

Photoelectrics Diffuse-reflective Type PD30CND10...RT

CARLO GAVAZZI



- Miniature sensor range
- Range: 1 m
- Sensitivity adjustment by Teach-In programming
- Modulated, red light 660 nm
- Supply voltage: 10 to 30 VDC
- Output: 100 mA, NPN or PNP preset
- Make or break switching function programmable
- LED indication for output, stability and power ON
- Protection: reverse polarity, short circuit and transients
- Cable and plug versions
- Excellent EMC performance
- Remote teach features



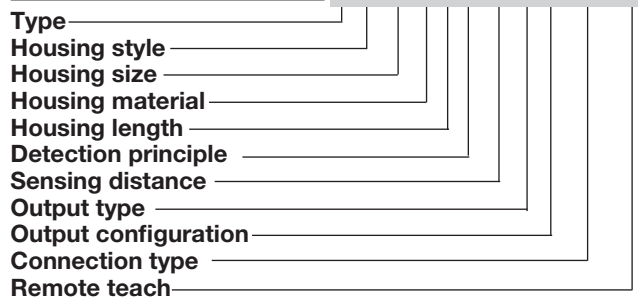
Product Description

The PD30CND10 sensor family comes in a compact 10 x 30 x 20 mm reinforced PMMA/ABS housing. The sensors are useful in applications where high-accuracy detection as well as small size is required. Compact housing and high power LED for excellent performance-size ratio.

The Teach-In function for adjustment of the sensitivity makes the sensors highly flexible. The output type is preset (NPN or PNP), and the output switching function is NO or NC output. A remote teach feature allows the sensor to be set up from e.g. a PLC.

Ordering Key

PD30CND10PPM5RT



Type Selection

Housing W x H x D	Range S _n	Connection	Ordering no. NPN Make or break switching	Ordering no. PNP Make or break switching
10 x 30 x 20 mm	1 m	Cable	PD 30 CND 10 NPRT	PD 30 CND 10 PPRT
10 x 30 x 20 mm	1 m	Plug	PD 30 CND 10 NPM5RT	PD 30 CND 10 PPM5RT

Specifications EN 60947-5-2

Rated operating distance (S_n)	Up to 1 m, reference target Kodak test card R27, white, 90% reflective, 200 x 200 mm	Light source	GaAIAs, LED, 660 nm
Blind zone	20 mm	Light type	Red, modulated
Sensitivity	Adjustable by Teach-In	Sensing angle	± 2°
Temperature drift	≤ 0.1%/°C	Ambient light	10,000 lux
Hysteresis (H) (differential travel)	≤ 10%	Light spot	110 mm @ 1.5 m
Rated operational volt. (U_B)	10 to 30 VDC (ripple included)	Operating frequency	1000 Hz
Ripple (U_{rpp})	≤ 10%	Response time	
Output current Continuous (I _a) Short-time (I)	≤ 100 mA ≤ 100 mA (max. load capacity 100 nF)	OFF-ON (t _{ON})	≤ 0.5 ms
No load supply current (I_o)	≤ 30 mA @ 24 VDC	ON-OFF (t _{OFF})	≤ 0.5 ms
Minimum operational current (I_m)	0.5 mA	Power ON delay (t_v)	≤ 300 ms
OFF-state current (I_r)	≤ 100 μA	Output function	Preset Set up by button
Voltage drop (U_d)	≤ 2.4 VDC @ 100 mA	NPN and PNP NO/NC switching function	
Protection	Short-circuit, reverse polarity and transients	Remote teach function	
		Teach on	0 to 2.5 VDC (NPN) 5 to 30 VDC (PNP)
		Tamper proof	When activated more than 20 sec., the sensor goes into a tamper proof mode.
		Indication	
		Output ON	LED, yellow
		Signal stability ON and power ON	LED, green

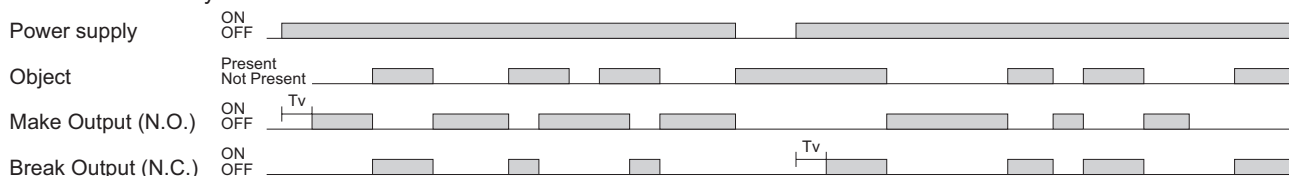


Specifications (cont.) EN 60947-5-2

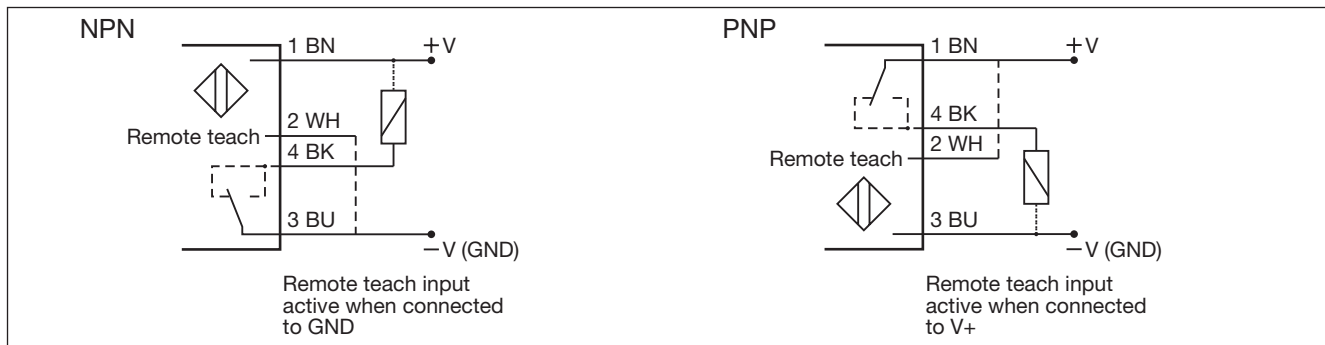
Environment		Rated insulation voltage	500 VAC (rms)
Installation category	III (IEC 60664/60664A; 60947-1)	Housing material	
Pollution degree	3 (IEC 60664/60664A; 60947-1)	Body	ABS
Degree of protection	IP 67 (IEC 60529; 60947-1)	Front material	PMMA, red
Ambient temperature		Connection	
Operating	-25° to +55°C (-13° to +131°F)	Cable	PVC, black, 2 m 4 x 0.14 mm ² , Ø = 3.3 mm
Storage	-40° to +70°C (-40° to +158°F)	Plug	M8, 4-pin (CON. 54-series)
Vibration	10 to 55 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)	Weight	With cable: 40 g With plug: 10 g
Shock	30 g / 11ms, 3 pos, 3 neg per axis (IEC 60068-2-6, 60068-2-32)	CE-marking	Yes
		Approvals	cULus (UL508)

Operation Diagram

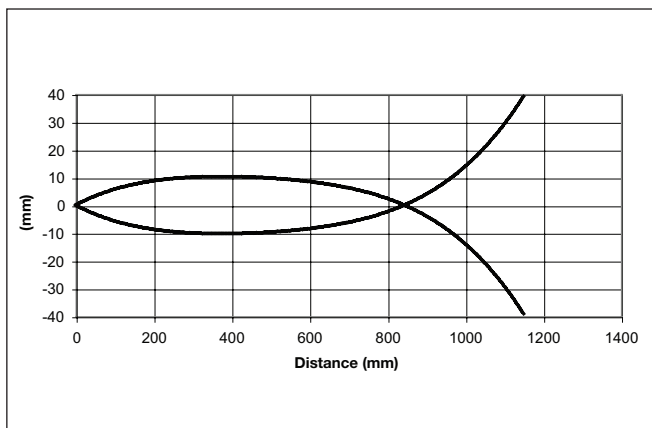
tv = Power ON delay



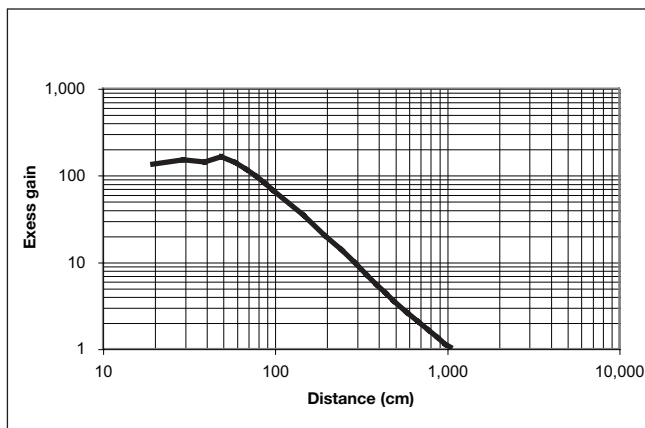
Wiring Diagrams



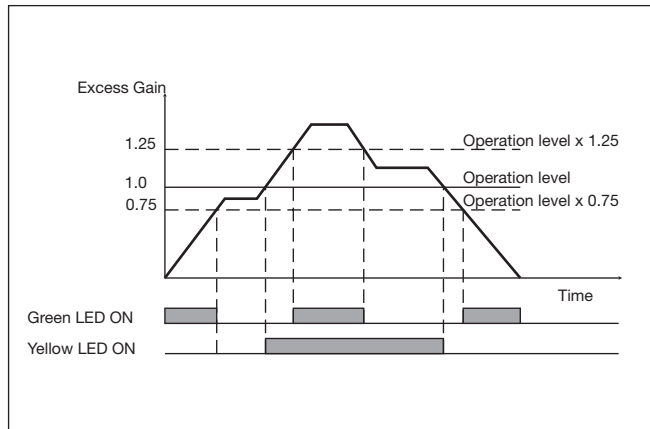
Detection Diagram



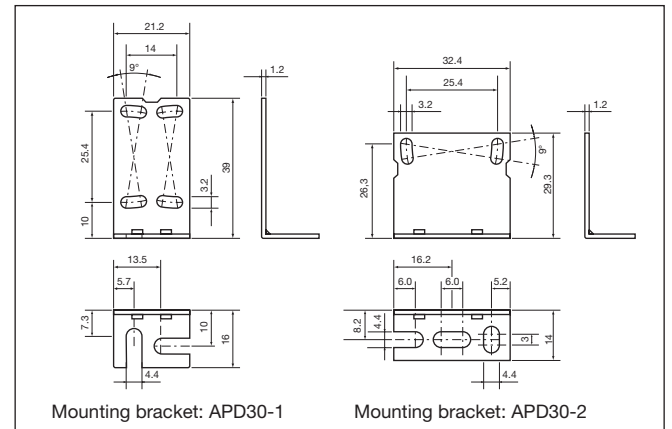
Excess Gain



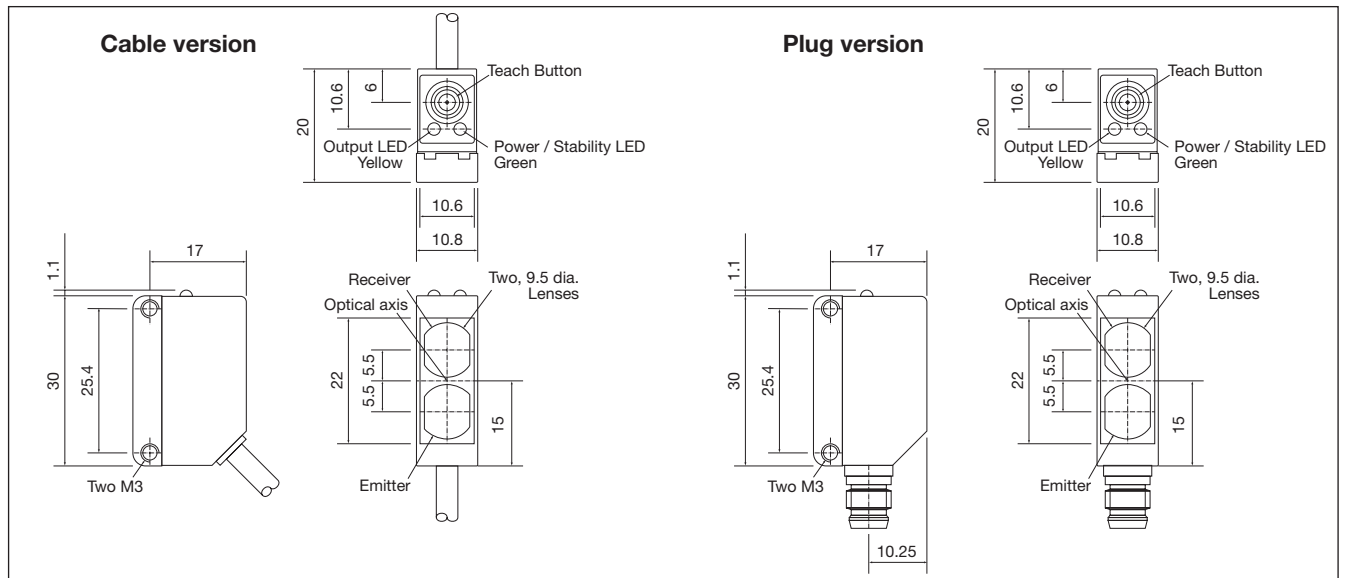
Signal Stability Indication



Accessories



Dimensions



Installation Hints

<p>To avoid interference from inductive voltage / current peaks, separate the proximity switch cables from any other power cables. E.g. Engine, contactor or solenoid cables</p>	<p>Relief of the cable strain</p> <p>The cable should not be pulled</p>	<p>Protection of the sensing face</p> <p>A proximity switch should not serve as mechanical stop</p>	<p>Sensor mounted on a mobile carrier</p> <p>Any repetitive flexing of the cable should be avoided</p>
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Delivery Contents

- Photoelectric switch: PD 30 CND 10 ...
- Installation instruction
- Mountingbracket APD30-MB1
- **Packaging:** Cardboard box

Accessories

- Mounting bracket APD30-MB2 to be purchased separately