



## PIT gb RLLE y ETH

**PILZ**  
THE SPIRIT OF SAFETY

► Control and signal devices

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SD means Secure Digital

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## Introduction

### Validity of documentation

This documentation is valid for the product PIT gb RLLE y ETH. It is valid until new documentation is published.

This operating manual explains the function and operation, describes the installation and provides guidelines on how to connect the product.

### Using the documentation

This document is intended for instruction. Only install and commission the product if you have read and understood this document. The document should be retained for future reference.

### Definition of symbols

Information that is particularly important is identified as follows:



#### **DANGER!**

This warning must be heeded! It warns of a hazardous situation that poses an immediate threat of serious injury and death and indicates preventive measures that can be taken.



#### **WARNING!**

This warning must be heeded! It warns of a hazardous situation that could lead to serious injury and death and indicates preventive measures that can be taken.



#### **CAUTION!**

This refers to a hazard that can lead to a less serious or minor injury plus material damage, and also provides information on preventive measures that can be taken.



#### **NOTICE**

This describes a situation in which the product or devices could be damaged and also provides information on preventive measures that can be taken. It also highlights areas within the text that are of particular importance.

**INFORMATION**

This gives advice on applications and provides information on special features.

**Overview****Unit features**

- ▶ Slimline design
- ▶ Labelling option for individual marking of the control elements
- ▶ Control elements finally wired and installed
- ▶ Housing with E-Stop pushbutton, 2 pushbuttons and PITreader
- ▶ PITreader as electronic key switch for operation and authentication with a transponder key PITreader key (see [Order reference: Transponder key](#) [13])
- ▶ Can be installed in different directions (see [Assembly positions](#) [13])
- ▶ Coloured caps for marking the function of the control elements (see [Order reference: Accessories](#) [23])
- ▶ PIT gb RLLE y ETH has a 12-pin M12 male connector and a 4-pin M12 female connector  
PIT gb RLLE y ETH is available in two types. Unless stated otherwise, diagrams show the type with plug-in connectors at the opposite end to the E-STOP.
  - PIT gb RLLE y up ETH with male connectors at the E-STOP end
  - PIT gb RLLE y down ETH with male connectors at the opposite end to the E-STOP

**Scope of supply**

- ▶ PIT gb RLLE y up/down ETH
- ▶ 2 washers M5
- ▶ Coloured caps (set), sorted by colour

**Safety****Intended use**

The unit PIT gb RLLE y ETH is intended for use in safety circuits in accordance with IEC/EN 60947-5-5, EN ISO 13850. Before using the device, a safety assessment of the overall system must be performed in accordance with the Machinery Directive.

The PIT gb RLLE y ETH is a system for authentication and authorisation on control systems. Authentication is via transponder key.

The PIT gb RLLE y ETH must be used in combination with a suitable evaluation device (see [Connection to evaluation device](#) [15]).

The following is deemed improper use in particular:

- ▶ Any component, technical or electrical modification to the product
- ▶ Use of the product outside the areas described in this manual

- ▶ Use of the product outside the technical details (see chapter entitled "[Technical details](#) [ 19]").

#### **Foreseeable misuse**

- ▶ Use of the PIT gb RLLE y ETH under corrosive environmental conditions (cooling emulsions, surface treatment, gases, ...)  
Please contact Pilz.

#### **Safety regulations**

##### **Additional documents that apply**

Please read and take note of the following document.

- ▶ Operating manual PITreader

You will need to be conversant with the information in this document to fully understand this operating manual.

##### **Use of qualified personnel**

The products may only be assembled, installed, programmed, commissioned, operated, maintained and decommissioned by competent persons.

A competent person is a qualified and knowledgeable person who, because of their training, experience and current professional activity, has the specialist knowledge required. To be able to inspect, assess and operate devices, systems and machines, the person has to be informed of the state of the art and the applicable national, European and international laws, directives and standards.

It is the company's responsibility only to employ personnel who

- ▶ Are familiar with the basic regulations concerning health and safety / accident prevention,
- ▶ Have read and understood the information provided in the section entitled Safety
- ▶ Have a good knowledge of the generic and specialist standards applicable to the specific application.

##### **Warranty and liability**

All claims to warranty and liability will be rendered invalid if

- ▶ The product was used contrary to the purpose for which it is intended,
- ▶ Damage can be attributed to not having followed the guidelines in the manual,
- ▶ Operating personnel are not suitably qualified,
- ▶ Any type of modification has been made (e.g. exchanging components on the PCB boards, soldering work etc.)
- ▶ The product was opened.

##### **Disposal**

- ▶ When decommissioning, please comply with local regulations regarding the disposal of electronic devices (e.g. Electrical and Electronic Equipment Act).

### For your safety



#### **WARNING!**

##### **Risk of injury due to loss of the safety function.**

Manipulation of the E-STOP pushbutton control element (S4) may lead to serious injury and death.

- You should prevent the control element being manipulated with a spare control element.
- Only Pilz may exchange control elements.
- Destroy any defective PIT gb RLLE y ETH before disposing of it.



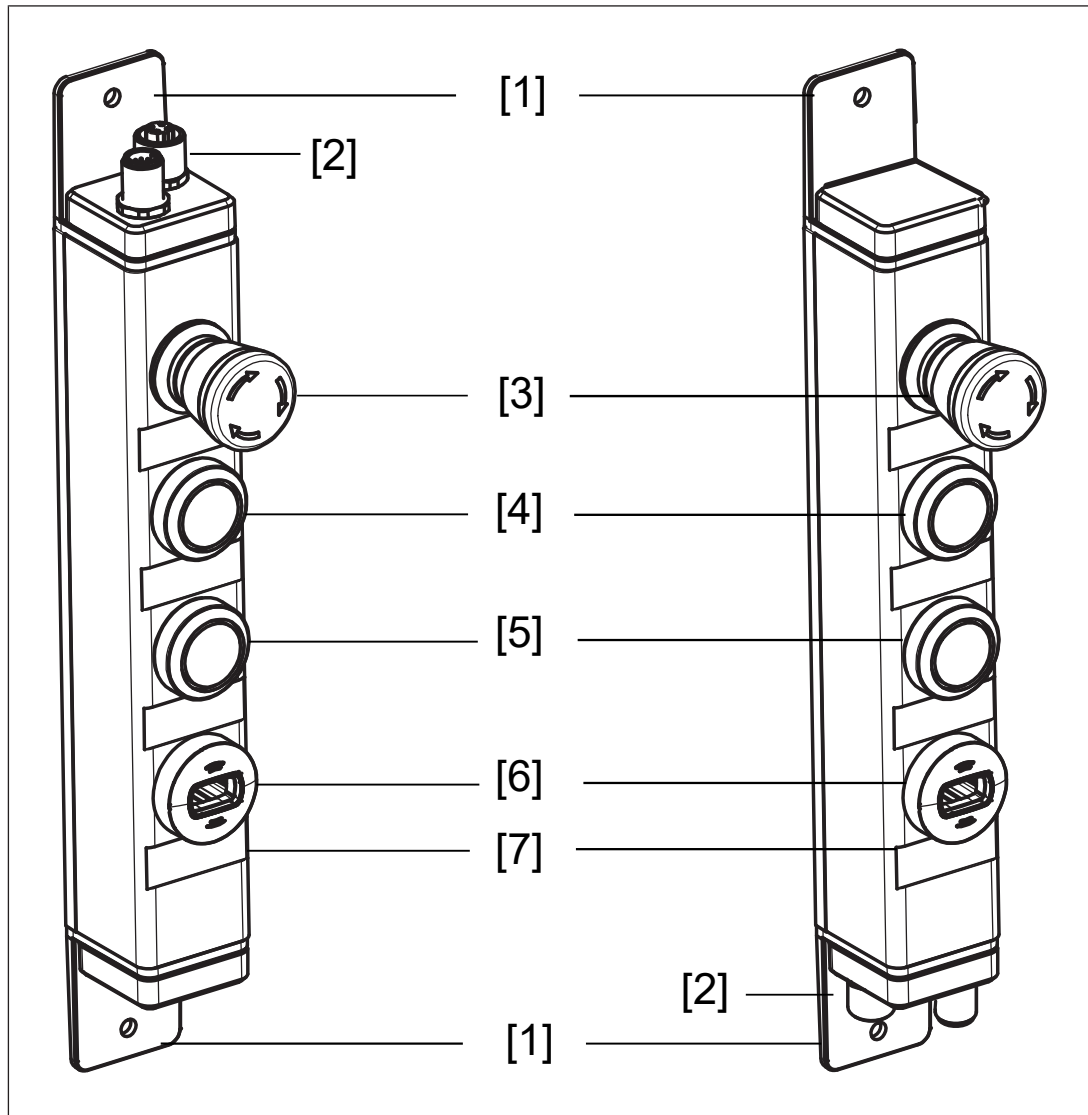
#### **INFORMATION**

**Do not remove the protective caps until you are just about to connect the device.**

## Function description

### Device types

The PIT gb RLLE y ETH provides an E-STOP pushbutton, two pushbuttons and a PITreader to control the functions of an entire plant or machine. The two M12 connectors used to connect the product are located either on the E-STOP end (PIT gb RLLE y up ETH) or on the opposite end to the E-STOP (PIT gb RLLE y down ETH).



- [1] Rotatable mounting bracket
- [2] Connector
- [3] S4: Emergency stop pushbutton
- [4] S3: Pushbutton 3, illuminated
- [5] S2: Pushbutton 2, illuminated
- [6] S4: PITreader
- [7] Individual labelling option (width: 35 mm, height: 13 mm)

► PITreader as electronic key switch

► E-STOP pushbutton

The E-STOP pushbutton is used to shut down plant and machine sections in order to reduce or avert imminent or existing hazards to persons and damage to machinery or materials.

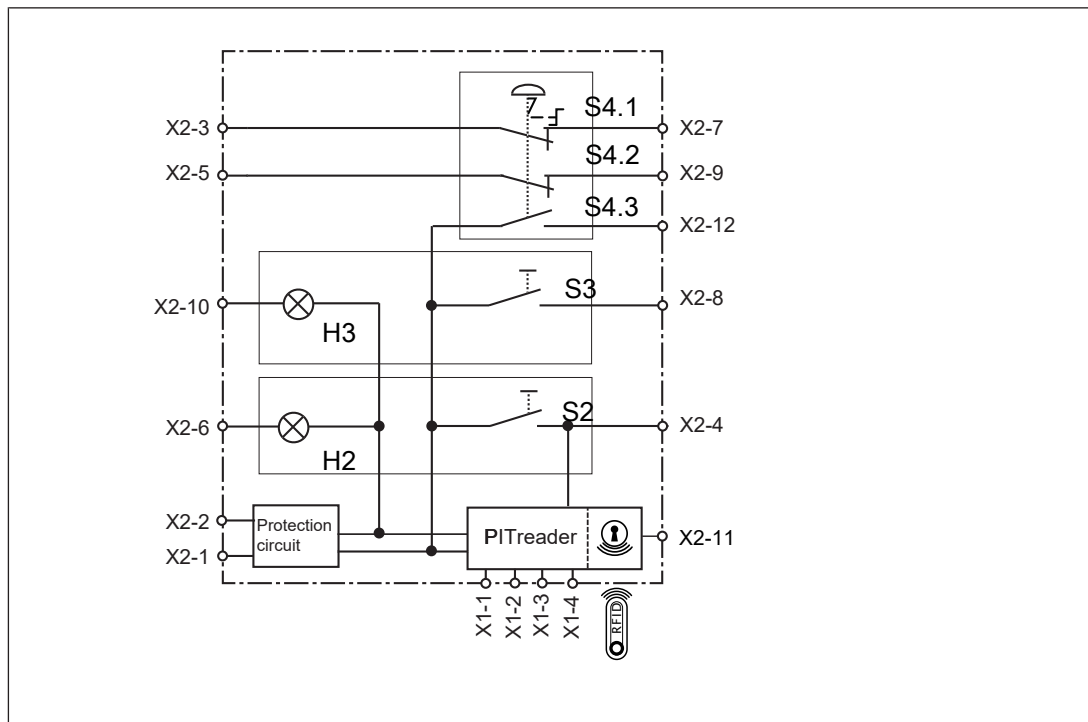
► Pushbutton generally

- The pushbutton is used to switch a signal and as the status display.
- The pushbutton lights up if the corresponding input is connected.

► Pushbutton 2 (to reset the password)

- Pushbutton 2 can be used to reset the password for the PITreader to the [default settings](#)  17] during power-up.

### Block diagram



### PITreader

The function of the PITreader is described in the operating manual for the authentication system PITreader (see [Additional documents that apply](#)  7).

### Coloured caps

- The control elements can be marked with coloured caps according to the function of the control elements (see [Order reference: Accessories](#)  23])

## Wiring

Please note:

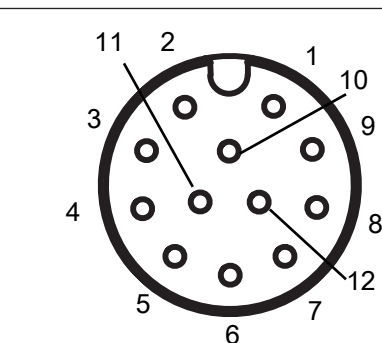
- ▶ Information given in the [Technical details](#) [📖 19] must be followed.
- ▶ The power supply must meet the regulations for extra low voltages with protective electrical separation (SELV, PELV).
- ▶ The supply voltage must be fitted with a 4 A fuse, characteristic B/C.
- ▶ Ensure the wiring and EMC requirements of EN 60204-1 are met.
- ▶ To connect the PIT gb RLLE y ETH to the evaluation devices, use a 12-pin cable with an A-coded M12 female connector (see [Order reference: Accessories](#) [📖 24]).
- ▶ To connect the PIT gb RLLE y ETH to a controller, use a 4-pole cable with a D-coded M12 male connector (see [Order reference: Accessories](#) [📖 24]).
- ▶ Route the cables so that they are protected.

## Terminal assignment connectors



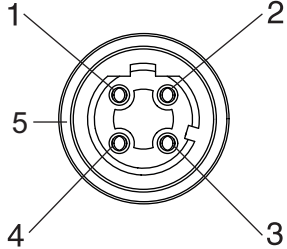
### NOTICE

The colour marking for the connection lead only applies for the cable that Pilz supplies as an accessory



12-pin M12 male connector

| PIN | Wire colour | Function                      |
|-----|-------------|-------------------------------|
| 1   | Brown       | +24 V UB                      |
| 2   | Blue        | 0 V UB                        |
| 3   | White       | E-STOP channel 1              |
| 4   | Green       | Pushbutton 2                  |
| 5   | Pink        | E-STOP channel 2              |
| 6   | Yellow      | LED pushbutton 2 (H2)         |
| 7   | Black       | E-STOP channel 1              |
| 8   | Grey        | Pushbutton 3                  |
| 9   | Red         | E-STOP channel 2              |
| 10  | Purple      | LED pushbutton 3 (H3)         |
| 11  | Grey-pink   | Signal output PITreader I0/O0 |
| 12  | Red-blue    | E-STOP signal contact         |

|  <p>4-pin M12 female connector,<br/>D-coded</p> | PIN | Wire colour | Function                                                |
|----------------------------------------------------------------------------------------------------------------------------------|-----|-------------|---------------------------------------------------------|
|                                                                                                                                  | 1   | Brown       | TD+, send data                                          |
|                                                                                                                                  | 2   | White       | RD+, receive data                                       |
|                                                                                                                                  | 3   | Blue        | TD-, send data                                          |
|                                                                                                                                  | 4   | Black       | RD-, receive data                                       |
|                                                                                                                                  | 5   | -           | Connection to functional earth on the connector housing |

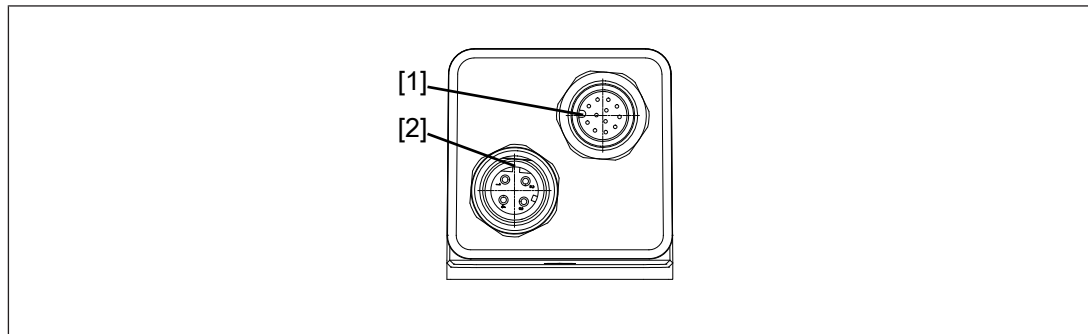


Fig.: Position of the coding elements on the connectors to protect the cables from twisting – View of the PIT gb RLLE y ETH from the connector end

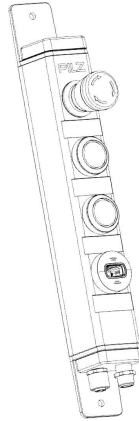
### Legend

- [1] Coding element on the 12-pin connector
- [2] Coding element on the 4-pin connector

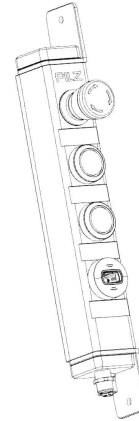
## Installation

### Assembly positions

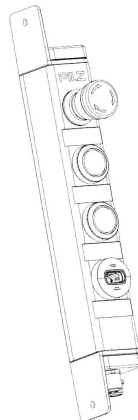
The mounting brackets used to fasten the PIT gb RLLE y ETH to the mounting surface can be rotated before assembly PIT gb RLLE y ETH (see diagrams with the example of the PIT gb RLLE y down ETH).



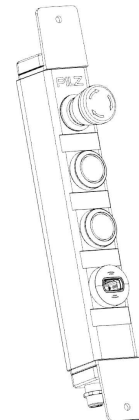
Without rotating the mounting brackets



Rotating the mounting bracket to the right

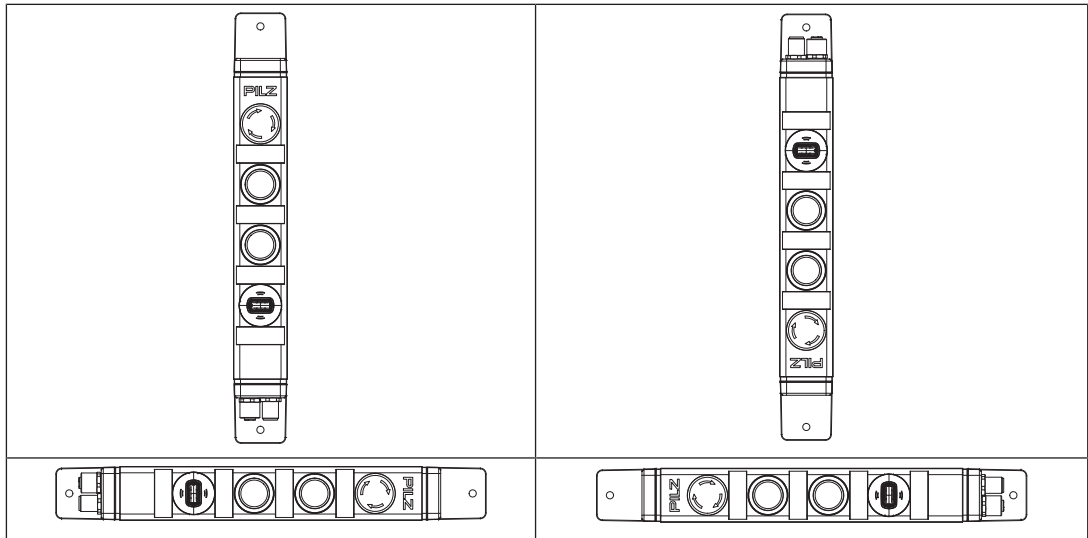


Rotating the mounting brackets to the left



Rotating the mounting bracket forwards

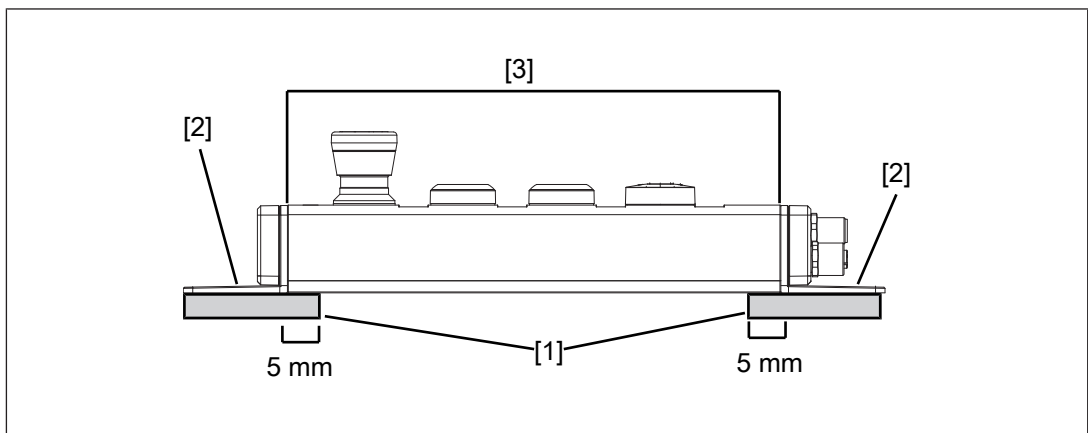
### Possible assembly positions for the PIT gb RLLE y ETH:



### Installation of device

Please note:

- ▶ The PIT gb RLLE y ETH must be installed on a solid surface (e.g. profile, panel).
- ▶ The PIT gb RLLE y ETH must be situated so that it can easily be reached above the access level (e.g. base level, platform level).  
The E-STOP pushbutton must be accessible at a height of between 0.6 m to 1.7 m above the access level.
- ▶ The mounting surface must have a max. unevenness of 0.5 mm.
- ▶ The housing of the PIT gb RLLE y ETH must make contact with the mounting surface over at least 5 mm on both ends (see figure).



### Legend

- [1] Mounting surface
- [2] Mounting bracket
- [3] Housing

- To fasten the PIT gb RLLE y ETH, use M5 screws and the provided washers M5.

#### Procedure:

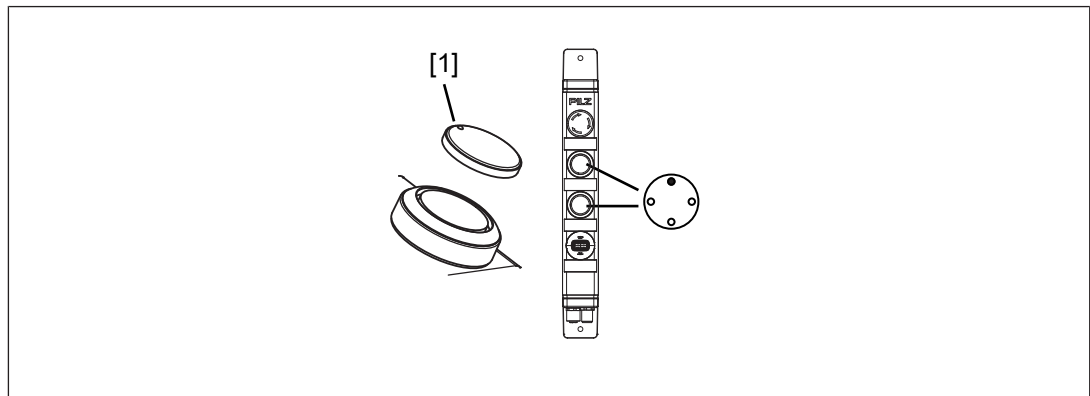
1. Provide the mounting surface with drill holes for fastening the PIT gb RLLE y ETH (see [Dimensions](#) [19]).
2. Turn the mounting bracket to the correct position for installation.
3. Fasten the PIT gb RLLE y ETH to the mounting surface and tighten the screws (including washers) with 4 Nm.

#### Attach coloured caps

Place the coloured caps (supplied) on the control element.

Ensure that the alignment marking on the coloured cap matches up with one of the positions illustrated.

Press on the coloured cap until you feel it click into position.



#### Legend

[1] Alignment marking

## Commissioning

#### Connection to evaluation device

Suitable Pilz evaluation devices for the actuation of the LED and reading out all control elements include:

- PNOZmulti
- PSSuniversal PLC

Suitable Pilz evaluation devices for the evaluation of the E-STOP:

- PNOZelog
- PNOZsigma
- PNOZ X

The correct connection to the respective evaluation device is described in the operating manual for the evaluation device. Make sure that the connection is made in accordance with the specifications in the operating manual for the selected evaluation device.

### Configure PITreader

The configuration of the PITreader is described in the operating manual for the authentication system PITreader.

### Checking the unit

Once the unit has been installed and aligned, final inspections must be carried out before it can be put into service.



#### INFORMATION

This inspection may only be carried out by qualified personnel.

- ▶ Check the PIT gb RLLE y ETH for damage.
- ▶ Always test the function with a connected evaluation device.
- ▶ Check the function of the E-STOP.
- ▶ Check the function of the other control elements.

### Troubleshooting

| Error                                           | Cause                                                                                                       | Description/measure                                                                                                                  |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| LED off                                         | 0 V voltage supply not present and/or no signal at corresponding input                                      | Check the wiring of the inputs and outputs and rectify wiring errors                                                                 |
| No output signal with control element operation | 24 V voltage supply not present                                                                             | Check the wiring of the inputs and outputs and rectify wiring errors                                                                 |
| Function of the unit impaired                   | Connection cable damaged                                                                                    | Check connection cable and exchange if necessary                                                                                     |
| Control element damaged                         | External force                                                                                              | Contact Pilz and arrange a replacement for the defective control element.                                                            |
| LED on PITreader flashes red                    | Fault on the PITreader (e.g. hardware error, configuration error, invalid or uncoded transponder key, ...). | See <a href="#">LED display PITreader</a>  17]. |

## Operation

### Display and control elements

The use and display of pushbutton 2 and pushbutton 3 depends on the application in the connected controller.

### LED display PITreader

#### Legend

-  LED on  
 LED flashes

| Colour | State                                                                               | Meaning                                                                                                                                                                                                                                                                                                                                                                                          |
|--------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Yellow |    | Device is starting up or the firmware is being updated (if the device is re-starting after uploading a firmware update and the firmware update is being applied, the LED flashes yellow)                                                                                                                                                                                                         |
| Yellow |   | Device is in external authentication mode and as yet no authentication has been set for the inserted transponder key                                                                                                                                                                                                                                                                             |
| Blue   |  | Device is ready for operation, no transponder key has been inserted                                                                                                                                                                                                                                                                                                                              |
| Green  |  | Transponder key has been recognised as valid                                                                                                                                                                                                                                                                                                                                                     |
| Red    |  | Transponder key has been recognised as invalid (permission 0 or in external authentication mode)                                                                                                                                                                                                                                                                                                 |
| Red    |  | Error (e.g. hardware error, configuration error, invalid or uncoded transponder key, ...).<br>Possible remedies in the event of a configuration error, when the device is no longer accessible under the set IP address: <ul style="list-style-type: none"> <li>▶ Try to open the web application with the default IP address or</li> <li>▶ Reset the device to its default settings.</li> </ul> |

### Firmware update PITreader

The update for the firmware of the PITreader is described in the operating manual for the authentication system PITreader (see [Additional documents that apply](#)  7).

### Reset PITreader to default setting

#### Procedure:

1. Switch off the supply voltage to the PIT gb RLLE y ETH.
2. Press and hold pushbutton 2.
3. Switch on the supply voltage to the PIT gb RLLE y ETH.

4. Release pushbutton 2 when the yellow LED lights up and press it again with 10 seconds.

The LED light up yellow and then green.

The PIT gb RLLE y ETH has been reset successfully.

#### LED statuses on the PITreader for resetting the PIT gb RLLE y ETH to its factory settings

| Description                                                                  | Colour | State                                                                               |
|------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|
| Pushbutton S2 pressed                                                        | Yellow |  |
| Pushbutton S2 is released                                                    |        |  |
| Pushbutton S2 is pressed again, resetting the device to its default settings |        |  |
| The device has successfully been reset to its default settings               | Green  |  |

### Maintenance and testing

It is not necessary to perform maintenance work on the product in normal operation. Please return any faulty products to Pilz.

#### Cleaning

Clean the unit every month with a soft cloth and a mild cleaning agent.

#### Monthly check

- Perform a manual [function test](#)  16] of the PIT gb RLLE y ETH every month.



#### INFORMATION

This inspection may only be carried out by qualified personnel.

#### Check after modifications

Check the PIT gb RLLE y ETH each time the plant/machine is modified. Exchanging the PIT gb RLLE y ETH is also to be classed as a modification.

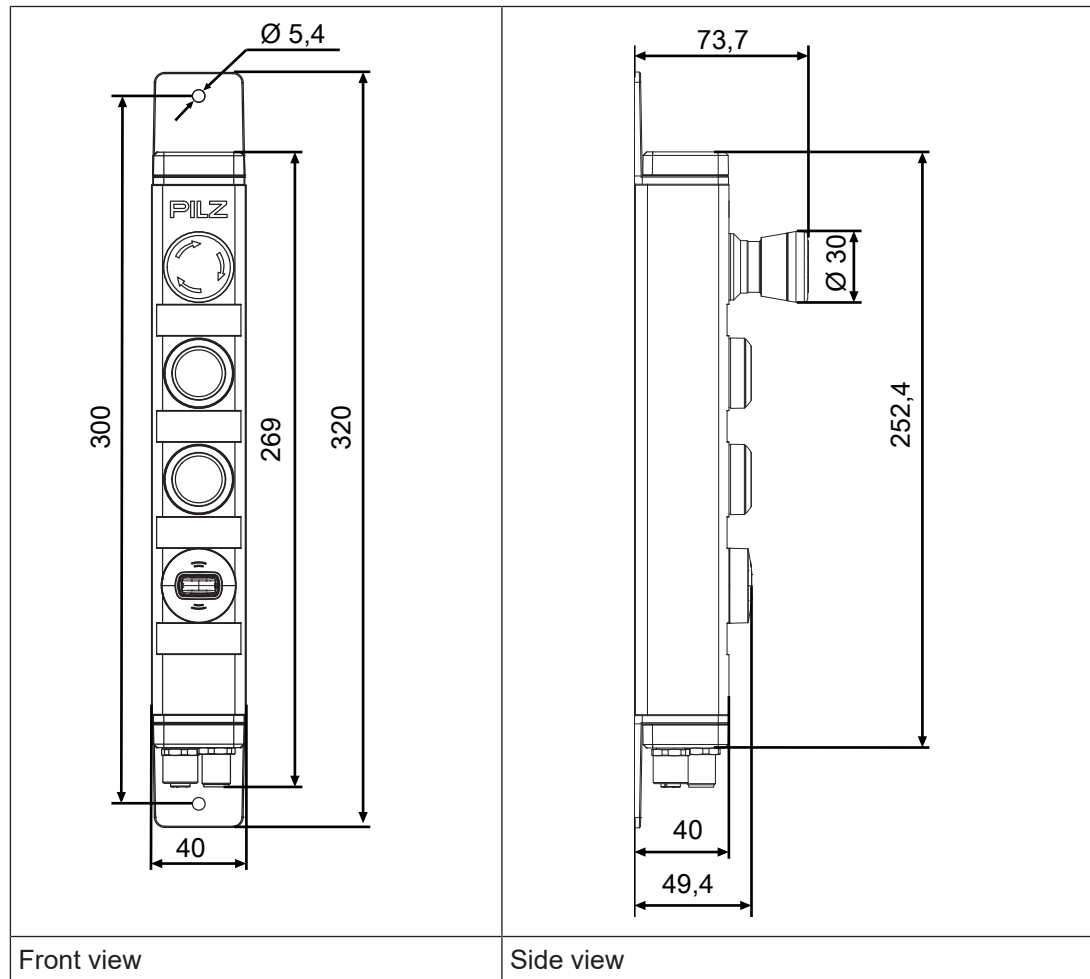
You **must** comply with the requirements of the applicable national regulations.



#### INFORMATION

This inspection may only be carried out by qualified personnel.

## Dimensions



## Technical details

| General                              | G1000020                             | G1000021                             |
|--------------------------------------|--------------------------------------|--------------------------------------|
| Certifications                       | CE, EAC (Eurasian), FCC, IC, UL/ cUL | CE, EAC (Eurasian), FCC, IC, UL/ cUL |
| Self-monitored                       | No                                   | No                                   |
| Lamp                                 |                                      |                                      |
| Kind                                 | LED                                  | LED                                  |
| Colour                               | white                                | white                                |
| Electrical data                      | G1000020                             | G1000021                             |
| Supply voltage                       |                                      |                                      |
| Voltage                              | 24 V                                 | 24 V                                 |
| Kind                                 | DC                                   | DC                                   |
| Type of power supply                 | SELV/PELV                            | SELV/PELV                            |
| Voltage tolerance                    | -15 %/+20 %                          | -15 %/+20 %                          |
| Output of external power supply (DC) | 2,88 W                               | 2,88 W                               |
| Duty cycle                           | 100 %                                | 100 %                                |

| <b>Electrical data</b>                     | <b>G1000020</b>               | <b>G1000021</b>               |
|--------------------------------------------|-------------------------------|-------------------------------|
| Min. contact current                       | <b>1 mA</b>                   | <b>1 mA</b>                   |
| <b>E-STOP</b>                              | <b>G1000020</b>               | <b>G1000021</b>               |
| Quantity                                   | <b>1</b>                      | <b>1</b>                      |
| Number of N/C contacts                     | <b>2</b>                      | <b>2</b>                      |
| Number of signal contacts                  | <b>1</b>                      | <b>1</b>                      |
| E-STOP release type                        | <b>Turn release</b>           | <b>Turn release</b>           |
| Utilisation category                       |                               |                               |
| In accordance with the standard            | <b>EN 60947-5-1</b>           | <b>EN 60947-5-1</b>           |
| DC13 at                                    | <b>24 V</b>                   | <b>24 V</b>                   |
| Current                                    | <b>0,1 A</b>                  | <b>0,1 A</b>                  |
| Contact material                           | <b>Ag</b>                     | <b>Ag</b>                     |
| Mechanical life                            | <b>50,000 cycles</b>          | <b>50,000 cycles</b>          |
| Electrical life                            | <b>6050 cycles</b>            | <b>6050 cycles</b>            |
| <b>Pushbutton</b>                          | <b>G1000020</b>               | <b>G1000021</b>               |
| Quantity                                   | <b>2</b>                      | <b>2</b>                      |
| Number of N/O contacts                     | <b>2</b>                      | <b>2</b>                      |
| Utilisation category                       |                               |                               |
| In accordance with the standard            | <b>EN 60947-5-1</b>           | <b>EN 60947-5-1</b>           |
| DC13 at                                    | <b>24 V</b>                   | <b>24 V</b>                   |
| Max. current                               | <b>0,1 A</b>                  | <b>0,1 A</b>                  |
| Mechanical life                            | <b>1,000,000 cycles</b>       | <b>1,000,000 cycles</b>       |
| B10                                        | <b>1,300,000 cycles</b>       | <b>1,300,000 cycles</b>       |
| Contact material                           | <b>Ag</b>                     | <b>Ag</b>                     |
| <b>PITreader</b>                           | <b>G1000020</b>               | <b>G1000021</b>               |
| Sensor's mode of operation                 | <b>Transponder</b>            | <b>Transponder</b>            |
| Transponder's energy supply                | <b>passive (battery free)</b> | <b>passive (battery free)</b> |
| Transponder's frequency band               | <b>13,24 - 13,88 MHz</b>      | <b>13,24 - 13,88 MHz</b>      |
| Max. transmitter output of transponder     | <b>170 mW</b>                 | <b>170 mW</b>                 |
| Supply interruption before de-energisation | <b>10 ms</b>                  | <b>10 ms</b>                  |
| Galvanic isolation (semiconductor output)  | <b>No</b>                     | <b>No</b>                     |
| Switching current per semiconductor output | <b>100 mA</b>                 | <b>100 mA</b>                 |
| Short circuit proof (semiconductor output) | <b>yes</b>                    | <b>yes</b>                    |
| Signal level at "1" (input)                | <b>15 - 30 V DC</b>           | <b>15 - 30 V DC</b>           |
| Input current range                        | <b>4 mA</b>                   | <b>4 mA</b>                   |
| Galvanic isolation (input)                 | <b>No</b>                     | <b>No</b>                     |
| <b>Ethernet interface</b>                  | <b>G1000020</b>               | <b>G1000021</b>               |
| Number                                     | <b>1</b>                      | <b>1</b>                      |
| IP address, factory setting                | <b>192.168.0.12</b>           | <b>192.168.0.12</b>           |
| Connection type                            | <b>M12x1, 4-pin, D-code</b>   | <b>M12x1, 4-pin, D-code</b>   |
| Transmission rate                          | <b>10/100 Mbit/s</b>          | <b>10/100 Mbit/s</b>          |

| <b>Environmental data</b>       | <b>G1000020</b>                   | <b>G1000021</b>                   |
|---------------------------------|-----------------------------------|-----------------------------------|
| Ambient temperature             |                                   |                                   |
| Temperature range               | <b>-20 - 55 °C</b>                | <b>-20 - 55 °C</b>                |
| Storage temperature             |                                   |                                   |
| Temperature range               | <b>-25 - 70 °C</b>                | <b>-25 - 70 °C</b>                |
| Climatic suitability            |                                   |                                   |
| In accordance with the standard | <b>EN 60068-2-78</b>              | <b>EN 60068-2-78</b>              |
| Humidity                        | <b>93 % r. h. at 40 °C</b>        | <b>93 % r. h. at 40 °C</b>        |
| Vibration                       |                                   |                                   |
| In accordance with the standard | <b>EN 60947-5-2</b>               | <b>EN 60947-5-2</b>               |
| Frequency                       | <b>10 - 55 Hz</b>                 | <b>10 - 55 Hz</b>                 |
| Amplitude                       | <b>1 mm</b>                       | <b>1 mm</b>                       |
| Shock stress                    |                                   |                                   |
| In accordance with the standard | <b>EN 60947-5-2</b>               | <b>EN 60947-5-2</b>               |
| Acceleration                    | <b>30g</b>                        | <b>30g</b>                        |
| Duration                        | <b>11 ms</b>                      | <b>11 ms</b>                      |
| Airgap creepage                 |                                   |                                   |
| In accordance with the standard | <b>EN 60947-1</b>                 | <b>EN 60947-1</b>                 |
| Overvoltage category            | <b>III</b>                        | <b>III</b>                        |
| Pollution degree                | <b>3</b>                          | <b>3</b>                          |
| Protection type                 |                                   |                                   |
| Housing                         | <b>IP65</b>                       | <b>IP65</b>                       |
| In accordance with UL           | <b>Type 1</b>                     | <b>Type 1</b>                     |
| <b>Mechanical data</b>          | <b>G1000020</b>                   | <b>G1000021</b>                   |
| Mounting position               | <b>Any</b>                        | <b>Any</b>                        |
| Connection type                 | <b>M12, 12-pin male connector</b> | <b>M12, 12-pin male connector</b> |
| Material                        |                                   |                                   |
| Housing                         | <b>Zn</b>                         | <b>Zn</b>                         |
| Connection type                 | <b>M12</b>                        | <b>M12</b>                        |
| Fixing screws torque settings   | <b>4 Nm</b>                       | <b>4 Nm</b>                       |
| Dimensions                      |                                   |                                   |
| Height                          | <b>320 mm</b>                     | <b>320 mm</b>                     |
| Width                           | <b>40 mm</b>                      | <b>40 mm</b>                      |
| Depth                           | <b>40 mm</b>                      | <b>40 mm</b>                      |
| Weight                          | <b>920 g</b>                      | <b>920 g</b>                      |

Where standards are undated, the 2020-08 latest editions shall apply.

**Safety characteristic data**

| <b>Operating mode</b> | <b>B10d in accordance with EN ISO 13849-1: 2015 and EN 62061</b> |
|-----------------------|------------------------------------------------------------------|
| E-STOP                | 130.000                                                          |

**NOTICE**

You must comply with the safety characteristic data in order to achieve the required safety level for your plant/machine.

**Supplementary data****Radio approvals****FCC/IC approval**USA/Canada

**FCC** FCC ID: VT8- PITGB01  
**IC** IC: 7482A-PITGB01

FCC/IC-Requirements:

This product complies with Part 15 of the FCC Rules and with Industry Canada licence-exempt RSS standards.

Operation is subject to the following two conditions:

- 1) this product may not cause harmful interference, and
- 2) this product must accept any interference received, including interference that may cause undesired operation.

Changes or modifications made to this product not expressly approved by Pilz may void the FCC authorization to operate this equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Le présent produit est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) le produit ne doit pas produire de brouillage, et
- (2) l'utilisateur de le produit doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

## Network data

| Pro-<br>tocol | Direc-<br>tion | Trans-<br>port<br>log | Port no.                       | Can be<br>deactiv-<br>ated  | Description                                                                                                                                                                 |
|---------------|----------------|-----------------------|--------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HTTP          | In             | TCP                   | 1 ... 65535<br>Default: 80     | No                          | <b>Web application:</b><br>Browser is always forwarded to HTTPS                                                                                                             |
| HTTPS         | In             | TCP                   | 1 ... 65535<br>Default:<br>443 | No                          | <b>Web application:</b><br>Transport protection by TLSv1.2. Access to the web application via user name and password. The server is authenticated via an X.509 certificate. |
| Modbus<br>TCP | In             | TCP                   | 1 ... 65535<br>Default:<br>502 | Yes                         | <b>Modbus/TCP Server</b>                                                                                                                                                    |
| NTP           | out            | UDP                   | 1 ... 65535<br>Default:<br>123 | Yes<br>Default:<br>Inactive | <b>SNTP Client</b>                                                                                                                                                          |

## Order reference

## Product

| Product type              | Features                                                                                                                 |                                                                           | Order no. |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|-----------|
| PIT gb RLLE y<br>up ETH   | Housing with two illuminated push-<br>buttons, one E-STOP and PITreader<br>Plug-in connector connection at the<br>top    | M12, 12-pin male connector<br>and<br>M12, 4-pin D-coded male<br>connector | G1000020  |
| PIT gb RLLE y<br>down ETH | Housing with two illuminated push-<br>buttons, one E-STOP and PITreader<br>Plug-in connector connection at the<br>bottom | M12, 12-pin male connector<br>and<br>M12, 4-pin D-coded male<br>connector | G1000021  |

## Transponder key

| Product type       | Features                                                                                                                                | Order no. |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-----------|
| PITreader key ye 1 | Transponder key for authentication system PITreader, permission<br>for operating mode 1<br>Colour: yellow<br>Material: plastic          | 402 261   |
| PITreader key ye 2 | Transponder key for authentication system PITreader, permission<br>for operating mode 1 and 2<br>Colour: yellow<br>Material: plastic    | 402 262   |
| PITreader key ye 3 | Transponder key for authentication system PITreader, permission<br>for operating mode 1, 2 and 3<br>Colour: yellow<br>Material: plastic | 402 263   |

| Product type               | Features                                                                                                                                             | Order no. |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| PITreader key ye 4         | Transponder key for authentication system PITreader, permission for operating mode 1, 2, 3 and 4<br>Colour: yellow<br>Material: plastic              | 402 264   |
| PITreader key ye 5         | Transponder key for authentication system PITreader, permission for operating mode 1, 2, 3, 4 and 5<br>Colour: yellow<br>Material: plastic           | 402 265   |
| PITreader key ye 5 service | Transponder key for authentication system PITreader, permission for operating mode 1, 2, 3, 4 and 5 (Service)<br>Colour: yellow<br>Material: plastic | 402 269   |
| PITreader key ye g         | Generic transponder key for authentication system PITreader, permissions freely configurable<br>Colour: yellow<br>Material: plastic                  | 402 260   |

### Accessories

| Product type             | Features                                                                   | Order no. |
|--------------------------|----------------------------------------------------------------------------|-----------|
| PIT gb color covers      | Colour covers for the illuminated pushbuttons (set)                        | G1000009  |
| PIT gb color cover wh s1 | Colour covers for the illuminated pushbuttons, white, IEC symbol Start     | G1000013  |
| PIT gb color cover wh s2 | Colour covers for the illuminated pushbuttons, white, IEC symbol ON        | G1000014  |
| PIT gb color cover wh s3 | Colour covers for the illuminated pushbuttons, white, IEC symbol Unlocking | G1000015  |
| PIT gb color cover wh s4 | Colour covers for the illuminated pushbuttons, white, IEC symbol Locking   | G1000016  |
| PIT gb color cover bl s5 | Colour covers for the illuminated pushbuttons, blue, IEC symbol Request    | G1000017  |
| PIT gb color cover bl s6 | Colour covers for the illuminated pushbuttons, blue, IEC symbol Reset      | G1000018  |
| PIT gb color cover bl s4 | Colour covers for the illuminated pushbuttons, blue, IEC symbol Locking    | G1000019  |

### Cable

| Product type           | Features | Connector X1                           | Connector X2 | Connector X3 | Order no. |
|------------------------|----------|----------------------------------------|--------------|--------------|-----------|
| PSEN cable M12-12sf 2m | 2 m      | M12, 12-pin female connector, straight |              |              | 570350    |
| PSEN cable M12-12sf 3m | 3 m      | M12, 12-pin female connector, straight |              |              | 570351    |
| PSEN cable M12-12sf 5m | 5 m      | M12, 12-pin female connector, straight |              |              | 570352    |

| Product type                            | Features                          | Connector X1                           | Connector X2                         | Connector X3 | Order no. |
|-----------------------------------------|-----------------------------------|----------------------------------------|--------------------------------------|--------------|-----------|
| PSEN cable<br>M12-12sf 10m              | 10 m                              | M12, 12-pin female connector, straight |                                      |              | 570353    |
| PSEN cable<br>M12-12sf 20m              | 20 m                              | M12, 12-pin female connector, straight |                                      |              | 570354    |
| PSEN cable<br>M12-12sf 30m              | 30 m                              | M12, 12-pin female connector, straight |                                      |              | 570355    |
| PSEN cable<br>M12-12sf 50m              | 50 m                              | M12, 12-pin female connector, straight |                                      |              | 570356    |
| PSEN cable<br>M12-12sf/<br>M12-12sm 1m  | 1 m                               | M12, 12-pin female connector, straight | M12, 12-pin male connector, straight |              | 570357    |
| PSEN cable<br>M12-12sf/<br>M12-12sm 2m  | 2 m                               | M12, 12-pin female connector, straight | M12, 12-pin male connector, straight |              | 570358    |
| PSEN cable<br>M12-12sf/<br>M12-12sm 3m  | 3 m                               | M12, 12-pin female connector, straight | M12, 12-pin male connector, straight |              | 570359    |
| PSEN cable<br>M12-12sf/<br>M12-12sm 5m  | 5 m                               | M12, 12-pin female connector, straight | M12, 12-pin male connector, straight |              | 570360    |
| PSEN cable<br>M12-12sf/<br>M12-12sm 10m | 10 m                              | M12, 12-pin female connector, straight | M12, 12-pin male connector, straight |              | 570361    |
| PSEN cable<br>M12-12sf/<br>M12-12sm 20m | 20 m                              | M12, 12-pin female connector, straight | M12, 12-pin male connector, straight |              | 570362    |
| SafetyNET p cable                       | By the metre,<br>4-core<br>CAT5e, |                                        |                                      |              | 380000    |

### Connector

| Product type                       | Features | Connector X1                                | Connector X2 | Connector X3 | Order no. |
|------------------------------------|----------|---------------------------------------------|--------------|--------------|-----------|
| M12 con., straight, male, 4-pin, D | D-coded  | M12, 4-pin male connector, straight         |              |              | 380316    |
| SafetyNET p connector RJ45s        |          | 4-pin RJ45 male connector, straight, Cat 5a |              |              | 380400    |

### **EC declaration of conformity**

This product/these products meet the requirements of the following directives of the European Parliament and of the Council.

- ▶ 2006/42/EC on machines
- ▶ 2011/65/EU RoHS Directive
- ▶ 2014/53/EC on radio equipment
- ▶ 1907/2006/EG REACH

The complete EC Declaration of Conformity is available on the Internet at [www.pilz.com/downloads](http://www.pilz.com/downloads).

Representative: Norbert Fröhlich, Pilz GmbH & Co. KG, Felix-Wankel-Str. 2, 73760 Ostfildern, Germany

