# Product data sheet

Specifications



## servo motor BSH, Lexium 32, 14.4N.m, 3000rpm, 140mm, keyed shaft, Sincos single turn, without brake, IP65, straight

BSH1402T31A1P

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

## Main

| | |
|---|---|
| **Device short name** | BSH |
| **Product or Component Type** | Servo motor |
| **Maximum mechanical speed** | 4000 rpm |
| **Continuous stall torque** | 172.6 lbf.in (19.5 N.m) LXM32.D72N4 24 A, 400 V, three phase<br>172.6 lbf.in (19.5 N.m) LXM32.D72N4 24 A, 480 V, three phase<br>127.5 lbf.in (14.4 N.m) LXM05AD42M3X, 200...240 V, three phase<br>127.5 lbf.in (14.4 N.m) LXM05BD42M3X, 200...240 V, three phase<br>127.5 lbf.in (14.4 N.m) LXM05CD42M3X, 200...240 V, three phase |
| **Peak stall torque** | 524.8 lbf.in (59.3 N.m) LXM32.D72N4 24 A, 400 V, three phase<br>524.8 lbf.in (59.3 N.m) LXM32.D72N4 24 A, 480 V, three phase<br>217.37 lbf.in (24.56 N.m) LXM05AD42M3X, 200...240 V, three phase<br>217.37 lbf.in (24.56 N.m) LXM05BD42M3X, 200...240 V, three phase |
| **Nominal output power** | 3900 W LXM32.D72N4 24 A, 400 V, three phase<br>3900 W LXM32.D72N4 24 A, 480 V, three phase<br>2900 W LXM05AD42M3X, 200...240 V, three phase<br>2900 W LXM05BD42M3X, 200...240 V, three phase<br>2900 W LXM05CD42M3X, 200...240 V, three phase |
| **Nominal torque** | 108.9 lbf.in (12.3 N.m) LXM32.D72N4 24 A, 400 V, three phase<br>108.9 lbf.in (12.3 N.m) LXM32.D72N4 24 A, 480 V, three phase<br>81.4 lbf.in (9.2 N.m) LXM05AD42M3X, 200...240 V, three phase<br>81.4 lbf.in (9.2 N.m) LXM05BD42M3X, 200...240 V, three phase<br>81.4 lbf.in (9.2 N.m) LXM05CD42M3X, 200...240 V, three phase |
| **Nominal speed** | 3000 rpm LXM32.D72N4 24 A, 400 V, three phase<br>3000 rpm LXM32.D72N4 24 A, 480 V, three phase<br>3000 rpm LXM05AD42M3X, 200...240 V, three phase<br>3000 rpm LXM05BD42M3X, 200...240 V, three phase<br>3000 rpm LXM05CD42M3X, 200...240 V, three phase |
| **Product compatibility** | LXM05AD42M3X 200...240 V three phase<br>LXM05BD42M3X 200...240 V three phase<br>LXM05CD42M3X 200...240 V three phase |
| **Shaft end** | Keyed |
| **IP Degree of Protection** | IP65 standard<br>IP67 with IP67 kit |
| **Speed feedback resolution** | 131072 points/turn |
| **Holding brake** | Without |
| **Mounting Support** | International standard flange |
| **Electrical Connection** | Straight connectors |

## Complementary

| | |
|---|---|
| **Range Compatibility** | Lexium 05<br>Lexium 32 |
| **supply voltage max** | 480 V |

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

| | |
|---|---|
| **Phase** | Three phase |
| **Continuous stall current** | 22.5 A |
| **maximum continuous power** | 4.2 W |
| **Maximum current Irms** | 72 A LXM32.D72N4<br>75.2 A LXM05AD42M3X<br>75.2 A LXM05BD42M3X<br>75.2 A LXM05CD42M3X |
| **Maximum permanent current** | 75.2 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) |
| **Key width** | 1.6 in (40 mm) |
| **Feedback type** | Single turn SinCos Hiperface |
| **Motor flange size** | 5.5 in (140 mm) |
| **Number of motor stacks** | 2 |
| **Torque constant** | 0.87 N.m/A 248 °F (120 °C) |
| **Back emf constant** | 101 V/krpm 248 °F (120 °C) |
| **Number of motor poles** | 5.0 |
| **Rotor inertia** | 12.68 kg.cm² |
| **Stator resistance** | 0.6 Ohm 68 °F (20 °C) |
| **Stator inductance** | 1.325 mH 68 °F (20 °C) |
| **Stator electrical time constant** | 12.1 ms 68 °F (20 °C) |
| **Maximum radial force Fr** | 1680 N 3000 rpm<br>1930 N 2000 rpm<br>2430 N 1000 rpm |
| **Maximum axial force Fa** | 0.2 x Fr |
| **Type of cooling** | Natural convection |
| **Length** | 10.7 in (272.5 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) |
| **Product Weight** | 36.6 lb(US) (16.6 kg) |
| **Sizing reference** | BSH1402T |
| **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** | 75.2 A |

| | |
|---|---|
| **Inertia** | 0.0 kg.cm² of brake<br>12.68 kg.cm² of motor |

## Ordering and shipping details

| | |
|---|---|
| **Category** | US1PC5318282 |
| **Discount Schedule** | PC53 |
| **GTIN** | 3389118361317 |
| **Returnability** | No |
| **Country of origin** | DE |

## Packing Units

| | |
|---|---|
| **Unit Type of Package 1** | PCE |
| **Nbr. of units in pkg.** | 1 |
| **Package 1 Height** | 10.6 in (27.0 cm) |
| **Package 1 Width** | 10.6 in (27.0 cm) |
| **Package 1 Length** | 19.0 in (48.2 cm) |
| **Package weight(Lbs)** | 38.1 lb(US) (17.3 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 | **4 255 kg CO2 eq.** |
| Carbon footprint of the manufacturing phase [A1 to A3] | **50 kg CO2 eq.** |
| Carbon footprint of the distribution phase [A4] | **1 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] | **4 202 kg CO2 eq.** |
| Carbon footprint of the end-of-life phase [C1 to C4] | **1 kg CO2 eq.** |

## Use Better

### Materials and Substances

| | |
|---|---|
| Packaging made with recycled cardboard | **Yes** |
| Packaging without single use plastic | **No** |
| EU RoHS Directive | **Compliant By Exemption** |
| REACh Regulation | **Reference contains Substances of Very High Concern above the threshold** |
| 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

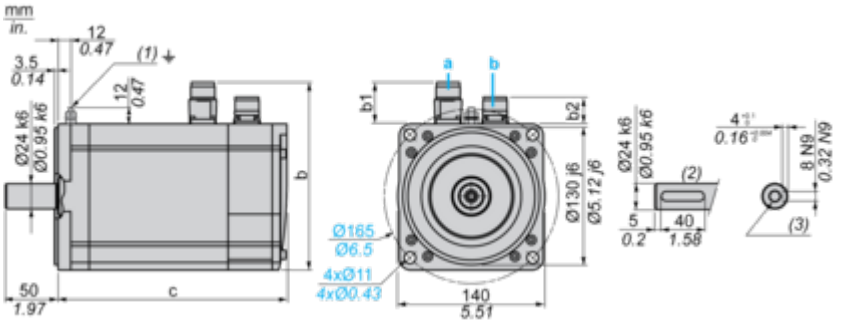
### Repack and remanufacture

| | |
|---|---|
| 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)
**(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 | | |
| 192.5 | 54 | 25.5 | 198.5 | 60 | 39.5 | 273 | 311 |

Dimensions in in.

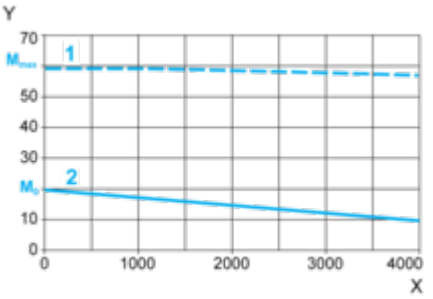
| Straight connectors | | | Rotatable angled connectors | | | c (without brake) | c (with brake) |
|---|---|---|---|---|---|---|---|
| b | b1 | b2 | b | b1 | b2 | | |
| 7.57 | 2.12 | 1.00 | 7.81 | 2.36 | 1.55 | 10.74 | 12.24 |

## Performance Curves

### 400 V 3-Phase Supply Voltage

#### Torque/Speed Curves

**Servo motor with LXM32•D72N4 servo drive**

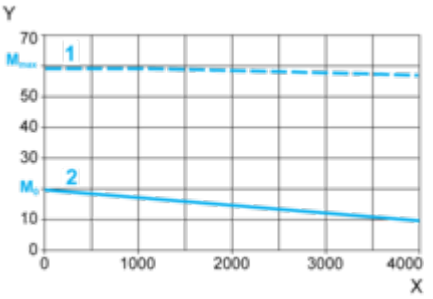



**X** Speed in rpm
**Y** Torque in Nm
**1** Peak torque
**2** Continuous torque

## 480 V 3-Phase Supply Voltage

### Torque/Speed Curves

**Servo motor with LXM32•D72N4 servo drive**




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