

# Photoelectrics Retro-reflective Type PD30CNR06....SA

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- Miniature sensor range
- Range: 6 m
- Sensitivity adjustment by Potentiometer
- Modulated, infrared light 850 nm
- Supply voltage: 10 to 30 VDC
- Output: 100 mA, NPN or PNP preset
- Make and break switching function
- LED indication for output, stability and power ON
- Protection: reverse polarity, short circuit and transients
- Cable and plug versions
- Excellent EMC performance



## Product Description

The PD30CNR06 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 Potentiometer 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 and NC output.

## Ordering Key

**PD30CNR06NAM5SA**

Type	_____
Housing style	_____
Housing size	_____
Housing material	_____
Housing length	_____
Detection principle	_____
Sensing distance	_____
Output type	_____
Output configuration	_____
Connection type	_____
Sensitivity adjustment	_____

## Type Selection

Housing W x H x D	Range S <sub>n</sub>	Connection	Ordering no. NPN Make and break switching	Ordering no. PNP Make and break switching
10 x 30 x 20 mm	6 m	Cable	PD 30 CNR 06 NASA	PD 30 CNR 06 PASA
10 x 30 x 20 mm	6 m	Plug	PD 30 CNR 06 NAM5SA	PD 30 CNR 06 PAM5SA

## Specifications

<b>Rated operating distance (S<sub>n</sub>)</b> Ø 80 mm (ER4) reflector ER4060 reflector	≤ 6 m ≤ 4 m	<b>OFF-state current (I<sub>r</sub>)</b>	≤ 100 µA
<b>Blind zone</b>	≤ 100 mm @ Ø80 mm (ER4) and ER4060 reflector	<b>Voltage drop (U<sub>d</sub>)</b>	≤ 2 VDC @ I <sub>e</sub> max
<b>Sensitivity</b> Electrical adjustment Mechanical adjustment	210° 240°	<b>Protection</b>	Short-circuit, reverse polarity and transients
<b>Temperature drift</b>	≤ 0.2%/°C	<b>Light source</b>	LED, 850 nm
<b>Hysteresis (H)</b>	5% to 20%	<b>Light type</b>	Infrared, modulated
<b>Rated operational volt. (U<sub>B</sub>)</b>	10 to 30 VDC (ripple included)	<b>Emitter angle</b>	± 2° @ half sensing distance
<b>Ripple (U<sub>ripple</sub>)</b>	≤ 10%	<b>Light spot</b>	110 mm @ 1.5 meters
<b>Output current</b> Continuous (I <sub>a</sub> ) Short-time (I)	≤ 100 mA ≤ 100 mA (max. load capacity 100 nF)	<b>Ambient light</b>	≤ 10,000 lux
<b>No load supply current (I<sub>o</sub>)</b>	≤ 20 mA @ U <sub>B</sub> max	<b>Operating frequency (f)</b>	≤ 1000 Hz
<b>Minimum operational current (I<sub>m</sub>)</b>	≤ 0.5 mA	<b>Response time</b> OFF-ON (t <sub>ON</sub> ) ON-OFF (t <sub>OFF</sub> )	≤ 0.5 ms ≤ 0.5 ms
		<b>Power ON delay (t<sub>v</sub>)</b>	≤ 30 ms
		<b>Output function</b> Open collector	NPN or PNP by sensor type
		<b>Output switching function</b>	N.O. and N.C.

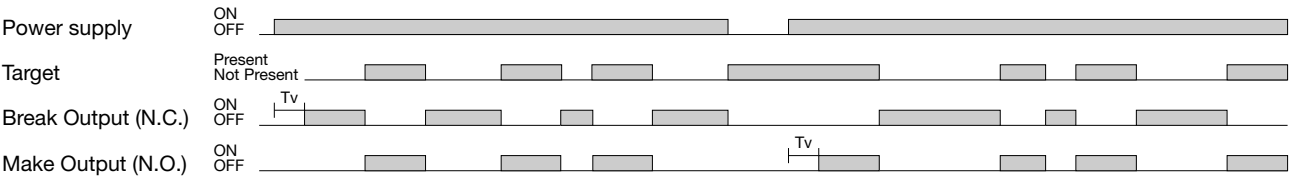


Specifications (cont.)

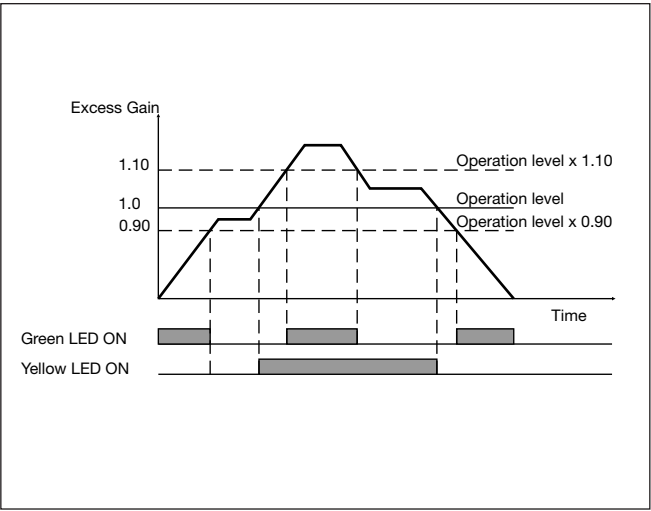
<b>Indication</b> Output ON Signal stability ON and Power ON	LED, yellow  LED, green. See curve for condition of stability	<b>Rated insulation voltage</b>	≤ 500 VAC (rms)
<b>Environment</b> Installation category  Pollution degree  Degree of protection	III (IEC 60664/60664A; 60947-1)  3 (IEC 60664/60664A; 60947-1)  IP 67 (IEC 60529; 60947-1)	<b>Housing material</b> Body Frontglas Trimmer shaft	ABS Light Grey PMMA Red POM Dark Grey
<b>Ambient temperature</b> Operating Storage	-25° to +60°C (-13° to +140°F) -40° to +70°C (-40° to +158°F)	<b>Connection</b> Cable  Plug	PVC, black, 2 m 4 x 0.14 mm², Ø = 3.3 mm M8, 4-pin (CON. 54-series)
<b>Vibration</b>	10 to 150 Hz, 1.0 mm/15 G (IEC 60068-2-6)	<b>Weight</b> Cable version Plug version	≤ 50 g ≤ 20 g
<b>Shock</b>	30 g / 11ms, 3 pos, 3 neg per axis (IEC 60068-2-6, 60068-2-32)	<b>CE-marking</b>	Yes
		<b>Approvals</b>	cULus (UL508 + CSA)

Operation Diagram

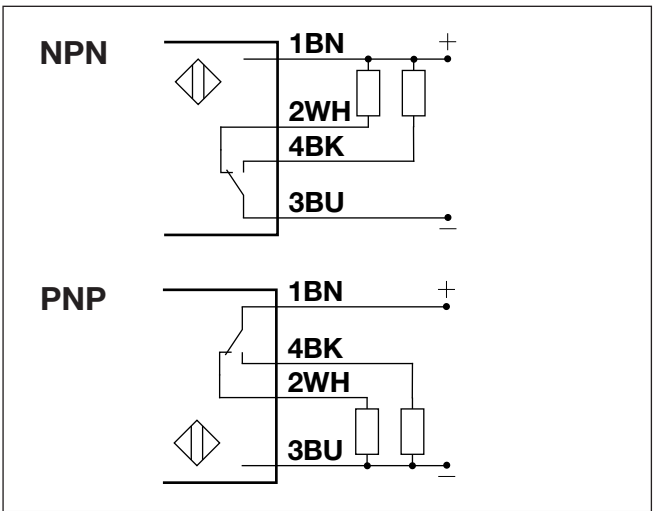
Tv = Power ON delay



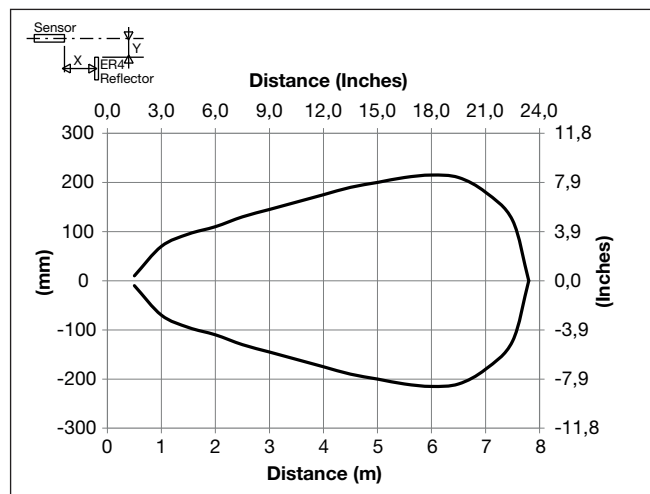
Signal Stability Indication



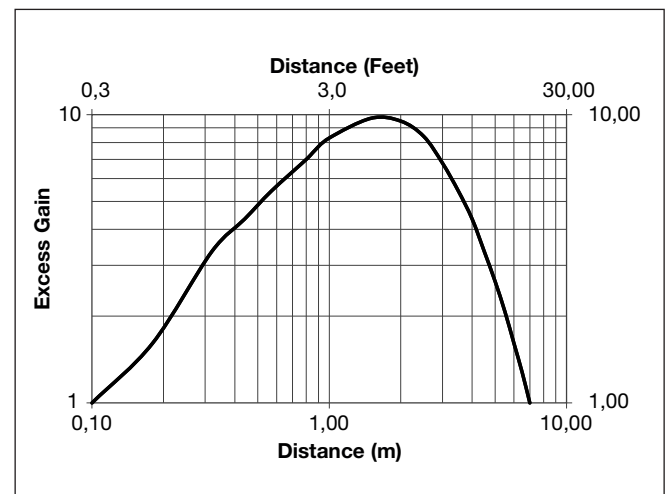
Wiring Diagrams



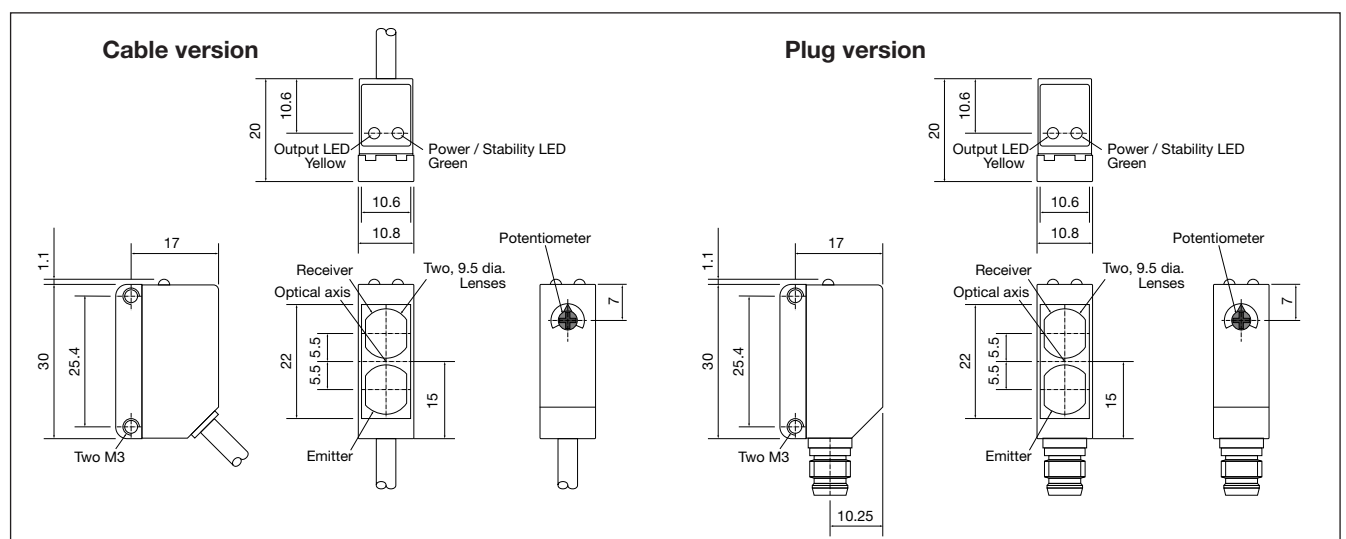
## Detection Diagram



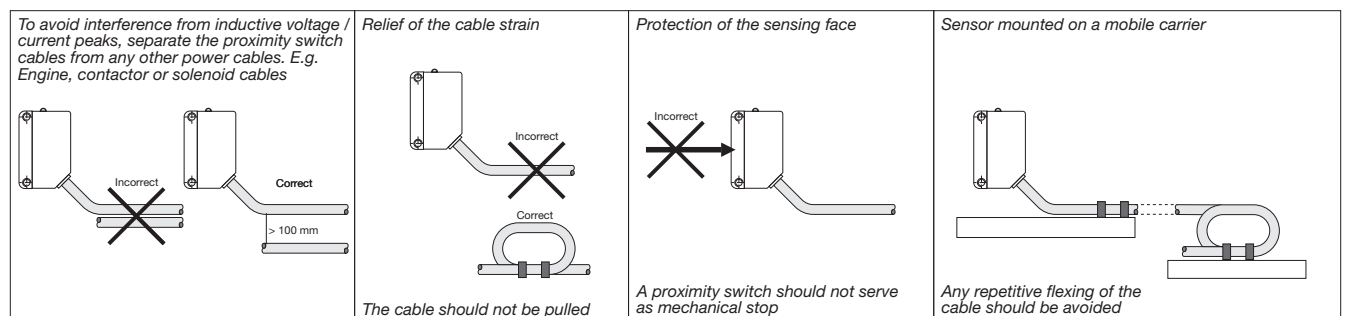
## Excess Gain



## Dimensions



## Installation Hints



## Accessories

- Mounting bracket APD30-MB1 or APD30-MB2 to be purchased separately.

## Delivery Contents

- Photoelectric switch: PD30CNR06 ...
- Screwdriver
- **Packaging:** Plastic bag