



Model Number

PMI14V-F166-U-1M-Y242702

Features

- Analog output 0 ... 10 V
- Measuring range 0 ... 14 mm
- Scaleable measurement range programmable via cable
- 5 scaling positions programmable using teach in device PMI14V-Teach

Technical data

General specifications

Switching element function	Analog voltage output
Object distance	0.5 ... 2 mm
Measurement range	0 ... 14 mm

Nominal ratings

Operating voltage U_B	18 ... 30 V
Reverse polarity protection	reverse polarity protected
Linearity error	± 0.3 mm
Repeat accuracy R	± 0.05 mm
Resolution	33 μ m
Temperature drift	± 0.4 mm
No-load supply current I_0	≤ 20 mA

Analog output

Output type	1 voltage output: 0 ... 10 V
Load resistor	$\geq 1000 \Omega$
Short-circuit protection	without

Ambient conditions

Ambient temperature	-10 ... 70 °C (14 ... 158 °F)
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Mechanical specifications

Connection type	1 m, PUR cable, shielded
Core cross-section	5 x 0.14 mm ²

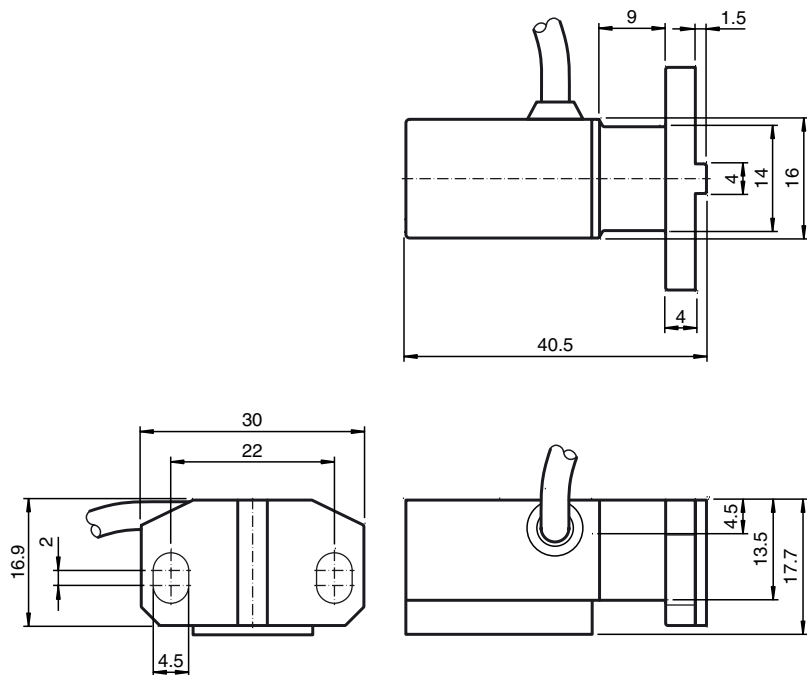
Material

Housing	Zinc die-casting, nickel-plated cover, PBT
Target	mild steel, e. g. 1.0037, SR235JR (formerly St37-2)
Mass	65 g

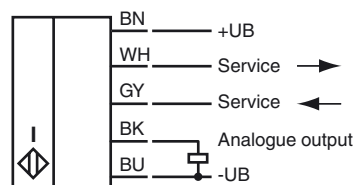
Compliance with standards and directives

Standard conformity	
Standards	EN 60947-5-2:2007 IEC 60947-5-2:2007

Dimensions



Electrical Connection



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Programming the 5 Scaling Positions

You can teach in 5 scaling positions using the PMI14V-Teach programming device. The programming unit is connected directly between the sensor and the power supply. The Teach-in process is generally only possible in the first 410 s of the sensor being switched on. After that point, programming is blocked and is only possible again once the power supply has been interrupted.

The 5 scaling positions are assigned the following voltage values:

- Scaling position 1 is 1 V
- Scaling position 2 is 2 V
- Scaling position 3 is 5 V
- Scaling position 4 is 7 V
- Scaling position 5 is 9 V

If the measurement flag leaves the measuring range of the sensor, the sensor always emits 10 V. The taught values are stored in a non-volatile manner. Each taught scaling position is based on half of the width (center) of the damping element. During the Teach-in process, the sensor always emits a linear voltage of 0 V...10 V proportional to the distance (= default setting).

Teach-In Process

Note:

The individual scaling positions must be taught-in in a sequentially rising or falling order. There must be no change of direction during the Teach-in process.

Switching the Sensor to Programming Mode

1. Connect the programming unit between the sensor and the power supply.
 2. Press and hold the key on the programming unit for approx. 1.5 seconds.
- >> The LED S2 on the programming unit flashes.

Teaching-in Scaling Positions 1...5

The LED S2 signals which scaling position is now being taught via flash codes. 1 flash for scaling position 1, 2 flashes for scaling position 2, etc.

1. Position the damping element in the required Teach-in position.
 2. Press the button again.
- >> The sensor teaches in the position. The LED S2 then flashes again 2, 3, 4, or 5 times, depending on which scaling position is next.
3. Repeat the Teach-in process until all 5 scaling positions have been taught.
- >> The Teach-in process is terminated after scaling position 5. LED S2 goes out briefly. If the Teach-in process was successful, the LED lights up for approx. 2 s. The sensor then returns to the normal operating state.

Reset to Default Settings

1. Press and hold the button for approx. 6.5 seconds.
- >> The sensor is reset to its default settings. The programming unit confirms this by flashing quickly (8 Hz).

Faults during Teach-in

If a Teach-in process fails for any reason, LED S2 flashes quickly (16 Hz) for approx. 1.5 seconds. The cause for this may be that the Teach-in attempt was conducted outside the measuring range.

The Teach-in process is canceled when the power supply is interrupted or if no button is pressed for 6 minutes.

In both cases, the existing positions remain saved.

Additional Information

dimensions for the target object:

