

3-phase stepper motor - 4.8 Nm - shaft Ø 12mm - L=98mm - w/o brake - conn

BRS39AW661ACA

EAN Code: 3389119223911

### 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	60 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		
Feedback type	Single turn encoder		
Speed feedback resolution	10000 points/turn		
Holding brake	Without		
Shaft end	Woodruff key		
Second shaft	Without second shaft end		
Shaft diameter	12 mm		
Shaft length	30 mm		
nominal torque	4 N.m		
Holding torque	4.8 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		

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	5.3 kHz
[In] rated current	5.8 A
Resistance	0.55 Ohm (winding)
Time constant	9 ms
Maximum radial force Fr	110 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 60072-1 IEC 50347		
type of cooling	Natural convection		
Ambient air temperature for operation	-2540 °C		
Ambient air temperature for storage	-2570 °C		
Operating altitude	<= 1000 m without power derating		
Relative humidity	1585 % without condensation		
Vibration resistance	20 m/s² maximum A conforming to IEC 60034-14		
IP degree of protection	IP56 total except shaft bushing: conforming to IEC 60034-5 IP41 shaft bushing without shaft seal ring: 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	22.500 cm
Package 1 Width	19.500 cm
Package 1 Length	39.500 cm
Package 1 Weight	5.000 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	28.000 kg

# Logistical informations

Country of origin DE

# **Contractual warranty**

Warranty

1 Jul 2025

18 months



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)	1291
Environmental Disclosure	Product Environmental Profile

#### **Use Better**

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

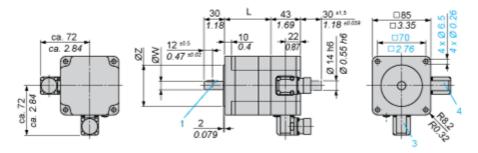
## BRS39AW661ACA

#### **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)	12 h6	60 h8	4 x 6.5

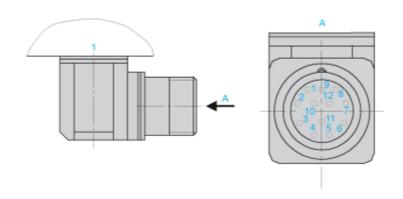
#### Dimensions in in.

Difficition in in.			
L	Shaft diameter ØW	Centring collar ØZ	Woodruff key DIN 6888 (1)
3.84 (+0.023) (-0.031)	0.47 h6	2.36 h8	0.16 x 0.25

## BRS39AW661ACA

## Connections and Schema

## Wiring Diagram of Encoder Plug on BRS3••



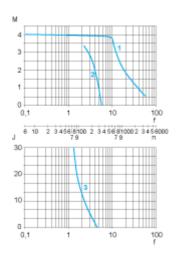
#### 1: Motor housing

Pin	Designation
1	A
2	A negated
3	В
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

#### Performance Curves

## **Torque Characteristics**

Measurement at 1000 Steps/Revolution, Nominal Voltage DC Bus  $\mathbf{U_N}$  and Phase Current  $\mathbf{I_N}$ 



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