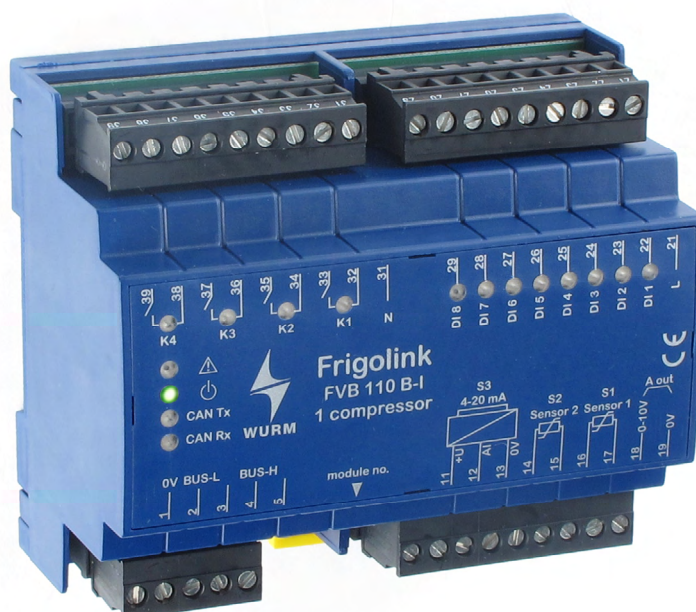


## Front view

### Field module for switching and monitoring 1 compressor





## Features

- 4 relay switch outputs 230V~ for 1 compressor
- 230V~ inputs for operation feedback messages and detailed fault chain monitoring
- Emergency program in case of CAN bus errors
- No parameters to be set on the device
- Control of a screw compressor by ASV001 and HVI-G3/G4
- Control of a reciprocating compressor by ASV101 and HVB-G3/G4, HVI-G3/G4, HVV-G3/G4
- Connection to master module via Wurm CAN field bus (F-BUS)

## Product information

### Writing conventions

Symbol	Meaning
 <b>CAUTION!</b>	Avoid the described hazard: otherwise <b>minor</b> or <b>medium</b> physical injury or damage to property will result.
 <b>WARNING!</b>	Avoid the described hazard: otherwise there is danger from <b>electric voltage</b> that could lead to death or <b>serious</b> 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.

<b>Target group</b>	These instructions are intended for service technicians.
<b>Intended use</b>	The FVB110B is a field module for switching and monitoring 1 compressor.



#### **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 (L and N)!
- 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 revision and validity of documentation

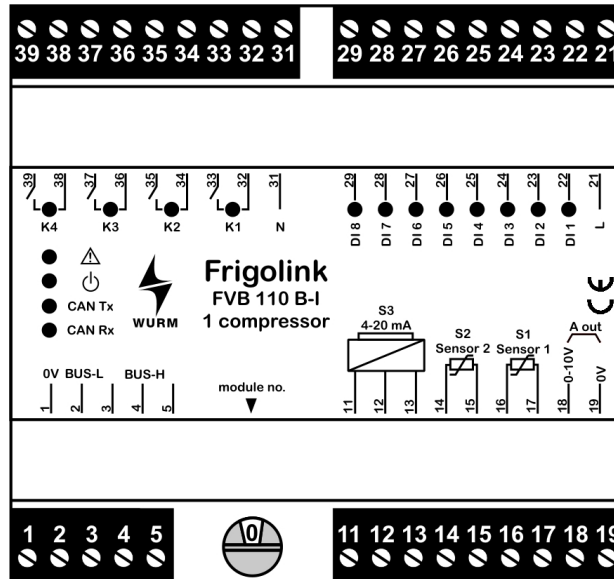
Software version		
V3.30	2018-01	Documentation status

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](http://www.wurm.de)

## Circuit diagram

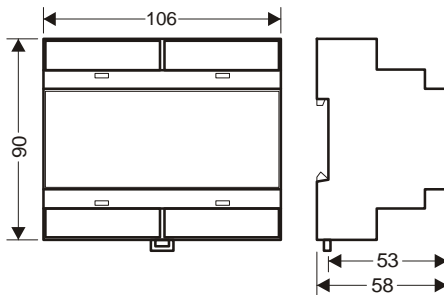


## Installing



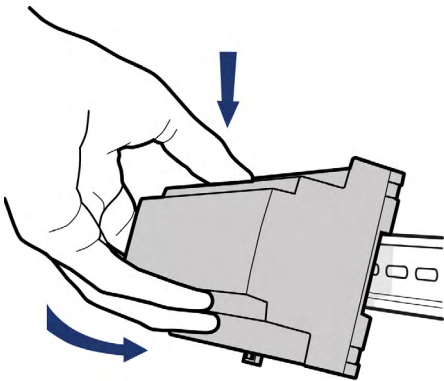
### WARNING! Danger to life from electric shock and/or fire!

- 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 (L and N)!



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 upper guide edge on the top-hat rail.

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

## Product information

### Fault inputs that are not used

In order to obtain correct fault information, fault inputs that are not used must be jumpered with the fault signal that is connected upstream within the alarm routing. The input "Operation" (terminal 22) is used for measuring the operating hours. If no corresponding signal is available from the machine protection, then it is advisable to jumper the output relay.

### Monitoring function / emergency program

In the event of an F-BUS fault, the field module enters an emergency program corresponding to the operating mode.


If a problem with the cover identification arises at the same time, then all of the output relays are switched off and the analogue output "A out" is set to 0V.

### Module addressing

Make sure that each of the 8 field modules per master module (HVI-G3/G4: 12) has a different module address. Permissible addresses are the values 0-7 (HVI-G3/G4: 0-B). No other settings are permitted. The address of the module FIO001B / FIO-PAT and the addresses of the field modules FVBxxxB / FVBxxx-PAT must not overlap. In the event of an address collision, an entry is made in the fault list of the master module and the LED "▲" (fault) on the field modules flashes.

### Technical data

<b>Power supply</b>	230V~, +10% / -15%, approx. 7VA	
<b>Display</b>	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	
<b>Communication</b>	3-wire CAN bus interface, with integrated power supply, galvanically isolated	
<b>Digital inputs</b>	8 x 230V~, galvanically isolated by optocoupler	
<b>Temperature sensor</b>	1 x TRK277, S1 for suction gas temperature sensor 1 x DGF, S2 for final compression temperature	
<b>Analogue input</b>	4...20mA, output voltage 18V=, max. 22mA, suction pressure	
<b>Output relay</b>	4 x normally open contact 230V~, 4(2)A	
<b>Analogue output</b>	1 x 0...10V=, non-isolated, max. load 10mA	
<b>Connection cross-section</b>	2.5mm <sup>2</sup>	
<b>Dimensions</b>	(WxHxD) 106 x 90 x 58mm (DIN 43880)	
<b>Fastening</b>	Top-hat rail TH 35-15 or TH 35-7.5 (DIN EN 60715)	
<b>Ambient temperature</b>	Operation: 0...+55°C, storage: -25...+70°C	
<b>Weight</b>	About 450g	
<b>CE conformity</b>	- 2014/30/EU (EMC Directive) - 2014/35/EU (Low Voltage Directive)	<b>CE</b>
<b>EAC conformity</b>	- TR CU 004/2011 - TR CU 020/2011	<b>EAC</b>
	RoHS II	
<b>Valid from</b>	Version 3.30	

	<p><b>Note!</b></p> <ul style="list-style-type: none"> <li>Please observe the detailed descriptions in the chapters of the FRIGOLINK system manual.</li> </ul>
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