

## 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	4.33 in (110 mm)
Length	8.98 in (228 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	With
Shaft end	Parallel key
Second shaft	Without second shaft end
Shaft diameter	0.75 in (19 mm)
Shaft length	1.57 in (40 mm)
Nominal torque	146.04 lbf.in (16.5 N.m)
Peak stall torque	145.59 lbf.in (16.45 N.m)
Continuous stall torque	145.59 lbf.in (16.45 N.m)
Holding torque	174.36 lbf.in (19.7 N.m)
Rotor inertia	16 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 1000 points/turn
Accuracy error	+/- 6 arc min
Maximum starting frequency	4.7 kHz
Line Rated Current	4.75 A
Resistance	1.9 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/s <sup>2</sup>
Net weight	24.69 lb(US) (11.2 kg)

## Environment

Standards	IEC 60072-1 EN 50347
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 A EN/IEC 60034-14
IP degree of protection	Shaft bushing IP41 EN/IEC 60034-5 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	03389119224314
Nbr. of units in pkg.	1
Package weight(Lbs)	25.52 lb(US) (11.58 kg)
Returnability	No
Country of origin	DE

## Packing Units

Unit Type of Package 1	PCE
Package 1 Height	7.48 in (19 cm)
Package 1 width	7.09 in (18 cm)
Package 1 Length	15.35 in (39 cm)

## Offer Sustainability

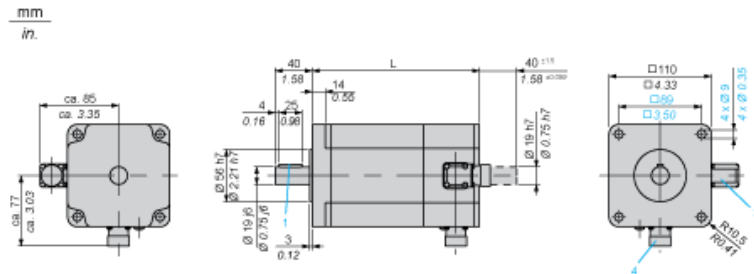
Sustainable offer status	Green Premium product
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</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
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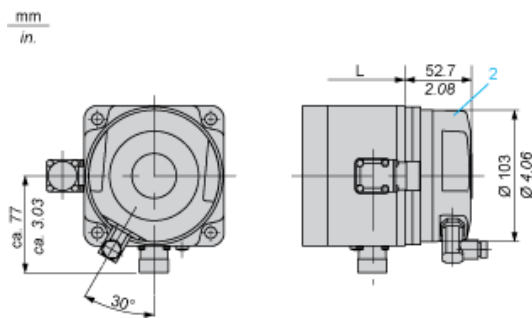
Dimensions

3-Phase Stepper Motor in Connector Version



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

Holding Brake



- 2 : Holding brake (optional)

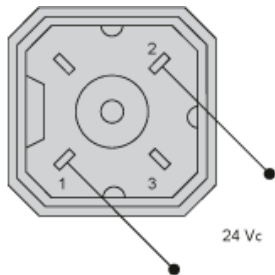
Dimensions in mm

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

Dimensions in in.

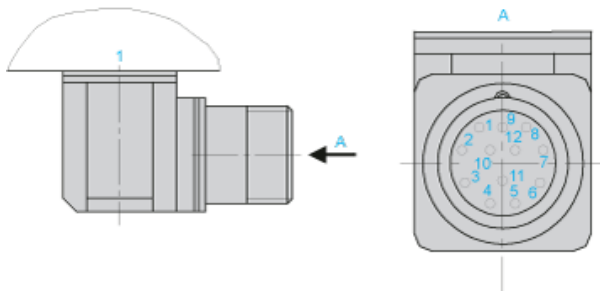
L	Parallel key DIN 6885 (1)
8.98 ±0.039	0.24 x 0.24 x 0.98

Wiring Diagram of Holding Brake



The connector is part of the scope of delivery. Connector designation: Hirschmann type G4 A 5M

Wiring Diagram of Encoder Plug on BRS3••

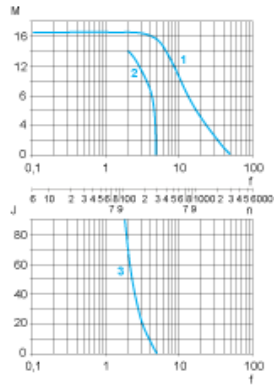


1 : Motor housing

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

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