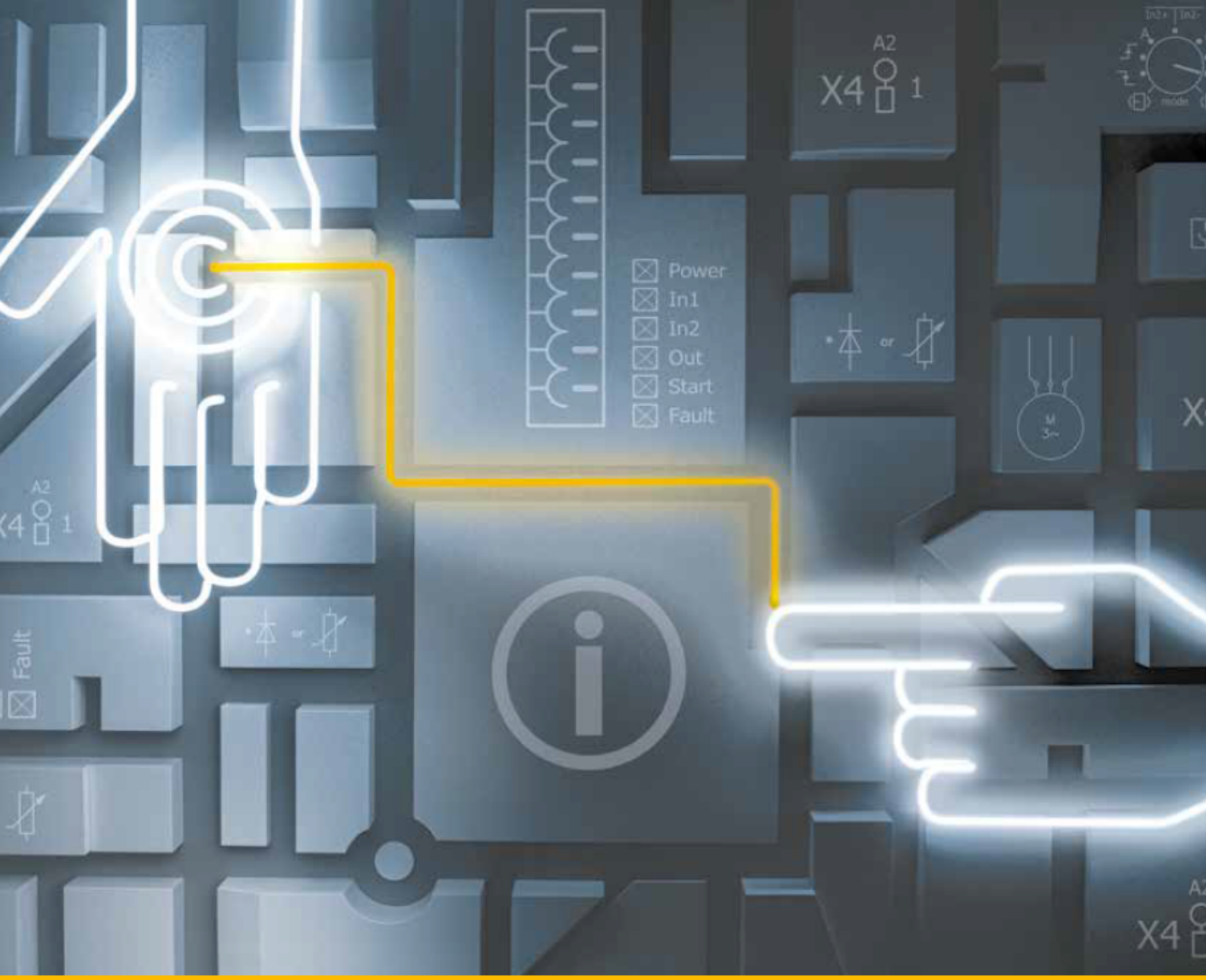


PITmode classic to PITmode fusion

PILZ
THE SPIRIT OF SAFETY

Product Replacement Guide-1007424-EN-01

- Control and signal devices




1 Introduction

1.1 Validity of documentation

This documentation is valid for the product PITmode classic to PITmode fusion. It is valid until new documentation is published.

This document supports you in making a smooth transition from the discontinued PITmode products to the new product generation.

It contains all the relevant information and additional explanations you need for the transition.

1.2 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.

1.3 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.

2 PITmode classic: Definition of terms

PITmode classic refers to compact, safe operating mode selector switches.

Depending on the version, the products are equipped with 2 or 4 pushbuttons, with or without optional machine tool pictograms on the pushbuttons.

Overview of PITmode classic

Product type	Image	Product ID
PIT m3.2p		402230
PIT m3.2p machine tools pictogram		402231
PIT m3.3p		402240
PIT m3.3p machine tools pictogram		402241

3 Product discontinuation and background

The product range PITmode classic 3.xx will be discontinued by October 2027 and can only be ordered until this date.

Background

The products are based on 125 kHz technology, which does not meet current IT security requirements and cannot be further developed to be future-proof, e.g. in the context of the Cyber Resilience Act (CRA).

It is not possible to personalise access rights. This function is required by the Machinery Regulation, and others.

Alternative:

The product range PITmode fusion is available as a successor solution. This meets the current requirements and is established in industrial applications.

4 PITmode fusion: Alternative

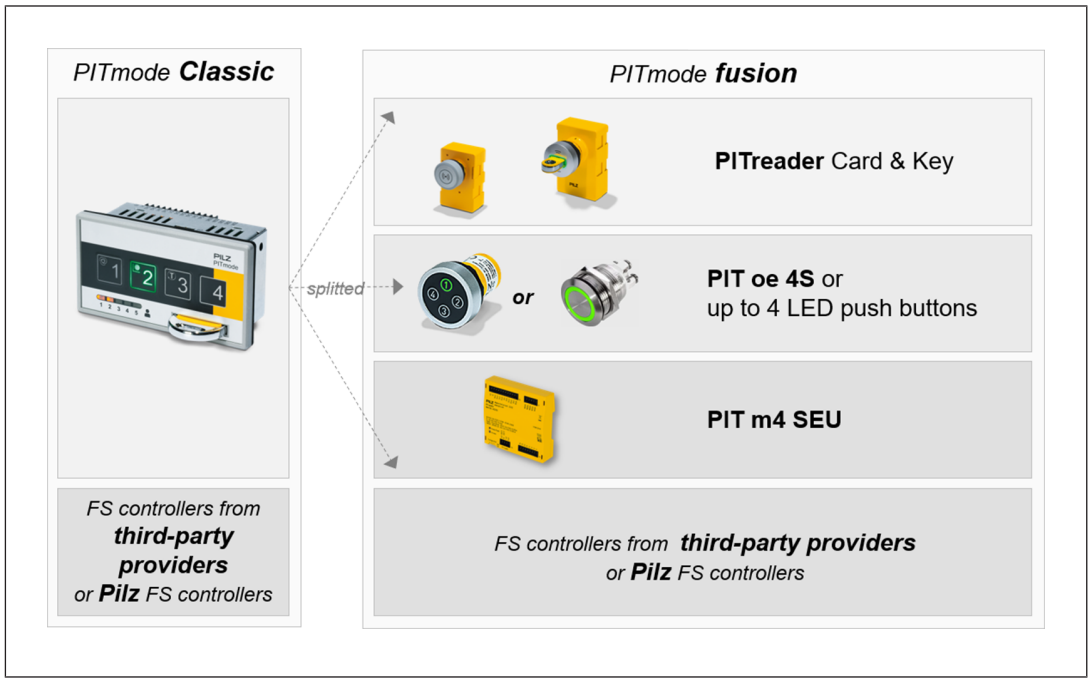
PITmode fusion consists of:

- Authentication system PITreader (PITreader Key or PITreader Card)
- Safe evaluation unit PIT m4SEU
- Pushbutton for selecting the operating mode (e.g. PIT oe 4S)
- Display elements for displaying the selected operating mode (as integrated in PIT oe 4S)
- Safety controller to evaluate and activate the selected operating mode

The PITreader is used for authentication and access permission. The safety-related evaluation of the selected operating mode is carried out via the safe evaluation unit PIT m4SEU.

Safety-related operating mode selection can be implemented in conjunction with a suitable safety controller. With a suitable system configuration, a performance level up to PL d can be achieved.

Note:
In contrast to PITmode classic, it has no pushbuttons with pictograms to display the operating modes.



4.1 Order reference

Product type	Features	Product ID
PIT m4SEU	PITmode safe evaluation unit	402250
PIT oe 4S	Pushbutton unit with 4 LED pushbuttons, including fixing nuts	402311
PITreader card unit	RFID authentication system for cards, stickers & keys Contents: Base unit, connector [402307], PITreader card Adapter	402320
PITreader S card unit	RFID authentication system for cards, stickers & keys, with advanced function range Contents: Base unit, connector [402307], PITreader card Adapter	402321

Product type	Features	Product ID
PITreader base unit	RFID authentication system Contents: Base unit, connector [402307] Required accessories: PITreader key adapter	402255
PITreader S base unit	RFID authentication system with extended function range, Contents: Base unit, connector [402307] Required accessories: PITreader key adapter	402256
PITreader key Adapter h	1x PITreader key adapter horizontal + 1x nut for PITreader base unit	402308

4.2 Comparison between PITmode classic and PITmode fusion

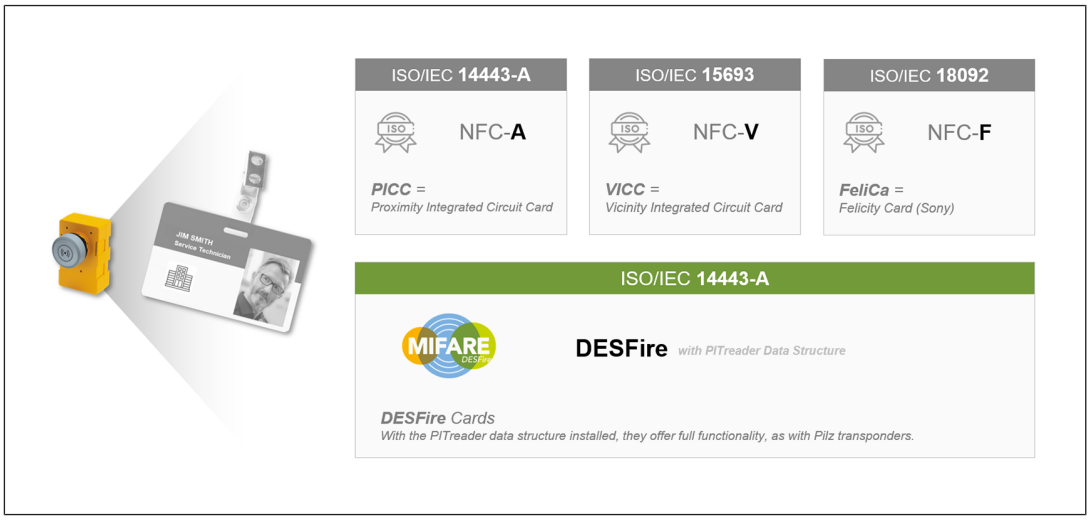
4.2.1 Check list

Functions	PITmode classic	PITmode fusion
Antenna technology	125 kHz	13.56 MHz
Audit trail function (logging of the Security ID)	No	Yes
Personalisation with individual transponders	No	Yes
Production of customised company transponders. (Coding function in the PITreader)	No	Yes
Flexibility of use	Selection of safe operating mode only	Individually configurable solutions
Use of third-party ID cards	No	Yes
RED compliance	No	Yes
Safe product development cycle in accordance with IEC 62443-4-1	No	Yes
Secure communication from the RFID reader	No, parallel inventory log only	Yes, via OPC Server UA and REST API
Writable transponders for user data	No	Yes, possible with generic transponders
Group-based rights management	No	Yes, with generic transponders

4.2.2 PITmode fusion with third-party ID cards

PITmode fusion is currently the only safety solution on the market that enables the selection of safe operating modes in combination with third-party ID cards. This allows existing card infrastructures to be integrated flexibly into the safety concept.

PITmode fusion supports various transponder and card technologies:

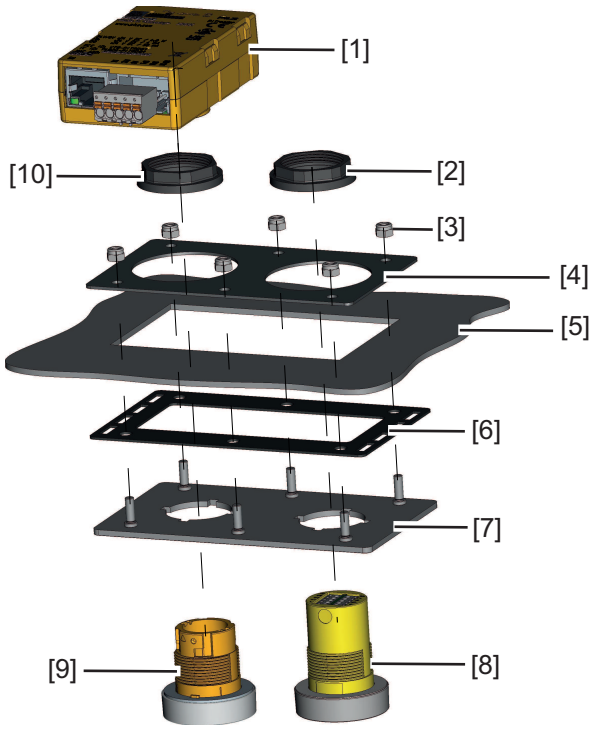

ISO/IEC 14443-A
NFC-A
PICC =
Proximity Integrated Circuit Card
ISO/IEC 15693
NFC-V
VICC =
Vicinity Integrated Circuit Card
ISO/IEC 18092
NFC-F
FeliCa =
Felicity Card (Sony)
ISO/IEC 14443-A
MIFARE DESFire
DESFire with PITreader Data Structure
DESFire Cards
With the PITreader data structure installed, they offer full functionality, as with Pilz transponders.


Available in Q3/2026
LEGIC
LEGIC
PRIME and ADVANT
With the PITreader data structure installed, they offer full functionality, as with Pilz transponders.

5 PITmode classic to PITmode fusion conversion guide

A conversion frame set is available for a simple, efficient transition. This enables the new components to be integrated without mechanical modifications to existing systems. The conversion frame set

- covers the existing mounting cutout for the PITmode classic 3.xx exactly.
- enables a precision fit when installing PITreader and PIT oe 4S.



Legend

1 PITreader base unit	2 Plastic nut PIT oe 4S
3 Lock nuts	4 Retaining plate
5 Border	6 Seal
7 Front panel with 6 welded threaded bolts	8 PIT oe 4S
9 PITreader read head	10 PITreader plastic nut

- Secure the PIT oe 4S (8) in one of the holes in the front panel (7), see operating manual PIT oe 4S (1005257).
- Secure the PITreader read head (9) in the other hole in the front panel (7), see operating manual PITreader (1004806).
- Place the seal (6) on the front panel (7).
- Press the front panel (7) on to the frame (5).
- Place the retaining plate (4) on to the front panel (7) and screw in all 6 lock nuts (3).
- Tighten the lock nuts (3) with a torque of 1.2 Nm.

- Attach the PITreader base unit (1) to the PITeader read head (9), see operating manual PITreader (1005257).

5.1 Order reference

Product type	Features	Product ID
PITmode frame	Conversion frame set to mechanically adapt PITmode classic 3.xx to PITmode fusion (PITreader and PIT oe 4S), consisting of: one front panel with 6 welded threaded bolts, one seal, one retaining plate, 6 lock nuts	402254

6 Wiring diagrams

The basic wiring remains unchanged, for example, 5 safe outputs for selecting the operating modes. The SI and ID interfaces are also still available. Alternatively however, the PITreader can be connected more efficiently directly via OPC Server UA, REST API or Modbus TCP.

It is also possible to connect either individual LED pushbuttons or the pushbutton unit PIT oe 4S to the safe evaluation unit PIT m4SEU.

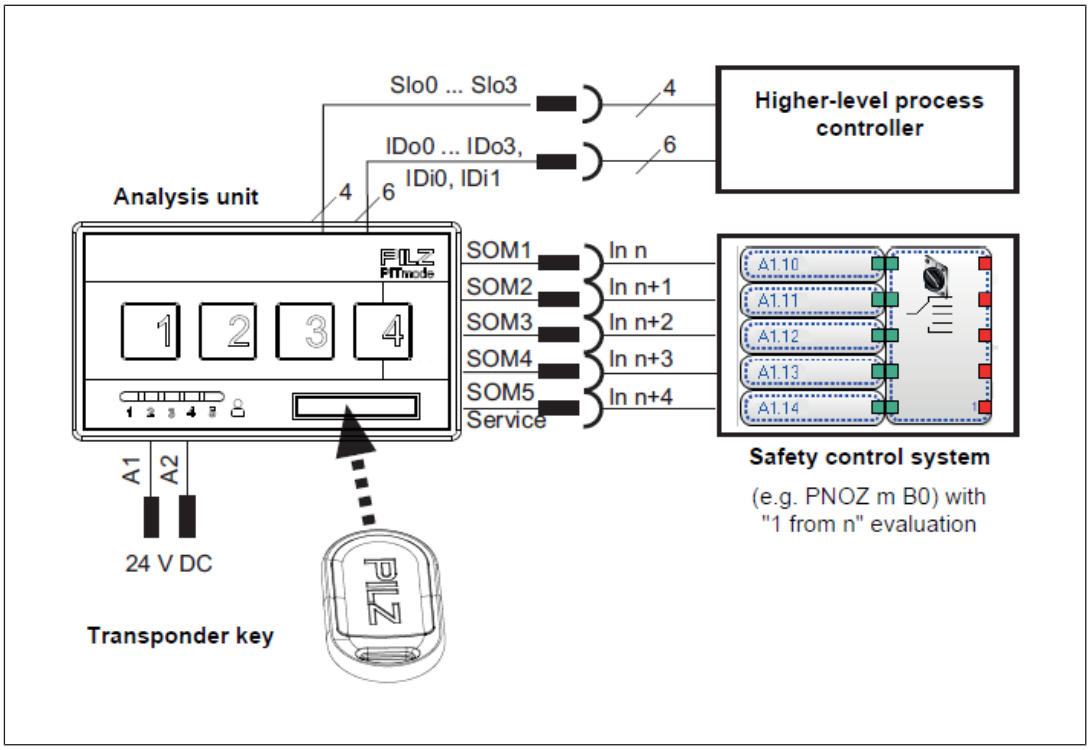


Fig.: PITmode classic m3.xx

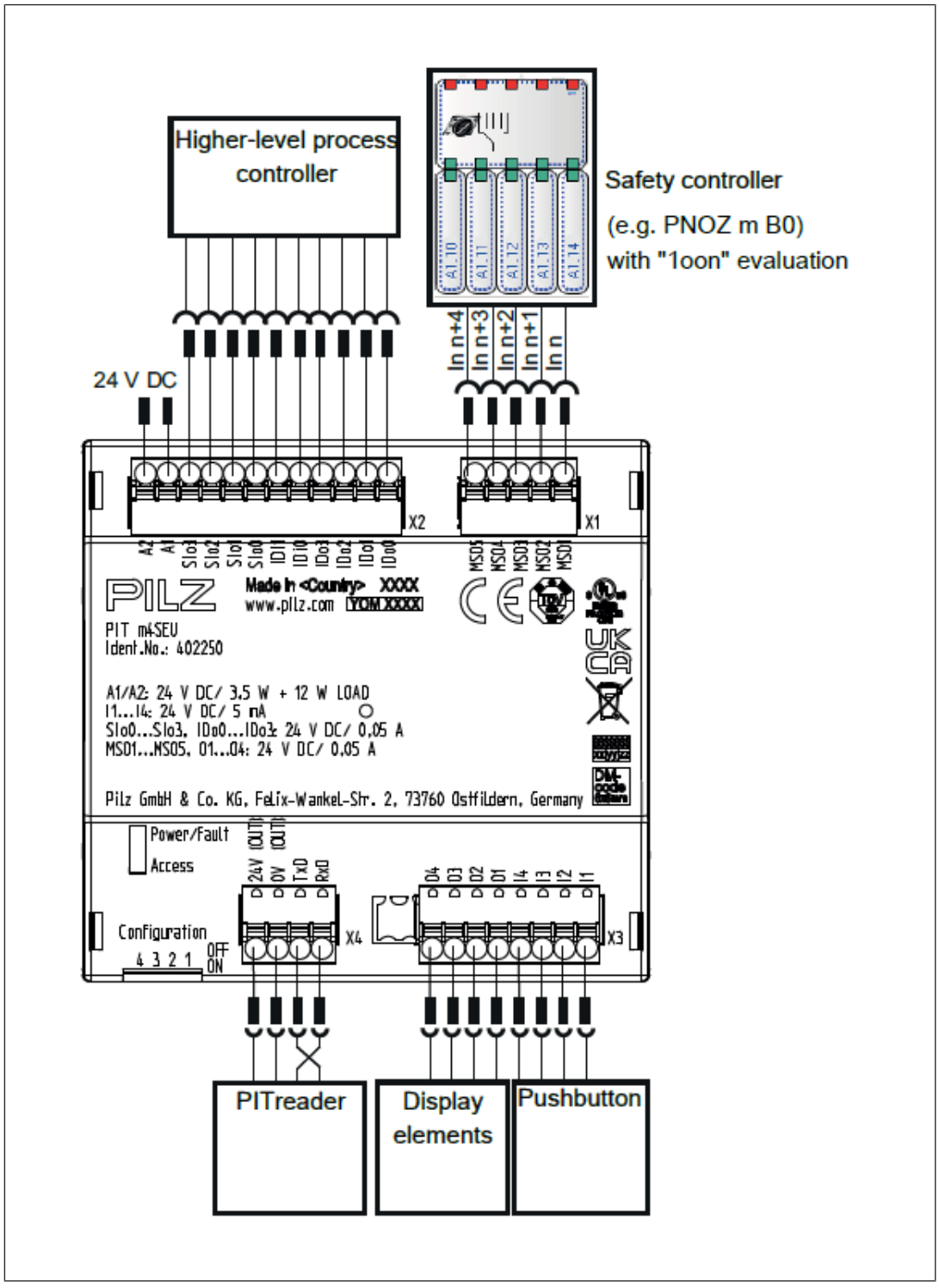


Fig.: PITmode fusion

7 Additional documents that apply

Please read and take note of the following documents:

Products

- Operating manual PIT m4SEU (1004648)
- Operating manual PITreader (1004806)
- Operating manual PIT oe 4S (1005257)
- Operating manual PIT m3.2p (1003176)
- Operating manual PITreader OPC Server UA (1005480)
- Operating manual PITreader REST API (1005365)

Application instructions

- Application Note PITreader Modbus-Connection with different PLC systems (1005380)