# **Product datasheet**

Specification





# AC servo motor BSH, Lexium 32, 14.4N.m, 3000rpm, untapped shaft, without brake, IP65

BSH1402T22A1P

#### Main

| wain                      |   |  |  |  |  |
|---------------------------|---|--|--|--|--|
| Device short name         | BSH   |  |  |  |  |
| Product or component type | Servo motor   |  |  |  |  |
| Maximum mechanical speed  | 4000 rpm  |  |  |  |  |
| Continuous stall torque   | 19.5 N.m for LXM32.D72N4 at 24 A, 400 V, three phase 19.5 N.m for LXM32.D72N4 at 24 A, 480 V, three phase 14.4 N.m for LXM05AD42M3X, 200240 V, three phase 14.4 N.m for LXM05BD42M3X, 200240 V, three phase 14.4 N.m for LXM05CD42M3X, 200240 V, three phase  |  |  |  |  |
| Peak stall torque         | 59.3 N.m for LXM32.D72N4 at 24 A, 400 V, three phase 59.3 N.m for LXM32.D72N4 at 24 A, 480 V, three phase 24.56 N.m for LXM05AD42M3X, 200240 V, three phase 24.56 N.m for LXM05BD42M3X, 200240 V, three phase   |  |  |  |  |
| Nominal output power      | 3900 W for LXM32.D72N4 at 24 A, 400 V, three phase<br>3900 W for LXM32.D72N4 at 24 A, 480 V, three phase<br>2900 W for LXM05AD42M3X, 200240 V, three phase<br>2900 W for LXM05BD42M3X, 200240 V, three phase<br>2900 W for LXM05CD42M3X, 200240 V, three phase  |  |  |  |  |
| Nominal torque            | 12.3 N.m for LXM32.D72N4 at 24 A, 400 V, three phase 12.3 N.m for LXM32.D72N4 at 24 A, 480 V, three phase 9.2 N.m for LXM05AD42M3X, 200240 V, three phase 9.2 N.m for LXM05BD42M3X, 200240 V, three phase 9.2 N.m for LXM05CD42M3X, 200240 V, three phase 9.2 N.m for LXM05CD42M3X, 200240 V, three phase |  |  |  |  |
| Nominal speed             | 3000 rpm for LXM32.D72N4 at 24 A, 400 V, three phase 3000 rpm for LXM32.D72N4 at 24 A, 480 V, three phase 3000 rpm for LXM05AD42M3X, 200240 V, three phase 3000 rpm for LXM05BD42M3X, 200240 V, three phase 3000 rpm for LXM05CD42M3X, 200240 V, three phase  |  |  |  |  |
| Product compatibility     | LXM05AD42M3X at 200240 V three phase<br>LXM05BD42M3X at 200240 V three phase<br>LXM05CD42M3X at 200240 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             | Without   |  |  |  |  |
| mounting support          | International standard flange   |  |  |  |  |
| Electrical connection     | Straight connectors   |  |  |  |  |

## Complementary

| Range compatibility      | Lexium 32<br>Lexium 05 |  |  |  |
|--------------------------|------------------------|--|--|--|
| supply voltage max       | 480 V                  |  |  |  |
| Network number of phases | Three phase            |  |  |  |

6 Sept 2024 Life Is On Schneider

| Continuous stall current              | 22.5 A   |  |  |  |  |
|---------------------------------------|--|--|--|--|--|
| maximum continuous power              | 4.2 W  |  |  |  |  |
| Maximum current Irms                  | 72 A for LXM32.D72N4 75.2 A for LXM05AD42M3X 75.2 A for LXM05BD42M3X 75.2 A for LXM05CD42M3X |  |  |  |  |
| Maximum permanent current             | 75.2 A   |  |  |  |  |
| Switching frequency                   | 8 kHz  |  |  |  |  |
| Second shaft                          | Without second shaft end   |  |  |  |  |
| Shaft diameter                        | 24 mm  |  |  |  |  |
| Shaft length                          | 50 mm  |  |  |  |  |
| Feedback type                         | Multiturn SinCos Hiperface   |  |  |  |  |
| Motor flange size                     | 140 mm   |  |  |  |  |
| Number of motor stacks                | 2  |  |  |  |  |
| Torque constant                       | 1.47 N.m/A at 120 °C   |  |  |  |  |
| Back emf constant                     | 101 V/krpm at 120 °C   |  |  |  |  |
| Number of motor poles                 | 10   |  |  |  |  |
| Rotor inertia                         | 12.68 kg.cm <sup>2</sup>   |  |  |  |  |
| Stator resistance                     | 0.6 Ohm at 20 °C   |  |  |  |  |
| Stator inductance                     | 7.4 mH at 20 °C  |  |  |  |  |
| Stator electrical time constant       | 12.1 ms at 20 °C   |  |  |  |  |
| Maximum radial force Fr               | 1680 N at 3000 rpm<br>1930 N at 2000 rpm<br>2430 N at 1000 rpm                               |  |  |  |  |
| Maximum axial force Fa                | 0.2 x Fr   |  |  |  |  |
| Type of cooling                       | Natural convection   |  |  |  |  |
| Length                                | 272.5 mm   |  |  |  |  |
| Centring collar diameter              | 130 mm   |  |  |  |  |
| Centring collar depth                 | 3.5 mm   |  |  |  |  |
| Number of mounting holes              | 4  |  |  |  |  |
| Mounting holes diameter               | 11 mm  |  |  |  |  |
| Circle diameter of the mounting holes | 165 mm   |  |  |  |  |
| Product weight                        | 16.6 kg  |  |  |  |  |

## **Packing Units**

| Unit Type of Package 1       | PCE     |
|------------------------------|---------|
| Number of Units in Package 1 | 1       |
| Package 1 Height             | 27.0 cm |
| Package 1 Width              | 27.0 cm |
| Package 1 Length             | 48.2 cm |
| Package 1 Weight             | 11.5 kg |

## **Contractual warranty**

Warranty

18 months

## Sustainability Screen Premium

**Green Premium**<sup>TM</sup> **label** is Schneider Electric's commitment to delivering products with best-inclass 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               |     |
|----------|----------------------------|-----|
| <b>⊘</b> | Rohs Exemption Information | Yes |
|          | Pvc Free                   |     |

#### **Certifications & Standards**

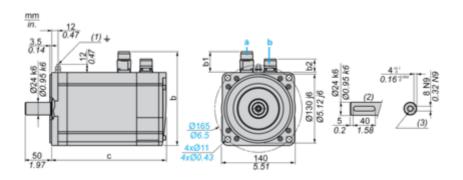
| Eu Rohs Directive        | Pro-active compliance (Product out of EU RoHS legal scope)  |  |  |  |  |
|--------------------------|---|--|--|--|--|
| China Rohs Regulation    | China RoHS declaration  |  |  |  |  |
| Environmental Disclosure | Product Environmental Profile   |  |  |  |  |
| Weee                     | 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  |  |  |  |  |

#### **BSH1402T22A1P**

#### **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 |       |    | a (itha at hanalaa) | - (i4h h          |                |
|---------------------|----|-----------------------------|-------|----|---------------------|-------------------|----------------|
| b                   | b1 | b2                          | b     | b1 | b2                  | c (without brake) | c (with brake) |
| 192.5               | 54 | 25.5                        | 198.5 | 60 | 39.5                | 273               | 311            |

#### Dimensions in in.

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

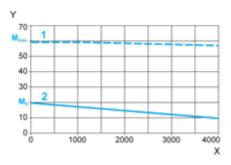
## BSH1402T22A1P

#### Performance Curves

## 400 V 3-Phase Supply Voltage

#### **Torque/Speed Curves**

Servo motor with LXM32•D72N4 servo drive

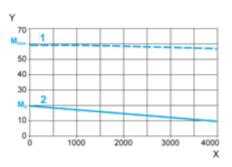


- **X** Speed in rpm
- Y Torque in Nm
- 1 Peak torque
- 2 Continuous torque

#### 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