

ENGINEERING DOCUMENTATION

Rotary Servo Motor

Dimensional & Integration Guide

DOCUMENT	REVISION / ISSUE	STATUS
DIG-ES-SM-A01-040S-TOP32NM-100W-004	DRAFT-08 / 27 Aug 2026	Engineering Integration Reference

Integration Overview

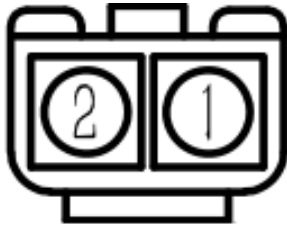
Closed-loop rotary servo motor for specified motion axes. This guide supports mechanical mounting, shaft and coupling integration, feedback and brake planning, cable routing, thermal validation and staged commissioning.

Key Integration Facts

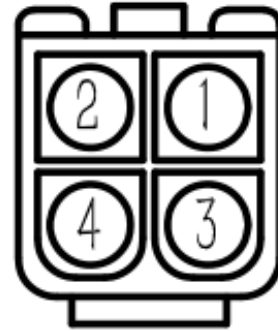
INTEGRATION ITEM	PUBLISHED VALUE
Rated Torque	0.32 Nm
Rated Speed	3000 rpm
Flange Size	40 mm

Product Structure & Views

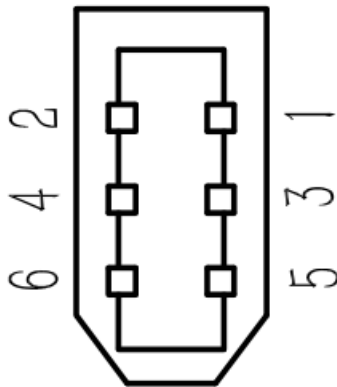
These views present product structure, mounting interfaces and relevant integration geometry for this SKU.



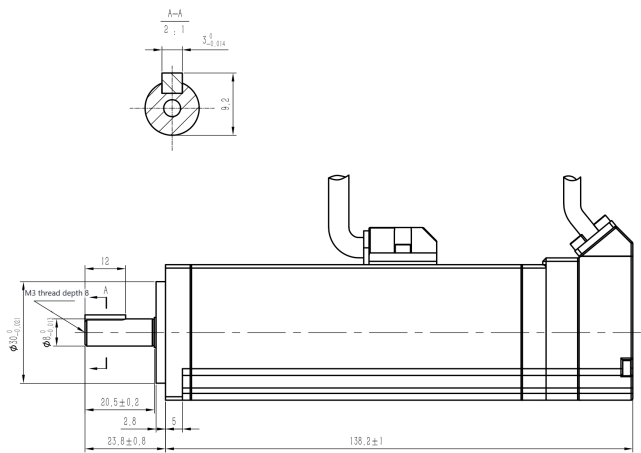
Mechanical View 4



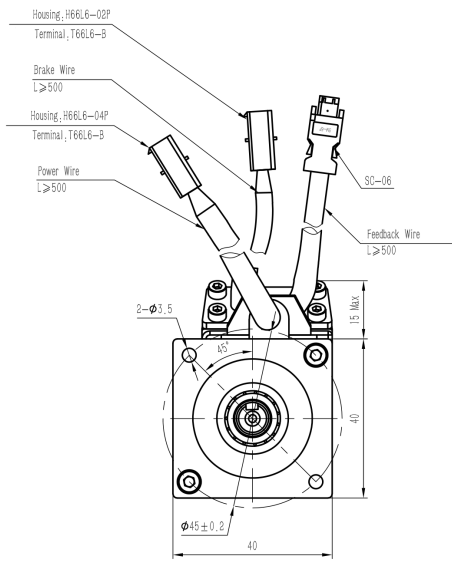
Mechanical View 5



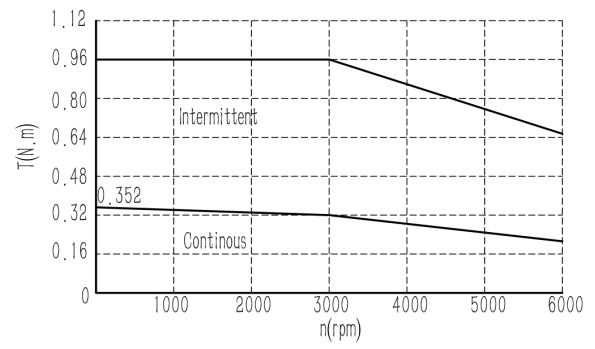
Mechanical View 6



Mechanical View 7



Mechanical View 8



Mechanical View 11

VIEW	FIELD	VALUE
Mechanical View 4	Connector Pin Count and Position Labels	2-position connector; pin positions labeled 1 (right cavity) and 2 (left cavity) as viewed from mating face
Mechanical View 5	Terminal pin number	Pin 2
	Connector pin number 1	Pin 1
	Connector pin number 3	Pin 3
	Connector pin number 4	Pin 4
Mechanical View 6	Pin 2	Pin 2 (left side, top)
	Pin 4	Pin 4 (left side, middle)
	Pin 6	Pin 6 (left side, bottom)
	Pin 1	Pin 1 (right side, top)
	Pin 3	Pin 3 (right side, middle)
	Pin 5	Pin 5 (right side, bottom)
Mechanical View 7	Section view designation	A-A
	View scale	2:1
	Output shaft keyway width	3 0/-0.014
	Shaft radial dimension	9.2
	Mounting face locating dimension	12
	Datum A	A
	M3 thread depth	M3 thread depth 8
	Inner hole diameter	Ø 0/-0.015
	Output shaft diameter	Ø 0 0/-0.021
	Mounting flange face to shaft end distance	20.5±0.2
	Mounting flange thickness	2.8
	Mounting flange boss width	5
	Total mounting end length	23.8±0.8
	Motor overall length	138.2±1
Mechanical View 8	Brake wire connector housing type	H66L6-02P
	Brake wire connector terminal type	T66L6-B
	Brake wire label	Brake Wire
	Brake wire minimum length	L ≥500 mm
	Power wire connector housing type	H66L6-04P
	Power wire connector terminal type	T66L6-B
	Power wire label	Power Wire
	Power wire minimum length	L ≥500 mm
	Feedback wire connector type	SC-06
	Feedback wire label	Feedback Wire

VIEW	FIELD	VALUE
Feedback wire minimum length	L ≥500 mm	
Mounting hole specification and quantity	2 holes, Ø5 mm	
Connector mounting area maximum height	15 mm maximum	
Mounting hole angular position	45 degrees	
Motor flange outer diameter	Φ5 ±0.2 mm	
Mounting face width	40 mm	
Mounting Height Dimension	40 mm	
Mechanical View 11	Intermittent Maximum Torque	1.12 N.m
	Intermittent Starting Torque	0.96 N.m
	Torque Scale Value	0.80 N.m
	Intermittent Operation Region Label	Intermittent operation zone
	Torque Axis Label	Torque in Newton-meters
	Torque Scale Value	0.64 N.m
	Torque Scale Value	0.48 N.m
	Continuous Rated Torque	0.352 N.m
	Torque Scale Value	0.32 N.m
	Continuous Operation Region Label	Continuous operation zone
	Torque Scale Value	0.16 N.m
	Speed Starting Value	0 rpm
	Speed Scale Value	1000 rpm
	Speed Scale Value	2000 rpm
	Speed Scale Value	3000 rpm
	Speed Scale Value	4000 rpm
	Speed Scale Value	5000 rpm
	Maximum Speed Value	6000 rpm
	Speed Axis Label	Speed in revolutions per minute

Overall Dimensions and Mounting Interface

PARAMETER	PUBLISHED VALUE	UNIT
Flange Size	40	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	0.046	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	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	0.32	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	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	0.32	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-A01-040S-TOP32NM-100W-004 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.