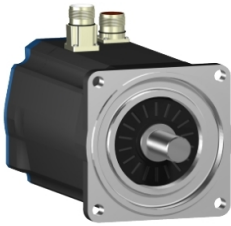


Product datasheet

Specifications



servo motor BSH, Lexium 32,
27.8N.m, 3000rpm, 140mm,
untapped shaft, Sincos single turn,
without brake, IP65, straight

BSH1403T21A1P

Main

| | |
|---------------------------|--|
| Device short name | BSH |
| Product or component type | Servo motor |
| Maximum mechanical speed | 4800 rpm |
| Continuous stall torque | 27.8 N.m for LXM32.D72N4 at 24 A, 400 V, three phase 27.8 N.m for LXM32.D72N4 at 24 A, 480 V, three phase |
| Peak stall torque | 90.2 N.m for LXM32.D72N4 at 24 A, 400 V, three phase 90.2 N.m for LXM32.D72N4 at 24 A, 480 V, three phase |
| Nominal output power | 4100 W for LXM32.D72N4 at 24 A, 400 V, three phase 4100 W for LXM32.D72N4 at 24 A, 480 V, three phase |
| Nominal torque | 12.9 N.m for LXM32.D72N4 at 24 A, 400 V, three phase 12.9 N.m for LXM32.D72N4 at 24 A, 480 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 |
| Product compatibility | LXM32.D72N4 at 400 V three phase LXM32.D72N4 at 480 V three phase |
| Shaft end | Untapped |
| IP degree of protection | IP65 standard IP67 with IP67 kit |
| Speed feedback resolution | 131072 points/turn |
| Holding brake | Without |
| Mounting support | International standard |
| Electrical connection | Straight connectors |

Complementary

| | |
|---------------------------|--------------------------|
| Range compatibility | Lexium 32 |
| supply voltage max | 480 V |
| Network number of phases | Three phase |
| Continuous stall current | 22.3 A |
| maximum continuous power | 3.3 W |
| Maximum current Irms | 72 A for LXM32.D72N4 |
| Maximum permanent current | 81.3 A |
| Switching frequency | 8 kHz |
| Second shaft | Without second shaft end |
| Shaft diameter | 24 mm |
| Shaft length | 50 mm |

| | |
|---------------------------------------|--|
| Feedback type | Single turn SinCos Hiperface |
| Motor flange size | 140 mm |
| Number of motor stacks | 3 |
| Torque constant | 1.25 N.m/A at 120 °C |
| Back emf constant | 105 V/krpm at 120 °C |
| Number of motor poles | 5.0 |
| Rotor inertia | 12.68 kg.cm ² |
| Stator resistance | 0.4 Ohm at 20 °C |
| Stator inductance | 1.35 mH at 20 °C |
| Stator electrical time constant | 12.75 ms at 20 °C |
| Maximum radial force Fr | 1780 N at 3000 rpm 2030 N at 2000 rpm 2560 N at 1000 rpm |
| Maximum axial force Fa | 0.2 x Fr |
| Type of cooling | Natural convection |
| Length | 327.5 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 |
| Net weight | 21.2 kg |
| Sizing reference | BSH1403T |
| Network number of phases | 3 |
| Accuracy error [angular] | 1.4 ° |
| Temperature copper hot | 120 °C |
| Temperature magnet hot | 100 °C |
| Temperature magnet rt | 20 °C |
| Output current 3s peak | 81.3 A |
| Inertia | 0.0 kg.cm ² of brake 17.94 kg.cm ² of motor |

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 (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 | 4 469 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] | 4 416 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 |

Use Longer



Lifetime extension

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

Use Again



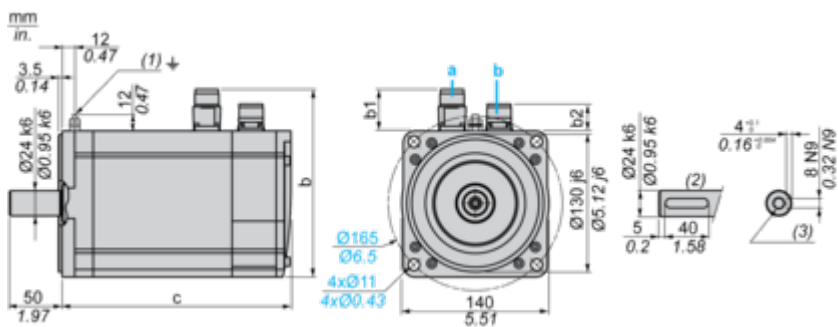
Repack and remanufacture

| | |
|---------------------------------|--|
| End of life manual availability | No need of specific recycling operations |
| Take-back | Yes |

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 | 328 | 366 |

Dimensions in in.

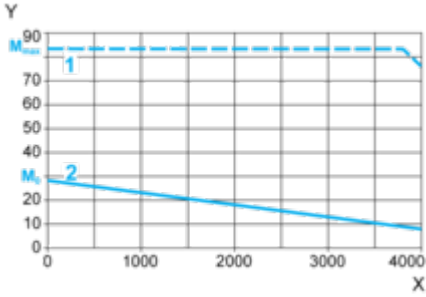
| Straight connectors | | | Rotatable angled connectors | | | c (without brake) | c (with brake) |
|---------------------|------|------|-----------------------------|------|------|-------------------|----------------|
| b | b1 | b2 | b | b1 | b2 | | |
| 7.57 | 2.12 | 1.00 | 7.81 | 2.36 | 1.55 | 12.91 | 14.40 |

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

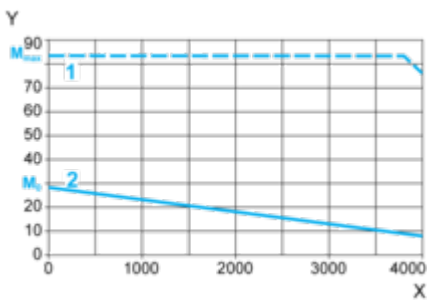
1 Peak torque

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