ENGINEERING DOCUMENTATION

Rotary Servo Motor

Dimensional & Integration Guide

DOCUMENT	REVISION / ISSUE	STATUS
DIG-ES-SM-L02-060D-V48-T1P27NM-400W-002	DRAFT-08 / 27 Aug 2026	Engineering Integration Reference

Integration Overview

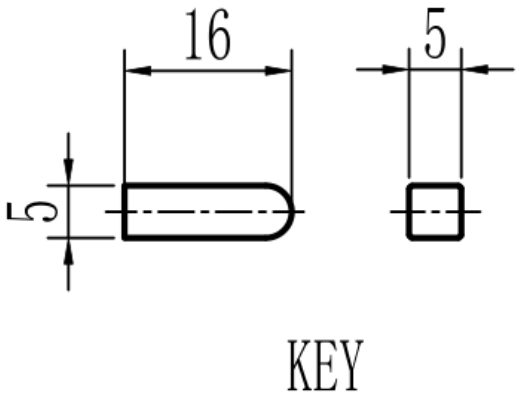
Closed-loop rotary servo motor for specified motion axes. This guide supports mechanical mounting, shaft and coupling integration, feedback and brake planning, cable routing, thermal validation and staged commissioning.

Key Integration Facts

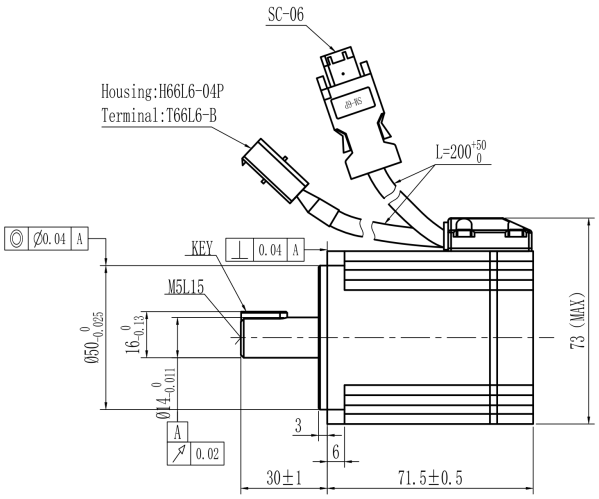
INTEGRATION ITEM	PUBLISHED VALUE
Rated Torque	1.27 N·m
Rated Speed	3000 rpm
Rated Voltage	48 VDC
Flange Size	60 mm

Product Structure & Views

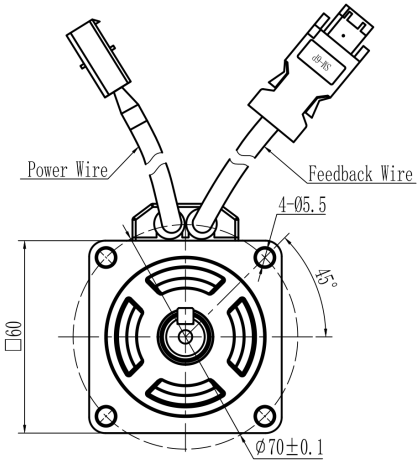
These views present product structure, mounting interfaces and relevant integration geometry for this SKU.



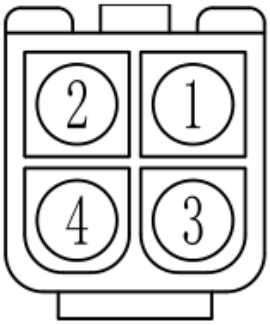
Mechanical View 1



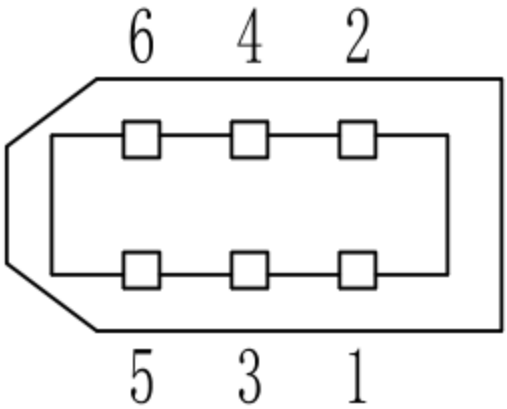
Mechanical View 2



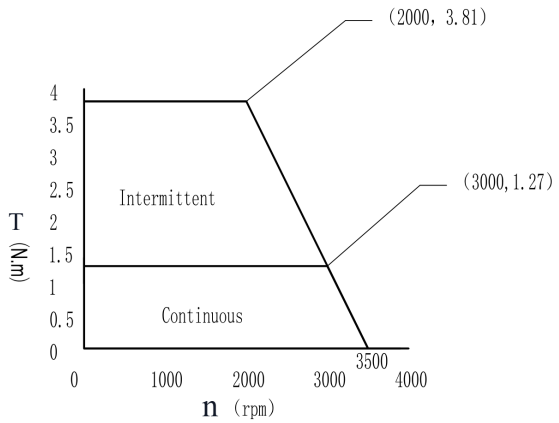
Mechanical View 3



Mechanical View 4



Mechanical View 8



Mechanical View 10

VIEW	FIELD	VALUE
Mechanical View 1	Keyway length	16 mm
	Keyway width	5 mm
	Keyway depth	5 mm
	Keyway identifier	Keyway
Mechanical View 2	Housing part number	H66L6-04P
	Terminal part number	T66L6-B
	Cable length	200 +50/0 mm
	Position tolerance	Position 0.04 relative to datum A
	Keyway identifier	KEY
	Perpendicularity tolerance	Perpendicularity 0.04 relative to datum A
	Mounting bolt specification	M5 thread, 15mm length
	Maximum outer diameter	73 mm maximum
	Shaft diameter	Ø50 0/-0.025 mm
	Keyway depth	16 0/-0.13 mm
	Mounting hole diameter	Ø14 0/-0.011 mm
	Datum A	Datum A
	Circular runout tolerance	Circular runout 0.02
	Dimension value	3 mm
	Dimension value	6 mm
	Axial dimension	30±1 mm
	Overall length	71.5±0.5 mm
Mechanical View 3	Power wire label	Power wire connection
	Feedback wire label	Feedback wire connection
	Mounting hole diameter and quantity	4× Ø5.5 mm holes
	Hole angular distribution	45° angular spacing
	Square section dimension	60 mm × 60 mm square
	Mounting hole pitch circle diameter	Ø70 ±0.1 mm PCD
Mechanical View 4	Connector terminal position 1	Terminal position 1
	Connector terminal position 2	Terminal position 2
	Connector terminal position 3	Terminal position 3
	Connector terminal position 4	Terminal position 4
Mechanical View 8	Connector Pin 6	Pin 6
	Connector Pin 4	Pin 4
	Connector Pin 2	Pin 2
	Connector Pin 5	Pin 5
	Connector Pin 3	Pin 3

VIEW	FIELD	VALUE
Connector Pin 1	Pin 1	
Mechanical View 10	TN curve Y-axis label	Torque T, unit: N·m
	TN curve X-axis label	Speed n, unit: rpm
	TN curve key point 1 - intermittent zone boundary	n=2000 rpm, T=3.81 N·m
	TN curve key point 2 - intermittent zone right boundary end	n=3000 rpm, T=1.27 N·m
	Intermittent duty zone label	Intermittent duty zone
	Continuous duty zone label	Continuous duty zone
	Y-axis tick values (torque scale)	0–4 N·m
	X-axis tick values (speed scale)	Speed axis ticks: 0, 1000, 2000, 3000, 3500, 4000 rpm

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	0.43 / 0.434	Kg·cm2

- 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-L02-060D-V48-T1P27NM-400W-002 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.