

## BSH0552P12A2A

servo motor BSH, Lexium 05, 0.9N.m,  
4000rpm, 55mm, keyed shaft, Sincos multi  
turn, without brake, IP50





## Main

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product or Component Type | Servo motor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Device short name         | BSH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Maximum mechanical speed  | 9000 rpm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Continuous stall torque   | 7.08 Lbf.In (0.8 N.m) LXM32.U60N4 1.5 A, 400 V, three phase<br>7.08 Lbf.In (0.8 N.m) LXM32.U60N4 1.5 A, 480 V, three phase<br>7.97 Lbf.In (0.9 N.m) LXM05CU70M2, 200...240 V, single phase<br>7.97 Lbf.In (0.9 N.m) LXM05AD10M2, 200...240 V, single phase<br>7.97 Lbf.In (0.9 N.m) LXM05BD10M2, 200...240 V, single phase<br>7.97 Lbf.In (0.9 N.m) LXM05CD10M2, 200...240 V, single phase<br>7.97 Lbf.In (0.9 N.m) LXM05AD10M3X, 200...240 V, three phase<br>7.97 Lbf.In (0.9 N.m) LXM05BD10M3X, 200...240 V, three phase<br>7.97 Lbf.In (0.9 N.m) LXM05CD10M3X, 200...240 V, three phase<br>7.97 Lbf.In (0.9 N.m) LXM15LD13M3, 230 V, single phase<br>7.97 Lbf.In (0.9 N.m) LXM15LD13M3, 230 V, three phase<br>7.97 Lbf.In (0.9 N.m) LXM15LU60N4, 230 V, three phase<br>7.97 Lbf.In (0.9 N.m) LXM05AD14N4, 380...480 V, three phase<br>7.97 Lbf.In (0.9 N.m) LXM05BD14N4, 380...480 V, three phase<br>7.97 lbf.in (0.9 N.m) LXM05CD14N4, 380...480 V, three phase                  |
| Peak stall torque         | 22.13 Lbf.In (2.5 N.m) LXM32.U60N4 1.5 A, 400 V, three phase<br>22.13 Lbf.In (2.5 N.m) LXM32.U60N4 1.5 A, 480 V, three phase<br>22.13 Lbf.In (2.5 N.m) LXM15LD13M3, 230 V, single phase<br>19.21 Lbf.In (2.17 N.m) LXM05CU70M2, 200...240 V, single phase<br>23.90 Lbf.In (2.7 N.m) LXM05AD10M2, 200...240 V, single phase<br>23.90 Lbf.In (2.7 N.m) LXM05BD10M2, 200...240 V, single phase<br>23.90 Lbf.In (2.7 N.m) LXM05CD10M2, 200...240 V, single phase<br>22.13 Lbf.In (2.5 N.m) LXM15LD13M3, 230 V, three phase<br>20.00 Lbf.In (2.26 N.m) LXM15LU60N4, 230 V, three phase<br>23.90 Lbf.In (2.7 N.m) LXM05AD10M3X, 200...240 V, three phase<br>23.90 Lbf.In (2.7 N.m) LXM05AD14N4, 380...480 V, three phase<br>23.90 Lbf.In (2.7 N.m) LXM05BD10M3X, 200...240 V, three phase<br>23.90 Lbf.In (2.7 N.m) LXM05BD14N4, 380...480 V, three phase<br>23.90 Lbf.In (2.7 N.m) LXM05CD10M3X, 200...240 V, three phase<br>23.90 lbf.in (2.7 N.m) LXM05CD14N4, 380...480 V, three phase |

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|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nominal output power | 400 W LXM32.U60N4 1.5 A, 400 V, three phase<br>400 W LXM32.U60N4 1.5 A, 480 V, three phase<br>250 W LXM05AD10M2, 200...240 V, single phase<br>250 W LXM05BD10M2, 200...240 V, single phase<br>250 W LXM05CD10M2, 200...240 V, single phase<br>250 W LXM05CU70M2, 200...240 V, single phase<br>310 W LXM15LD13M3, 230 V, single phase<br>250 W LXM05AD10M3X, 200...240 V, three phase<br>250 W LXM05AD14N4, 380...480 V, three phase<br>250 W LXM05BD10M3X, 200...240 V, three phase<br>250 W LXM05BD14N4, 380...480 V, three phase<br>250 W LXM05CD10M3X, 200...240 V, three phase<br>250 W LXM05CD14N4, 380...480 V, three phase<br>310 W LXM15LD13M3, 230 V, three phase<br>310 W LXM15LU60N4, 230 V, three phase                                                                                                                                                                                                                                                                 |
| Nominal torque       | 5.75 Lbf.In (0.65 N.m) LXM32.U60N4 1.5 A, 400 V, three phase<br>5.75 Lbf.In (0.65 N.m) LXM32.U60N4 1.5 A, 480 V, three phase<br>6.64 Lbf.In (0.75 N.m) LXM15LD13M3, 230 V, single phase<br>19.21 Lbf.In (2.17 N.m) LXM05CU70M2, 200...240 V, single phase<br>23.90 Lbf.In (2.7 N.m) LXM05AD10M2, 200...240 V, single phase<br>23.90 Lbf.In (2.7 N.m) LXM05BD10M2, 200...240 V, single phase<br>23.90 Lbf.In (2.7 N.m) LXM05CD10M2, 200...240 V, single phase<br>6.64 Lbf.In (0.75 N.m) LXM15LD13M3, 230 V, three phase<br>6.64 Lbf.In (0.75 N.m) LXM15LU60N4, 230 V, three phase<br>23.90 Lbf.In (2.7 N.m) LXM05AD10M3X, 200...240 V, three phase<br>23.90 Lbf.In (2.7 N.m) LXM05AD14N4, 380...480 V, three phase<br>23.90 Lbf.In (2.7 N.m) LXM05BD10M3X, 200...240 V, three phase<br>23.90 Lbf.In (2.7 N.m) LXM05BD14N4, 380...480 V, three phase<br>23.90 Lbf.In (2.7 N.m) LXM05CD10M3X, 200...240 V, three phase<br>23.90 lbf.in (2.7 N.m) LXM05CD14N4, 380...480 V, three phase |
| Nominal speed        | 6000 rpm LXM32.U60N4 1.5 A, 400 V, three phase<br>6000 rpm LXM32.U60N4 1.5 A, 480 V, three phase<br>4000 rpm LXM15LD13M3, 230 V, single phase<br>4000 rpm LXM15LU60N4, 230 V, three phase<br>3000 rpm LXM05CU70M2, 200...240 V, single phase<br>3000 rpm LXM05AD10M2, 200...240 V, single phase<br>3000 rpm LXM05BD10M2, 200...240 V, single phase<br>3000 rpm LXM05CD10M2, 200...240 V, single phase<br>3000 rpm LXM05AD10M3X, 200...240 V, three phase<br>3000 rpm LXM05AD14N4, 380...480 V, three phase<br>3000 rpm LXM05BD10M3X, 200...240 V, three phase<br>3000 rpm LXM05BD14N4, 380...480 V, three phase<br>3000 rpm LXM05CD10M3X, 200...240 V, three phase<br>3000 rpm LXM05CD14N4, 380...480 V, three phase<br>4000 rpm LXM15LD13M3, 230 V, three phase                                                                                                                                                                                                                    |

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|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product compatibility     | LXM05AD10M2 200...240 V single phase<br>LXM05BD10M2 200...240 V single phase<br>LXM05CD10M2 200...240 V single phase<br>LXM05CU70M2 200...240 V single phase<br>LXM15LD13M3 230 V single phase<br>LXM15LU60N4 230 V three phase<br>LXM32.U60N4 400 V three phase<br>LXM32.U60N4 480 V three phase<br>LXM05AD10M3X 200...240 V three phase<br>LXM05BD10M3X 200...240 V three phase<br>LXM05CD10M3X 200...240 V three phase<br>LXM15LD13M3 230 V three phase<br>LXM05AD14N4 380...480 V three phase<br>LXM05BD14N4 380...480 V three phase<br>LXM05CD14N4 380...480 V three phase |
| Shaft end                 | Keyed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IP Degree of Protection   | IP50 standard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Speed feedback resolution | 131072 points/turn x 4096 turns                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Holding brake             | Without                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Mounting Support          | International standard flange                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Electrical Connection     | Rotatable right-angled connectors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

## Complementary

|                                 |                                                                                                                                                                                                                                                                                  |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range Compatibility             | Lexium 05<br>Lexium 32<br>Lexium 15                                                                                                                                                                                                                                              |
| Supply voltage max              | 480 V                                                                                                                                                                                                                                                                            |
| Phase                           | Three phase                                                                                                                                                                                                                                                                      |
| Continuous stall current        | 1.2 A                                                                                                                                                                                                                                                                            |
| Maximum continuous power        | 0.67 W                                                                                                                                                                                                                                                                           |
| Maximum current Irms            | 5.9 A LXM15LD13M3<br>5.9 A LXM15LU60N4<br>4.8 A LXM05CU70M2<br>4.8 A LXM05AD10M2<br>4.8 A LXM05AD10M3X<br>4.8 A LXM05AD14N4<br>4.8 A LXM05BD10M2<br>4.8 A LXM05BD10M3X<br>4.8 A LXM05BD14N4<br>4.8 A LXM05CD10M2<br>4.8 A LXM05CD10M3X<br>4.8 A LXM05CD14N4<br>4.8 A LXM32.U60N4 |
| Maximum permanent current       | 4.8 A                                                                                                                                                                                                                                                                            |
| Switching frequency             | 8 kHz                                                                                                                                                                                                                                                                            |
| Second shaft                    | Without second shaft end                                                                                                                                                                                                                                                         |
| Shaft diameter                  | 0.35 in (9 mm)                                                                                                                                                                                                                                                                   |
| Shaft length                    | 0.79 in (20 mm)                                                                                                                                                                                                                                                                  |
| Key width                       | 0.47 in (12 mm)                                                                                                                                                                                                                                                                  |
| Feedback type                   | Multiturn SinCos Hiperface                                                                                                                                                                                                                                                       |
| Motor flange size               | 2.17 in (55 mm)                                                                                                                                                                                                                                                                  |
| Number of motor stacks          | 2                                                                                                                                                                                                                                                                                |
| Torque constant                 | 0.7 N.m/A 248 °F (120 °C)                                                                                                                                                                                                                                                        |
| Back emf constant               | 40 V/krpm 248 °F (120 °C)                                                                                                                                                                                                                                                        |
| Number of motor poles           | 6                                                                                                                                                                                                                                                                                |
| Rotor inertia                   | 0.096 kg.cm <sup>2</sup>                                                                                                                                                                                                                                                         |
| Stator resistance               | 17.4 Ohm 68 °F (20 °C)                                                                                                                                                                                                                                                           |
| Stator inductance               | 35.3 mH 68 °F (20 °C)                                                                                                                                                                                                                                                            |
| Stator electrical time constant | 2.03 ms 68 °F (20 °C)                                                                                                                                                                                                                                                            |

|                                       |                                                                                                                                              |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Maximum radial force Fr               | 190 N 7000 rpm<br>190 N 8000 rpm<br>200 N 6000 rpm<br>220 N 5000 rpm<br>230 N 4000 rpm<br>260 N 3000 rpm<br>290 N 2000 rpm<br>370 N 1000 rpm |
| Maximum axial force Fa                | 0.2 x Fr                                                                                                                                     |
| Type of cooling                       | Natural convection                                                                                                                           |
| Length                                | 6.08 in (154.4 mm)                                                                                                                           |
| Centring collar diameter              | 1.57 in (40 mm)                                                                                                                              |
| Centring collar depth                 | 0.08 in (2 mm)                                                                                                                               |
| Number of mounting holes              | 4                                                                                                                                            |
| Mounting holes diameter               | 0.22 in (5.5 mm)                                                                                                                             |
| Circle diameter of the mounting holes | 2.48 in (63 mm)                                                                                                                              |
| Net Weight                            | 3.31 lb(US) (1.5 kg)                                                                                                                         |

### Ordering and shipping details

|                   |                        |
|-------------------|------------------------|
| Category          | 18282-LEXIUM 32 MOTORS |
| Discount Schedule | PC53                   |
| GTIN              | 3389118158771          |
| Returnability     | No                     |
| Country of origin | DE                     |

### Packing Units

|                              |                      |
|------------------------------|----------------------|
| Unit Type of Package 1       | PCE                  |
| Number of Units in Package 1 | 1                    |
| Package 1 Height             | 4.84 in (12.3 cm)    |
| Package 1 Width              | 5.04 in (12.8 cm)    |
| Package 1 Length             | 14.84 in (37.7 cm)   |
| Package 1 Weight             | 2.43 lb(US) (1.1 kg) |

### Offer Sustainability

|                            |                                                                                                                                                                                                                                                                                             |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                                                                                                                                                                                       |
| 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 <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> |
| 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 | 154.5             | 181            |

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 | 6.08              | 7.12           |

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### 400 V 3-Phase Supply Voltage

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#### Torque/Speed Curves

Servo motor with LXM32•U60N4 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque

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### 480 V 3-Phase Supply Voltage

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#### Torque/Speed Curves

Servo motor with LXM32•U60N4 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque