PRODUCT DATASHEET

ES-SM-A03-130G-T11P45NM-1800W-001

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 11.45 N·m, instantaneous Maximum Torque 28.625 N·m and rated Speed 1500 rpm.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	11.45	N·m
Instantaneous Maximum Torque	28.625	N·m
Rated Speed	1500	rpm
Continuous Rated Output Power	1800	W
Rated Voltage	220	V AC
Instantaneous Maximum Current	26	A
Flange Size	130	mm
Torque Constant	1.26	N·m/A
Altitude and Derating Rule	highest altitude2000m(1000mfor each increase above100m,Power drop1.5%)	

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	11.45	N·m
Instantaneous Maximum Torque	28.625	N·m
Rated Speed	1500	rpm
Continuous Rated Output Power	1800	W
Torque Constant	1.26	N·m/A
Rated Power	1800	W
ELECTRICAL		
Rated Voltage	220	V AC
Instantaneous Maximum Current	26	A
Back EMF Constant	76.2	V/krpm
Insulation Class	F	
Motor Outlet Mode	Standard socket	
Pole Pairs	5	
Rated Current	10	A
Rotational Back-EMF Constant	76.2	V/krpm
Electrical Time Constant	5.69	ms

Technical Specifications

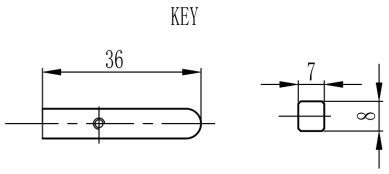
PARAMETER	SPECIFICATION	UNIT	NOTES
ELECTRICAL			
Position Feedback Device	17-bit multi-turn communication magnetic absolute encoder		
MECHANICAL			
Flange Size	130	mm	
Inertia Level	High inertia		
Holding Brake Available	Without holding brake		
Mechanical Time Constant	1.26	ms	Brake Configuration: without_brake
Rotor Inertia	24.15 / 22.85	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 altitude2000m(1000mfor each increase above100m,Power drop1.5%)		
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		

Dimensional & Integration Overview

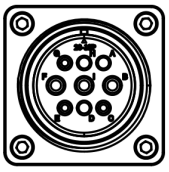
Mechanical Overview

PARAMETER	VALUE	UNIT
Flange Size	130	mm
Inertia Level	High inertia	
Holding Brake Available	Without holding brake	
Mechanical Time Constant	1.26	ms
Rotor Inertia	24.15 / 22.85	Kg•cm2
Bearing Radial Force Capacity	686	N

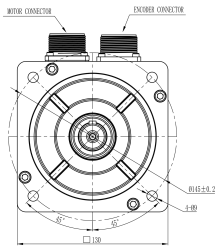
Dimensional Drawings



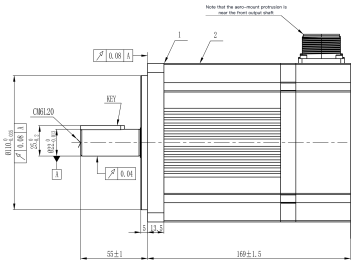
Mechanical View 1



Power Connector Pinout



Mechanical View 3



Mechanical View 4

Feedback Connector Pinout

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Keyway length	36
	Keyway width	7
	Keyway depth	8
Mechanical View 3	Mounting hole pitch circle diameter	Ø145±0.2
	Mounting hole diameter and quantity	4-Φ9
	Mounting hole angular position	45°
	Square flange overall width	130

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 4	Mounting face diameter with tolerance	Ø110 -0.035/0
	Cylindricity tolerance for mounting face	0.08 relative to datum A
	Shaft outer diameter with tolerance	Ø25 0/-0.2
	Shaft fit section diameter with tolerance	Ø22 -0.043/-0.2
	Keyway identifier	Keyway present
	Position tolerance	Position 0.08 relative to datum A
		Position 0.04 relative to datum A
	Shaft extension length (short section)	5
	Shaft extension length (long section)	13.5
	Distance from shaft end to mounting face	55±1
	Overall length	169±1.5
	Datum A	

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.