

PRODUCT DATASHEET

ES-SM-A01-130D-T14P33NM-3000W-005

AC Servo Motors

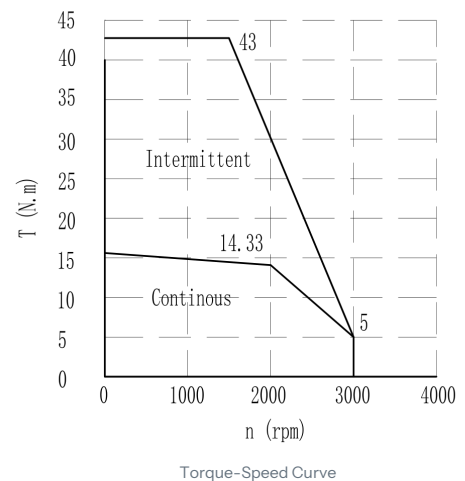
AC Servo Motors | ES-SM-A01-130D Standard 130 mm AC Servo Motor Series

Product Overview

AC Servo Motors with rated Torque 14.33 Nm, instantaneous Maximum Torque 43 Nm and rated Speed 2000 rpm.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	14.33	N·m
Instantaneous Maximum Torque	43	N·m
Rated Speed	2000	rpm
Continuous Rated Output Power	3000	W
Instantaneous Maximum Current	22.7 (ref.)	A
Flange Size	130	mm
Torque Constant	2.56	N·m/A
Rated Voltage	560	V AC
Rated Line Voltage	560	V



Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	14.33	Nm
Instantaneous Maximum Torque	43	Nm
Rated Speed	2000	rpm
Continuous Rated Output Power	3000	W
Torque Constant	2.56	Nm/A
Bearing Axial Force	392	N
Bearing Radial Force	980	N
Rated Power	3000	W
ELECTRICAL		
Rated Voltage	560	V AC
Rated Line Voltage	560	V
Instantaneous Maximum Current	22.7 ref.)	A
Back EMF Constant	154.8 ref.)	V/krpm
Insulation Class	F	
Motor Outlet Mode	HFO21 + HFO18 aviation connectors	
Pole Pairs	5	

Technical Specifications

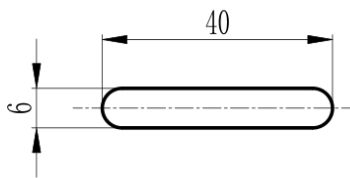
PARAMETER	SPECIFICATION	UNIT	NOTES
ELECTRICAL			
Rated Current	7 ref.)	A	
Maximum Allowed Voltage Slew Rate	13	KV/ μ s	
Rotational Back-EMF Constant	154.8 ref.)	V/krpm	
Electrical Time Constant	13.75	ms	
Position Feedback Device	Single-turn communication optical encoder		
MECHANICAL			
Flange Size	130	mm	
Inertia Level	Medium inertia		
Holding Brake Available	Without holding brake		
Mechanical Time Constant	1.06	ms	Brake Configuration: without_brake
Rotor Inertia	30 kgcm ² / 30 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

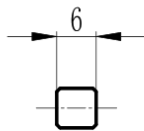
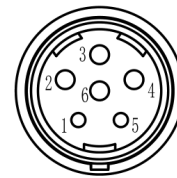
PARAMETER	VALUE	UNIT
Flange Size	130	mm
Inertia Level	Medium inertia	
Holding Brake Available	Without holding brake	
Mechanical Time Constant	1.06	ms
Rotor Inertia	30 kgcm ² / 30 Kg·cm ²	
Bearing Radial Force Capacity	980	N

Dimensional Drawings

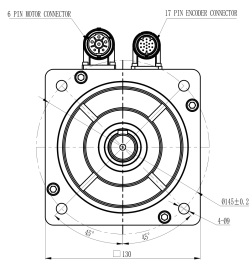


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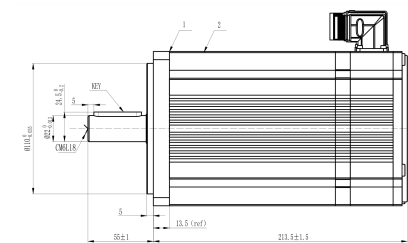
Mechanical View 1



Power Connector Pinout



Mechanical View 3



Mechanical View 4



Feedback Connector Pinout

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Key length	Length 40
	Key width	Width 6
	Key end-view side size	End-view side size 6
	Feature label	KEY feature
Mechanical View 3	Mounting hole pitch circle diameter	Diameter 145 ±0.2
	Mounting hole quantity and diameter	4 holes, diameter 9
	Left mounting hole angular position	45 degrees
	Right mounting hole angular position	
	Square flange outside size	Square 130

2D Drawing Dimensions & Callouts

VIEW	FIELD		VALUE
Mechanical View 4	Item label 1		
	Item label 2		
	Keyway label		KEY
	Keyway axial dimension		24.5 +0/-0.2
	Keyway width		5
	Shaft diameter		Diameter 22 +0/-0.013
	End flange outside diameter		Diameter 110 +0/-0.035
	Shaft end thread specification		CM6L18
	Shaft end shoulder spacing		5
	Reference axial dimension		13.5 reference
	Motor body length		213.5 ±1.5
	Shaft extension length		55 ±1

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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.