

ENGINEERING DOCUMENTATION

Two-Finger Parallel Electric Gripper

Dimensional & Integration Guide

DOCUMENT	REVISION / ISSUE	STATUS
DIG-ES-EG-C00-S002-V008	DRAFT-08 / 28 Aug 2026	Engineering Integration Reference

Integration Overview

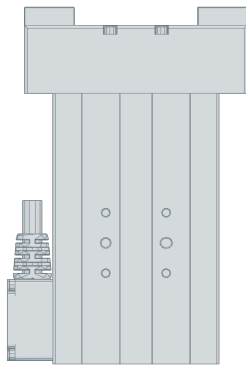
Electric end effector for automated gripping and workpiece handling. This guide supports mounting, finger interface, load-path, cable, commissioning and service planning for ES-EG-C00-S002-V008.

Key Integration Facts

INTEGRATION ITEM	VALUE
Measurement Repeatability	± 0.02 mm
Gripping Force (Per Side)	15–50 N
Maximum Recommended Payload	1 kg
Communication Interface	Standard: Modbus RTU (RS485), Digital I/O; optional: TCP/IP, USB 2.0, CAN 2.0A, PROFINET, EtherCAT
Operating Voltage	24 V DC $\pm$ 10% V DC
Peak Power	20 W
Weight	0.6 kg kg
Permissible Moment (My)	5 Nm

3D Orientation and Interface Views

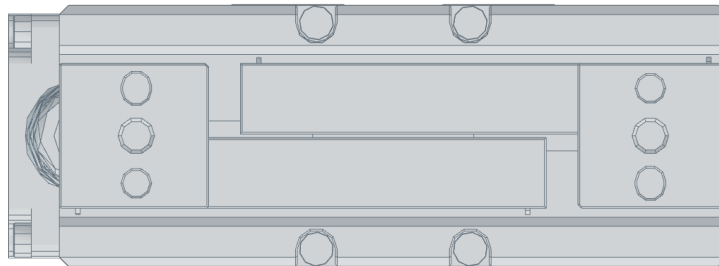
The front, right-side and top views are retained because each exposes a different integration relationship: finger geometry, cable routing direction and robot-side mounting orientation. Dimensions remain governed by the applicable 2D drawing and exact-SKU parameters.



Front View



Right Side View

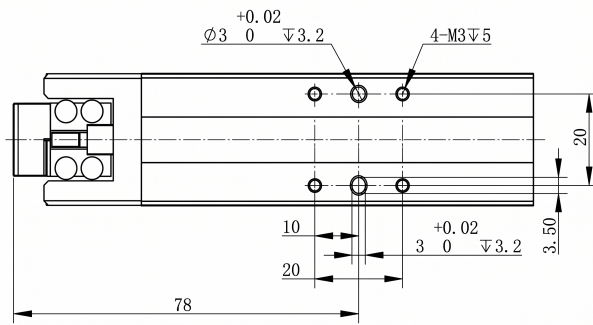


Top View

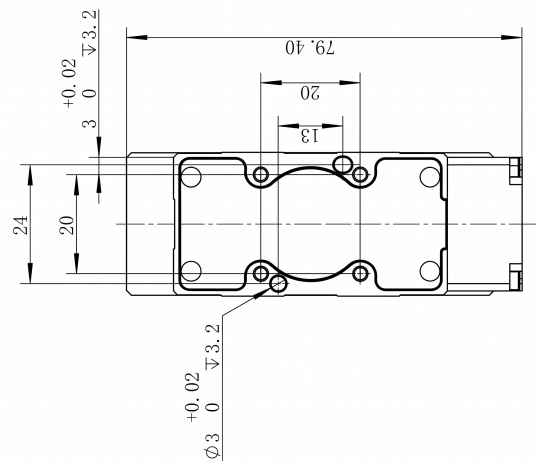
Each selected view contributes a distinct orientation or interface relationship used by the integration guidance.

Product Structure & Views

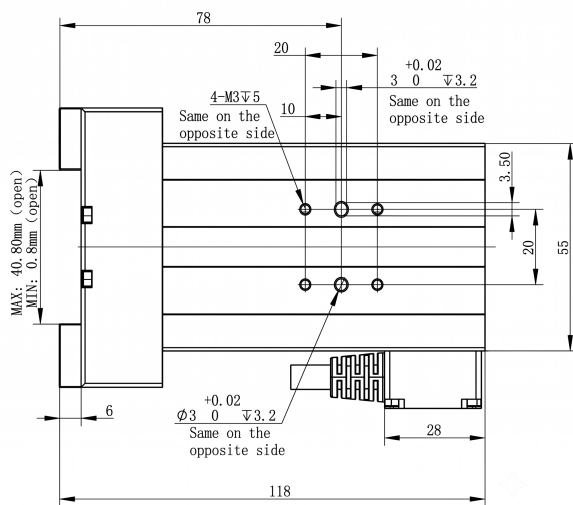
These views present product structure, mounting interfaces and relevant integration geometry for this SKU.



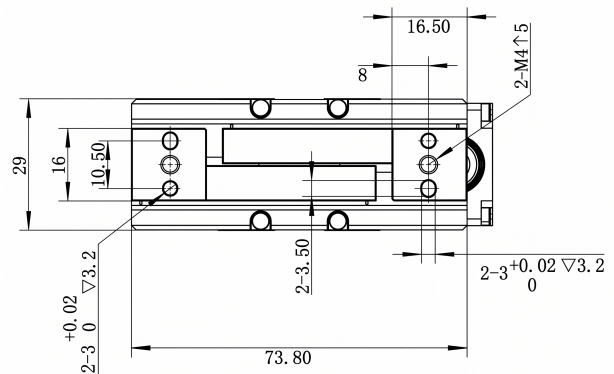
Mechanical View 1



Mechanical View 2



Mechanical View 3



Mechanical View 4

VIEW	FIELD	VALUE
Mechanical View 1	Upper row hole diameter and depth callout	Diameter 3 mm with tolerance +0.02/0, depth/countersink callout 3.2 mm
	Threaded mounting hole specification	4 × M3 threaded holes, depth/countersink callout 5 mm
	Right side vertical dimension	20 mm vertical dimension
	Lower row hole diameter and depth callout	Diameter 3 mm with tolerance +0.02/0, depth/countersink callout 3.2 mm
	Hole spacing dimension	10 mm spacing
	Step or slot vertical dimension	3.50 mm vertical dimension
	Hole spacing dimension	20 mm spacing
	Length dimension	78 mm length

VIEW	FIELD	VALUE
Mechanical View 2	Hole diameter and tolerance, upper hole group	Diameter 3 mm, tolerance +0.02/0, surface roughness Ra 3.2
	Overall height	79.40 mm
	Upper hole spacing	20 mm
	Central hole spacing	13 mm
	Outer width in this view	24 mm
	Inner mounting width	20 mm
	Hole diameter and tolerance, lower hole group	Diameter 3 mm, tolerance +0.02/0, surface roughness Ra 3.2
Mechanical View 3	Upper horizontal length	78 mm
	Horizontal spacing between mounting hole columns	20 mm
	Upper mounting hole diameter tolerance and surface finish	Diameter 3 mm, tolerance +0.02/0, surface roughness 3.2
	Threaded hole specification	4 × M3 holes, depth/countersink indicator 5
	Same on opposite side note	Same feature exists on the opposite side
	Horizontal offset dimension	10 mm
	Local vertical spacing	3.50 mm
	Overall height	55 mm
	Vertical spacing between mounting hole rows	20 mm
	Lower mounting hole diameter tolerance and surface finish	Diameter 3 mm, tolerance +0.02/0, surface roughness 3.2
	Left end step width	6 mm
	Overall length	118 mm
Mechanical View 4	Upper rectangular width	16.50 mm
	Threaded hole specification	2 × M4 thread, depth 5 mm
	Upper rectangular boss depth	8 mm
	Middle rectangular height	10.50 mm
	Total height	29 mm
	Lower rectangular height	16 mm
	Vertical hole spacing	2 holes, 3.50 mm spacing
	Bottom horizontal dimension tolerance	2-3 mm +0.02/0, surface finish 3.2
	Total length	73.80 mm
	Vertical hole diameter tolerance	∅-3 mm +0.02/0, surface finish 3.2

Technical Specifications - 1

PARAMETER	VALUE	UNIT
Measurement Repeatability	± 0.02	mm
Gripping Force (Per Side)	15-50	N
Maximum Recommended Payload	1	kg
Communication Interface	Standard: Modbus RTU (RS485), Digital I/O; optional: TCP/IP, USB 2.0, CAN 2.0A, PROFINET, EtherCAT	
Operating Voltage	24 V DC $\pm 10\%$	V DC
Peak Power	20	W
Weight	0.6 kg	kg
Permissible Moment (My)	5	Nm

Technical Specifications - 2

PARAMETER	VALUE	UNIT
Allowable Static Vertical Load Fz	150	N
Driving Method	Rack and pinion + crossed-roller guide	
Permissible Moment (Mx)	4.5	Nm
Permissible Moment (Mz)	7	
Recommended Operating Environment	0-40 °C; relative humidity below 85%	
Unweighted Noise Level	< 50	dB
Peak Current	0.2 A () 0.8 A ()	A
Standards Compliance	CE, FCC, RoHS	

Technical Specifications - 3

PARAMETER	VALUE	UNIT
Ingress Protection	IP 40	
Continuous Rated Current	0.2 A() 0.8 A()	A

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-V008 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.