

1 FIO 24V PAT

Universal input and output module

1.1 Front view



Fig. 1: Front view

1.2 Features

- 8 inputs for operating messages or fault messages 24V~/=
- 3 output relays with 230V~ normally open contacts, floating
- 24V~ supply
- Integrated power supply for CAN bus and relay
- No parameters to be set on the device
- Module number setting with user-friendly coding switch
- The functions of the inputs and outputs depend on the particular application!
- Connection to master module via Wurm CAN field bus (F-BUS)

1.3 Safety instructions

Writing conventions

CAUTION



- Avoid the described hazard: otherwise, **minor** or **intermediate** physical injury or damage to property will result.

WARNING



- Avoid the described hazard: otherwise, there is danger from **electric voltage** that could lead to **death** or **serious** physical injury.

For your safety

For safe operation and to avoid personal injury and equipment damage through operator error, always read these instructions, become familiar with the device, and follow all safety instructions on the product and in this document, as well as the safety guidelines of Wurm GmbH & Co. KG Elektronische Systeme. Keep these instructions ready to hand for quick reference and pass them on with the device if the product is sold.

Wurm GmbH & Co. KG Elektronische Systeme accepts no liability in the case of improper use or use for purposes other than the intended purpose.

Target group	This manual is intended for “service technician” personnel.
Intended use	The FIO 24V PAT is a universal input and output module for 8 operating or fault messages and for control commands.

WARNING



DANGER TO LIFE FROM ELECTRIC SHOCK AND/OR FIRE!

- Switch off the power to the entire plant when carrying out installation, wiring or disassembly work! Otherwise, mains voltage and/or external voltage may still be present, even if the control voltage is switched off!
- The wiring of the device must be carried out only by qualified electricians!
- Use the correct tools for any work!
- Check the entire wiring after connection!
- Observe the maximum loads for all connections!
- Never expose the device to moisture, for example due to condensation or cleaning agents.
- Stop operating the device if it is faulty or damaged and its safe operation is compromised!
- Do not open the device.
- Do not repair the device yourself! If the device requires repairs, send it in with an exact description of the fault!

CAUTION



ELECTROMAGNETIC INTERFERENCE MAY CAUSE FAULTS!

- Always use shielded data cables and place them far away from power lines.



Wurm Infocenter



paperless info



Version and validity of the documentation

Version	Date	
V2.4 and higher	2025-03	Documentation status

Any versions not listed are special solutions for individual projects and are not described in detail in this document. This document will automatically cease to be valid if a new technical description is issued.

Manufacturer: Wurm GmbH & Co. KG Elektronische Systeme, Morsbachtalstraße 30, D-42857 Remscheid.

You can find more information on our website at www.wurm.de.

1.4 Connection diagram

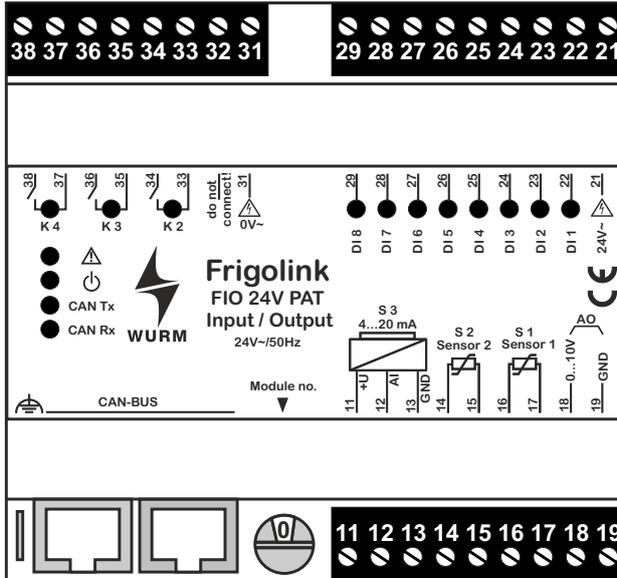


Fig. 2: Connection diagram

1.5 Installing the device

This device is designed for top-hat rail installation. The housing has standard DIN 43880 dimensions and is also suitable for operation in fuse boxes and distribution cabinets.

The device can be positioned immediately adjacent to another device without gaps.

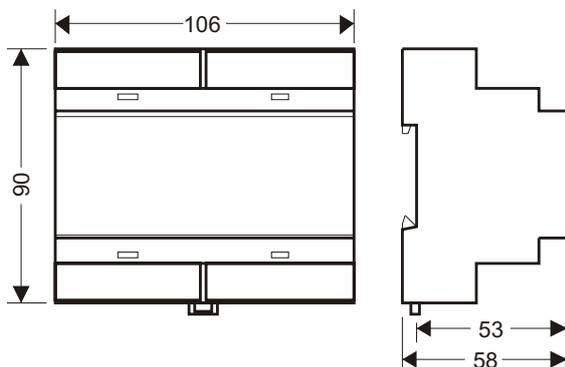


Fig. 3: Dimensions

WARNING



DANGER TO LIFE FROM ELECTRIC SHOCK AND/OR FIRE!

- Switch off the power to the entire plant before installing. Otherwise, mains voltage and/or external voltage may still be present, even if the control voltage is switched off.

- ✓ The entire plant must be free of voltage.
- 1. **(A)** Place the device with the leading edge at an acute angle to the top-hat rail.
- 2. **(B)** Push the device downwards onto the top-hat rail.
 - ▶ The device snaps into place with the fastening safety catch **(a)** on the top-hat rail.
 - ▶ You can now connect the device.

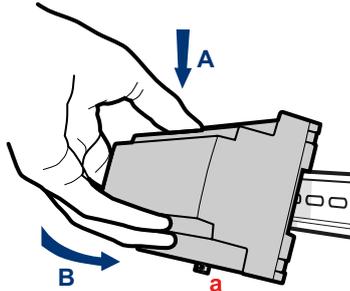


Fig. 4: Top-hat rail installation

1.6 Technical data

Power supply	24V~, +10% / -15%, 7VA approx.
Display	1 x red LED, flashes in case of fault 1 x green LED, operating voltage 2 x green LED, CAN bus data traffic (CAN Tx, CAN Rx) 8 x yellow LED, for signal at the input 4 x green LED, for controlling the relays
Communication	2 x RJ45 sockets for the CAN bus connection with integrated power supply, galvanically isolated
Digital inputs	8 x 24V~/= (AC / DC 24V), galvanically isolated by optocoupler
Temperature sensor	2 x TRK277/7 PLUS, TRK277/G2 (outside temperature, cold zone temperature)
Analogue input	4 ..20mA, output voltage 18V=, max. 22mA (humidity sensor)
Output relay	3 x normally open contact, 230V~, 4(2)A
Analogue output	1 x 0...10V=, non-floating, max. load 10mA
Connection cross-section	2.5mm ²
Dimensions	(W x H x D) 106 x 90 x 58mm (DIN 43880)
Fastening	Top-hat rail TH 35-15 or TH 35-7.5 (DIN EN 60715)
Ambient temperature	Operation: 0...+55°C, storage: -25...+70°C
Weight	About 450g
CE conformity	- 2014/30/EU (EMC Directive) - 2014/35/EU (Low Voltage Directive)
	RoHS II



WARNING



DANGER OF FIRE IF CONNECTIONS ARE OVERLOADED!

- Only use the device with a power supply of 24V~!
- The device is not compatible for connection with a FIO001B or FIO-PAT!