

PRODUCT DATASHEET

ES-FM-U01-OD060-TOP45NM-001

60 mm Frameless Torque Motor

Ultra Thin Frameless Torque Motors | ES-FM-U01-OD060 Ultra-Thin 60 mm Frameless Torque Motor Series

Product Overview

60 mm outer diameter, 28 mm rotor bore, 12 mm axial stack ultra thin frameless torque motor.

Typical Applications

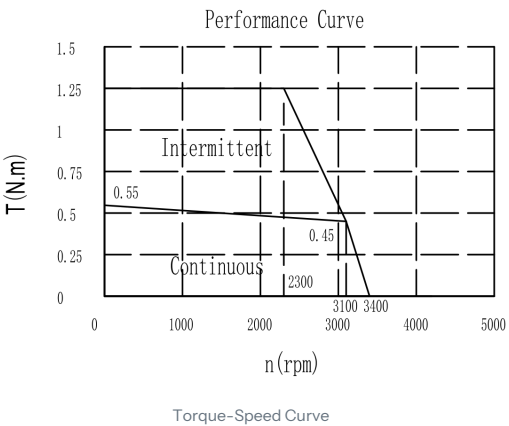
Robot joints | Direct-drive rotary axes | Integrated actuator modules

Configuration Context

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

Key Specifications

PARAMETER	VALUE	UNIT
Rated Speed	3100	rpm
Continuous Rated Output Power	146	W
DC link voltage	48	V DC
Body Outer Diameter	60	mm
Rotor Inner Diameter	28	mm
Axial Stack Length	12	mm
Lead Wire Configuration	100 mm lead, no connector	
Maximum Rotational Speed	3400	rpm
Motor Version	K version	



Technical Specifications

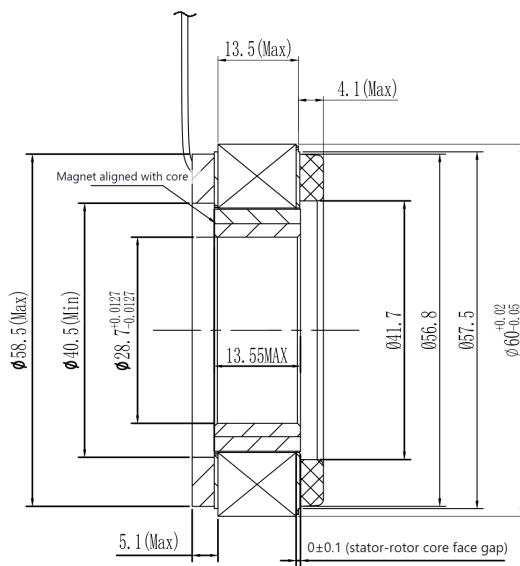
PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Speed	3100	rpm
Continuous Rated Output Power	146	W
Maximum Rotational Speed	3400	rpm
ELECTRICAL		
DC link voltage	48	V DC
Rated Current	3.4	A
THERMAL		
Temperature Sensor	None	
MECHANICAL		
Body Outer Diameter	60	mm
Rotor Inner Diameter	28	mm
Axial Stack Length	12	mm
INTEGRATION		
Lead Wire Configuration	100 mm lead, no connector	
Number of Pole Pairs	8 pole pairs / 8	
CONFIGURATION		
Motor Version	K version	
ADDITIONAL SPECIFICATIONS		
Number of Poles	16	
Line-to-Line Resistance	0.74	Ω

Dimensional & Integration Overview

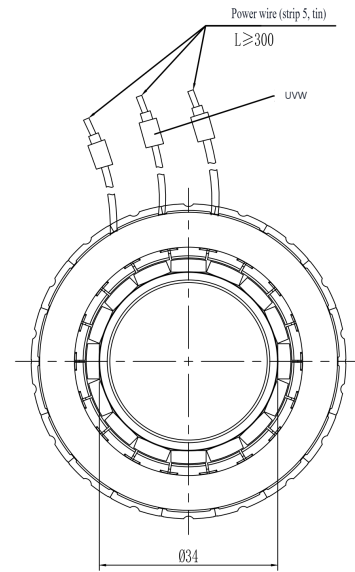
Mechanical Overview

PARAMETER	VALUE	UNIT
Body Outer Diameter	60	mm
Rotor Inner Diameter	28	mm
Axial Stack Length	12	mm

Dimensional Drawings



Mechanical View 1



Power Connector Pinout

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Upper axial maximum dimension	13.5 max
	Right-side axial maximum dimension	4.1 max
	Magnet-to-core alignment requirement	Magnet aligned with core
	Maximum outside diameter	Diameter 58.5 max
	Minimum diameter	Diameter 40.5 min
	Diameter 28.7 tolerance	Diameter 28.7 with +0.0127/-0.0127 tolerance
	Inner axial maximum dimension	13.55 max
	Diameter 41.7	
	Diameter 56.8	
	Diameter 57.5	
	Diameter 60 tolerance	Diameter 60 with +0.02/-0.05 tolerance
	Lower axial maximum dimension	5.1 max
	Stator-rotor core face gap	0 ±0.1 stator-rotor core face gap

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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.