

PRODUCT DATASHEET

ES-DC-SL05-M003

Slotted Series

Slotted Series | ES-DC-SL05 42 mm Slotted Brushless DC Motor Series

Product Overview

Slotted Series with rated Torque 0.125 Nm, rated Speed 3000 rpm and continuous Rated Output Power 39.3 W.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	0.125	N·m
Rated Speed	3000	rpm
Continuous Rated Output Power	39.3	W
Rated Voltage	24	V
Continuous Rated Current	2.4	A
Instantaneous Maximum Current	7.2	A
Body Length	63	mm
Dielectric strength	500VAC/1KHz/1mA/1s	
Duty Cycle	S2	

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	0.125	Nm
Rated Speed	3000	rpm
Continuous Rated Output Power	39.3	W
No-Load Rotational Speed	4000	rpm
Motor efficiency	77.6	%
ELECTRICAL		
Rated Voltage	24	V
Continuous Rated Current	2.4	A
Instantaneous Maximum Current	7.2	A
Dielectric strength	500VAC/1KHz/1mA/1s	
Insulation Resistance	100 MOhm 20C	
Duty Cycle	S2	
Rotational Back-EMF Constant	5.44	V/krpm
No-load Current	0.3	A

Technical Specifications

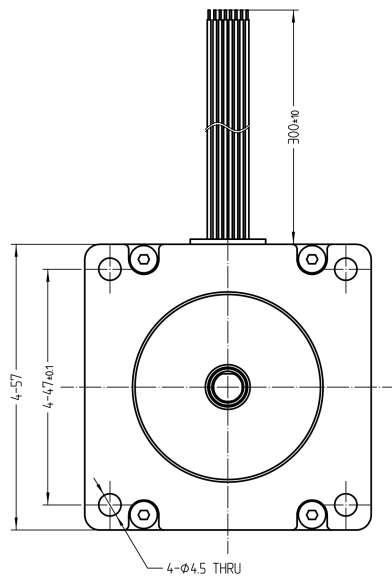
PARAMETER	SPECIFICATION	UNIT
ELECTRICAL		
Line resistance	1.261	Ω
Line inductance	0.586	mH
THERMAL		
Housing-to-Ambient Thermal Resistance	0.38	K/W
Maximum Winding Temperature	68.5	$^{\circ}\text{C}$
MECHANICAL		
Body Length	63	mm
Housing Type	No housing	
Frame size	42	mm
Housing shape	Square	
Commutation angle	120	$^{\circ}$
Motor Weight	380	g
ENVIRONMENTAL		
Noise	≤ 50	dB
Ambient temperature	31.3	$^{\circ}\text{C}$

Dimensional & Integration Overview

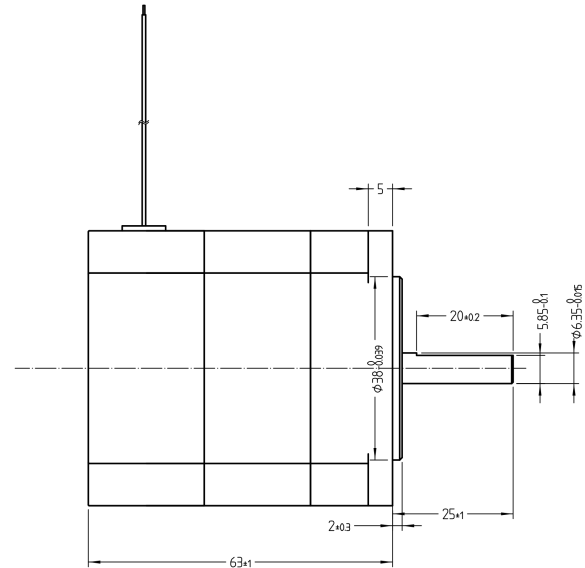
Mechanical Overview

PARAMETER	VALUE	UNIT
Body Length	63	mm
Housing Type	No housing	
Frame size	42	mm
Housing shape	Square	
Commutation angle	120	°
Motor Weight	380	g

Dimensional Drawings



Mechanical View 1



Mechanical View 2

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Motor body length	300±10
	Mounting hole spacing (diagonal)	4-57
	Mounting hole spacing (edge to edge)	4-47±0.1
	Mounting through-holes	4-Φ4.5 THRU
Mechanical View 2	Shaft extension length	5 mm
	Shaft length	20±0.2 mm
	Shaft diameter	Φ38 0/-0.039 mm
	Mounting boss length	25±1 mm
	Mounting boss height	2±0.3 mm
	Overall width	63±1 mm
	Keyway depth	5.85 0/-0.1 mm
	Shaft flat dimension	Φ6.35 0/-0.005 mm

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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.