

PRODUCT DATASHEET

ES-SM-L01-060S-V48-TOP64NM-200W-001

Low-Voltage Servo Motors

Low-Voltage Servo Motors | ES-SM-L01-060S 48V 60 mm Low-Voltage Servo Motor Series

Product Overview

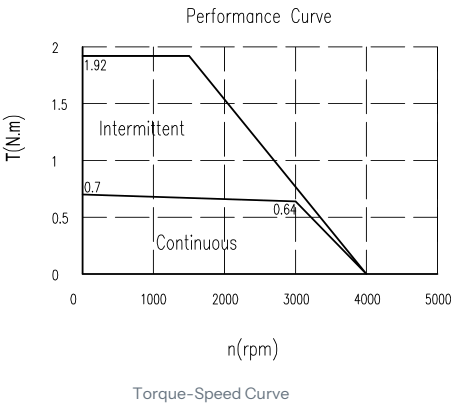
Low-Voltage Servo Motors with rated Torque 0.64 Nm, rated Speed 3000 rpm and continuous Rated Output Power 200 W.

Configuration Context

DC link: 48 V | Temperature sensor: n.a.

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	0.64	Nm
Rated Speed	3000	rpm
Continuous Rated Output Power	200	W
Rated Voltage	48	V DC
Rated Line Voltage	48	V
Instantaneous Maximum Current	18.2	A
Flange Size	60	mm
Instantaneous Maximum Torque	1.92 Nm / 1.92 Nm	
DC link voltage	48	V



Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	0.64	Nm
Instantaneous Maximum Torque	1.92 Nm / 1.92 Nm	
Rated Speed	3000	rpm
Continuous Rated Output Power	200	W
Stall Torque	0.7	Nm
Torque Constant	0.124 Nm/A / 0.124 Nm/A	
ELECTRICAL		
DC link voltage	48	V
Rated Voltage	48	V DC
Rated Line Voltage	48	V
Instantaneous Maximum Current	18.2	A

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
ELECTRICAL		
Back EMF Constant	7.5	V/krpm
Electrical Time Constant	1.98	ms
Position Feedback Device	ME16MHM-04	
Insulation Class	F	
Maximum voltage rise	8	kV/ μ s
Number of Poles	10	
Pole Pairs	5	
Rated Current	5.7	A
Stall Current	6.27	A
Line-to-line inductance	1.23	mH

Technical Specifications

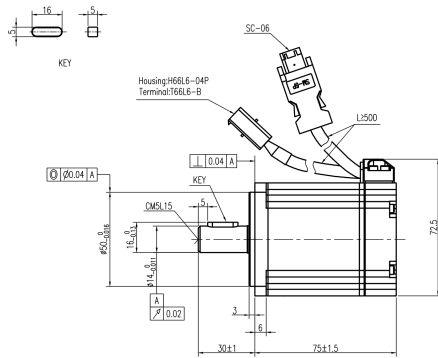
PARAMETER	SPECIFICATION	UNIT	NOTES
ELECTRICAL			
Line-to-line resistance	0.62	Ω	
Rotational Back-EMF Constant	7.5 V/krpm		
Motor Outlet Mode	Communication encoder connector		
THERMAL			
Temperature Sensor	n.a.		
MECHANICAL			
Flange Size	60	mm	
Weight	0.9	kg	
Inertia Level	Low inertia		
Mechanical Time Constant	1.4 / 1.42 (With brake)	ms	Brake Configuration: without_brake / Brake Configuration: with_brake
Mechanical Time Constant, Without Brake	1.4	ms	
Mechanical Time Constant, With Brake	1.42	ms	

Dimensional & Integration Overview

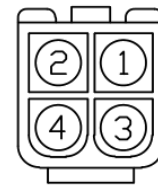
Mechanical Overview

PARAMETER	VALUE	UNIT
Flange Size	60	mm
Weight	0.9	kg
Inertia Level	Low inertia	
Mechanical Time Constant	1.4 / 1.42 (With brake)	ms
Mechanical Time Constant, Without Brake	1.4	ms
Mechanical Time Constant, With Brake	1.42	ms

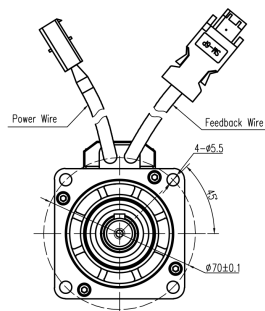
Dimensional Drawings



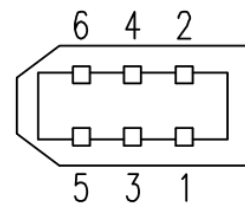
Mechanical View 1



Power Connector Pinout



Mechanical View 3



Feedback Connector Pinout

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Keyway width	Keyway width 5
	Keyway length	Keyway length 16
	Key label	Key feature indicated
	Perpendicularity tolerance	Perpendicularity 0.04 relative to datum A
	Position tolerance	Position tolerance diameter 0.04 relative to datum A
	Shaft key feature label	Key feature indicated on shaft
	Shaft key width	Shaft key width 5
	Shaft end thread specification	CM5L15 shaft-end thread/tap specification
	Body height	Body height 72.5
	Shaft step diameter	Diameter 50 with tolerance +0/-0.016
	Shaft diameter	Diameter 16 with tolerance +0/-0.13
	Front shaft diameter	Diameter 14 with tolerance +0/-0.011
	Datum A	Datum feature A
	Small detail width dimension	Width 5
Mechanical View 3	Mounting holes count and diameter	4 × Ø5.5 mm
	Angle callout	45°
	Outer diameter	Ø70 ±0.1 mm

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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.