

PRODUCT DATASHEET

ES-SM-A01-130D-T7P16NM-1500W-006

AC Servo Motors

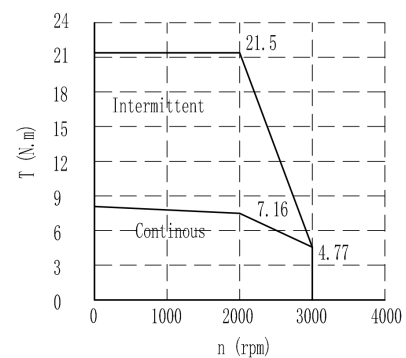
AC Servo Motors | ES-SM-A01-130D Standard 130 mm AC Servo Motor Series

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	25 ref.)	A
Flange Size	130	mm
Torque Constant	1.1	N·m/A
Rated Voltage	320	V AC
Rated Line Voltage	320	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	1.1	Nm/A
Bearing Axial Force	392	N
Bearing Radial Force	980	N
Rated Power	1500	W
ELECTRICAL		
Rated Voltage	320	V AC
Rated Line Voltage	320	V

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
ELECTRICAL		
Instantaneous Maximum Current	25 ref.)	A
Back EMF Constant	66.9 ref.)	V/krpm
Insulation Class	F	
Motor Outlet Mode	HFO21 + HFO18 aviation connectors	
Pole Pairs	5	
Rated Current	7.7 ref.)	A
Maximum Allowed Voltage Slew Rate	8	KV/ μ s
Rotational Back-EMF Constant	66.9 ref.)	V/krpm
Electrical Time Constant	10.95	ms
Position Feedback Device	17-bit multi-turn communication magnetic absolute encoder	

Technical Specifications

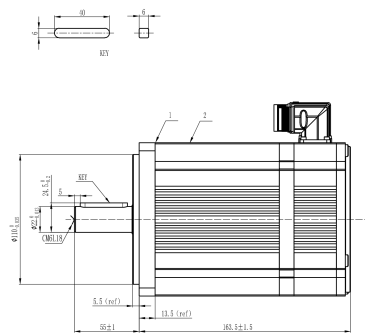
PARAMETER	SPECIFICATION	UNIT	NOTES
MECHANICAL			
Flange Size	130	mm	
Inertia Level	Medium inertia		
Holding Brake Available	Without holding brake		
Mechanical Time Constant	1.42	ms	Brake Configuration: without_brake
Rotor Inertia	15.95 kgcm ² / 15.95 Kg·cm ²		Brake Configuration: without_brake
Bearing 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

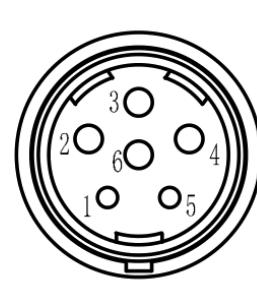
Mechanical Overview

PARAMETER	VALUE	UNIT
Flange Size	130	mm
Inertia Level	Medium inertia	
Holding Brake Available	Without holding brake	
Mechanical Time Constant	1.42	ms
Rotor Inertia	15.95 kgcm ² / 15.95 Kg·cm ²	
Bearing Radial Force Capacity	980	N

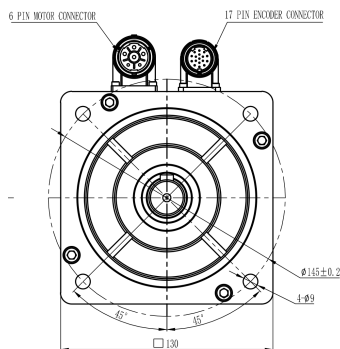
Dimensional Drawings



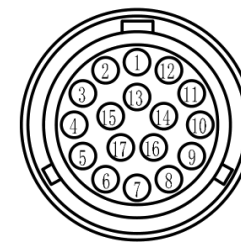
Mechanical View 1



Power Connector Pinout



Mechanical View 3



Feedback Connector Pinout

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Key length	40 mm
	Key width	6 mm
	Key height	
	Keyway position depth	24.5 0/-0.2 mm
	Shaft shoulder height	5 mm
	Shaft diameter	Φ22 0/-0.013 mm
	Mounting flange diameter	Φ110 0/-0.035 mm
	Flange mounting face to centerline	5.5 mm (reference)
	Mounting hole center distance	13.5 mm (reference)
	Motor axial length left section	55±1 mm
	Motor overall axial length	163.5±1.5 mm
Mechanical View 3	Mounting hole bolt circle diameter	φ145±0.2
	Mounting hole quantity and diameter	4-φ9
	Mounting hole angular position 1	45°
	Mounting hole angular position 2	
	Flange square envelope dimension	□130

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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.