Front view

Universal input/output module for building technology

Features

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

Writing conventions

Symbol	Meaning
⚠ **CAUTION!**	Avoid the described hazard: otherwise **minor** or **medium** 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 operating 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 case of improper use or use for other than the intended purpose.

Target group	These instructions are intended for "service technicians".
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 installing, wiring or removing! Otherwise a mains voltage and/or external voltage may still be present even if the control voltage is switched off! Always remove both power plugs (24V~ and 0V~)!
- The wiring of the device should be carried out only by a qualified electrician!
- Use only the correct tools for all work!
- Check all wiring after connection!
- Take note of the maximum loads on all connections!
- Never expose the device to moisture, for example due to condensation or cleaning agents!
- Take the device out of operation if it is faulty or damaged and is therefore compromising safe operation!
- Do not open the device!
- Do not repair the device yourself! If required, send it in for repair with an exact description of the fault!

⚠ **CAUTION!**

Electromagnetic interference can cause faults!

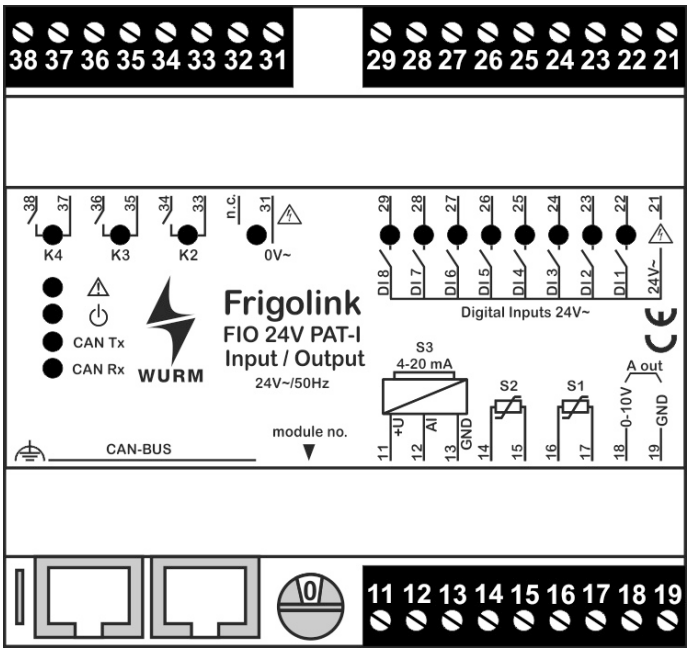
- Use only shielded data lines and place them far away from power lines!

Software revisions and validity of documentation

Software version		Functional upgrade	Page
V2.4	2017-04	Status of documentation	

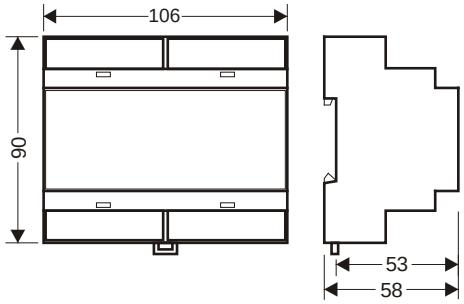
Any software versions not listed are special solutions for individual projects and are not described in detail in this document.
This document automatically ceases to be valid if a new technical description is issued.
Manufacturer: Wurm GmbH & Co. KG Elektronische Systeme, Morsbachtalstraße 30, D-42857 Remscheid
You can find more information on our website at www.wurm.de

Circuit diagram



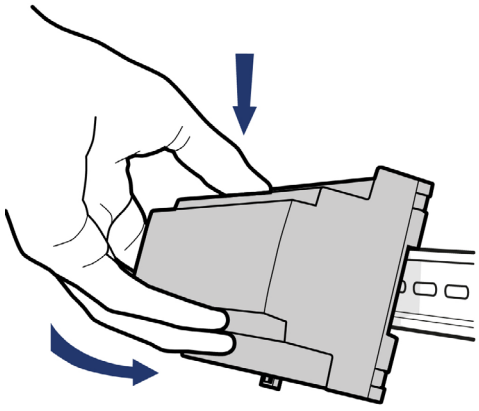
Installing

⚠	**WARNING!** **Danger to life from electric shock and/or fire!** ▪ Switch off the power to the entire plant before installing! Otherwise a mains voltage and/or external voltage may still be present even if the control voltage is switched off! Always remove both power plugs (24V~ and 0V~)!



This device is designed for top-hat rail installation. The housing is of a standard size and is also suitable for installation in fuse boxes, distribution switch boxes or electric boxes of refrigeration units.

The devices can be positioned immediately next to one another and without gaps.



Place the device with the leading edge at an acute angle to the top-hat rail.

Swivel the device gently downward until it engages with the fastening safety catch on the top-hat rail.

Technical data

Power supply	24V~, +10% / -15%, approx. 7VA
Display	1 x red LED, flashing 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
CAN BUS 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 (external 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-isolated, max load 10mA
Connection cross-section	2.5mm²
Dimensions	(WxHxD) 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	EU conformity as defined in – 2014/30/EU (EMC Directive) – 2014/35/EU (Low Voltage Directive)
	RoHS II
Valid from	Version 2.4

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!