

PRODUCT DATASHEET

ES-SM-A01-130D-T7P16NM-1500W-013

AC Servo Motors

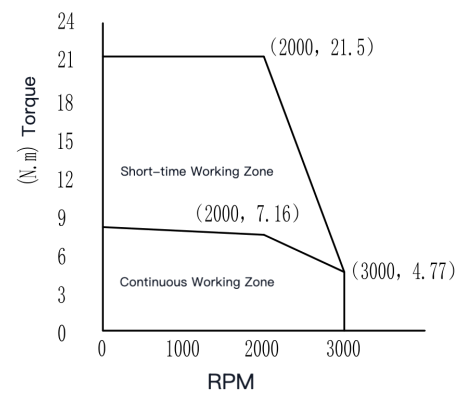
AC Servo Motors | ES-SM-A01-130D Standard 130 mm AC Servo Motor Series

Product Overview

AC Servo Motors with rated Torque 7.16 N·m, instantaneous Maximum Torque 21.5 N·m and rated Speed 2000 rpm.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	7.16	N·m
Instantaneous Maximum Torque	21.5	N·m
Rated Speed	2000	rpm
Continuous Rated Output Power	1500	W
Instantaneous Maximum Current	12.5 ref.)	A
Flange Size	130	mm
Torque Constant	2	N·m/A
Rated Voltage	560	V AC
Rated Line Voltage	560	V



Torque-Speed Curve

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	7.16	Nm
Instantaneous Maximum Torque	21.5	Nm
Rated Speed	2000	rpm
Continuous Rated Output Power	1500	W
Torque Constant	2	Nm/A
Bearing Axial Force	392	N
Bearing Radial Force	980	N
Rated Power	1500	W
ELECTRICAL		
Rated Voltage	560	V AC
Rated Line Voltage	560	V
Instantaneous Maximum Current	12.5 ref.)	A
Back EMF Constant	121.3 ref.)	V/krpm
Insulation Class	F	
Motor Outlet Mode	HFO21 + HFO18 aviation connectors	
Pole Pairs	5	

Technical Specifications

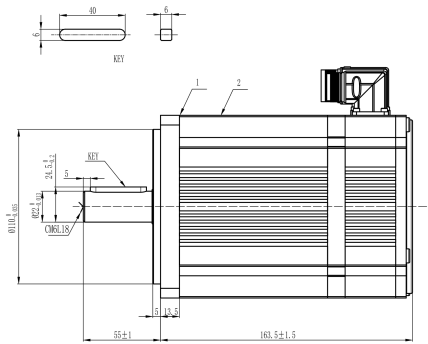
PARAMETER	SPECIFICATION	UNIT	NOTES
ELECTRICAL			
Rated Current	3.85 ref.)	A	
Maximum Allowed Voltage Slew Rate	10	KV/ μ s	
Rotational Back-EMF Constant	121.3 ref.)	V/krpm	
Electrical Time Constant	9.13	ms	
Position Feedback Device	23-bit multi-turn communication optical absolute encoder		
MECHANICAL			
Flange Size	130	mm	
Inertia Level	Medium inertia		
Holding Brake Available	Without holding brake		
Mechanical Time Constant	1.7	ms	Brake Configuration: without_brake
Rotor Inertia	15.95 kgcm ² / 15.95 Kg·cm ²		Brake Configuration: without_brake
Bearing Radial Force Capacity	980	N	
Bearing Axial Force Capacity	392	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		

Dimensional & Integration Overview

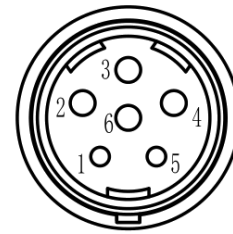
Mechanical Overview

PARAMETER	VALUE	UNIT
Flange Size	130	mm
Inertia Level	Medium inertia	
Holding Brake Available	Without holding brake	
Mechanical Time Constant	1.7	ms
Rotor Inertia	15.95 kgcm ² / 15.95 Kg·cm ²	
Bearing Radial Force Capacity	980	N

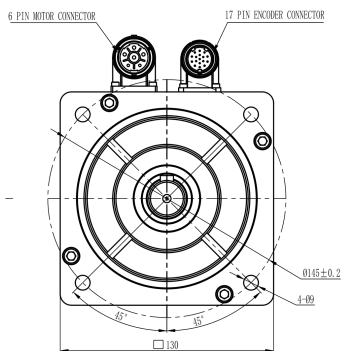
Dimensional Drawings



Mechanical View 1



Power Connector Pinout



Mechanical View 3



Feedback Connector Pinout



2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Key length	40
	Key width	6
	Key depth	
	Key designation	KEY
	Callout 1	1
	Callout 2	2
	Shaft diameter	Φ24.5 0/-0.2
	Shaft length	5
	Shaft diameter	Φ22 0/-0.013
	Overall diameter	Φ110 0/-0.035
	Mounting dimension	5
		13.5
	Overall length	55±1
		163.5±1.5

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 3	Mounting flange bolt circle diameter	Ø145±0.2 mm
	Mounting hole pattern	4 holes, Ø9 mm
	Mounting hole angular position 1	45°
	Mounting hole angular position 2	
	Mounting flange square dimension	130 mm × 130 mm square

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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.