

PRODUCT DATASHEET

ES-FM-U01-OD077-T2P39NM-001

77 mm Frameless Torque Motor

Ultra Thin Frameless Torque Motors | ES-FM-U01-OD077 Ultra-Thin 77 mm Frameless Torque Motor Series

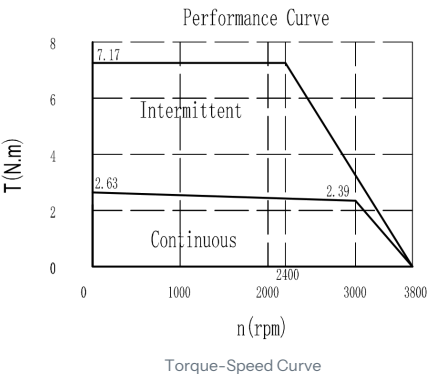
Product Overview

77 mm outer diameter, 35 mm rotor bore, 30 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	750	W
DC link voltage	48	V DC
Body Outer Diameter	77	mm
Rotor Inner Diameter	35	mm
Axial Stack Length	30	mm
Lead Wire Configuration	100 mm lead, no connector	
Maximum Rotational Speed	3800	rpm
Maximum Speed	3800	rpm



Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Speed	3000	rpm
Continuous Rated Output Power	750	W
Rated Power	750	W
Maximum Rotational Speed	3800	rpm
ELECTRICAL		
DC link voltage	48	V DC
Rated Current	18.6	A
THERMAL		
Temperature Sensor	None	
MECHANICAL		
Body Outer Diameter	77	mm

Technical Specifications

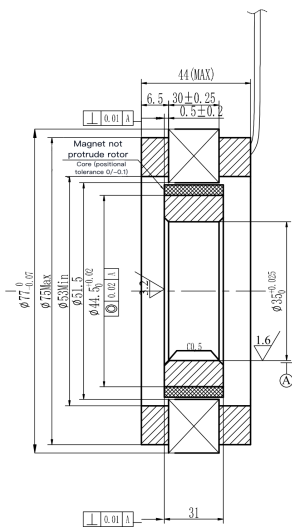
PARAMETER	SPECIFICATION	UNIT
MECHANICAL		
Rotor Inner Diameter	35	mm
Axial Stack Length	30	mm
INTEGRATION		
Lead Wire Configuration	100 mm lead, no connector	
Number of Pole Pairs	8 pole pairs / 8	
CONFIGURATION		
Motor Version	S version	
ADDITIONAL SPECIFICATIONS		
Maximum Speed	3800	rpm
Number of Poles	16	
Line-to-Line Resistance	0.097	Ω

Dimensional & Integration Overview

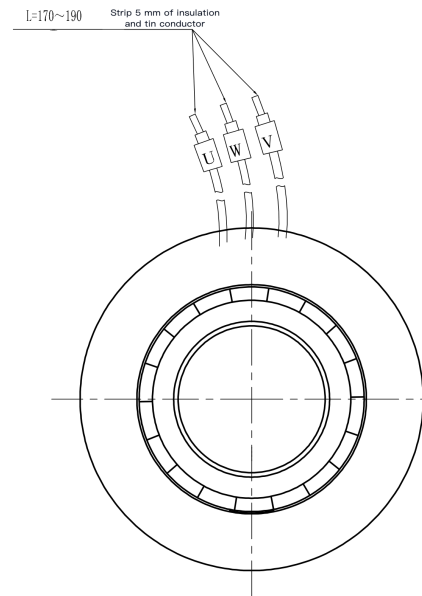
Mechanical Overview

PARAMETER	VALUE	UNIT
Body Outer Diameter	77	mm
Rotor Inner Diameter	35	mm
Axial Stack Length	30	mm

Dimensional Drawings



Mechanical View 1



Power Connector Pinout

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Maximum overall length	44 max
	Shaft section length 1	6.5
	Shaft section length 2 (with tolerance)	30±0.25
	Shaft shoulder height	0.5±0.2
	Perpendicularity tolerance (upper end)	Perpendicularity 0.01 relative to datum A
	Assembly requirement	Magnet must not protrude beyond rotor
	Core positional tolerance	Core position 0/-0.1
	Outer diameter (with tolerance)	Φ77 0/-0.07
	Maximum outer diameter	Φ75 max
	Minimum inner diameter	Φ53 min
	Inner diameter	Φ51.5
	Shaft diameter (with tolerance)	Φ44 +0.02/0
	Circular runout tolerance	Circular runout 0.02 relative to datum A
	Shaft section length	3.2
	Lower shaft diameter (with tolerance)	Φ35 +0.025/0
	Chamfer/feature dimension	1.6
	Datum A	
	Chamfer	C0.5

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Perpendicularity tolerance (lower end)	Perpendicularity 0.01 relative to datum A
	Shaft section length	31

[View Product Online](#) [Request Engineering Data](#) [Request a Quote](#)

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.