ENGINEERING DOCUMENTATION

Rotary Servo Motor

Dimensional & Integration Guide

DOCUMENT	REVISION / ISSUE	STATUS
DIG-ES-SM-A03-060S-T0P64NM-200W-003	DRAFT-08 / 27 Aug 2026	Engineering Integration Reference

Integration Overview

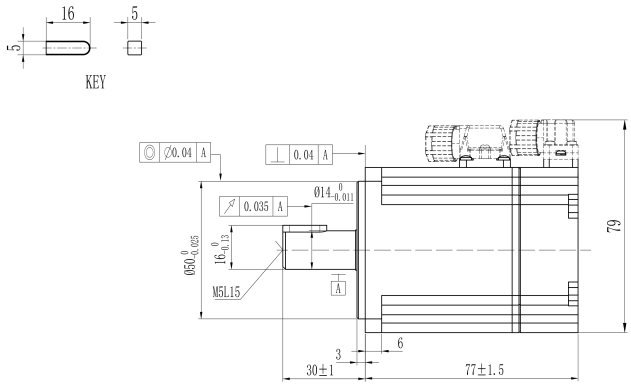
Closed-loop rotary servo motor for specified motion axes. This guide supports mechanical mounting, shaft and coupling integration, feedback and brake planning, cable routing, thermal validation and staged commissioning.

Key Integration Facts

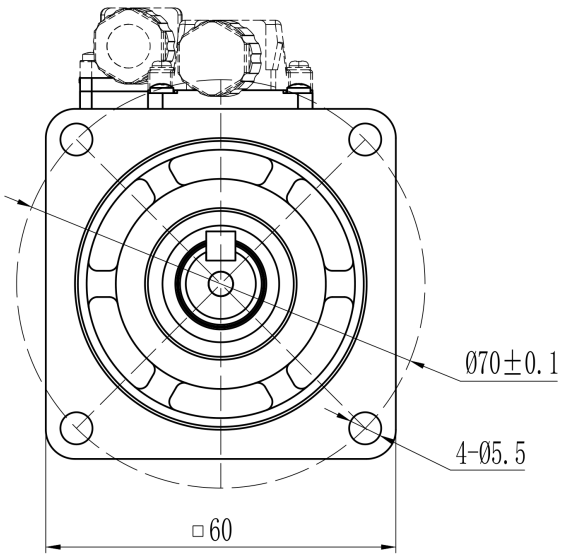
INTEGRATION ITEM	PUBLISHED VALUE
Rated Torque	0.64 N·m
Rated Speed	3000 rpm
Rated Voltage	220 VAC
Flange Size	60 mm

Product Structure & Views

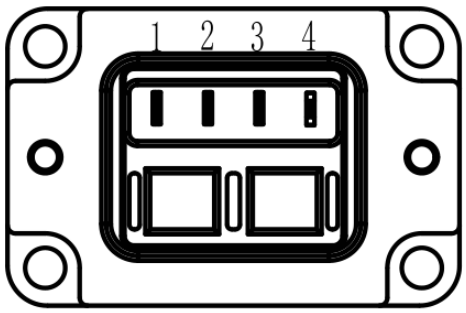
These views present product structure, mounting interfaces and relevant integration geometry for this SKU.



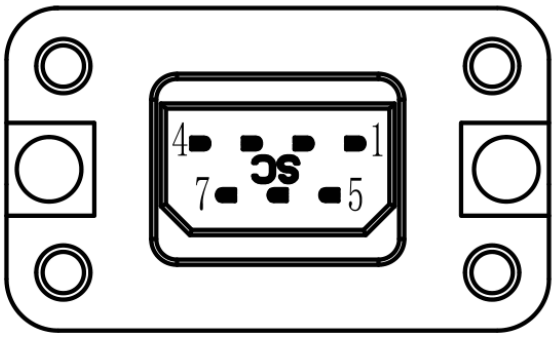
Mechanical View 1



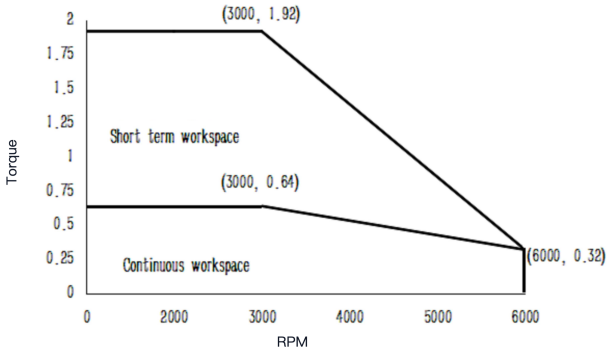
Mechanical View 2



Mechanical View 5



Mechanical View 7



Mechanical View 10

VIEW	FIELD	VALUE
Mechanical View 1	Key length	16
	Key width	5
	Key height or thickness	5
	Key feature label	KEY
	Position or coaxiality-type geometric tolerance	Geometric tolerance Ø0.04 relative to datum A
	Perpendicularity tolerance	Perpendicularity 0.04 relative to datum A
	Shaft end diameter	Diameter 14, upper deviation 0, lower deviation -0.011
	Runout-style geometric tolerance	Runout-style geometric tolerance 0.035 relative to datum A
	Locating diameter	Diameter 50, upper deviation 0, lower deviation -0.025
	Shaft step length	Length 16, upper deviation 0, lower deviation -0.13
	Threaded hole specification	M5 thread, length/depth 15
	Datum A	Datum A
	Overall height	79
	End step offset	6
	End face offset	3
	Shaft extension length	30 ±1
	Main body length	77 ±1.5
Mechanical View 2	Mounting hole pitch circle diameter	Pitch circle diameter 70 ±0.1 mm
	Mounting hole quantity and diameter	4 holes, diameter 5.5 mm
	Square mounting flange size	Square flange size 60 mm
Mechanical View 5	Connector terminal number 2	Terminal position 2
	Connector terminal number 3	Terminal position 3
	Power connector pin position 1	Pin position 1
	Connector pin position 4	Pin position 4
Mechanical View 7	Connector pin/terminal marking	Visible connector markings: pins 4, 1, 7, 5 and central label
Mechanical View 10	Short-term workspace peak point	Speed 3000 rpm, torque 1.92
	Continuous workspace rated point	Speed 3000 rpm, torque 0.64
	High-speed continuous workspace endpoint	Speed 6000 rpm, torque 0.32
	Short-term workspace label	Short-term workspace region
	Continuous workspace label	Continuous workspace region
	Torque axis	Vertical axis: torque
	Speed axis unit	Horizontal axis unit: rpm
	Torque axis tick labels	Torque tick labels: 0 to 2
	Speed axis tick labels	Speed tick labels: 0 to 6000 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	0.174 ( )	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	220	VAC
Position Feedback Device	23-bit multi-turn communication optical absolute encoder	

- 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	0.64	N·m
Operating Temperature	-20 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

PARAMETER	PUBLISHED VALUE	UNIT
Position Feedback Device	23-bit multi-turn communication optical absolute encoder	

- 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	0.64	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-A03-060S-T0P64NM-200W-003 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.