

PRODUCT DATASHEET

ES-SM-L01-080S-V48-TTBDNM-1000W-002

Low-Voltage Servo Motors

Low-Voltage Servo Motors | ES-SM-L01-080S 48V 80 mm Low-Voltage Servo Motor Series

Product Overview

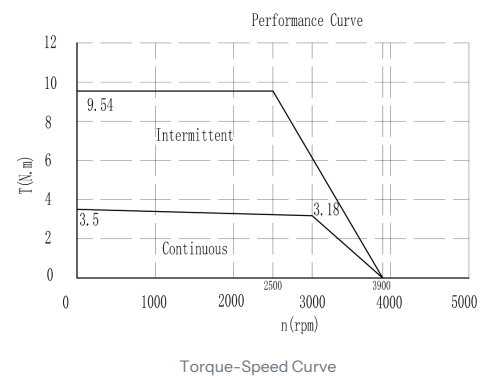
Low-Voltage Servo Motors with rated Torque 3.18 N·m, rated Speed 3000 rpm and continuous Rated Output Power 1000 W.

Configuration Context

DC link: 48 V

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	3.18	N·m
Rated Speed	3000	rpm
Continuous Rated Output Power	1000	W
Rated Voltage	48	V DC
Instantaneous Maximum Current	88	A
Flange Size	80	mm
Instantaneous Maximum Torque	9.54	N·m
DC link voltage	48	V
Weight	3	kg





Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	3.18	N·m
Instantaneous Maximum Torque	9.54	N·m
Rated Speed	3000	rpm
Continuous Rated Output Power	1000	W
Bearing Axial Force	167.5	N
Continuous static torque	3.5	N·m
Bearing Radial Force	335	N
Torque Constant	0.13	N·m/A
ELECTRICAL		
DC link voltage	48	V
Rated Voltage	48	V DC

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
ELECTRICAL		
Instantaneous Maximum Current	88	A
Back EMF Constant	7.8	V/krpm
Continuous static current	29	A
Electrical Time Constant	4.13	ms
Position Feedback Device	Incremental 2500pprMagnetic Encoder	
Insulation Class	F	
Number of Poles	10	
Pole Pairs	5	
Rated Current	26.4	A
Line-to-line inductance	0.215	mH

Technical Specifications

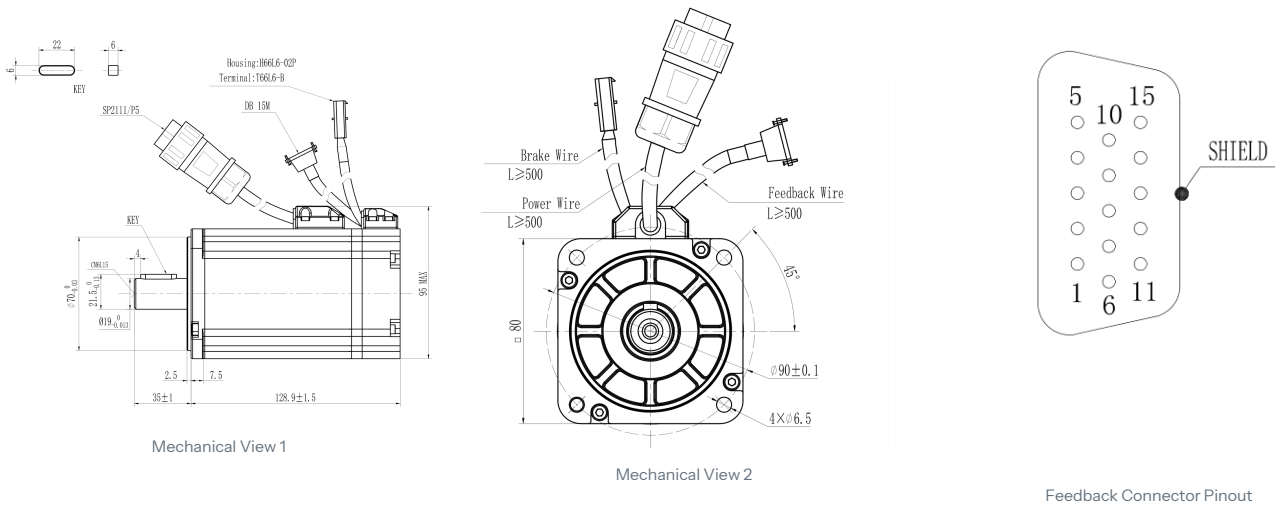
PARAMETER	SPECIFICATION	UNIT
ELECTRICAL		
Line-to-line resistance	0.057	Ω
Motor Outlet Mode	Three-row 15-pin metal-shell encoder connector	
MECHANICAL		
Flange Size	80	mm
Weight	3	kg
Inertia Level	Low inertia	
Mechanical Time Constant	0.6	ms
Rotor Inertia	1.099	kgcm^2
Static friction torque	4	N·m
Holding Brake Available	With holding brake	
ENVIRONMENTAL		
Protection Rating	IP54	

Dimensional & Integration Overview

Mechanical Overview

PARAMETER	VALUE	UNIT
Flange Size	80	mm
Weight	3	kg
Inertia Level	Low inertia	
Mechanical Time Constant	0.6	ms
Rotor Inertia	1.099	kgcm ²
Static friction torque	4	N·m

Dimensional Drawings



2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 1	Key length	22
	Key width	6
	Key position marker (upper)	KEY
	Key position marker (lower)	
	Mounting dimension	4
	Shaft diameter	Ø70 0/-0.03
	Shaft length	21.5 0/-0.13
	Hole diameter	Ø19 0/-0.013
	Maximum height	95 MAX
	Mounting hole offset	2.5
	Mounting hole spacing	7.5
	Mounting base width	35±1
	Overall length	128.9±1.5
Mechanical View 2	Mounting flange side length	80×80 mm
	Bolt circle diameter	φ90±0.1 mm
	Mounting hole quantity and diameter	4×φ6.5 mm
	Center circle diameter	φ53 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.