PRODUCT DATASHEET

ES-SM-L02-060S-V48-T1P27NM-400W-003

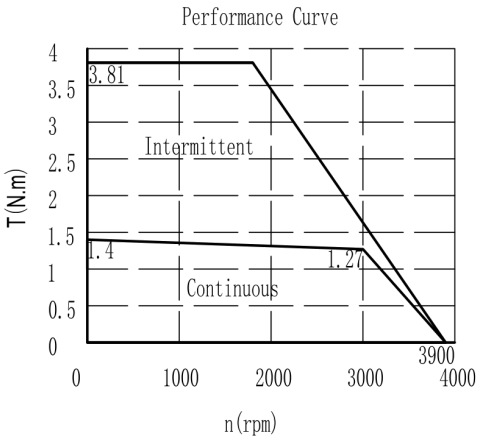
Low-Voltage Servo Motors

Product Overview

Low-Voltage Servo Motors with rated Torque 1.27 N·m, rated Speed 3000 rpm and continuous Rated Output Power 400 W.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	1.27	N·m
Rated Speed	3000	rpm
Continuous Rated Output Power	400	W
Rated Voltage	48	VDC
Rated Line Voltage	48	V
Continuous Rated Current	10.6	A
Instantaneous Maximum Current	33.9	A
Flange Size	60	mm
Allowable Axial Force	30	N



Torque-Speed Curve

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	1.27	N·m
Rated Speed	3000	rpm
Continuous Rated Output Power	400	W
ELECTRICAL		
Rated Voltage	48	VDC
Rated Line Voltage	48	V
Continuous Rated Current	10.6	A
Instantaneous Maximum Current	33.9	A
Pole Pairs	5	
Rotational Back-EMF Constant	8	V/krpm
Electrical Time Constant	2.03	ms
Insulation Class	F	
Motor Outlet Mode	Dedicated motor socket	
MECHANICAL		
Flange Size	60	mm

Technical Specifications

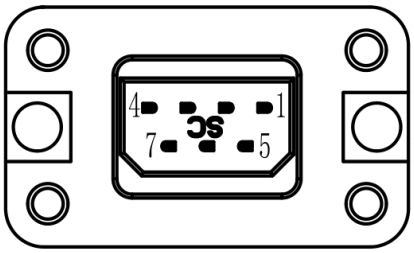
PARAMETER	SPECIFICATION	UNIT	NOTES
MECHANICAL			
Inertia Level	Low inertia		
Allowable Radial Force	40	N	
Mechanical Time Constant	0.98	ms	Brake Configuration: with_brake / Brake Configuration: without_brake
Rotor Inertia	0.31	Kg·cm 2	Brake Configuration: without_brake / Brake Configuration: with_brake
Allowable Axial Force	30	N	
ENVIRONMENTAL			
Operating Environment	Free from corrosive or flammable gases, oil droplets, and dust		
Operating Humidity	≤90% RH, non-condensing	%RH	
Altitude and Derating Rule	Maximum 2,000 m; derate power 1.5% per 100 m above 1,000	m	
Operating Temperature	-20 to 40	°C	
Protection Grade	IP65		
CONFIGURATION			
Output Shaft Type	Keyed shaft		
ADDITIONAL SPECIFICATIONS			
Cooling Method	Fully enclosed, self-cooled		

Dimensional & Integration Overview

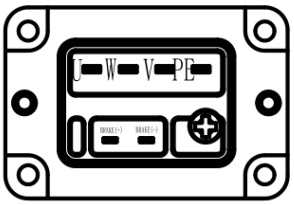
Mechanical Overview

PARAMETER	VALUE	UNIT
Flange Size	60	mm
Inertia Level	Low inertia	
Allowable Radial Force	40	N
Mechanical Time Constant	0.98	ms
Rotor Inertia	0.31	Kg·cm2
Allowable Axial Force	30	N

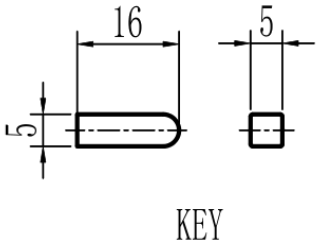
Dimensional Drawings



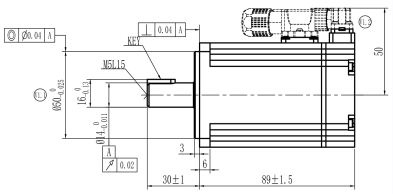
Mechanical View 1



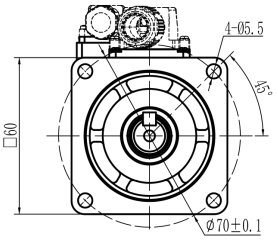
Power Connector Pinout



Mechanical View 3



Mechanical View 4



Mechanical View 5

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 3	Keyway length	16
	Keyway width	5
	Keyway depth	
Mechanical View 4	Position tolerance	Position tolerance Ø0.04 relative to datum A
		Position tolerance 0.04 relative to datum A
	Keyway designation	Keyway feature present
	Threaded hole	M5 threaded hole, depth 15mm
	Shaft diameter	Ø50 0/-0.025
	Shaft length	16 0/-0.13
	Hole diameter	Ø14 0/-0.011
	Datum A	
	Perpendicularity tolerance	Perpendicularity 0.02
	Spacing dimension	3mm spacing
		6mm spacing
	Overall length	30±1
	Total assembly length	89±1.5
	Height dimension	50mm height

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 5	4 mounting holes diameter	4-Ø5.5
	Square frame dimension	□60
	Flange outer diameter with tolerance	Ø70±0.1

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.