

# Product datasheet

Specifications



servo motor BSH, Lexium 05,  
19.5N.m, 1500rpm, 140mm,  
untapped shaft, Sincos multi turn,  
without brake, IP50

BSH1402M02A2A

! Discontinued

! Discontinued on: Jan 23, 2021

## Main

|                           |                                                                                                                                                                                                                                                                |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Device short name         | BSH                                                                                                                                                                                                                                                            |
| Product or component type | Servo motor                                                                                                                                                                                                                                                    |
| Maximum mechanical speed  | 4000 rpm                                                                                                                                                                                                                                                       |
| Continuous stall torque   | 19.5 N.m for LXM15MD40N4, 400 V, three phase<br>19.5 N.m for LXM15MD40N4, 480 V, three phase<br>19.2 N.m for LXM05AD34N4, 380...480 V, three phase<br>19.2 N.m for LXM05BD34N4, 380...480 V, three phase<br>19.2 N.m for LXM05CD34N4, 380...480 V, three phase |
| Peak stall torque         | 47.5 N.m for LXM15MD40N4, 400 V, three phase<br>47.5 N.m for LXM15MD40N4, 480 V, three phase<br>47.5 N.m for LXM05AD34N4, 380...480 V, three phase<br>47.5 N.m for LXM05BD34N4, 380...480 V, three phase<br>47.5 N.m for LXM05CD34N4, 380...480 V, three phase |
| Nominal output power      | 2350 W for LXM05AD34N4, 380...480 V, three phase<br>2350 W for LXM05BD34N4, 380...480 V, three phase<br>2350 W for LXM05CD34N4, 380...480 V, three phase<br>2350 W for LXM15MD40N4, 400 V, three phase<br>2350 W for LXM15MD40N4, 480 V, three phase           |
| Nominal torque            | 15 N.m for LXM05AD34N4, 380...480 V, three phase<br>15 N.m for LXM05BD34N4, 380...480 V, three phase<br>15 N.m for LXM05CD34N4, 380...480 V, three phase<br>15 N.m for LXM15MD40N4, 400 V, three phase<br>15 N.m for LXM15MD40N4, 480 V, three phase           |
| Nominal speed             | 1500 rpm for LXM15MD40N4, 400 V, three phase<br>1500 rpm for LXM05AD34N4, 380...480 V, three phase<br>1500 rpm for LXM05BD34N4, 380...480 V, three phase<br>1500 rpm for LXM05CD34N4, 380...480 V, three phase<br>1500 rpm for LXM15MD40N4, 480 V, three phase |
| Product compatibility     | LXM05AD34N4 at 380...480 V three phase<br>LXM05BD34N4 at 380...480 V three phase<br>LXM05CD34N4 at 380...480 V three phase<br>LXM15MD40N4 at 400 V three phase<br>LXM15MD40N4 at 480 V three phase                                                             |
| Shaft end                 | Untapped                                                                                                                                                                                                                                                       |
| 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

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

|                                       |                                                                                                      |
|---------------------------------------|------------------------------------------------------------------------------------------------------|
| Range compatibility                   | Lexium 15<br>Lexium 05                                                                               |
| supply voltage max                    | 480 V                                                                                                |
| Network number of phases              | Three phase                                                                                          |
| Continuous stall current              | 6.7 A                                                                                                |
| maximum continuous power              | 5.5 W                                                                                                |
| Maximum current Irms                  | 22.4 A for LXM15MD40N4<br>22.4 A for LXM05AD34N4<br>22.4 A for LXM05BD34N4<br>22.4 A for LXM05CD34N4 |
| Maximum permanent current             | 22.4 A                                                                                               |
| Switching frequency                   | 4 kHz                                                                                                |
| Second shaft                          | Without second shaft end                                                                             |
| Shaft diameter                        | 24 mm                                                                                                |
| Shaft length                          | 50 mm                                                                                                |
| Feedback type                         | Multiturn SinCos Hiperface                                                                           |
| Motor flange size                     | 140 mm                                                                                               |
| Torque constant                       | 2.91 N.m/A at 120 °C                                                                                 |
| Back emf constant                     | 199 V/krpm at 120 °C                                                                                 |
| Number of motor poles                 | 10                                                                                                   |
| Rotor inertia                         | 12.68 kg.cm²                                                                                         |
| Stator resistance                     | 2.3 Ohm at 20 °C<br>2.32 Ohm at 20 °C                                                                |
| Stator inductance                     | 28.6 mH at 20 °C<br>29.79 mH at 20 °C                                                                |
| Stator electrical time constant       | 12.33 ms at 20 °C<br>12.85 ms at 20 °C                                                               |
| Maximum radial force Fr               | 1680 N at 3000 rpm<br>1930 N at 2000 rpm<br>2430 N at 1000 rpm                                       |
| Maximum axial force Fa                | 0.2 x Fr                                                                                             |
| Type of cooling                       | Natural convection                                                                                   |
| Length                                | 272.5 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                                                                                               |
| Product weight                        | 16.6 kg                                                                                              |
| Sizing reference                      | BSH1402M                                                                                             |
| 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 Longer

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