

PRODUCT DATASHEET

ES-SM-A02-180D-T48NM-7500W-001

AC Servo Motors

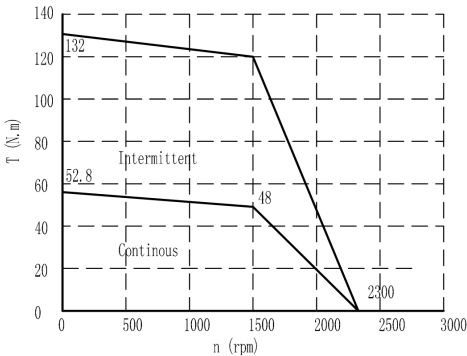
AC Servo Motors | ES-SM-A02-180D High-Response 180 mm AC Servo Motor Series

Product Overview

AC Servo Motors with rated Torque 48 N·m, instantaneous Maximum Torque 120 N·m and rated Speed 1500 rpm.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	48	N·m
Instantaneous Maximum Torque	120	N·m
Rated Speed	1500	rpm
Continuous Rated Output Power	7500	W
Instantaneous Maximum Current	47.9	A
Flange Size	180	mm
Torque Constant	2.63	N·m/A
Rated Voltage	380	V AC
Rated Line Voltage	380	V



Torque-Speed Curve

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	48	Nm
Instantaneous Maximum Torque	120	Nm
Rated Speed	1500	rpm
Continuous Rated Output Power	7500	W
Torque Constant	2.63	Nm/A
Rated Power	7500	W
ELECTRICAL		
Rated Voltage	380	V AC
Rated Line Voltage	380	V
Instantaneous Maximum Current	47.9	A
Back EMF Constant	159	V/krpm
Insulation Class	F	
Maximum Allowed Voltage Slew Rate	8	KV/ μ s
Motor Outlet Mode	YL-series aviation connector	
Pole Pairs	4	
Rated Current	19.2	A

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
ELECTRICAL			
Rotational Back-EMF Constant	159	V/krpm	
Electrical Time Constant	15.5	ms	
Position Feedback Device	S-MT37 rotary transformer		
MECHANICAL			
Flange Size	180	mm	
Inertia Level	Medium inertia		
Holding Brake Available	Without holding brake		
Mechanical Time Constant	1.81	ms	
Rotor Inertia	190 kg·cm ² / 190 Kg·cm ²		Brake Configuration: without_brake
Bearing Radial Force Capacity	1600	N	
Bearing Axial Force Capacity	800	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		

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Mounting flange diameter	$\phi 200 \pm 0.15$
	Shaft extension length	12
	Motor body length	65
	Keyway to shaft end distance	8
	Keyway length	6
	Secondary section length	65
	Shaft mounting section outer diameter	$\phi 114.3 \text{ } 0/-0.035$
	Output shaft diameter	$\phi 42 \text{ } 0/-0.016$
	Maximum overall length	204 max
	Flange mounting width 1	79 ± 0.1
	Mounting thread specification	M8
	Mounting hole depth	25 deep
	Number of keyways/features	4
	Mounting hole specification and quantity	4- $\phi 13$
	Connector mounting section length	17
	Mounting hole angular position 1	45°
	Mounting hole angular position 2	
	Flange mounting width 2	84.5 ± 1

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Overall length	374±1.5
	Bolt circle diameter	2-180

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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.