



► PIT oe 4S

PILZ
THE SPIRIT OF SAFETY

Operating Manual-1005257-EN-04
- Control and signal devices



This document is the original document.

Where unavoidable, for reasons of readability, the masculine form has been selected when formulating this document. We do assure you that all persons are regarded without discrimination and on an equal basis.

All rights to this documentation are reserved by Pilz GmbH & Co. KG. Copies may be made for the user's internal purposes. Suggestions and comments for improving this documentation will be gratefully received.

CECE®, CHRE®, CMSE®, INDUSTRIAL PI®, Leansafe®, MYZEL®, PAS4000®, PAS-cal®, PASconfig®, Pilz®, PIT®, PMCprimo®, PMCprotego®, PM Ctendo®, PMD®, PMI®, PNOZ®, Primo®, PSEN®, PSS®, PVIS®, SafetyBUS p®, SafetyEYE®, SafetyNET p®, THE SPIRIT OF SAFETY® are registered and protected trademarks of Pilz GmbH & Co. KG in some countries.



SD means Secure Digital

Introduction	4
Validity of documentation	4
Using the documentation	4
Definition of symbols	4
Overview	5
Device features	5
Device view	5
Safety	6
Intended use	6
Safety regulations	6
Use of qualified personnel	6
Warranty and liability	6
Disposal	7
Function description	7
Installation	7
Dimensions in mm	7
Wiring	8
Terminal configuration	8
Connect the device	8
General wiring guidelines	8
Connect cable	9
Disconnect cable	9
Connection to PIT m4SEU	10
Maintenance and testing	10
Technical details	11
Safety characteristic data	12
Order reference	13
Product	13
Accessories	13

Introduction

Validity of documentation

This documentation is valid for the product PIT oe 4S. 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

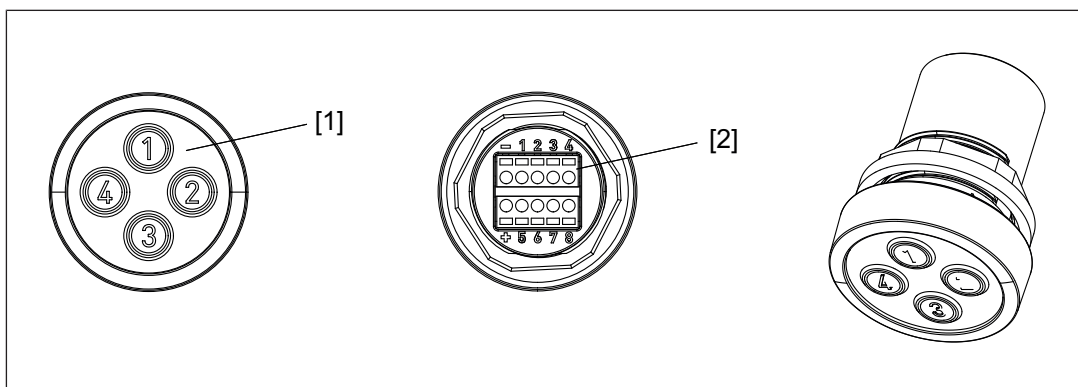
This describes a situation in which the product or devices could be damaged and also provides information on preventive measures that can be taken. It also highlights areas within the text that are of particular importance.

**INFORMATION**

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

Overview**Device features**

- ▶ Control and signal device with 4 illuminatable pushbuttons as N/O contacts
- ▶ For mounting cutouts D22 (diameter 22.3 mm +0.4 mm/-0.0 mm) in accordance with EN 60947-5-1 with anti-rotation device

Device view**Legend**

[1] Front view

[2] Rear view

Safety

Intended use

The PIT oe 4S enables you to switch and display 4 digital inputs and outputs.
The PIT oe 4S was designed for use with devices with digital inputs, e.g. PIT m4SEU.

Improper use

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 operating manual,
- ▶ Use of the product outside the technical details (see chapter entitled Technical Details).



NOTICE

EMC-compliant electrical installation

The product is designed for use in an industrial environment. The product may cause interference if installed in other environments. If installed in other environments, measures should be taken to comply with the applicable standards and directives for the respective installation site with regard to interference.

Safety regulations

Use of qualified personnel

The products may only be assembled, installed, programmed, commissioned, operated, de-commissioned and maintained by persons who are competent to do so.

A competent person is a qualified and knowledgeable person who, because of their training, experience and current professional activity, has the specialist knowledge required. In order to inspect, assess and handle products, devices, systems, plant and machinery, this person must be familiar with 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.).

Disposal

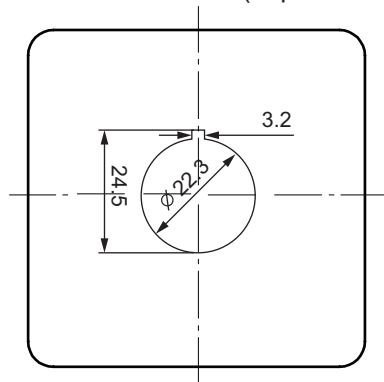
- When decommissioning, please comply with local regulations regarding the disposal of electronic devices, such as the Electrical and Electronic Equipment Act.

Function description

The PIT oe 4S enables you to switch and display 4 digital inputs and outputs.

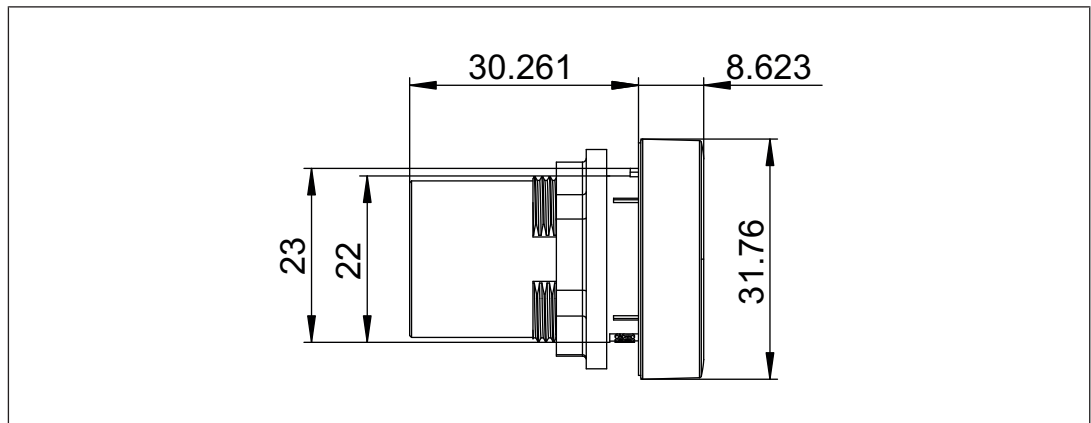
Installation

- Install the device in the front panel of a control cabinet or in a control console.
Material thickness: 2 ... 8 mm.
- Provide the front panel of the control cabinet or control console with a mounting cutout (Ø 22.3 mm +0.4 mm/-0.0 mm, D22 in accordance with EN 60947-5-1) and give the cutout a recess for the latch (to protect against twisting):



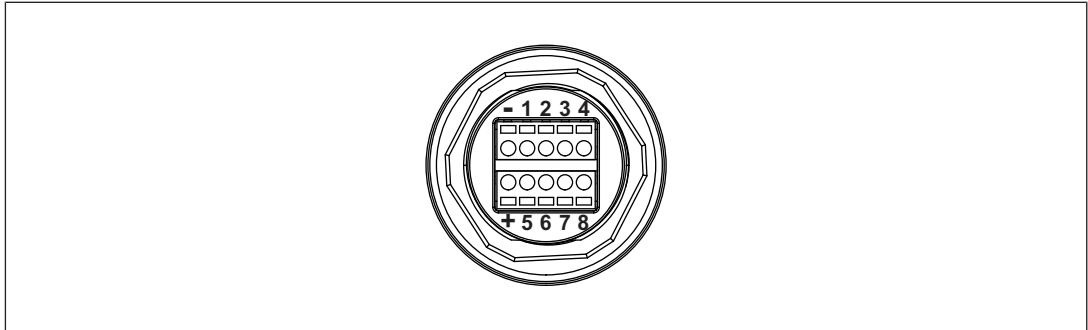
- Guide the PIT oe 4S into the mounting cutout and fix it from the other side using the plastic nut (M22). Note the torque setting of 1.3 ... 2.1 Nm. We recommend that you use the installation wrench "PIT es wrench" for fixing the plastic nut (see [Order reference](#) [13]).

Dimensions in mm



Wiring

Terminal configuration



Legend

+/- (24 V/0 V) Supply voltage connections

1 ... 4 Inputs of the PIT oe 4S for pushbutton illumination

5 ... 8 Outputs of the PIT oe 4S

Assignment of pins to pushbuttons/LEDs 1-4:

Pin 1	LED pushbutton 1
Pin 2	LED pushbutton 2
Pin 3	LED pushbutton 3
Pin 4	LED pushbutton 4
Pin 5	Pushbutton 1
Pin 6	Pushbutton 2
Pin 7	Pushbutton 3
Pin 8	Pushbutton 4

Connect the device

General wiring guidelines

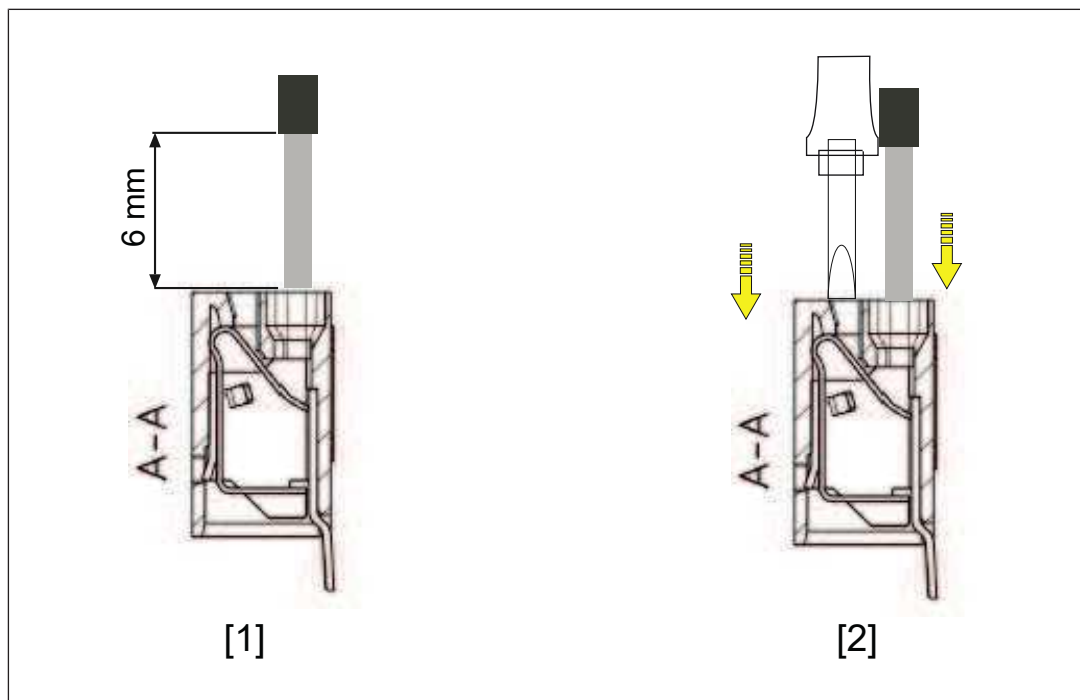


NOTICE

The power supply must meet the regulations for extra low voltages with protective separation (SELV, PELV).

The cables for the device's supply voltage must be fitted with a 250 mA slow acting fuse.

- Provide strain relief for the connection cables, e.g: by attaching them to the control cabinet door or control console.

Connect cable

- Strip the cable [1].
- Using the flat-head screwdriver, press the actuator element [2] and insert the stripped cable into the terminal point as far as it will go.

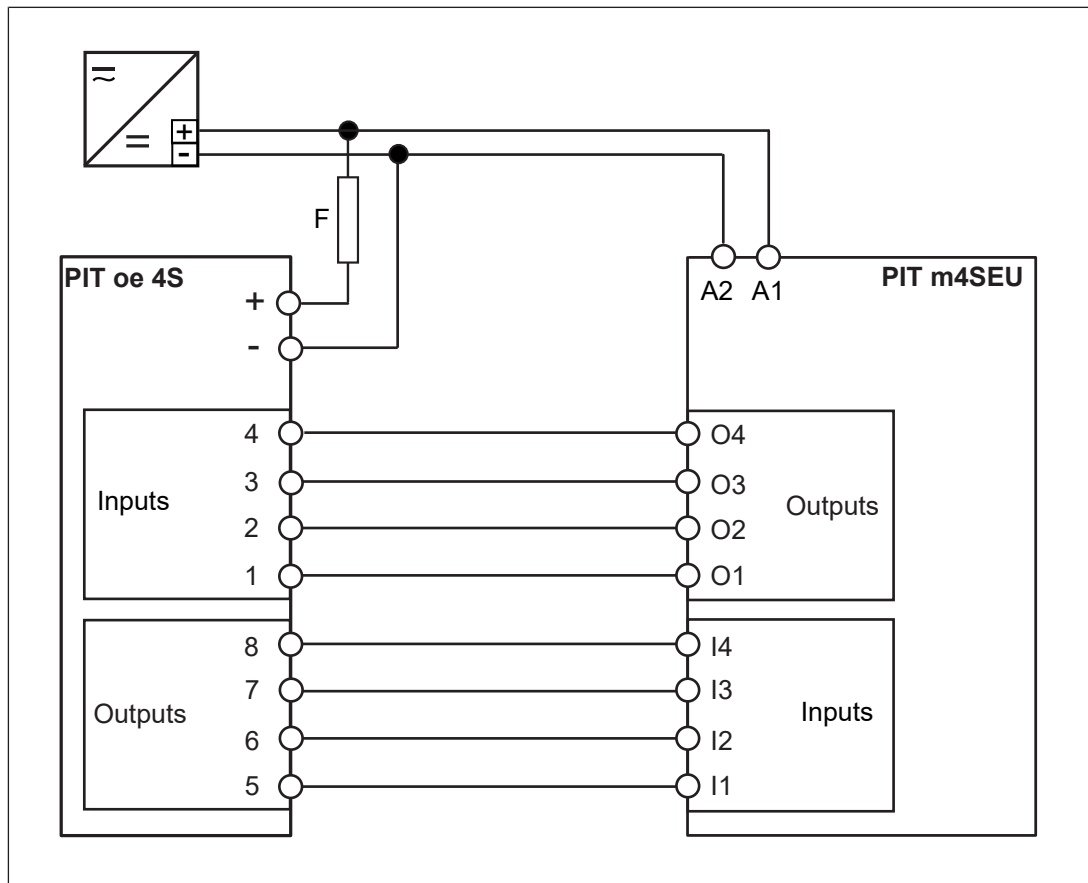
We recommend you use a flat-head screw driver with a 0.4 x 2.0 mm blade!

Disconnect cable

- Using the flat-head screwdriver, press the actuator element and pull the cable out of the terminal point.

We recommend you use a flat-head screw driver with a 0.4 x 2.0 mm blade!

Connection to PIT m4SEU



Maintenance and testing

It is not necessary to perform maintenance work on the product in normal operation.

- Please return any faulty product to Pilz.

Technical details

General	
Certifications	CE, UKCA, UL Recognized Component
Electrical data	
Supply voltage	
Voltage	24 V
Kind	DC
Voltage tolerance	-15 %/+20 %
Duty cycle	100 %
Status indicator	LED
LEDs	
Quantity	4
Input current per LED at 24 V	3 mA
Input current at signal level "0"	0 mA
Input current at signal level "1"	3 mA
Pushbutton	
Utilisation category	
Min. current	1 mA
Max. current	20 mA
Environmental data	
Climatic suitability	EN 60068-2-1, EN 60068-2-14, EN 60068-2-2
Ambient temperature	
in accordance with the standard	EN 60068-2-1, EN 60068-2-2
Temperature range	-20 - 60 °C
Storage temperature	
in accordance with the standard	EN 60068-2-1/-2
Temperature range	-40 - 85 °C
Climatic suitability	
in accordance with the standard	EN 60068-2-78
Humidity	93 % r. h. at 40 °C
Max. operating height above SL	2000 m
EMC	EN 61131-2 (Zone B)
Vibration	
in accordance with the standard	EN 60068-2-6
Frequency	8,4 - 150 Hz
Acceleration	10 m/s ²
Shock stress	
in accordance with the standard	EN 60068-2-27
Number of shocks	6
Acceleration	150 m/s ²
Duration	11 ms

Environmental data

Airgap creepage

in accordance with the standard

EN 61131-2

Overvoltage category

II

Pollution degree

2

Protection type

in accordance with the standard

EN 60529

Housing

IP20

in accordance with UL

Type 1 Enclosure

Front

IP65, IP67

Mounting area (e.g. control cabinet)

≥ IP54**Mechanical data**

Mounting position

Any

Connection type

Spring-loaded terminal

Max. fixing screws torque settings

1,3 - 2,1 Nm

Conductor cross section with spring-loaded terminals

1 core flexible without crimp connector

0,2 - 0,5 mm², 26 - 20 AWG

1 conductor flexible with crimp connector without plastic collar

0,25 - 0,5 mm²

Stripping length with spring-loaded terminals

6 mm

Dimensions

Height

32 mm

Width

32 mm

Depth

40 mm

Weight

17 g

Where standards are undated, the 2019-05 latest editions shall apply.

Safety characteristic data**NOTICE**

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

Safety characteristic data

B10d	100000
------	--------

Order reference**Product**

Product type	Features	Order no.
PIT oe 4S	Pushbutton unit with 4 LED pushbuttons, including fixing nuts	402311

Accessories

Product type	Features	Order no.
PIT es wrench	Installation wrench for PIT es pushbutton	400222

► Support

Technical support is available from Pilz round the clock.

Americas

Brazil

+55 11 97569-2804

Canada

+1 888 315 7459

Mexico

+52 55 5572 1300

USA (toll-free)

+1 877-PILZUSA (745-9872)

Asia

China

+86 400-088-3566

Japan

+81 45 471-2281

South Korea

+82 31 778 3390

Australia and Oceania

Australia

+61 3 95600621

New Zealand

+64 9 6345350

Europe

Austria

+43 1 7986263-444

Belgium, Luxembourg

+32 9 3217570

France

+33 3 88104003

Germany

+49 711 3409-444

Ireland

+353 21 4804983

Italy, Malta

+39 0362 1826711

Pilz develops environmentally-friendly products using ecological materials and energy-saving technologies. Offices and production facilities are ecologically designed, environmentally-aware and energy-saving. So Pilz offers sustainability, plus the security of using energy-efficient products and environmentally-friendly solutions.



We are represented internationally. Please refer to our homepage www.pilz.com for further details or contact our headquarters.

Headquarters: Pilz GmbH & Co. KG, Felix-Wankel-Straße 2, 73760 Ostfildern, Germany
Telephone: +49 711 3409-0, E-Mail: info@pilz.com, Internet: www.pilz.com

PILZ
THE SPIRIT OF SAFETY

CECE, CHRE, CMSE® INDUSTRIAL PI®, Leansafe®, Myze®, PAS4000®, PAScal®, PASconfig®, Pliz®, PIR®, PMCQrimo®, PMCprotego®, PMCIendo®, PMD®, PMI®, PNOZ®, Primo®, PSEN®, PSS®, PVIS®, SafetyBUS p®, SafetyEYE®, SafetyNET p®, THE SPIRIT OF SAFETY® are registered and protected trademarks of Pilz GmbH & Co. KG in some countries. We would point out that product features may vary from the details stated in this document, depending on the status at the time of publication and the scope of the equipment. We accept no responsibility for the validity, accuracy and entirety of the text and graphics presented in this information. Please contact our Technical Support if you have any questions.