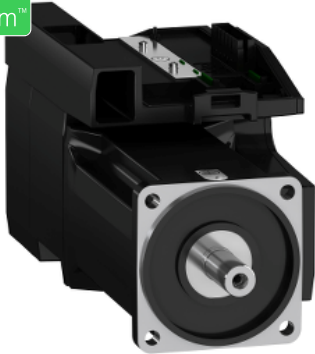


# Product data sheet

Specifications



## servo motor BMI 1-phase - untapped IP65 single turn - 131072 p/t - brake

BMI1002T21F

### Main

|                           |                              |
|---------------------------|------------------------------|
| Range compatibility       | Lexium 32i                   |
| Product or component type | Servo motor with power stage |
| Device short name         | BMI                          |

### Complementary

|                           |                                                                         |
|---------------------------|-------------------------------------------------------------------------|
| Maximum mechanical speed  | 6000 rpm                                                                |
| [Us] rated supply voltage | 115...230 V - 15...10 %                                                 |
| Supply voltage limits     | 100...240 V                                                             |
| Network number of phases  | Single phase                                                            |
| Supply frequency          | 50/60 Hz - 5...5 %                                                      |
| Network frequency limits  | 47.5...63 Hz                                                            |
| EMC filter                | Integrated                                                              |
| Continuous output current | 6 A at 8 kHz                                                            |
| Output current 3s peak    | 18 A at 230 V for 3 s                                                   |
| Continuous stall current  | 6 A                                                                     |
| Continuous stall torque   | 6 N.m at 115...230 V single phase                                       |
| Peak stall torque         | 14.5 N.m at 115 V single phase<br>14.5 N.m at 230 V single phase        |
| Nominal output power      | 750 W at 115 V single phase<br>1300 W at 230 V single phase             |
| Nominal torque            | 5.4 N.m at 115 V single phase<br>4.4 N.m at 230 V single phase          |
| Nominal speed             | 1400 rpm at 115 V single phase<br>3000 rpm at 230 V single phase        |
| Maximum current Irms      | 30 A at 115 V, single phase<br>30 A at 230 V, single phase              |
| Product compatibility     | Drive control unit LXM32i CANopen<br>Drive control unit LXM32i EtherCAT |
| Shaft end                 | Untapped                                                                |
| Second shaft              | Without second shaft end                                                |
| Shaft diameter            | 19 mm                                                                   |
| Shaft length              | 40 mm                                                                   |

|                                       |                                                                                                       |
|---------------------------------------|-------------------------------------------------------------------------------------------------------|
| Feedback type                         | Absolute single turn SinCos Hiperface                                                                 |
| Speed feedback resolution             | 131072 points/turn                                                                                    |
| Holding brake                         | With                                                                                                  |
| Holding torque                        | 5.5 N.m holding brake                                                                                 |
| Mounting support                      | International standard flange                                                                         |
| Motor flange size                     | 100 mm                                                                                                |
| Electrical connection                 | Printed circuit board connector                                                                       |
| Torque constant                       | 0.89 N.m/A at 20 °C                                                                                   |
| Back emf constant                     | 58.5 V/krpm at 20 °C                                                                                  |
| Number of motor poles                 | 10                                                                                                    |
| Rotor inertia                         | 6.77 kg.cm²                                                                                           |
| Stator resistance                     | 1.08 Ohm at 20 °C                                                                                     |
| Stator inductance                     | 4.7 mH at 20 °C                                                                                       |
| Stator electrical time constant       | 4.35 ms at 20 °C                                                                                      |
| Maximum radial force Fr               | 990 N at 1000 rpm<br>790 N at 2000 rpm<br>690 N at 3000 rpm<br>620 N at 4000 rpm<br>580 N at 5000 rpm |
| Maximum axial force Fa                | 0.2 x Fr                                                                                              |
| Brake pull-in power                   | 8 W                                                                                                   |
| Type of cooling                       | Natural convection                                                                                    |
| Length                                | 282 mm                                                                                                |
| Number of motor stacks                | 2                                                                                                     |
| 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                                                                                                |
| Distance shaft shoulder-flange        | 3.5 mm                                                                                                |

## Environment

|                         |      |
|-------------------------|------|
| IP degree of protection | IP65 |
|-------------------------|------|

## Packing Units

|                              |         |
|------------------------------|---------|
| Unit Type of Package 1       | PCE     |
| Number of Units in Package 1 | 1       |
| Package 1 Height             | 25.0 cm |
| Package 1 Width              | 18.6 cm |
| Package 1 Length             | 55.0 cm |
| Package 1 Weight             | 9.5 kg  |

## Offer Sustainability

|                          |                                   |
|--------------------------|-----------------------------------|
| Sustainable offer status | Green Premium product             |
| REACH Regulation         | <a href="#">REACH Declaration</a> |

|                            |                                                                                                                                                                                                                                                                                             |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope)<br><a href="#">EU RoHS Declaration</a>                                                                                                                                                                                           |
| Mercury free               | Yes                                                                                                                                                                                                                                                                                         |
| China RoHS Regulation      | <a href="#">China RoHS declaration</a>                                                                                                                                                                                                                                                      |
| RoHS exemption information | <a href="#">Yes</a>                                                                                                                                                                                                                                                                         |
| Environmental Disclosure   | <a href="#">Product Environmental Profile</a>                                                                                                                                                                                                                                               |
| Circularity Profile        | <a href="#">End of Life Information</a>                                                                                                                                                                                                                                                     |
| WEEE                       | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins                                                                                                                                                                 |
| PVC free                   | Yes                                                                                                                                                                                                                                                                                         |
| 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> |

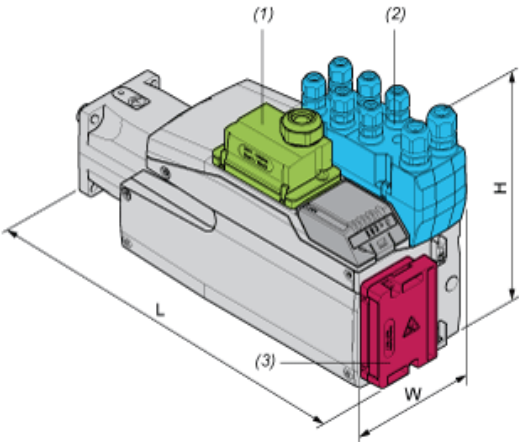
### Contractual warranty

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

External Dimensions

With Standard Braking Resistor

Mounting type A



- (1) Module for supply voltage
- (2) I/O module
- (3) Standard braking resistor

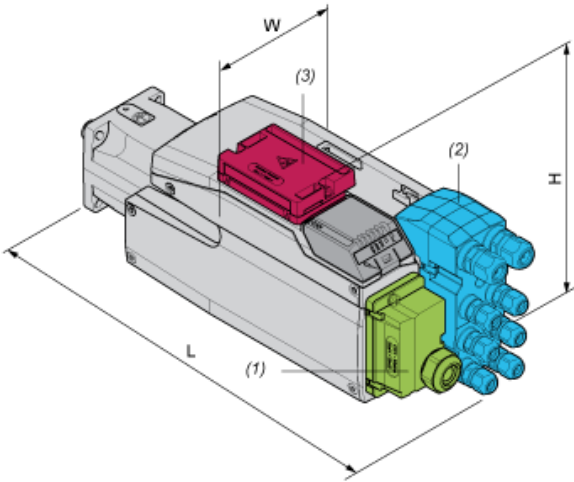
Dimensions in mm

| W     | H   | L   |
|-------|-----|-----|
| 132,6 | 217 | 337 |

Dimensions in in.

| W    | H    | L     |
|------|------|-------|
| 5,22 | 8,54 | 13,27 |

Mounting type B



- (1) Module for supply voltage
- (2) I/O module
- (3) Standard braking resistor

Dimensions in mm

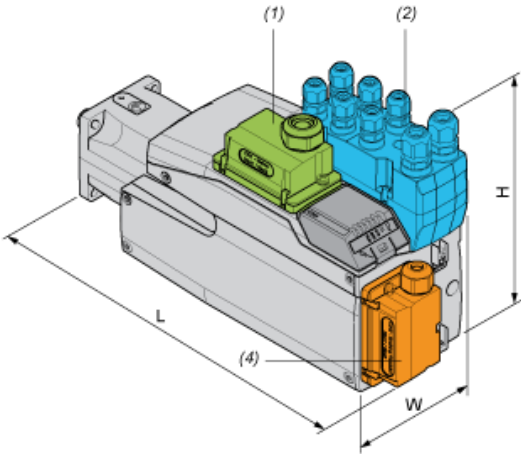
| W     | H   | L   |
|-------|-----|-----|
| 132,6 | 168 | 386 |

Dimensions in in.

| W    | H    | L    |
|------|------|------|
| 5,22 | 6,61 | 15,2 |

With External Braking Resistor

Mounting type C



- (1) Module for supply voltage
- (2) I/O module
- (4) External braking resistor

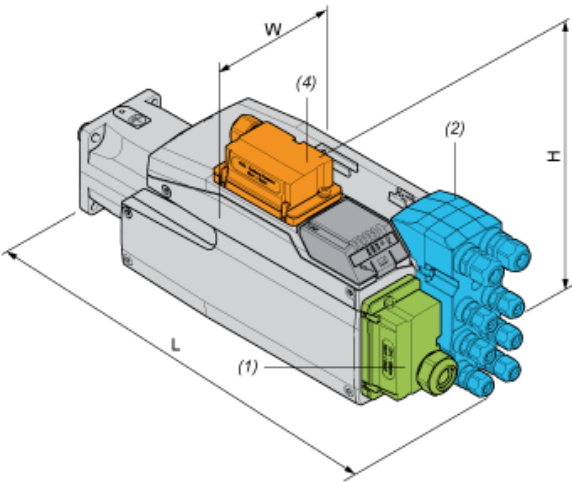
Dimensions in mm

| W     | H   | L   |
|-------|-----|-----|
| 132,6 | 217 | 349 |

Dimensions in in.

| W    | H    | L     |
|------|------|-------|
| 5,22 | 8,54 | 13,74 |

Mounting type D



- (1) Module for supply voltage
- (2) I/O module
- (4) External braking resistor

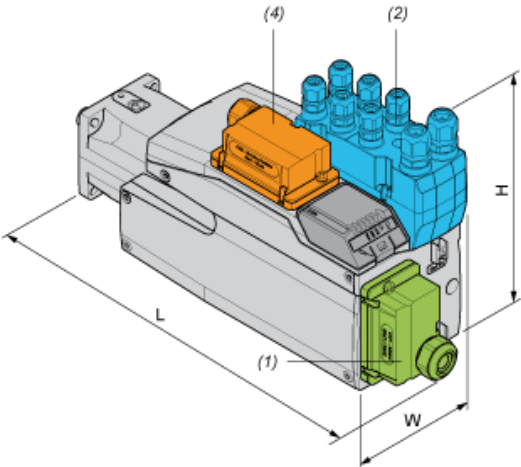
Dimensions in mm

| W     | H   | L   |
|-------|-----|-----|
| 132,6 | 180 | 386 |

Dimensions in in.

| W    | H    | L    |
|------|------|------|
| 5,22 | 7,09 | 15,2 |

Mounting type E



- (1) Module for supply voltage
- (2) I/O module
- (4) External braking resistor

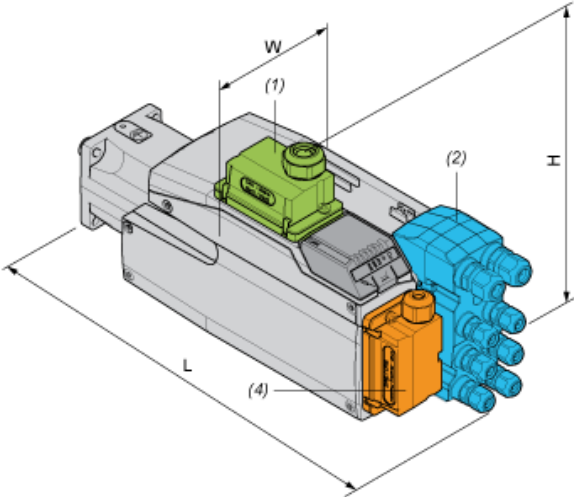
Dimensions in mm

| W     | H   | L   |
|-------|-----|-----|
| 132,6 | 217 | 376 |

Dimensions in in.

| W    | H    | L    |
|------|------|------|
| 5,22 | 8,54 | 14,8 |

Mounting type F



- (1) Module for supply voltage
- (2) I/O module
- (4) External braking resistor

Dimensions in mm

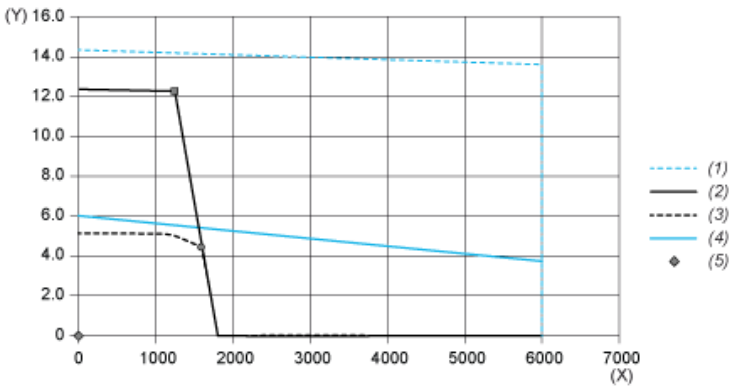
| W     | H     | L   |
|-------|-------|-----|
| 132,6 | 206,5 | 386 |

Dimensions in in.

| W    | H    | L    |
|------|------|------|
| 5,22 | 8,13 | 15,2 |

Performance Curves

Torque/Speed Curves with 115 V Single Phase Supply Voltage

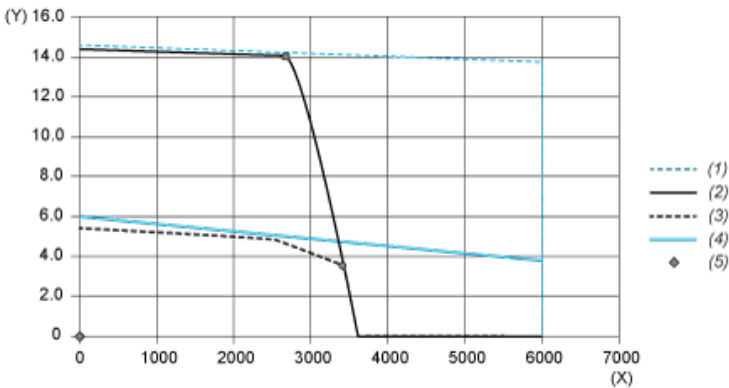


- (X) Speed (rpm)
- (Y) Torque (N.m)
- (1) Motor peak
- (2) Drive peak
- (3) Drive cont
- (4) Motor cont
- (5) Operating point

|                         |  | Power  | At Speed | With Torque |
|-------------------------|--|--------|----------|-------------|
| max. Peak Power         |  | 1721 W | 1380 rpm | 11.91 N.m   |
| max Cont. Power (Drive) |  | 757 W  | 1620 rpm | 4.46 N.m    |

Performance Curves

Torque/Speed Curves with 230 V Single Phase Supply Voltage



- (X) Speed (rpm)
- (Y) Torque (N.m)
- (1) Motor peak
- (2) Drive peak
- (3) Drive cont
- (4) Motor cont
- (5) Operating point

|                         |  | Power  | At Speed | With Torque |
|-------------------------|--|--------|----------|-------------|
| max. Peak Power         |  | 4069 W | 2760 rpm | 14.08 N.m   |
| max Cont. Power (Drive) |  | 1257 W | 3420 rpm | 3.51 N.m    |

Recommended replacement(s)