

# Product datasheet

Specifications



servo motor BSH, Lexium 05,  
7.76N.m, 2000rpm, 100mm, keyed  
shaft, Sincos single turn, without  
brake, IP65

BSH1003M31A2A

! Discontinued

## Main

|                           |                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Device short name         | BSH                                                                                                                                                                                                                                                                                                                                                                   |
| Product or component type | Servo motor                                                                                                                                                                                                                                                                                                                                                           |
| Maximum mechanical speed  | 6000 rpm                                                                                                                                                                                                                                                                                                                                                              |
| Continuous stall torque   | 7.76 N.m for LXM15LD10N4, 400 V, three phase<br>7.76 N.m for LXM15LD17N4, 230 V, three phase<br>7.76 N.m for LXM15LD17N4, 400 V, three phase<br>7.76 N.m for LXM15LD17N4, 480 V, three phase<br>7.8 N.m for LXM05AD22N4, 380...480 V, three phase<br>7.8 N.m for LXM05BD22N4, 380...480 V, three phase<br>7.8 N.m for LXM05CD22N4, 380...480 V, three phase           |
| Peak stall torque         | 15.19 N.m for LXM15LD10N4, 400 V, three phase<br>22.95 N.m for LXM15LD17N4, 230 V, three phase<br>22.95 N.m for LXM15LD17N4, 400 V, three phase<br>22.95 N.m for LXM15LD17N4, 480 V, three phase<br>23.17 N.m for LXM05AD22N4, 380...480 V, three phase<br>23.17 N.m for LXM05BD22N4, 380...480 V, three phase<br>23.17 N.m for LXM05CD22N4, 380...480 V, three phase |
| Nominal output power      | 1400 W for LXM15LD17N4, 480 V, three phase<br>750 W for LXM15LD17N4, 230 V, three phase<br>1300 W for LXM15LD10N4, 400 V, three phase<br>1100 W for LXM05AD22N4, 380...480 V, three phase<br>1100 W for LXM05BD22N4, 380...480 V, three phase<br>1100 W for LXM05CD22N4, 380...480 V, three phase<br>1400 W for LXM15LD17N4, 400 V, three phase                       |
| Nominal torque            | 6.36 N.m for LXM15LD10N4, 400 V, three phase<br>6.5 N.m for LXM15LD17N4, 400 V, three phase<br>6.5 N.m for LXM15LD17N4, 480 V, three phase<br>6.73 N.m for LXM05AD22N4, 380...480 V, three phase<br>6.73 N.m for LXM05BD22N4, 380...480 V, three phase<br>6.73 N.m for LXM05CD22N4, 380...480 V, three phase<br>7 N.m for LXM15LD17N4, 230 V, three phase             |
| Nominal speed             | 1000 rpm for LXM15LD17N4, 230 V, three phase<br>1500 rpm for LXM05AD22N4, 380...480 V, three phase<br>1500 rpm for LXM05BD22N4, 380...480 V, three phase<br>1500 rpm for LXM05CD22N4, 380...480 V, three phase<br>2000 rpm for LXM15LD10N4, 400 V, three phase<br>2000 rpm for LXM15LD17N4, 400 V, three phase<br>2000 rpm for LXM15LD17N4, 480 V, three phase        |
| Product compatibility     | LXM15LD10N4 at 400 V three phase<br>LXM15LD17N4 at 230 V three phase<br>LXM05AD22N4 at 380...480 V three phase<br>LXM05BD22N4 at 380...480 V three phase<br>LXM05CD22N4 at 380...480 V three phase<br>LXM15LD17N4 at 400 V three phase<br>LXM15LD17N4 at 480 V three phase                                                                                            |
| Shaft end                 | Keyed                                                                                                                                                                                                                                                                                                                                                                 |
| IP degree of protection   | IP65 standard<br>IP67 with IP67 kit                                                                                                                                                                                                                                                                                                                                   |

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

|                           |                                   |
|---------------------------|-----------------------------------|
| Speed feedback resolution | 131072 points/turn                |
| Holding brake             | Without                           |
| Mounting support          | International standard flange     |
| Electrical connection     | Rotatable right-angled connectors |

## Complementary

|                                 |                                                                                                                                |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Range compatibility             | Lexium 15<br>Lexium 05                                                                                                         |
| supply voltage max              | 480 V                                                                                                                          |
| Network number of phases        | Three phase                                                                                                                    |
| Continuous stall current        | 3.4 A                                                                                                                          |
| maximum continuous power        | 3.14 W                                                                                                                         |
| Maximum current Irms            | 15.6 A for LXM15LD10N4<br>15.6 A for LXM15LD17N4<br>14.7 A for LXM05AD22N4<br>14.7 A for LXM05BD22N4<br>14.7 A for LXM05CD22N4 |
| Maximum permanent current       | 14.7 A                                                                                                                         |
| Switching frequency             | 4 kHz                                                                                                                          |
| Second shaft                    | Without second shaft end                                                                                                       |
| Shaft diameter                  | 19 mm                                                                                                                          |
| Shaft length                    | 40 mm                                                                                                                          |
| Key width                       | 30 mm                                                                                                                          |
| Feedback type                   | Single turn SinCos Hiperface                                                                                                   |
| Motor flange size               | 100 mm                                                                                                                         |
| Torque constant                 | 2.22 N.m/A at 120 °C                                                                                                           |
| Back emf constant               | 1.44 V/krpm at 120 °C<br>148 V/krpm at 120 °C                                                                                  |
| Number of motor poles           | 8                                                                                                                              |
| Rotor inertia                   | 3.22 kg.cm²                                                                                                                    |
| Stator resistance               | 5.3 Ohm at 20 °C                                                                                                               |
| Stator inductance               | 32.5 mH at 20 °C<br>33.7 mH at 20 °C                                                                                           |
| Stator electrical time constant | 6.13 ms at 20 °C<br>6.36 ms at 20 °C                                                                                           |
| Maximum radial force Fr         | 1050 N at 1000 rpm<br>660 N at 4000 rpm<br>730 N at 3000 rpm<br>830 N at 2000 rpm                                              |
| Maximum axial force Fa          | 0.2 x Fr                                                                                                                       |
| Type of cooling                 | Natural convection                                                                                                             |
| Length                          | 240.5 mm                                                                                                                       |
| Centring collar diameter        | 95 mm                                                                                                                          |
| Centring collar depth           | 3.5 mm                                                                                                                         |
| Number of mounting holes        | 4                                                                                                                              |
| Mounting holes diameter         | 9 mm                                                                                                                           |

|                                       |          |
|---------------------------------------|----------|
| Circle diameter of the mounting holes | 115 mm   |
| Product weight                        | 7.4 kg   |
| Sizing reference                      | BSH1003M |
| 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    |

## Packing Units

|                              |     |
|------------------------------|-----|
| Unit Type of Package 1       | PCE |
| Number of Units in Package 1 | 1   |

## 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 >](#)

### Use Better

| Materials and Substances |                                        |
|--------------------------|----------------------------------------|
| EU RoHS Directive        | <a href="#">Compliant By Exemption</a> |
| PVC free                 | Yes                                    |

### Use Longer

| Lifetime extension |    |
|--------------------|----|
| Repair             | No |

### Use Again

| Repack and remanufacture        |                                                                                                                                                                                                                 |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| End of life manual availability | No need of specific recycling operations                                                                                                                                                                        |
| WEEE Label                      |  The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |