

CATEGORY SELECTION GUIDE

EtherCAT Remote I/O Category Selection Guide

EtherCAT remote I/O connects to a motion controller or PLC through a fieldbus coupler and maps digital inputs, digital outputs and expansion modules into distributed network nodes for low-latency machine-signal acquisition and control. The principal SKU differences are module type, I/O count, installation dimensions, bus connection, load capability and environmental conditions.

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CATEGORY	CURRENT CATALOG	REVISION / ISSUE
EtherCAT Remote I/O	1 Product Platforms / 5 SKUs	R01 2026-09-04

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01 | Category Scope and Objective

Item	Current category
Product catalog	1 Product Platform / 5 SKUs
Suitable use	EtherCAT-based distributed digital I/O nodes for field-signal acquisition and actuator control in robots, machines and production lines.

02 | Product Principle and Typical Applications

Product overview

EtherCAT remote I/O connects to a controller through a fieldbus coupler and maps digital inputs, outputs and expansion modules into a network node for low-latency machine-signal exchange.

Typical applications

Machine signal acquisition

Select input modules from digital input count, input thresholds and field wiring requirements.

Actuator and load control

Check output modules against output type, rated load, electrical life and protection functions.

03 | Selection Inputs

Prepare before selection

- 01 Record the EtherCAT topology, station distance and synchronization mode.
- 02 Count digital inputs, digital outputs and expansion modules.
- 03 Confirm output load type, current, voltage and protection requirements.
- 04 Confirm DIN-rail space, supply, temperature and ingress-protection conditions.

04 | Product Platform Catalog



EtherCAT Remote I/O Product Platform 01

This Product Platform contains 5 SKUs covering bus-coupler, digital-input and digital-output combinations. Start with I/O count and module type, then confirm output load, dimensions, supply and environment.

5 SKUs

05 | Product Platform and SKU Selection Path

- 01 Confirm EtherCAT bus, station distance and controller interface.
- 02 Build the SKU shortlist from module type and digital input/output count.
- 03 Check field loads against output load, protection functions and electrical life.

- 04** Finally confirm dimensions, supply, temperature, ingress protection and expansion capacity.

Selection note

This category has one Product Platform; engineering differences are mainly at SKU level. Use I/O count and module type for shortlisting, but not as a substitute for complete interface verification.

06 | Selection Parameters and SKU Refinement

Product Platform parameter span

Product Platform	SKUs	Module Type	Digital Inputs	Digital Outputs	Dimensions	Fieldbus Protocol	Fieldbus Speed	Expansion Capacity	Ingress Protection
EtherCAT Remote I/O Product Platform 01	5	Digital output module / Digital mixed I/O module / Digital input module / Bus coupler	8 digital inputs; PNP / 16 digital inputs; PNP/NPN	8 digital outputs; relay, dry-contact, normally open / 16 digital outputs; PNP / 8 digital outputs; PNP	12 × 100 × 80mm / 24,3 × 100 × 80mm	EtherCAT	100 Mbps	Up to 16 RP20 expansion modules	IP20

SKU shortlist matrix

SKU	Module Type	Digital Inputs	Digital Outputs	Dimensions	Supply	Weight	Power Consumption
ES-IO-01-M001	Digital output module	—	8 digital outputs; relay, dry-contact, normally open	12 × 100 × 80mm	—	Approx. 70 g	—
ES-IO-01-M002	Digital output module	—	16 digital outputs; PNP	12 × 100 × 80mm	—	Approx. 70 g	—
ES-IO-01-M003	Digital mixed I/O module	8 digital inputs; PNP	8 digital outputs; PNP	12 × 100 × 80mm	24 VDC	Approx. 70 g	—
ES-IO-01-M004	Digital input module	16 digital inputs; PNP/NPN	—	12 × 100 × 80mm	24 VDC	Approx. 70 g	—
ES-IO-01-M005	Bus coupler	—	—	24,3 × 100 × 80mm	—	Approx. 120 g	6 W standalone / 20 W at full load

07 | Integration Checklist

Design inputs

- 01** Check EtherCAT topology, ports and synchronization mode.
- 02** Check DIN-rail mounting, terminal spacing, supply and cooling.
- 03** Check output load, electrical life, switching delay and protection functions.
- 04** Check ambient temperature, humidity, altitude and ingress protection.

08 | Engineering Use and Verification Notice

Engineering verification

- 01** Before design freeze, verify mechanical, electrical, communications and controlled engineering documents for the specific SKU.
- 02** Do not infer missing load, life or compatibility data from an SKU code or a single I/O count.
- 03** Use the Datasheet and Dimensional & Integration Guide as the primary engineering verification documents.

Responsibility boundary

This guide organizes candidate scope. Final selection, interface confirmation and system responsibility remain subject to controlled engineering documents for the specific SKU and project verification.