

PRODUCT DATASHEET

ES-FM-U01-OD091-T2NM-001

91 mm Frameless Torque Motor

Ultra Thin Frameless Torque Motors | ES-FM-U01-OD091 Ultra-Thin 91 mm Frameless Torque Motor Series

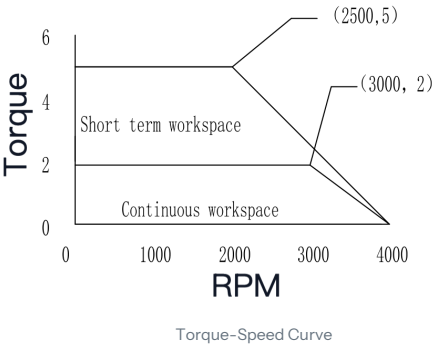
Product Overview

91 mm outer diameter, 46 mm rotor bore, 14 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: PT1000 temperature sensor with 100 mm lead Lead wire: 100 mm lead, no connector

Key Specifications

PARAMETER	VALUE	UNIT
Rated Speed	3000	rpm
Continuous Rated Output Power	630	W
DC link voltage	48	V DC
Body Outer Diameter	91	mm
Rotor Inner Diameter	46	mm
Axial Stack Length	14	mm
Lead Wire Configuration	100 mm lead, no connector	
Motor Version	S version	
Number of Poles	16	



Technical Specifications

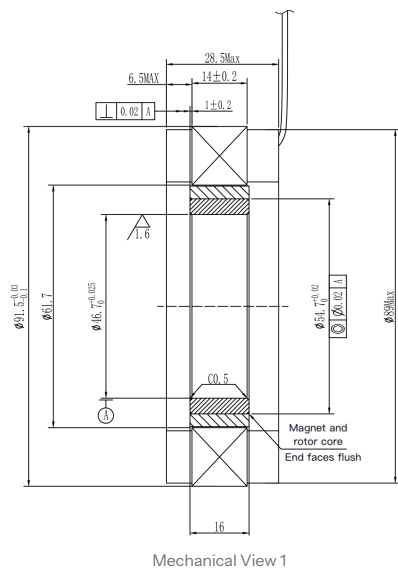
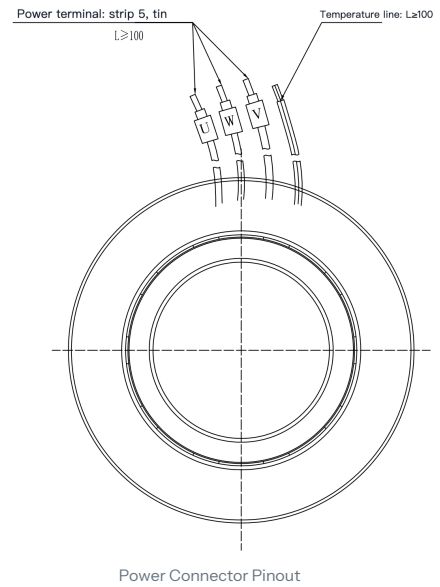
PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Speed	3000	rpm
Continuous Rated Output Power	630	W
ELECTRICAL		
DC link voltage	48	V DC
Rated Current	16.2	A
THERMAL		
Temperature Sensor	PT1000 temperature sensor with 100 mm lead	
MECHANICAL		
Body Outer Diameter	91	mm
Rotor Inner Diameter	46	mm
Axial Stack Length	14	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		
Number of Poles	16	
Line-to-Line Resistance	0.12	Ω

Dimensional & Integration Overview

Mechanical Overview

PARAMETER	VALUE	UNIT
Body Outer Diameter	91	mm
Rotor Inner Diameter	46	mm
Axial Stack Length	14	mm

Dimensional Drawings



2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Maximum axial height	28.5 max
	Local axial length	14 ±0.2
	Maximum local step distance	6.5 max
	Local spacing	1 ±0.2
	Perpendicularity to datum A	Perpendicularity 0.02 to datum A
	Surface roughness	Ra 1.6
	Inner diameter	Diameter 46.7 +0.025/0
	Outer diameter	Diameter 91.5 -0.03/-0.1
	Fit diameter	Diameter 54 +0.02/0
	Concentricity/coaxiality to datum A	Concentricity/coaxiality diameter tolerance 0.02 to datum A
	Maximum outer diameter	Diameter 89 max
	Intermediate diameter	Diameter 61.7
	Chamfer	Chamfer C0.5
	Datum A	
	Magnet and rotor core note	Magnet and rotor core
	End faces flush requirement	End faces flush
	Bottom width	16

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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.