

ENGINEERING DOCUMENTATION

Two-Finger Parallel Electric Gripper

Dimensional & Integration Guide

DOCUMENT	REVISION / ISSUE	STATUS
DIG-ES-EG-C00-S003-V001	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-S003-V001.

Key Integration Facts

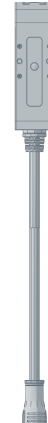
INTEGRATION ITEM	VALUE
Measurement Repeatability	± 0.02 mm
Gripping Force (Per Side)	0.8~5 N
Maximum Recommended Payload	0.1 kg
Full-Stroke Open / Close Time	Configuration-dependent (2 records)
Communication Interface	
Peak Current	
Operating Voltage	24 V DC $\pm$ 10% V DC
Continuous Rated Current	Configuration-dependent (2 records)

3D Orientation and Interface Views

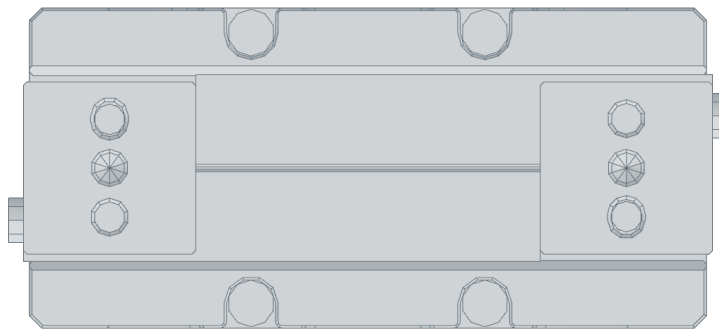
The front, right-side and top views are retained because each exposes a different integration relationship: finger geometry, cable routing direction and robot-side mounting orientation. Dimensions remain governed by the applicable 2D drawing and exact-SKU parameters.



Front View



Right Side View



Top View

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

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



VIEW	FIELD	VALUE
Mechanical View 1	Hole diameter with tolerance	⌀ +0.02/0 mm
	Hole depth	Depth 3.2 mm
	Thread specification and quantity	4- M3 threaded holes
	Threaded hole depth	Depth 4 mm
	Horizontal distance	3.50 mm
	Vertical distance	20 mm
	Horizontal distance	10 mm
	Hole diameter with tolerance	⌀ +0.02/0 mm
	Overall width	55 mm

VIEW	FIELD	VALUE
Mechanical View 2	Main body length	Length 95 mm
	Threaded mounting holes	4 x M3 threaded holes, depth 4 mm, same on opposite side
	Upper row locating holes	Diameter 3 mm, tolerance +0.02/0, depth 3.2 mm, same on opposite side
	Main body height	Height 57.40 mm
	Gripper opening range	Opening range: max 27 mm open, min 1 mm closed
	Side spacing	Spacing 3.50 mm
	Right side height or spacing	20 mm
	Bottom step offset	Offset 4.50 mm
	Hole center horizontal spacing	Hole center spacing 10 mm
	Hole center horizontal spacing	Hole center spacing 20 mm
	Through hole diameter	Diameter 9 mm
	Lower row locating holes	Diameter 3 mm, tolerance +0.02/0, depth 3.2 mm, same on opposite side
Mechanical View 3	M3 threaded hole specification	2-M3 thread, depth 4 mm
	Positioning hole specification (upper)	2 holes, $\varnothing 5.50 \pm 0.02$ mm, depth 3.2 mm
	Through hole or positioning hole specification	2 holes, $\varnothing 9.90$ mm
	Positioning hole specification (lower)	2 holes, $\varnothing 5.50 \pm 0.02$ mm, depth 3.2 mm
Mechanical View 4	Mounting hole spacing	20 mm
	Mounting threaded hole specification	4x M3 threaded holes, depth 4 mm
	Locating pin hole diameter and tolerance (upper)	$\varnothing \pm 0.02/0$ mm
	Locating pin hole depth (upper)	Depth 3.2 mm
	Mounting hole spacing (vertical)	20 mm
	Locating pin hole diameter and tolerance (lower)	$\varnothing \pm 0.02/0$ mm
	Locating pin hole depth (lower)	Depth 3.2 mm

Technical Specifications - 1

PARAMETER	VALUE	UNIT
Measurement Repeatability	± 0.02	mm
Gripping Force (Per Side)	0.8~5	N
Maximum Recommended Payload	0.1	kg
Full-Stroke Open / Close Time		
CONDITION	VALUE	UNIT
Configuration-specific; confirm the selected configuration	0.3 s / 0.3	s
	0.3 s/0.3	
Communication Interface		
CONDITION	VALUE	UNIT
Configuration-specific; confirm the selected configuration	Standard: Modbus RTU (RS485), Digital I/O; optional: TCP/IP, USB 2.0, CAN 2.0A, PROFINET, EtherCAT	
	: Modbus RTU (RS485) Digital I/O(2 2) : TCP/IP USB2.0 CAN2.0A PROFINET EtherCAT**	
Peak Current		
CONDITION	VALUE	UNIT
Configuration-specific; confirm the selected configuration	0.4 A () / 0.7 A ()**	A
	0.7	
Operating Voltage	24 V DC $\pm 10\%$	V DC
Continuous Rated Current		
CONDITION	VALUE	UNIT
Configuration-specific; confirm the selected configuration	0.4 A () / 0.7 A ()**	A
	0.4	

Technical Specifications - 2

PARAMETER	VALUE	UNIT
Continuous Rated Output Power	9.6	W
Weight	0.4	kg
Driving Method		
CONDITION	VALUE	UNIT
Configuration-specific; confirm the selected configuration	Rack and pinion + crossed-roller guide	
	+	
Recommended Operating Environment	0–40 °C; relative humidity below 85%	
Unweighted Noise Level	< 50	dB
Standards Compliance	CE, FCC, RoHS	
Ingress Protection	IP 40	
Permissible Moment (My)	0.25	N·m

Technical Specifications - 3

PARAMETER	VALUE	UNIT
Allowable Static Vertical Load Fz	50	N
Permissible Moment (Mx)	0.3	N·m
Permissible Moment (Mz)		

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-S003-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.