

PRODUCT DATASHEET

ES-DC-IC02-M001

Iron Core Brushed Series

Iron Core Brushed Series | ES-DC-IC02 50 mm Iron-Core Brushed DC Motor Series

Product Overview

Iron Core Brushed Series with rated Torque 0.0225 N·m, rated Speed 1700 RPM and continuous Rated Output Power 4 W.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	0.0225	N·m
Rated Speed	1700	RPM
Continuous Rated Output Power	4	W
Rated Voltage	24	VDC
Continuous Rated Current	0.5	A
Body Length	60	mm
Insulation Class	B/130°C	
Insulation Resistance	100MΩ/250V	MΩ
Frame Size	50	mm

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
PERFORMANCE			
Rated Torque	0.0225	N·m	
Rated Speed	1700	RPM	
Continuous Rated Output Power	4	W	
Torque Constant	86.4	mN·m/A	
No-Load Rotational Speed	2300	RPM	
Starting Torque	0.032	N·m	
Stall Torque	0.08	N·m	
ELECTRICAL			
Rated Voltage	24	VDC	
Continuous Rated Current	0.5	A	
Insulation Resistance	100MΩ/250V	MΩ	Test Voltage: 250 V

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
ELECTRICAL			
Rotational Back-EMF Constant	9.05	V/Krpm	
Phase Inductance	11	mH	
Insulation Class	B/130°C		
No-load Current	0.2	A	
Line-to-line resistance	20.2	Ω	
Withstand Voltage	600V AC/50HZ/5mA/1S		Test Temperature: 25 °C
Duty Cycle	S1		
Stall Current	1.1	A	
MECHANICAL			
Body Length	60	mm	
Frame Size	50	mm	

Technical Specifications

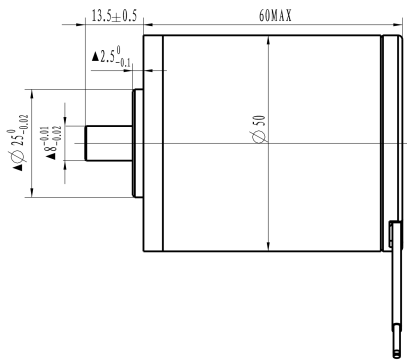
PARAMETER	SPECIFICATION	UNIT	NOTES
MECHANICAL			
Housing shape	Round		
Rotor Inertia	0.13	kgcm ²	
Motor Overall Length (Maximum)	60 maximum	mm	Drawing Parameter: Motor overall length maximum; Drawing Region: R001
Shaft Outer Diameter	Ø50	mm	Drawing Parameter: Main shaft diameter; Drawing Region: R001
Output Shaft Diameter	Ø25 0/-0.02	mm	Drawing Parameter: Output shaft diameter; Drawing Region: R001
Housing Type	Stainless steel / iron housing		
Keyway Depth	8 -0.01/-0.02	mm	Drawing Parameter: Keyway depth; Drawing Region: R001
Rotation Direction	CW		
Motor Weight	0.38	kg	
INTEGRATION			
Lead Wire Length	300 ± 10	mm	Drawing Parameter: Lead wire length; Drawing Region: R003

Dimensional & Integration Overview

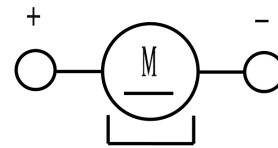
Mechanical Overview

PARAMETER	VALUE	UNIT
Body Length	60	mm
Frame Size	50	mm
Housing shape	Round	
Rotor Inertia	0.13	kgcm ²
Motor Overall Length (Maximum)	60 maximum	mm
Shaft Outer Diameter	Ø50	mm

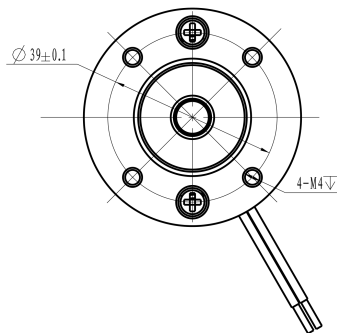
Dimensional Drawings



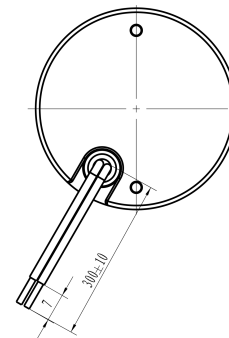
Mechanical View 1



Power Connector Pinout



Mechanical View 3



Mechanical View 4

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Shaft step width	13.5 ±0.5 mm
	Motor overall length maximum	60 mm maximum
	Shaft step height	2.5 0/-0.1 mm
	Output shaft diameter	Φ25 0/-0.02 mm
	Keyway depth	8 -0.01/-0.02 mm
	Main shaft diameter	Φ50 mm
Mechanical View 3	Mounting hole pitch circle diameter	Φ39±0.1
	Threaded hole specification and quantity	4× M4 threaded holes

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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.