium 15 Lexium 05 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 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) |
| Key width | 1.18 in (30 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.cm ² |
| Stator resistance | 1.43 Ohm 68 °F (20 °C) |
| Stator inductance | 8.8 mH 68 °F (20 °C) |

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|---------------------------------------|---|
| Stator electrical time constant | 6.15 ms 68 °F (20 °C) |
| Maximum radial force Fr | 1050 N 1000 rpm 660 N 4000 rpm 730 N 3000 rpm 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 | 18282-LEXIUM 32 MOTORS |
| Discount Schedule | PC53 |
| GTIN | 3389118140288 |
| Returnability | No |
| Country of origin | DE |

Packing Units

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|------------------------------|------------------------|
| 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) |

Offer Sustainability

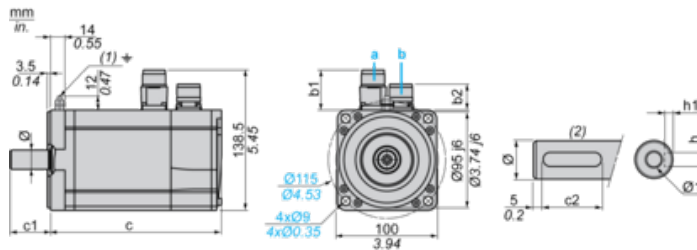
| | |
|----------------------------|---|
| Sustainable offer status | Green Premium product |
| California proposition 65 | WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov |
| REACH Regulation | REACH Declaration |
| EU RoHS Directive | Pro-active compliance (Product out of EU RoHS legal scope) |
| Mercury free | Yes |
| China RoHS Regulation | China RoHS Declaration |
| RoHS exemption information | Yes |
| Environmental Disclosure | Product Environmental Profile |
| 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)

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 N9 | 3.5 ^{+0.1} ₀ | 19 k6 | M6 x 16 |

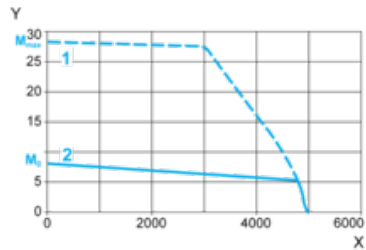
Dimensions in in.

| 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 N9 | 0.14 ^{+0.1} ₀ | 0.75 k6 | M6 x 0.63 |

400 V 3-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D30N4 servo drive



X Speed in rpm

Y Torque in Nm

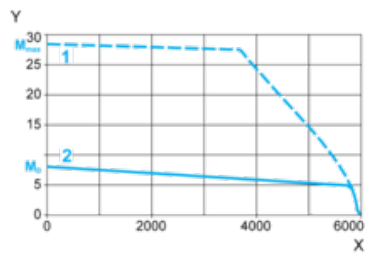
1 Peak torque

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