

# Product datasheet

Specifications



## servo motor BMH - 1.2 Nm - 8000 rpm - untapped shaft - with brake - IP65/IP67

BMH0701P27F2A

⚠ Discontinued on: 9 Feb 2023

⚠ Discontinued

EAN Code: 3606485193502

### Main

|                           |                                                                                                                                                                                                                              |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Device short name         | BMH                                                                                                                                                                                                                          |
| Product or component type | Servo motor                                                                                                                                                                                                                  |
| Maximum mechanical speed  | 8000 rpm                                                                                                                                                                                                                     |
| Continuous stall torque   | 1.2 N.m for LXM32.U60N4 at 1.5 A, 400 V, three phase<br>1.2 N.m for LXM32.U60N4 at 1.5 A, 480 V, three phase<br>1.4 N.m for LXM32.D12N4 at 3 A, 400 V, three phase<br>1.4 N.m for LXM32.D12N4 at 3 A, 480 V, three phase     |
| Peak stall torque         | 4.2 N.m for LXM32.U60N4 at 1.5 A, 400 V, three phase<br>4.2 N.m for LXM32.U60N4 at 1.5 A, 480 V, three phase<br>4.2 N.m for LXM32.D12N4 at 3 A, 400 V, three phase<br>4.2 N.m for LXM32.D12N4 at 3 A, 480 V, three phase     |
| Nominal output power      | 350 W for LXM32.U60N4 at 1.5 A, 400 V, three phase<br>350 W for LXM32.U60N4 at 1.5 A, 480 V, three phase<br>700 W for LXM32.D12N4 at 3 A, 400 V, three phase<br>700 W for LXM32.D12N4 at 3 A, 480 V, three phase             |
| Nominal torque            | 1.1 N.m for LXM32.U60N4 at 1.5 A, 400 V, three phase<br>1.1 N.m for LXM32.U60N4 at 1.5 A, 480 V, three phase<br>1.3 N.m for LXM32.D12N4 at 3 A, 400 V, three phase<br>1.3 N.m for LXM32.D12N4 at 3 A, 480 V, three phase     |
| Nominal speed             | 3000 rpm for LXM32.U60N4 at 1.5 A, 400 V, three phase<br>3000 rpm for LXM32.U60N4 at 1.5 A, 480 V, three phase<br>5000 rpm for LXM32.D12N4 at 3 A, 400 V, three phase<br>5000 rpm for LXM32.D12N4 at 3 A, 480 V, three phase |
| Product compatibility     | LXM32.U60N4 at 400...480 V three phase<br>LXM32.D12N4 at 400...480 V three phase                                                                                                                                             |
| Shaft end                 | Smooth shaft                                                                                                                                                                                                                 |
| IP degree of protection   | IP65 standard<br>IP67 with IP67 kit                                                                                                                                                                                          |
| Speed feedback resolution | 32768 points/turn x 4096 turns                                                                                                                                                                                               |
| Holding brake             | With                                                                                                                                                                                                                         |
| Mounting support          | International standard flange                                                                                                                                                                                                |
| Electrical connection     | Rotatable right-angled connectors                                                                                                                                                                                            |

### Complementary

|                           |             |
|---------------------------|-------------|
| Range compatibility       | Lexium 32   |
| [Us] rated supply voltage | 480 V       |
| Network number of phases  | Three phase |
| Continuous stall current  | 1.78 A      |

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

|                                       |                                                                                                                            |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Continuous power                      | 1.05 W                                                                                                                     |
| Maximum current Irms                  | 6 A for LXM32.U60N4<br>6 A for LXM32.D12N4                                                                                 |
| Maximum permanent current             | 5.97 A                                                                                                                     |
| Second shaft                          | Without second shaft end                                                                                                   |
| Shaft diameter                        | 11 mm                                                                                                                      |
| Shaft length                          | 23 mm                                                                                                                      |
| Feedback type                         | Multiturn SinCos Hiperface                                                                                                 |
| Holding torque                        | 3 N.m holding brake                                                                                                        |
| Motor flange size                     | 70 mm                                                                                                                      |
| Number of motor stacks                | 1                                                                                                                          |
| Torque constant                       | 0.79 N.m/A at 120 °C                                                                                                       |
| Back emf constant                     | 50.72 V/krpm at 120 °C                                                                                                     |
| Number of motor poles                 | 10                                                                                                                         |
| Rotor inertia                         | 0.7 kg.cm <sup>2</sup>                                                                                                     |
| Stator resistance                     | 8.3 Ohm at 20 °C                                                                                                           |
| Stator inductance                     | 23.4 mH at 20 °C                                                                                                           |
| Stator electrical time constant       | 2.8 ms at 20 °C                                                                                                            |
| Maximum radial force Fr               | 660 N at 1000 rpm<br>520 N at 2000 rpm<br>460 N at 3000 rpm<br>410 N at 4000 rpm<br>380 N at 5000 rpm<br>360 N at 6000 rpm |
| Maximum axial force Fa                | 0.2 x Fr                                                                                                                   |
| Brake pull-in power                   | 7 W                                                                                                                        |
| type of cooling                       | Natural convection                                                                                                         |
| Length                                | 161 mm                                                                                                                     |
| Centring collar diameter              | 60 mm                                                                                                                      |
| centring collar depth                 | 2.5 mm                                                                                                                     |
| Number of mounting holes              | 4                                                                                                                          |
| Mounting holes diameter               | 5.5 mm                                                                                                                     |
| Circle diameter of the mounting holes | 82 mm                                                                                                                      |
| Net weight                            | 2.6 kg                                                                                                                     |
| Sizing reference                      | BMH0701P                                                                                                                   |
| Network number of phases              | 3                                                                                                                          |
| Accuracy error [angular]              | 4.8 °                                                                                                                      |
| Coefficient 1_1                       | -0.0000187500000003 N.m/rpm                                                                                                |
| Coefficient 1_2                       | 0.0000000000000000562440546 N.m/rpm <sup>2</sup>                                                                           |
| Coefficient 1_3                       | -0.0000000000000000002965143 N.m/rpm <sup>3</sup>                                                                          |
| Coefficient 1_4                       | 0.00000000000000000000711 N.m/rpm <sup>4</sup>                                                                             |
| Coefficient 1_5                       | -0.00000000000000000000078919 N.m/rpm <sup>5</sup>                                                                         |
| Coefficient 1_6                       | 0.0000000000000000000000032 N.m/rpm <sup>6</sup>                                                                           |

|                                |                                |
|--------------------------------|--------------------------------|
| Saturation coefficient 1       | -0.000000000000000038243890773 |
| Saturation coefficient 2       | -0.0078140960163432            |
| Saturation coefficient 3       | 0.000000000000000000158151428  |
| Coefficient 2_1                | 0.00000875000000000026 N.m/rpm |
| Temperature copper hot         | 135 °C                         |
| Temperature magnet hot         | 100 °C                         |
| Temperature magnet rt          | 20 °C                          |
| Motor voltage drop coefficient | 1                              |

## Packing Units

|                              |           |
|------------------------------|-----------|
| Unit Type of Package 1       | PCE       |
| Number of Units in Package 1 | 1         |
| Package 1 Height             | 11.500 cm |
| Package 1 Width              | 19.300 cm |
| Package 1 Length             | 40.000 cm |
| Package 1 Weight             | 2.628 kg  |

## Logistical informations

|                   |    |
|-------------------|----|
| Country of origin | DE |
|-------------------|----|

## 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                               |                                               |
|-------------------------------------------------------|-----------------------------------------------|
| Carbon footprint (kg.eq.CO2 per CR, Total Life cycle) | 785                                           |
| 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) |
| SCIP Number                            | A7df881f-135f-4256-b8c2-ea55d4c9a151                       |
| REACH Regulation                       | <a href="#">REACH Declaration</a>                          |
| PVC free                               | Yes                                                        |

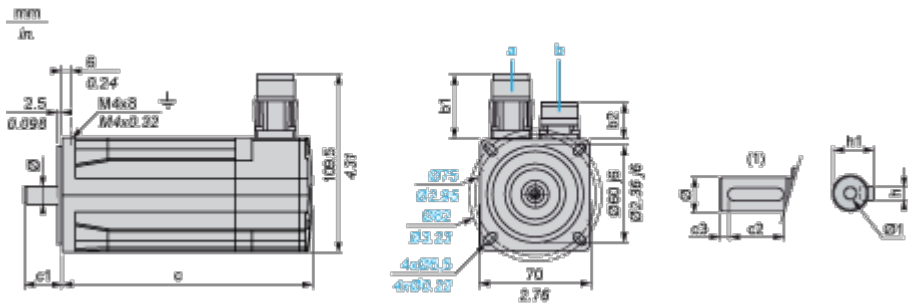
Use Again

| Repack and remanufacture |                                                                                                                                                                                                                 |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Circularity Profile      | No need of specific recycling operations                                                                                                                                                                        |
| Take-back                | No                                                                                                                                                                                                              |
| WEEE                     |  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) Shaft end, keyed slot (optional)

Dimensions in mm

| Straight connectors |      | Rotatable angled connectors |      | c (without brake) | c (with brake) | c1 | c2 | c3  | h    | h1                  | Ø     | Ø1 for screws |
|---------------------|------|-----------------------------|------|-------------------|----------------|----|----|-----|------|---------------------|-------|---------------|
| b1                  | b2   | b1                          | b2   |                   |                |    |    |     |      |                     |       |               |
| 39.5                | 25.5 | 39.5                        | 39.5 | 122               | 161            | 23 | 18 | 2.5 | 4 h9 | $12.5^{+0}_{-0.13}$ | 11 k6 | M4 x 14       |

Dimensions in in.

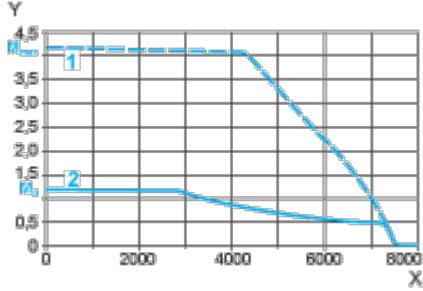
| Straight connectors |    | Rotatable angled connectors |      | c (without brake) | c (with brake) | c1   | c2   | c3   | h       | h1                    | Ø       | Ø1 for screws |
|---------------------|----|-----------------------------|------|-------------------|----------------|------|------|------|---------|-----------------------|---------|---------------|
| b1                  | b2 | b1                          | b2   |                   |                |      |      |      |         |                       |         |               |
| 1.55                | 1  | 1.55                        | 1.55 | 4.80              | 6.33           | 0.90 | 0.70 | 0.09 | 0.16 h9 | $0.49^{+0}_{-0.0051}$ | 0.43 k6 | M4 x 0.55     |

Performance Curves

400 V 3-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•U60N4 servo drive



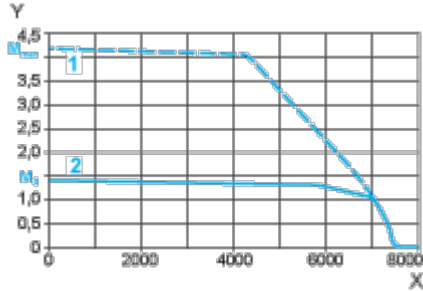
X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque

Servo motor with LXM32•D12N4 servo drive



X Speed in rpm

Y Torque in Nm

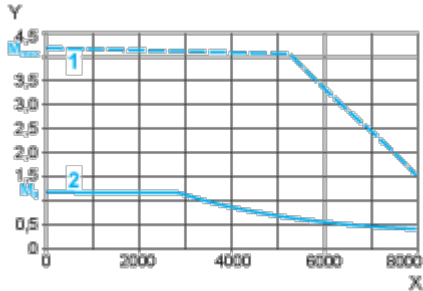
1 Peak torque

2 Continuous torque

480 V 3-Phase Supply Voltage

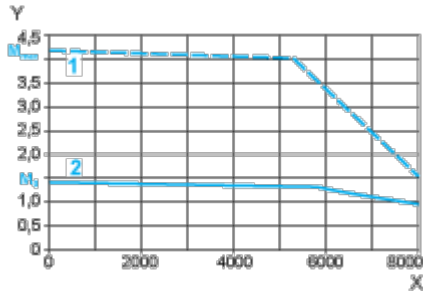
Torque/Speed Curves

Servo motor with LXM32•U60N4 servo drive



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

Servo motor with LXM32•D12N4 servo drive



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