PRODUCT DATASHEET

ES-SM-A01-130D-T9P55NM-2000W-001

AC Servo Motors

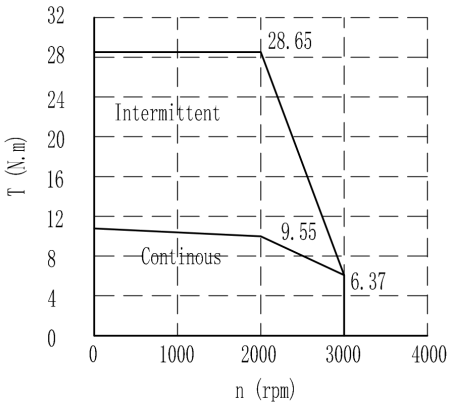
AC Servo Motors | ES-SM-A01-130D Standard 130 mm AC Servo Motor Series

Product Overview

AC Servo Motors with rated Torque 9.55 N·m, instantaneous Maximum Torque 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	15 ref.)	A
Flange Size	130	mm
Torque Constant	2.1	N·m/A
Rated Voltage	560	V AC
Rated Line Voltage	560	V



Torque-Speed Curve

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	9.55	N·m
Instantaneous Maximum Torque	28.65	N·m
Rated Speed	2000	rpm
Continuous Rated Output Power	2000	W
Torque Constant	2.1	N·m/A
Bearing Axial Force	392	N
Bearing Radial Force	980	N
Rated Power	2000	W
ELECTRICAL		
Rated Voltage	560	V AC
Rated Line Voltage	560	V

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
ELECTRICAL		
Instantaneous Maximum Current	15 ref.)	A
Back EMF Constant	126.5 ref.)	V/krpm
Insulation Class	F	
Motor Outlet Mode	HFO21 + HFO18 aviation connectors	
Pole Pairs	5	
Rated Current	4.75 ref.)	A
Maximum Allowed Voltage Slew Rate	12	KV/μs
Rotational Back-EMF Constant	126.5 ref.)	V/krpm
Electrical Time Constant	9.69	ms
Position Feedback Device	Single-turn communication magnetic encoder	

Technical Specifications

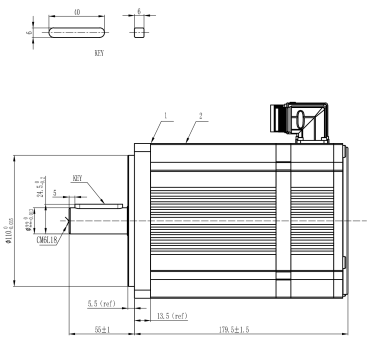
PARAMETER	SPECIFICATION	UNIT	NOTES
MECHANICAL			
Flange Size	130	mm	
Inertia Level	Medium inertia		
Holding Brake Available	Without holding brake		
Mechanical Time Constant	1.53	ms	Brake Configuration: without_brake
Rotor Inertia	20.25 kg·cm² / 20.25 Kg·cm2		Brake Configuration: without_brake
Bearing 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

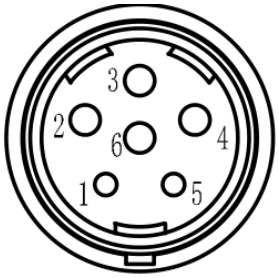
Mechanical Overview

PARAMETER	VALUE	UNIT
Flange Size	130	mm
Inertia Level	Medium inertia	
Holding Brake Available	Without holding brake	
Mechanical Time Constant	1.53	ms
Rotor Inertia	20.25 kg·cm² / 20.25 Kg·cm2	
Bearing Radial Force Capacity	980	N

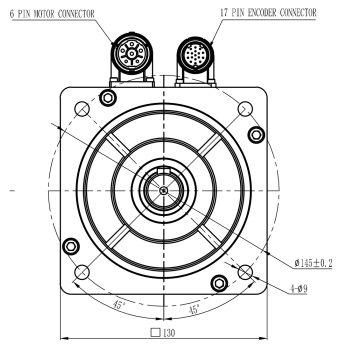
Dimensional Drawings



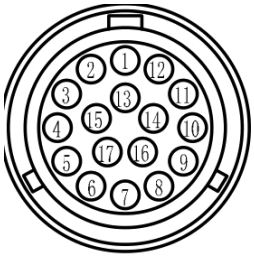
Mechanical View 1



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 depth	5 mm
	Shaft end outer diameter	φ22 0/-0.013 mm
	Shaft end length	24.5 0/-0.2 mm
	Flange diameter	φ110 0/-0.035 mm
	Motor front section length	55±1 mm
	Motor overall length	179.5±1.5 mm
	Front section reference dimension	5.5 mm (reference)
	Middle section reference dimension	13.5 mm (reference)
Mechanical View 3	Mounting hole bolt circle diameter	φ145±0.2
	Number and diameter of mounting holes	4-φ9
	Mounting hole angular position 1	45°
	Mounting hole angular position 2	
	Square envelope side length	□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.