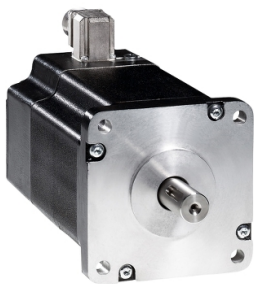


Product datasheet

Specifications



3-phase stepper motor - 13.5Nm - shaft Ø19mm - L=180mm - w/o brake - connector

BRS3ACW851ACA

EAN Code: 3389119224208

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 325 V DC
Mounting support	Flange
Motor flange size	110 mm
Length	180 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	12 N.m
Peak stall torque	11.42 N.m
Continuous stall torque	11.42 N.m
Holding torque	13.5 N.m
Rotor inertia	10.5 kg.cm²

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

Resolution	1.8 °, 0.9 °, 0.72 °, 0.36 °, 0.18 °, 0.09 °, 0.072 °, 0.036 ° step angle 200, 400, 500, 1000, 2000, 4000, 5000, 10000 steps number of full steps per revolution 1000 points/turn
Accuracy error	+/- 6 arc min
Maximum starting frequency	4.7 kHz
[In] rated current	4.1 A
Resistance	1.8 Ohm (winding)
Time constant	22 ms
Maximum radial force Fr	150 N (second shaft end) 300 N (first shaft end)
Maximum axial force Fa	330 N (tensile force) 60 N (force pressure)
Service life in hours	20000 h (bearing)
Angular acceleration	200000 rad/s²
Net weight	8.2 kg

Environment

Standards	IEC 60072-1 IEC 50347
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	20 m/s² maximum A conforming to IEC 60034-14
IP degree of protection	IP41 shaft bushing: conforming to IEC 60034-5 IP56 total except shaft bushing: conforming to IEC 60034-5
Temperature class	F winding conforming to IEC 60034-1

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	19.500 cm
Package 1 Width	22.000 cm
Package 1 Length	40.000 cm
Package 1 Weight	9.120 kg
Unit Type of Package 2	P06
Number of Units in Package 2	4
Package 2 Height	75.000 cm
Package 2 Width	80.000 cm
Package 2 Length	60.000 cm
Package 2 Weight	46.008 kg

Logistical informations

Country of origin	DE
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Contractual warranty

Warranty	18 months
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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)	3465
Environmental Disclosure	Product Environmental Profile

Use Better

Materials and Substances	
Packaging made with recycled cardboard	Yes
Packaging without single use plastic	No
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
REACH Regulation	REACH Declaration
PVC free	Yes

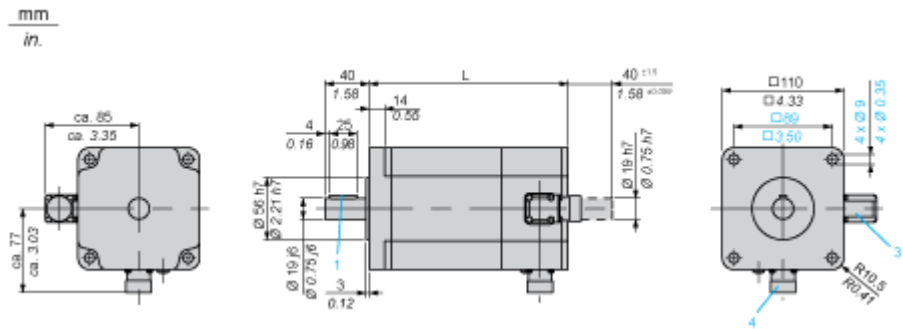
Use Again

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

Dimensions

3-Phase Stepper Motor in Connector Version



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

Dimensions in mm

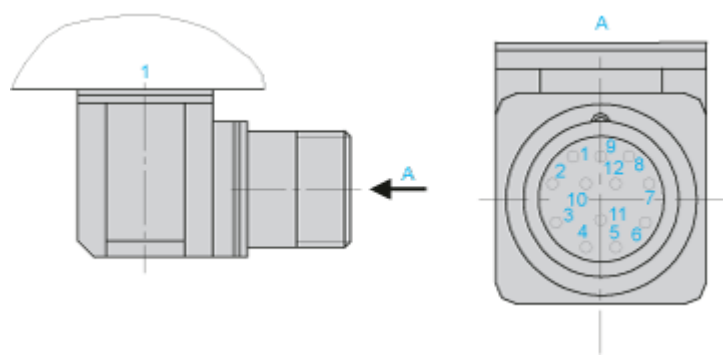
L	Parallel key DIN 6885 (1)
180 ±1	6 x 6 x 25

Dimensions in in.

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

Connections and Schema

Wiring Diagram of Encoder Plug on BRS3••



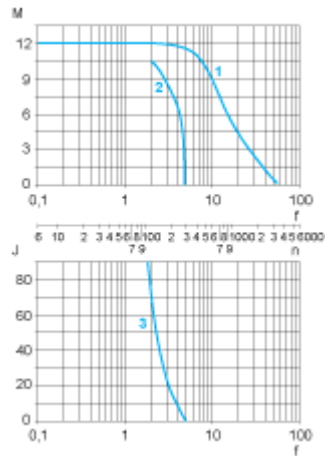
1 : Motor housing

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

Performance Curves

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 $\text{kg}\cdot\text{cm}^2$
- 1 : Pull-out torque
- 2 : Pull-in torque
- 3 : Maximum load inertia