

PDP67 F 8DI ION HP

PILZ
THE SPIRIT OF SAFETY

- Decentralised periphery

Operating Manual 1002225-EN-05

1 Introduction

1.1 Validity of documentation

This documentation is valid for the products PDP67 F 8DI ION HP, PDP67 F 8DI ION HP VA. 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.

1.1.1 Retaining the documentation

This documentation is intended for instruction and should be retained for future reference.

1.2 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 Overview

2.1 Unit structure

2.1.1 Unit features

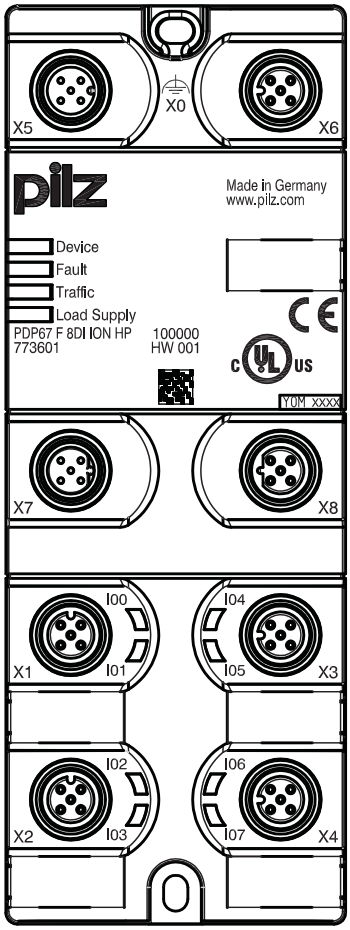
Application of the products PDP67 F 8DI ION HP, PDP67 F 8DI ION HP VA:

Decentralised input module for connection to a Pilz control system, for use in a rugged industrial environment up to protection type IP67.

The product has the following features:

- Protection type IP67
- 8 inputs for connecting 8 single-channel or 4 dual-channel sensors
- 8 outputs, which can be configured as
  - Standard outputs
  - test pulse outputs
  - 24 V outputs
- Separate output supply for applications with higher current consumption
- Module is galvanically isolated from CAN bus
- LED for:
  - Operating state
  - Errors
  - Connection status
  - Supply voltage
  - Input status at each input

2.2 Front view



Legend:

- X1 ... X4:
  Inputs
- X5:
  Interface to the control system or to X6 on the upstream module
- X6:
  Interface to X5 on the downstream module
- X7:
  Interface to the 24 V supply or to X8 on the upstream module
- X8:
  Interface to the 24 V supply or to X7 on the downsteam module
- LEDs:
  - Device
  - Fault
  - Traffic
  - Load Supply

– IO0 ... IO7

2.3 Scope of supply

- Decentralised input module PDP67 F 8DI ION HP/PDP67 F 8DI ION HP VA
- 4 blind plugs

3 Safety

3.1 Intended use

The products PDP67 F 8DI ION HP, PDP67 F 8DI ION HP VA are decentralised input modules designed for use in a rugged industrial environment up to protection type IP67.

The module can be connected to a link module PNOZ ml2p or PNOZ mml2p from the configurable control system PNOZmulti.

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 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.

3.2 Safety regulations

3.2.1 Use of qualified personnel

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

A competent person is someone who, because of their training, experience and current professional activity, has the specialist knowledge required to test, assess and operate the work equipment, devices, systems, plant and machinery in accordance with the general standards and guidelines for safety technology.

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 this description under "Safety"
- And have a good knowledge of the generic and specialist standards applicable to the specific application.

3.2.2 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 or
- Operating personnel are not suitably trained.

3.2.3 Disposal

- In safety-related applications, please comply with the mission time T_M in the safety-related characteristic data.
- When decommissioning, please comply with local regulations regarding the disposal of electronic devices (e.g. Electrical and Electronic Equipment Act).

4 Function description

4.1 Unit properties

4.1.1 Operation

The functions of the inputs and outputs are configured in the system software.

4.1.1.1 Inputs

Single and dual-channel sensors can be connected to the inputs, with or without test pulses.

Input signals must show a “High” (“1” signal) of 15 VDC (+15 ... +30 VDC) and a “Low” (“0” signal) of 0 VDC (-3 ... +5 VDC).

The input status is signalled to the control system via the bus.

Green LEDs indicate the status of the inputs.

Test pulses can be used to check the inputs for shorts across contacts and correct functionality.

4.1.1.2 Outputs

The outputs can be used as standard outputs, as test pulse outputs or as 24 VDC outputs.

The test pulse outputs are suitable for testing the sensor wiring. All safety-related inputs must operate in accordance with the failsafe principle (on switching off).

Two test pulses are available on each plug-in connector; these test pulses are permanently assigned to the inputs. The assignment of the test pulses to the inputs cannot be changed in the system software's configurator.

If the test pulse outputs are not being used, they can be configured as standard outputs or 24 VDC outputs in the system software's configurator.

4.1.2 Data download

Communication with the control system is via a safe data link. Data is exchanged cyclically.

4.1.3 Diagnostics

The status and error messages shown by the LEDs are saved in an error stack. The system software can read this error stack.

5 Installation

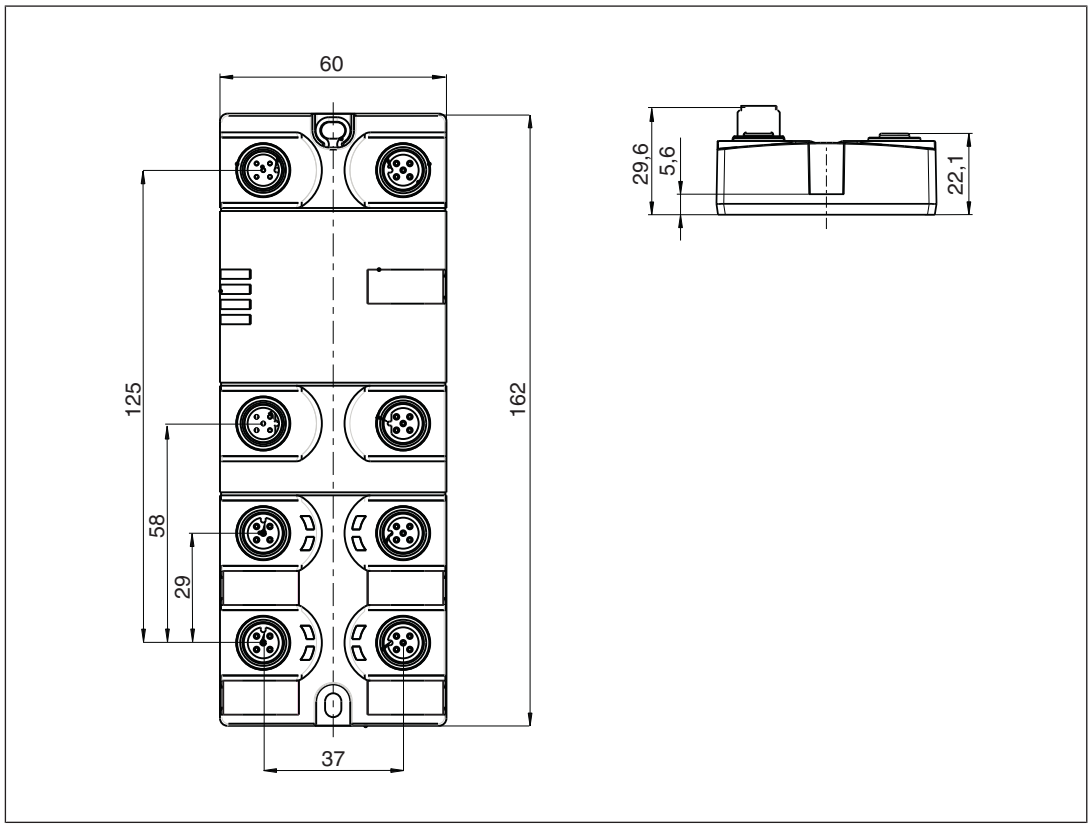
5.1 General installation guidelines

The product must be fastened to a flat mounting surface, so that there is no strain on the housing when the module is screwed down. The mounting distances will depend on which plug-in connectors are used and on the bending radius of the cables.
Unused connectors should be sealed using blind plugs.

To install the system, proceed as follows:

- Fit 2 x M4 internal threads on the mounting surface.
- Use two fixing screws to attach the product to the mounting plate.
- With shielded cables, connect the functional earth to the upper fixing screw X0.

5.1.1 Dimensions



6 Supply Voltage

Please note the following:

- When selecting the power supply, please refer to the requirements stated under “Technical Details”.
- Overvoltage or interference voltage can damage or even destroy the electronics on the products PDP67 F 8DI ION HP, PDP67 F 8DI ION HP **VA**. The affected outputs on the control system are shut down. You should therefore take note of the relevant EMC measures.



WARNING!

Safe electrical isolation must be ensured for the 24 V supply. Failure to do so could result in electric shock. Power supplies must conform to EN 60950, section 2.3, EN 60742 or EN 50178.

- To achieve the lowest possible residual ripple, we recommend that you install a three-phase bridge rectifier or regulated supply.
- The “Ground” connection to the earth bar or earth fault monitor must be in accordance with the relevant national regulations (e.g. EN 60204-1, NFPA 79:17-7, NEC: Article 250).



INFORMATION

The module's output circuits have been designed to guarantee maximum safety. To achieve this, extensive tests are carried out internally. Momentary interruptions to the “Supply” voltage during a test procedure can falsify the test result, causing the following malfunction: If the “Supply” voltage is interrupted momentarily, the unbuffered test pulse outputs will transmit a “0” signal. The buffered module electronics reads this signal at the pulsed inputs, thereby triggering the user's configured reaction.
Example: The system reacts as though an E-STOP button has been operated, although this is not the case: there has been a supply interruption.
Remedy: The “Supply” must be buffered.

Use a 5-pin M12 plug-in connector to connect the module to the external supply voltage. The module also has an M12 socket which is physically adjacent to the M12 connector; this is used to distribute the supply voltage to other modules.

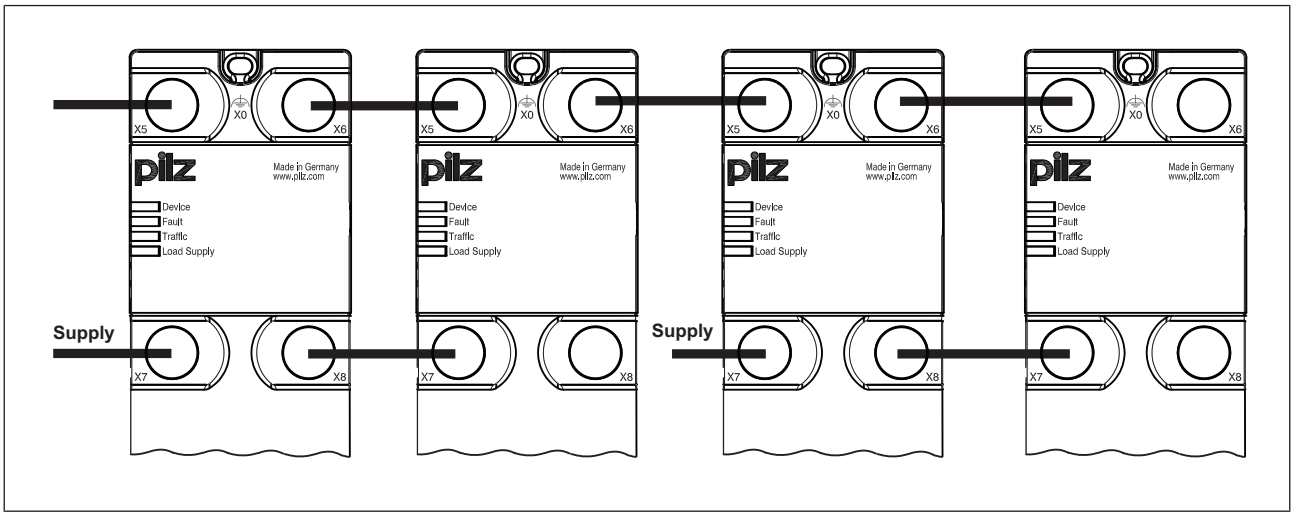


Fig.: Example for connecting and distributing the supply voltage

WARNING!

The current load capacity of the M12 plug-in connector is 4 A per connector. You must ensure that this value is not exceeded. Exceeding the permitted current load capacity can damage the plug-in connector. Please note that the connection of the additional supply voltage is not monitored for overload.

INFORMATION

We recommend that you connect the functional earth to the upper fixing screw.

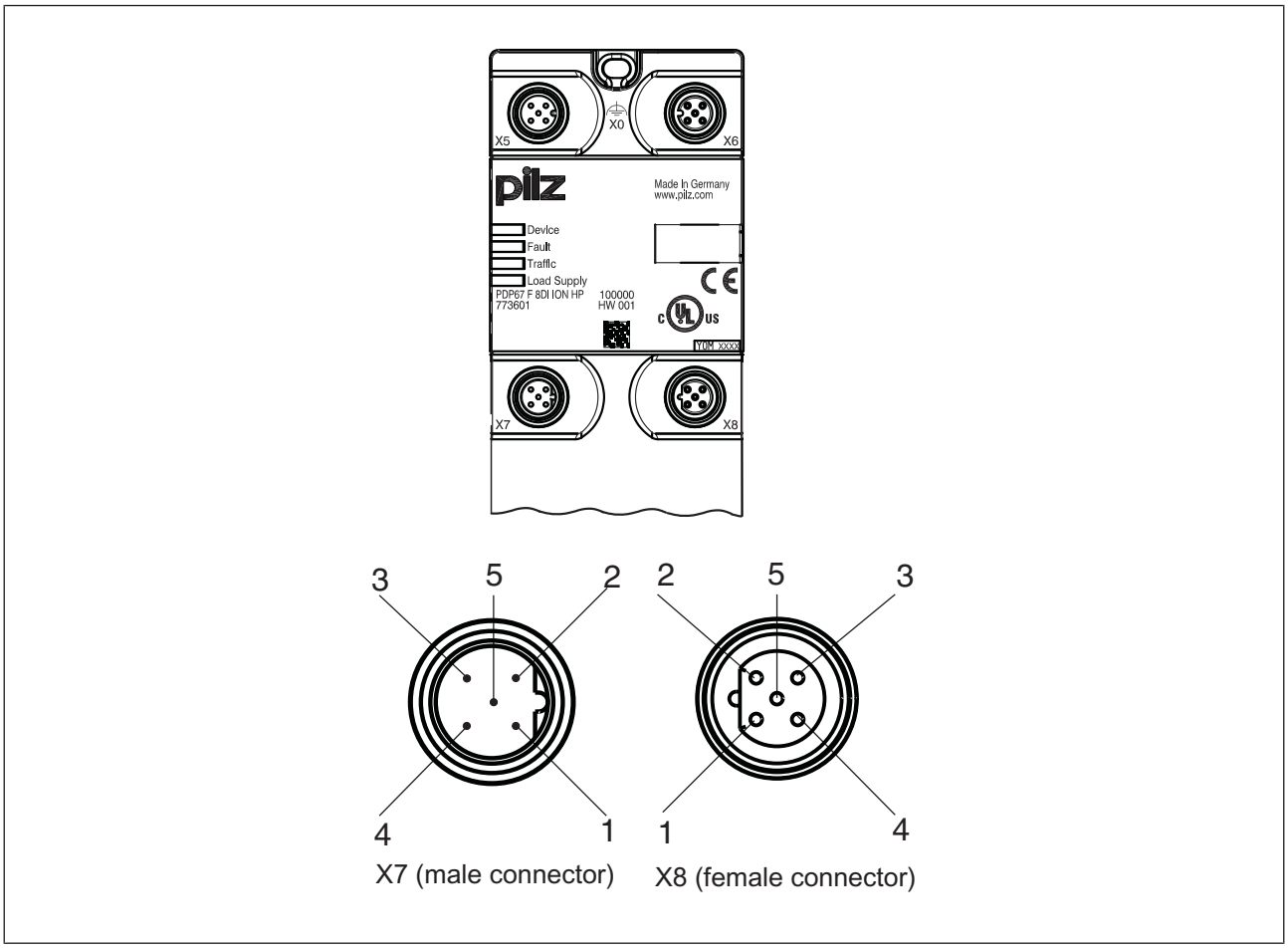


Fig.: Pin assignment for the supply voltage

Key:
1: + 24 VDC
2: + 24 VDC
3: 0 V
4: 0 V
5: n.a.

7 Wiring

7.1 General wiring guidelines

Please note:

- Information given in the "Technical details" must be followed.
- Where safety-related applications are concerned, it is essential that short circuits and open circuits are unable to cause a hazardous condition within a plant. The way in which this is done will depend on the degree of hazard from the plant section, the switching frequency of the sensors and the level of safety of the sensors and actuators.
- Please refer to the link module's operating manual for details of the maximum cable length.
- Pilz pre-assembled cable can be used to connect the inputs and outputs (see order reference).
- We recommend you use pre-assembled Pilz connectors to connect the inputs and test pulse outputs (see order reference).



CAUTION!

The supply voltages for an external device must be extra low voltages with safe electrical separation (PELV or SELV) in accordance with VDE 0100, Part 410.



CAUTION!

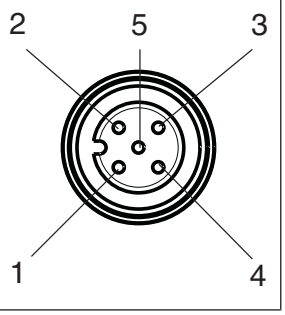
In order to guarantee protection type IP67, unused plug-in connectors should be sealed using the blind plugs supplied.

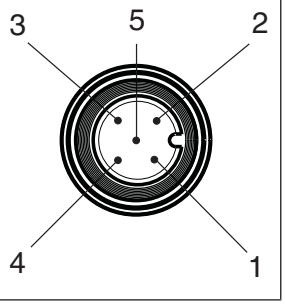


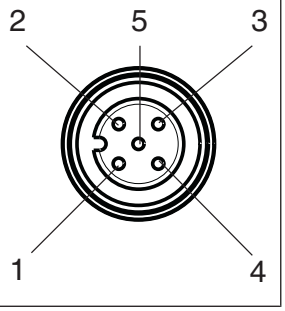
CAUTION!

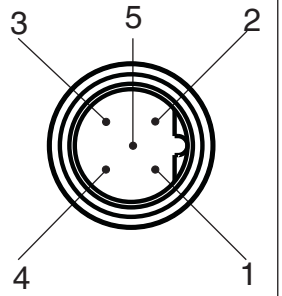
Make sure that the plug-in connectors are connected to the sensors correctly. Once you have run a function test to check that the plug-in connectors are connected to the sensors correctly, the inputs should be labelled. If the inputs are connected to the sensors incorrectly, life-threatening situations may arise on the plant.

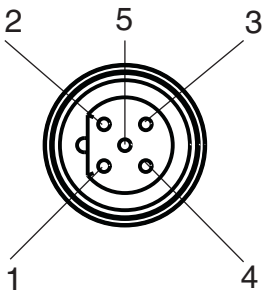
7.2 Connector pin assignment

Inputs/outputs X1 to X4	Assignment	
5-pin M12 female connector A-coded	1: Test pulse x / 24 VDC / ST output 2: Input X 3: 0 V 4: Input X + 1 5: Test pulse X + 1 / 24 VDC / ST output	

Interface to the link module: X5	Assignment	
5 pin M12 male connector A-coded	1: VCC 2: CAN- 3: GND 4: CAN+ 5: Shield	

Interface to the next decentralised module: X6	Assignment	
5-pin M12 female connector A-coded	1: VCC 2: CAN- 3: GND 4: CAN+ 5: Shield	

Interface to the 24 V power supply or to previous decentralised module: X7	Assignment	
5 pin M12 male connector B-coded	1: + 24 V DC 2: + 24 V DC 3: 0 V 4: 0 V 5: n.a.	

Interface to the 24 V power supply or to next decentralised module: X8	Assignment	
5-pin M12 female connector B-coded	1: + 24 V DC 2: + 24 V DC 3: 0 V 4: 0 V 5: n.a.	

7.3 Wiring examples

7.3.1 Example: Single-channel, failsafe input device, without test pulse

Features:

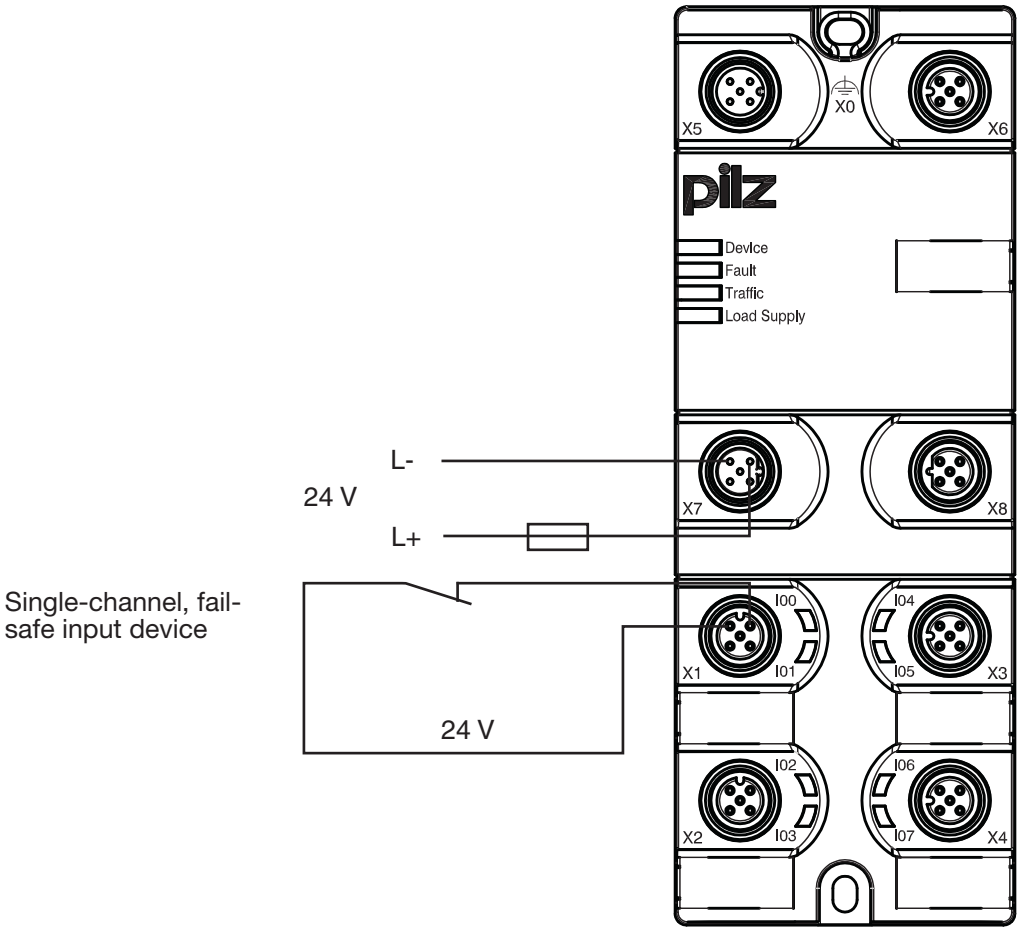
- Depending on the application area and its respective regulations, this connection diagram is suitable for **input devices with frequent and infrequent operation** in accordance with EN ISO 13849-1 **up to PL d** and EN IEC 62061 **up to SIL CL 2**.
- The input device must be approved for failsafe applications.
- Please read the instructions provided with the input device.



WARNING!

Short circuits between the cable to the input device and the 24 V line or between cables to various input devices will not be detected. Depending on the application, serious injury or death may result.
Avoid short circuits by

- Appropriate wiring
- Wiring in accordance with the requirements of IEC 61076-2-101 and IEC 60204-1, clause 14.1.1 and 14.1.2



Please ensure safety regulations and EMC guidelines are met!

7.3.2 Example: Dual-channel input devices, without test pulses

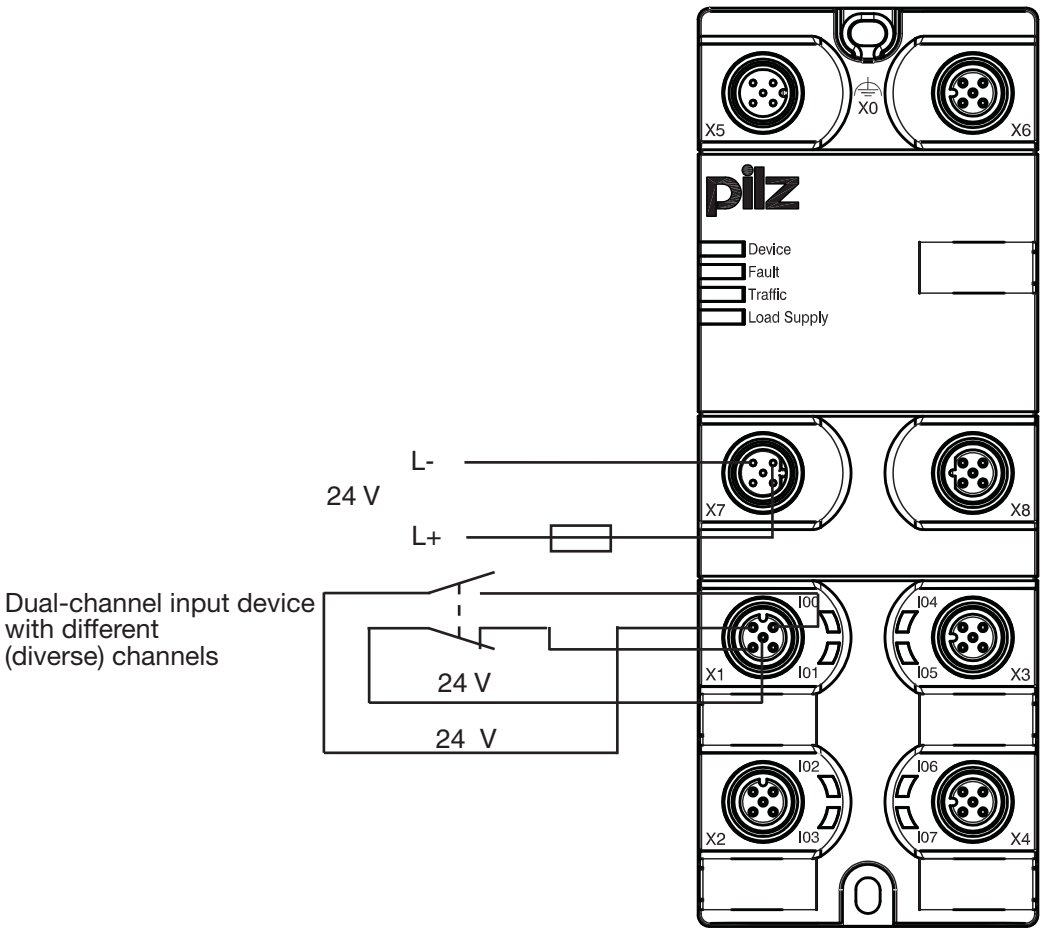
Features:

- This type of connection is mainly used for signal inputs with frequent operation.
- Depending on the application area and its respective regulations, this connection diagram is suitable for **input devices with frequent operation** and diverse channels in accordance with EN ISO 13849-1 **up to PL e** and EN IEC 62061 **up to SIL CL 3**, provided the functionality of both input device channels is monitored in the user program via a **feasibility check**.
- The input device must be approved for failsafe applications.
- If you are using input devices with different (diverse) channels, adjacent inputs may be used. The user program will detect short circuits via the feasibility check.

WARNING!

On input devices with identical channels, short circuits between the cable to the input device and the 24 V line or between cables to both input devices will not be detected. Depending on the application, serious injury or death may result.
Avoid short circuits by

- Appropriate wiring
- Wiring in accordance with the requirements of IEC 61076-2-101 and IEC 60204-1, clause 14.1.1 and 14.1.2



Please ensure safety regulations and EMC guidelines are met!

7.3.3 Example: Single-channel, failsafe input device, with test pulse

Features:

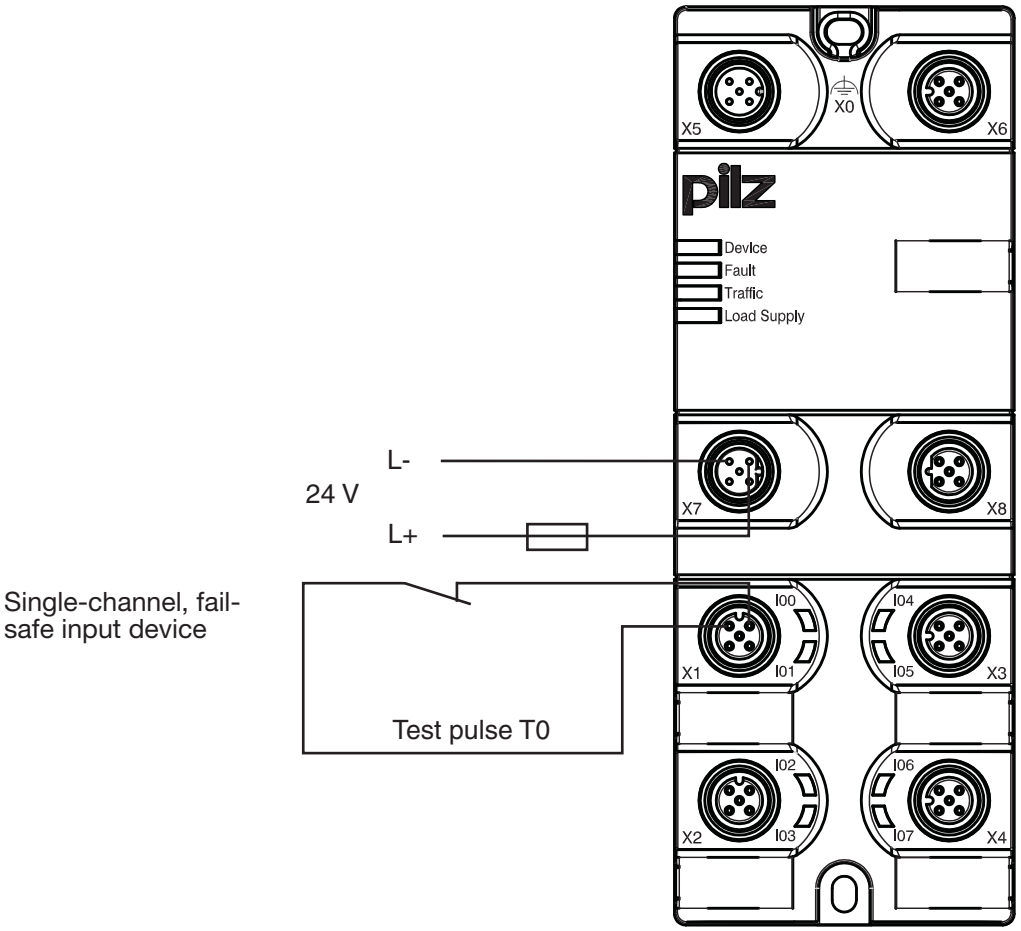
- Depending on the application area and its respective regulations, this connection diagram is suitable in accordance with EN ISO 13849-1 **up to PL d** and EN IEC 62061 **up to SIL CL 2**.
- The input device must be approved for failsafe applications.
- Test pulses can be used to check the inputs for short circuit to 24 V and correct functionality. Short circuits that short out the input device (cable from the test pulse to the input device and cable from the input device to the input) will not be detected.
- Please read the instructions provided with the input device.
- Only input devices with N/C contacts can be tested.



CAUTION!

Short circuits between the cable to the input device and the 24 V line or between cables to various input devices will not be detected.
Avoid short circuits by

- Appropriate wiring
- Wiring in accordance with the requirements of IEC 61076-2-101 and IEC 60204-1, clause 14.1.1 and 14.1.2

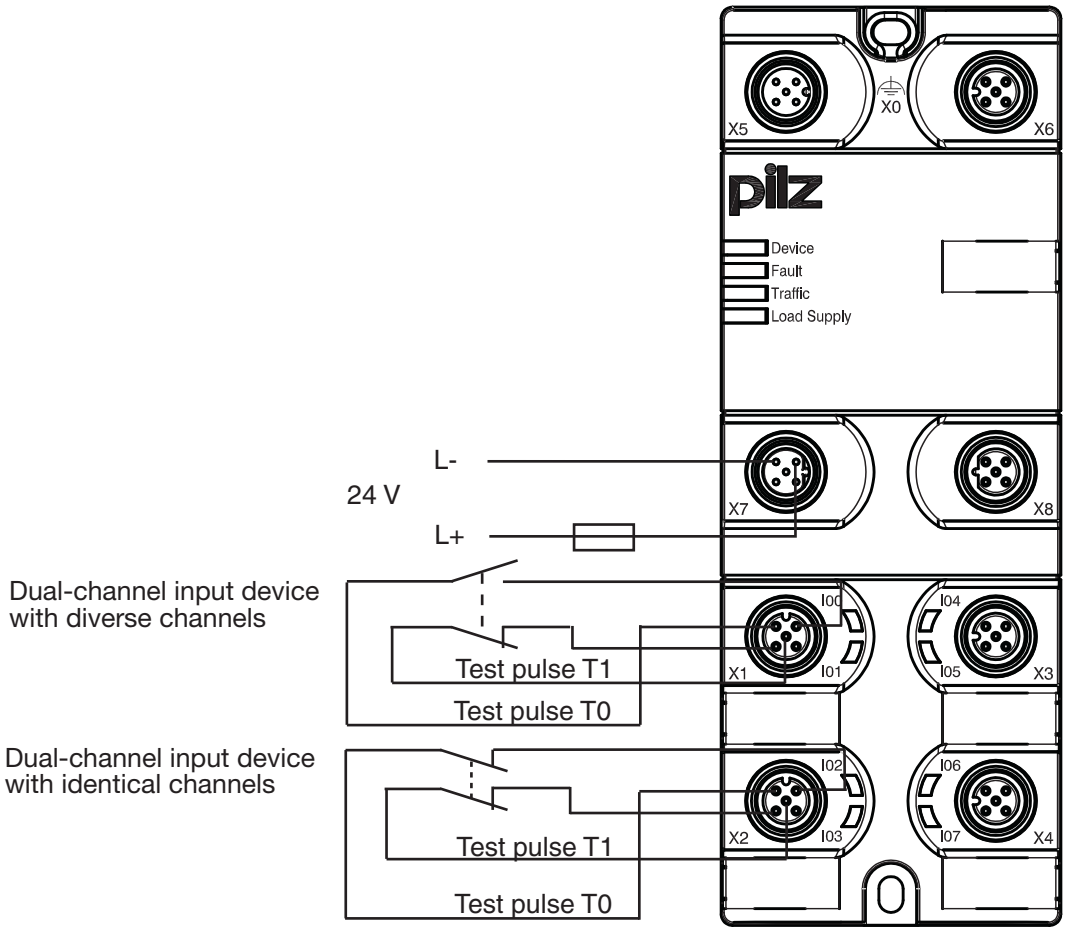


Please ensure safety regulations and EMC guidelines are met!

7.3.4 Example: Dual-channel, failsafe input device, with test pulse

Features:

- Depending on the application area and its respective regulations, this connection diagram is suitable in accordance with EN ISO 13849-1 **up to PL e** and EN IEC 62061 **up to SIL CL 3**.
- The input device must be approved for failsafe applications.
- This type of connection is mainly used for signal inputs with infrequent operation.
- As the test pulses are permanently assigned to the inputs, all short circuits will be detected, with the exception of short circuits that short out the input device (cable from the test pulse to the input device and cable from the input device to the input).



Please ensure safety regulations and EMC guidelines are met!

8 Operation

8.1 Messages

The module is ready for operation when the "Ready" LED on the link module is lit continuously.

8.1.1 Display elements for device diagnostics

Legend

- LED on
- LED flashes
- LED off

LED	LED status		Meaning
Device		Green	The unit is ready for operation
	●		The unit is not ready for operation
FAULT		Red	Internal error
	●		No error
Traffic		Yellow	Connection to control system established
		Yellow	Error in the connection to the control system. Flashing stops a max. of 1 min. after the fault has been rectified.
	●		No connection to control system established
Input LEDs		Green	1 signal is present
		Green	Link module has detected a pulse error. Once the fault has been rectified, the decentralised input module will continue to work normally after a waiting period of just a few seconds.
	●		0 signal is present
Load Supply		Yellow	Voltage is present
		Yellow	The supply voltage is/was too low. Once the fault has been rectified, the LED will not stop flashing until the system has been switched off and then on again.
	●		Voltage is missing

9 Technical details

General	773601	773615
Approvals	**BG, CE, TÜV, cULus Listed**	**BG, CE, TÜV, cULus Listed**
Application range	**Standard/failsafe**	**Standard/failsafe**
Electrical data	**773601**	**773615**
Supply voltage		
for	**Supply**	**Supply**
Voltage	**24 V**	**24 V**
Kind	**DC**	**DC**
Voltage tolerance	**-30 %/+25 %**	**-30 %/+25 %**
Current load capacity at UB	**4,0 A**	**4,0 A**
Output of external power supply (DC)	**1,2 W**	**1,2 W**
Supply voltage		
for	**Load Supply**	**Load Supply**
Voltage	**24 V**	**24 V**
Kind	**DC**	**DC**
Voltage tolerance	**-30 %/+25 %**	**-30 %/+25 %**
Current load capacity at UB	**4,0 A**	**4,0 A**
External unit fuse protection F1 max.	**4 A**	**4 A**
External unit fuse protection F1 max. in accordance with UL508	**4 A**	**4 A**
Terminal voltage when switching off inductive loads	**-45 V**	**-45 V**
Permitted loads	**inductive, capacitive, resistive**	**inductive, capacitive, resistive**
Inputs	**773601**	**773615**
Number	**8**	**8**
Signal level at "0"	**-3 - +5 V DC**	**-3 - +5 V DC**
Signal level at "1"	**15 - 30 V DC**	**15 - 30 V DC**
Input voltage in accordance with EN 61131-2 Type 1	**24 V DC**	**24 V DC**
Input current at rated voltage	**3 mA**	**3 mA**
Input current range	**3,0 mA**	**3,0 mA**
Min. threshold voltage when signal changes from "1" to "0"	**7,5 V**	**7,5 V**
Max. threshold voltage when signal changes from "0" to "1"	**11,5 V**	**11,5 V**
Max. processing time of input when signal changes from "1" to "0"	**1,000 ms**	**1,000 ms**
Max. processing time of input when signal changes from "0" to "1"	**1,200 ms**	**1,200 ms**
Min. processing time of input when signal changes from "1" to "0"	**0,50 ms**	**0,50 ms**
Min. processing time of input when signal changes from "0" to "1"	**0,70 ms**	**0,70 ms**
Potential isolation	**yes**	**yes**

Semiconductor outputs	773601	773615
Number of positive-switching single-pole semiconductor outputs	**8**	**8**
Function	**24 VDC output, standard output, test pulse output**	**24 VDC output, standard output, test pulse output**
Rated voltage	**24 V DC**	**24 V DC**
Typ. output current at "1" signal and rated voltage of semiconductor output	**0,50 A**	**0,50 A**
Permitted current range	**0,00 - 0,60 A**	**0,00 - 0,60 A**
Residual current at "0" signal	**0,02 mA**	**0,02 mA**
Max. internal voltage drop	**200 mV**	**200 mV**
Potential isolation	**yes**	**yes**
Short circuit-proof	**yes**	**yes**
Test pulse outputs	**773601**	**773615**
Max. cable length between test pulse output and input	**20 m**	**20 m**
Environmental data	**773601**	**773615**
Climatic suitability	**EN 60068-2-78**	**EN 60068-2-78**
Ambient temperature		
In accordance with the standard	**EN 60068-2-14**	**EN 60068-2-14**
Temperature range	**-30 - 60 °C**	**-30 - 60 °C**
Storage temperature		
In accordance with the standard	**EN 60068-2-1/-2**	**EN 60068-2-1/-2**
Temperature range	**-40 - 70 °C**	**-40 - 70 °C**
Climatic suitability		
In accordance with the standard	**EN 60068-2-78**	**EN 60068-2-78**
Humidity	**93 % r. h. at 40 °C**	**93 % r. h. at 40 °C**
Condensation during operation	**Short-term**	**Short-term**
EMC	**EN 55011: class A, EN 61000-4-11, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-9**	**EN 55011: class A, EN 61000-4-11, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-9**
Vibration		
In accordance with the standard	**EN 60068-2-6**	**EN 60068-2-6**
Frequency	**10,0 - 55,0 Hz**	**10,0 - 55,0 Hz**
Amplitude	**0,35 mm**	**0,35 mm**
Acceleration	**1g**	**1g**
Shock stress		
In accordance with the standard	**EN 60068-2-27**	**EN 60068-2-27**
Acceleration	**15g**	**15g**
Duration	**11 ms**	**11 ms**
In accordance with the standard	**EN 60068-2-29**	**EN 60068-2-29**
Acceleration	**10g**	**10g**
Duration	**16 ms**	**16 ms**

Environmental data	773601	773615
Airgap creepage		
In accordance with the standard	**IEC 60664-1**	**IEC 60664-1**
Overvoltage category	**III**	**III**
Pollution degree	**2**	**2**
Protection type		
In accordance with the standard	**EN 60529**	**EN 60529**
Housing	**IP67**	**IP67**
Terminals	**IP67**	**IP67**
Potential isolation	**773601**	**773615**
Potential isolation between	**Input and int. bus voltage**	**Input and int. bus voltage**
Type of potential isolation	**Basic insulation**	**Basic insulation**
Rated surge voltage	**500 V**	**500 V**
Potential isolation between	**SC output and int. bus volt.**	**SC output and int. bus volt.**
Type of potential isolation	**Basic insulation**	**Basic insulation**
Rated surge voltage	**500 V**	**500 V**
Mechanical data	**773601**	**773615**
Material		
Top	**Valox 855**	**Valox 855**
Labelling bracket (accessories)	**PC**	**PC**
Connection type	**M12**	**Stainless steel 1.4305**
Mounting type	**screw interlocked**	**screw interlocked**
Dimensions		
Height	**162,0 mm**	**162,0 mm**
Width	**60,0 mm**	**60,0 mm**
Depth	**30,0 mm**	**30,0 mm**
Weight	**375 g**	**375 g**

Where standards are undated, the 2010-03 latest editions shall apply.

9.1 Safety characteristic data

NOTICE

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

Unit	Operating mode	EN ISO 13849-1: 2015 PL	EN ISO 13849-1: 2015 Category	EN 62061 SIL CL	EN 62061 PFH_D [1/h]	EN ISO 13849-1: 2015 T_M [year]
Input						
SC inputs	**1-channel**	**PL d**	**Cat. 2**	**SIL CL 2**	**9,06E-09**	**20**
SC inputs	**2-channel**	**PL e**	**Cat. 4**	**SIL CL 3**	**1,24E-09**	**20**
Bus interface						
Bus interface	**All**	**PL e**	**Cat. 4**	**SIL CL 3**	**1,94E-09**	**20**

All the units used within a safety function must be considered when calculating the safety characteristic data.

INFORMATION

A safety function's SIL/PL values are **not** identical to the SIL/PL values of the units that are used and may be different. We recommend that you use the PAScal software tool to calculate the safety function's SIL/PL values.

10 Order reference

10.1 Order reference for module

Product type	Features	Order no.
PDP67 F 8DI ION HP	Decentralised input module	773 601
PDP67 F 8DI ION HP VA	Decentralised input module, V2A ring nut	773 615

10.2 Order reference for accessories

Plug

Product type	Features	Order no.
Caps for IP67 modules	Blind plug	380 324

Cable

Product type	Features		Order no.
PSS SB BUSCABLE LC	Cable, shielded	1 – 100 m	311 074
PSS67 I/O Cable	Cable	1 – 30 m	380 320
PSS67 Cable M8sf M12sm	Cable, straight M12 connector, straight M8 socket, 4-pin	3 m	380 200
PSS67 Cable M8sf M12sm	Cable, straight M12 connector, straight M8 socket, 4-pin	5 m	380 201
PSS67 Cable M8sf M12sm	Cable, straight M12 connector, straight M8 socket, 4-pin	10 m	380 202
PSS67 Cable M8sf M12sm	Cable, straight M12 connector, straight M8 socket, 4-pin	30 m	380 203
PSS67 Cable M8sf M12sm	Cable, straight M12 connector, angled M8 socket, 4-pin	3 m	380 204
PSS67 Cable M8sf M12sm	Cable, straight M12 connector, angled M8 socket, 4-pin	5 m	380 205
PSS67 Cable M8sf M12sm	Cable, straight M12 connector, angled M8 socket, 4-pin	10 m	380 206
PSS67 Cable M8sf M12sm	Cable, straight M12 connector, angled M8 socket, 4-pin	30 m	380 207
PSS67 Cable M12sf M12sm	Cable, straight M12 connector, straight M12 socket, 5-pin	3 m	380 208
PSS67 Cable M12sf M12sm	Cable, straight M12 connector, straight M12 socket, 5-pin	5 m	380 209
PSS67 Cable M12sf M12sm	Cable, straight M12 connector, straight M12 socket, 5-pin	10 m	380 210
PSS67 Cable M12sf M12sm	Cable, straight M12 connector, straight M12 socket, 5-pin	30 m	380 211

Product type	Features		Order no.
PSS67 Cable M12sf M12sm	Cable, angled M12 connector, angled M12 socket, 5-pin	3 m	380 212
PSS67 Cable M12sf M12sm	Cable, angled M12 connector, angled M12 socket, 5-pin	5 m	380 213
PSS67 Cable M12sf M12sm	Cable, angled M12 connector, angled M12 socket, 5-pin	10 m	380 214
PSS67 Cable M12sf M12sm	Cable, angled M12 connector, angled M12 socket, 5-pin	30 m	380 215
PSS67 Supply Cable IN sf OUT sm	Cable, IN socket straight, OUT connector straight, B-coded	3 m	380 250
PSS67 Supply Cable IN sf OUT sm	Cable, IN socket straight, OUT connector straight, B-coded	5 m	380 251
PSS67 Supply Cable IN sf OUT sm	Cable, IN socket straight, OUT connector straight, B-coded	10 m	380 252
PSS67 Supply Cable IN af OUT am	Cable, IN socket angled, OUT connector angled, B-coded	3 m	380 253
PSS67 Supply Cable IN af OUT am	Cable, IN socket angled, OUT connector angled, B-coded	5 m	380 254
PSS67 Supply Cable IN af OUT am	Cable, IN socket angled, OUT connector angled, B-coded	10 m	380 255
PSS67 Supply Cable IN sf	Cable, IN socket straight, B-coded	3 m	380 256
PSS67 Supply Cable IN sf	Cable, IN socket straight, B-coded	5 m	380 257
PSS67 Supply Cable IN sf	Cable, IN socket straight, B-coded	10 m	380 258
PSS67 Supply Cable IN af	Cable, IN socket angled, B-coded	3 m	380 259
PSS67 Supply Cable IN af	Cable, IN socket angled, B-coded	5 m	380 260
PSS67 Supply Cable IN af	Cable, IN socket angled, B-coded	10 m	380 261

Adapter

Product type	Features	Order no.
PSEN ma adapter	Adapter for connection to safety switch PSENmag	380 300
PSEN cs adapter	Adapter for connection to safety switch PSENcode	380 301

Connector

Product type	Features	Order no.
PSS67 M12 connector	Connector, M12, straight, 5-pin, A-coded	380 308
PSS67 M12 connector	Socket, M12, straight, 5-pin, A-coded	380 309
PSS67 M12 connector	Connector, M12, angled, 5-pin, A-coded	380 310
PSS67 M12 connector	Socket, M12, angled, 5-pin, A-coded	380 311
PSS67 M12 connector	Connector, M12, straight, 5-pin, B-coded	380 312
PSS67 M12 connector	Socket, M12, straight, 5-pin, B-coded	380 313
PSS67 M12 connector	Connector, M12, angled, 5-pin, B-coded	380 314
PSS67 M12 connector	Socket, M12, angled, 5-pin, B-coded	380 315

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PILZ
THE SPIRIT OF SAFETY

1002225-EN-05, 2016-08 Printed in Germany
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