

ENGINEERING DOCUMENTATION

Rotary Servo Motor

Dimensional & Integration Guide

DOCUMENT	REVISION / ISSUE	STATUS
DIG-ES-SM-L01-060S-V48-T1P27NM-400W-006	DRAFT-08 / 27 Aug 2026	Engineering Integration Reference

Integration Overview

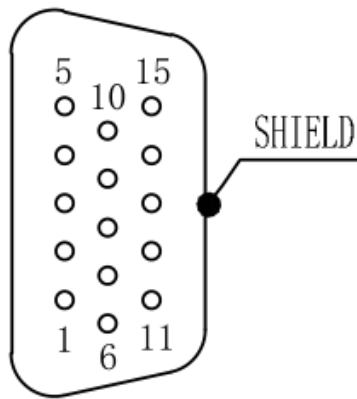
Closed-loop rotary servo motor for specified motion axes. This guide supports mechanical mounting, shaft and coupling integration, feedback and brake planning, cable routing, thermal validation and staged commissioning.

Key Integration Facts

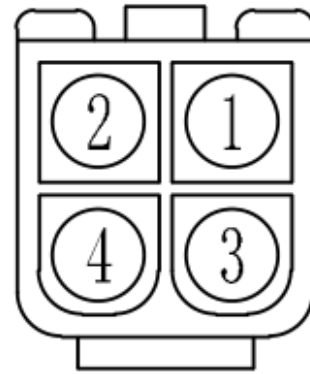
INTEGRATION ITEM	PUBLISHED VALUE
Rated Torque	1.27 N·m
Rated Speed	3000 rpm
Rated Voltage	48 VDC
Flange Size	60 mm

Product Structure & Views

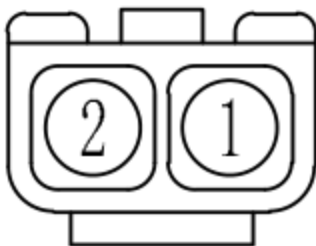
These views present product structure, mounting interfaces and relevant integration geometry for this SKU.



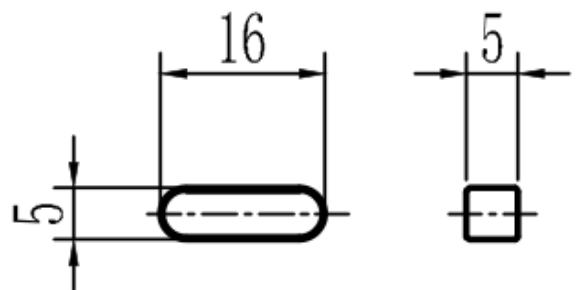
Mechanical View 3



Mechanical View 5

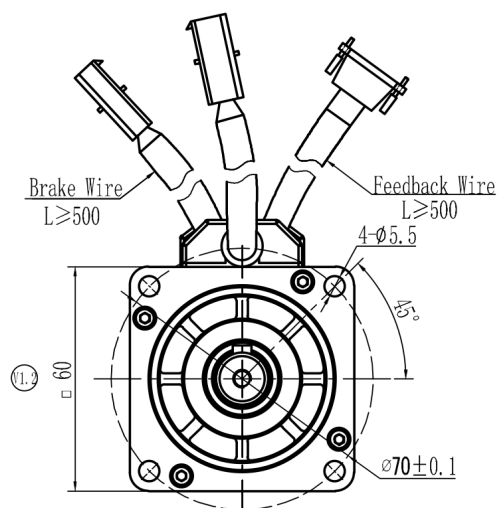


Mechanical View 7

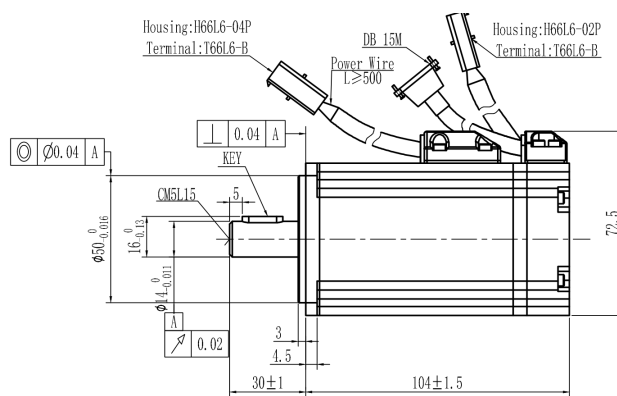


KEY

Mechanical View 8



Mechanical View 10



Mechanical View 12

VIEW	FIELD	VALUE
Mechanical View 3	Connector pin number 15	Pin number 15
	Connector pin number 10	Pin number 10
	Shield terminal label	Shield connection label
	Connector pin number 5	Pin number 5
	Connector pin number 1	Pin number 1
	Connector pin number 6	Pin number 6
	Connector pin number 11	Pin number 11
Mechanical View 5	Connector terminal number 2	Terminal/cavity label 2
	Connector terminal number 1	Terminal/cavity label 1
	Connector terminal number 4	Terminal/cavity label 4
	Connector terminal number 3	Terminal/cavity label 3
Mechanical View 7	Connector terminal position number	Terminal position 2
	Connector terminal position number	Terminal position 1
Mechanical View 8	Key length	Key length 16 mm
	Key width	Key width 5 mm
	Key height	Key height 5 mm
	Part label	KEY
Mechanical View 10	Feedback wire label	Feedback Wire
	Brake wire label	Brake Wire
	Feedback wire length	Length ≥ 500 mm
	Brake wire length	Length ≥ 500 mm
	Mounting hole quantity and diameter	4 holes, diameter 5.5 mm
	Mounting hole angular position	45 degrees
	Square flange envelope size	Square 60 mm
	Revision mark	Revision V1.2
	Mounting bolt circle diameter	Diameter 70 ± 0.1 mm
Mechanical View 12	Housing part number	H66L6-04P
	Terminal part number	T66L6-B
	Housing part number	H66L6-02P
	Connector type	DB15M (15-pin D-sub male)
	Power wire minimum length	L ≥ 500 mm
	Positional tolerance	0.04 relative to datum A
	Datum reference	Datum A
	Keyway identifier	Keyway
	Keyway width	5 mm
	Component part number	CM5L15

VIEW	FIELD	VALUE
Shaft diameter with tolerance	$\varnothing 50 +0.016/-0 \text{ mm}$	
Overall length	72.5 mm	
Form tolerance value	0.02 mm relative to datum A	
Mounting dimension	3 mm	
Mounting dimension	4.5 mm	
Segment length with tolerance	$30 \pm 1 \text{ mm}$	
Overall length with tolerance	$104 \pm 1.5 \text{ mm}$	
Shaft diameter	16 mm with tolerance $0/-0.13$	
Hole diameter	14 mm with tolerance $0/-0.01$	

Overall Dimensions and Mounting Interface

PARAMETER	PUBLISHED VALUE	UNIT
Flange Size	60	mm

- Confirm the mounting face, locating feature, shaft geometry, fastener engagement and removal clearance against the applicable exact-SKU drawing.
- Mount the motor on a flat, rigid interface and avoid using fasteners to pull a misaligned assembly into position.

Shaft, Coupling and Load Path

PARAMETER	PUBLISHED VALUE	UNIT
Rotor Inertia	0.26 / 0.264	Kg·cm ²

- Align the driven shaft and coupling before tightening; validate radial, axial and moment loads against applicable bearing-load data.
- Do not hammer, uncontrolled press-fit or transmit installation force through the motor bearings.

Electrical, Feedback and Brake Integration

PARAMETER	PUBLISHED VALUE	UNIT
Rated Voltage	48	VDC

- Use only the current winding, feedback, brake and connector definitions for this exact SKU.
- Verify drive compatibility, polarity, current limits, feedback direction and brake sequencing before enabling torque.

Thermal, Duty and Environmental Conditions

PARAMETER	PUBLISHED VALUE	UNIT
Rated Torque	1.27	N·m
Operating Temperature	-20 to 40	°C

- Validate winding and housing temperature under the installed duty cycle, ambient condition, mounting heat path and enclosure airflow.
- Published peak values are transient boundaries and must not be treated as continuous operating ratings.

Cable Routing, Grounding and EMC

- Provide strain relief and bend radius through the full machine motion envelope.
- Separate motor power, brake and feedback wiring and terminate shields according to the specified system grounding architecture.

Commissioning and Motion Validation

PARAMETER	PUBLISHED VALUE	UNIT
Rated Speed	3000	rpm
Rated Torque	1.27	N·m

- Commission at low energy with the transmission unloaded or safely restrained, then confirm direction, feedback polarity, brake final integration, current limit and fault response.
- Validate the complete axis through intended acceleration, speed, load, stop and fault cycles during integration planning.

Integration Checklist

- | | |
|----|--|
| 01 | Confirm the exact SKU, 2D drawing and applicable wiring data. |
| 02 | Verify mounting, shaft, coupling, alignment, fasteners and removal clearance. |
| 03 | Validate radial and axial loads, inertia, acceleration and credible shock cases. |
| 04 | Confirm drive, winding, feedback, brake and connector compatibility. |
| 05 | Set current, speed, acceleration and thermal limits from the installed duty cycle. |
| 06 | Verify cable routing, shielding, grounding, strain relief and bend radius. |
| 07 | Commission at low energy before validating the full machine cycle. |

[View SKU Product Datasheet](#) [Request controlled 2D drawing](#) [Request controlled STEP review](#) [Request a Quote](#)

Engineering Use and Verification Notice

01. This Dimensional & Integration Guide applies only to EmbodyStack SKU ES-SM-L01-060S-V48-T1P27NM-400W-006 and is intended for dimensional evaluation and preliminary integration. It is not a applicable manufacturing drawing, wiring definition, application approval, machinery risk assessment, safety validation or integration planning document. Before design freeze, machining, wiring or energization, verify all dimensions, tolerances, mounting and locating features, load boundaries, electrical interfaces, thermal conditions, cabling, grounding, protection, commissioning and applicable regulatory requirements against the applicable EmbodyStack engineering data for this exact SKU. Where this guide and applicable product documentation differ, the applicable product documentation governs. Validate the complete installed system under intended duty cycles, loads, accelerations, environmental conditions and credible fault cases.