Logivyx

PRODUCT CATALOG · 2026

FIELD I/O · DIN RAIL · RS485 · MODBUS RTU

FieldIO
8DI / 8DO

Wire the field.
One RS485 cable.

An isolated 8-input / 8-output DIN-rail module that brings push-buttons, sensors, valves and lamps onto any Logivyx panel over standard Modbus RTU — read and driven directly by the embedded Soft PLC.

- Dry-contact, NPN and PNP inputs
- 500 mA open-drain outputs, 5–40 V
- Power, signal and surge isolation built in
- Up to 255 modules on one bus



8 DI · 8 DO
Optically isolated channels

7–36 V DC
Isolated power input

72 × 121 mm
35 mm DIN-rail mount

VISUAL LOGIC.
ZERO CODE.

PRODUCT OVERVIEW

Every sensor and valve, one cable from the controller.

FieldIO is the Logivyx field I/O module. Mount it on the DIN rail next to the devices it serves, run one twisted pair back to the panel, and the Soft PLC reads its 8 inputs and drives its 8 outputs like local I/O — no PLC rack, no I/O cards, no separate configuration tool.

THE CONVENTIONAL CABINET

PLC rack + I/O cards + home-run wiring



One wire per signal, all the way back to the rack

- ✕ PLC CPU plus a rack of I/O cards to buy
- ✕ Long multi-core cables for every signal
- ✕ Separate PLC tool to configure the I/O

THE LOGIVYX WAY

Panel + FieldIO on one RS485 bus



One twisted pair · I/O mounted where it is needed

- ✓ No PLC CPU or I/O rack in the bill of materials
- ✓ Short local wiring, one bus cable back to the panel
- ✓ Configured in Logivyx Studio with the rest of the project

8 DI
5–36 V DC · dry contact, NPN or PNP

8 DO
5–40 V DC open-drain, 500 mA per channel

255
Modbus addresses — many modules per bus

4 modes
Normal · Linkage · Toggle · Edge trigger

WHAT YOU GET

Isolated I/O module
8 inputs, 8 outputs, status LEDs for every channel and the bus, in a compact DIN-rail housing.

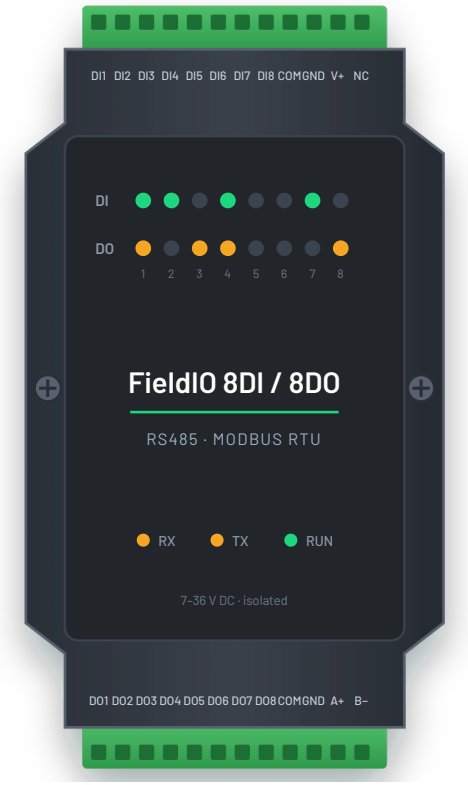
Standard Modbus RTU
Open protocol on RS485 — works with the Logivyx driver and with any Modbus RTU master.

Built for Logivyx
Tags for all 16 channels mapped in Studio and used directly in ST, Ladder and Sequence logic.

HARDWARE

Industrial protection on every channel.

Power isolation, optocoupler isolation, self-resetting fuses and TVS surge protection are built into the module, with a status LED for every input, every output and the RS485 link.



Front view. DI/DO status LEDs; RX, TX and RUN indicators.

Top terminal block	INPUTS & POWER
DI1 – DI8	Digital inputs, channels 1–8
DI COM	Input common — open for dry contact, to V+ for NPN, to GND for PNP
7–36 V / GND	Module power supply, isolated
DGND	Signal ground (dry-contact input return)
NC	Not connected

Bottom terminal block	OUTPUTS & BUS
DO1 – DO8	Open-drain digital outputs, channels 1–8
DO COM	Output common — connect to the positive of the load supply
485 A+ / B–	RS485 signal pair
EARTH	RS485 cable shield
DGND	Signal ground

Indicators	LED
DI 1–8 / DO 1–8	Live state of every input and output
RX · TX · RUN	Bus receive, bus transmit and module status

Isolated power

7–36 V DC input isolated from the logic and the bus.

Optocoupled inputs

Bidirectional optocouplers accept NPN or PNP signals.

Self-resetting fuses

PTC fuses recover after an overload — no fuse to replace.

TVS protection

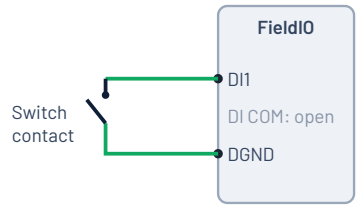
Transient-voltage suppression against surges on the lines.

WIRING

Three input types, one simple output.

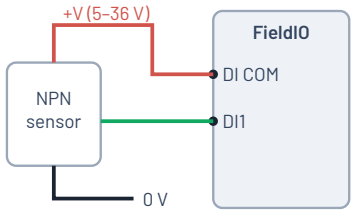
The DI COM terminal sets the input type for all eight channels. Outputs are open-drain: DO COM goes to the load supply's positive, and each DO switches its load to ground.

PASSIVE
Dry contact



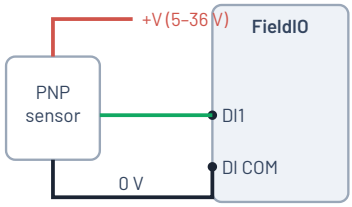
Volt-free contacts — push-buttons, limit switches, relay contacts. Leave DI COM unconnected.

ACTIVE · LOW
NPN sensor



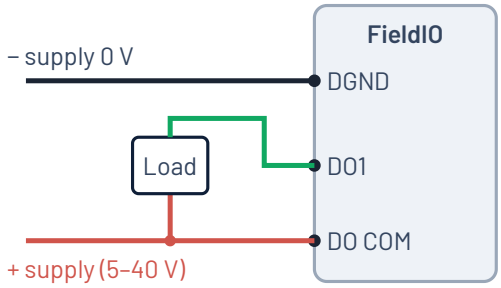
Sinking sensors. Connect DI COM to the supply positive; input is active when pulled low.

ACTIVE · HIGH
PNP sensor



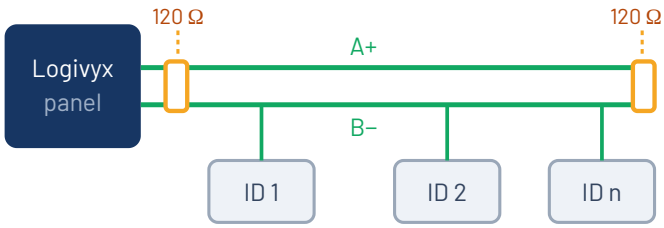
Sourcing sensors. Connect DI COM to the supply negative; input is active when driven high.

OUTPUTS
Open-drain, 500 mA



Supply + to DO COM and the load; load to DO; supply – to DGND. Up to 500 mA per channel for valves, relays, lamps and buzzers.

FIELDBUS
RS485 multi-drop



Daisy-chain modules on shielded twisted pair with a 120 Ω terminator at each end of the bus. Give every module a unique address (1–255); factory default is ID 1, 9600 baud, 8-N-1.

Safety: installation and wiring must be carried out by qualified personnel with the power switched off. Do not install in damp, overheated or flammable environments.

LOGIVYX INTEGRATION

Sixteen tags, ready for ST, Ladder and Sequence.

FieldIO speaks standard Modbus RTU, so it connects through the Logivyx Runtime's built-in Modbus RTU driver. Add the device in Studio, map the channels to tags, and use them in your logic like any other I/O.

01

Add the device

Create a Modbus RTU connection on the panel's RS485 port: 9600 baud, 8-N-1, slave ID 1 (factory defaults).

02

Map the tags

Bind DI1–DI8 and DO1–DO8 to tags using the addresses below; optional tags for modes and timed pulses.

03

Use in logic

Read inputs and write outputs in ST, Ladder or Sequence; show them on screens and in IO Diagnosis.

MODBUS REGISTER MAP

Address	Data	Access	Function codes · values
1x0000 – 1x0007	Inputs DI1 – DI8	Read	FC 02 — input status
0x0000 – 0x0007	Outputs DO1 – DO8	Read / write	FC 01, 05, 0F — FF00 on · 0000 off · 5500 toggle
0x00FF	All outputs	Write	FC 05 — all on / all off / all toggle
0x0200 – 0x0207	Timed pulse, on	Write	FC 05 — output on for n × 100 ms
0x0400 – 0x0407	Timed pulse, off	Write	FC 05 — output off for n × 100 ms
4x1000 – 4x1007	Output control mode, ch. 1–8	Read / write	FC 03, 06, 10 — 0 Normal · 1 Linkage · 2 Toggle · 3 Edge
4x2000	Serial settings	Write	FC 06 — high byte parity, low byte baud-rate code
4x4000	Device address	Read / write	FC 03, 06 — 1 to 255
4x8000	Firmware version	Read	FC 03 — e.g. 100 = V1.00

```
(* Clamp station on FieldIO, ID 1 *)
IF FIO1_DI1_Start AND NOT FIO1_DI8_EStop THEN
    FIO1_DO1_Clamp := TRUE;
END_IF;
clampTmr(IN := FIO1_DO1_Clamp, PT := T#2s);
FIO1_DO2_Lamp := clampTmr.Q;
IF FIO1_DI8_EStop THEN
    FIO1_DO1_Clamp := FALSE;
END_IF;
```

Connects to	PANELS
FieldCore 7	On-board RS485 (COM2 / COM4) — wire straight to the terminals
StationCore 15 · 17	COM1 or COM2 configured for RS485
PanelCore 10	Through a USB–RS485 adapter
Other masters	Any Modbus RTU master, PLC or SCADA

Tag names shown are examples.

OUTPUT CONTROL MODES

Logic in the module when you want it.

Each output can follow the Soft PLC, or react to its matching input locally inside the module — useful for simple interlocks, lighting and manual overrides that must work even while the bus is busy.

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



MODE 1
Linkage
Each output mirrors its matching input — DI1 drives DO1 and so on. Bus commands do not override it.



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



MODE 3
Edge trigger
The output changes state on every edge of the input — rising and falling.



In every mode except Linkage, outputs can still be commanded over the bus. Timed pulse registers switch an output on or off for a set time in 100 ms steps.

IDEAL APPLICATIONS

Distributed machine I/O
Stations, fixtures and conveyors.

Valve banks
Solenoid valves for pneumatics and gas lines.

Operator stations
Push-buttons, selectors and pilot lamps.

Sensor collection
Proximity, reed and limit switches.

Test benches
Leak testers and end-of-line rigs.

Utilities
Pumps, fans, lighting and alarms.

Retrofits
Add I/O to a machine without rewiring.

Remote panels
I/O far from the main cabinet.

TECHNICAL SPECIFICATIONS

Specifications

Digital inputs — DI

Channels	8
Input type	Passive dry contact, or active NPN / PNP (wet contact) — selected by DI COM
Input voltage	5–36 V DC (active input)
Isolation	Built-in bidirectional optocoupler

Digital outputs — DO

Channels	8
Output type	Open-drain (sinking), common DO COM to load positive
Load voltage	5–40 V DC
Load current	500 mA per channel (max.)
Control modes	Normal, Linkage, Toggle, Edge trigger; timed pulse in 100 ms steps

Power & protection — HARDWARE

Supply	7–36 V DC
Protection	Power isolation, optocoupler isolation, self-resetting fuses, TVS surge protection
Indicators	8 × DI, 8 × DO, RX, TX, RUN

Communication — RS485

Interface	RS485 (A+, B−, shield EARTH, DGND)
Protocol	Standard Modbus RTU
Baud rates	4800, 9600, 19200, 38400, 57600, 115200, 128000, 256000
Default	9600 baud, 8 data bits, no parity, 1 stop bit; address 1
Address range	1–255 (0 = broadcast)
Function codes	01, 02, 03, 05, 06, 0F, 10

Mechanical — HOUSING

Dimensions	72 × 121 × 34 mm (W × H × D)
Mounting	35 mm DIN rail
Terminals	Pluggable screw terminal blocks, top and bottom
Environment	Indoor control cabinet; avoid damp, overheated or flammable locations

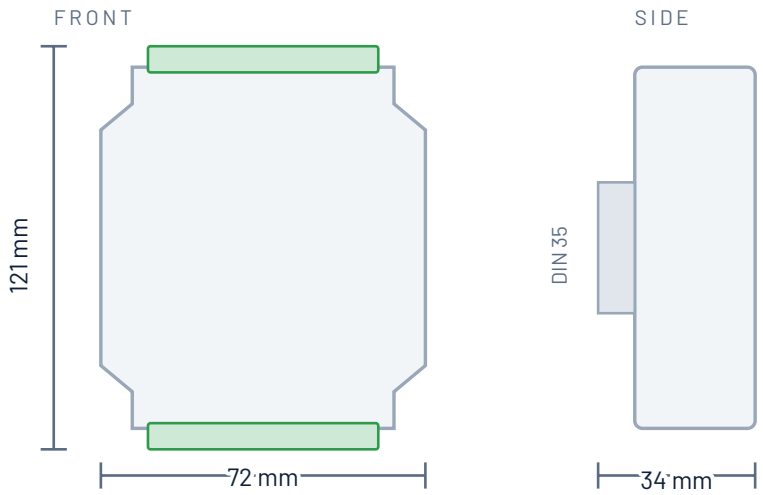
Logivyx compatibility — SOFTWARE

Driver	Logivyx Runtime Modbus RTU driver
Logic	Structured Text, Ladder, Sequence; IO Diagnosis & watch window
Panels	FieldCore 7, StationCore 15 · 17, PanelCore 10 (USB–RS485)

Specifications subject to change without notice.

DIMENSIONS

Compact on the DIN rail



Installation

1. Snap onto a 35 mm DIN rail.
2. Wire power, I/O and RS485.
3. Set a unique Modbus address.
4. Terminate both bus ends (120 Ω).
5. Map tags in Logivyx Studio.

ORDERING INFORMATION

Order code	Description	Best for
LGX-FIO-8D8	**FieldIO 8DI / 8DO** — RS485 Modbus RTU digital I/O module, DIN rail	Distributed I/O for any Logivyx panel

In the box

FieldIO 8DI / 8DO module with pluggable terminal blocks · quick-start wiring guide

Recommended accessories

Shielded twisted-pair RS485 cable · 120 Ω bus terminators · USB–RS485 adapter (for PanelCore 10) · 24 V DC DIN-rail power supply

TYPICAL SYSTEMS

COMPACT MACHINE

FieldCore 7 + 2 × FieldIO

16 DI / 16 DO on the panel's own RS485 — HMI, Soft PLC and I/O with no PLC.

SINGLE MACHINE

PanelCore 10 + 3 × FieldIO

24 DI / 24 DO through a USB–RS485 adapter, I/O mounted beside each station.

PRODUCTION LINE

StationCore 17 + 6 × FieldIO

48 DI / 48 DO split across two RS485 ports — one bus per half of the line.

Logivyx

Request a live demo
and see FieldIO on your machine.

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FieldIO hardware platform: Waveshare Modbus RTU IO 8CH.