

PRODUCT DATASHEET

ES-SM-A01-060S-T1P27NM-400W-008

AC Servo Motors

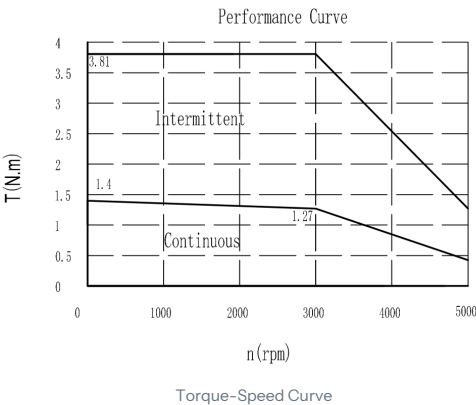
AC Servo Motors | ES-SM-A01-060S Standard 60 mm AC Servo Motor Series

Product Overview

AC Servo Motors with rated Torque 1.27 N·m, instantaneous Maximum Torque 3.81 N·m and rated Speed 3000 rpm.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	1.27	N·m
Instantaneous Maximum Torque	3.81	N·m
Rated Speed	3000	rpm
Continuous Rated Output Power	400	W
Instantaneous Maximum Current	9.3	A
Flange Size	60	mm
Torque Constant	0.48	N·m/A
Rated Voltage	300	V AC
Rated Line Voltage	300	V



Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	1.27	Nm
Instantaneous Maximum Torque	3.81	Nm
Rated Speed	3000	rpm
Continuous Rated Output Power	400	W
Rated Power	400	W
Torque Constant	0.48	Nm/A
ELECTRICAL		
Rated Voltage	300	V AC
Rated Line Voltage	300	V
Instantaneous Maximum Current	9.3	A
Insulation Class	F	

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
ELECTRICAL		
Maximum Allowed Voltage Slew Rate	8	KV/ μ s
Motor Outlet Mode	Communication encoder socket	
Pole Pairs	5	
Rated Current	2.9	A
Rotational Back-EMF Constant	29	V/krpm
Electrical Time Constant	2.26	ms
Position Feedback Device	23-bit multi-turn communication optical absolute encoder	
MECHANICAL		
Flange Size	60	mm
Inertia Level	Low inertia	
Holding Brake Available	With holding brake	

Technical Specifications

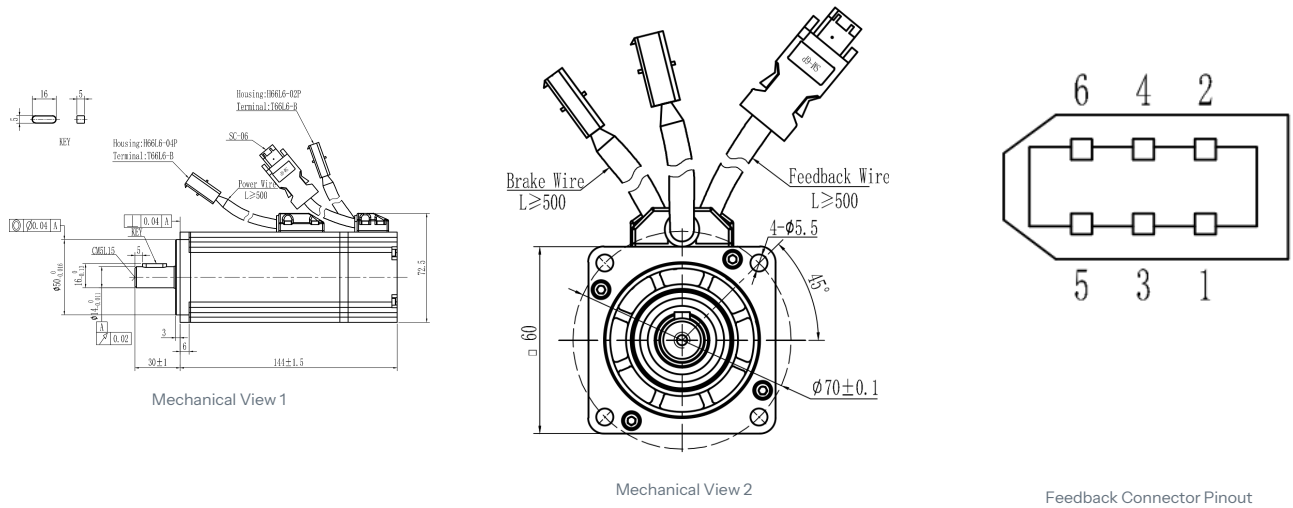
PARAMETER	SPECIFICATION	UNIT	NOTES
MECHANICAL			
Mechanical Time Constant	1.07 / 1.06	ms	Brake Configuration: without_brake
Rotor Inertia	0.384 kg·cm ² / 0.38 Kg·cm ²		Brake Configuration: without_brake
Bearing Radial Force Capacity	180	N	
Bearing Axial Force Capacity	90	N	
ENVIRONMENTAL			
Altitude 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		

Dimensional & Integration Overview

Mechanical Overview

PARAMETER	VALUE	UNIT
Flange Size	60	mm
Inertia Level	Low inertia	
Holding Brake Available	With holding brake	
Mechanical Time Constant	1.07 / 1.06	ms
Rotor Inertia	0.384 kgcm ² / 0.38 Kg·cm ²	
Bearing Radial Force Capacity	180	N

Dimensional Drawings



2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Key size	Key size 16 × 5
	Geometric tolerance	Geometric tolerance $\varnothing 0.04$ relative to datum A
	Shaft-end thread/tapped hole callout	Visible callout CM5L15
	Front related diameter	Diameter $\Phi 50$ with tolerance +0 / -0.016
	Output shaft diameter	Diameter $\Phi 16$ with tolerance +0 / -0.13
	Pilot/shoulder diameter	Diameter $\Phi 44$ with tolerance +0 / -0.011
	Geometric tolerance value	Geometric tolerance value 0.02
	Shoulder length	Length 3 mm
	Front step length	Length 6 mm
	Shaft extension length	Length 30 ± 1 mm
	Overall length	Overall length 144 ± 1.5 mm
	Overall height direction dimension	Overall height direction dimension 72.5 mm
	Datum A related geometric tolerance	Geometric tolerance 0.04 relative to datum A
	Key feature designation	Key feature indicated
Mechanical View 2	Mounting hole diameter	4 holes, diameter 5.5 mm
	Square size	Square 60 mm
	Angle	45 degrees
	Diameter with tolerance	Diameter 70 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.