

PRODUCT DATASHEET

ES-DC-IC01-M001

Iron Core Brushed Series

Iron Core Brushed Series | ES-DC-IC01 42 mm Iron-Core Brushed DC Motor Series

Product Overview

Iron Core Brushed Series with rated Torque 0.057 N·m, rated Speed 3150 RPM and continuous Rated Output Power 19 W.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	0.057	N·m
Rated Speed	3150	RPM
Continuous Rated Output Power	19	W
Rated Voltage	24	VDC
Continuous Rated Current	1.45	A
Body Length	85	mm
Insulation Class	B/130°C	
Insulation Resistance	100MΩ/250V	MΩ
Frame Size	42	mm

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	0.057	Nm
Rated Speed	3150	RPM
Continuous Rated Output Power	19	W
Torque Constant	64.5	mNm/A
No-Load Rotational Speed	4000	RPM
Loaded Torque	0.057	Nm
Loaded Speed	3100±10%	RPM
Starting Torque	0.02	Nm
Stall Torque	0.256	Nm
ELECTRICAL		
Rated Voltage	24	VDC

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
ELECTRICAL			
Continuous Rated Current	1.45	A	
Insulation Class	B/130°C		
Rotational Back-EMF Constant	6.7	V/Krpm	
Phase Inductance	3	mH	
Insulation Resistance	100M Ω /250V	M Ω	Test Voltage: 250 V
No-load Current	0.3	A	
Loaded Current	<1.3	A	
Loaded Power	20	W	
Line-to-line resistance	4.65	Ω	
Withstand Voltage	600V AC/50HZ/5mA/1S		Test Temperature: 25 °C

Technical Specifications

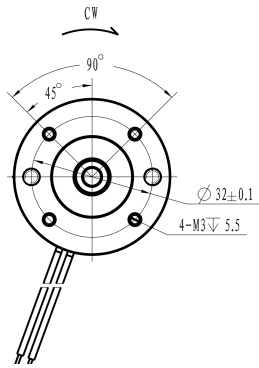
PARAMETER	SPECIFICATION	UNIT	NOTES
ELECTRICAL			
Duty Cycle	S1		
Stall Current	5.5	A	
MECHANICAL			
Body Length	85	mm	
Frame Size	42	mm	
Housing shape	Round		
Housing Type	Stainless steel / iron housing		
Rotor Inertia	0.11	kgcm ²	
Output Shaft End Diameter	Diameter 5, upper deviation -0.002, lower deviation -0.008	mm	Drawing Parameter: Output shaft end diameter; Drawing Region: R003
Output Shaft Extension Length	20 with ± 1 tolerance	mm	Drawing Parameter: Output shaft extension length; Drawing Region: R003
Motor Body Length	85 with ± 1 tolerance	mm	Drawing Parameter: Motor body length; Drawing Region: R003

Dimensional & Integration Overview

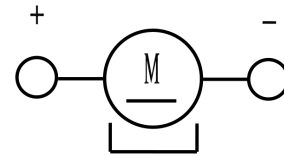
Mechanical Overview

PARAMETER	VALUE	UNIT
Body Length	85	mm
Frame Size	42	mm
Housing shape	Round	
Housing Type	Stainless steel / iron housing	
Rotor Inertia	0.11	kgcm ²
Output Shaft End Diameter	Diameter 5, upper deviation -0.002, lower deviation -0.008	mm

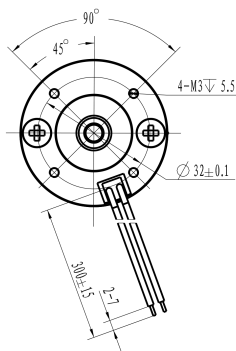
Dimensional Drawings



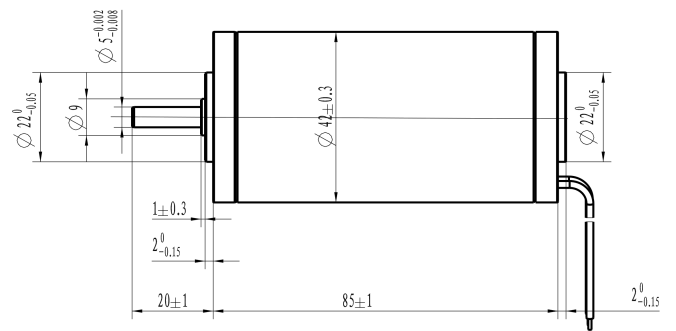
Mechanical View 1



Power Connector Pinout



Mechanical View 3



Mechanical View 4

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Rotation direction	Clockwise rotation
	Mounting hole angular spacing	90 degrees between adjacent mounting positions
	Mounting hole phase angle	45 degree mounting hole phase offset
	Mounting locating diameter	Diameter 32 ±0.1
	Threaded mounting holes and depth	4 x M3 threaded holes, depth 5.5
Mechanical View 3	Mounting hole angular spacing	90 degrees
	Threaded mounting holes	4 x M3 threaded holes, depth 5.5
	Mounting hole pitch circle diameter	Diameter 32 ±0.1
Mechanical View 4	Output shaft end diameter	Diameter 5 mm, upper deviation -0.002 mm, lower deviation -0.008 mm
	Left locating shoulder diameter	Diameter 22 mm, upper deviation 0 mm, lower deviation -0.05 mm
	Output shaft diameter	Diameter 9 mm
	Motor body outside diameter	Diameter 42 mm with ±0.3 mm tolerance
	Front step axial length	1 mm with ±0.3 mm tolerance
	Front flange axial thickness	2 mm, upper deviation 0 mm, lower deviation -0.15 mm
	Output shaft extension length	20 mm with ±1 mm tolerance
	Motor body length	85 mm with ±1 mm 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.