PRODUCT DATASHEET

ES-SM-A02-130D-T10NM-2100W-001

AC Servo Motors

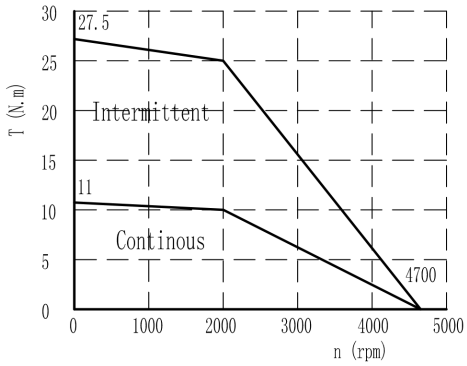
AC Servo Motors | ES-SM-A02-130D High-Response 130 mm AC Servo Motor Series

Product Overview

AC Servo Motors with rated Torque 10 N·m, instantaneous Maximum Torque 25 N·m and rated Speed 2000 rpm.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	10	N·m
Instantaneous Maximum Torque	25	N·m
Rated Speed	2000	rpm
Continuous Rated Output Power	2100	W
Instantaneous Maximum Current	19	A
Flange Size	130	mm
Torque Constant	1.32	N·m/A
Rated Voltage	380	V AC
Rated Line Voltage	380	V



Torque-Speed Curve

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	10	N·m
Instantaneous Maximum Torque	25	N·m
Rated Speed	2000	rpm
Continuous Rated Output Power	2100	W
Torque Constant	1.32	N·m/A
Rated Power	2100	W
ELECTRICAL		
Rated Voltage	380	V AC
Rated Line Voltage	380	V
Instantaneous Maximum Current	19	A
Back EMF Constant	80	V/krpm

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
ELECTRICAL		
Position Feedback Device	2500 PPR incremental encoder	
Insulation Class	F	
Maximum Allowed Voltage Slew Rate	8	KV/μs
Motor Outlet Mode	YL-series aviation connector	
Pole Pairs	4	
Rated Current	7.6	A
Rotational Back-EMF Constant	80	V/krpm
Electrical Time Constant	14.38	ms
MECHANICAL		
Flange Size	130	mm
Inertia Level	Medium inertia	

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
MECHANICAL			
Holding Brake Available	Without holding brake		
Mechanical Time Constant	1.86	ms	
Rotor Inertia	23.4 kg·cm² / 23.4 Kg·cm2		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		
Operating Temperature	-20 to 40°C (no freezing)		
Protection Rating	IP65, shaft end IP54		

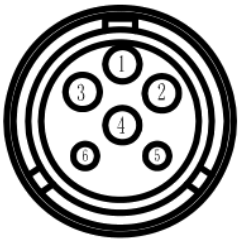
Dimensional & Integration Overview

Mechanical Overview

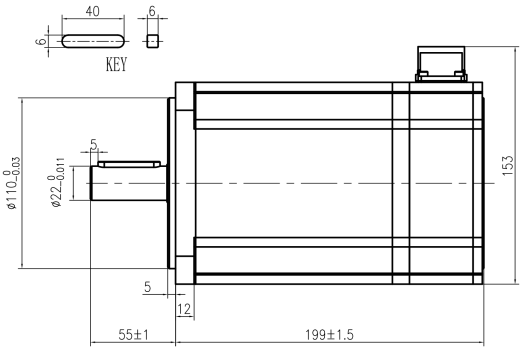
PARAMETER	VALUE	UNIT
Flange Size	130	mm
Inertia Level	Medium inertia	
Holding Brake Available	Without holding brake	
Mechanical Time Constant	1.86	ms
Rotor Inertia	23.4 kg·cm² / 23.4 Kg•cm2	
Bearing Radial Force Capacity	900	N

Dimensional Drawings

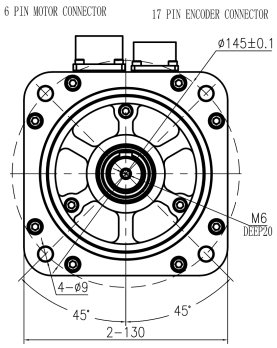
Mechanical View 1



Mechanical View 2



Mechanical View 3



Mechanical View 4

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 3	Key length	40 mm
	Key width	6 mm
	Key cross-section width	
	Key feature label	Key feature
	Shaft-end keyway height or step dimension	5 mm
	Mounting flange pilot diameter	Diameter 110 mm, +0/-0.03 mm
	Shaft diameter	Diameter 22 mm, +0/-0.011 mm
	Overall body height	153 mm
	Flange face step thickness	5 mm
	Front flange thickness	12 mm
	Shaft extension length	55 mm ±1 mm
	Motor body length	199 mm ±1.5 mm
Mechanical View 4	Mounting pitch circle diameter	Diameter 145 ±0.1
	Threaded hole size and depth	M6 thread, depth 20
	Mounting through-hole quantity and diameter	4 holes, diameter 9
	Mounting hole angular orientation	Two 45 degree angular offsets
	Mounting hole center spacing	Two center spacings of 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.