

PLID d1



Safe line inspection device

Unit features

- ▶ Max. length of the inspected line (depending on the line resistance):
3000 m
- ▶ Supply voltage via evaluation device
- ▶ Installation in pushbutton housing, surface mount housing or control cabinet
- ▶ LED lights when the device is active
- ▶ Either spring-loaded terminals or screw terminals

Unit description

The **PLID d1** is used for safe line inspection. It monitors 2-wire lines for

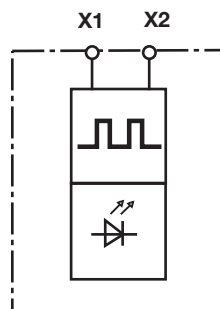
- ▶ Short circuit,
- ▶ Short between contacts,
- ▶ Open circuit.

The **PLID d1** may only be used in conjunction with the evaluation device PNOZ e8.1p.

Approvals

	PLID d1
	◆
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Block diagram



PLID d1

Function description

The **PLID d1** sends a test pulse signal to the evaluation device PNOZ e8.1p. If the line is error-free and the feasibility test is successful, the semiconductor output on the PNOZ e8.1p is

conductive. The test pulse signal is interrupted by a short circuit, short between contacts or an open circuit in the connection between **PLID d1** and the evaluation device. The output on the PNOZ e8.1p is blocked.

The **PLID d1** can be incorporated into the application's E-STOP pushbutton or reset button. Line inspection is performed continuously (N/C contact) or when the pushbutton is operated (N/O), depending on the pushbutton type.

Wiring

Please note:

- Information given in the "Technical details" must be followed.
- Calculation of the max. cable length $l_{\max}$ in the input circuit:

$$l_{\max} = \frac{R_{l\max}}{R_l / \text{km}}$$

$R_{l\max}$ = max. overall cable resistance (see technical details)
 R_l / km = cable resistance/km

- The connection between the **PLID d1** and pushbutton or switch should be as short as possible.
- Where one line is to be inspected, only use one **PLID d1** and one evaluation device. If you use several **PLID d1** and evaluation devices, the line must be protected.

Preparing for operation

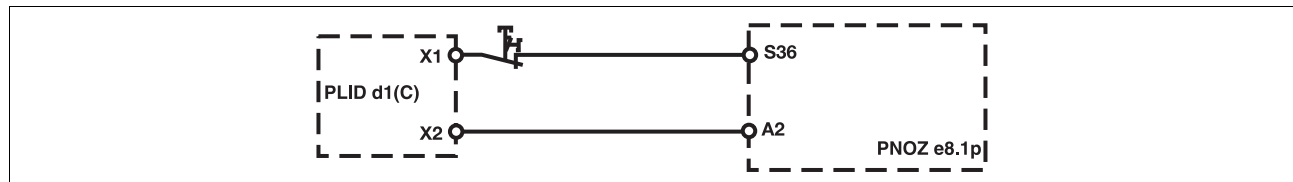
Connect the **PLID d1** to the evaluation device PNOZ e8.1p:

- Connect terminal X1 to terminal S36 on the PNOZ e8.1p

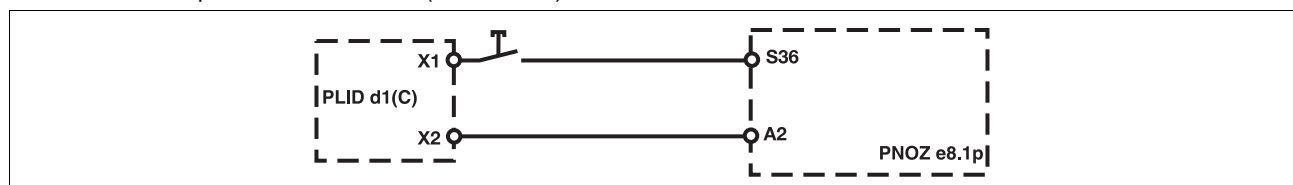
- Connect terminal X2 to terminal A2 on the PNOZ e8.1p

The evaluation device PNOZ e8.1p should be wired as described in the unit's operating instructions.

Connection example with N/C contact (continuous test)



Connection example with N/O contact (manual test)



Installation

The unit should be secured using 2 M4 pan head screws.

Please note during installation:

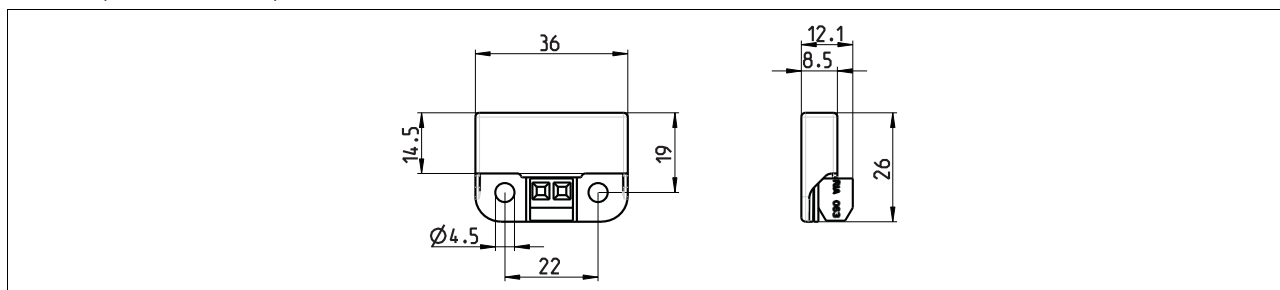
- The unit should be installed in a single mounting area with a protection type of at least IP54.
- Make sure that the unit is fixed securely.
- Protect the cable and connector from mechanical stress by using strain relief.

A mounting bracket is available for control cabinet installation (order no. 532 110).

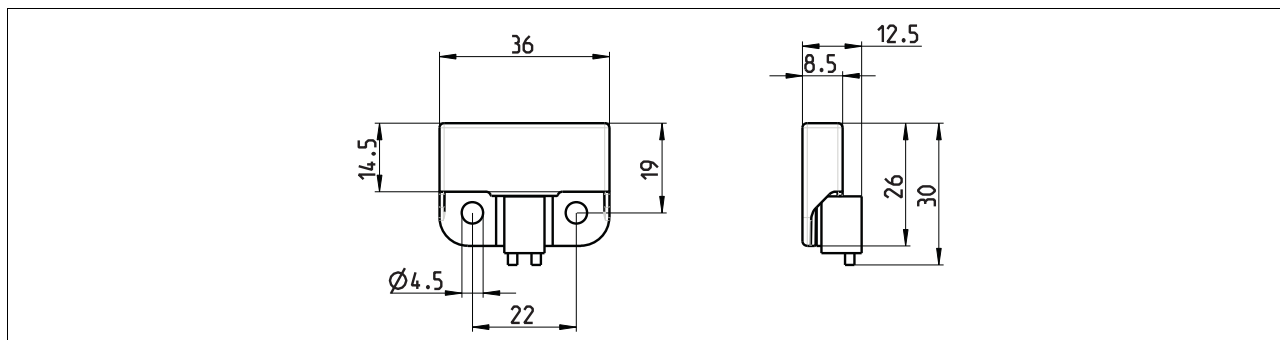
PLID d1

Dimensions

PLID d1 (screw terminals)



PLID d1 C (spring-loaded terminals)



PLID d1

Notice

This data sheet is only intended for use during configuration. Please refer to the operating manual for installation and operation.

Technical details

Electrical data

Max. overall cable resistance	220 Ohm
Max. line capacitance	450 nF
Power consumption	0.2 W

Environmental data

EMC	EN 60947-5-1, EN 61000-6-2, EN 61000-6-4
Vibration to EN 60068-2-6	
Frequency	10.0 - 55.0 Hz
Amplitude	0.35 mm
Climatic suitability	EN 60068-2-78
Surge voltage in accordance with EN 61000-4-5	0.5 kV
Ambient temperature	-30 - 70 °C
Storage temperature	-40 - 70 °C
Protection type	
Mounting (e.g. cabinet)	IP54
Housing	IP40
Terminals	IP20

Mechanical data

Housing material	
Housing	PC
Cross section of external conductors with screw terminals	
1 core flexible	0.50 - 1.50 mm², 22 - 14 AWG No. 774260
Torque setting with screw terminals	0.50 Nm No. 774260
Cross section of external conductors with spring-loaded terminals: Flexible with/without crimp connectors	0.50 - 1.50 mm², 22 - 14 AWG No. 784260
Stripping length	9 mm No. 784260
Dimensions	
Height	36.0 mm
Width	26.0 mm
Depth	12.1 mm No. 774260 12.5 mm No. 784260
Weight	10 g

The standards current on **2010-12** apply.

No. stands for order number.

Order reference

Product type	Features	Order no.
PLID d1	with screw terminals	774 260
PLID d1 C	with spring-loaded terminals	784 260
PNOZ e8.1p	with screw terminals	774 198
PNOZ e8.1p C	with spring-loaded terminals	784 198