

PRODUCT DATASHEET

ES-SM-A02-110D-T4NM-1260W-002

AC Servo Motors

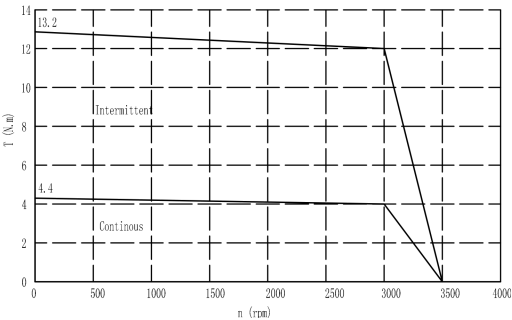
AC Servo Motors | ES-SM-A02-110D High-Response 110 mm AC Servo Motor Series

Product Overview

AC Servo Motors with rated Torque 4 N·m, instantaneous Maximum Torque 12 N·m and rated Speed 3000 rpm.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	4	N·m
Instantaneous Maximum Torque	12	N·m
Rated Speed	3000	rpm
Continuous Rated Output Power	1260	W
Instantaneous Maximum Current	12.9	A
Flange Size	110	mm
Torque Constant	1.05	N·m/A
Rated Voltage	380	V AC
Rated Line Voltage	380	V



Torque-Speed Curve

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	4	Nm
Instantaneous Maximum Torque	12	Nm
Rated Speed	3000	rpm
Continuous Rated Output Power	1260	W
Torque Constant	1.05	Nm/A
Rated Power	1260	W
ELECTRICAL		
Rated Voltage	380	V AC
Rated Line Voltage	380	V
Instantaneous Maximum Current	12.9	A
Back EMF Constant	64	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/ μ s
Motor Outlet Mode	YL-series aviation connector	
Pole Pairs	4	
Rated Current	4.3	A
Rotational Back-EMF Constant	64	V/krpm
Electrical Time Constant	11.3	ms
MECHANICAL		
Flange Size	110	mm
Inertia Level	Medium inertia	

Technical Specifications

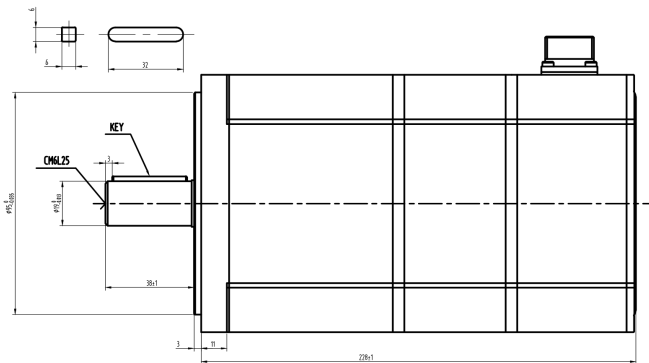
PARAMETER	SPECIFICATION	UNIT	NOTES
MECHANICAL			
Holding Brake Available	With holding brake		
Mechanical Time Constant	1.12	ms	
Rotor Inertia	5.85 kg·cm ² / 5.8 Kg·cm ²		Brake Configuration: without_brake
Bearing Radial Force Capacity	630	N	
Bearing Axial Force Capacity	315	N	
ENVIRONMENTAL			
Altitude 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

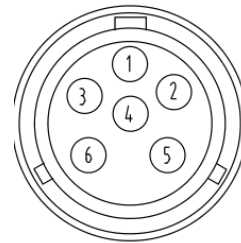
Mechanical Overview

PARAMETER	VALUE	UNIT
Flange Size	110	mm
Inertia Level	Medium inertia	
Holding Brake Available	With holding brake	
Mechanical Time Constant	1.12	ms
Rotor Inertia	5.85 kg·cm ² / 5.8 Kg·cm ²	
Bearing Radial Force Capacity	630	N

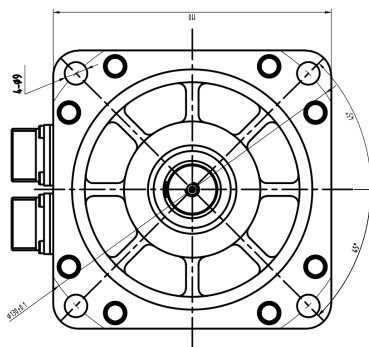
Dimensional Drawings



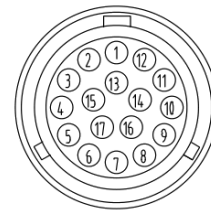
Mechanical View 1



Power Connector Pinout



Mechanical View 3



Feedback Connector Pinout

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Shaft diameter	$\Phi 19\ 0/-0.013$
	Shaft length	38 ± 1
	Keyway designation	KEY
	Keyway width	6
	Keyway length	32
	Key specification	CM6L25
	Flange outer diameter	$\Phi 95\ 0/-0.035$
	Total length	228 ± 1
	Base mounting dimension	11
	Edge to mounting face distance	3
	Upper dimension	6
Mechanical View 3	Mounting hole bolt circle diameter	110 mm
	Mounting hole specification	4 holes $\times \Phi 9$ mm
	Flange outer diameter with tolerance	$\Phi 130\pm 0.1$ mm
	Mounting hole angular position (upper)	45°
	Mounting hole angular position (lower)	

[View Product Online](#) [Request Engineering Data](#) [Request a Quote](#)

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.