

PRODUCT DATASHEET

ES-SM-A01-130D-T7P16NM-1500W-015

AC Servo Motors

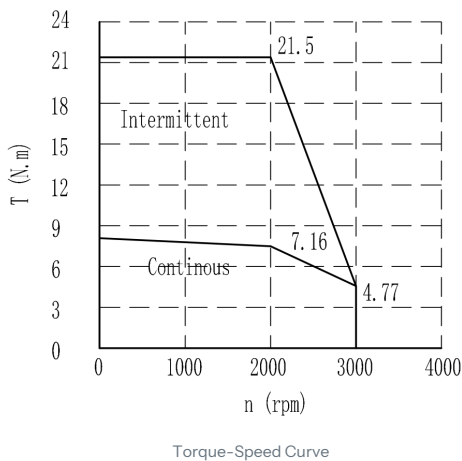
AC Servo Motors | ES-SM-A01-130D Standard 130 mm AC Servo Motor Series

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	12.5 ref.)	A
Flange Size	130	mm
Torque Constant	2	N·m/A
Rated Voltage	560	V AC
Rated Line Voltage	560	V



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	2	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

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
ELECTRICAL		
Instantaneous Maximum Current	12.5 ref.)	A
Back EMF Constant	121.3 ref.)	V/krpm
Insulation Class	F	
Motor Outlet Mode	HFO21 + HFO18 aviation connectors	
Pole Pairs	5	
Rated Current	3.85 ref.)	A
Maximum Allowed Voltage Slew Rate	10	KV/ μ s
Rotational Back-EMF Constant	121.3 ref.)	V/krpm
Electrical Time Constant	9.13	ms
Position Feedback Device	23-bit multi-turn communication optical absolute encoder	

Technical Specifications

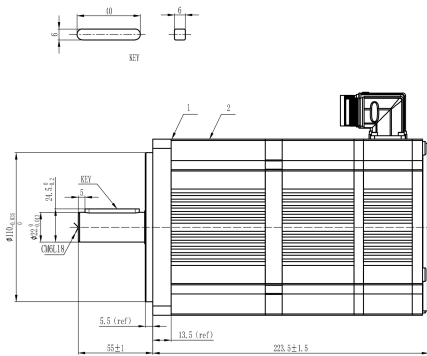
PARAMETER	SPECIFICATION	UNIT	NOTES
MECHANICAL			
Flange Size	130	mm	
Inertia Level	Medium inertia		
Holding Brake Available	With holding brake		
Mechanical Time Constant	1.81 / 1.7	ms	Brake Configuration: without_brake
Rotor Inertia	16.95 kgcm ² / 15.95 Kg·cm ²		Brake Configuration: without_brake
Bearing 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

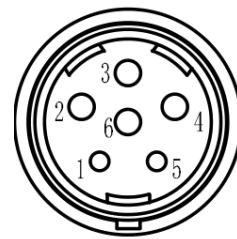
Mechanical Overview

PARAMETER	VALUE	UNIT
Flange Size	130	mm
Inertia Level	Medium inertia	
Holding Brake Available	With holding brake	
Mechanical Time Constant	1.81 / 1.7	ms
Rotor Inertia	16.95 kgcm ² / 15.95 Kg·cm ²	
Bearing Radial Force Capacity	980	N

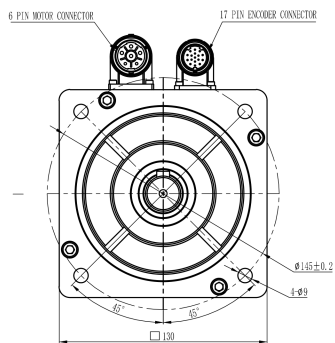
Dimensional Drawings



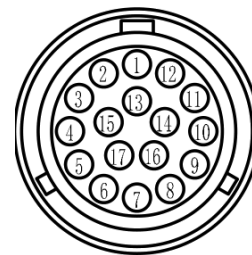
Mechanical View 1



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	
	Key depth	5 mm
	Shaft outer diameter with tolerance	$\Phi 22.0 / -0.013$ mm
	Mounting flange diameter with tolerance	$\Phi 110.0 / -0.035$ mm
	Shaft extension length with tolerance	24.5 0/-0.2 mm
	Shaft end to motor front surface distance	5.5 mm (reference)
	Shaft end to motor rear surface distance	13.5 mm (reference)
	Front section length	55±1 mm
	Overall length	223.5±1.5 mm
	Component label	Part 1
		Part 2
Mechanical View 3	Mounting Hole Pitch Circle Diameter	$\varnothing 145 \pm 0.2$
	Mounting Holes	4× $\varnothing 9$
	Mounting Hole Angular Position 1	45°
	Mounting Hole Angular Position 2	
	Motor Flange Square Dimension	130×130 square

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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.