Photoelectrics
Retro-reflective
Type PD30CNR60....SA

- **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 PD30CNR60 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

PD30CNR60NAM5SA

- **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_n	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 60 NASA**	**PD 30 CNR 60 PASA**
10 x 30 x 20 mm	6 m	Plug	**PD 30 CNR 60 NAM5SA**	**PD 30 CNR 60 PAM5SA**

Specifications EN 60947-5-2

Rated operating distance (S_n)	
Ø 80 mm (ER4) reflector	≤ 6 m
ER4060 reflector	≤ 4 m
Blind zone	≤ 100 mm @ Ø80 mm (ER4) and ER4060 reflector
Sensitivity	
Electrical adjustment	210°
Mechanical adjustment	240°
Temperature drift	≤ 0.2%/°C
Hysteresis (H)	5% to 20%
Rated operational volt. (U_B)	10 to 30 VDC (ripple included)
Ripple (U_{rpp})	≤ 10%
Output current	
Continuous (I_e)	≤ 100 mA
Short-time (I)	≤ 100 mA
(max. load capacity 100 nF)	
No load supply current (I_o)	≤ 20 mA @ U_B max
Minimum operational current (I_m)	≤ 0.5 mA

OFF-state current (I_r)	≤ 100 µA
Voltage drop (U_d)	≤ 2 VDC @ I_e max
Protection	Short-circuit, reverse polarity and transients
Light source	LED, 850 nm
Light type	Infrared, modulated
Emitter angle	± 2° @ half sensing distance
Light spot	110 mm @ 1.5 meters
Ambient light	≤ 10,000 lux
Operating frequency (f)	≤ 1000 Hz
Response time	
OFF-ON (t_{ON})	≤ 0.5 ms
ON-OFF (t_{OFF})	≤ 0.5 ms
Power ON delay (t_v)	≤ 30 ms
Output function	
Open collector	NPN or PNP by sensor type
Output switching function	N.O. and N.C.

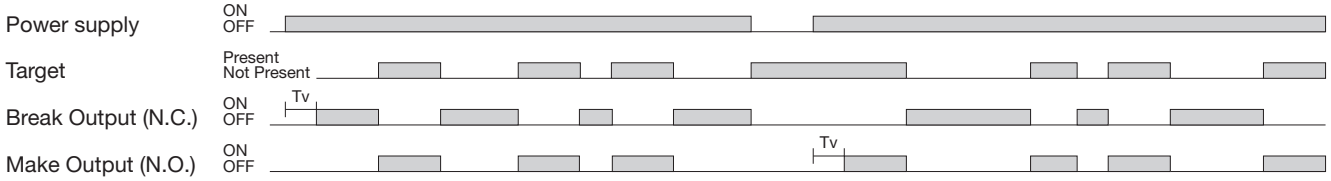
Specifications (cont.)

Indication	
Output ON	LED, yellow
Power ON	Signal stability ON and LED, green. See curve for condition of stability
Environment	
Installation category	III (IEC 60664/60664A; 60947-1)
Pollution degree	3 (IEC 60664/60664A; 60947-1)
Degree of protection	IP 67 (IEC 60529; 60947-1)
Ambient temperature	
Operating	-25° to +60°C (-13° to +140°F)
Storage	-40° to +70°C (-40° to +158°F)
Vibration	10 to 150 Hz, 1.0 mm/15 G (IEC 60068-2-6)
Shock	30 g / 11ms, 3 pos, 3 neg per axis (IEC 60068-2-6, 60068-2-32)

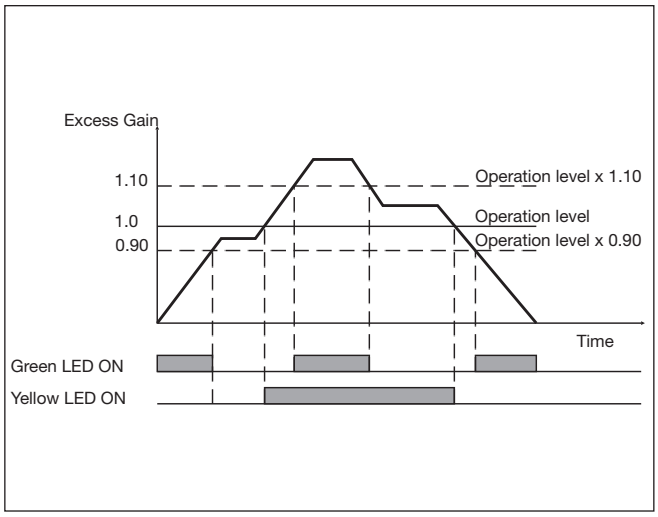
Rated insulation voltage	≤ 500 VAC (rms)
Housing material	
Body	ABS Light Grey
Frontglas	PMMA Red
Trimmer shaft	POM Dark Grey
Connection	
Cable	PVC, black, 2 m 4 x 0.14 mm², Ø = 3.3 mm
Plug	M8, 4-pin (CON. 54-series)
Weight	
Cable version	≤ 50 g
Plug version	≤ 20 g
CE-marking	Yes
Approvals	cULus (UL508 + CSA)

Operation Diagram

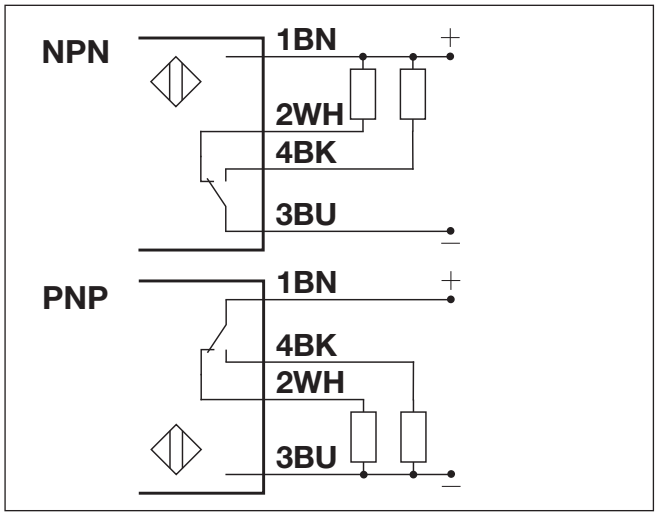
Tv = Power ON delay



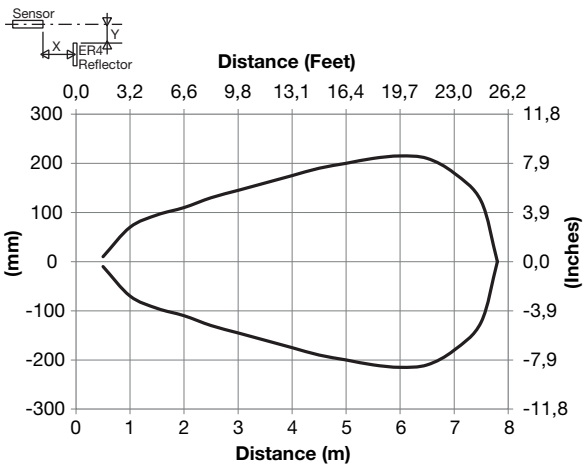
Signal Stability Indication



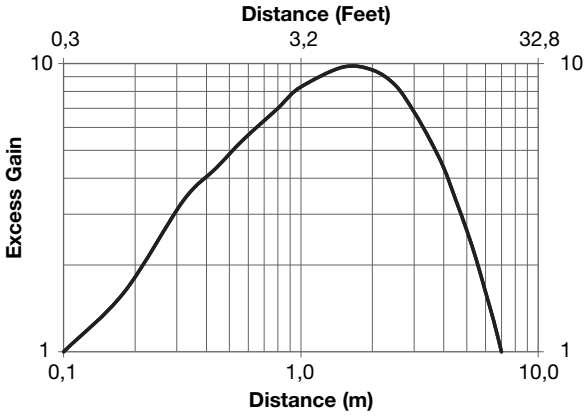
Wiring Diagrams



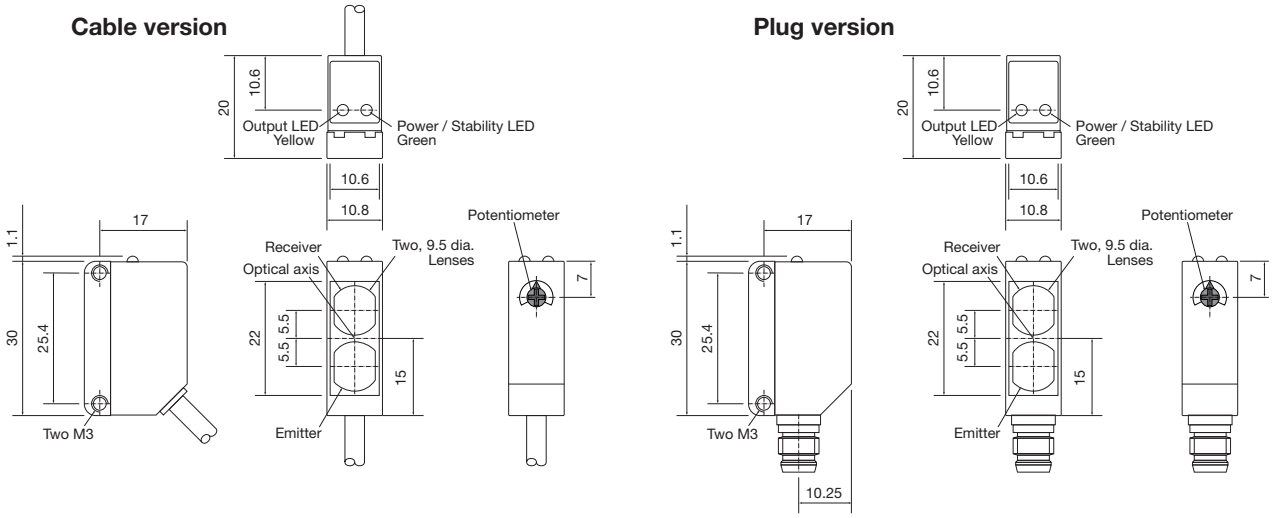
Detection Diagram



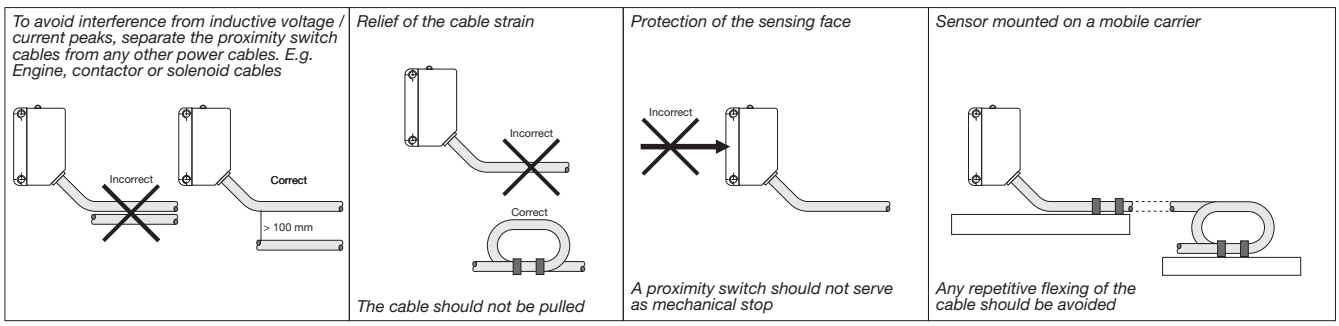
Excess Gain



Dimensions



Installation Hints



Accessories

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

Delivery Contents

- Photoelectric switch: PD30CNR60 ...
- Screwdriver
- **Packaging:** Plastic bag

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Carlo Gavazzi:
PD30CNR60NASA