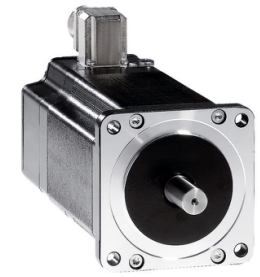
Product datasheet

Specifications



3-phase stepper motor - 4.52 Nm - shaft Ø 9.5mm - L=98mm - w/o brake - conn

BRS39AWA70ACA

EAN Code: 3606485158358

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	85 mm
Length	141 mm
Centring collar diameter	73 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
Holding brake	Without
Shaft end	Untapped
Second shaft	Without second shaft end
Shaft diameter	9.5 mm
Shaft length	30 mm
Nominal torque	4 N.m
Peak stall torque	3.82 N.m
Continuous stall torque	3.82 N.m
Holding torque	4.52 N.m
Rotor inertia	2.2 kg.cm²
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
Accuracy error	+/- 6 arc min

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

Maximum starting frequency	5.3 kHz
[In] rated current	2 A
Resistance	5.8 Ohm (winding)
Time constant	9 ms
Maximum radial force Fr	100 N (first shaft end) 50 N (second shaft end)
Maximum axial force Fa	175 N (tensile force) 30 N (force pressure)
Service life in hours	20000 h (bearing)
Angular acceleration	200000 rad/s²
Net weight	3.2 kg

Environment

Standards	IEC 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	20 m/s² maximum A conforming to IEC 60034-14
IP degree of protection	IP56 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	19.700 cm
Package 1 Width	22.200 cm
Package 1 Length	40.500 cm
Package 1 Weight	4.026 kg

Contractual warranty

Warranty (in months)	18

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

Total lifecycle Carbon footprint	**2 359 kg CO2 eq.**
Carbon footprint of the manufacturing phase [A1 to A3]	**83 kg CO2 eq.**
Carbon footprint of the distribution phase [A4]	**1 kg CO2 eq.**
Carbon footprint of the installation phase [A5]	**1 kg CO2 eq.**
Carbon footprint of the use phase [B2, B3, B4, B6]	**2 270 kg CO2 eq.**
Carbon footprint of the end-of-life phase [C1 to C4]	**4 kg CO2 eq.**

Use Better

Materials and Substances

Packaging made with recycled cardboard	**Yes**
Packaging without single use plastic	**No**
EU RoHS Directive	**Compliant By Exemption**
REACh Regulation	**Reference contains Substances of Very High Concern above the threshold**
PVC free	**Yes**

Use Again

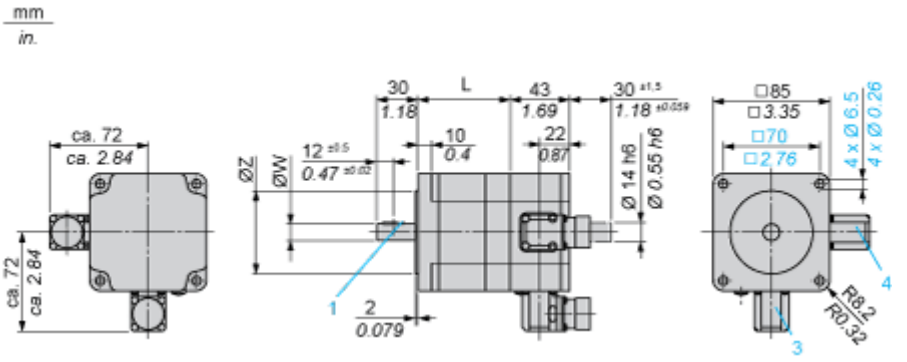
Repack and remanufacture

Recyclability potential, in %	**93**
End of life manual availability	**No need of specific recycling operations**
Take-back	**No**
WEEE Label	**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 : 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)
97.5 (+0.6) (-0.8)	9.5 h6	73 h8	3 x 5

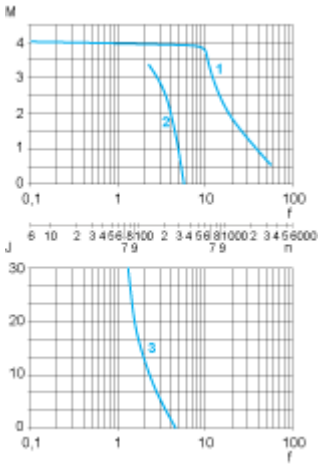
Dimensions in in.

L	Shaft diameter ØW	Centring collar ØZ	Woodruff key DIN 6888 (1)
3.84 (+0.023) (-0.031)	0.37 h6	2.87 h8	0.12 x 0.20

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 $kg.cm^2$

1 : Pull-out torque

2 : Pull-in torque

3 : Maximum load inertia