ENGINEERING DOCUMENTATION

Two-Finger Parallel Electric Gripper

Dimensional & Integration Guide

DOCUMENT	REVISION / ISSUE	STATUS
DIG-ES-EG-C00-S002-V003	DRAFT-08 / 28 Aug 2026	Engineering Integration Reference

Integration Overview

Electric end effector for automated gripping and workpiece handling. This guide supports mounting, finger interface, load-path, cable, commissioning and service planning for ES-EG-C00-S002-V003.

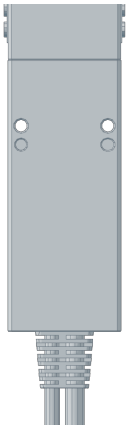
Key Integration Facts

INTEGRATION ITEM	VALUE
Measurement Repeatability	± 0.02 mm
Gripping Force (Per Side)	6~15 N
Maximum Recommended Payload	0.1 kg
Communication Interface	: TCP/IP
Operating Voltage	24 V DC ± 10% V DC
Weight	0.15 kg
Permissible Moment (My)	0.4 N·m
Allowable Static Vertical Load Fz	35 N

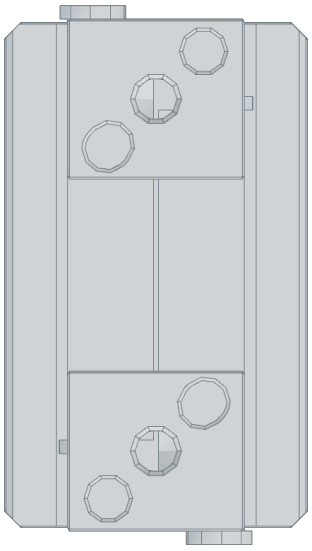
3D Orientation and Interface Views

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

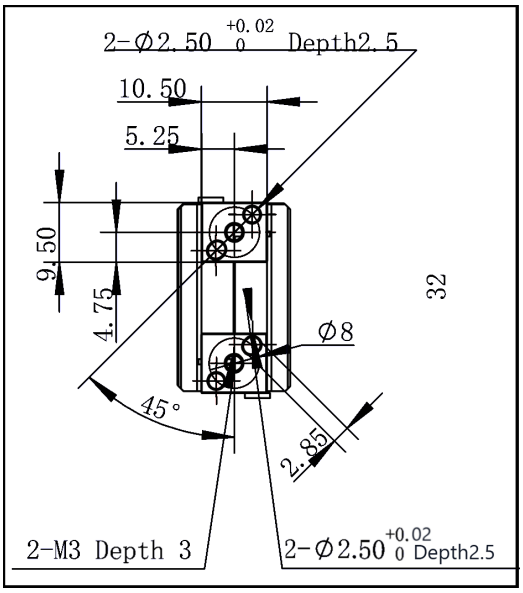


Top View

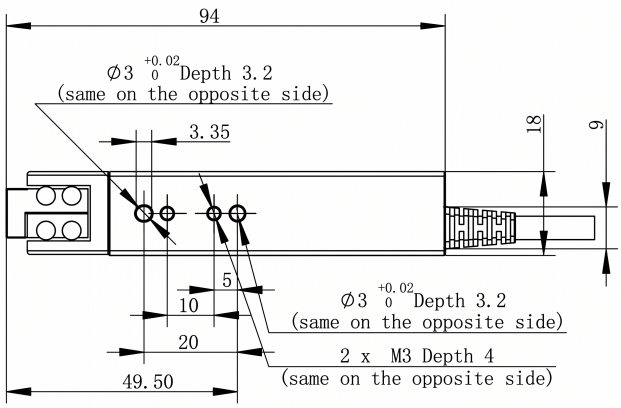
Each selected view contributes a distinct orientation or interface relationship used by the integration guidance.

Product Structure & Views

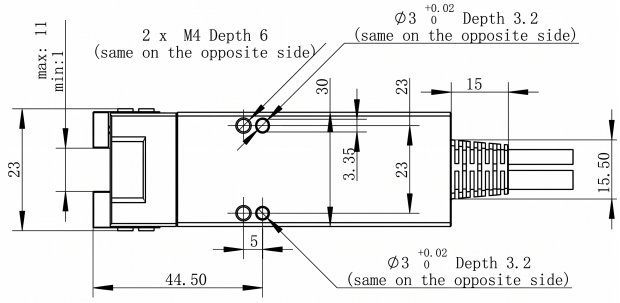
These views present product structure, mounting interfaces and relevant integration geometry for this SKU.



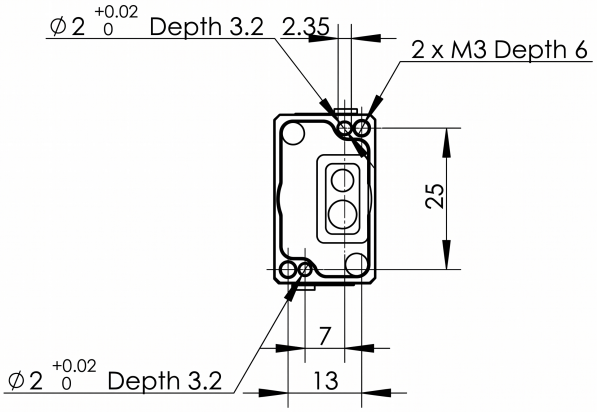
Mechanical View 1



Mechanical View 2



Mechanical View 3



Mechanical View 4

VIEW	FIELD	VALUE
Mechanical View 1	Top two diameter 2.50 holes with depth	2 × Ø2.50 +0.02/0, depth 2.5
	Upper hole horizontal locating dimension	10.50
	Upper hole horizontal spacing	5.25
	Vertical locating dimension	9.50
	Hole vertical spacing	4.75
	Overall height	32
	Circular hole diameter	Ø3
	Inclination angle	45 degrees
	Angled locating dimension	2.85
	Two M3 threaded holes depth	2 × M3, depth 3
	Bottom two diameter 2.50 holes with depth	2 × Ø2.50 +0.02/0, depth 2.5

VIEW	FIELD	VALUE
Mechanical View 2	Overall body length	94 mm
	Diameter 3 hole with unilateral tolerance and depth, upper callout	Ø3 +0.02/0, depth 3.2 mm, same on opposite side
	Hole center spacing	3.35 mm
	Local mounting interface dimension	7 mm
	Local hole spacing dimension	5 mm
	Diameter 3 hole with unilateral tolerance and depth, lower callout	Ø3 +0.02/0, depth 3.2 mm, same on opposite side
	Hole center location dimension	10 mm
	Hole group location dimension	20 mm
	Threaded hole specification	2 x M3 threaded holes, depth 4 mm, same on opposite side
Mechanical View 3	Upper locating hole diameter and depth	Diameter 3 mm, tolerance +0.02/0, depth 3.2 mm
	M4 threaded hole quantity and depth	2 × M4 threaded holes, depth 6 mm
	Maximum envelope height	Maximum 11 mm
	Minimum clearance or step height	Minimum 1 mm
	Upper body height locating dimension	23 mm
	Main body height	30 mm
	Hole offset dimension	3.35 mm
	Left side height dimension	23 mm
	Hole center distance	5 mm
	Lower locating hole diameter and depth	Diameter 3 mm, tolerance +0.02/0, depth 3.2 mm
Mechanical View 4	Upper locating hole diameter and depth	Diameter 2 mm, tolerance +0.02/0 mm, depth 3.2 mm
	Hole spacing or offset dimension	2.35 mm
	Threaded hole specification and depth	2 x M3 threaded holes, depth 6 mm
	Vertical mounting dimension	25 mm
	Horizontal hole spacing or mounting width	7 mm
	Bottom overall width or center distance	13 mm
	Lower locating hole diameter and depth	Diameter 2 mm, tolerance +0.02/0 mm, depth 3.2 mm

Technical Specifications - 1

PARAMETER	VALUE	UNIT
Measurement Repeatability	± 0.02	mm
Gripping Force (Per Side)	6~15	N
Maximum Recommended Payload	0.1	kg
Communication Interface	: TCP/IP	
Operating Voltage	24 V DC ± 10%	V DC
Weight	0.15	kg
Permissible Moment (My)	0.4	N·m
Allowable Static Vertical Load Fz	35	N

Technical Specifications - 2

PARAMETER	VALUE	UNIT
Driving Method	Rack and pinion + crossed-roller guide	
Permissible Moment (Mx)	0.45	N·m
Permissible Moment (Mz)		
Recommended Operating Environment	0–40 °C; relative humidity below 85%	
Unweighted Noise Level	< 50	dB
Peak Current	0.2 A( ) 0.3 A( ) [6]	A
Standards Compliance	CE, FCC, RoHS	
Ingress Protection	IP 40	

Technical Specifications - 3

PARAMETER	VALUE	UNIT
Continuous Rated Current	0.2 A( ) 0.3 A( ) [6]	A
Peak Power	8	W

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-S002-V003 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.