

PRODUCT DATASHEET

ES-SM-A02-080S-T3P18NM-1000W-001

AC Servo Motors

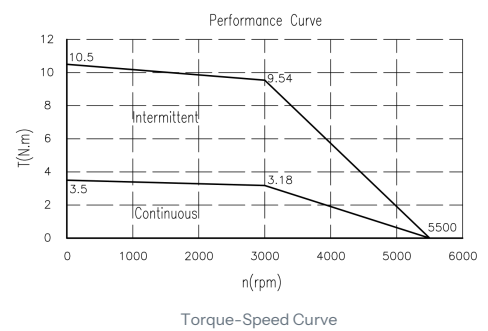
AC Servo Motors | ES-SM-A02-080S High-Response 80 mm AC Servo Motor Series

Product Overview

AC Servo Motors with rated Torque 3.18 N·m, instantaneous Maximum Torque 9.48 N·m and rated Speed 3000 rpm.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	3.18	N·m
Instantaneous Maximum Torque	9.48	N·m
Rated Speed	3000	rpm
Continuous Rated Output Power	1000	W
Instantaneous Maximum Current	18.9	A
Flange Size	80	mm
Torque Constant	0.562	N·m/A
Rated Voltage	220	V AC
Rated Line Voltage	220	V



Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	3.18	Nm
Instantaneous Maximum Torque	9.48	Nm
Rated Speed	3000	rpm
Continuous Rated Output Power	1000	W
Torque Constant	0.562	Nm/A
Rated Power	1000	W
ELECTRICAL		
Rated Voltage	220	V AC
Rated Line Voltage	220	V
Instantaneous Maximum Current	18.9	A
Back EMF Constant	34	V/krpm



Technical Specifications

PARAMETER	SPECIFICATION	UNIT
ELECTRICAL		
Position Feedback Device	2500 PPR incremental encoder	
Insulation Class	F	
Maximum Allowed Voltage Slew Rate	8	KV/μs
Pole Pairs	3	
Rated Current	6.3	A
Rotational Back-EMF Constant	34	V/krpm
Electrical Time Constant	5.23	ms
Motor Outlet Mode	Three-row 15-pin connector	
MECHANICAL		
Flange Size	80	mm
Inertia Level	Low inertia	

Technical Specifications

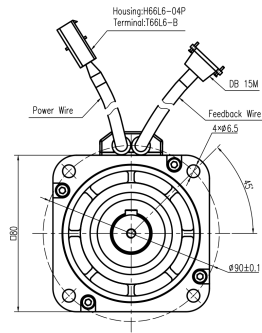
PARAMETER	SPECIFICATION	UNIT	NOTES
MECHANICAL			
Holding Brake Available	Without holding brake		
Mechanical Time Constant	0.89	ms	
Rotor Inertia	1.9 kg·cm ² / 1.9 Kg·cm ²		Brake Configuration: without_brake
Bearing Radial Force Capacity	335	N	
Bearing Axial Force Capacity	167.5	N	
ENVIRONMENTAL			
Altitude and Derating Rule	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		

Dimensional & Integration Overview

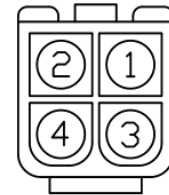
Mechanical Overview

PARAMETER	VALUE	UNIT
Flange Size	80	mm
Inertia Level	Low inertia	
Holding Brake Available	Without holding brake	
Mechanical Time Constant	0.89	ms
Rotor Inertia	1.9 kgcm ² / 1.9 Kg·cm ²	
Bearing Radial Force Capacity	335	N

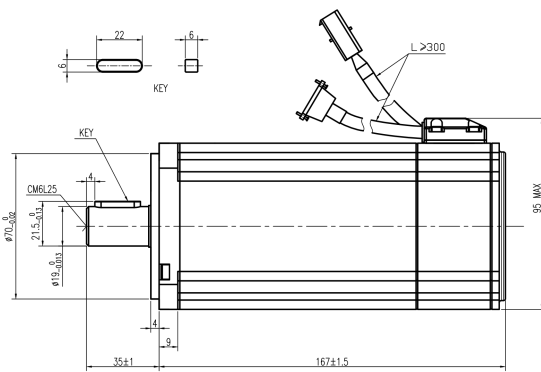
Dimensional Drawings



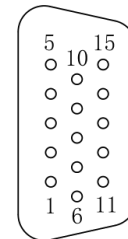
Mechanical View 1



Power Connector Pinout



Mechanical View 3



Feedback Connector Pinout

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Connector mounting holes	4×Φ6.5
	Angular positioning	45°
	Housing diameter	Φ80
	Mounting flange outer diameter	Φ90±0.1
Mechanical View 3	Key width	22 mm
	Key height	6 mm
	Minimum shaft length	L > 300 mm
	Key depth in shaft	6 mm
	Maximum height	95 mm MAX
	Shaft keyway depth with tolerance	21.5 -0.13 mm
	Shaft outer diameter with tolerance	Φ70 0/-0.02 mm
	Shaft inner diameter with tolerance	Φ19 -0.013 mm
	Lower spacing dimension	9 mm
	Keyway width	4 mm
	Left mounting distance	35±1 mm
	Overall mounting length	167±1.5 mm

[View Product Online](#)
[Request Engineering Data](#)
[Request a Quote](#)

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.