

ENGINEERING DOCUMENTATION

EtherCAT Remote I/O Module

Dimensional & Integration Guide

DOCUMENT	REVISION / ISSUE	STATUS
DIG-ES-IO-01-M005	DRAFT-08 / 27 Aug 2026	Engineering Integration Reference

Integration Overview

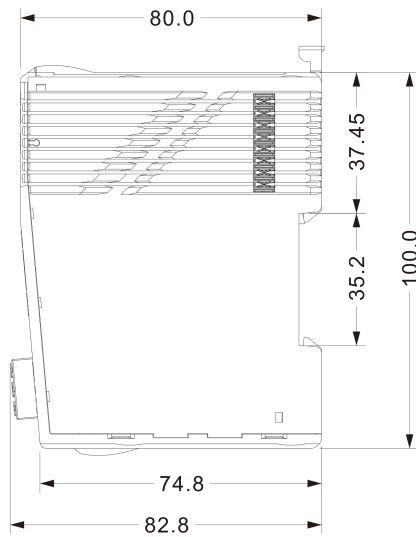
Distributed EtherCAT remote I/O module for control-cabinet and machine-level signal integration. This guide supports mounting, backplane and field-power planning, channel loading, network wiring, grounding and commissioning.

Key Integration Facts

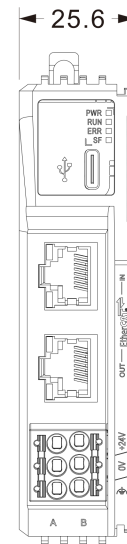
INTEGRATION ITEM	PUBLISHED VALUE
Module type	Bus coupler

Product Structure & Views

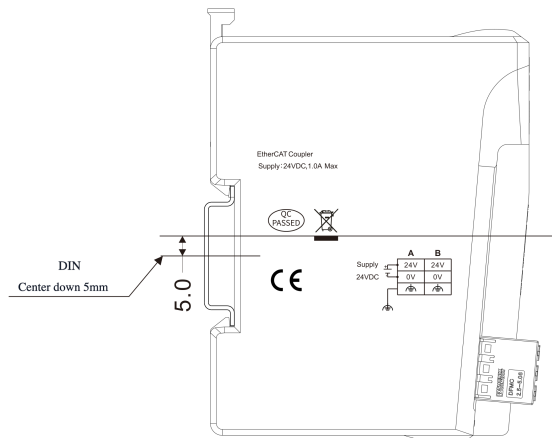
These views present product structure, mounting interfaces and relevant integration geometry for this SKU.



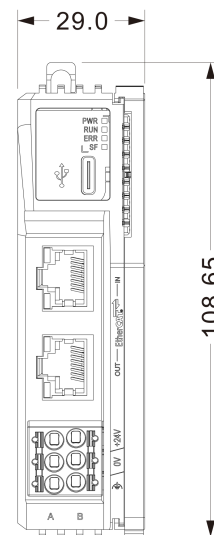
Mechanical View 1



Mechanical View 2



Mechanical View 3



Mechanical View 4

VIEW	FIELD	VALUE
Mechanical View 1	Overall width	80.0 mm
	Upper section height	37.45 mm
	Lower section height	35.2 mm
	Overall height	100.0 mm
	Bottom inner width	74.8 mm
	Bottom outer width	82.8 mm
Mechanical View 2	Module Width	25.6
	EtherCAT IN Port	EtherCAT IN
	EtherCAT OUT Port	EtherCAT OUT
	Communication Protocol	EtherCAT
	Power Supply Positive	+24V
	Power Supply Ground	0V
	Power Indicator LED	PWR LED
	Run Indicator LED	RUN LED
	Error Indicator LED	ERR LED
	Link Safety Fail Indicator LED	LSF LED
	Datum A	Datum A
	Datum B	Datum B
Mechanical View 3	DIN rail mounting offset	DIN rail mounting position offset 5mm below product center
	Wire gauge specification	2.5-5.08
Mechanical View 4	Module width	29.0 mm
	Total module height (with cover)	108.65 mm
	EtherCAT IN port	EtherCAT IN connector
	EtherCAT OUT port	EtherCAT OUT connector
	Power supply interface	0V and +24V power terminals
	Mounting hole positions	Mounting positions A and B

Overall Dimensions and Mounting Interface

PARAMETER	PUBLISHED VALUE	UNIT
Weight	Approx. 120 g	kg

- Confirm module width, rail or backplane engagement, connector access and replacement clearance against the applicable exact-SKU drawing.
- Mount on a rigid supported rail or approved backplane without twisting the enclosure or connector interface.

Power Distribution and Channel Loading

PARAMETER	PUBLISHED VALUE	UNIT
Power Consumption	6 W standalone / 20 W at full load	

- Separate logic, field and load power as required by the applicable module definition.
- Verify per-channel and aggregate current, protection and conductor sizing for normal and fault conditions.

EtherCAT Network Integration

- Use qualified industrial Ethernet cabling, connector retention and topology consistent with the controller and cycle-time design.
- Validate node order, addressing, distributed-clock behavior and network recovery during integration planning.

Signal Interface and Wiring

- Use the current terminal and channel assignment for this exact SKU.
- Separate sensitive analog and communication wiring from switching loads and provide suitable suppression for inductive circuits.

Grounding, EMC and Environment

- Bond rails, functional earth and shields according to the cabinet grounding architecture.
- Validate enclosure protection, contamination, condensation, temperature and airflow for the complete installed assembly.

Commissioning and Diagnostics

- Commission with field loads isolated where practicable, verify module identity and channel mapping, then enable outputs in specified stages.
- Include communication, power and channel diagnostic states in the machine fault strategy.

Integration Checklist

- | | |
|----|--|
| 01 | Confirm the exact SKU, 2D drawing and applicable terminal data. |
| 02 | Verify mounting, module width, connector access and replacement clearance. |
| 03 | Validate logic, field and load power distribution and protection. |
| 04 | Confirm EtherCAT topology, addressing, cycle timing and recovery. |
| 05 | Verify every channel assignment and load boundary. |
| 06 | Complete shielding, grounding, cable segregation and enclosure checks. |
| 07 | Commission inputs and outputs in specified stages and verify diagnostics. |

[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-IO-01-M005 and is intended for dimensional evaluation and preliminary integration. It is not a applicable manufacturing drawing, wiring definition, application approval, machinery risk assessment, safety validation or integration planning document. Before design freeze, machining, wiring or energization, verify all dimensions, tolerances, mounting and locating features, load boundaries, electrical interfaces, thermal conditions, cabling, grounding, protection, commissioning and applicable regulatory requirements against the applicable EmbodyStack engineering data for this exact SKU. Where this guide and applicable product documentation differ, the applicable product documentation governs. Validate the complete installed system under intended duty cycles, loads, accelerations, environmental conditions and credible fault cases.