

# Product data sheet

Specifications



3-phase stepper motor - 2.26 Nm -  
shaft Ø 9.5 mm - L = 68 mm - w/o  
brake - conn

BRS397H270ACA

⚠ Discontinued on: Sep 15, 2023

⚠ Discontinued

## 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	34 V AC 48 V DC
Mounting support	Flange
Motor flange size	3.3 in (85 mm)
Length	4.4 in (111 mm)
Centring collar diameter	2.9 in (73 mm)

## Complementary

Centring collar depth	0.08 in (2 mm)
Number of mounting holes	4
Mounting holes diameter	0.3 in (6.5 mm)
Circle diameter of the mounting holes	3.90 in (98.99 mm)
Electrical connection	Connector
Holding brake	Without
Shaft end	Smooth shaft
Second shaft	Without second shaft end
Shaft diameter	0.4 in (9.5 mm)
Shaft length	1.2 in (30 mm)
Nominal torque	17.7 lbf.in (2 N.m)
Holding torque	20.003 lbf.in (2.26 N.m)
Rotor inertia	1.1 kg.cm <sup>2</sup>
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
Maximum starting frequency	5 kHz

<b>[In] rated current</b>	5.8 A
<b>Resistance</b>	0.35 Ohm winding)
<b>Time constant</b>	7 ms
<b>Maximum radial force Fr</b>	100 N first shaft end) 50 N second shaft end)
<b>Maximum axial force Fa</b>	175 N tensile force) 30 N force pressure)
<b>Service life in hours</b>	20000 h bearing)
<b>Angular acceleration</b>	200000 rad/s <sup>2</sup>
<b>Net weight</b>	4.6 lb(US) (2.1 kg)

## Environment

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

## Packing Units

<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Height</b>	4.09 in (10.4 cm)
<b>Package 1 Width</b>	7.09 in (18.0 cm)
<b>Package 1 Length</b>	14.4 in (36.5 cm)
<b>Package 1 Weight</b>	4.74 lb(US) (2.15 kg)

## Contractual warranty

<b>Warranty (in months)</b>	18
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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 >](#)

### Use Better

#### Materials and Substances

EU RoHS Directive

[Compliant By Exemption](#)

PVC free

Yes

### Use Longer

#### Lifetime extension

Repair

No

### Use Again

#### Repack and remanufacture

Circularity Profile

No need of specific recycling operations

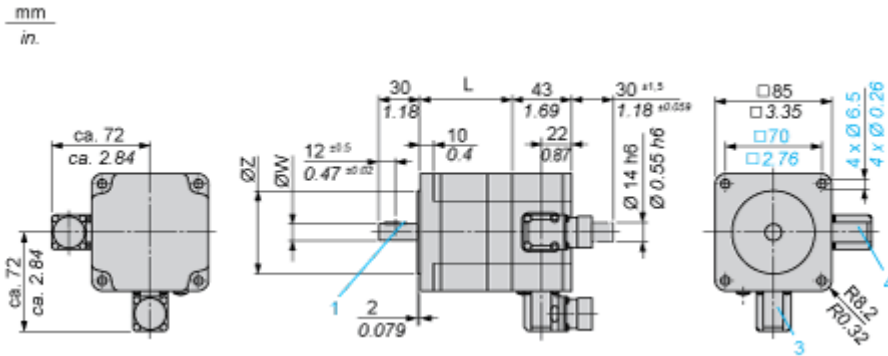
WEEE Label

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)
67.5 (+0.6) (-0.8)	9.5 h6	73 h8	3 x 5

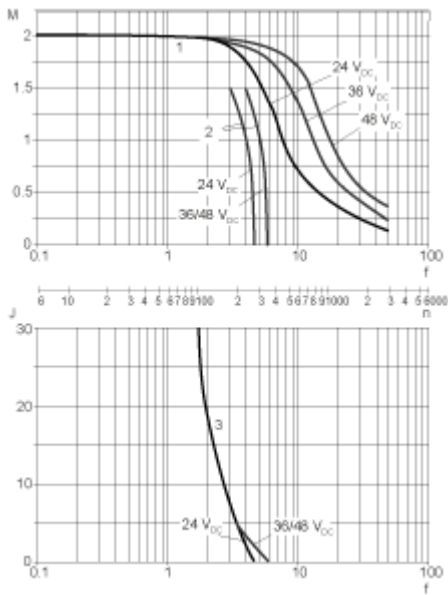
Dimensions in in.

L	Shaft diameter ØW	Centring collar ØZ	Woodruff key DIN 6888 (1)
2.66 (+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<sup>2</sup>

1 : Pull-out torque

2 : Pull-in torque

3 : Maximum load inertia