

PRODUCT DATASHEET

ES-DC-SL03-M001

Slotted Series

Slotted Series | ES-DC-SL03 28 mm Slotted Brushless DC Motor Series

Product Overview

Slotted Series with rated Torque 0.05 Nm, rated Speed 10000 rpm and continuous Rated Output Power 52.4 W.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	0.05	N·m
Rated Speed	10000	rpm
Continuous Rated Output Power	52.4	W
Rated Voltage	24	V
Continuous Rated Current	3	A
Instantaneous Maximum Current	9	A
Body Length	58	mm
Dielectric strength	500VAC/1KHz/1mA/1s	
Duty Cycle	S2	

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	0.05	Nm
Rated Speed	10000	rpm
Continuous Rated Output Power	52.4	W
No-Load Rotational Speed	12000	rpm
Cogging Torque	12.8	Nm
Motor efficiency	77	%
ELECTRICAL		
Rated Voltage	24	V
Continuous Rated Current	3	A
Instantaneous Maximum Current	9	A
Dielectric strength	500VAC/1KHz/1mA/1s	
Insulation Resistance	100 MOhm 20C	
Duty Cycle	S2	
Rotational Back-EMF Constant	1.78	V/krpm

Technical Specifications

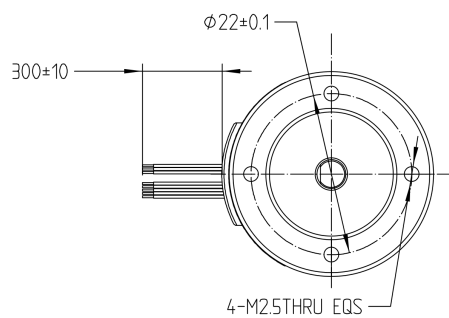
PARAMETER	SPECIFICATION	UNIT
ELECTRICAL		
No-load Current	0.5	A
Line resistance	0.676	Ω
Line inductance	0.2	mH
THERMAL		
Housing-to-Ambient Thermal Resistance	0.38	K/W
Maximum Winding Temperature	75	$^{\circ}\text{C}$
MECHANICAL		
Body Length	58	mm
Housing Type	Aluminum housing	
Frame size	28	mm
Housing shape	Round	
Commutation angle	120	$^{\circ}$
Motor Weight	144	g
ENVIRONMENTAL		
Noise	≤ 50	dB
Ambient temperature	25	$^{\circ}\text{C}$

Dimensional & Integration Overview

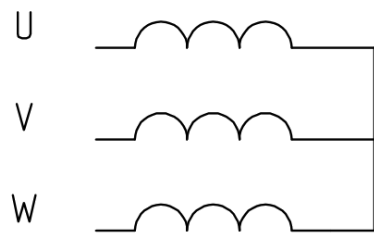
Mechanical Overview

PARAMETER	VALUE	UNIT
Body Length	58	mm
Housing Type	Aluminum housing	
Frame size	28	mm
Housing shape	Round	
Commutation angle	120	°
Motor Weight	144	g

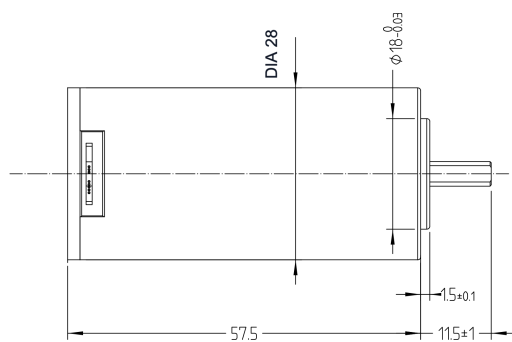
Dimensional Drawings



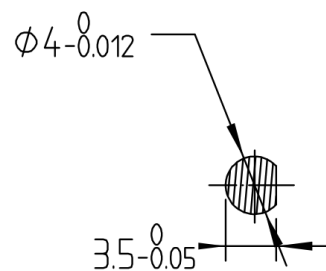
Mechanical View 1



Power Connector Pinout



Mechanical View 3



Mechanical View 4

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Outer Diameter	$\phi 22 \pm 0.1 \text{ mm}$
	Overall Length	$300 \pm 10 \text{ mm}$
	Mounting Hole Specification	4× M2.5 through holes, equally spaced
Mechanical View 3	Shaft diameter with tolerance	$\phi 18 - 0.03$
	Mounting hole diameter	$\phi 28$
	Flange width	1.5 ± 0.1
	Main body length	57.5
	End section length	11.5 ± 1
Mechanical View 4	Shaft diameter with tolerance	$\phi 4 - 0.012$
	Shaft length with tolerance	$3.5 - 0.05$

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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.