interflex
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Terminal

IF-800 Terminal

00-800-06xx

A BRAND OF
ALLEGION

Table of contents

1 General information

1.1 Short description

The IF-800 online wired terminals are designed for access control and person identification via credential and smartphone. They are components of the flexible security solutions from Interflex for protecting buildings and company premises against unauthorized access. With the coverings available as accessories, they can be used in both industrial and architecturally significant indoor and outdoor environments.

The terminals, which are connected to the access control system via a controller or a terminal with integrated controller, read identification media via RFID or credentials on smartphones via NFC/ Bluetooth® and the *Key* app. They check the permissions online in the IF-6040 access control system or offline in the controller. Additionally, these terminals monitor sensors and activate relays on doors and barriers.

IF-800 terminals offer the possibility to write access permissions onto identification media using the MIFARE® or LEGIC® technology so that these permissions can also be evaluated by offline terminals.

1.2 Scope of delivery

- IF-800 terminal in the ordered variant
- I/O controller board with connecting cable and adhesive tape
- Terminal board with adhesive tape
- Mounting material for DIN appliance case, protective cover, and plastic hose

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

Suitable Interflex coverings can be ordered as accessories:

Item number	Description	Color
75-800-0104	W11 Outdoor	
75-800-0150	eVAYO	White
75-800-0151	eVAYO	Black

Coverings are also available for integrating IF-800 into some suppliers' switch systems:

Manufacturer/Series	Item number	Version
Gira/TX_44	75-800-0081	White
	75-800-0082	Alu
	75-800-0083	Anthracite
Gira/E2	75-600-0002	Pure white
	75-600-0005	Anthracite
Behnke	75-600-0060	Aluminum
Ritto	75-800-0041	Silver
	75-800-0042	Platinum
	75-800-0043	Brown
	75-800-0044	White
Siedle/Vario	75-600-0030	RAL 9016 Traffic white
	75-600-0031	RAL 9006 White aluminum
	75-600-0032	RAL 9007 Grey aluminium
	75-600-0033	RAL 7024 Graphite Grey
	75-600-0034	RAL 9005 Jet black
	75-600-0035	RAL 9010 Pure white
	75-600-0036	Amber mica
	75-600-0037	DB 703 Iron mica
	75-601-0103	Keypad

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

Terminals of this series are designed for reading and writing credentials for access control in accordance with the specifications in section *Technical specifications*.

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

AC	*A*lternating *C*urrent
CIDR	*C*lassless *I*nter-*D*omain *R*outing
DC	*D*irect *C*urrent
DIP switch	Switch in IC design, connections in two rows (*D*ual *I*n-line *P*ackage)
EMC	*E*lectromagnetic *C*ompatibility
ESD	*E*lectro*s*tatic *d*ischarge
GND	Grou*nd*
IEEE	*I*nstitute of *E*lectrical and *E*lectronics *E*ngineers
NC contact	*N*ormally *c*losed contact
NO contact	*N*ormally *o*pen contact
PoE	*P*ower *o*ver *E*thernet
RFID	*R*adio-*F*requency *Id*entification
SH	*Sh*ield
SSH	*S*ecure *sh*ell

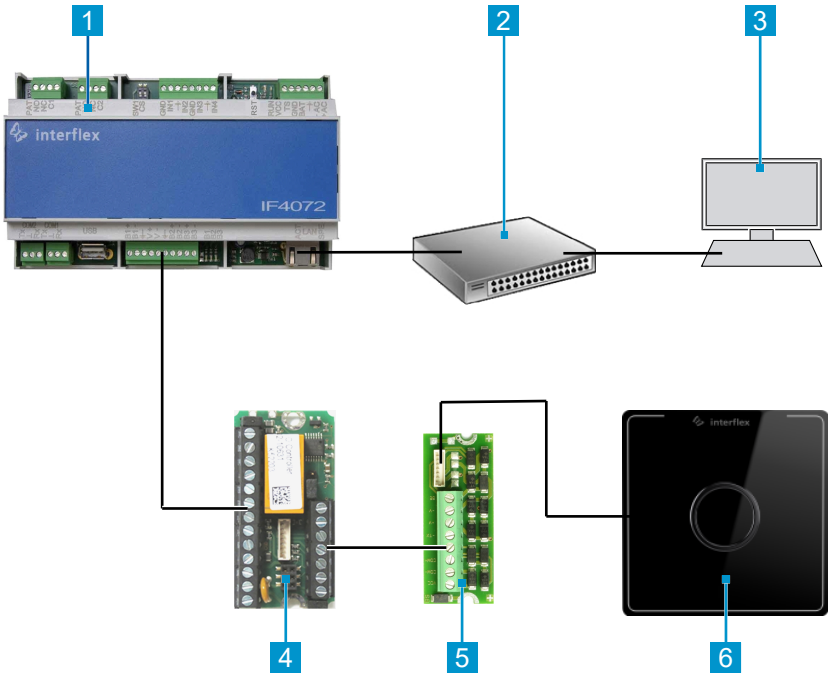
1.7 Cable lengths and cable types

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^2
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^2 J-Y(St) Y 2 x 2 x 0.8 mm^2
RS-485 bus cable to end devices	1200 m	J-Y(St) Y 2 x 2 x 0.6 mm^2 J-Y(St) Y 2 x 2 x 0.8 mm^2
Connecting cable between I/O controller board and terminal	100 m	J-Y(St) Y 4 x 2 x 0.6 mm^2 J-Y(St) Y 4 x 2 x 0.8 mm^2

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

This figure shows a possible scenario in connection with a IF-4072 controller.



1 Controller
2 PoE device: switch or power injector
3 Host system
4 I/O controller board
5 Terminal board
6 IF-800 Terminal

3 Installation

NOTICE

Damage due to the manipulation of the terminal

Manipulation of the terminal can lead to data loss.

a) Install the I/O controller board in a secured area

b) Secure the installation location of the I/O controller board additionally with a anti-tamper switch

Installation site

Note the following recommendations:

- Permitted ambient conditions for the device
- Minimum distance of 10 cm between the connecting cables and the nearest power cable
- Installation height 1100 mm

Minimum spacing for RFID and Bluetooth devices

If several RFID devices are installed too close together, they may interfere with one another. That is why the following minimum distances must be observed:

The minimum distance for back-to-back installation depends on the nature of the wall in between.

Please note that all Bluetooth devices within range are recognized and that the respective doors open too (according to the permission) when the "auto-booking" function is enabled.

Procedure

1. Stick the terminal board with the adhesive tape to the back of the protective cover
2. Plug the ribbon cable to the reader and feed it through the protective cover
3. Plug the ribbon cable to the terminal board
4. Connect the terminal [▶ 8]
5. Mount the terminal with the protective cover into the appliance case so that the large cavities of the terminal are at the top and bottom.
6. Attach the design kit

3.1 Connecting the terminal

NOTICE

Damage due to improper connection of the device

Improper connection may cause damage to the device.

- Establish electrical connections only when no voltage is applied
- Change the position of jumpers and DIP switches only when no voltage is applied

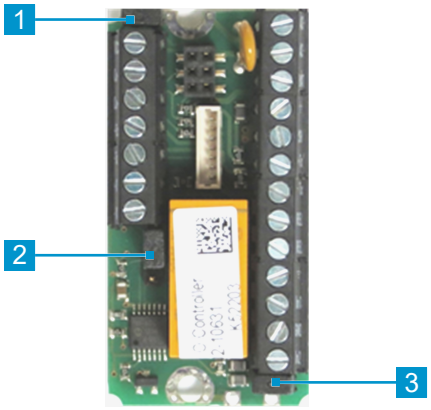
Procedure

1. Connecting the terminal to the I/O controller board [▶ 9]
2. Synchronizing the reader and setting the LED [▶ 13]
3. Setting the device address [▶ 14]

Connecting the terminal to the I/O controller board

Terminals are connected to the power supply, door sensors, control elements and the RS485 bus cable via the I/O controller board.

Jumpers



1 Bridge 1 for connecting an additional I/O controller board

2 Bridge 4 for relay contact
Jumper: top NO, bottom NC

3 Bridge 5 for external anti-tamper switch

When only one I/O controller board is used, bridge 1 is always plugged in. The connection of an additional I/O board is described under.

I/O controller board connections

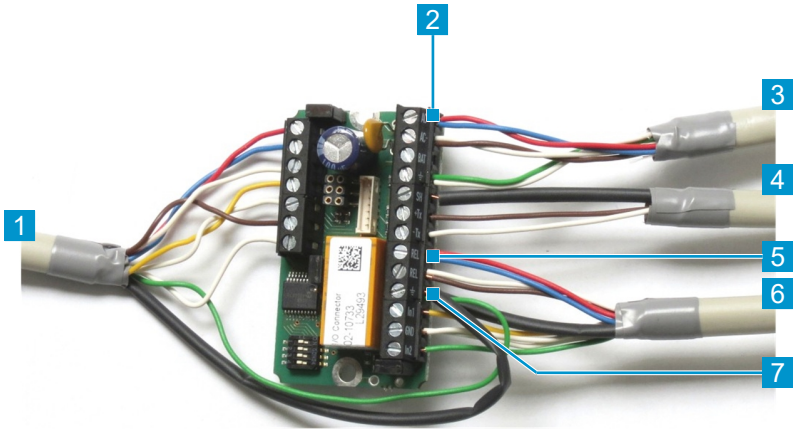
NOTICE

Damage due to the manipulation of the terminal

Manipulation of the terminal can lead to data loss.

a) Install the I/O controller board in a secured area

b) Secure the installation location of the I/O controller board additionally with a anti-tamper switch



1 Data cable to the terminal board of the terminals
2 Power supply with one cable pair connected each
3 Cable to power supply
4 RS485 data line
5 Relay output with one cable pair connected each
6 Control line with 2 floating inputs and one relay output
7 Functional grounding and shield connected to the same terminal

Install the I/O controller board in a junction box (e.g. Hensel) and fix it with adhesive tape or screws.

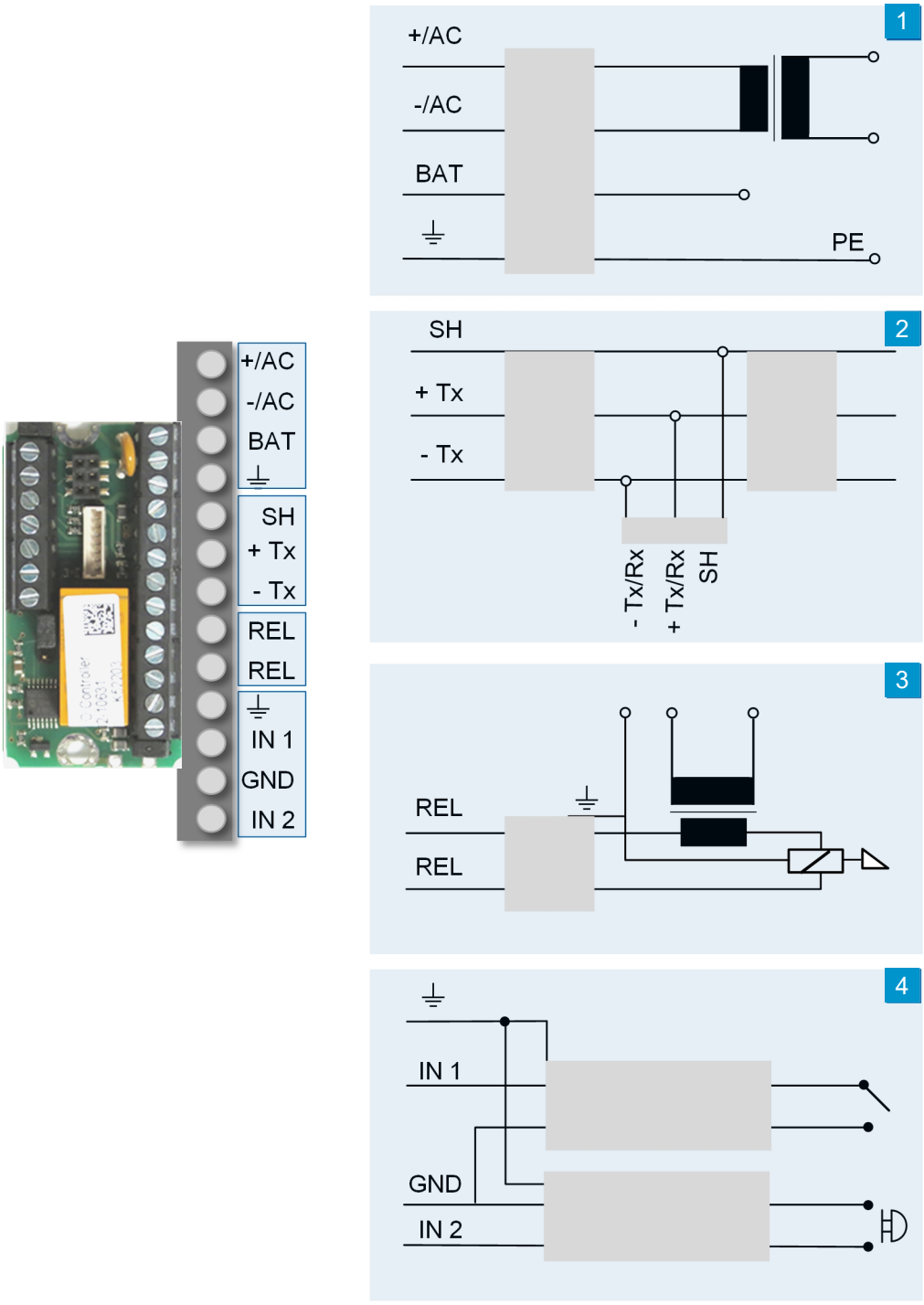
Please follow the instructions described in the section Cable lengths and cable types [▸ 6].

Connecting the shield to the I/O controller board

1. Insulate approx. 8 cm of the data cable on both ends
2. Pull the plastic hose over the shields
3. Connect the shield as shown in the figure above.

Connecting the I/O controller board to power supply, RS485 bus cable, control elements and door sensors

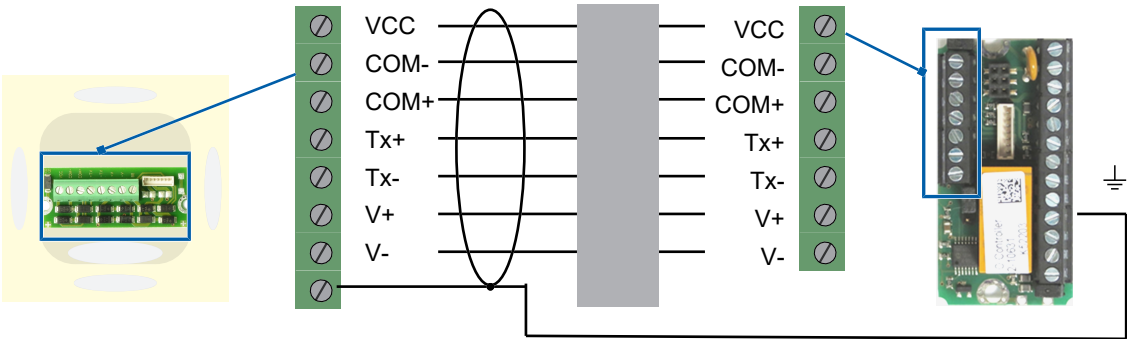
The figure shows *circuit examples* for the connection of an I/O controller board.



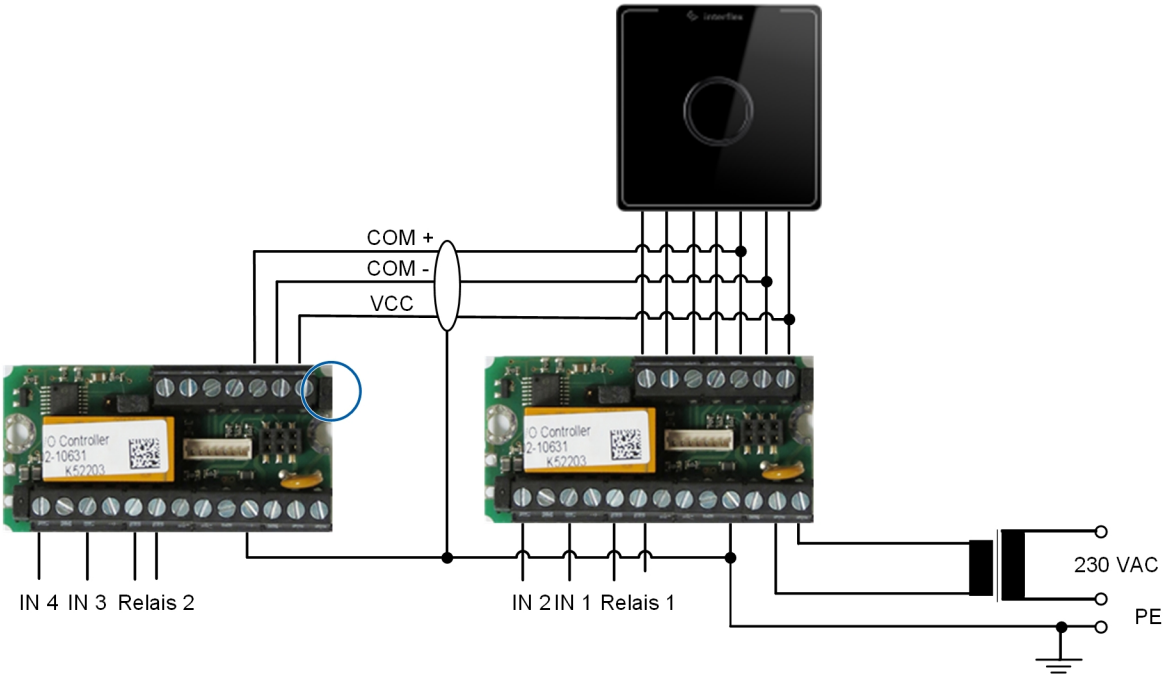
1 Power supply
2 RS485 bus cable
3 Control element, e.g. door opener
4 Door sensors

Connecting the terminal to the I/O controller board

It is possible to connect up to two I/ O controller boards for connecting additional terminals and controlling floating status contacts.



Connecting an additional I/O controller board



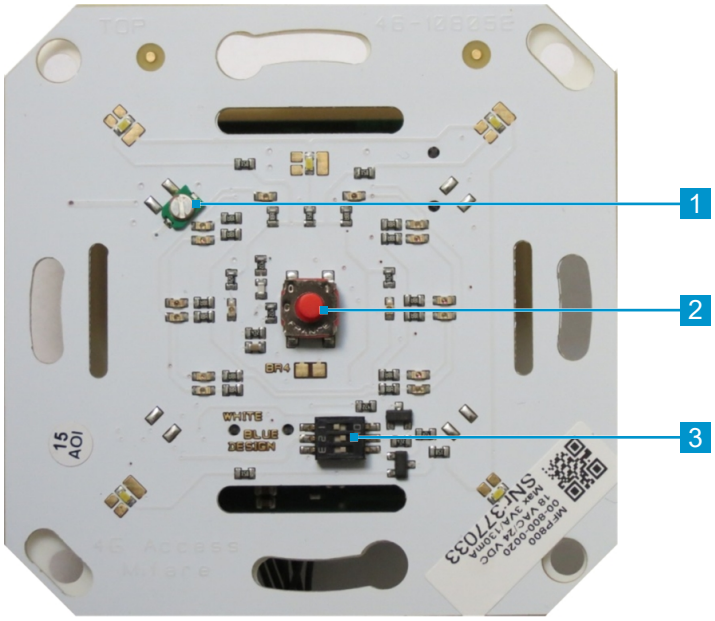
If more than two inputs or more than one relay are required, you can connect a second I/O controller board (accessory).

1. Remove bridge on I/O controller board 2 (left)
2. Connect the terminal and the I/O controller boards as shown in the figure
3. Shorten the length of the COM cable if it exceeds 100 m.

The terminal is connected to I/O controller board 1 by a 30 m cable. The length of the cable to I/O controller board 2 must then not exceed 70 m.

Synchronizing the reader and setting the LED

Structural conditions may require the reader to be fine-tuned. To do so, a field indicator is required (order no. 75-99-0004).



1 Adjusting screw for fine tuning the reader
2 Anti-tamper switch
3 3-pin DIP switch for setting the LEDs

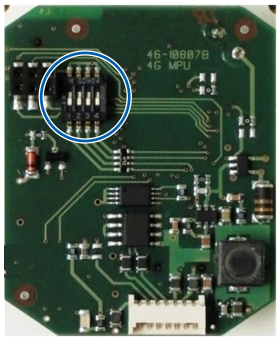
1. Switch on the power supply on the anti-tamper switch 2
2. Adjusting the reader: Turn the adjusting screw 1 until the field indicator reaches maximum
3. Set the color of the LED using the DIP switch 3 (see below)

Usually, the color of the LED is set at the factory to match the color of the display.

Design Kit	Switch 1	Switch 2	Switch 3
Glass, white	OFF	ON	ON
Glass, black	ON	ON	ON
IF design	OFF	ON	ON
Third-party design	OFF	OFF	OFF

Further settings are reserved for other designs.

Setting the device address



The address switch is used to set the hardware address:

Switches	4	3	2	1
Address 1	OFF	OFF	OFF	OFF*
Address 2	OFF	OFF	OFF	ON
Address 3	OFF	OFF	ON	OFF
Address 4	OFF	OFF	ON	ON
Address 5	OFF	ON	OFF	OFF
Address 6	OFF	ON	OFF	ON
Address 7	OFF	ON	ON	OFF
Address 8	OFF	ON	ON	ON

* not required if connected to a terminal

4 Testing and configuring the terminals

The terminals are configured and tested using the connected controller and the OC-Task software. The most important commands are described in the technical manual of the corresponding controller. The technical manuals can be found on our website:

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

Configuration requires extensive system knowledge and may be carried out only by authorized personnel.

5 Maintenance and Cleaning

Terminals do not require maintenance.

- Conduct the device tests prescribed by law.

NOTICE

Damage due to improper installation of the terminal

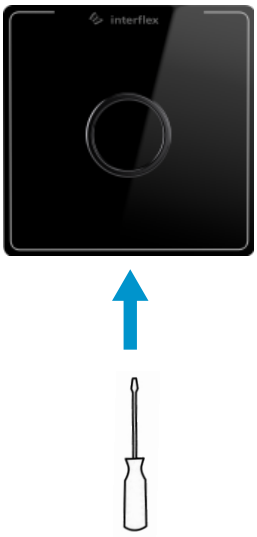
Use of inappropriate cleaning agents may damage the terminal.

a) Do not use any of the following agents for cleaning: alcohols, aliphatic hydrocarbons, oils, fats, concentrated mineral acids, aromatic or halogenated hydrocarbons, esters, ethers, and ketones.

b) Use commercial glass or plastic cleaning agents for cleaning.

5.1 Opening and closing the housing

The back panel and the cover of the housing are held together with internal latches.



To open the housing:

1. Insert the screwdriver through the recesses at the bottom of the back panel and press the latch tabs open
2. Remove the housing cover

To close the housing:

◆ Replace the housing cover and press firmly until the latches lock into place

6 Technical specifications

Power supply

Power consumption	Max. 3 VA
Nominal voltage	18 V AC/24 V DC
Fuse	PTC resistor

Equipment

Credential reader	RFID: MIFARE® Classic/DESFire, LEGIC® advant/prime Bluetooth®
Read range	RFID max. 2 cm, Bluetooth® optional
Frequency range/Transmitting power	RFID (13,56 MHz): 13,553 MHz to 13,567 MHz/ < 42 dBµA/m (dist. 10 m) Bluetooth® 5 (2,4 GHz): 2,400 GHz to 2,4835 GHz/ < 10 mW
Interfaces	RS485, 9600/19200 baud
Inputs	2 floating sensors per I/O controller board
Output relay/switching capacity	1 output per I/O controller board, max. 30 V 2 A
Signaling	Audible: Buzzer Visual: three-color LED
Anti-tamper switch	Anti-tamper switch, activated when front panel is removed

General data

Humidity	Max. 95%, non-condensing
Ambient temperature	Depending on the covering
Degree of protection	Depending on the covering
Protection category	III
Dimensions (W x H x D):	70 x 70 x 42 mm
Installation type	Flush-mounted
Cable feed	Flush-mounted

Housing material	Depending on the covering
Color	Depending on the covering
Weight	0.5 kg

7 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.

8 Declarations of conformity

8.1 EU Declaration of Conformity

CE

Hereby, Interflex declares that the products comply with the EU Directives 2014/53/EU (RED) and 2011/65/EU (RoHS).

The full text of the EU Declaration of Conformity can be found on our website www.interflex.com.

8.2 UK Declaration of Conformity

UKCA

Hereby, Interflex declares that the products comply with the following UK legislations:

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

Radio Equipment Regulations 2017

The full text of the UK Declaration of Conformity can be found on our website www.interflex.com.

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.

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