PRODUCT DATASHEET

ES-SM-A01-080S-T2P39NM-750W-002

AC Servo Motors

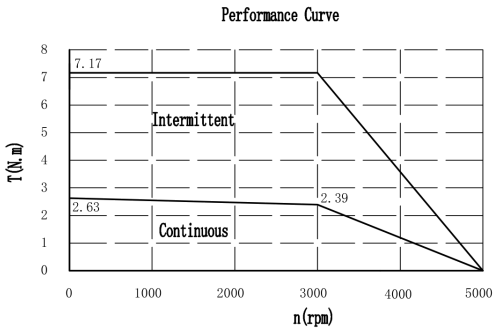
AC Servo Motors | ES-SM-A01-080S Standard 80 mm AC Servo Motor Series

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
Instantaneous Maximum Current	12.6	A
Flange Size	80	mm
Torque Constant	0.662	N·m/A
Rated Voltage	300	V AC
Rated Line Voltage	300	V



Torque-Speed Curve

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	2.39	N·m
Instantaneous Maximum Torque	7.17	N·m
Rated Speed	3000	rpm
Continuous Rated Output Power	750	W
Torque Constant	0.662	N·m/A
ELECTRICAL		
Rated Voltage	300	V AC
Rated Line Voltage	300	V
Instantaneous Maximum Current	12.6	A
Electrical Time Constant	4.63	ms
Insulation Class	F	

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
ELECTRICAL			
Maximum Allowed Voltage Slew Rate	8	KV/μs	
Motor Outlet Mode	Communication encoder socket		
Pole Pairs	5		
Rated Current	4	A	
Rotational Back-EMF Constant	40	V/krpm	
Position Feedback Device	Single-turn communication magnetic encoder		
MECHANICAL			
Flange Size	80	mm	
Inertia Level	Low inertia		
Holding Brake Available	With holding brake		
Mechanical Time Constant	0.76 / 0.711	ms	Brake Configuration: without_brake

Technical Specifications

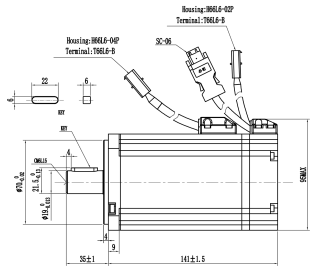
PARAMETER	SPECIFICATION	UNIT	NOTES
MECHANICAL			
Rotor Inertia	1.099 kg·cm² / 1.027 Kg•cm2		Brake Configuration: without_brake
Bearing Radial Force Capacity	335	N	
Bearing Axial Force Capacity	167.5	N	
ENVIRONMENTAL			
Altitude and Derating Rule	Maximum altitude 4000 m; above 1000 m, power derates 1.5% per 100 m		
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	1		

Dimensional & Integration Overview

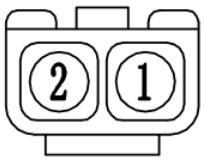
Mechanical Overview

PARAMETER	VALUE	UNIT
Flange Size	80	mm
Inertia Level	Low inertia	
Holding Brake Available	With holding brake	
Mechanical Time Constant	0.76 / 0.711	ms
Rotor Inertia	1.099 kg·cm² / 1.027 Kg·cm2	
Bearing Radial Force Capacity	335	N

Dimensional Drawings

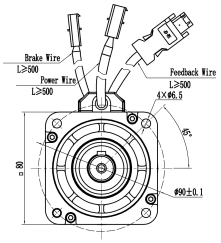


Mechanical View 1

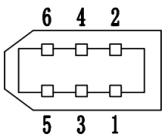


Power Connector Pinout

Power Connector Pinout



Mechanical View 4



Feedback Connector Pinout

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Key length	22 mm
	Key width	6 mm
	Keyway width	
	Key label	Key
	Keyway label	
	Thread specification	CM6L15
	Pilot flange diameter	Diameter 70 mm, +0/-0.02 mm
	Maximum height	95 mm maximum
	Shaft shoulder diameter	Diameter 21.5 mm, +0/-0.13 mm
	Output shaft diameter	Diameter 19 mm, +0/-0.013 mm
	End step length	9 mm
	Shaft extension length	35 ±1 mm
	Motor body length	141 ±1.5 mm
Mechanical View 4	Mounting hole quantity and diameter	4 holes, diameter 6.5 mm
	Mounting hole angular spacing	45 degree angular spacing/reference angle
	Square flange outside size	Square flange size 80 mm
	Mounting pitch circle diameter	Diameter 90 mm ±0.1 mm

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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.