

PRODUCT DATASHEET

ES-FM-U01-OD057-TOP32NM-001

57 mm Frameless Torque Motor

Ultra Thin Frameless Torque Motors | ES-FM-U01-OD057 Ultra-Thin 57 mm Frameless Torque Motor Series

Product Overview

57 mm outer diameter, 28 mm rotor bore, 7 mm axial stack ultra thin frameless torque motor.

Typical Applications

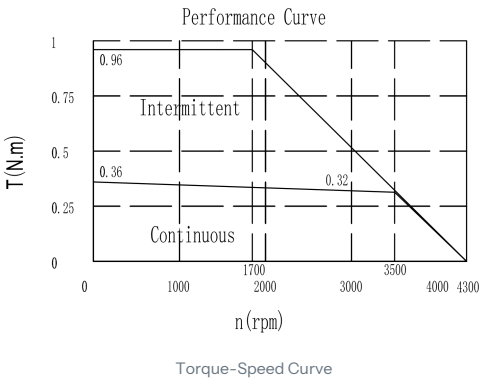
Robot joints | Direct-drive rotary axes | Integrated actuator modules

Configuration Context

DC link: 48 V DC | Temperature sensor: None | Lead wire: 100 mm lead, no connector

Key Specifications

PARAMETER	VALUE	UNIT
Rated Speed	3500	rpm
Continuous Rated Output Power	117	W
DC link voltage	48	V DC
Body Outer Diameter	57	mm
Rotor Inner Diameter	28	mm
Axial Stack Length	7	mm
Lead Wire Configuration	100 mm lead, no connector	
Maximum Rotational Speed	4300	rpm
Maximum Speed	4300	rpm



Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Speed	3500	rpm
Continuous Rated Output Power	117	W
Rated Power	117	W
Maximum Rotational Speed	4300	rpm
ELECTRICAL		
DC link voltage	48	V DC
Rated Current	3.2	A
THERMAL		
Temperature Sensor	None	
MECHANICAL		
Body Outer Diameter	57	mm

Technical Specifications

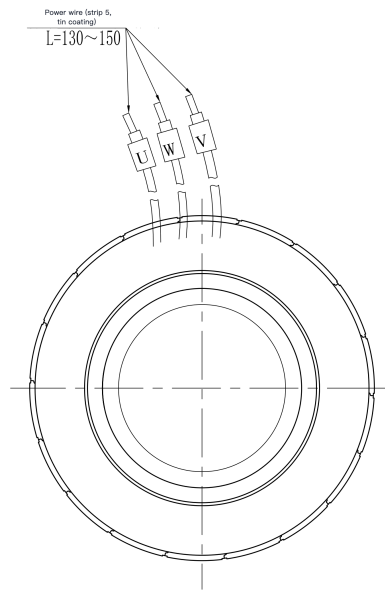
PARAMETER	SPECIFICATION	UNIT
MECHANICAL		
Rotor Inner Diameter	28	mm
Axial Stack Length	7	mm
INTEGRATION		
Lead Wire Configuration	100 mm lead, no connector	
Number of Pole Pairs	8 pole pairs / 8	
CONFIGURATION		
Motor Version	S version	
ADDITIONAL SPECIFICATIONS		
Maximum Speed	4300	rpm
Number of Poles	16	
Line-to-Line Resistance	1.32	Ω

Dimensional & Integration Overview

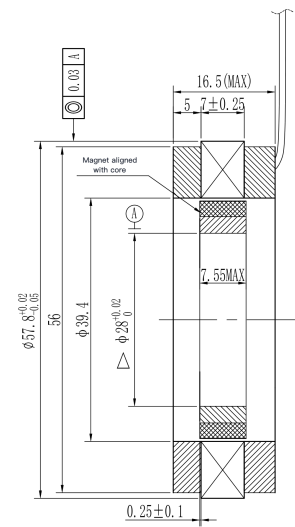
Mechanical Overview

PARAMETER	VALUE	UNIT
Body Outer Diameter	57	mm
Rotor Inner Diameter	28	mm
Axial Stack Length	7	mm

Dimensional Drawings



Mechanical View 1



Mechanical View 2

2D Drawing Dimensions & Callouts

VIEW	FIELD		VALUE
Mechanical View 2	Datum A		
	Coaxiality tolerance		$\odot 0.03$ relative to datum A
	Maximum outer diameter		16.5 MAX
	Mounting face width		5.7 ± 0.25
	Assembly instruction		Magnet aligned with iron core
	Mounting face maximum width		7.55 MAX
	Shaft outer diameter		$\Phi 57.8 +0.02/-0.05$
	Shaft shoulder diameter		$\Phi 28 +0.02/0$
	Housing diameter		$\Phi 39.4$
	Overall length		56
	Bottom boss dimension		0.25 ± 0.1

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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.