

PRODUCT DATASHEET

ES-SM-A03-180G-T22P3NM-3500W-001

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 22.3 N·m, instantaneous Maximum Torque 66.9 N·m and rated Speed 1500 rpm.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	22.3	N·m
Instantaneous Maximum Torque	66.9	N·m
Rated Speed	1500	rpm
Continuous Rated Output Power	3500	W
Rated Voltage	380	VAC
Continuous Rated Current	12.9	A
Instantaneous Maximum Current	38.7	A
Flange Size	180	mm
Torque Constant	1.9	N·m/A

Technical Specifications

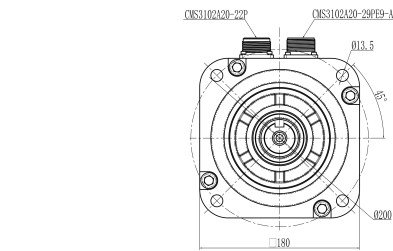
PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	22.3	N·m
Instantaneous Maximum Torque	66.9	N·m
Rated Speed	1500	rpm
Continuous Rated Output Power	3500	W
Torque Constant	1.9	N·m/A
ELECTRICAL		
Rated Voltage	380	VAC
Continuous Rated Current	12.9	A
Instantaneous Maximum Current	38.7	A
Pole Pairs	5	
Rotational Back-EMF Constant	115	V/krpm
Electrical Time Constant	13.8	ms
Insulation Class	F	
Position Feedback Device	17-bit multi-turn communication magnetic absolute encoder	
Motor Outlet Mode	Standard socket	
MECHANICAL		
Flange Size	180	mm
Mechanical Time Constant	1.01	ms
Bearing Radial Force Capacity	1470	N
Bearing Axial Force Capacity	490	N
CONFIGURATION		
Output Shaft Type	Keyed shaft	

Dimensional & Integration Overview

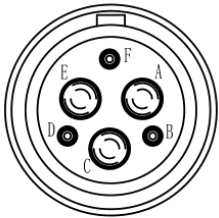
Mechanical Overview

PARAMETER	VALUE	UNIT
Flange Size	180	mm
Mechanical Time Constant	1.01	ms
Bearing Radial Force Capacity	1470	N
Bearing Axial Force Capacity	490	N

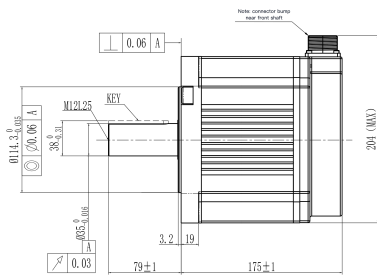
Dimensional Drawings



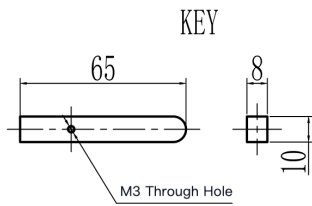
Mechanical View 1



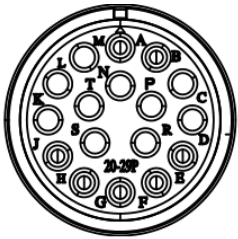
Power Connector Pinout



Mechanical View 3



Mechanical View 4



Feedback Connector Pinout

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Mounting hole diameter	Ø13.5
	Angle	45°
	Mounting flange circle diameter	Ø200
	Square housing side length	180

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 3	Installation note	Connector bump positioned near front shaft
	Perpendicularity tolerance	Perpendicularity 0.06 relative to datum A
	Key slot identifier	Key slot present
	Mounting bolt specification	M12 bolt, length 25mm
	Mounting flange diameter	Ø114.3 -0.035
	Radial runout tolerance	Radial runout 0.06 relative to datum A
	Mounting dimension	38 -0.31
	Maximum overall length	204 max
	Output shaft diameter	Ø35 0/-0.016
	Datum A	
	Key slot width	3.2
	Key slot length	19
	Angularity tolerance	Angularity 0.03
	Axial dimension 1	79±1
	Axial dimension 2	175±1

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 4	Keyway length	65 mm
	Keyway width	8 mm
	Keyway depth	10 mm
	M3 through hole location	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.