ENGINEERING DOCUMENTATION

Three-Finger Centric Electric Gripper

Dimensional & Integration Guide

DOCUMENT	REVISION / ISSUE	STATUS
DIG-ES-EG-C00-S007-V001	DRAFT-08 / 28 Aug 2026	Engineering Integration Reference

Integration Overview

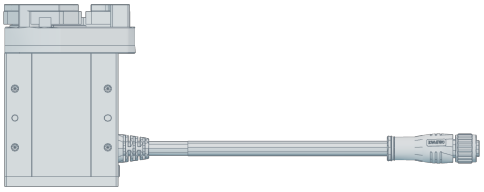
Three-finger centric electric end effector for cylindrical and rotationally symmetric workpieces. This guide supports mounting, fingertip, load-path, cable, commissioning and service planning for ES-EG-C00-S007-V001.

Key Integration Facts

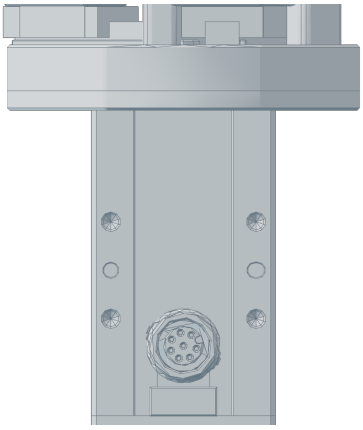
INTEGRATION ITEM	VALUE
Gripping Force (Per Side)	3~10 N
Continuous Rated Output Power	7.2 W
Operating Noise	< 50 dB
Finger stroke	10 mm
Position Repeatability	± 0.03 mm
Maximum Recommended Payload	0.1 kg
Full-Stroke Open / Close Time	0.3 s/0.3 s
Operating Voltage	24 V DC ± 10% V DC

3D Orientation and Interface Views

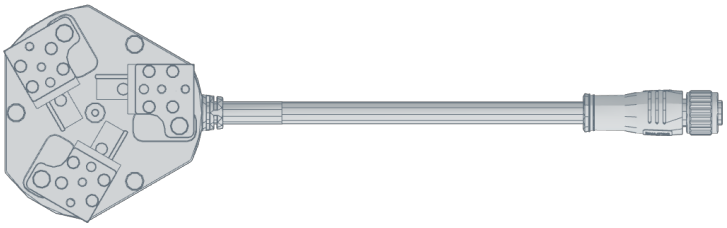
The front, right-side and top views are retained because each exposes a different integration relationship: finger geometry, cable routing direction and robot-side mounting orientation. Dimensions remain governed by the applicable 2D drawing and exact-SKU parameters.



Front View



Right Side View

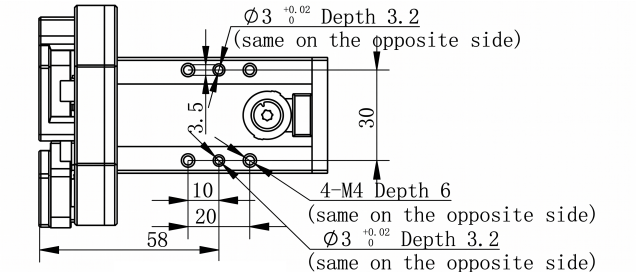


Top View

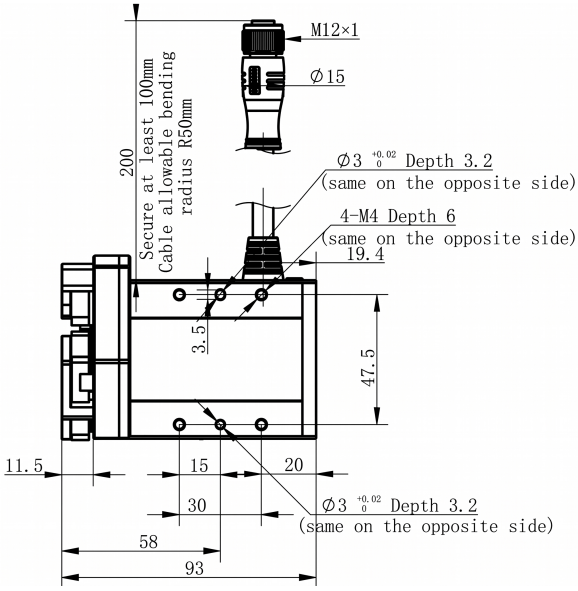
Each selected view contributes a distinct orientation or interface relationship used by the integration guidance.

Product Structure & Views

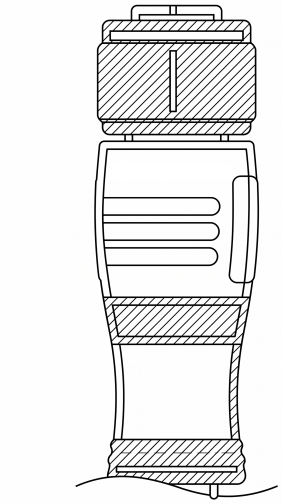
These views present product structure, mounting interfaces and relevant integration geometry for this SKU.



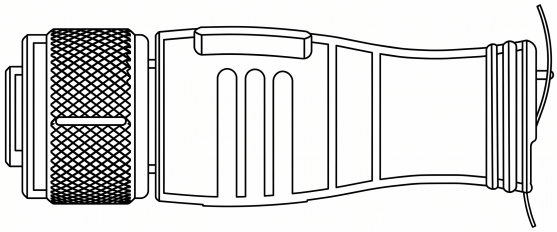
Mechanical View 1



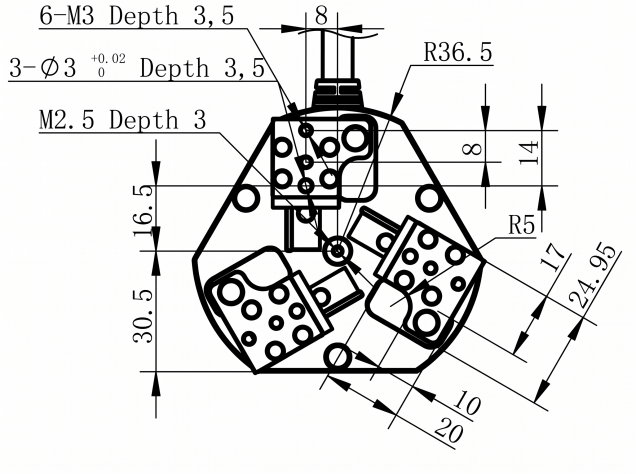
Mechanical View 2



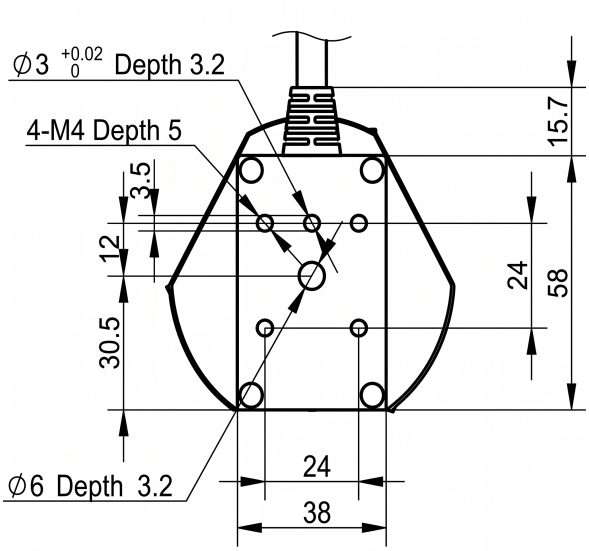
Mechanical View 3



Mechanical View 4



Mechanical View 5



Mechanical View 6

VIEW	FIELD	VALUE
Mechanical View 1	Hole diameter and depth	Diameter 3 mm, tolerance +0.02/0 mm, depth 3.2 mm
	Same feature on opposite side note	Same specification applies on the opposite side
	Hole position offset	3.5 mm position offset
	Vertical overall/feature spacing	30 mm vertical dimension
	Threaded mounting holes	4 × M4 threaded holes, depth 6 mm
	Horizontal hole spacing	10 mm horizontal spacing
	Horizontal hole spacing	20 mm horizontal spacing
	Horizontal length dimension	58 mm horizontal dimension
Mechanical View 2	Overall height	200
	Cable securing and minimum allowable bending radius requirement	Secure cable at least 100 mm; allowable bending radius R50 mm
	Hole diameter and depth	Diameter 3 +0.02/0, depth 3.2
	Mounting threaded holes	4 x M4 threaded holes, depth 6
	Mounting hole horizontal position dimension	19.4
	Local hole offset	3.5
	Mounting hole vertical spacing	47.5
	Left-side offset dimension	11.5
	Mounting hole horizontal spacing	15
	Right-side mounting hole offset	20

VIEW	FIELD	VALUE
Mechanical View 5	M3 threaded holes quantity and depth	6 x M3 threaded holes, depth 3.5 mm
	Diameter 3 holes quantity, tolerance and depth	3 x Ø3 mm holes, +0.02/0 tolerance, depth 3.5 mm
	M2.5 threaded hole depth	M2.5 threaded hole, depth 3 mm
	Outer profile radius	Radius 36.5 mm
	Left vertical dimension	16.5 mm
	Left vertical dimension	30.5 mm
	Right local height	8 mm
	Right overall local height	14 mm
	Fillet radius	Radius 5 mm
	Bottom oblique local dimension	10 mm
	Bottom oblique dimension	20 mm
Mechanical View 6	Mounting hole center distance	15.7
	Mounting threaded hole specification	4-M4
	Mounting threaded hole depth	Depth 5
	Mounting hole center distance	3.5
	Mounting face width	12
	Center height	24
	Overall height	58
	Mounting face height	30.5
	Lower width	24
	Lower height	38

Technical Specifications - 1

PARAMETER	VALUE	UNIT
Gripping Force (Per Side)	3~10	N
Continuous Rated Output Power	7.2	W
Operating Noise	< 50	dB
Finger stroke	10	mm
Position Repeatability	± 0.03	
Maximum Recommended Payload	0.1	kg
Full-Stroke Open / Close Time	0.3 s/0.3	s
Operating Voltage	24 V DC ± 10%	V DC

Technical Specifications - 2

PARAMETER	VALUE	UNIT
Rated / peak current	0.3 A ( ) / 0.6 A ( )*	A
Transmission type	+	
Recommended Operating Environment	0~40°C, 85% RH	
Allowable static vertical load Fz	150	N
Weight	0.43	kg
Allowable Load Moment (My)	0.62	N·m
Allowable Load Moment (Mx)		
Compliance Standards	CE, FCC, RoHS	

Technical Specifications - 3

PARAMETER	VALUE	UNIT
Communication Protocol	: Modbus RTU (RS485) Digital I/O(2 2) : TCP/IP USB2.0 CAN2.0A PROFINET EtherCAT*	
Allowable Load Moment (Mz)	0.62	N·m
Dimensions	94 mm x 53.5 mm x 38	mm

Mounting, Fingertip and Workpiece Integration

- Support the complete robot mounting interface and verify locating features, fastener engagement and surrounding clearance.
- Validate fingertip mass, overhang, stiffness, retention, contact pressure and the complete finger and workpiece collision envelope.

Load, Cable and Commissioning

- Validate payload, grip contact, workpiece center of mass, acceleration, emergency stop and allowable moments as one installed load case.
- Provide suitable cable routing and strain relief, then verify supply, interface, initialization, command authority and feedback states before automatic operation.

Integration Checklist

01	Confirm the exact-SKU drawing and parameter set.
02	Verify mounting geometry, locating features, fasteners and body envelope.
03	Validate fingertips, workpiece contact, payload, acceleration and moments.
04	Route and strain-relieve the cable through the complete motion envelope.
05	Verify initialization, command authority, feedback 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-EG-C00-S007-V001 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.