FIELD I/O · ETHERNET · PoE · MODBUS TCP

FieldIO 8RO-ETH

Switch real loads. Over the plant network.

Eight 10 A changeover relays and eight isolated digital inputs on Ethernet. Power it over PoE, plug it into any switch, and every Logivyx panel drives it through the built-in Modbus TCP driver — no PLC, no interposing relays.



8 × 10 A relays
1 NO + 1 NC, 250 V AC / 30 V DC

8 DI
Dry contact, NPN or PNP

PoE · 7–36 V
IEEE 802.3af or DC supply

VISUAL LOGIC.
ZERO CODE.

PRODUCT OVERVIEW

Power outputs anywhere your network reaches.

FieldIO 8RO-ETH puts eight heavy-duty relays and eight inputs on the Ethernet network. Mount it next to the pumps, heaters or valves it controls, run one network cable — data and power over PoE — and the Logivyx Soft PLC switches the loads directly.

THE CONVENTIONAL CABINET

PLC + output card + interposing relays

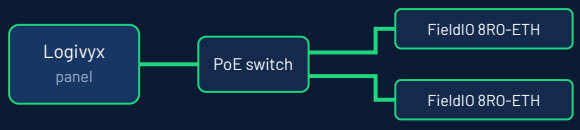


Extra relays, extra wiring, extra cabinet space

- ✕ PLC output card plus a row of interposing relays
- ✕ Long control wiring to every remote load
- ✕ Separate power supply at the remote end

THE LOGIVYX WAY

Panel + FieldIO 8RO-ETH on Ethernet



One network cable per module — data and power

- ✓ 10 A contacts switch most loads directly
- ✓ Standard Ethernet cabling and switches
- ✓ PoE powers the module — no extra supply

8 × 10 A
Changeover relays, 250 V AC / 30 V DC

8 DI
Optocoupled, dry contact, NPN or PNP

PoE
IEEE 802.3af — data and power on one cable

4 modes
Normal · Linkage · Toggle · Edge trigger

WHAT YOU GET

Ethernet relay module
8 relays, 8 inputs and status LEDs for every channel, in a DIN-rail housing.

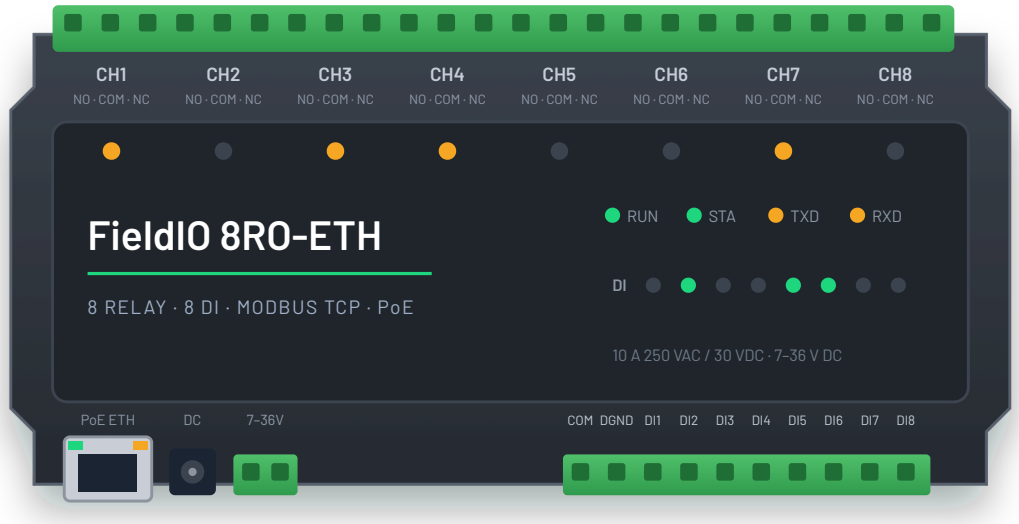
Modbus TCP
Standard Modbus TCP on port 502, or Modbus RTU over TCP — works with any Modbus master.

Built for Logivyx
Relays and inputs mapped to tags in Studio and used directly in ST, Ladder and Sequence logic.

HARDWARE

Heavy-duty relays, industrial protection.

A dedicated relay driver with built-in flyback diodes, optocoupler isolation between logic and relays, debounced optocoupled inputs and reverse-polarity protection — with a status LED for every relay, every input and the network.



Front view. Relay terminals on top; Ethernet, power and digital inputs on the bottom edge.

Top terminal block	RELAYS
CH1 – CH8	Each relay: NO (normally open), COM, NC (normally closed)
Rating	≤ 10 A 250 V AC or ≤ 10 A 30 V DC

Bottom edge	POWER & INPUTS
PoE ETH	RJ45 Ethernet with PoE (IEEE 802.3af)
DC	5.5 × 2.1 mm power jack
7–36 V	Screw terminal power input
COM / DGND	Input common · signal ground
DI1 – DI8	Digital inputs, channels 1–8

Indicators	LED
RUN	Ethernet running — 2-second blink when normal
STA	Module processor running — blinks when normal
TXD / RXD	Data sent / received
Port green	On when a TCP connection is established
Port yellow	Changes with Ethernet data activity
CH / DI LEDs	State of every relay and input

Optocoupler isolation

Relays isolated from the logic against high-voltage interference.

Flyback protection

Dedicated relay driver with built-in flyback diodes.

Debounced inputs

Bidirectional optocouplers with a debouncing algorithm.

Reverse protection

Protects the module against wrong power polarity.

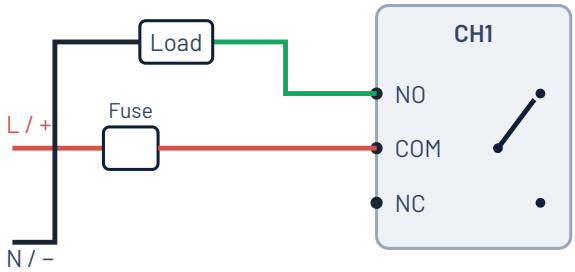
WIRING

Relays, inputs, power and network.

Each relay is a changeover contact: wire the load supply through COM and NO for "on = energised", or COM and NC for "on = released". Inputs share one COM terminal that sets the input type for all eight channels.

RELAY OUTPUT

Switching a load



Fuse the load circuit. Up to 10 A at 250 V AC or 30 V DC; allow margin for motor and lamp inrush. Fit an RC snubber or varistor across inductive loads.

DIGITAL INPUTS

Three input types

Dry contact	Leave COM unconnected; switch each DI to DGND
NPN (active low)	COM to the supply positive; sensor pulls DI low
PNP (active high)	COM to the supply negative; sensor drives DI high



Inputs accept 5–36 V DC in active mode and use bidirectional optocouplers.

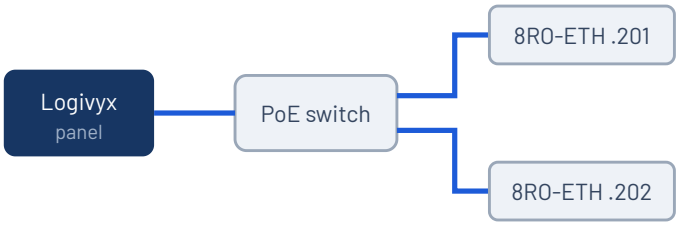
POWER

Three ways to power it

PoE	From a PoE switch or injector (IEEE 802.3af)
DC jack	5.5 × 2.1 mm plug, 7–36 V DC
Terminal	7–36 V DC screw terminal — e.g. cabinet 24 V

NETWORK

On the plant LAN



Give each module its own static IP address on the panel's subnet. Use shielded Cat5e or better cabling.

Safety: installation must be done by qualified electricians with all power switched off. Do not exceed the relay rating, protect each load circuit with a fuse or breaker, and do not install in damp, hot, dusty, flammable or explosive locations.

LOGIVYX INTEGRATION

Sixteen tags over Ethernet, from any Logivyx panel.

Set the module's IP address and Modbus TCP mode once, then add it to your Logivyx project as a Modbus TCP device. Every panel — FieldCore 7, PanelCore 10 and StationCore — reaches it over its own Ethernet port.

01

Set the network

With the configuration tool or the module's web page: static IP on your subnet, TCP server, transfer protocol "Modbus TCP" (port 502), non-storage gateway.

02

Add the device

Create a Modbus TCP connection in Logivyx Studio to the module's IP, port 502, unit ID 1; map relays and inputs to tags.

03

Use in logic

Switch relays and read inputs in ST, Ladder or Sequence; show them on screens and in IO Diagnosis.

MODBUS REGISTER MAP

Address	Data	Access	Function codes · values
0x0000 – 0x0007	Relays CH1 – CH8	Read / write	FC 01, 05, 0F — FF00 on · 0000 off · 5500 toggle
0x00FF	All relays	Write	FC 05 — all on / all off / all toggle
0x0100 – 0x0107	Relay toggle, ch. 1–8	Write	FC 05, 0F — FF00 toggle · 0000 unchanged
0x0200 – 0x0207	Flash on (timed pulse)	Write	FC 05 — relay on for n × 100 ms, then off
0x0400 – 0x0407	Flash off (timed pulse)	Write	FC 05 — relay off for n × 100 ms, then on
1x0000 – 1x0007	Inputs DI1 – DI8	Read	FC 02 — input status
4x1000 – 4x1007	Relay control mode, ch. 1–8	Read / write	FC 03, 06, 10 — 0 Normal · 1 Linkage · 2 Toggle · 3 Edge
4x4000	Device address	Read	FC 03 — 1
4x8000	Firmware version	Read	FC 03 — e.g. 100 = V1.00

```
(* Tank pump on FieldIO 8RO-ETH .201 *)
IF RL1_DI1_LevelLow AND NOT RL1_DI8_Trip THEN
    RL1_CH1_Pump := TRUE;
ELSIF RL1_DI2_LevelHigh OR RL1_DI8_Trip THEN
    RL1_CH1_Pump := FALSE;
END_IF;
RL1_CH2_Heater := Temp_C < SP_Temp AND RL1_CH1_Pump;
RL1_CH8_Beacon := Alarm_Active;
```

Connects to	PANELS
FieldCore 7	Gigabit or 100 Mbps LAN port
PanelCore 10	Gigabit LAN or Wi-Fi network — no adapter needed
StationCore 15 · 17	LAN1 or LAN2
Other masters	Any Modbus TCP client, PLC or SCADA

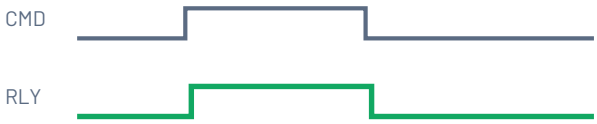
Tag names shown are examples.

RELAY CONTROL MODES

Logic in the module when you want it.

Each relay can follow the Soft PLC, or react to its matching input locally inside the module — useful for simple interlocks, lighting and manual overrides. Timed pulses switch a relay for a set time without a timer in your logic.

MODE 0
Normal
Relays are switched only by commands from the Soft PLC or HMI. Factory default.



MODE 1
Linkage
Each relay mirrors its matching input — DI1 drives CH1 and so on. Bus commands do not override it.



MODE 2
Toggle
Each pulse on the input flips the relay — one push-button switches a load on, the next switches it off.



MODE 3
Edge trigger
The relay changes state on every edge of the input — rising and falling — whatever state it starts in.



In every mode except Linkage, relays can still be commanded over the network. Flash on / flash off pulses run from 100 ms upward in 100 ms steps.

IDEAL APPLICATIONS

Pumps & motors
Contactor coils and small single-phase motors.

Heaters
Ovens, band heaters and trace heating.

Valves
Solenoid valves, AC or DC coils.

Lighting & signals
Beacons, sirens and area lighting.

Remote buildings
Pump houses and utility rooms on the LAN.

Test benches
Switching supplies and loads under test.

Utilities
Compressors, fans, chillers and dryers.

Retrofits
Add outputs without touching the old PLC.

TECHNICAL SPECIFICATIONS

Specifications

Relay outputs — RO

Channels	8
Contact form	1 NO + 1 NC (changeover) per channel
Contact rating	≤ 10 A 250 V AC or ≤ 10 A 30 V DC
Drive	Dedicated relay driver with flyback diodes; optocoupler isolation
Control modes	Normal, Linkage, Toggle, Edge trigger; flash on / off in 100 ms steps

Digital inputs — DI

Channels	8
Input type	Passive dry contact, or active NPN / PNP — selected by COM
Input voltage	5–36 V DC (active input)
Isolation	Bidirectional optocoupler, debounced

Power — HARDWARE

Supply options	PoE (IEEE 802.3af), 5.5 × 2.1 mm DC jack, or 7–36 V DC terminal
Protection	Reverse-polarity protection
Indicators	RUN, STA, TXD, RXD; Ethernet link / activity; relay and DI LEDs

Communication — ETHERNET

Interface	RJ45 Ethernet with PoE
Protocols	Modbus TCP (port 502) or Modbus RTU over TCP (default)
Network modes	TCP server, TCP client, UDP, UDP multicast; HTTP and MQTT
IP settings	Static IP or DHCP; DNS
Configuration	Windows configuration tool or built-in web page
Function codes	01, 02, 03, 05, 06, 0F, 10

Mechanical — HOUSING

Dimensions	175 × 90 × 40 mm
Weight	Approx. 370 g
Mounting	35 mm DIN rail; ABS housing
Environment	Indoor cabinet; not for damp, hot, dusty, flammable or explosive locations

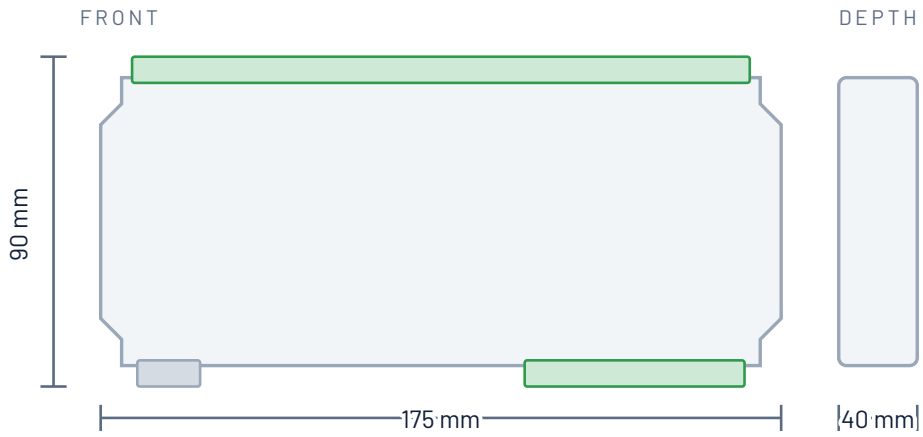
Logivyx compatibility — SOFTWARE

Driver	Logivyx Runtime Modbus TCP driver
Logic	Structured Text, Ladder, Sequence; IO Diagnosis & watch window
Panels	FieldCore 7, PanelCore 10, StationCore 15 · 17 — via Ethernet

Specifications subject to change without notice.

DIMENSIONS

Eight relays on one DIN rail



Installation

1. Snap onto a 35 mm DIN rail.
2. Wire loads (fused) and inputs.
3. Connect PoE or 7–36 V DC.
4. Set IP and Modbus TCP mode.
5. Map tags in Logivyx Studio.

ORDERING INFORMATION

Order code	Description	Best for
LGX-FIO-8RO-ETH	**FieldIO 8RO-ETH** — 8 × 10 A relays, 8 DI, Ethernet with PoE, Modbus TCP, DIN rail	Switching loads anywhere on the plant network

In the box

FieldIO 8RO-ETH module · quick-start wiring and network guide

Recommended accessories

PoE switch or PoE injector (IEEE 802.3af) · 12 / 24 V DC power supply (if not using PoE) · shielded Cat5e patch cables · RC snubbers for inductive loads

TYPICAL SYSTEMS

PUMP HOUSE
FieldCore 7 + 8RO-ETH
Pumps and heaters on relays, levels on RS485 FieldIO 8AI.

SINGLE MACHINE
PanelCore 10 + 2 × 8RO-ETH
16 relays and 16 inputs over Ethernet — no adapter needed.

PLANT UTILITIES
StationCore 17 + 6 × 8RO-ETH
48 relays spread across buildings on the plant LAN.

Logivyx

Request a live demo
and see FieldIO 8RO-ETH on your network.

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FieldIO 8RO-ETH hardware platform: Waveshare Modbus POE ETH Relay (B).