PRODUCT DATASHEET

ES-SM-L01-060S-V48-T1P27NM-400W-002

Low-Voltage Servo Motors

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

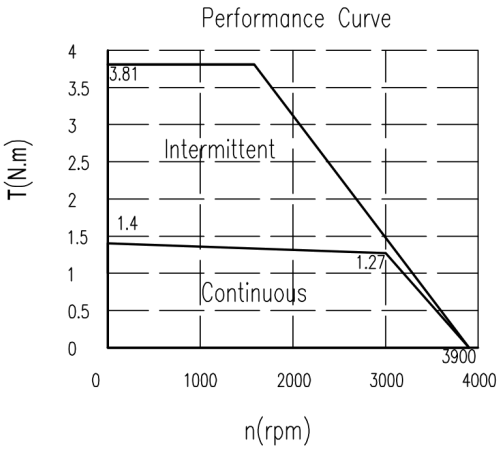
Product Overview

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

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

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	1.27	N·m
Rated Speed	3000	rpm
Continuous Rated Output Power	400	W
Rated Voltage	48	V DC
Rated Line Voltage	48	V
Instantaneous Maximum Current	33.9	A
Flange Size	60	mm
Instantaneous Maximum Torque	3.81 N·m / 3.81 Nm	
DC link voltage	48	V



Torque-Speed Curve

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	1.27	N·m
Instantaneous Maximum Torque	3.81 N·m / 3.81 Nm	
Rated Speed	3000	rpm
Continuous Rated Output Power	400	W
Stall Torque	1.4	N·m
Torque Constant	0.132 N·m/A / 0.132 Nm/A	
ELECTRICAL		
DC link voltage	48	V
Rated Voltage	48	V DC
Rated Line Voltage	48	V
Instantaneous Maximum Current	33.9	A

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
ELECTRICAL		
Back EMF Constant	8	V/krpm
Electrical Time Constant	2.52	ms
Position Feedback Device	ME16MHM-04	
Insulation Class	F	
Maximum voltage rise	8	kV/µs
Number of Poles	10	
Pole Pairs	5	
Rated Current	10.6	A
Stall Current	11.7	A
Line-to-line inductance	0.68	mH

Technical Specifications

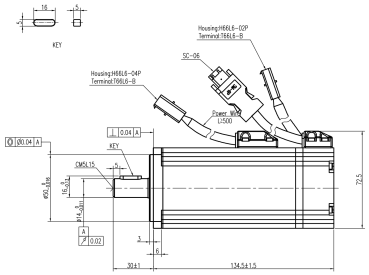
PARAMETER	SPECIFICATION	UNIT	NOTES
ELECTRICAL			
Line-to-line resistance	0.27	Ω	
Rotational Back-EMF Constant	8 V/krpm		
Motor Outlet Mode	Communication encoder connector		
THERMAL			
Temperature Sensor	n.a.		
MECHANICAL			
Flange Size	60	mm	
Weight	1.6	kg	
Inertia Level	Low inertia		
Mechanical Time Constant	1.03 (With brake) ms / 1.02 / 1.03	ms	Brake Configuration: with_brake / Brake Configuration: without_brake
Mechanical Time Constant, Without Brake	1.02	ms	
Mechanical Time Constant, With Brake	1.03	ms	

Dimensional & Integration Overview

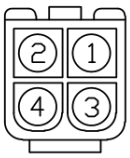
Mechanical Overview

PARAMETER	VALUE	UNIT
Flange Size	60	mm
Weight	1.6	kg
Inertia Level	Low inertia	
Mechanical Time Constant	1.03 (With brake) ms / 1.02 / 1.03	ms
Mechanical Time Constant, Without Brake	1.02	ms
Mechanical Time Constant, With Brake	1.03	ms

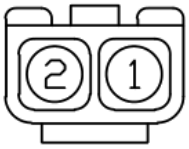
Dimensional Drawings



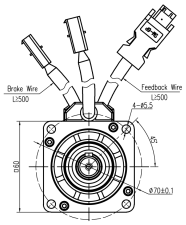
Mechanical View 1



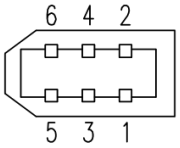
Power Connector Pinout



Power Connector Pinout



Mechanical View 4



Feedback Connector Pinout

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Keyway width	5 mm
	Keyway length	16 mm
	Keyway height	5 mm
	Key feature label	KEY
	Perpendicularity tolerance	Perpendicularity 0.04 mm relative to datum A
	Position tolerance	Position tolerance diameter 0.04 mm relative to datum A
	Shaft keyway label	KEY
	Shaft accessory/model label	CM5L15
	Shaft keyway width	5 mm
	Motor overall height	72.5 mm
	Shaft step diameter	16 mm, +0 / -0.13
	Pilot diameter	Diameter 50 mm, +0 / -0.016
Mechanical View 4	mounting hole quantity and diameter	4 × φ5.5 mm
	overall height	60 mm
	angle	45 degree
	outer diameter	φ70 ±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.