

ENGINEERING DOCUMENTATION

Rotary Servo Motor

Dimensional & Integration Guide

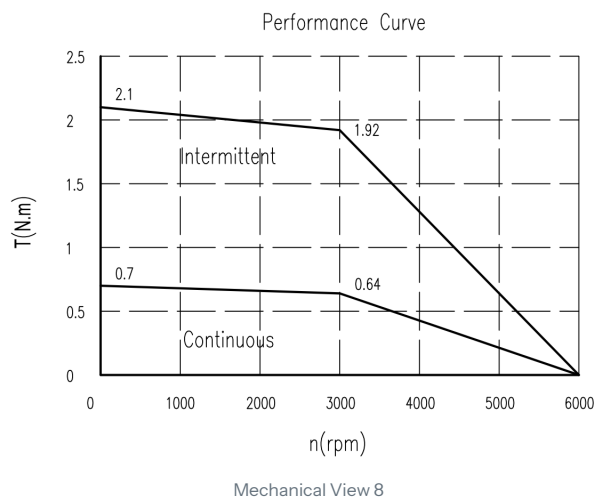
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Integration Overview

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 Nm
Rated Speed	3000 rpm
Flange Size	60 mm



VIEW	FIELD	VALUE
Mechanical View 2	DB15M feedback connector pin 15	Pin 15
	DB15M feedback connector pin 10	Pin 10
	DB15M feedback connector pin 1	Pin 1
	DB15M feedback connector pin 11	Pin 11
	DB15M feedback connector pin 6	Pin 6
	DB15M feedback connector pin 5	Pin 5
Mechanical View 4	Terminal position identifier - Position 2	Terminal position 2
	Terminal position identifier - Position 1	Terminal position 1
	Terminal position identifier - Position 3	Terminal position 3
	Terminal position identifier - Position 4	Terminal position 4
Mechanical View 6	Feedback connector type	DB-15 male connector
	Mounting hole diameter and quantity	4 holes, $\phi 5$ mm each
	Mounting hole angular distribution	45° angular spacing
	Mounting hole pitch circle diameter	$\varnothing 0 \pm 0.1$ mm
	Square housing side length	60 mm × 60 mm square
	Feedback wire label	Feedback wire
	Power wire label	Power Wire
Mechanical View 7	Keyway width	16 mm
	Keyway height/depth	5 mm
	Shaft diameter	$\varnothing 0 \text{ } 0/-0.016$ mm
	Shaft length	16 $0/-0.13$ mm
	Shaft end diameter	$\varnothing 4 \text{ } 0/-0.011$ mm
	Mounting step depth	3 mm
	Mounting boss width	6 mm
	Short section length	30±1 mm
	Total length	120±1.5 mm
	Outer diameter	72 mm
	Cable minimum length	L>300 mm
	Keyway depth	5 mm
Mechanical View 8	Performance Curve Chart Title	Performance Curve
	Torque Axis Label	T(N.m)
	Speed Axis Label	n(rpm)
	Intermittent Operation Mode	Intermittent
	Continuous Operation Mode	Continuous
	Torque Scale Mark 2.5	2.5 N.m
	Torque Scale Mark 2	2 N.m

VIEW	FIELD	VALUE
Torque Scale Mark 1.5	1.5 N.m	
Torque Scale Mark 0.5	0.5 N.m	
Torque Scale Mark 0	0 N.m	
Speed Scale Mark 0	0 rpm	
Speed Scale Mark 1000	1000 rpm	
Speed Scale Mark 2000	2000 rpm	
Speed Scale Mark 3000	3000 rpm	
Speed Scale Mark 4000	4000 rpm	
Speed Scale Mark 5000	5000 rpm	
Speed Scale Mark 6000	6000 rpm	
Intermittent Starting Torque	2.1 N.m at low speed	
Intermittent Rated Point	1.92 N.m at 3000 rpm	
Continuous Starting Torque	0.7 N.m at low speed	
Continuous Rated Point	0.64 N.m at 3000 rpm	
Torque Grid Value 1N.m	1N.m	

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	0.375	kgcm 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
Position Feedback Device	2500 PPR incremental 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	Nm
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	2500 PPR incremental 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	Nm

- 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-A02-060S-TOP64NM-200W-001 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.