

PRODUCT DATASHEET

ES-SM-A01-130D-T14P33NM-1500W-001

AC Servo Motors

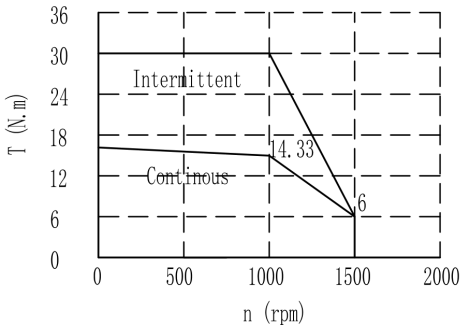
AC Servo Motors | ES-SM-A01-130D Standard 130 mm AC Servo Motor Series

Product Overview

AC Servo Motors with rated Torque 14.33 N·m, instantaneous Maximum Torque 30 N·m and rated Speed 1000 rpm.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	14.33	N·m
Instantaneous Maximum Torque	30	N·m
Rated Speed	1000	rpm
Continuous Rated Output Power	1500	W
Instantaneous Maximum Current	7.6 ref.)	A
Flange Size	130	mm
Torque Constant	5.16	N·m/A
Rated Voltage	560	V AC
Rated Line Voltage	560	V



Torque-Speed Curve

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	14.33	Nm
Instantaneous Maximum Torque	30	Nm
Rated Speed	1000	rpm
Continuous Rated Output Power	1500	W
Torque Constant	5.16	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	7.6 ref.)	A
Back EMF Constant	312 ref.)	V/krpm
Insulation Class	F	
Motor Outlet Mode	HFO21 + HFO18 aviation connectors	
Pole Pairs	5	

Technical Specifications

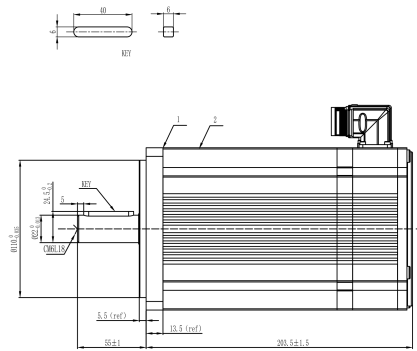
PARAMETER	SPECIFICATION	UNIT	NOTES
ELECTRICAL			
Rated Current	3.8 ref.)	A	
Maximum Allowed Voltage Slew Rate	11	KV/ μ s	
Rotational Back-EMF Constant	312 ref.)	V/krpm	
Electrical Time Constant	13.3	ms	
Position Feedback Device	Single-turn communication magnetic encoder		
MECHANICAL			
Flange Size	130	mm	
Inertia Level	Medium inertia		
Holding Brake Available	Without holding brake		
Mechanical Time Constant	1.09	ms	Brake Configuration: without_brake
Rotor Inertia	27 kgcm ² / 27 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

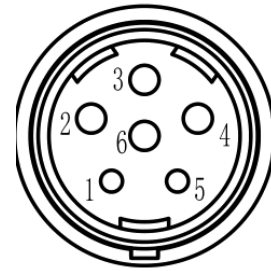
Mechanical Overview

PARAMETER	VALUE	UNIT
Flange Size	130	mm
Inertia Level	Medium inertia	
Holding Brake Available	Without holding brake	
Mechanical Time Constant	1.09	ms
Rotor Inertia	27 kgcm ² / 27 Kg·cm ²	
Bearing Radial Force Capacity	980	N

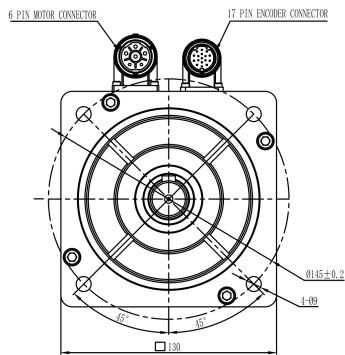
Dimensional Drawings



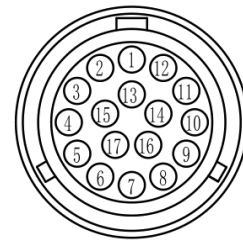
Mechanical View 1



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 label	Key
	Item callout 1	Item 1
	Item callout 2	Item 2
	Shaft-end keyway label	Key
	Shaft shoulder/keyway related distance	24.5 mm +0/-0.2
	Keyway local width or offset	5 mm
	Shaft diameter	Diameter 22 mm +0/-0.013
	Mounting pilot diameter	Diameter 110 mm +0/-0.035
	Shaft-end thread specification	CM6L18
	Reference clearance dimension	5.5 mm reference
	Reference step or offset dimension	13.5 mm reference
	Motor body length	203.5 mm $\pm$ 1.5
	Front shaft extension or mounting section length	55 mm $\pm$ 1

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 3	Mounting hole pitch circle diameter	Pitch circle diameter 145 ±0.2
	Mounting hole quantity and diameter	4 holes, diameter 9
	Mounting hole angular position	45 degrees
	Square flange side length	Square 130 side length

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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.