

PRODUCT DATASHEET

ES-CM-BL10-M001

Coreless Brushless Miniature And Standard Series

Coreless Brushless Miniature And Standard Series | ES-CM-BL10 30 mm Coreless Brushless Motor Series

Product Overview

Coreless Brushless Miniature And Standard Series with peak torque 1122.08 mN·m, rated Speed 6900 rpm and continuous Rated Output Power 65 W.

Key Specifications

PARAMETER	VALUE	UNIT
Peak torque	1122.08	mNm
Rated Speed	6900	rpm
Continuous Rated Output Power	65	W
Rated Voltage	24	V
Continuous Rated Current	3.85	A
Peak Current	48	A
Phase Resistance	0.5	Ω
Phase Inductance	0.05	mH
Dielectric strength	500VAC/1KHz/1mA/1s	

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Peak torque	1122.08	mNm
Rated Speed	6900	rpm
Continuous Rated Output Power	65	W
No-Load Rotational Speed	9200	rpm
Motor efficiency	86	%
ELECTRICAL		
Rated Voltage	24	V
Continuous Rated Current	3.85	A
Peak Current	48	A
Phase Resistance	0.5	Ω
Phase Inductance	0.05	mH
Dielectric strength	500VAC/1KHz/1mA/1s	
Insulation Resistance	100 M Ω /500VDC	

Technical Specifications

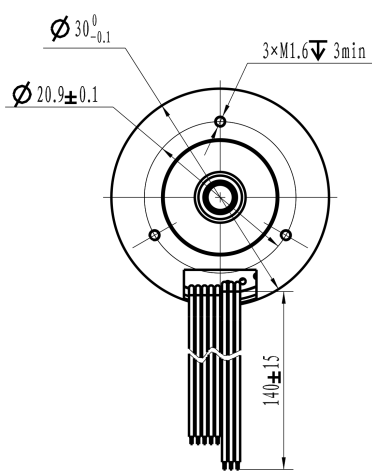
PARAMETER	SPECIFICATION	UNIT
ELECTRICAL		
Duty Cycle	S1	
Pole Pairs	2	
Insulation Class	B	
No-load Current	0.3	A
Back-EMF Constant (Peak)	3.46	V/Krpm
Back-EMF constant (RMS)	2.45	V/Krpm
MECHANICAL		
Housing Type	not recorded	
Mechanical Time Constant	2.56	ms
Motor Body Length	65	mm
Commutation angle	120	°
Motor diameter	30	mm
ENVIRONMENTAL		
Ambient temperature	23	°C

Dimensional & Integration Overview

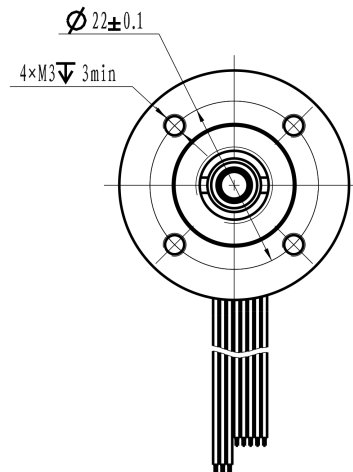
Mechanical Overview

PARAMETER	VALUE	UNIT
Housing Type	not recorded	
Mechanical Time Constant	2.56	ms
Motor Body Length	65	mm
Commutation angle	120	°
Motor diameter	30	mm

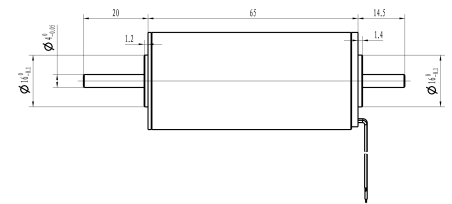
Dimensional Drawings



Mechanical View 1



Mechanical View 2



Mechanical View 3

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Outer diameter (upper shaft section)	$\Phi 30\ 0/-0.1$
	Outer diameter (lower shaft section)	$\Phi 20.9 \pm 0.1$
	Threaded hole specification	3×M1.6 depth 3mm min
	Motor body total length	140 ± 15
Mechanical View 2	Outer diameter with tolerance	$\Phi 22 \pm 0.1\text{ mm}$
	Mounting hole specification	4× M3 threaded holes, minimum depth 3 mm
Mechanical View 3	Left section length	20 mm
	Center section length	65 mm
	Right section length	14.5 mm
	Left flange width	1.2 mm
	Right flange width	1.4 mm
	Left shaft diameter with negative tolerance	$\varnothing 4 - 0.05\text{ mm}$
	Left large diameter with negative tolerance	$\varnothing 16 - 0.1\text{ mm}$
	Right shaft diameter with negative tolerance	

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01 Specifications are subject to change without notice. Verify the current product configuration before final design release.

02 2D drawings, CAD files and integration documentation are controlled documents and are supplied separately on request.