

## 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     | 230 V AC<br>325 V DC  |
| Mounting support          | Flange                |
| Motor flange size         | 4.33 in (110 mm)      |
| Length                    | 7.09 in (180 mm)      |
| Centring collar diameter  | 2.20 in (56 mm)       |

## Complementary

|                                       |   |
|---------------------------------------|---|
| Centring collar depth                 | 0.12 in (3 mm)  |
| Number of mounting holes              | 4   |
| Mounting holes diameter               | 0.35 in (9 mm)  |
| Circle diameter of the mounting holes | 4.96 in (125.86 mm)   |
| Electrical connection                 | Connector   |
| Feedback type                         | Index pulse   |
| Speed feedback resolution             | 10000 points/turn   |
| Holding brake                         | Without   |
| Shaft end                             | Parallel key  |
| Second shaft                          | With second shaft end   |
| Shaft diameter                        | 0.75 in (19 mm)   |
| Shaft length                          | 1.57 in (40 mm)   |
| Nominal torque                        | 106.21 lbf.in (12 N.m)  |
| Peak stall torque                     | 101.08 lbf.in (11.42 N.m)   |
| Continuous stall torque               | 101.08 lbf.in (11.42 N.m)   |
| Holding torque                        | 119.48 lbf.in (13.5 N.m)  |
| Rotor inertia                         | 10.5 kg.cm <sup>2</sup>   |
| Resolution                            | 1.8 °, 0.9 °, 0.72 °, 0.36 °, 0.18 °, 0.09 °, 0.072 °, 0.036 ° step angle<br>200, 400, 500, 1000, 2000, 4000, 5000, 10000 steps number of full steps per revolution<br>1000 points/turn |
| Accuracy error                        | +/- 6 arc min   |
| Maximum starting frequency            | 4.7 kHz   |
| Line Rated Current                    | 4.1 A   |
| Resistance                            | 1.8 Ohm winding)  |
| Time constant                         | 22 ms   |
| Maximum radial force Fr               | 150 N second shaft end)<br>300 N first shaft end)   |
| Maximum axial force Fa                | 330 N tensile force)<br>60 N force pressure)  |
| Service life in hours                 | 20000 h bearing)  |
| Angular acceleration                  | 200000 rad/s <sup>2</sup>   |
| Net weight                            | 18.08 lb(US) (8.2 kg)   |

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## Environment

|                                       |   |
|---------------------------------------|---|
| Standards                             | EN 50347<br>IEC 60072-1   |
| Type of cooling                       | Natural convection  |
| Ambient air temperature for operation | -13...104 °F (-25...40 °C)  |
| Ambient air temperature for storage   | -13...158 °F (-25...70 °C)  |
| Operating altitude                    | <= 3280.84 ft (1000 m) without power derating                                       |
| Relative humidity                     | 15...85 % without condensation  |
| Vibration resistance                  | 20 m/s <sup>2</sup> maximum<br>A EN/IEC 60034-14                                    |
| IP degree of protection               | Shaft bushing IP41 EN/IEC 60034-5<br>Total except shaft bushing IP56 EN/IEC 60034-5 |
| Temperature class                     | F winding IEC/EN 60034-1  |

## Ordering and shipping details

|                       |                        |
|-----------------------|------------------------|
| Category              | 18284 - STEPPER MOTORS |
| Discount Schedule     | PC55                   |
| GTIN                  | 03389119224215         |
| Nbr. of units in pkg. | 1                      |
| Package weight(Lbs)   | 19.94 lb(US) (9.04 kg) |
| Returnability         | No                     |
| Country of origin     | DE                     |

## Packing Units

|                        |                   |
|------------------------|-------------------|
| Unit Type of Package 1 | PCE               |
| Package 1 Height       | 8.86 in (22.5 cm) |
| Package 1 width        | 7.68 in (19.5 cm) |
| Package 1 Length       | 15.75 in (40 cm)  |

## Offer Sustainability

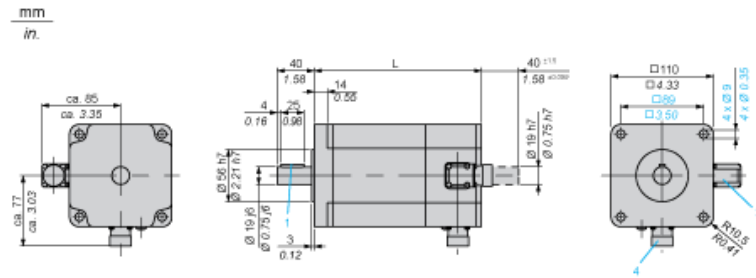
|                            |   |
|----------------------------|---|
| Sustainable offer status   | Green Premium product   |
| California proposition 65  | WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> |
| REACH Regulation           | <a href="#">REACH Declaration</a>   |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>  |
| Mercury free               | Yes   |
| RoHS exemption information | <a href="#">Yes</a>   |
| China RoHS Regulation      | <a href="#">China RoHS Declaration</a>  |
| Environmental Disclosure   | <a href="#">Product Environmental Profile</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   |

## Contractual warranty

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

Dimensions

3-Phase Stepper Motor in Connector Version



- 3 : Plug connection encoder (optional) 12 poles
- 4 : Plug connection motor 6 poles

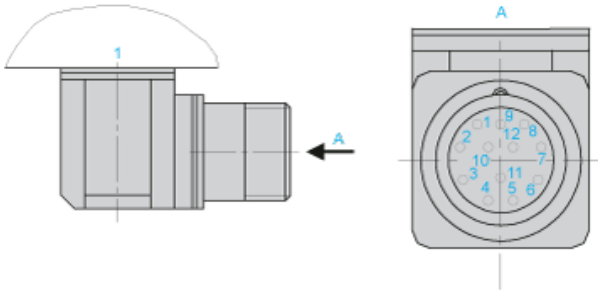
Dimensions in mm

|        |                           |
|--------|---------------------------|
| L      | Parallel key DIN 6885 (1) |
| 180 ±1 | 6 x 6 x 25                |

Dimensions in in.

|             |                           |
|-------------|---------------------------|
| L           | Parallel key DIN 6885 (1) |
| 7.09 ±0.039 | 0.24 x 0.24 x 0.98        |

Wiring Diagram of Encoder Plug on BRS3••



1 : Motor housing

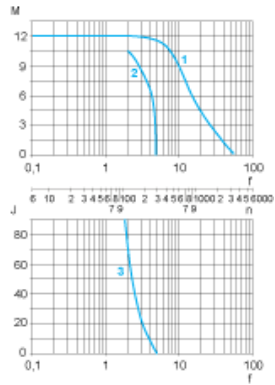
| Pin | Designation          |
|-----|----------------------|
| 1   | A                    |
| 2   | A negated            |
| 3   | B                    |
| 4   | B negated            |
| 5   | C, I                 |
| 6   | C negated, I negated |
| 7   | 5 V <sub>GND</sub>   |
| 8   | + 5          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

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Torque Characteristics

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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