



Distributor

# IF Distributors

75-90-xxxx

A BRAND OF



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# 1 General information

## 1.1 Short description



The IF distributors in wall-mounted housings connect the IF-6040 access control system with the terminals for time and attendance recording or access control. To prevent sabotage or manipulation, distributors are installed in a secured area.


They are equipped with a monitoring contact that sends an alarm to the host system if the housing is opened without permission.

As components are ready-wired in the housing, the distributors facilitate a uniform and centralized installation.

The distributors are available in versions with or without their own power supply, with or without an integrated IF-4072 controller, and 0, 4 or 8 I/O controller boards.

## 1.2 Scope of delivery

- 1 housing with I/O controller boards (depending on the distributor type)
- Power supply unit (not for all distributor types)
- Controller IF-4072 (not for all distributor types)
- Accessory bag with screws and screw anchors
- Accessory bag with lock and keys (optional)
- 95-10401 product info

 Check the completeness and condition of the goods upon receipt and report any damage caused during transport immediately.

## 1.3 Target group

This document is solely intended for *experts* and *people trained in electrical engineering*.



Only perform the actions described in this document if you belong to this target group. Interflex Datensysteme GmbH is not liable for any damages caused by improper installation or initial operation.

## 1.4 Intended use

IF distributors are designed for controlling terminals and for monitoring inputs such as door opening push-buttons. IF distributors are designed for fixed installation in dry rooms.

Any other use is not in accordance with the intended purpose and therefore not permitted. Modifications to the device are not permitted.

## 1.5 Safety

### WARNING

#### **Danger to life due to electric shock**

People can be seriously hurt or killed through physical contact with live parts (e.g. 230 V~).

- ◆ Make sure that you cannot touch live lines during installation.
- ◆ Switch off the power supply of the devices.
- ◆ Please observe the applicable safety regulations and take all precautionary measures to ensure safe installation.

### NOTICE

#### **Property damage due to transient overvoltages**

Transient overvoltages (surges, bursts) in the energy supply network can lead to malfunctions and failures.

- ◆ Use suitable mains filters that are professionally installed and operated.

### NOTICE

#### **Damage due to electrostatic discharge (ESD)**

Electrical components and modules can be damaged by only slight, hardly noticeable electrostatic discharge (ESD) without this becoming immediately obvious. ESD damages result in malfunctions and even failure of the device.

- ◆ Make sure that effective protective measures against electrostatic discharge are in place when working on the open device.

## 1.6 Abbreviations

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AC	Alternating Current
BLE	Bluetooth Low Energy
CIDR	Classless <i>Inter-Domain Routing</i>
DC	<i>Direct Current</i>
DIP switch	Switch in IC design, connections in two rows ( <i>Dual In-line Package</i> )
EMC	<i>Electromagnetic Compatibility</i>
ESD	<i>Electrostatic discharge</i>
GND	<i>Ground</i>
IEEE	<i>Institute of Electrical and Electronics Engineers</i>
NC contact	<i>Normally closed contact</i>
NO contact	<i>Normally open contact</i>
PoE	<i>Power over Ethernet</i>
RFID	<i>Radio-Frequency Identification</i>
SH	<i>Shield</i>
SSH	<i>Secure shell</i>

## 1.7 Cable lengths and cable types

Cable function	Max. length	Recommended cable type
230 V AC power supply to power supply unit (if not pre-installed)		NYM 3 x 1.5 mm <sup>2</sup>
Network cable: RJ45 patch cable, preferably shield braiding	100 m	From category 5
Control cable (floating sensors)	100 m	J-Y(St) Y 2 x 2 x 0.6 mm <sup>2</sup> J-Y(St) Y 2 x 2 x 0.8 mm <sup>2</sup>
RS-485 bus cable to end devices	1200 m	J-Y(St) Y 2 x 2 x 0.6 mm <sup>2</sup> J-Y(St) Y 2 x 2 x 0.8 mm <sup>2</sup>
Connecting cable between I/O controller board and terminal	100 m	J-Y(St) Y 4 x 2 x 0.6 mm <sup>2</sup> J-Y(St) Y 4 x 2 x 0.8 mm <sup>2</sup>

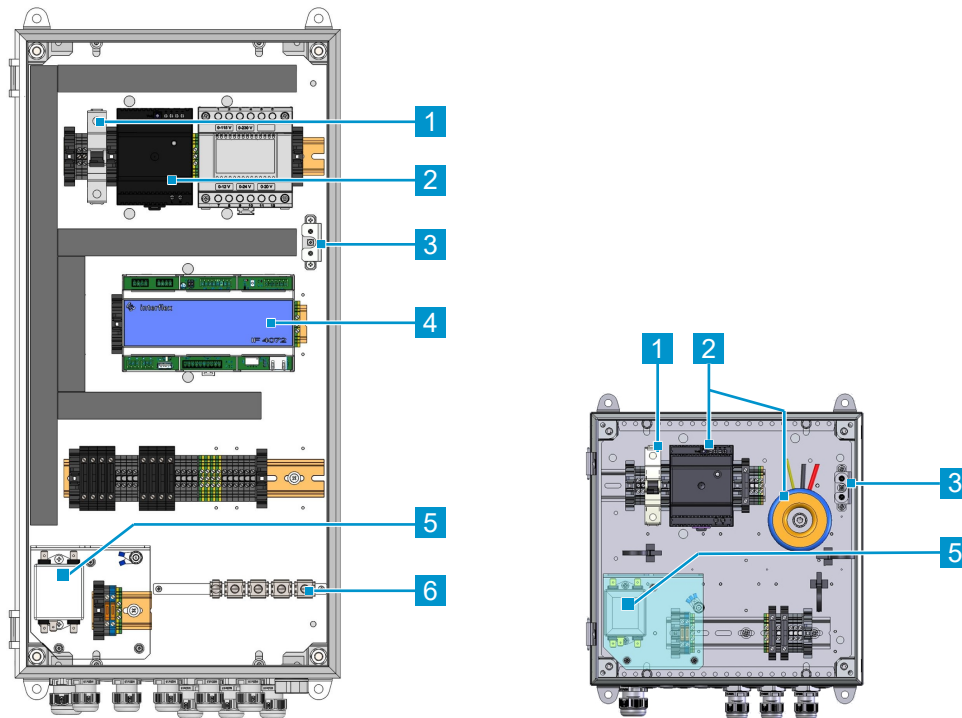
In long cables, voltage losses can impair the functionality of the connected device. Therefore, do not use cables longer than specified in the table. Wire the +5 V and GND lines with two cores each for a cable length > 50 m.

## 2 System overview

### 2.1 Distributors

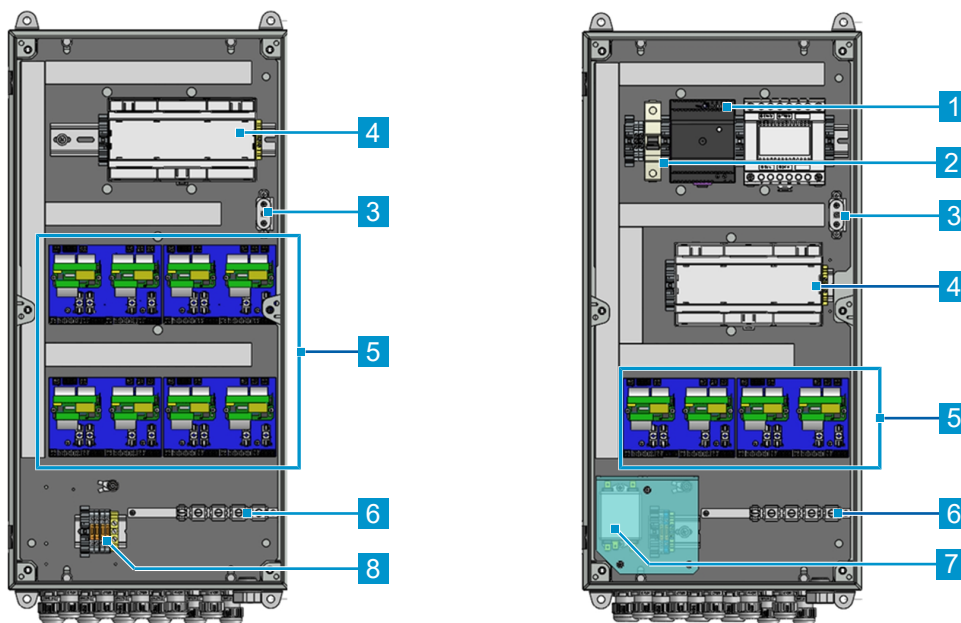
The layout of the IF distributors is exemplified as follows:

Item number	Power supply	IF-4072 Controller	Number of I/O controller boards
75-90-0001	Internal	No	0
75-90-1111	Internal	No	2
75-90-1211	Internal	No	2
75-90-1212	External	No	2
75-90-1411	Internal	No	4
75-90-1412	External	No	4
75-90-1811	Internal	No	8
75-90-2211	Internal	Yes	2
75-90-2401	Internal	Yes	0
75-90-2411	Internal	Yes	4
75-90-2812	External	Yes	8



Distributor 75-90-2401 and 75-90-0001

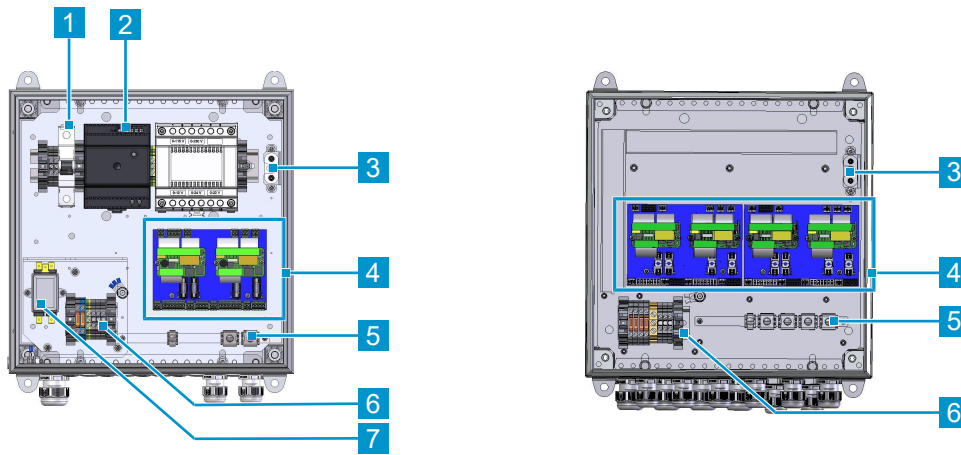
- |                             |                                 |
|-----------------------------|---------------------------------|
| <b>1</b> Circuit breaker    | <b>2</b> Power supply           |
| <b>3</b> Anti-tamper switch | <b>4</b> IF-4072 controller     |
| <b>5</b> Mains filter       | <b>6</b> Clamp strap for shield |



Distributor 75-90-2812 and 75-90-2411

- |                             |  |
|-----------------------------|--|
| <b>1</b> Power supply       | <b>2</b> Circuit breaker                         |
| <b>3</b> Anti-tamper switch | <b>4</b> IF-4072 controller                      |
| <b>5</b> Connector boards   | <b>6</b> Clamp strap for shield                  |
| <b>7</b> Mains filter       | <b>8</b> Connecting terminals, extra-low voltage |





Distributor 75-90-1111 and 75-90-1412

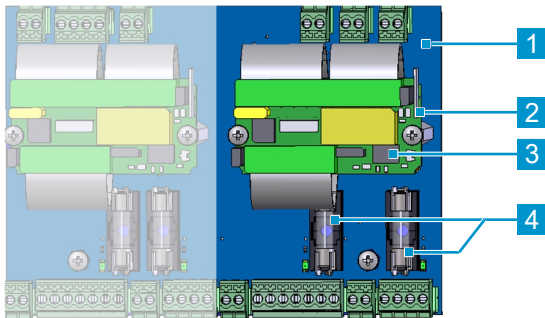
- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li><b>1</b> Circuit breaker</li> <li><b>3</b> Anti-tamper switch</li> <li><b>5</b> Clamp strap for shield</li> <li><b>7</b> Mains filter</li> </ul> | <ul style="list-style-type: none"> <li><b>2</b> Power supply</li> <li><b>4</b> Connector boards</li> <li><b>6</b> Connecting terminals, extra-low voltage</li> </ul> |
|---|--|

## 2.2 Connector board

Distributors of the series 75-90-2x1x are connected via I/O controller boards to terminals, door openers and other I/O controller boards:

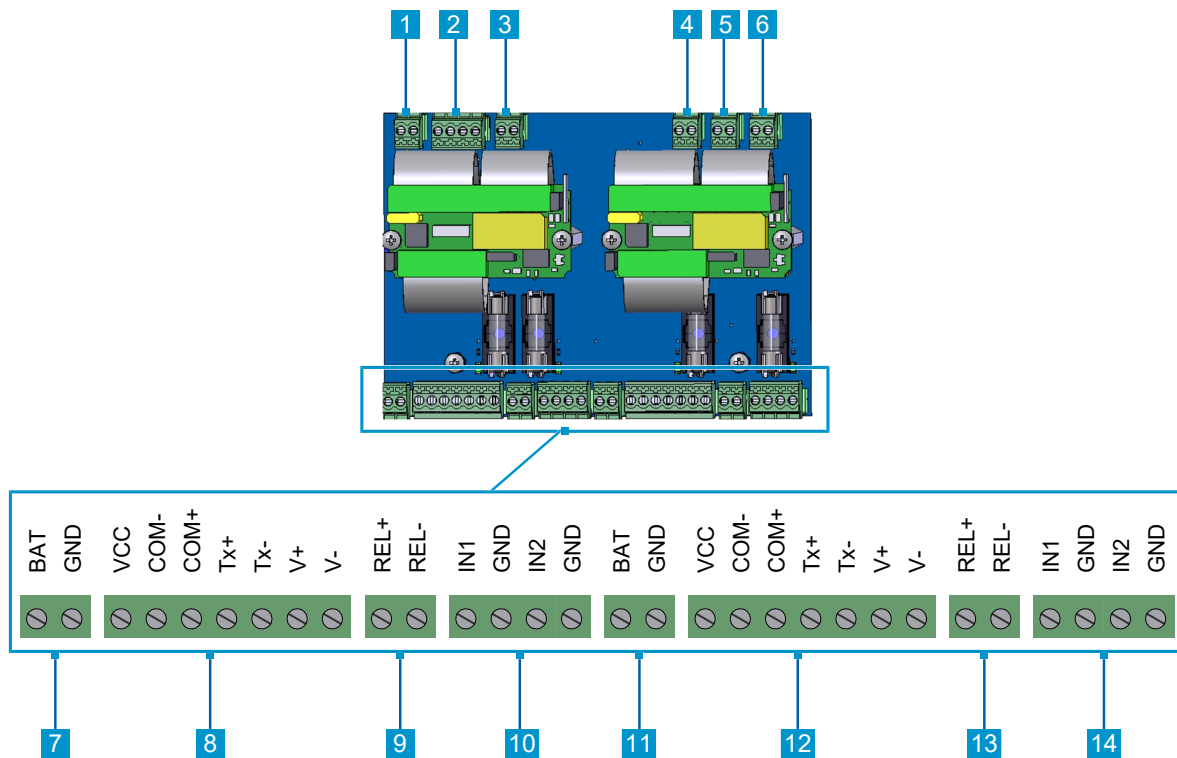
### Installation

The I/O controller boards are mounted on connector boards 2 I/O controller boards are always grouped on one connector board. The following figure shows the layout of (half) a connector board.



- 1 Connector board
- 2 I/O controller board
- 3 DIP switch for addressing the I/O controller board
- 4 Fuse protection

### Connections



- 1 Power supply for terminal, further internal connection with 4
- 2 RS485 connection, I/O controller boards internal reconnection with 5
- 3 Power supply door opener, further internal connection with 6
- 4 Power supply terminal, for further I/O controller boards

- 5 RS485 connection, I/O controller boards, for additional controller boards
- 7 I/O controller board 1
- 9 I/O controller board 1, monitoring of door opener
- 11 I/O controller board 2
- 13 I/O controller board 2 monitoring of door opener
- 6 Power supply for door opener, for further connector boards
- 8 I/O controller board 1 Terminal connection 1
- 10 I/O controller board 1 Inputs IN 1 and 2\*
- 12 I/O controller board 2 terminal connection 2
- 14 I/O controller board 2 Inputs IN 1 and 2\*

## 2.3 Terminal strip

Distributors of the series 75-90-2401 are connected via I/O controller boards to terminals, door openers, and other I/O controller boards:

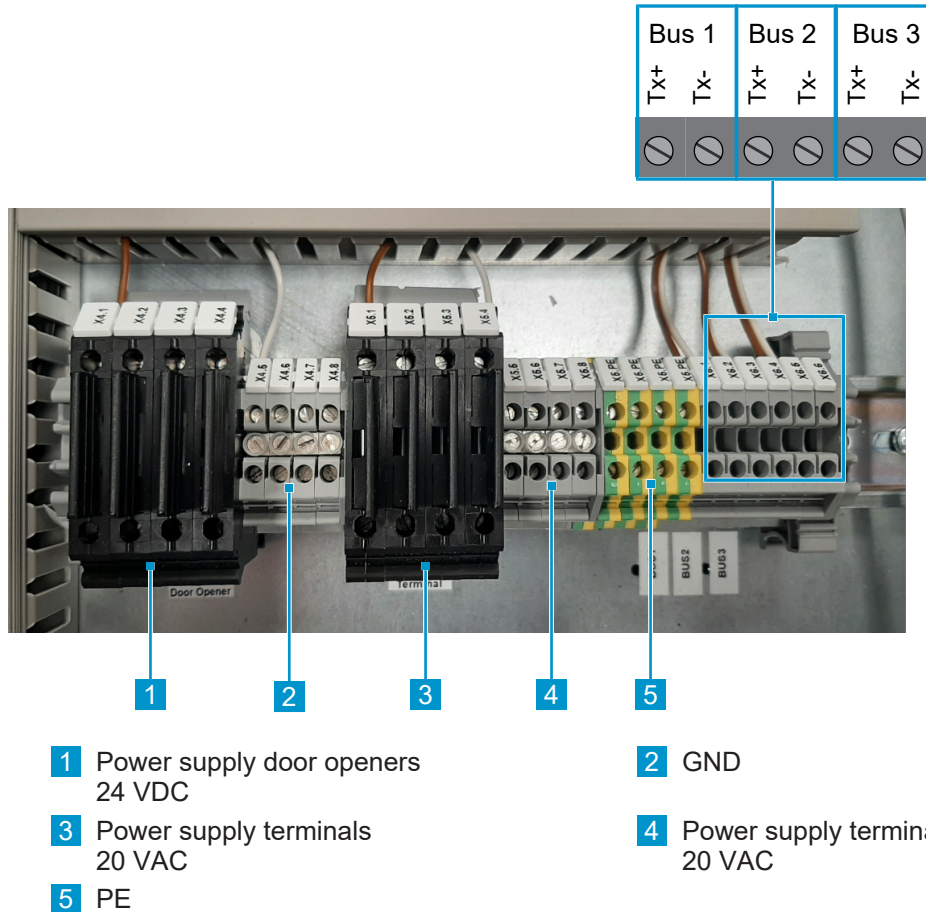
### NOTICE

#### Damage to property due to manipulation of the controller

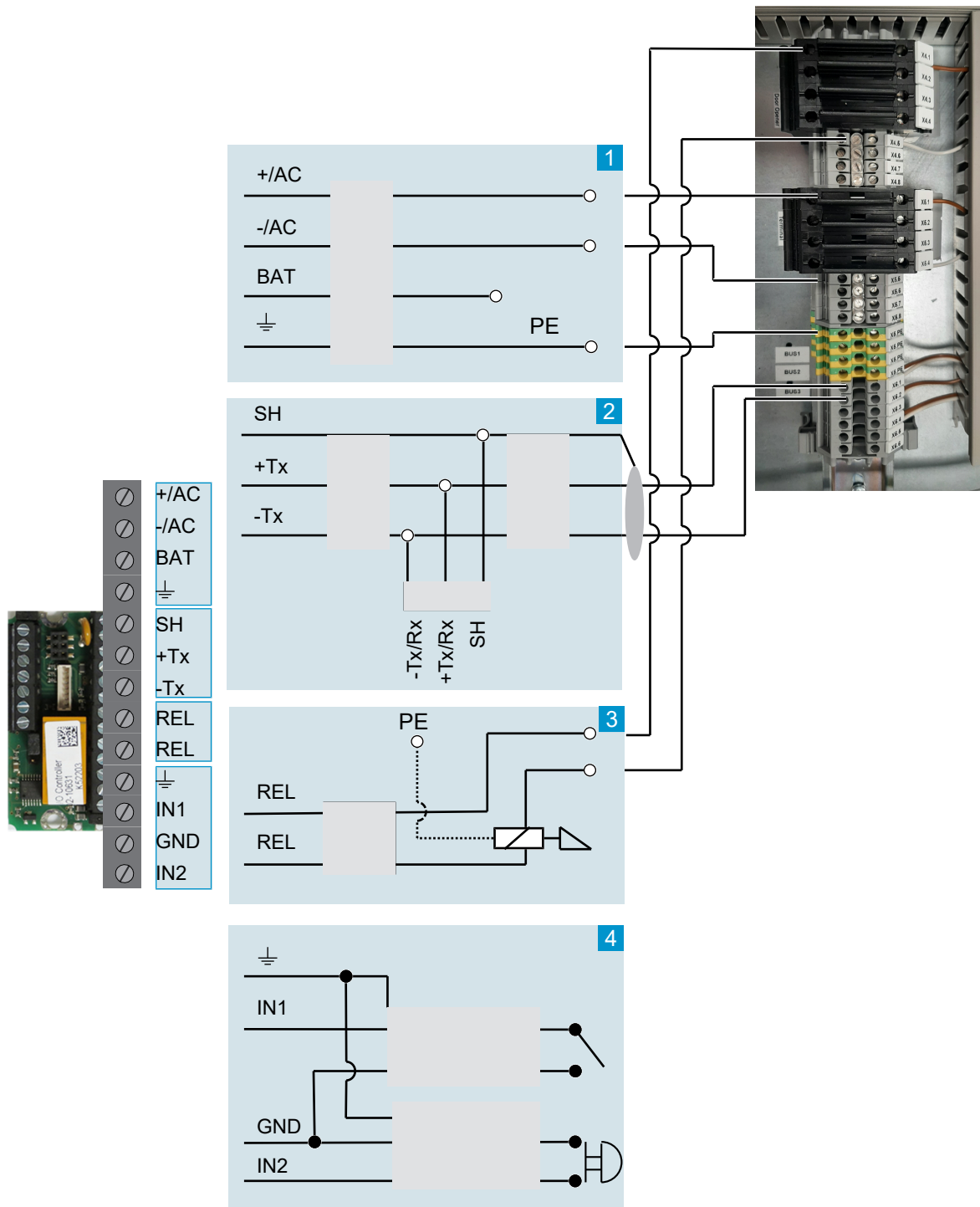
Manipulation of the distributor can lead to data loss.

- ◆ Install the distributor in the secured area, taking the technical requirements into account

### Installation



## Connections



- 1** Power supply
- 2** RS485 bus cable
- 3** Control element, e.g. door opener
- 4** Door sensors

## 3 Installing the distributor

### 3.1 Installation site

#### NOTICE

##### Damage to property due to manipulation of the controller


Manipulation of the distributor can lead to data loss.

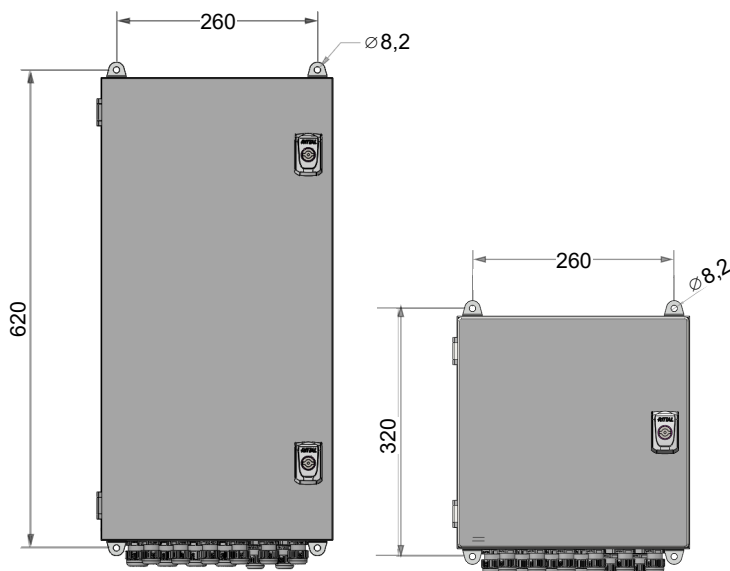
- ◆ Install the distributor in the secured area, taking the technical requirements into account

### 3.2 Fastening the distributor

#### Procedure

1. Drill the holes for the 4 fastening screws according to the dimension drawings below
2. Use the screws and screw anchors included in delivery to fasten the device

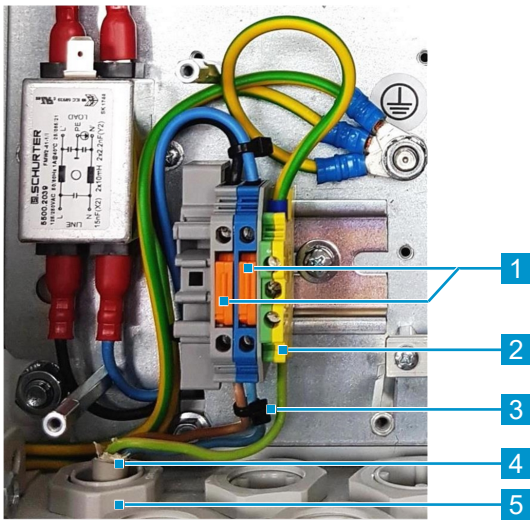
 Observe the properties and bearing capacity of the subsurface and use other suitable fastening material, if required.



## 4 Connecting the power supply

Distributors with order numbers 75-90-xx11 have an internal power supply. Distributors with order numbers 75-90-xx12 are supplied with power via distributor 75-90-0001.

### 4.1 Connecting the distributor 7590-xx12 to power supply 230 V



- 1** Separation terminals L, N
- 3** Cable tie
- 5** Cable gland

- 2** Connecting terminal PE
- 4** Power supply cable 230 V AC

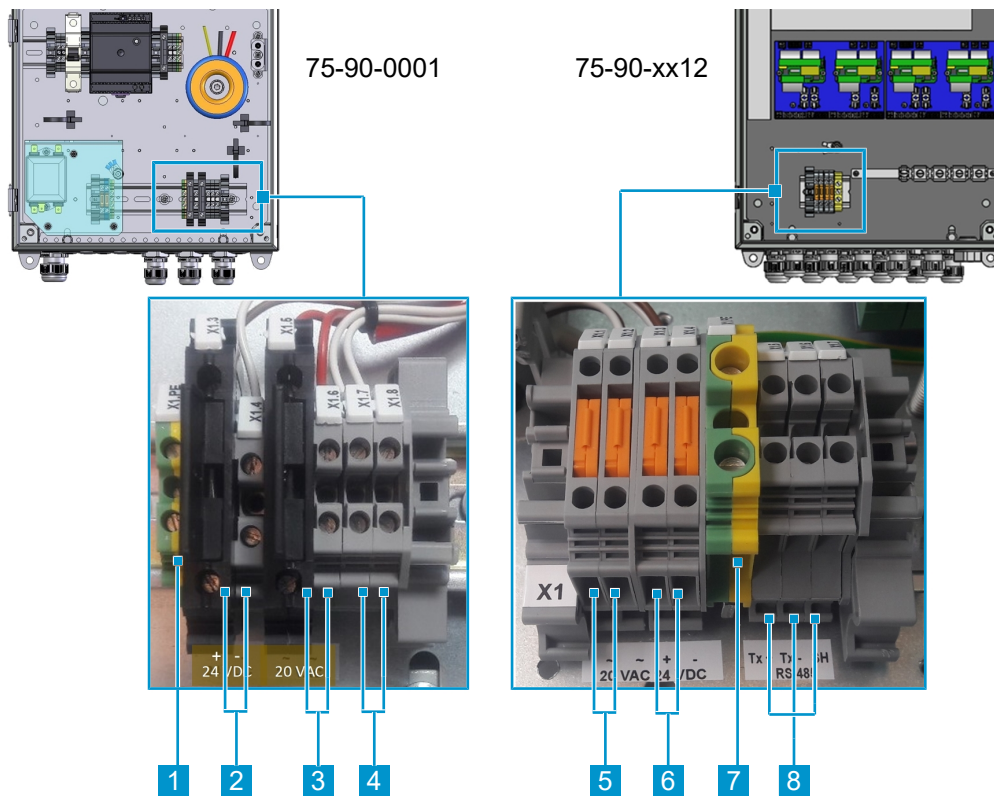
To connect the distributor to the power supply:

1. Establish electrical safety at the connection cable
2. Open the housing
3. Remove the cover
4. Route the stripped power supply cable **4** through the intended cable gland **5**
5. Tighten the cable gland
6. Connect the conductors L, N, and PE, to the intended terminals **1** and **2**
7. Fix the conductors with a cable tie as close as possible to the terminal to prevent loose contacts from slipping out
8. Mount the cover

## 4.2 Connecting the distributor 75-90-xx12 to external power supply


For distributors that are supplied with voltage via distributor 75-900-0001, the extra-low voltage supply of the distributor must be connected as shown in the figure.

Observe the notes under Cable lengths and cable types [► 7].



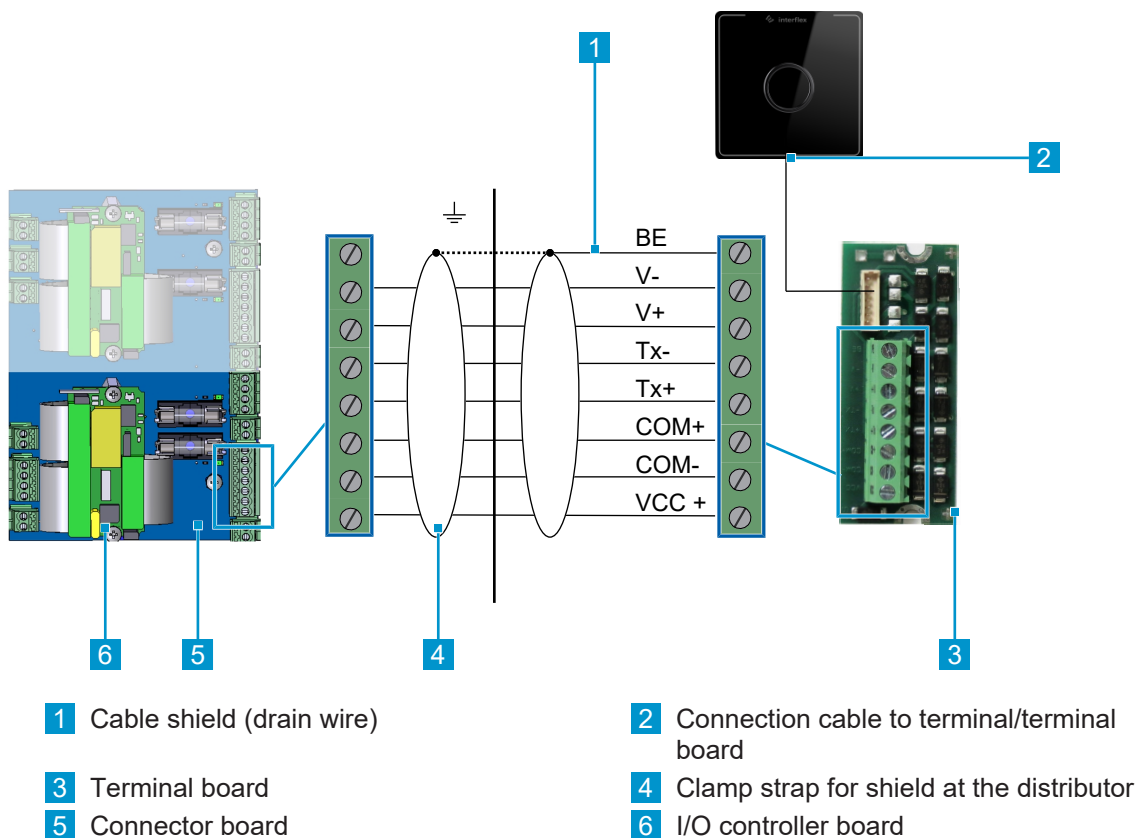
- |   |   |
|---|---|
| <b>1</b> Connecting terminal PE                       | <b>2</b> Output 24 VDC terminal X1.3 with fuse 1.6 AT |
| <b>3</b> Output 20 VDC terminal X1.5 with fuse 1.6 AT | <b>4</b> Connecting terminals anti-tamper switch      |
| <b>5</b> Input 20 V AC                                | <b>6</b> Input 24 V DC                                |
| <b>7</b> Connecting terminal PE                       | <b>8</b> Connection RS485 bus (not for 75-90-2812)    |

## 5 Connecting the terminal to the distributor

 The terminal board and the connection cable to the terminal are included in the delivery of the readers.

### 5.1 Connecting the terminal to the distributor 75-90-2x1x

Each terminal is connected to an I/O controller board with a terminal board via the connector board



To connect the terminal:

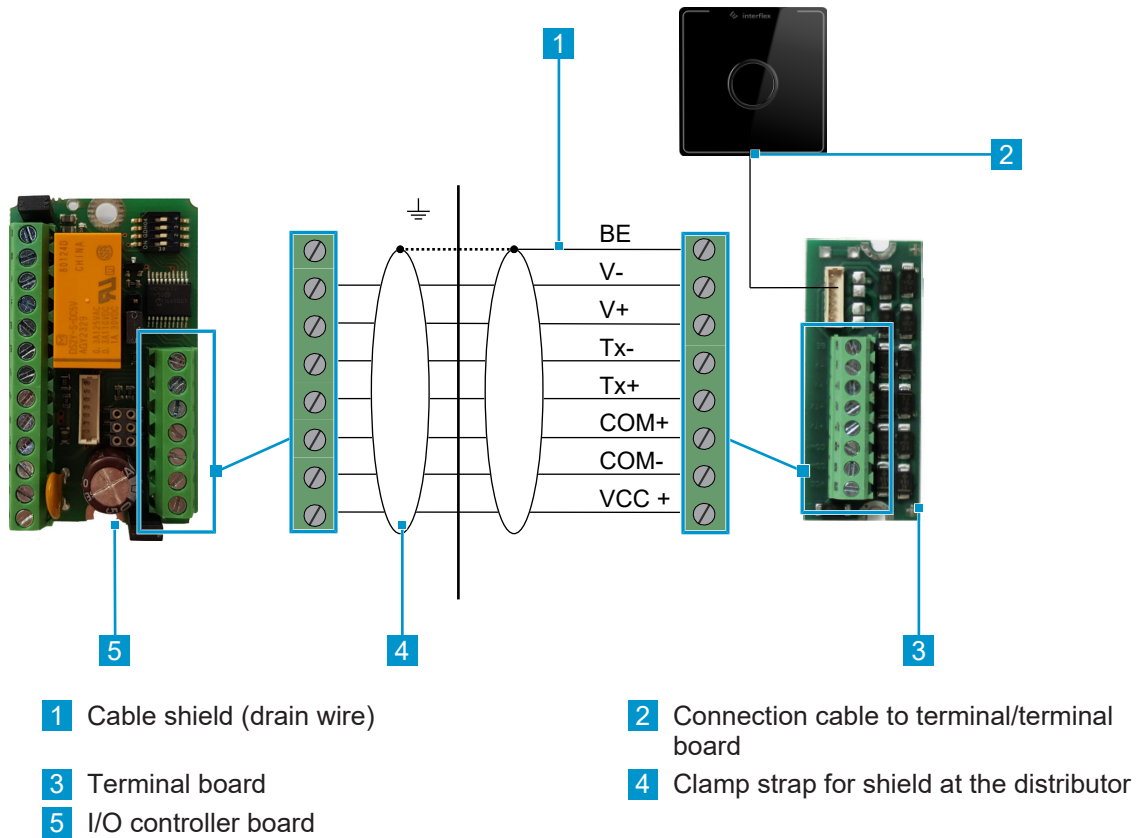
1. Terminal board: Connect the shield and the drain wire **1** via the shield clamp **4**
2. Terminal: Connect the drain wire with BE
3. Connect the connector board and the terminal as shown in the figure
4. Insert the plug of the cable **2** coming from the terminal into the female connector of the terminal board



## 5.2 Connecting the terminal to the distributor 75-90-2401

Each terminal is connected to an I/O controller board via terminal board.

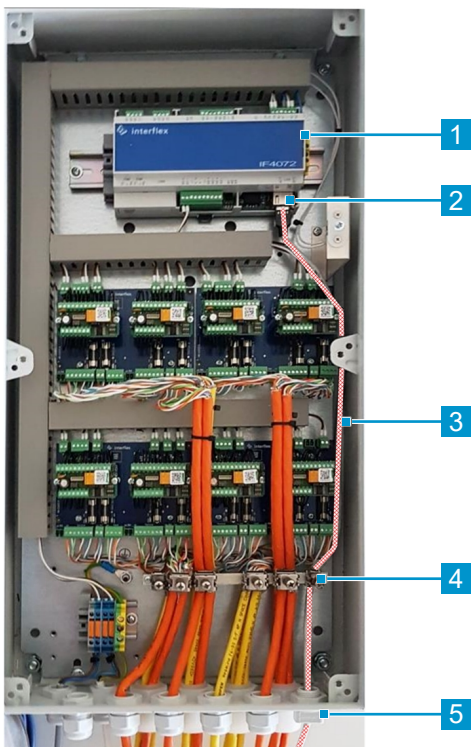
### Connecting the terminal to the I/O controller board



To connect the terminal:

1. Terminal board: Connect the shield and the drain wire **1** via the shield clamp **4**
2. Terminal: Connect the drain wire with BE
3. Connect the connector board and the terminal as shown in the figure
4. Insert the plug of the cable **2** coming from the terminal into the female connector of the terminal board

## 6 Connecting the controller IF-4072



To connect the controller:

1. Feed the network cable from the higher-ranking system through the divisible cable gland **5** to the controller
2. Insert the plug of the network cable in the socket **2** at the controller
3. Strip the network cable and secure it with the shield clamp **4**



The initial operation of the IF-4072 controller is described in the associated technical manual that can be found on our website:

<https://interflex.com/de-de/services/wissenszentrum/>



## 7 Technical specifications

### 7.1 General data

Housing material	Lacquered sheet steel
Cable feed	Surface-mounted
Humidity	Max. 95%, non-condensing
Installation type	Surface mounting with screws
Degree of protection	IP53
Protection category	I
Ambient temperature	+4°C to +40°C

### 7.2 Distributors 75-90-0001 and 75-90-xx12

#### 75-90-0001



The distributor 75-90-0001 may only be used for supplying power to one of the distributors 75-90-xx12. The connection cable must not be longer than 3 m.

Nominal voltage	230 V AC +/-10%, 0,325 A, 50 Hz
Power for door openers	24 V DC, max. 0,8 A
Power for terminals	20 V, 1.6 A
Power consumption	With 75-90-1212: 30 VA With 75-90-1412: 45 VA With 75-90-2812: 72 VA
Power circuit breaker	Circuit breaker 230 V AC, 6 A
Fuse	2 x 2 AT per fuse terminal
Dimensions (H x W x D)	300 x 300 x 155
Weight	Approx. 6 kg

**75-90-xx12, power supply via 75-90-0001**

	<b>75-90-1212</b>	<b>75-90-1412</b>	<b>75-90-2812</b>
Nominal voltage	230 VAC $\pm$ 10%, 0,12 A, 50 Hz	230 VAC $\pm$ 10%, 0,18 A, 50 Hz	230 VAC $\pm$ 10%, 0,32 A, 50 Hz
Power for door openers	24 V DC, max. 0,2 A	24 V DC, max. 0,4 A	24 V DC, max. 0,8 A
Power for terminals	20 V AC, 0,3 A	20 V AC, 0,66 A	20 V AC, 1,52 A
Power consumption	30 VA	45 VA	75 VA
Power circuit breaker	Circuit breaker 230 VAC, 6 A		
Fuse	2 x 0.5 AT per I/O controller board		
Dimensions (H x W x D)	300 x 300 x 155 mm	300 x 300 x 155 mm	600 x 300 x 155 mm
Weight	Approx. 6 kg	Approx. 6 kg	Approx. 9 kg

**7.3 Distributor 75-90-1x11**

	<b>75-90-1111</b>	<b>75-90-1211</b>
Nominal voltage	230 VAC $\pm$ 10%, 0,12 A, 50 Hz	
Power for door openers	24 V DC, max. 0,2 A	
Power for terminals	20 V AC, 0,33 A	
Power consumption	30 VA	
Power circuit breaker	Circuit breaker 230 V AC, 6 A	
Fuse	2 x 0.5 AT per I/O controller board	
Dimensions (H x W x D)	300 x 300 x 155 mm	600 x 300 x 155 mm
Weight	Approx. 6 kg	Approx. 9 kg

	<b>75-90-1411</b>	<b>75-90-1811</b>
Nominal voltage	230 VAC $\pm$ 10%, 0,18 A, 50 Hz	230 VAC $\pm$ 10%, 0,3 A, 50 Hz
Power for door openers	24 V DC, max. 0,4 A	24 V DC, max. 0,8 A
Power for terminals	20 V AC, 0,66 A	20 V AC, 1,32 A
Power consumption	45 VA	72 VA
Power circuit breaker	Circuit breaker 230 V AC, 6 A	
Fuse	2 x 0.5 AT per I/O controller board	

	75-90-1411	75-90-1811
Dimensions (H x W x D)	600 x 300 x 155 mm	
Weight	Approx. 9 kg	

## 7.4 Distributor 75-90-2xx1

	75-90-2211	75-90-2411	75-90-2401
Nominal voltage	230 VAC $\pm$ 10%, 0,13 A, 50 Hz	230 VAC $\pm$ 10%, 0,2 A, 50 Hz	230 VAC $\pm$ 10%, 0,275 A, 50 Hz
Power for door openers	24 V DC, max. 0,2 A	24 V DC, max. 0,4 A	24 V DC, max. 2,15 A
Power for terminals	20 V AC, 0,53 A	20 V AC, 0,86 A	20 V AC, 0,86 A
Power consumption	30 VA	45 VA	64 VA
Power circuit breaker	Circuit breaker 230 VAC, 6 A		
Fuse	2 x 0.5 AT per I/O controller board		8x 0,5 AT per securing clamp
Dimensions (H x W x D)	600 x 300 x 155 mm		
Weight	Approx. 9 kg		

## 8 Disposal



Once its service life comes to an end, the device must be disposed of properly as electronic waste. You can dispose of the device yourself or return it to the supplier.

## 9 Declarations of conformity

### 9.1 EU Declaration of Conformity



Interflex hereby declares that the devices comply with the directives 2014/30/EU, 2011/65/EU, and additionally for variants PSU with directive 2014/35/EU.

The complete EU Declaration of Conformity can be found on our website [www.interflex.com](http://www.interflex.com).

### 9.2 UK Declaration of Conformity



The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

Electrical Equipment (Safety) Regulations 2016 – additionally for variants PSU

Electromagnetic Compatibility Regulations 2016

The complete Declaration of Conformity can be found on our website [www.interflex.com](http://www.interflex.com).

This product uses program packages that are subject to Open Source License Terms. The license information and the links to the OpenSource projects are available for download on the product in the directory /home/fieldservice/app/docs/.

Source code and updates are provided in the directory \Software\Firmware\Controller\ on the Interflex FTP server: <https://ftpservice.interflex.de>.

The information contained in this manual is to the best of our knowledge accurate and reliable. However, errors or mistakes cannot be completely ruled out. The information herein is therefore subject to change without prior notice.

The original manual is in German. Other languages are translations of the original manual.

Version: 09.22