

# BSH1001T21F2A

AC servo motor BSH - 3.39 N.m - 4000 rpm -  
untapped shaft - with brake - IP65



## Main

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product or component type | Servo motor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Device short name         | BSH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Maximum mechanical speed  | 6000 rpm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Continuous stall torque   | 29.21 Lbf.In (3.3 N.m) LXM32.D30M2 10 A, 115 V, single phase<br>30.00 Lbf.In (3.39 N.m) LXM15LD28M3, 230 V, three phase<br>30.09 Lbf.In (3.4 N.m) LXM05AD28F1, 110...120 V, single phase<br>30.09 Lbf.In (3.4 N.m) LXM05AD28M2, 200...240 V, single phase<br>30.09 Lbf.In (3.4 N.m) LXM05AD42M3X, 200...240 V, three phase<br>30.09 Lbf.In (3.4 N.m) LXM05BD28F1, 110...120 V, single phase<br>30.09 Lbf.In (3.4 N.m) LXM05BD28M2, 200...240 V, single phase<br>30.09 Lbf.In (3.4 N.m) LXM05BD42M3X, 200...240 V, three phase<br>30.09 Lbf.In (3.4 N.m) LXM05CD28F1, 110...120 V, single phase<br>30.09 Lbf.In (3.4 N.m) LXM05CD28M2, 200...240 V, single phase<br>30.09 Lbf.In (3.4 N.m) LXM05CD42M3X, 200...240 V, three phase<br>23.90 lbf.in (2.7 N.m) LXM32.D18M2 6 A, 230 V, single phase |
| Peak stall torque         | 55.76 Lbf.In (6.3 N.m) LXM32.D30M2 10 A, 115 V, single phase<br>75.23 Lbf.In (8.5 N.m) LXM05AD28F1, 110...120 V, single phase<br>75.23 Lbf.In (8.5 N.m) LXM05AD28M2, 200...240 V, single phase<br>75.23 Lbf.In (8.5 N.m) LXM05BD28F1, 110...120 V, single phase<br>75.23 Lbf.In (8.5 N.m) LXM05BD28M2, 200...240 V, single phase<br>75.23 Lbf.In (8.5 N.m) LXM05CD28F1, 110...120 V, single phase<br>75.23 Lbf.In (8.5 N.m) LXM05CD28M2, 200...240 V, single phase<br>66.38 Lbf.In (7.5 N.m) LXM32.D18M2 6 A, 230 V, single phase<br>75.23 Lbf.In (8.5 N.m) LXM15LD28M3, 230 V, three phase<br>75.23 Lbf.In (8.5 N.m) LXM05AD42M3X, 200...240 V, three phase<br>75.23 Lbf.In (8.5 N.m) LXM05BD42M3X, 200...240 V, three phase<br>75.23 lbf.in (8.5 N.m) LXM05CD42M3X, 200...240 V, three phase  |
| Nominal output power      | 700 W LXM32.D30M2 10 A, 115 V, single phase<br>900 W LXM32.D18M2 6 A, 230 V, single phase<br>500 W LXM05AD28F1, 110...120 V, single phase<br>500 W LXM05BD28F1, 110...120 V, single phase<br>500 W LXM05CD28F1, 110...120 V, single phase<br>900 W LXM05AD28M2, 200...240 V, single phase<br>900 W LXM05BD28M2, 200...240 V, single phase<br>900 W LXM05CD28M2, 200...240 V, single phase<br>1150 W LXM15LD28M3, 230 V, three phase<br>900 W LXM05AD42M3X, 200...240 V, three phase<br>900 W LXM05BD42M3X, 200...240 V, three phase<br>900 W LXM05CD42M3X, 200...240 V, three phase                                                                                                                                                                                                             |

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|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nominal torque            | 24.34 Lbf.In (2.75 N.m) LXM32.D30M2 10 A, 115 V, single phase<br>25.67 Lbf.In (2.9 N.m) LXM05AD28M2, 200...240 V, single phase<br>25.67 Lbf.In (2.9 N.m) LXM05BD28M2, 200...240 V, single phase<br>25.67 Lbf.In (2.9 N.m) LXM05CD28M2, 200...240 V, single phase<br>27.97 Lbf.In (3.16 N.m) LXM05AD28F1, 110...120 V, single phase<br>27.97 Lbf.In (3.16 N.m) LXM05BD28F1, 110...120 V, single phase<br>27.97 Lbf.In (3.16 N.m) LXM05CD28F1, 110...120 V, single phase<br>19.47 Lbf.In (2.2 N.m) LXM32.D18M2 6 A, 230 V, single phase<br>24.34 Lbf.In (2.75 N.m) LXM15LD28M3, 230 V, three phase<br>25.67 Lbf.In (2.9 N.m) LXM05AD42M3X, 200...240 V, three phase<br>25.67 Lbf.In (2.9 N.m) LXM05BD42M3X, 200...240 V, three phase<br>25.67 lbf.in (2.9 N.m) LXM05CD42M3X, 200...240 V, three phase |
| Nominal speed             | 2500 rpm LXM32.D30M2 10 A, 115 V, single phase<br>3000 rpm LXM05AD28M2, 200...240 V, single phase<br>3000 rpm LXM05BD28M2, 200...240 V, single phase<br>3000 rpm LXM05CD28M2, 200...240 V, single 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<br>4000 rpm LXM32.D18M2 6 A, 230 V, single phase<br>1500 rpm LXM05AD28F1, 110...120 V, single phase<br>1500 rpm LXM05BD28F1, 110...120 V, single phase<br>1500 rpm LXM05CD28F1, 110...120 V, single phase<br>4000 rpm LXM15LD28M3, 230 V, three phase                                                                                                                                                                              |
| Product compatibility     | LXM05AD28F1 110...120 V single phase<br>LXM05AD28M2 200...240 V single phase<br>LXM05BD28F1 110...120 V single phase<br>LXM05BD28M2 200...240 V single phase<br>LXM05CD28F1 110...120 V single phase<br>LXM05CD28M2 200...240 V single phase<br>LXM32.D30M2 115 V single phase<br>LXM32.D18M2 230 V single phase<br>LXM05AD42M3X 200...240 V three phase<br>LXM05BD42M3X 200...240 V three phase<br>LXM05CD42M3X 200...240 V three phase<br>LXM15LD28M3 230 V three phase                                                                                                                                                                                                                                                                                                                           |
| Shaft end                 | Untapped                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| IP degree of protection   | IP65 standard<br>IP67 with IP67 kit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Speed feedback resolution | 131072 points/turn                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Holding brake             | With                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Mounting support          | International standard flange                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Electrical connection     | Rotatable right-angled connectors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## Complementary

|                          |                                     |
|--------------------------|-------------------------------------|
| Range compatibility      | Lexium 15<br>Lexium 32<br>Lexium 05 |
| Supply voltage max       | 480 V                               |
| Phase                    | Three phase                         |
| Continuous stall current | 7.3 A                               |
| Maximum continuous power | 1.6 W                               |

|                                       |                                                                                                                                                                                                                                                                               |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maximum current Irms                  | 18 A LXM32.D18M2 230 V<br>15 A LXM32.D30M2 115 V<br>23 A LXM15LD28M3<br>25.1 A LXM05AD28F1<br>25.1 A LXM05AD28M2<br>25.1 A LXM05AD42M3X<br>25.1 A LXM05BD28F1<br>25.1 A LXM05BD28M2<br>25.1 A LXM05BD42M3X<br>25.1 A LXM05CD28F1<br>25.1 A LXM05CD28M2<br>25.1 A LXM05CD42M3X |
| Maximum permanent current             | 25.1 A                                                                                                                                                                                                                                                                        |
| Switching frequency                   | 8 kHz                                                                                                                                                                                                                                                                         |
| Second shaft                          | Without second shaft end                                                                                                                                                                                                                                                      |
| Shaft diameter                        | 0.75 in (19 mm)                                                                                                                                                                                                                                                               |
| Shaft length                          | 1.57 in (40 mm)                                                                                                                                                                                                                                                               |
| Feedback type                         | Single turn SinCos Hiperface                                                                                                                                                                                                                                                  |
| Holding torque                        | 79.66 lbf.in (9 N.m) holding brake                                                                                                                                                                                                                                            |
| Motor flange size                     | 3.94 in (100 mm)                                                                                                                                                                                                                                                              |
| Number of motor stacks                | 1                                                                                                                                                                                                                                                                             |
| Torque constant                       | 0.45 N.m/A 248 °F (120 °C)                                                                                                                                                                                                                                                    |
| Back emf constant                     | 29 V/krpm 248 °F (120 °C)                                                                                                                                                                                                                                                     |
| Number of motor poles                 | 8                                                                                                                                                                                                                                                                             |
| Rotor inertia                         | 2.018 kg.cm <sup>2</sup>                                                                                                                                                                                                                                                      |
| Stator resistance                     | 0.87 Ohm 68 °F (20 °C)                                                                                                                                                                                                                                                        |
| Stator inductance                     | 4 mH 68 °F (20 °C)                                                                                                                                                                                                                                                            |
| Stator electrical time constant       | 4.6 ms 68 °F (20 °C)                                                                                                                                                                                                                                                          |
| Maximum radial force Fr               | 530 N 5000 rpm<br>570 N 4000 rpm<br>630 N 3000 rpm<br>720 N 2000 rpm<br>900 N 1000 rpm                                                                                                                                                                                        |
| Maximum axial force Fa                | 0.2 x Fr                                                                                                                                                                                                                                                                      |
| Brake pull-in power                   | 18 W                                                                                                                                                                                                                                                                          |
| Type of cooling                       | Natural convection                                                                                                                                                                                                                                                            |
| Length                                | 7.85 in (199.5 mm)                                                                                                                                                                                                                                                            |
| Centring collar diameter              | 3.74 in (95 mm)                                                                                                                                                                                                                                                               |
| Centring collar depth                 | 0.14 in (3.5 mm)                                                                                                                                                                                                                                                              |
| Number of mounting holes              | 4                                                                                                                                                                                                                                                                             |
| Mounting holes diameter               | 0.35 in (9 mm)                                                                                                                                                                                                                                                                |
| Circle diameter of the mounting holes | 4.53 in (115 mm)                                                                                                                                                                                                                                                              |
| Net weight                            | 10.58 lb(US) (4.8 kg)                                                                                                                                                                                                                                                         |

### Ordering and shipping details

|                       |                          |
|-----------------------|--------------------------|
| Category              | 18282 - LEXIUM 32 MOTORS |
| Discount Schedule     | PC53                     |
| GTIN                  | 00785901482772           |
| Nbr. of units in pkg. | 1                        |
| Package weight(Lbs)   | 10.89 lb(US) (4.94 kg)   |
| Returnability         | No                       |
| Country of origin     | DE                       |

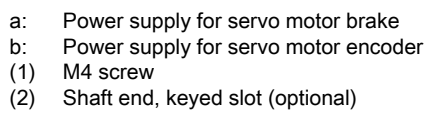
### Packing Units

|                        |                    |
|------------------------|--------------------|
| Unit Type of Package 1 | PCE                |
| Package 1 Height       | 6.06 in (15.4 cm)  |
| Package 1 width        | 6.42 in (16.3 cm)  |
| Package 1 Length       | 16.02 in (40.7 cm) |

Contractual warranty

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

### Example with Straight Connectors



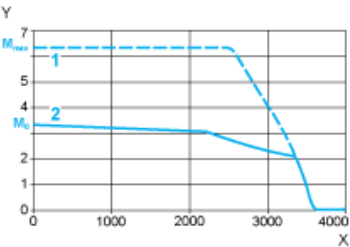
| Straight connectors |      | Rotatable angled connectors |      | c (without brake) | c (with brake) | c1 | c2 | h    | h1                               | Ø     | Ø1 for screws |
|---------------------|------|-----------------------------|------|-------------------|----------------|----|----|------|----------------------------------|-------|---------------|
| b1                  | b2   | b1                          | b2   |                   |                |    |    |      |                                  |       |               |
| 39.5                | 25.5 | 39.5                        | 39.5 | 169               | 200            | 40 | 30 | 6 N9 | 3.5 <sup>+0.1</sup> <sub>0</sub> | 19 k6 | M6 x 16       |

| Straight connectors |      | Rotatable angled connectors |      | c (without brake) | c (with brake) | c1   | c2   | h       | h1                                | Ø       | Ø1 for screws |
|---------------------|------|-----------------------------|------|-------------------|----------------|------|------|---------|-----------------------------------|---------|---------------|
| b1                  | b2   | b1                          | b2   |                   |                |      |      |         |                                   |         |               |
| 1.55                | 1.00 | 1.55                        | 1.55 | 6.65              | 7.87           | 1.57 | 1.18 | 0.24 N9 | 0.14 <sup>+0.1</sup> <sub>0</sub> | 0.75 k6 | M6 x 0.63     |

115 V Single-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D30M2 servo drive

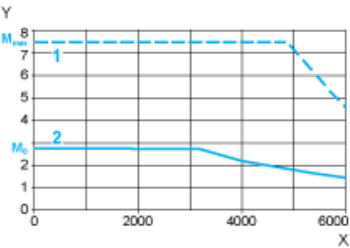


- X Speed in rpm
- Y Torque in Nm
- 1 Peak torque
- 2 Continuous torque

230 V Single-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D18M2 servo drive



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