

Product data sheet

Specifications



servo motor BSH, Lexium 05,
5.5N.m, 4000rpm, 100mm, keyed
shaft, Sincos single turn, with brake,
IP65

BSH1002T31F2A

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

Main

| | |
|---------------------------|--|
| Device short name | BSH |
| Product or Component Type | Servo motor |
| Maximum mechanical speed | 6000 rpm |
| Continuous stall torque | 51.3 lbf.in (5.8 N.m) LXM32.D30M2 10 A, 230 V, single phase 48.7 lbf.in (5.5 N.m) LXM15LD28M3, 230 V, three phase 48.7 lbf.in (5.5 N.m) LXM05AD42M3X, 200...240 V, three phase 48.7 lbf.in (5.5 N.m) LXM05BD42M3X, 200...240 V, three phase 48.7 lbf.in (5.5 N.m) LXM05CD42M3X, 200...240 V, three phase |
| Peak stall torque | 145.2 lbf.in (16.4 N.m) LXM32.D30M2 10 A, 230 V, single phase 102.58 lbf.in (11.59 N.m) LXM15LD28M3, 230 V, three phase 141.6 lbf.in (16 N.m) LXM05AD42M3X, 200...240 V, three phase 141.6 lbf.in (16 N.m) LXM05BD42M3X, 200...240 V, three phase 141.6 lbf.in (16 N.m) LXM05CD42M3X, 200...240 V, three phase |
| Nominal output power | 1500 W LXM32.D30M2 10 A, 230 V, single phase 1400 W LXM05AD42M3X, 200...240 V, three phase 1400 W LXM05BD42M3X, 200...240 V, three phase 1400 W LXM05CD42M3X, 200...240 V, three phase 1700 W LXM15LD28M3, 230 V, three phase |
| Nominal torque | 32.7 lbf.in (3.7 N.m) LXM32.D30M2 10 A, 230 V, single phase 35.4 lbf.in (4 N.m) LXM15LD28M3, 230 V, three phase 38.9 lbf.in (4.4 N.m) LXM05AD42M3X, 200...240 V, three phase 38.9 lbf.in (4.4 N.m) LXM05BD42M3X, 200...240 V, three phase 38.9 lbf.in (4.4 N.m) LXM05CD42M3X, 200...240 V, three phase |
| Nominal speed | 4000 rpm LXM32.D30M2 10 A, 230 V, single phase 3000 rpm LXM05AD42M3X, 200...240 V, three phase 3000 rpm LXM05BD42M3X, 200...240 V, three phase 3000 rpm LXM05CD42M3X, 200...240 V, three phase 4000 rpm LXM15LD28M3, 230 V, three phase |
| Product compatibility | LXM32.D30M2 230 V single phase LXM05AD42M3X 200...240 V three phase LXM05BD42M3X 200...240 V three phase LXM05CD42M3X 200...240 V three phase LXM15LD28M3 230 V three phase |
| Shaft end | Keyed |
| IP Degree of Protection | IP65 standard IP67 with IP67 kit |
| Speed feedback resolution | 131072 points/turn |
| Holding brake | With |
| Mounting Support | International standard flange |
| Electrical Connection | Rotatable right-angled connectors |

Complementary

Price is "List Price" and may be subject to a trade discount – check with your local distributor or retailer for actual price.

| | |
|--|---|
| Range Compatibility | Lexium 15 Lexium 05 Lexium 32 |
| supply voltage max | 480 V |
| Phase | Three phase |
| Continuous stall current | 9.9 A |
| maximum continuous power | 2.51 W |
| Maximum current Irms | 31.2 A LXM15LD28M3 35.4 A LXM05AD42M3X 35.4 A LXM05BD42M3X 35.4 A LXM05CD42M3X 30 A LXM32.D30M2 |
| Maximum permanent current | 35.4 A |
| Switching frequency | 8 kHz |
| Second shaft | Without second shaft end |
| Shaft diameter | 0.7 in (19 mm) |
| Shaft length | 1.6 in (40 mm) |
| Key width | 1.2 in (30 mm) |
| Feedback type | Single turn SinCos Hiperface |
| Holding torque | 79.7 lbf.in (9 N.m) holding brake |
| Motor flange size | 3.9 in (100 mm) |
| Number of motor stacks | 2 |
| Torque constant | 0.59 N.m/A 248 °F (120 °C) |
| Back emf constant | 37 V/krpm 248 °F (120 °C) |
| Number of motor poles | 4.0 |
| Rotor inertia | 2.928 kg.cm ² |
| Stator resistance | 0.56 Ohm 68 °F (20 °C) |
| Stator inductance | 1.55 mH 68 °F (20 °C) |
| Stator electrical time constant | 5.36 ms 68 °F (20 °C) |
| Maximum radial force Fr | 620 N 4000 rpm 690 N 3000 rpm 790 N 2000 rpm 990 N 1000 rpm |
| Maximum axial force Fa | 0.2 x Fr |
| Brake pull-in power | 18 W |
| Type of cooling | Natural convection |
| Length | 9.3 in (235.5 mm) |
| Centring collar diameter | 3.7 in (95 mm) |
| Centring collar depth | 0.1 in (3.5 mm) |
| Number of mounting holes | 4 |
| Mounting holes diameter | 0.4 in (9 mm) |
| Circle diameter of the mounting holes | 4.5 in (115 mm) |
| Net Weight | 13.9 lb(US) (6.3 kg) |
| Sizing reference | BSH1002T |
| Network number of phases | 3 |

| | |
|--------------------------|---|
| Accuracy error [angular] | 1.4 ° |
| Temperature copper hot | 248 °F (120 °C) |
| Temperature magnet hot | 212 °F (100 °C) |
| Temperature magnet rt | 68 °F (20 °C) |
| Output current 3s peak | 35.4 A |
| Inertia | 0.618 kg.cm ² of brake 2.31 kg.cm ² of motor |

Ordering and shipping details

| | |
|-------------------|---------------|
| Category | US1PC5318282 |
| Discount Schedule | PC53 |
| GTIN | 3389118139671 |
| Returnability | No |
| Country of origin | DE |

Packing Units

| | |
|------------------------|------------------------|
| Unit Type of Package 1 | PCE |
| Nbr. of units in pkg. | 1 |
| Package 1 Height | 6.06 in (15.4 cm) |
| Package 1 Width | 6.4 in (16.3 cm) |
| Package 1 Length | 16.02 in (40.7 cm) |
| Package weight(Lbs) | 14.22 lb(US) (6.45 kg) |

Contractual warranty

| | |
|----------------------|----|
| Warranty (in months) | 18 |
|----------------------|----|



Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

[Environmental Data explained >](#)

[How we assess product sustainability >](#)



Environmental footprint

| | |
|--|------------------|
| Total lifecycle Carbon footprint | 1 871 kg CO2 eq. |
| Carbon footprint of the manufacturing phase [A1 to A3] | 28 kg CO2 eq. |
| Carbon footprint of the distribution phase [A4] | 0.8 kg CO2 eq. |
| Carbon footprint of the installation phase [A5] | 0.1 kg CO2 eq. |
| Carbon footprint of the use phase [B2, B3, B4, B6] | 1 841 kg CO2 eq. |
| Carbon footprint of the end-of-life phase [C1 to C4] | 0.6 kg CO2 eq. |

Use Better



Materials and Substances

| | |
|--|---|
| Packaging made with recycled cardboard | Yes |
| Packaging without single use plastic | No |
| EU RoHS Directive | Pro-active compliance (Product out of EU RoHS legal scope) |
| SCIP Number | A7df881f-135f-4256-b8c2-ea55d4c9a151 |
| REACH Regulation | REACH Declaration |
| 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 |
| PVC free | Yes |

Use Longer



Lifetime extension

| | |
|--------|----|
| Repair | No |
|--------|----|

Use Again



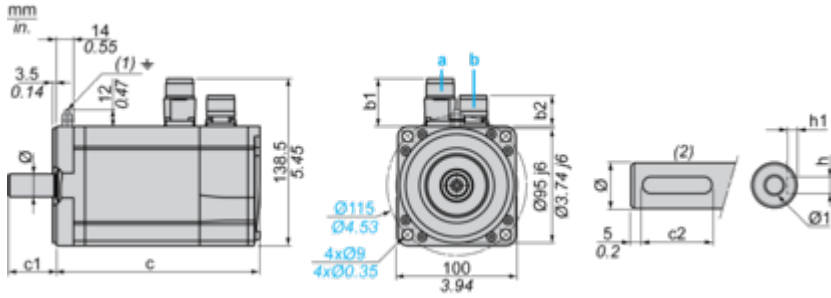
Repack and remanufacture

| | |
|---------------------|--|
| Circularity Profile | No need of specific recycling operations |
| Take-back | No |
| WEEE Label |  The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins. |

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 | 205 | 236 | 40 | 30 | 6 N9 | 3.5 ^{+0.1} ₀ | 19 k6 | M6 x 16 |

Dimensions in in.

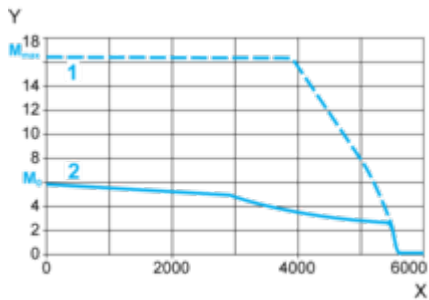
| Straight connectors | | Rotatable angled connectors | | c (without brake) | c (with brake) | c1 | c2 | h | h1 | Ø | Ø1 for screws |
|---------------------|------|-----------------------------|------|-------------------|----------------|------|------|---------|-----------------------------------|---------|---------------|
| b1 | b2 | b1 | b2 | | | | | | | | |
| 1.55 | 1.00 | 1.55 | 1.55 | 8.07 | 9.29 | 1.57 | 1.18 | 0.24 N9 | 0.14 ^{+0.1} ₀ | 0.75 k6 | M6 x 0.63 |

Performance Curves

230 V Single-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D30M2 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque