

PRODUCT DATASHEET

ES-SM-A03-130G-T8P27NM-1300W-003

AC Servo Motors

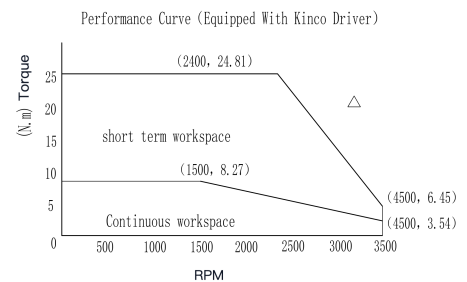
AC Servo Motors | ES-SM-A03-130G Compact 130 mm AC Servo Motor Series

Product Overview

AC Servo Motors with rated Torque 8.27 N·m, instantaneous Maximum Torque 24.81 N·m and rated Speed 1500 rpm.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	8.27	N·m
Instantaneous Maximum Torque	24.81	N·m
Rated Speed	1500	rpm
Continuous Rated Output Power	1300	W
Rated Voltage	220	V AC
Instantaneous Maximum Current	22.8	A
Flange Size	130	mm
Torque Constant	1.197	N·m/A
Altitude and Derating Rule	highest altitude2000m(1000mfor each increase above100m,Power drop1.5%)	



Torque-Speed Curve

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	8.27	Nm
Instantaneous Maximum Torque	24.81	Nm
Rated Speed	1500	rpm
Continuous Rated Output Power	1300	W
Torque Constant	1.197	Nm/A
Rated Power	1300	W
ELECTRICAL		
Rated Voltage	220	V AC
Instantaneous Maximum Current	22.8	A
Back EMF Constant	53.8	V/krpm
Insulation Class	F	

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
ELECTRICAL			
Motor Outlet Mode	Standard socket		
Pole Pairs	5		
Rated Current	7.5	A	
Rotational Back-EMF Constant	53.8	V/krpm	
Electrical Time Constant	4.61	ms	
Position Feedback Device	23-bit multi-turn communication optical absolute encoder		
MECHANICAL			
Flange Size	130	mm	
Inertia Level	High inertia		
Holding Brake Available	Without holding brake		
Mechanical Time Constant	1.97	ms	Brake Configuration: without_brake

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
MECHANICAL			
Rotor Inertia	18.47 / 17.17	Kg·cm ²	Brake Configuration: without_brake
Bearing Radial Force Capacity	686	N	
Bearing Axial Force Capacity	196	N	
ENVIRONMENTAL			
Altitude and Derating Rule	highest altitude 2000m (1000m for each increase above 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	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	false		

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Keyway length	36 mm
	Keyway width	7 mm
	Keyway depth	8 mm
	Mounting flange diameter with tolerance	Ø110 0/-0.035 mm
	Mounting flange face perpendicularity to datum A	⊥ 0.08 A
	Mounting flange boss length with tolerance	25 0/-0.2 mm
	Output shaft diameter with tolerance	Ø22 0/-0.013 mm
	Position tolerance	Position 0.04
	Parallelism tolerance to datum A	∥ 0.08 A
	Shaft extension length	5 mm
	Total shaft length	13.5 mm
	Front section overall length with tolerance	55±1 mm
	Motor overall length with tolerance	154±1.5 mm
	Mounting hole pitch circle diameter	Pitch circle diameter Ø145 ±0.2
Mechanical View 3	Mounting hole quantity and diameter	4 holes, Ø9
	Mounting hole angular position	Mounting hole angular spacing/offset 45° each side as shown
	Square flange outside dimension	Square flange 130 × 130

[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.