ENGINEERING DOCUMENTATION

Miniature Slide Electric Cylinder

Dimensional & Integration Guide

DOCUMENT	REVISION / ISSUE	STATUS
DIG-ES-EC-S01-M002	DRAFT-08 / 28 Aug 2026	Engineering Integration Reference

Integration Overview

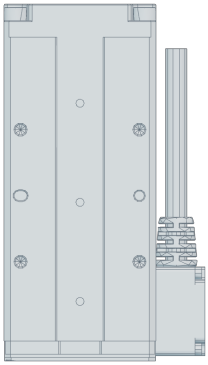
Compact electric linear actuator for precision positioning, tooling and automation integration. This guide supports envelope, mounting, load-path, motion, cable, commissioning and service planning for ES-EC-S01-M002.

Key Integration Facts

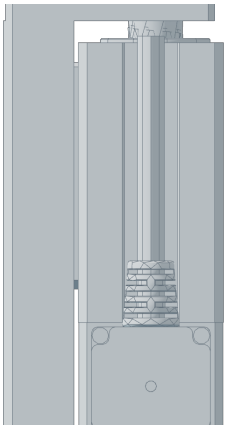
INTEGRATION ITEM	VALUE
Maximum horizontal load	1 mm: 8 kg; 2 mm: 6 kg; 4 mm: 3 kg; 6 mm: 2 kg
Minimum Thrust	1 mm: 78 N; 2 mm: 41 N; 4 mm: 21 N; 6 mm: 12 N
Maximum vertical load	1 mm: 2 kg; 2 mm: 1.5 kg; 4 mm: 0.75 kg; 6 mm: 0.5 kg
Maximum Acceleration	1 mm: 2000 mm/s²; 2 mm: 3000 mm/s²; 4 mm: 3000 mm/s²; 6 mm: 3000 mm/s²
Lead screw pitch	1 mm; 2 mm; 4 mm; 6 mm
Position Repeatability	±0.01 mm
Continuous Rated Current	1.5 A ( ) / 3 A ( ) * A
Stroke	30 mm, 50 mm

3D Orientation and Interface Views

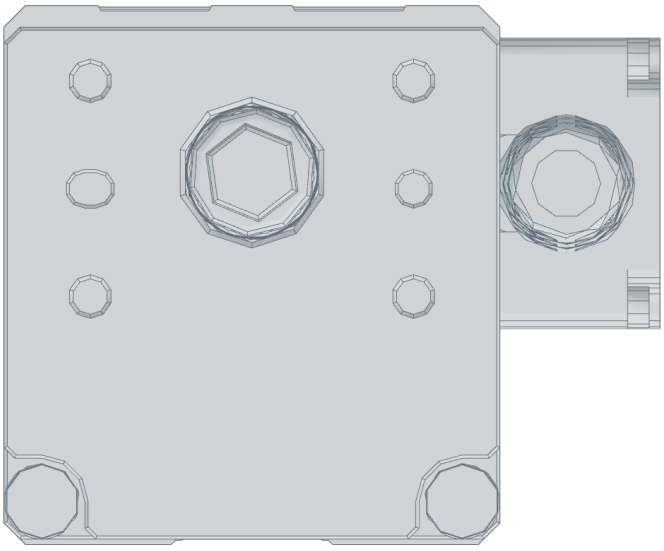
The front, right-side and top views are retained because each exposes a different integration relationship: moving-axis orientation, actuator side envelope and cable or motor-side projection. Dimensions remain governed by the applicable 2D drawing and exact-SKU parameters.



Front View



Right Side View

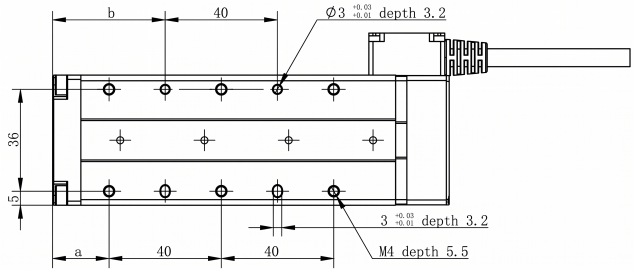


Top View

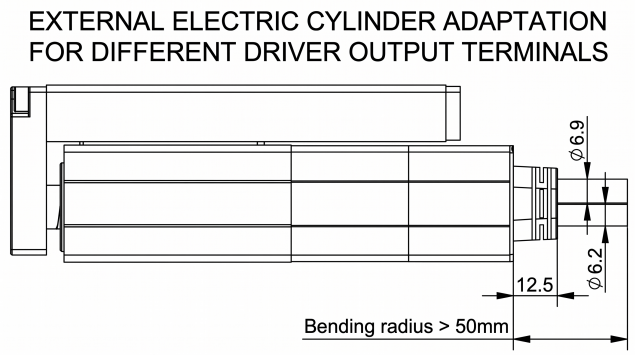
Each selected view contributes a distinct orientation or interface relationship used by the integration guidance.

Product Structure & Views

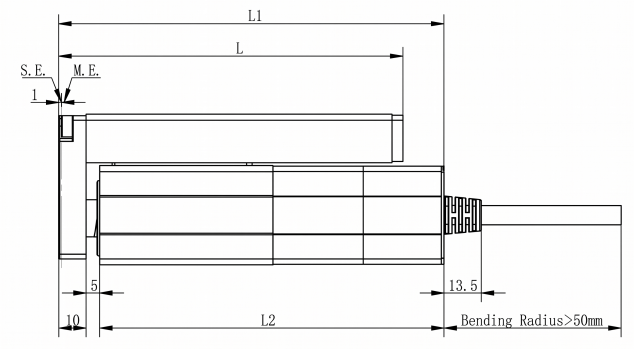
These views present the selected product structure, mounting interfaces and relevant integration geometry for this configuration.



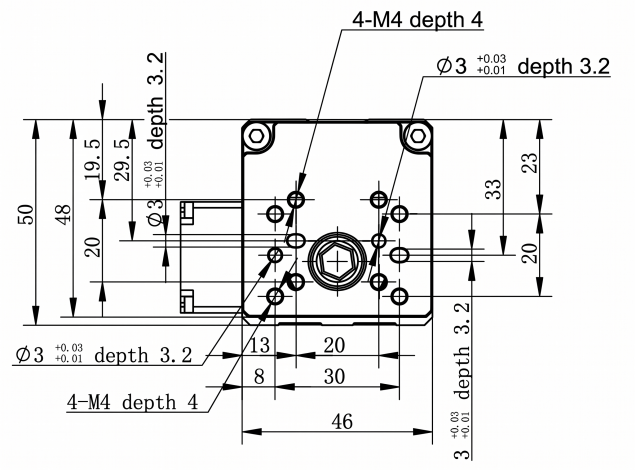
Mechanical View 1



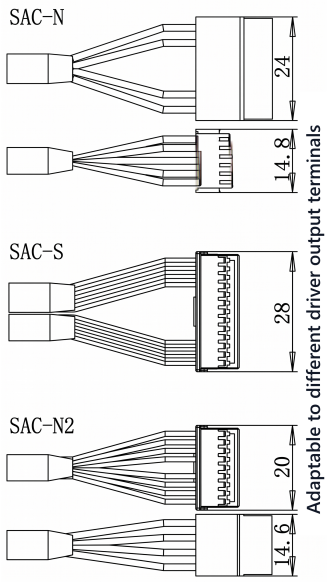
Mechanical View 3



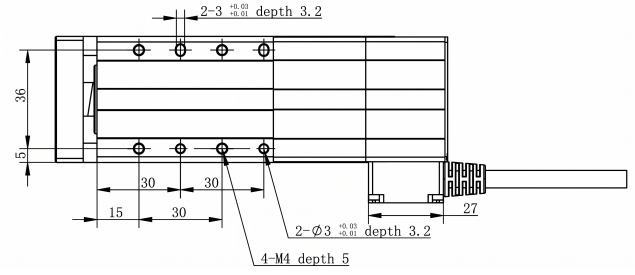
Mechanical View 4



Mechanical View 5



Mechanical View 6



Mechanical View 7

VIEW	FIELD	VALUE
Mechanical View 1	Upper row left pitch variable b	b, value Not specified in this view
	Upper row adjacent hole pitch	40
	Positioning hole diameter and depth	Diameter 3 with tolerance +0.03/+0.01, depth 3.2
	Body height	36
	Bottom offset	5
	Lower row hole diameter and depth	Diameter 3 with tolerance +0.03/+0.01, depth 3.2
	Lower row left adjacent hole pitch	40
	Lower row right adjacent hole pitch	40
	Threaded mounting hole size and depth	M4 thread, depth 5.5
	Lower row left pitch variable a	a, value Not specified in this view
Mechanical View 3	External electric cylinder adaptation note	External electric cylinder adaptation
Mechanical View 4	Upper overall length L1	L1, value Not specified
	Body length L	L, value Not specified
	Stroke end reference	S.E. reference mark
	Mechanical end reference	M.E. reference mark
	Spacing between S.E. and M.E.	1 mm
	Left offset dimension	5 mm
	Lower overall length L2	L2, value Not specified
	Left end thickness or spacing	10 mm
Mechanical View 5	M4 mounting threaded holes	4-M4 threaded holes, depth 4
	Locating hole diameter and depth	Diameter 3 with tolerance +0.03/+0.01, depth 3.2
	Hole depth	Depth 3.2
	Overall height	Overall height 50
	Body height	Body height 48
	Upper vertical offset	Vertical offset 19.5
	Upper vertical spacing	Vertical spacing 29.5
	Lower vertical spacing	Vertical spacing 20
	Right-side vertical spacing	Vertical spacing 33
	Right upper vertical spacing	Vertical spacing 23
	Right lower vertical spacing	Vertical spacing 20
	Horizontal hole spacing	Horizontal spacing 13
	Horizontal hole spacing	Horizontal spacing 20
Mechanical View 6	Adaptability note	Adaptable to different driver output terminals
Mechanical View 7	Top hole or slot specification	2 features, size 3 with tolerance +0.03/+0.01, depth 3.2
	Body height	36
	Lower offset	5
	Mounting hole horizontal pitch 1	30
	Mounting hole horizontal pitch 2	30
	Left end to first mounting hole distance	15
	Bottom mounting hole pitch	30

VIEW	FIELD	VALUE
Two diameter 3 holes with tolerance and depth	2×Ø3, tolerance +0.03/+0.01, depth 3.2	
Threaded mounting hole specification	4×M4 threaded holes, depth 5	

Technical Specifications - 1

PARAMETER	VALUE	UNIT
Maximum horizontal load	1 mm: 8 kg; 2 mm: 6 kg; 4 mm: 3 kg; 6 mm: 2	kg
Minimum Thrust	1 mm: 78 N; 2 mm: 41 N; 4 mm: 21 N; 6 mm: 12	N
Maximum vertical load	1 mm: 2 kg; 2 mm: 1.5 kg; 4 mm: 0.75 kg; 6 mm: 0.5	kg
Maximum Acceleration	1 mm: 2000 mm/s²; 2 mm: 3000 mm/s²; 4 mm: 3000 mm/s²; 6 mm: 3000	mm/s²
Lead screw pitch	1 mm; 2 mm; 4 mm; 6	mm
Position Repeatability	±0.01	
Continuous Rated Current	1.5 A ( ) / 3 A ( ) *	A
Stroke	30 mm, 50	mm

Technical Specifications - 2

PARAMETER	VALUE	UNIT
Recommended Operating Environment	0~40°C, 85% RH	
Rated Thrust	1 mm: 200 N; 2 mm: 100 N; 4 mm: 50 N; 6 mm: 30	N
Weight	Non-brake — 30 mm stroke: 0.62 kg; 50 mm stroke: 0.70 kg; brake — 30 mm stroke: 0.69 kg; 50 mm stroke: 0.77	kg
Allowable Load Moment (My)	9.9 N.m	N·m
Allowable Load Moment (Mx)		
Maximum Linear Speed	1 mm: 50 mm/s; 2 mm: 100 mm/s; 4 mm: 200 mm/s; 6 mm: 300	mm/s
Allowable Load Moment (Mz)	12.2 N.m	N·m

Mounting and Load Path

- Support the complete mounting face, preserve locating datums and verify fastener engagement for the installed load path.
- Validate thrust, side load, moment, duty cycle and acceleration for the complete mechanism; do not use component ratings as a machine-level approval.

Motion, Cable and Commissioning

- Keep the full moving envelope clear, provide strain relief through the complete stroke and prevent cable forces from biasing motion.
- Commission at reduced energy and verify homing, travel limits, repeatability, temperature and fault handling before automatic operation.

Integration Checklist

01	Confirm the exact-SKU drawing and parameter set.
02	Verify mounting datums, fasteners and the complete actuator envelope.
03	Validate stroke, speed, thrust, load path and side-load boundaries.
04	Provide cable clearance and strain relief through the complete travel.
05	Commission at reduced energy and verify homing, limits, repeatability and fault behavior.

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-EC-S01-M002 and is intended for dimensional evaluation and preliminary integration. It is not a manufacturing drawing, machine-level load approval, wiring final integration, safety validation or production authorization. Before design freeze, installation or commissioning, verify all dimensions, interfaces, fits, fasteners, loads, motion limits, cable requirements, environmental boundaries and maintenance requirements against the applicable EmbodyStack engineering documentation for this exact SKU. Validate the complete installed system under intended operating and fault conditions.