

BRS3ADW851ACA

3-phase stepper motor - 19.7Nm - shaft
Ø19mm - L=230mm - w/o brake - connector



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 230 V AC |
| Mounting support | Flange |
| Motor flange size | 110 mm |
| Length | 228 mm |
| Centring collar diameter | 56 mm |

Complementary

| | |
|---------------------------------------|---|
| Centring collar depth | 3 mm |
| Number of mounting holes | 4 |
| Mounting holes diameter | 9 mm |
| Circle diameter of the mounting holes | 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 | Without second shaft end |
| Shaft diameter | 19 mm |
| Shaft length | 40 mm |
| Nominal torque | 16.5 N.m |
| Peak stall torque | 16.45 N.m |
| Continuous stall torque | 16.45 N.m |
| Holding torque | 19.7 N.m |
| Rotor inertia | 16 kg.cm ² |
| Resolution | 1000 points/turn 200, 400, 500, 1000, 2000, 4000, 5000, 10000 steps number of full steps per revolution 1.8 °, 0.9 °, 0.72 °, 0.36 °, 0.18 °, 0.09 °, 0.072 °, 0.036 ° step angle |
| Accuracy error | +/- 6 arc min |
| Maximum starting frequency | 4.7 kHz |
| [In] rated current | 4.75 A |
| Resistance | 1.9 Ohm (winding) |
| Time constant | 22 ms |
| Maximum radial force Fr | 300 N (first shaft end) 150 N (second shaft end) |
| Maximum axial force Fa | 60 N (force pressure) 330 N (tensile force) |
| Service life in hours | 20000 h (bearing) |

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| | |
|----------------------|---------------------------|
| Angular acceleration | 200000 rad/s ² |
| Product weight | 11.2 kg |

Environment

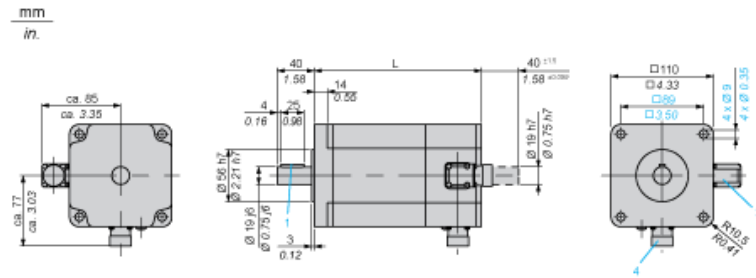
| | |
|---------------------------------------|---|
| Standards | EN 50347 IEC 60072-1 |
| Type of cooling | Natural convection |
| Ambient air temperature for operation | -25...40 °C |
| Ambient air temperature for storage | -25...70 °C |
| Operating altitude | <= 1000 m without power derating |
| Relative humidity | 15...85 % without condensation |
| Vibration resistance | A conforming to EN/IEC 60034-14 20 m/s ² maximum |
| IP degree of protection | IP56 for total except shaft bushing conforming to EN/IEC 60034-5 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 - Schneider Electric declaration of conformity |
| REACH | Reference not containing SVHC above the threshold |
| Product environmental profile | Available Download Product Environmental |
| Product end of life instructions | Need no specific recycling operations |

Dimensions

3-Phase Stepper Motor in Connector Version



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

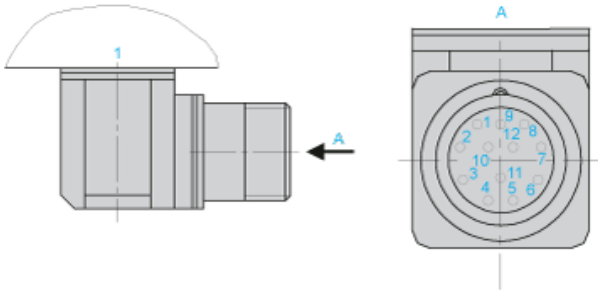
Dimensions in mm

| | |
|--------|---------------------------|
| L | Parallel key DIN 6885 (1) |
| 228 ±1 | 6 x 6 x 25 |

Dimensions in in.

| | |
|-------------|---------------------------|
| L | Parallel key DIN 6885 (1) |
| 8.98 ±0.039 | 0.24 x 0.24 x 0.98 |

Wiring Diagram of Encoder Plug on BRS3••

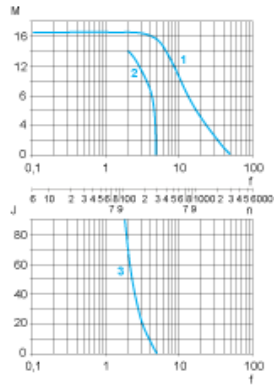


1 : Motor housing

| Pin | Designation |
|-----|----------------------|
| 1 | A |
| 2 | A negated |
| 3 | B |
| 4 | B negated |
| 5 | C, I |
| 6 | C negated, I negated |
| 7 | 5 V _{GND} |
| 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.cm²
- 1 : Pull-out torque
- 2 : Pull-in torque
- 3 : Maximum load inertia