



## Main

|                           |                       |
|---------------------------|-----------------------|
| Range compatibility       | Lexium SD3            |
| Product or component type | Motion control motor  |
| Device short name         | BRS3                  |
| Maximum mechanical speed  | 3000 rpm              |
| Motor type                | 3-phase stepper motor |
| Number of motor poles     | 6                     |
| Supply voltage limits     | 325 V DC<br>230 V AC  |
| Mounting support          | Flange                |
| Motor flange size         | 85 mm                 |
| Length                    | 171 mm                |
| Centring collar diameter  | 60 mm                 |

## Complementary

|                                       |                                                                                                                                                                                         |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Centring collar depth                 | 2 mm                                                                                                                                                                                    |
| Number of mounting holes              | 4                                                                                                                                                                                       |
| Mounting holes diameter               | 6.5 mm                                                                                                                                                                                  |
| Circle diameter of the mounting holes | 98.99 mm                                                                                                                                                                                |
| Electrical connection                 | Connector                                                                                                                                                                               |
| Feedback type                         | Single turn encoder                                                                                                                                                                     |
| Speed feedback resolution             | 10000 points/turn                                                                                                                                                                       |
| Holding brake                         | Without                                                                                                                                                                                 |
| Shaft end                             | Woodruff key                                                                                                                                                                            |
| Second shaft                          | Without second shaft end                                                                                                                                                                |
| Shaft diameter                        | 14 mm                                                                                                                                                                                   |
| Shaft length                          | 30 mm                                                                                                                                                                                   |
| Nominal torque                        | 6 N.m                                                                                                                                                                                   |
| Peak stall torque                     | 5.78 N.m                                                                                                                                                                                |
| Continuous stall torque               | 5.78 N.m                                                                                                                                                                                |
| Holding torque                        | 6.78 N.m                                                                                                                                                                                |
| Rotor inertia                         | 3.3 kg.cm <sup>2</sup>                                                                                                                                                                  |
| Resolution                            | 200, 400, 500, 1000, 2000, 4000, 5000, 10000 steps number of full steps per revolution<br>1.8 °, 0.9 °, 0.72 °, 0.36 °, 0.18 °, 0.09 °, 0.072 °, 0.036 ° step angle<br>1000 points/turn |
| Accuracy error                        | +/- 6 arc min                                                                                                                                                                           |
| Maximum starting frequency            | 5.3 kHz                                                                                                                                                                                 |
| [In] rated current                    | 2.25 A                                                                                                                                                                                  |
| Resistance                            | 6.5 Ohm (winding)                                                                                                                                                                       |
| Time constant                         | 10 ms                                                                                                                                                                                   |
| Maximum radial force Fr               | 50 N (second shaft end)<br>110 N (first shaft end)                                                                                                                                      |
| Maximum axial force Fa                | 30 N (force pressure)<br>175 N (tensile force)                                                                                                                                          |
| Service life in hours                 | 20000 h (bearing)                                                                                                                                                                       |

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. 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. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

|                      |                           |
|----------------------|---------------------------|
| Angular acceleration | 200000 rad/s <sup>2</sup> |
| Product weight       | 4.3 kg                    |

## Environment

|                                       |                                                                                                                         |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Standards                             | EN 50347<br>IEC 60072-1                                                                                                 |
| Type of cooling                       | Natural convection                                                                                                      |
| Ambient air temperature for operation | -25...40 °C                                                                                                             |
| Ambient air temperature for storage   | -25...70 °C                                                                                                             |
| Operating altitude                    | <= 1000 m without power derating                                                                                        |
| Relative humidity                     | 15...85 % without condensation                                                                                          |
| Vibration resistance                  | A conforming to EN/IEC 60034-14<br>20 m/s <sup>2</sup> maximum                                                          |
| IP degree of protection               | IP56 for total except shaft bushing conforming to EN/IEC 60034-5<br>IP41 for shaft bushing conforming to EN/IEC 60034-5 |
| Temperature class                     | F class winding conforming to IEC/EN 60034-1                                                                            |

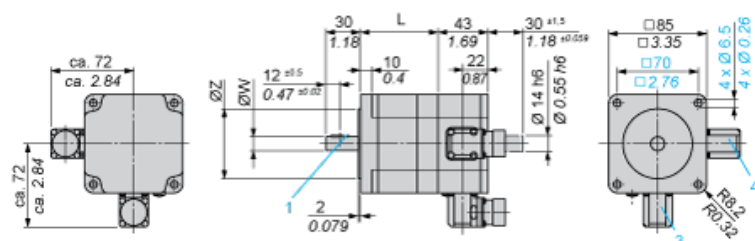
## Offer Sustainability

|                                  |                                                                                       |
|----------------------------------|---------------------------------------------------------------------------------------|
| Sustainable offer status         | Green Premium product                                                                 |
| RoHS (date code: YYWW)           | Compliant - since 0623 - <a href="#">Schneider Electric declaration of conformity</a> |
| REACH                            | Reference not containing SVHC above the threshold                                     |
| Product environmental profile    | Available <a href="#">Download Product Environmental</a>                              |
| Product end of life instructions | Need no specific recycling operations                                                 |

## Dimensions

### 3-Phase Stepper Motor in Connector Version

mm  
in.



3 : Motor connection 6 poles

4 : Motor connection (optional) 12 poles

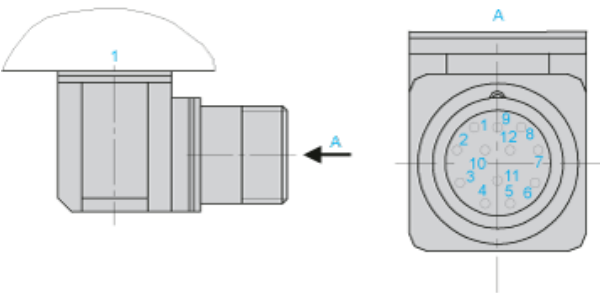
Dimensions in mm

| L                   | Shaft diameter ØW | Centring collar ØZ | Woodruff key DIN 6888 (1) |
|---------------------|-------------------|--------------------|---------------------------|
| 127.5 (+0.6) (-0.8) | 14 h6             | 60 h8              | 5 x 6.5                   |

Dimensions in in.

| L                      | Shaft diameter ØW | Centring collar ØZ | Woodruff key DIN 6888 (1) |
|------------------------|-------------------|--------------------|---------------------------|
| 5.02 (+0.023) (-0.031) | 0.55 h6           | 2.36 h8            | 0.20 x 0.25               |

Wiring Diagram of Encoder Plug on BRS3••

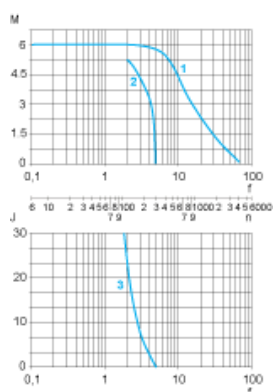


1 : Motor housing

| Pin | Designation          |
|-----|----------------------|
| 1   | A                    |
| 2   | A negated            |
| 3   | B                    |
| 4   | B negated            |
| 5   | C, I                 |
| 6   | C negated, I negated |
| 7   | 5 V <sub>GND</sub>   |
| 8   | + 5                  |
| 9   | -SENSE               |
| 10  | +SENSE               |
| 11  | Temperature sensor   |
| 12  | Not connected        |

## Torque Characteristics

Measurement at 1000 Steps/Revolution, Nominal Voltage DC Bus  $U_N$  and Phase Current  $I_N$



- M : Torque in Nm
- n : Speed in rpm
- f : Frequency in kHz
- J : Rotor inertia in kg.cm<sup>2</sup>
- 1 : Pull-out torque
- 2 : Pull-in torque
- 3 : Maximum load inertia