

PRODUCT DATASHEET

ES-SM-A01-130D-T9P55NM-1000W-001

AC Servo Motors

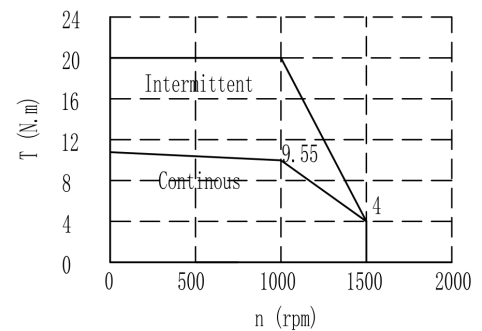
AC Servo Motors | ES-SM-A01-130D Standard 130 mm AC Servo Motor Series

Product Overview

AC Servo Motors with rated Torque 9.55 N·m, instantaneous Maximum Torque 20 N·m and rated Speed 1000 rpm.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	9.55	N·m
Instantaneous Maximum Torque	20	N·m
Rated Speed	1000	rpm
Continuous Rated Output Power	1000	W
Instantaneous Maximum Current	10 ref.)	A
Flange Size	130	mm
Torque Constant	2.38	N·m/A
Rated Voltage	320	V AC
Rated Line Voltage	320	V



Torque-Speed Curve

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	9.55	Nm
Instantaneous Maximum Torque	20	Nm
Rated Speed	1000	rpm
Continuous Rated Output Power	1000	W
Torque Constant	2.38	Nm/A
Bearing Axial Force	450	N
Bearing Radial Force	900	N
Rated Power	1000	W
ELECTRICAL		
Rated Voltage	320	V AC
Rated Line Voltage	320	V
Instantaneous Maximum Current	10 ref.)	A
Back EMF Constant	144 ref.)	V/krpm
Insulation Class	F	
Motor Outlet Mode	HFO21 + HFO18 aviation connectors	
Pole Pairs	5	

Technical Specifications

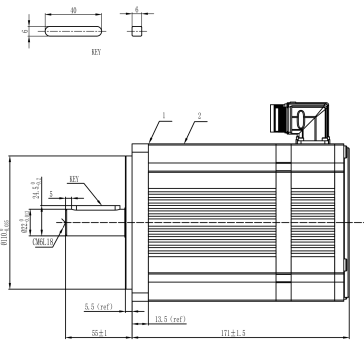
PARAMETER	SPECIFICATION	UNIT	NOTES
ELECTRICAL			
Rated Current	4.6 ref.)	A	
Maximum Allowed Voltage Slew Rate	8	KV/ μ s	
Rotational Back-EMF Constant	144 ref.)	V/krpm	
Electrical Time Constant	12.3	ms	
Position Feedback Device	Single-turn communication magnetic encoder		
MECHANICAL			
Flange Size	130	mm	
Inertia Level	Medium inertia		
Holding Brake Available	Without holding brake		
Mechanical Time Constant	1.24	ms	Brake Configuration: without_brake
Rotor Inertia	17.82 kgcm ² / 17.82 Kg·cm ²		Brake Configuration: without_brake
Bearing Radial Force Capacity	900	N	
Bearing Axial Force Capacity	450	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

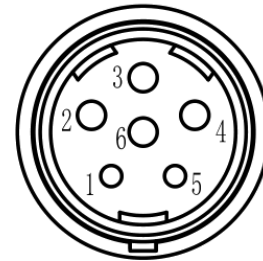
Mechanical Overview

PARAMETER	VALUE	UNIT
Flange Size	130	mm
Inertia Level	Medium inertia	
Holding Brake Available	Without holding brake	
Mechanical Time Constant	1.24	ms
Rotor Inertia	17.82 kgcm ² / 17.82 Kg·cm ²	
Bearing Radial Force Capacity	900	N

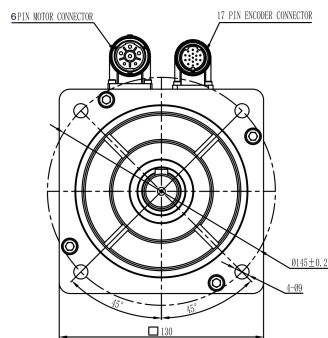
Dimensional Drawings



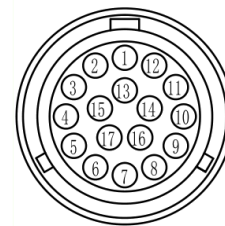
Mechanical View 1



Power Connector Pinout



Mechanical View 3



Feedback Connector Pinout

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Key length	Key length 40 mm
	Key width	Key width 6 mm
	Key thickness	Key thickness 6 mm
	Key label	Key feature identified
	Part callout 1	Item callout 1
	Part callout 2	Item callout 2
	Shaft keyway label	Shaft keyway feature identified
	Shaft shoulder dimension	24.5 mm, upper deviation 0, lower deviation -0.2
	Shaft keyway width	Keyway width 5 mm
	Shaft diameter	Diameter 22 mm, upper deviation 0, lower deviation -0.013
	Mounting pilot diameter	Diameter 110 mm, upper deviation 0, lower deviation -0.035
	Shaft end thread specification	CM6L18 thread callout
	Reference clearance dimension	5.5 mm reference
	Reference axial dimension	13.5 mm reference
	Motor body axial length	171 mm $\pm$ 1.5
	Shaft extension length	55 mm $\pm$ 1

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 3	Mounting hole pitch circle diameter	Diameter 145 $\pm$ 0.2
	Mounting hole quantity and diameter	4 holes, diameter 9
	Mounting hole angular position	Mounting holes located at 45 degrees from centerline on both sides
	Square flange outside dimension	Square 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.