

PRODUCT DATASHEET

ES-SM-A01-130D-T9P55NM-2000W-008

AC Servo Motors

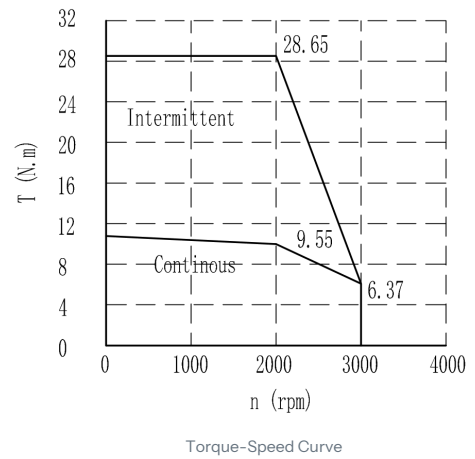
AC Servo Motors | ES-SM-A01-130D Standard 130 mm AC Servo Motor Series

Product Overview

AC Servo Motors with rated Torque 9.55 N·m, instantaneous Maximum Torque 28.65 N·m and rated Speed 2000 rpm.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	9.55	N·m
Instantaneous Maximum Torque	28.65	N·m
Rated Speed	2000	rpm
Continuous Rated Output Power	2000	W
Instantaneous Maximum Current	30 ref.)	A
Flange Size	130	mm
Torque Constant	1.16	N·m/A
Rated Voltage	320	V AC
Rated Line Voltage	320	V



Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	9.55	Nm
Instantaneous Maximum Torque	28.65	Nm
Rated Speed	2000	rpm
Continuous Rated Output Power	2000	W
Torque Constant	1.16	Nm/A
Bearing Axial Force	392	N
Bearing Radial Force	980	N
Rated Power	2000	W
ELECTRICAL		
Rated Voltage	320	V AC
Rated Line Voltage	320	V
Instantaneous Maximum Current	30 ref.)	A
Back EMF Constant	70.35 ref.)	V/krpm
Insulation Class	F	
Motor Outlet Mode	HFO21 + HFO18 aviation connectors	
Pole Pairs	5	

Technical Specifications

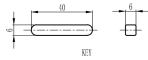
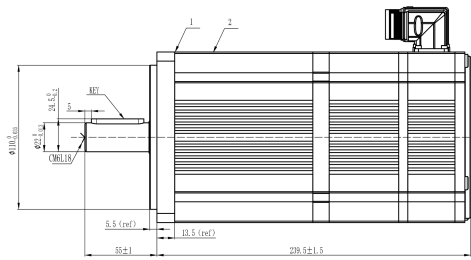
PARAMETER	SPECIFICATION	UNIT	NOTES
ELECTRICAL			
Rated Current	9.5 ref.)	A	
Maximum Allowed Voltage Slew Rate	9	KV/ μ s	
Rotational Back-EMF Constant	70.35 ref.)	V/krpm	
Electrical Time Constant	12.08	ms	
Position Feedback Device	17-bit multi-turn communication magnetic absolute encoder		
MECHANICAL			
Flange Size	130	mm	
Inertia Level	Medium inertia		
Holding Brake Available	With holding brake		
Mechanical Time Constant	1.3 / 1.24	ms	Brake Configuration: without_brake
Rotor Inertia	21.25 kg $\cdot$ cm ² / 20.25 Kg $\cdot$ 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	$\leq$ 90% RH, non-condensing		

Dimensional & Integration Overview

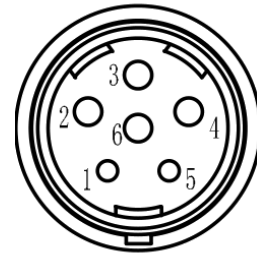
Mechanical Overview

PARAMETER	VALUE	UNIT
Flange Size	130	mm
Inertia Level	Medium inertia	
Holding Brake Available	With holding brake	
Mechanical Time Constant	1.3 / 1.24	ms
Rotor Inertia	21.25 kg·cm ² / 20.25 Kg·cm ²	
Bearing Radial Force Capacity	980	N

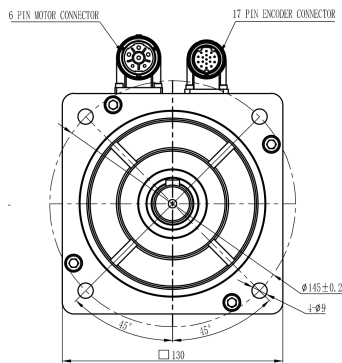
Dimensional Drawings



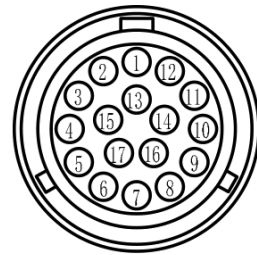
Mechanical View 1



Power Connector Pinout



Mechanical View 3



Feedback Connector Pinout

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Key length	Key length 40 mm
	Key width	Key width 6 mm
	Key height	Key height 6 mm
	Key feature label	
	Item callout 1	
	Item callout 2	
	Shaft key feature label	
	Shaft shoulder axial distance	24.5 mm with +0/-0.2 tolerance
	Shaft keyway axial dimension	Keyway axial dimension 5 mm
	Shaft diameter	Shaft diameter $\Phi 22$ mm with +0/-0.013 tolerance
	Mounting pilot diameter	Mounting pilot diameter $\Phi 110$ mm with +0/-0.035 tolerance
	Reference axial clearance	Reference dimension 5.5 mm
	Reference axial distance	Reference dimension 13.5 mm
	Front shaft-side axial length	55 mm ± 1
	Motor body overall length	239.5 mm ± 1.5

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
	Lower-left mounting hole angular position	45 degrees
	Lower-right mounting hole angular position	
	Square mounting flange side length	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.