

PRODUCT DATASHEET

ES-SM-L01-130D-V48-TTBDNM-2500W-002

Low-Voltage Servo Motors

Low-Voltage Servo Motors | ES-SM-L01-130D 48V 130 mm Low-Voltage Servo Motor Series

Product Overview

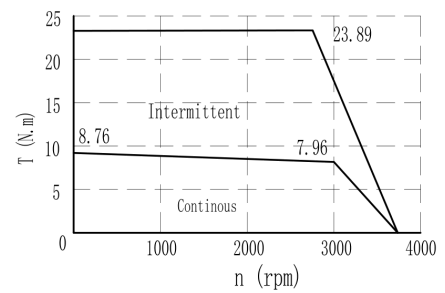
Low-Voltage Servo Motors with rated Torque 7.96 N·m, instantaneous Maximum Torque 23.89 N·m and rated Speed 3000 rpm.

Configuration Context

DC link: 48 V

Key Specifications

PARAMETER	VALUE	UNIT
Rated Torque	7.96	N·m
Instantaneous Maximum Torque	23.89	N·m
Rated Speed	3000	rpm
Continuous Rated Output Power	2500	W
DC link voltage	48	V
Rated Voltage	48	V DC
Instantaneous Maximum Current	191	A
Flange Size	130	mm
Bearing Axial Force	450	N



Torque-Speed Curve

Technical Specifications

PARAMETER	SPECIFICATION	UNIT
PERFORMANCE		
Rated Torque	7.96	Nm
Instantaneous Maximum Torque	23.89	Nm
Rated Speed	3000	rpm
Continuous Rated Output Power	2500	W
Bearing Axial Force	450	N
Continuous static torque	8.76	Nm
Bearing Radial Force	900	N
Torque Constant	0.141	Nm/A
ELECTRICAL		
DC link voltage	48	V
Rated Voltage	48	V DC
Instantaneous Maximum Current	191	A
Back EMF Constant	8.5	V/krpm
Continuous static current	67.1	A
Electrical Time Constant	5.92	ms
Position Feedback Device	Incremental 2500pprMagnetic Encoder	



Technical Specifications

PARAMETER	SPECIFICATION	UNIT
ELECTRICAL		
Insulation Class	F	
Motor Outlet Mode	Three-row 15-pin metal-shell encoder connector	
Number of Poles	8	
Pole Pairs	4	
Rated Current	61	A
Line-to-line inductance	0.094	mH
Line-to-line resistance	0.016	Ω
MECHANICAL		
Flange Size	130	mm
Inertia Level	Medium inertia	
Mechanical Time Constant	2.37	ms
Rotor Inertia	17.1	kgcm ²
Static friction torque	15	N·m
Holding Brake Available	With holding brake	
ENVIRONMENTAL		
Protection Rating	IP65, shaft sealing IP54	
CONFIGURATION		
Output Shaft Type	Keyed shaft	

Dimensional & Integration Overview

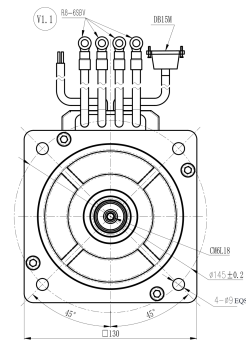
Mechanical Overview

PARAMETER	VALUE	UNIT
Flange Size	130	mm
Inertia Level	Medium inertia	
Mechanical Time Constant	2.37	ms
Rotor Inertia	17.1	kgcm ²
Static friction torque	15	Nm
Holding Brake Available	With holding brake	

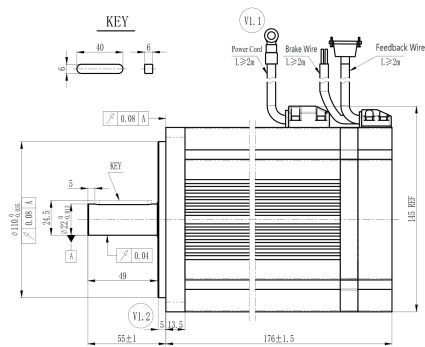
Dimensional Drawings



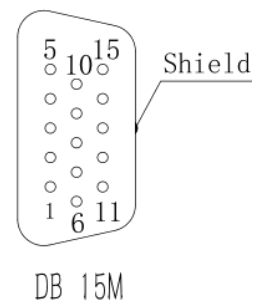
Mechanical View 1



Mechanical View 2



Mechanical View 3



Feedback Connector Pinout



2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 2	Model designation	CM6L18
	Mounting flange diameter	Ø145±0.2
	Mounting hole size and pattern	4-Ø9 equally spaced
	Left mounting hole angular position	45°
	Right mounting hole angular position	
	Square flange side length	□130

2D Drawing Dimensions & Callouts

VIEW	FIELD	VALUE
Mechanical View 3	Overall length	176±1.5 mm
	Mounting section length	55±1 mm
	Shaft section dimensions	5 mm and 13.5 mm
	Version identifier	V1.2
	Shaft section length	49 mm
	Position tolerance	0.04
	Datum A	
	Shaft diameter with tolerance	Φ110 +0.085/-0.103 mm
	Keyway depth	5 mm
	Keyway identifier	Keyway
	Runout tolerance	⌀ 0.08 A
	Shaft diameter with tolerance	Φ22 +0/-0.013 mm
	Height dimension	24.5 mm
	Key length	40 mm
	Key width	6 mm
	Version identifier	V1.1

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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.