

PRODUCT DATASHEET

ES-SM-A03-060D-T1P27NM-400W-003

AC Servo Motors

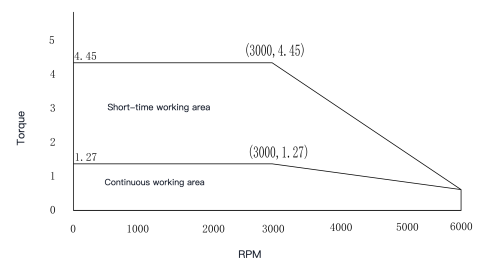
AC Servo Motors | ES-SM-A03-060D Compact 60 mm AC Servo Motor Series

Product Overview

AC Servo Motors with rated Torque 1.27 Nm, instantaneous Maximum Torque 4.45 Nm and rated Speed 3000 rpm.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	1.27	Nm
Instantaneous Maximum Torque	4.45	Nm
Rated Speed	3000	rpm
Continuous Rated Output Power	400	W
Rated Voltage	220	V AC
Instantaneous Maximum Current	9	A
Flange Size	60	mm
Torque Constant	0.6	Nm/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	1.27	Nm
Instantaneous Maximum Torque	4.45	Nm
Rated Speed	3000	rpm
Continuous Rated Output Power	400	W
Torque Constant	0.6	Nm/A
Rated Power	400	W
ELECTRICAL		
Rated Voltage	220	V AC
Instantaneous Maximum Current	9	A
Back EMF Constant	36	V/krpm
Insulation Class	F	
Motor Outlet Mode	Standard socket	
Pole Pairs	5	
Rated Current	2.3	A
Rotational Back-EMF Constant	36	V/krpm
Electrical Time Constant	1.93	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	0.99	ms	Brake Configuration: without_brake
Rotor Inertia	0.51 / 0.49	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 altitude 2000m (1000m for each increase above 100m, Power drop 1.5%)		
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		

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Key slot length	16 mm
	M3 through hole	
	Key feature label	Key
	Concentricity tolerance	Concentricity tolerance $\Phi 0.04$ relative to datum A
	Perpendicularity tolerance	Perpendicularity tolerance 0.04 relative to datum A
	Shaft diameter	Diameter 14 mm, upper deviation 0, lower deviation -0.011
	Runout-type geometric tolerance	Runout-type tolerance 0.02 relative to datum A
	Reference overall height	Reference dimension 76 mm
	Mounting pilot diameter	Diameter 50 mm, upper deviation 0, lower deviation -0.025
	Keyway width	16 mm, upper deviation 0, lower deviation -0.13
	Thread specification	M5, length 15 mm
	Datum A	
	Mounting note	Mounting key and oil seal
	Step length	6 mm
	Mounting end offset	3 mm ± 0.3
	Front section length	30 mm ± 1
	Main body length	93 mm ± 1



2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 3	Mounting hole pitch circle diameter	Pitch circle diameter $\varnothing 70 \pm 0.1$
	Mounting hole quantity and diameter	4 holes, diameter $\varnothing 5.5$
	Square mounting flange side length	Square flange $\square 60$

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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.