

**PTQ80376**

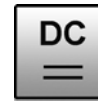
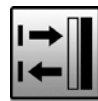
Laser sensors

Diffuse reflection sensors with background suppression



- / plastic housing, compact design
- / adjustment via teach-in
- / LED-display with adjustment aid
- / M8-cable socket, 4-pin

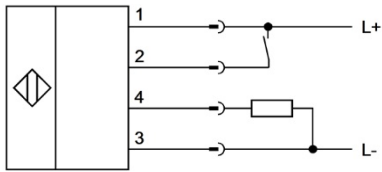
laser protection class 1  
background suppression



TECHNICAL DATA	PTQ80376
dimensions	8.2 x 25.7 x 14.6mm
function	background suppression
sensing range	6 ... 70mm
adjustment range	10 ... 70mm
operating voltage	10 ... 30V DC
current consumption (w/o load)	≤ 12mA
output current (max. load)	≤ 50mA
output signal	PNP, no/nc
response / decay time	≤ 0.5 ms
switching frequency	1kHz
transmitting element (pulsed)	laser diode, red light, pulsed
light spot size	1 x 3mm
wavelength	655nm
short-circuit protection	+
reverse polarity protection	+
display (operating)	LED green
display (signal)	LED yellow
material (housing)	plastic (PUR)
material (front screen)	PMMA
degree of protection (EN60529)	IP 67
temperature (operating)	-20 ... +50°C
connection	M8-connector, 4-pin
connection accessories	e.g. VK200375
mounting accessories (universal holder)	AY000116

**Connection**

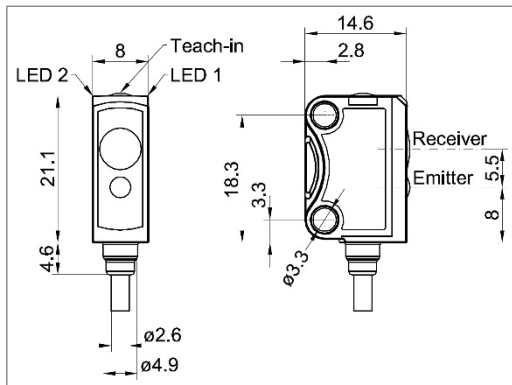
**Notes to connect the white wire (PIN 2)**



**Colors:** 1 = BN (brown), 2 = WH (white), 3 = BU (blue), 4 = BK (black)  
**Functions:** 1 = L+, 2 = teach-in, 3 = L-, 4 = PNP, no/nc

Connection with L+: Teach-in in accordance with the respective information (pages 4-5)  
 Connection with L-: Teach-key locked  
 No connection: Normal operation  
 During normal operation it is recommended to connect the wire to a free pin.

**Dimensional drawing**



**Safety warnings**

Before initial operation, please make sure to follow all safety instructions that may be provided in the product information!

Connection, mounting, adjustment and initial operation is to be carried out by qualified personnel only.

The device may not be installed in outdoor areas.

Laser protection class 1; wavelength: 655nm; frequency: 5kHz, pulse width: 3.2µs; threshold value pulse: ≤ 2.3mW (IEC 60825-1)

Corresponds to 21 CFR 1040.10 and 1040.11 with exceptions of the deviations according to Laser Note no. 50 of 24 June 2007.

**Note!** By the use of control elements or adjustments such as the implementation of procedures, which are not specified here, it may result in hazardous radiation exposure.

No safety component according to the EU machinery directive. Never use these articles in applications where the safety of a person depends on their functionality.

**Intended use**

The sensor is used for optical contactless detection.

**Connection**

Insert the connector with zero potential into a suitable cable socket and screw it tight.

Connect the wire according to the connection diagram on page 2.

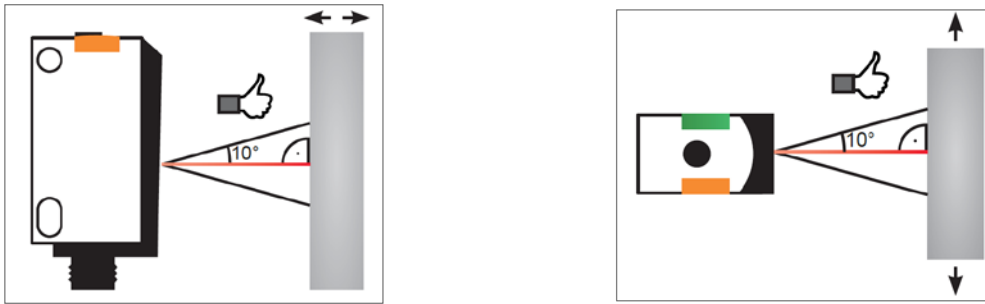
The green LED will light up as soon as the operating voltage is present (LED 2).

**Mounting**

Mount the sensor on a suitable holder (e.g. universal holder AY000116).

## Justage

Align the sensor to the object being detected. Be aware of the preferred direction.



## Switching behavior

	PNP	LED yellow
N.O.	+ U <sub>B</sub>	◐
	- U <sub>B</sub>	●
N.C.	+ U <sub>B</sub>	◐
	- U <sub>B</sub>	●

N.O. = normally open

N.C. = normally closed

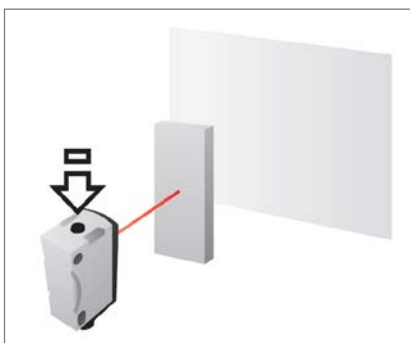
## Adjustment

The sensor's adjustment is made by teach-in. It is made by using the teach-in button or by connecting the white wire with L+.

### Standard teach-in:

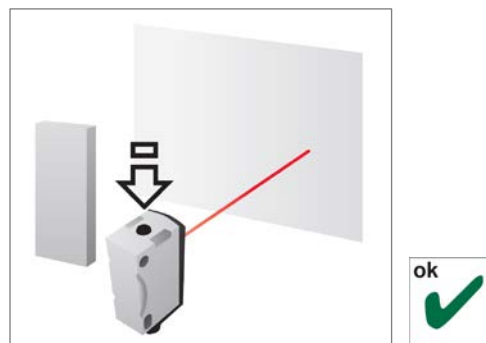
It is applicable for almost every application. Teach-in is made on the object and the background.

#### Step 1: teach the object



Press the **button > 3s** until the green and the yellow LEDs flash simultaneously. Release the button, the LEDs flash alternately.

#### Step 2: teach the background

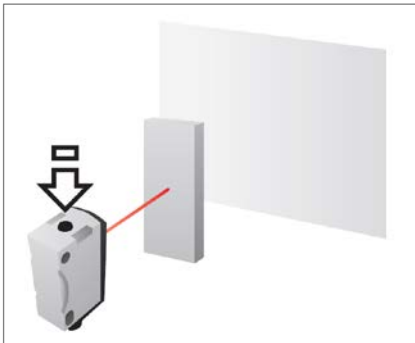


Press the **button > 1s**

**Object teach-in:**

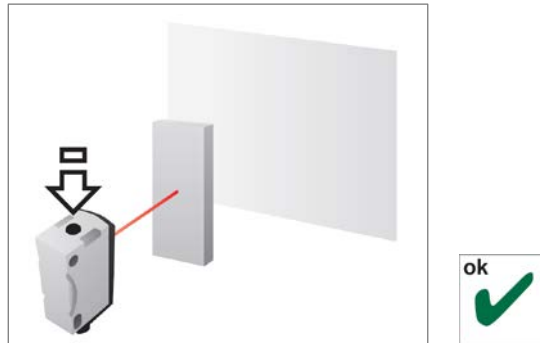
Is applicable for all applications, with which the background doesn't have to be taught. The adjustment is made 2x on the object.

Step 1: teach the object



Press the **button > 3s** until the green and the Yellow LEDs flash simultaneously. Release the button, the LEDs flash alternately.

Step 2: teach the object

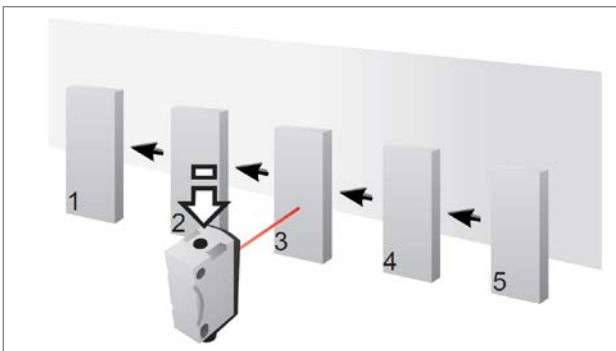


Press the **button > 1s**

**Dynamic Teach-In:**

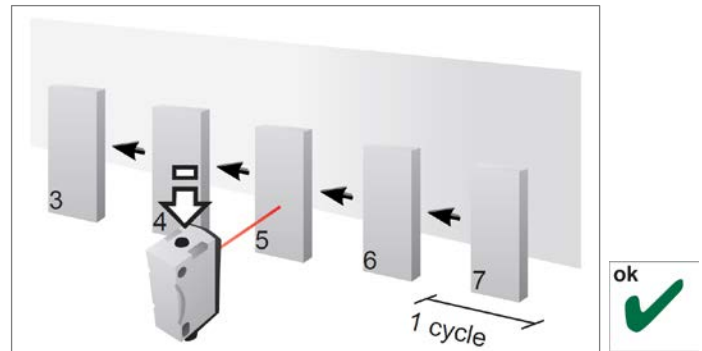
Is applicable to adjust the sensor during an ongoing process, especially with small objects.

Step 1: during the ongoing process



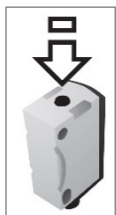
Press the **button > 3s** until the green and the yellow LEDs flash simultaneously. Release the button, the LEDs flash alternately.

Step 2: teach-in during the ongoing process



Press the **button for the duration of one cycle.**

**Switch N.O. / N.C.**



Press **button > 13s** until the green and the yellow LEDs flash alternately

