

# Product data sheet

Specifications



servo motor BSH, Lexium 05,  
9.31N.m, 1500rpm, 100mm,  
untapped shaft, Sincos single turn,  
without brake, IP50

BSH1004P01A2A

## Main

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Device short name         | BSH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Product or component type | Servo motor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Maximum mechanical speed  | 6000 rpm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Continuous stall torque   | 8 N.m for LXM32.D30N4 at 10 A, 400 V, three phase<br>8 N.m for LXM32.D30N4 at 10 A, 480 V, three phase<br>9.31 N.m for LXM15MD40N4, 400 V, three phase<br>9.31 N.m for LXM15MD40N4, 480 V, three phase<br>9.31 N.m for LXM15MD28M3, 230 V, three phase<br>9.31 N.m for LXM15MD28N4, 230 V, three phase<br>9.31 N.m for LXM15MD28N4, 400 V, three phase<br>9.31 N.m for LXM15MD28N4, 480 V, three phase<br>9.31 N.m for LXM15MD40N4, 230 V, three phase<br>9.31 N.m for LXM05AD34N4, 380...480 V, three phase<br>9.31 N.m for LXM05AD42M3X at 10 A, 200...240 V, three phase<br>9.31 N.m for LXM05AD57N4, 380...480 V, three phase<br>9.31 N.m for LXM05BD34N4, 380...480 V, three phase<br>9.31 N.m for LXM05BD42M3X, 200...240 V, three phase<br>9.31 N.m for LXM05BD57N4, 380...480 V, three phase<br>9.31 N.m for LXM05CD34N4, 380...480 V, three phase<br>9.31 N.m for LXM05CD42M3X, 200...240 V, three phase<br>9.31 N.m for LXM05CD57N4, 380...480 V, three phase             |
| Peak stall torque         | 37.9 N.m for LXM32.D30N4 at 10 A, 400 V, three phase<br>37.9 N.m for LXM32.D30N4 at 10 A, 480 V, three phase<br>25.7 N.m for LXM15MD28M3, 230 V, three phase<br>25.7 N.m for LXM15MD28N4, 230 V, three phase<br>25.7 N.m for LXM15MD28N4, 400 V, three phase<br>25.7 N.m for LXM15MD28N4, 480 V, three phase<br>33.83 N.m for LXM15MD40N4, 230 V, three phase<br>33.83 N.m for LXM15MD40N4, 400 V, three phase<br>33.83 N.m for LXM15MD40N4, 480 V, three phase<br>23.47 N.m for LXM05AD34N4, 380...480 V, three phase<br>35.7 N.m for LXM05AD42M3X at 10 A, 200...240 V, three phase<br>35.7 N.m for LXM05AD57N4, 380...480 V, three phase<br>23.47 N.m for LXM05BD34N4, 380...480 V, three phase<br>35.7 N.m for LXM05BD42M3X, 200...240 V, three phase<br>35.7 N.m for LXM05BD57N4, 380...480 V, three phase<br>23.47 N.m for LXM05CD34N4, 380...480 V, three phase<br>35.7 N.m for LXM05CD42M3X, 200...240 V, three phase<br>35.7 N.m for LXM05CD57N4, 380...480 V, three phase |

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

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nominal output power    | 2600 W for LXM32.D30N4 at 10 A, 480 V, three phase<br>2100 W for LXM32.D30N4 at 10 A, 400 V, three phase<br>1300 W for LXM05AD42M3X, 200...240 V, three phase<br>1300 W for LXM05BD42M3X, 200...240 V, three phase<br>1300 W for LXM05CD42M3X, 200...240 V, three phase<br>1300 W for LXM15MD28M3, 230 V, three phase<br>1300 W for LXM15MD28N4, 230 V, three phase<br>1300 W for LXM15MD40N4, 230 V, three phase<br>2200 W for LXM05AD34N4, 380...480 V, three phase<br>2200 W for LXM05AD57N4, 380...480 V, three phase<br>2200 W for LXM05BD34N4 at 10 A, 380...480 V, three phase<br>2200 W for LXM05BD57N4, 380...480 V, three phase<br>2200 W for LXM05CD34N4, 380...480 V, three phase<br>2200 W for LXM05CD57N4, 380...480 V, three phase<br>2200 W for LXM15MD28N4, 400 V, three phase<br>2300 W for LXM15MD40N4, 400 V, three phase<br>2400 W for LXM15MD40N4, 480 V, three phase<br>2700 W for LXM15MD28N4, 480 V, three phase                                     |
| Nominal torque          | 8.3 N.m for LXM32.D30N4 at 10 A, 400 V, three phase<br>8.3 N.m for LXM32.D30N4 at 10 A, 480 V, three phase<br>6.5 N.m for LXM15MD28N4, 480 V, three phase<br>6.69 N.m for LXM15MD40N4, 480 V, three phase<br>7 N.m for LXM15MD28N4, 400 V, three phase<br>7.1 N.m for LXM05AD34N4, 380...480 V, three phase<br>7.1 N.m for LXM05AD57N4, 380...480 V, three phase<br>7.1 N.m for LXM05BD34N4, 380...480 V, three phase<br>7.1 N.m for LXM05BD57N4, 380...480 V, three phase<br>7.1 N.m for LXM05CD34N4, 380...480 V, three phase<br>7.1 N.m for LXM05CD57N4 at 10 A, 380...480 V, three phase<br>7.17 N.m for LXM15MD40N4, 400 V, three phase<br>8.18 N.m for LXM15MD40N4, 230 V, three phase<br>8.22 N.m for LXM05AD42M3X, 200...240 V, three phase<br>8.22 N.m for LXM05BD42M3X, 200...240 V, three phase<br>8.22 N.m for LXM05CD42M3X, 200...240 V, three phase<br>8.22 N.m for LXM15LD28M3, 230 V, three phase<br>8.22 N.m for LXM15MD28N4, 230 V, three phase             |
| Nominal speed           | 2500 rpm for LXM32.D30N4 at 10 A, 400 V, three phase<br>3000 rpm for LXM32.D30N4 at 10 A, 480 V, three phase<br>1500 rpm for LXM05AD42M3X, 200...240 V, three phase<br>1500 rpm for LXM05BD42M3X, 200...240 V, three phase<br>1500 rpm for LXM05CD42M3X, 200...240 V, three phase<br>3000 rpm for LXM05AD34N4, 380...480 V, three phase<br>3000 rpm for LXM05BD34N4, 380...480 V, three phase<br>3000 rpm for LXM05CD34N4, 380...480 V, three phase<br>1500 rpm for LXM15MD28M3, 230 V, three phase<br>1500 rpm for LXM15MD28N4, 230 V, three phase<br>1500 rpm for LXM15MD40N4 at 10 A, 230 V, three phase<br>3000 rpm for LXM05AD57N4, 380...480 V, three phase<br>3000 rpm for LXM05BD57N4, 380...480 V, three phase<br>3000 rpm for LXM05CD57N4, 380...480 V, three phase<br>3000 rpm for LXM15MD28N4, 400 V, three phase<br>3000 rpm for LXM15MD40N4, 400 V, three phase<br>3500 rpm for LXM15MD40N4, 480 V, three phase<br>4000 rpm for LXM15MD28N4, 480 V, three phase |
| Product compatibility   | LXM05AD42M3X at 200...240 V three phase<br>LXM05BD42M3X at 200...240 V three phase<br>LXM05CD42M3X at 200...240 V three phase<br>LXM05AD34N4 at 380...480 V three phase<br>LXM05BD34N4 at 380...480 V three phase<br>LXM05CD34N4 at 380...480 V three phase<br>LXM15MD28N4 at 400 V three phase<br>LXM15MD28N4 at 480 V three phase<br>LXM15MD40N4 at 400 V three phase<br>LXM15MD40N4 at 480 V three phase<br>LXM32.D30N4 at 400 V three phase<br>LXM32.D30N4 at 480 V three phase<br>LXM05AD57N4 at 380...480 V three phase<br>LXM05BD57N4 at 380...480 V three phase<br>LXM05CD57N4 at 380...480 V three phase<br>LXM15MD28M3 at 230 V three phase<br>LXM15MD28N4 at 230 V three phase<br>LXM15MD40N4 at 230 V three phase                                                                                                                                                                                                                                                 |
| Shaft end               | Untapped                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| IP degree of protection | IP50 standard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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

## Complementary

|                                 |                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range compatibility             | Lexium 32<br>Lexium 05<br>Lexium 15                                                                                                                                                                                                                                                                                                             |
| supply voltage max              | 480 V                                                                                                                                                                                                                                                                                                                                           |
| Network number of phases        | Three phase                                                                                                                                                                                                                                                                                                                                     |
| Continuous stall current        | 6.2 A                                                                                                                                                                                                                                                                                                                                           |
| maximum continuous power        | 3.64 W                                                                                                                                                                                                                                                                                                                                          |
| Maximum current Irms            | 34.8 A for LXM15LD28M3<br>34.8 A for LXM15MD28N4<br>34.8 A for LXM15MD40N4<br>32.3 A for LXM05AD42M3X<br>32.3 A for LXM05AD34N4<br>32.3 A for LXM05AD57N4<br>32.3 A for LXM05BD42M3X<br>32.3 A for LXM05BD34N4<br>32.3 A for LXM05BD57N4<br>32.3 A for LXM05CD42M3X<br>32.3 A for LXM05CD34N4<br>32.3 A for LXM05CD57N4<br>30 A for LXM32.D30N4 |
| Maximum permanent current       | 32.3 A                                                                                                                                                                                                                                                                                                                                          |
| Switching frequency             | 8 kHz                                                                                                                                                                                                                                                                                                                                           |
| Second shaft                    | Without second shaft end                                                                                                                                                                                                                                                                                                                        |
| Shaft diameter                  | 24 mm                                                                                                                                                                                                                                                                                                                                           |
| Shaft length                    | 50 mm                                                                                                                                                                                                                                                                                                                                           |
| Feedback type                   | Single turn SinCos Hiperface                                                                                                                                                                                                                                                                                                                    |
| Motor flange size               | 100 mm                                                                                                                                                                                                                                                                                                                                          |
| Number of motor stacks          | 4                                                                                                                                                                                                                                                                                                                                               |
| Torque constant                 | 1.62 N.m/A at 120 °C                                                                                                                                                                                                                                                                                                                            |
| Back emf constant               | 103 V/krpm at 120 °C                                                                                                                                                                                                                                                                                                                            |
| Number of motor poles           | 4.0                                                                                                                                                                                                                                                                                                                                             |
| Rotor inertia                   | 4.22 kg.cm²                                                                                                                                                                                                                                                                                                                                     |
| Stator resistance               | 1.81 Ohm at 20 °C                                                                                                                                                                                                                                                                                                                               |
| Stator inductance               | 6.5 mH at 20 °C                                                                                                                                                                                                                                                                                                                                 |
| Stator electrical time constant | 6.52 ms at 20 °C                                                                                                                                                                                                                                                                                                                                |
| Maximum radial force Fr         | 1070 N at 1000 rpm<br>740 N at 3000 rpm<br>850 N at 2000 rpm                                                                                                                                                                                                                                                                                    |
| Maximum axial force Fa          | 0.2 x Fr                                                                                                                                                                                                                                                                                                                                        |
| Type of cooling                 | Natural convection                                                                                                                                                                                                                                                                                                                              |
| Length                          | 276.5 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                        | 9.5 kg   |
| Sizing reference                      | BSH1004P |
| 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        |
| Package 1 Height             | 20.5 cm  |
| Package 1 Width              | 18.3 cm  |
| Package 1 Length             | 56.2 cm  |
| Package 1 Weight             | 9.906 kg |
| Unit Type of Package 2       | P06      |
| Number of Units in Package 2 | 8        |
| Package 2 Height             | 77 cm    |
| Package 2 Width              | 80 cm    |
| Package 2 Length             | 60 cm    |
| Package 2 Weight             | 88.18 kg |

## Contractual warranty

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

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 >](#)

|  Environmental footprint |                                               |
|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Total lifecycle Carbon footprint                                                                          | 2960                                          |
| Environmental Disclosure                                                                                  | <a href="#">Product Environmental Profile</a> |

Use Better

|  Materials and Substances |                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Packaging made with recycled cardboard                                                                     | Yes                                                                                                                                                                                                                                                                                         |
| Packaging without single use plastic                                                                       | No                                                                                                                                                                                                                                                                                          |
| <a href="#">EU RoHS Directive</a>                                                                          | Pro-active compliance (Product out of EU RoHS legal scope)                                                                                                                                                                                                                                  |
| REACH Regulation                                                                                           | <a href="#">REACH Declaration</a>                                                                                                                                                                                                                                                           |
| 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> |
| PVC free                                                                                                   | Yes                                                                                                                                                                                                                                                                                         |

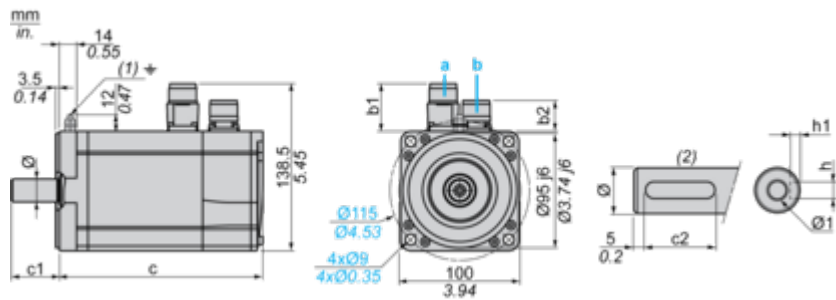
Use Again

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

Dimensions Drawings

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)

| 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 | 277               | 308            | 50 | 40 | 8 N9 | 4 <sup>+0.1</sup> <sub>0</sub> | 24 k6 | M8 x 19       |

Dimensions in in.

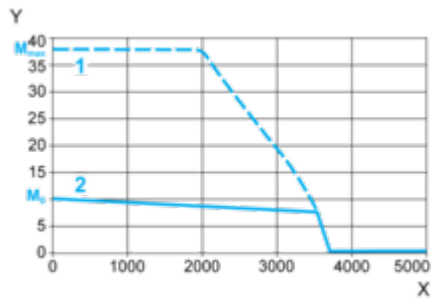
| Straight connectors |      | Rotatable angled connectors |      | c (without brake) | c (with brake) | c1   | c2   | h       | h1                                | Ø       | Ø1 for screws |
|---------------------|------|-----------------------------|------|-------------------|----------------|------|------|---------|-----------------------------------|---------|---------------|
| b1                  | b2   | b1                          | b2   |                   |                |      |      |         |                                   |         |               |
| 1.55                | 1.00 | 1.55                        | 1.55 | 10.90             | 12.12          | 1.96 | 1.57 | 0.31 N9 | 0.16 <sup>+0.1</sup> <sub>0</sub> | 0.94 k6 | M8 x 0.75     |

Performance Curves

400 V 3-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D30N4 servo drive

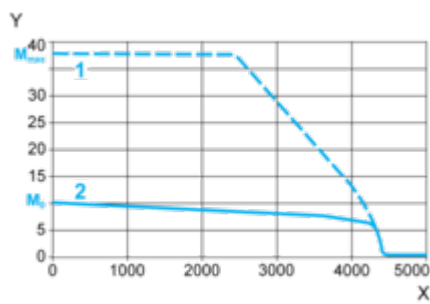


- X Speed in rpm
- Y Torque in Nm
- 1 Peak torque
- 2 Continuous torque

480 V 3-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D30N4 servo drive



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