

PRODUCT DATASHEET

ES-SM-A03-180G-T35NM-5500W-004

AC Servo Motors

AC Servo Motors | ES-SM-A03-180G Compact 180 mm AC Servo Motor Series

Product Overview

AC Servo Motors with rated Torque 35 N·m, instantaneous Maximum Torque 87.5 N·m and rated Speed 1500 rpm.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	35	N·m
Instantaneous Maximum Torque	87.5	N·m
Rated Speed	1500	rpm
Continuous Rated Output Power	5500	W
Rated Voltage	380	V AC
Instantaneous Maximum Current	50.75	A
Flange Size	180	mm
Torque Constant	1.9	Nm/A
Altitude and Derating Rule	highest altitude2000m,1000mabove,every rise100m,Power drop1.5%	

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	35	Nm
Instantaneous Maximum Torque	87.5	Nm
Rated Speed	1500	rpm
Continuous Rated Output Power	5500	W
Torque Constant	1.9	Nm/A
Rated Power	5500	W
ELECTRICAL		
Rated Voltage	380	V AC
Instantaneous Maximum Current	50.75	A
Back EMF Constant	115	V/krpm
Insulation Class	F	
Motor Outlet Mode	Standard socket	
Pole Pairs	5	
Rated Current	20.3	A
Rotational Back-EMF Constant	115	V/krpm
Electrical Time Constant	15.5	ms

Technical Specifications

PARAMETER	SPECIFICATION	UNIT	NOTES
ELECTRICAL			
Position Feedback Device	23-bit multi-turn communication optical absolute encoder		
MECHANICAL			
Flange Size	180	mm	
Inertia Level	High inertia		
Holding Brake Available	With holding brake		
Mechanical Time Constant	0.92 / 0.86	ms	Brake Configuration: without_brake
Rotor Inertia	104.43 / 98	Kg-cm ²	Brake Configuration: without_brake
Bearing Radial Force Capacity	1470	N	
Bearing Axial Force Capacity	490	N	
ENVIRONMENTAL			
Altitude and Derating Rule	highest altitude 2000m, 1000m above, every rise 100m, Power drop 1.5%		
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 (Note: with shaft-end oil seal IP54, without oil seal IP50)		
CONFIGURATION			
Output Shaft Type	Keyed shaft		
ADDITIONAL SPECIFICATIONS			
Holding Brake	1		

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Mounting hole diameter	Ø13.5 mm
	Mounting hole angular position	45°
	Mounting hole bolt circle diameter	Ø200 mm
	Overall width / Square flange side length	180 mm
Mechanical View 3	Perpendicularity	Perpendicularity 0.06 relative to datum A
	Key specification	Keyway M16L32
	Datum A	Datum A (mounting flange face)
	Maximum envelope length	204 mm maximum
	Mounting flange outer diameter	Ø114.3 +3.0/-0.035
	Circular runout	Circular runout Ø0.06
	Chamfer angle	45° +0/-0.31
	Shaft diameter	Ø42 0/-0.016
	Datum A	Datum A (shaft axis reference)
	Angularity	Angularity 0.03
	Local dimension	3.2 mm
		19 mm
	Overall length segment 1	113±1 mm
	Overall length segment 2	275±1 mm

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 4	Keyway identifier	KEY
	Shaft length	97 mm
	Shaft diameter	Φ8 mm
	Feature depth or offset	12 mm
	Mounting through hole specification	M3 through hole

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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.