PRODUCT DATASHEET

ES-FM-U01-OD085-T0P5NM-001

85 mm Frameless Torque Motor

Ultra Thin Frameless Torque Motors | ES-FM-U01-OD085 Ultra-Thin 85 mm Frameless Torque Motor Series

Product Overview

85 mm outer diameter, 42 mm rotor bore, 5 mm axial stack ultra thin frameless torque motor.

Typical Applications	Robot joints | Direct-drive rotary axes | Integrated actuator modules
Configuration Context	DC link: 48 V DC | Temperature sensor: None | Lead wire: 100 mm lead, no connector

Key Specifications

PARAMETER	VALUE	UNIT
Rated Speed	3000	rpm
Continuous Rated Output Power	157	W
DC link voltage	48	V DC
Body Outer Diameter	85	mm
Rotor Inner Diameter	42	mm
Axial Stack Length	5	mm
Lead Wire Configuration	100 mm lead, no connector	
Maximum Rotational Speed	3900	rpm
Maximum Speed	3900	rpm

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Speed	3000	rpm
Continuous Rated Output Power	157	W
Rated Power	157	W
Maximum Rotational Speed	3900	rpm
ELECTRICAL		
DC link voltage	48	V DC
Rated Current	5	A
THERMAL		
Temperature Sensor	None	
MECHANICAL		
Body Outer Diameter	85	mm

Technical Specifications

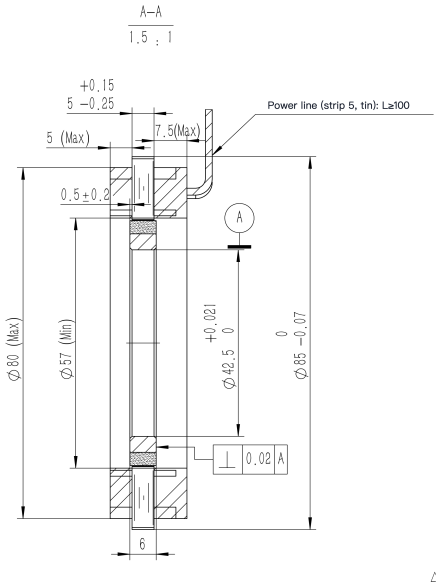
PARAMETER	SPECIFICATION	UNIT
MECHANICAL		
Rotor Inner Diameter	42	mm
Axial Stack Length	5	mm
INTEGRATION		
Lead Wire Configuration	100 mm lead, no connector	
Number of Pole Pairs	8 pole pairs / 8	
CONFIGURATION		
Motor Version	S version	
ADDITIONAL SPECIFICATIONS		
Maximum Speed	3900	rpm
Number of Poles	16	

Dimensional & Integration Overview

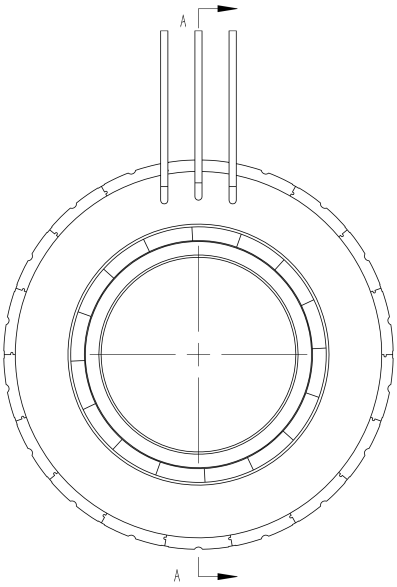
Mechanical Overview

PARAMETER	VALUE	UNIT
Body Outer Diameter	85	mm
Rotor Inner Diameter	42	mm
Axial Stack Length	5	mm

Dimensional Drawings



Mechanical View 1



Mechanical View 2

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Section View Identifier	Section A-A
	Shaft Segment Length	5 +0.15/-0.25
	Mounting Segment Length	7.5 Max
	Shaft Segment Length	5 Max
	Feature Dimension	0.5±0.2
	Datum A	
	Shaft Diameter	Φ42.5 +0.021/0
	Minimum Outer Diameter	Φ57 Min
	Maximum Outer Diameter	Φ80 Max
	Outer Diameter	Φ85 -0.07/0
	Perpendicularity	Perpendicularity 0.02 relative to Datum A
	Bottom Dimension	6
Mechanical View 2	Datum A (left side)	Datum A
	Datum A (right side)	

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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.