

PRODUCT DATASHEET

ES-SM-A03-080D-T2P39NM-750W-004

AC Servo Motors

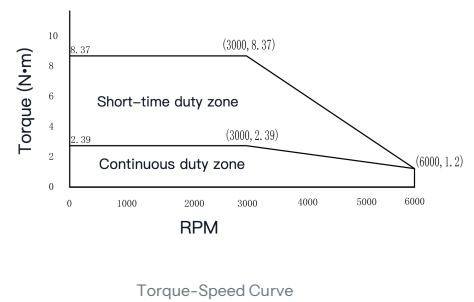
AC Servo Motors | ES-SM-A03-080D Compact 80 mm AC Servo Motor Series

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	VAC
Continuous Rated Current	4	A
Instantaneous Maximum Current	12.7	A
Flange Size	80	mm
Torque Constant	0.64	N·m/A



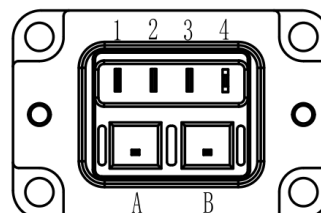
Technical Specifications

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	0.64	Nm/A
ELECTRICAL		
Rated Voltage	220	VAC
Continuous Rated Current	4	A
Instantaneous Maximum Current	12.7	A
Pole Pairs	5	
Rotational Back-EMF Constant	39	V/krpm
Electrical Time Constant	3.59	ms
Insulation Class	F	
Position Feedback Device	23-bit multi-turn communication optical absolute encoder	
Motor Outlet Mode	Standard socket	
MECHANICAL		
Flange Size	80	mm
Mechanical Time Constant	0.96	ms
Bearing Radial Force Capacity	392	N
Bearing Axial Force Capacity	147	N
CONFIGURATION		
Output Shaft Type	Keyed shaft	

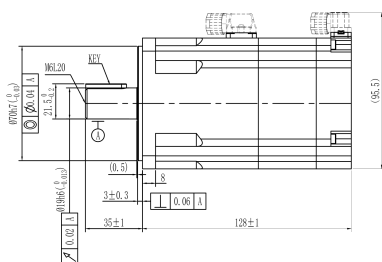
Mechanical Overview

PARAMETER	VALUE	UNIT
Flange Size	80	mm
Mechanical Time Constant	0.96	ms
Bearing Radial Force Capacity	392	N
Bearing Axial Force Capacity	147	N

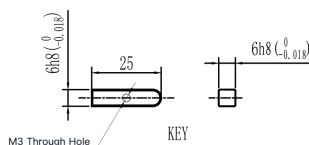
Mechanical View 1



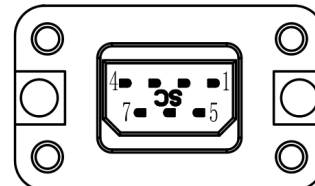
Power Connector Pinout



Mechanical View 3



Mechanical View 4



Feedback Connector Pinout



2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Flange axial dimension	15.5 0/-0.1 mm
	Mounting hole angular position	45°
	Mounting hole pitch circle diameter (PCD)	Ø90 mm
	Mounting hole specification	4 holes × Ø6.5 mm
	Flange square dimension	80 × 80 mm square

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 3	Output shaft diameter (large end)	Ø70h7 0/-0.03 mm
	Position tolerance (shaft centerline)	Ø0.04 mm relative to datum A
	Keyway designation	Keyway present
	Mounting threaded hole specification	M6 thread, 20mm depth
	Shaft shoulder width	21.5 0/-0.2 mm
	Datum A (end face)	Datum A - shaft end face
	Overall length (reference)	(95.5) mm
	Shoulder chamfer or radius	(0.5) mm
	Keyway depth or width	8 mm
	Output shaft diameter (small end)	Ø19h6 0/-0.013 mm
	Axial positioning dimension	3±0.3 mm
	Perpendicularity tolerance	⊥0.06 mm relative to datum A
	Circular runout tolerance	0.02 mm relative to datum A
	Local axial length 1	35±1 mm
	Total axial length	128±1 mm

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 4	Shaft diameter tolerance fit	Ø6 h8 (0/-0.018)
	Keyway length	25
	Keyway feature label	KEY
	Through hole specification	M3 through hole

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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.