PRODUCT DATASHEET

ES-FM-U01-OD104-T3P18NM-001

104 mm Frameless Torque Motor

Ultra Thin Frameless Torque Motors | ES-FM-U01-OD104 Ultra-Thin 104 mm Frameless Torque Motor Series

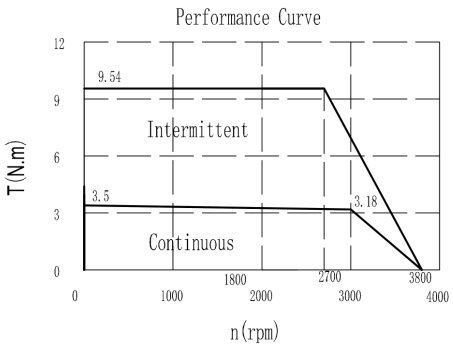
Product Overview

104 mm outer diameter, 47 mm rotor bore, 22 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	1000	W
DC link voltage	48	V DC
Body Outer Diameter	104	mm
Rotor Inner Diameter	47	mm
Axial Stack Length	22	mm
Lead Wire Configuration	100 mm lead, no connector	
Motor Version	S version	
Number of Poles	16	



Torque-Speed Curve

Technical Specifications

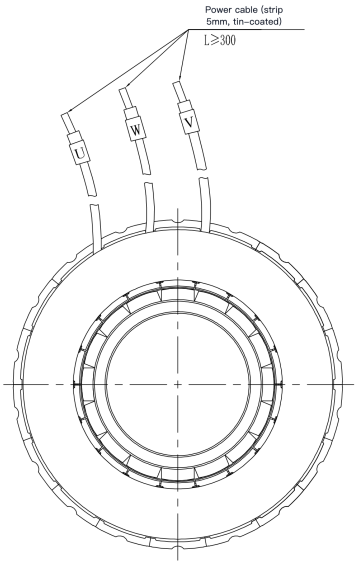
PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Speed	3000	rpm
Continuous Rated Output Power	1000	W
ELECTRICAL		
DC link voltage	48	V DC
Rated Current	27	A
THERMAL		
Temperature Sensor	None	
MECHANICAL		
Body Outer Diameter	104	mm
Rotor Inner Diameter	47	mm
Axial Stack Length	22	mm
INTEGRATION		
Lead 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	0.045	Ω

Dimensional & Integration Overview

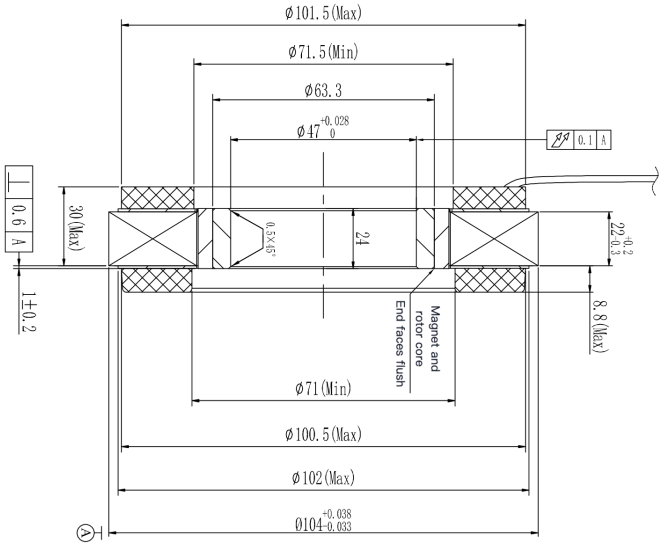
Mechanical Overview

PARAMETER	VALUE	UNIT
Body Outer Diameter	104	mm
Rotor Inner Diameter	47	mm
Axial Stack Length	22	mm

Dimensional Drawings



Mechanical View 1



Mechanical View 2

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 2	Maximum outer diameter (upper end)	Φ101.5 mm max
	Minimum inner diameter	Φ71.5 mm min
	Mid-section diameter	Φ63.3 mm
	Shaft diameter with upper tolerance	Φ47 +0.028/0 mm
	Position tolerance	Position tolerance 0.1 mm relative to datum A
	Maximum end height	30 mm max
	Chamfer	0.5 mm × 45°
	Central section height	24 mm
	Mounting hole diameter	22 +0.2/-0.3 mm
	Datum A	
	Edge thickness	1±0.2 mm
	Maximum end width	8.8 mm max
	End face flush requirement	End faces flush
	Magnet and rotor core relationship	Magnet and rotor core
	Lower end inner diameter (min)	Φ71 mm min
	Lower end maximum outer diameter	Φ100.5 mm max
	Bottom maximum outer diameter	Φ102 mm max
	Overall outer diameter with tolerance	Φ104 +0.038/-0.033 mm

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.