

# BSH0551P01F2A

servo motor BSH, Lexium 15, 0.5N.m,  
4000rpm, 55mm, untapped shaft, Sincos single  
turn, with brake, IP50



## Main

|                           |                                                                                                                                                                                                                 |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product or component type | Servo motor                                                                                                                                                                                                     |
| Device short name         | BSH                                                                                                                                                                                                             |
| Maximum mechanical speed  | 9000 rpm                                                                                                                                                                                                        |
| Continuous stall torque   | 0.5 N.M for LXM32.U60N4 at 1.5 A, 400 V, three phase<br>0.5 N.M for LXM32.U60N4 at 1.5 A, 480 V, three phase<br>0.5 N.M for LXM15LD13M3, 230 V, single phase<br>0.5 N.m for LXM15LU60N4, 230 V, three phase     |
| Peak stall torque         | 1.5 N.M for LXM32.U60N4 at 1.5 A, 400 V, three phase<br>1.5 N.M for LXM32.U60N4 at 1.5 A, 480 V, three phase<br>1.4 N.M for LXM15LD13M3, 230 V, single phase<br>1.4 N.m for LXM15LU60N4, 230 V, three phase     |
| Nominal output power      | 300 W for LXM32.U60N4 at 1.5 A, 400 V, three phase<br>300 W for LXM32.U60N4 at 1.5 A, 480 V, three phase<br>170 W for LXM15LD13M3, 230 V, single phase<br>170 W for LXM15LU60N4, 230 V, three phase             |
| Nominal torque            | 0.48 N.M for LXM32.U60N4 at 1.5 A, 400 V, three phase<br>0.48 N.M for LXM32.U60N4 at 1.5 A, 480 V, three phase<br>0.46 N.M for LXM15LD13M3, 230 V, single phase<br>0.46 N.m for LXM15LU60N4, 230 V, three phase |
| Nominal speed             | 6000 rpm for LXM32.U60N4 at 1.5 A, 400 V, three phase<br>6000 rpm for LXM32.U60N4 at 1.5 A, 480 V, three phase<br>4000 rpm for LXM15LD13M3, 230 V, single phase<br>4000 rpm for LXM15LU60N4, 230 V, three phase |
| Product compatibility     | LXM15LD13M3 at 230 V single phase<br>LXM15LU60N4 at 230 V three phase<br>LXM32.U60N4 at 400 V three phase<br>LXM32.U60N4 at 480 V three phase                                                                   |
| Shaft end                 | Untapped                                                                                                                                                                                                        |
| IP degree of protection   | IP50 standard                                                                                                                                                                                                   |
| Speed feedback resolution | 131072 points/turn                                                                                                                                                                                              |
| Holding brake             | With                                                                                                                                                                                                            |
| Mounting support          | International standard flange                                                                                                                                                                                   |
| Electrical connection     | Rotatable right-angled connectors                                                                                                                                                                               |

## Complementary

|                          |                        |
|--------------------------|------------------------|
| Range compatibility      | Lexium 32<br>Lexium 15 |
| Supply voltage max       | 480 V                  |
| Network number of phases | Three phase            |
| Continuous stall current | 0.73 A                 |
| Maximum continuous power | 0.45 W                 |

|                                       |                                                                                                                                                                      |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maximum current Irms                  | 3.5 A for LXM15LD13M3<br>3.5 A for LXM15LU60N4<br>2.9 A for LXM32.U60N4                                                                                              |
| Maximum permanent current             | 2.9 A                                                                                                                                                                |
| Switching frequency                   | 8 kHz                                                                                                                                                                |
| Second shaft                          | Without second shaft end                                                                                                                                             |
| Shaft diameter                        | 9 mm                                                                                                                                                                 |
| Shaft length                          | 20 mm                                                                                                                                                                |
| Feedback type                         | Single turn SinCos Hiperface                                                                                                                                         |
| Holding torque                        | 0.8 N.m holding brake                                                                                                                                                |
| Motor flange size                     | 55 mm                                                                                                                                                                |
| Number of motor stacks                | 1                                                                                                                                                                    |
| Torque constant                       | 0.7 N.m/A at 120 °C                                                                                                                                                  |
| Back emf constant                     | 40 V/krpm at 120 °C                                                                                                                                                  |
| Number of motor poles                 | 6                                                                                                                                                                    |
| Rotor inertia                         | 0.083 kg.cm <sup>2</sup>                                                                                                                                             |
| Stator resistance                     | 41.8 Ohm at 20 °C                                                                                                                                                    |
| Stator inductance                     | 71.5 mH at 20 °C                                                                                                                                                     |
| Stator electrical time constant       | 1.09 ms at 20 °C                                                                                                                                                     |
| Maximum radial force Fr               | 170 N at 8000 rpm<br>180 N at 7000 rpm<br>190 N at 6000 rpm<br>200 N at 5000 rpm<br>220 N at 4000 rpm<br>240 N at 3000 rpm<br>270 N at 2000 rpm<br>340 N at 1000 rpm |
| Maximum axial force Fa                | 0.2 x Fr                                                                                                                                                             |
| Brake pull-in power                   | 10 W                                                                                                                                                                 |
| Type of cooling                       | Natural convection                                                                                                                                                   |
| Length                                | 159 mm                                                                                                                                                               |
| Centring collar diameter              | 40 mm                                                                                                                                                                |
| Centring collar depth                 | 2 mm                                                                                                                                                                 |
| Number of mounting holes              | 4                                                                                                                                                                    |
| Mounting holes diameter               | 5.5 mm                                                                                                                                                               |
| Circle diameter of the mounting holes | 63 mm                                                                                                                                                                |
| Net weight                            | 1.3 kg                                                                                                                                                               |

## Packing Units

|                              |         |
|------------------------------|---------|
| Unit Type of Package 1       | PCE     |
| Number of Units in Package 1 | 1       |
| Package 1 Height             | 11.5 cm |
| Package 1 Width              | 19.0 cm |
| Package 1 Length             | 39.5 cm |
| Package 1 Weight             | 1.7 kg  |

## Offer Sustainability

|                            |                                                                                                                                   |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                             |
| REACH Regulation           |  <a href="#">REACH Declaration</a>             |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope)                                                                        |
| Mercury free               | Yes                                                                                                                               |
| China RoHS Regulation      |  <a href="#">China RoHS Declaration</a>        |
| RoHS exemption information |  <a href="#">Yes</a>                           |
| Environmental Disclosure   |  <a href="#">Product Environmental Profile</a> |
| Circularity Profile        | No need of specific recycling operations                                                                                          |

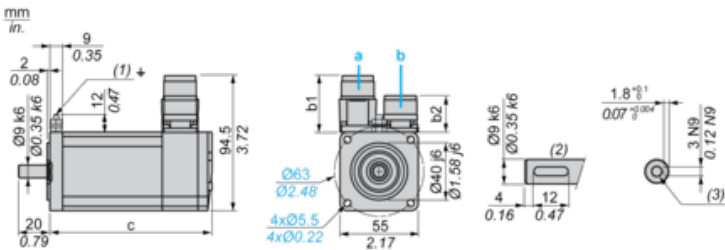
|          |                                                                                                                             |
|----------|-----------------------------------------------------------------------------------------------------------------------------|
| WEEE     | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |
| PVC free | Yes                                                                                                                         |

### Contractual warranty

|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

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 screw M3 x 9 mm/M3 x 0.35 in.

Dimensions in mm

| Straight connectors |      | Rotatable angled connectors |      | c (without brake) | c (with brake) |
|---------------------|------|-----------------------------|------|-------------------|----------------|
| b                   | b1   | b                           | b1   |                   |                |
| 39.5                | 25.5 | 39.5                        | 39.5 | 132.5             | 159            |

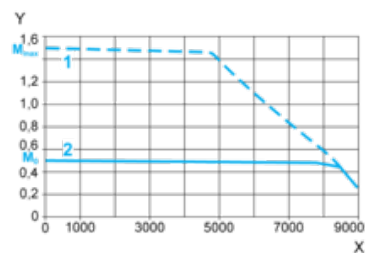
Dimensions in in.

| Straight connectors |      | Rotatable angled connectors |      | c (without brake) | c (with brake) |
|---------------------|------|-----------------------------|------|-------------------|----------------|
| b                   | b1   | b                           | b1   |                   |                |
| 1.55                | 1.00 | 1.55                        | 1.55 | 5.21              | 6.25           |

## 400 V 3-Phase Supply Voltage

### Torque/Speed Curves

Servo motor with LXM32-U60N4 servo drive



X Speed in rpm

Y Torque in Nm

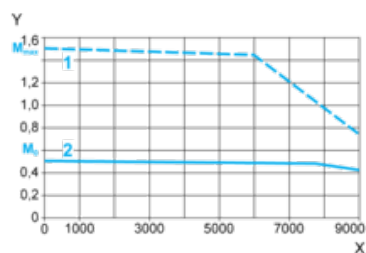
1 Peak torque

2 Continuous torque

## 480 V 3-Phase Supply Voltage

### Torque/Speed Curves

Servo motor with LXM32-U60N4 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque