

PRODUCT DATASHEET

ES-SM-A03-080S-T2P39NM-750W-002

AC Servo Motors

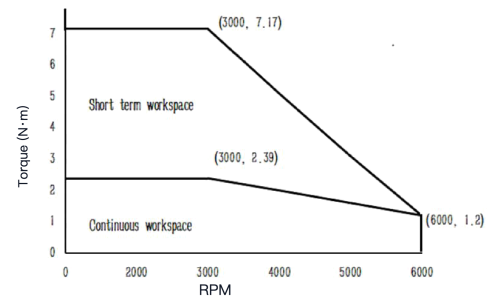
AC Servo Motors | ES-SM-A03-080S Compact 80 mm AC Servo Motor Series

Product Overview

AC Servo Motors with rated Torque 2.39 N·m, instantaneous Maximum Torque 7.17 N·m and rated Speed 3000 rpm.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	2.39	N·m
Instantaneous Maximum Torque	7.17	N·m
Rated Speed	3000	rpm
Continuous Rated Output Power	750	W
Rated Voltage	220	V AC
Instantaneous Maximum Current	12.4	A
Flange Size	80	mm
Torque Constant	0.7	N·m/A
Altitude and Derating Rule	highest altitude 2000m, 1000m above, every rise 100m, Power drop 1.5%	



Torque-Speed Curve

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	2.39	Nm
Instantaneous Maximum Torque	7.17	Nm
Rated Speed	3000	rpm
Continuous Rated Output Power	750	W
Torque Constant	0.7	Nm/A
Rated Power	750	W
ELECTRICAL		
Rated Voltage	220	V AC
Instantaneous Maximum Current	12.4	A
Back EMF Constant	42	V/krpm
Electrical Time Constant	4.6	ms

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
ELECTRICAL			
Insulation Class	F		
Motor Outlet Mode	Standard socket		
Pole Pairs	5		
Rated Current	3.9	A	
Rotational Back-EMF Constant	42	V/krpm	
Position Feedback Device	17-bit multi-turn communication magnetic absolute encoder		
MECHANICAL			
Flange Size	80	mm	
Inertia Level	Low inertia		
Holding Brake Available	With holding brake		
Mechanical Time Constant	0.62 / 0.58	ms	Brake Configuration: without_brake

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
MECHANICAL			
Rotor Inertia	0.95 / 0.9	Kg·cm ²	Brake Configuration: without_brake
Bearing Radial Force Capacity	335	N	
Bearing Axial Force Capacity	167.5	N	
ENVIRONMENTAL			
Altitude and Derating Rule	highest altitude 2000m, 1000m above, every rise 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	IP67, shaft end IP54 (Note: with shaft-end oil seal IP54, without oil seal IP50)		
CONFIGURATION			
Output Shaft Type	Keyed shaft		
ADDITIONAL SPECIFICATIONS			
Holding Brake	1		

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Keyway length	25 mm
	Keyway width	6 mm
	Datum identifier	Datum A
	Position tolerance	Position 0.04 relative to datum A
	Perpendicularity tolerance	Perpendicularity 0.04 relative to datum A
	Shaft diameter	$\Phi 19\text{ h7 (0/-0.013)}$
	Parallelism tolerance	Parallelism 0.04 relative to datum A
	Mounting flange diameter	$\Phi 70\text{ h6 (0/-0.02)}$
	Shaft extension length	21.5 h11 (0/-0.2)
	Mounting bolt specification	M6×18 mounting bolt
	Mounting hole radial position	4 mm
	Mounting hole spacing	9 mm
	Axial length partial dimension	$35\pm 1\text{ mm}$
	Overall axial length	$133.2\pm 1.5\text{ mm}$
	Radial reference dimension	96.5 mm (reference)
Mechanical View 3	Mounting flange outer diameter	$\text{Ø}90\pm 0.1$
	Mounting hole diameter and quantity	4-Ø6.5
	Mounting flange square envelope	$\square 80$

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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.