PRODUCT DATASHEET

ES-SM-A03-060D-T0P64NM-200W-003

AC Servo Motors

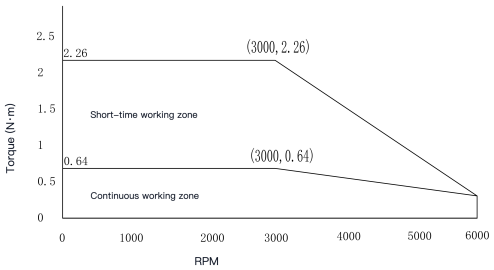
AC Servo Motors | ES-SM-A03-060D Compact 60 mm AC Servo Motor Series

Product Overview

AC Servo Motors with rated Torque 0.64 N·m, instantaneous Maximum Torque 2.26 N·m and rated Speed 3000 rpm.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	0.64	N·m
Instantaneous Maximum Torque	2.26	N·m
Rated Speed	3000	rpm
Continuous Rated Output Power	200	W
Rated Voltage	220	V AC
Instantaneous Maximum Current	5	A
Flange Size	60	mm
Torque Constant	0.56	N·m/A
Altitude and Derating Rule	highest altitude2000m(1000mfor each increase above100m,Power drop1.5%)	



Torque-Speed Curve

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	0.64	N·m
Instantaneous Maximum Torque	2.26	N·m
Rated Speed	3000	rpm
Continuous Rated Output Power	200	W
Torque Constant	0.56	N·m/A
Rated Power	200	W
ELECTRICAL		
Rated Voltage	220	V AC
Instantaneous Maximum Current	5	A
Back EMF Constant	34	V/krpm
Insulation Class	F	
Motor Outlet Mode	Standard socket	
Pole Pairs	5	
Rated Current	1.3	A
Rotational Back-EMF Constant	34	V/krpm
Electrical Time Constant	1.77	ms

Technical Specifications

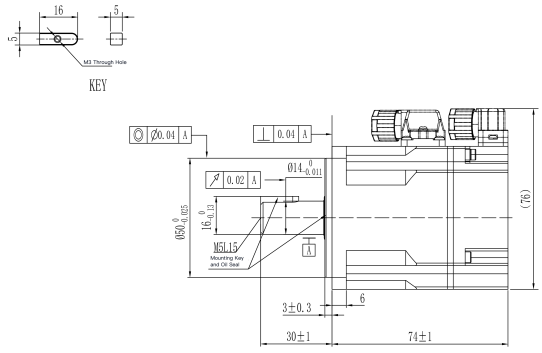
PARAMETER	SPECIFICATION	UNIT	NOTES
ELECTRICAL			
Position Feedback Device	23-bit multi-turn communication optical absolute encoder		
MECHANICAL			
Flange Size	60	mm	
Inertia Level	Medium inertia		
Holding Brake Available	Without holding brake		
Mechanical Time Constant	1.32	ms	Brake Configuration: without_brake
Rotor Inertia	0.28 / 0.26	Kg·cm 2	Brake Configuration: without_brake
Bearing Radial Force Capacity	245	N	
Bearing Axial Force Capacity	74	N	
ENVIRONMENTAL			
Altitude and Derating Rule	highest altitude2000m(1000mfor each increase above100m,Power drop1.5%)		
Operating Environment	Keep away from corrosive or flammable gases, oil droplets and dust		
Operating Humidity	≤90% RH, non-condensing		
Operating Temperature	-20 to 40°C (no freezing)		
Protection Rating	IP65, shaft end IP54 (Note: with shaft-end oil seal IP54, without oil seal IP50)		
CONFIGURATION			
Output Shaft Type	Keyed shaft		
ADDITIONAL SPECIFICATIONS			
Holding Brake	false		

Dimensional & Integration Overview

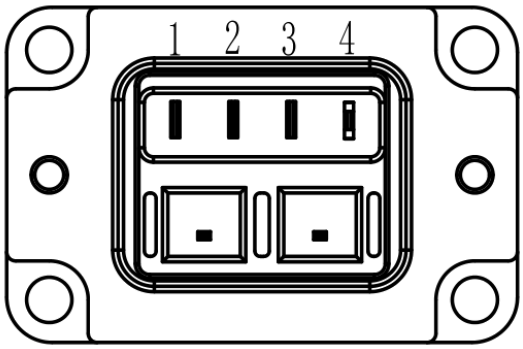
Mechanical Overview

PARAMETER	VALUE	UNIT
Flange Size	60	mm
Inertia Level	Medium inertia	
Holding Brake Available	Without holding brake	
Mechanical Time Constant	1.32	ms
Rotor Inertia	0.28 / 0.26	Kg·cm2
Bearing Radial Force Capacity	245	N

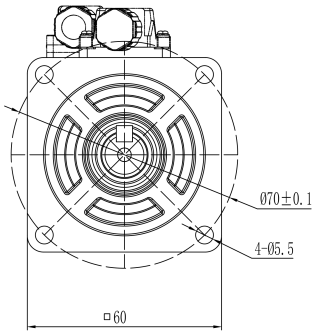
Dimensional Drawings



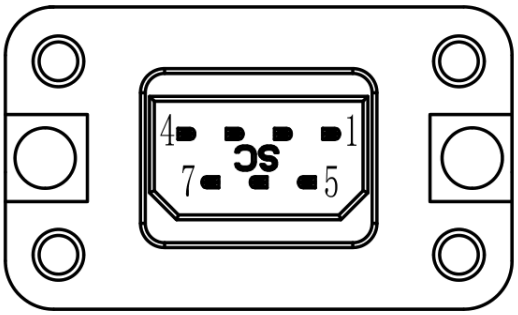
Mechanical View 1



Power Connector Pinout



Mechanical View 3



Feedback Connector Pinout

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Key slot length	16 mm
	Key slot width	5 mm
	Key slot through-hole specification	M3 through hole
	Key detail label	KEY detail
	Position tolerance relative to datum A	Position tolerance Φ0.04 relative to datum A
	Perpendicularity tolerance relative to datum A	Perpendicularity tolerance 0.04 relative to datum A
	Shaft diameter	Diameter 14 mm, +0/-0.011 mm
	Runout tolerance relative to datum A	Runout tolerance 0.02 relative to datum A
	Reference overall height	Reference dimension 76 mm
	Locating diameter	Diameter 50 mm, +0/-0.025 mm
	Step length	16 mm, +0/-0.13 mm
	Mounting key and oil seal specification	M5L15 for mounting key and oil seal
	Datum A	
	End clearance	6 mm
	End offset	3 mm ±0.3 mm
	Right-side body length	74 mm ±1 mm
	Left-side section length	30 mm ±1 mm

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 3	Mounting pitch circle diameter	Diameter 70 ±0.1
	Mounting hole quantity and diameter	4 holes, diameter 5.5
	Square mounting flange envelope size	Square 60

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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.