# Photoelectrics Retro-reflective, Polarized Type PA3P





- Range: 3 m
- Polarized modulated, visible red light
- Adjustable sensitivity
- Rated operational voltage: 10 to 30 VDC
- Output: 200 mA, NPN or PNP
- Make and break switching funct., with LED indication
- Protection: Reverse polarity, short circuit, overload
- Operating frequency: 1 kHz
- High immunity to ambient light
- 18 x 36 x 63 mm metal housing, IP 67
- Quick mounting system, timer options



#### **Product Description**

Polarized, retro-reflective photoelectric switch. Range 3 m. Reliable detection through narrow beam. Quick mounting in 4 positions with includ-

ed mounting rail. Sturdy metal housing. IP 67. 2 m PVC cable connection or standard M 12 plug. Timer options.

# Ordering Key PA3P A NPA-1

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Type —	
Option: timer function ——	
Output type	
Connection type	

## **Type Selection**

Housing W x H x D Rated operating dist. (S <sub>n</sub> )	Timer function Option	Ordering no. NPN/cable Make & break swit.	Ordering no. NPN/plug Make & break swit.	Ordering no. PNP/cable Make & break swit.	Ordering no. PNP/plug Make & break swit.
18 x 36 x 63 3 m	Without timer Delay on operate Delay on release One shot	PA 3P NPA PA 3PA NPA PA 3PB NPA PA 3PT NPA	PA 3P NPA-1 PA 3PA NPA-1 PA 3PB NPA-1 PA 3PT NPA-1	PA 3P PPA PA 3PA PPA PA 3PB PPA PA 3PT PPA	PA 3P PPA-1 PA 3PA PPA-1 PA 3PB PPA-1 PA 3PT PPA-1

Note: Plugs and reflectors to be ordered separately.

## **Specifications**

<b>Rated operating dist. (S<sub>n</sub>)</b> 3 m, with reflector type ER 22, ref. targ	
Temperature drift	0.4%/K
Rated operational volt. (U <sub>B</sub> )	10 to 40 VDC (ripple incl.)
Ripple (U <sub>rpp</sub> )	10%
Output current Continuous (I <sub>e</sub> ) Short-time (I)	≤ 200 mA 200 mA, Max. load capacity 100 nF
No load supply current (I <sub>o</sub> )	≤ 40 mA
OFF-state current (I,)	Max. 100 μA
Voltage drop (U <sub>d</sub> )	≤ 2.5 VDC
Protection	Reverse polarity, overload short-circuit, transients
Transient voltage	≤ 1 kV/0.5 J
Sensitivity	Adjustable, 20 turn pot
Light source Light type	GaAlAs LED 660 nm visible red polarized, modulated, synchronized

Optical angle	±1°
Light spot size	65 mm at 2m
Ambient light	Max. 10,000 lux
Operating frequency (f)	1000 Hz,light/dark ratio 1:2
Response time	
OFF-ON (t <sub>on</sub> )	≤ 660 μs
ON-OFF (t <sub>OFF</sub> )	≤ 330 μs
Power ON delay (t <sub>v</sub> )	Typ. 100 ms
Indication	
Output ON	LED, yellow
Optional timer	
Delay on operate (function A)	0.1 to 14 s ±4 s
Delay on release (function B)	0.1 to 14 s ±4 s
One shot (function T)	0.1 to 14 s ±4 s
Environment	
Overvoltage category	III (IEC 664/664A; 947-1)
Pollution degree	3 (IEC 664/664A; 947-1)
Degree of protection	IP 67 (IEC 529; 947-1)
Temperature	
Operating	-20° to +60°C (-4° to 140°F)
Storage	-30° to + 70°C (-22° to 158°F)



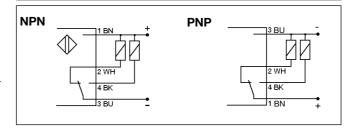
## **Specifications (cont.)**

Vibration	10 to 150 Hz, 0.5 mm/7.5 g
	(IEC 68-2-6)
Shock	2 x 1 m & 100 x 0.5 m
	(IEC 68-2-32)
Dielectric voltage	500 VAC (RMS)
Housing material	
Body	Aluminium, anodized
Front	Polycarb., glass-reinforced
Back	Polycarbonate, black
Lenses	Acrylic
Mounting rail APA-3	Aluminium, anodized
Mounting bracket APA-2	Iron, black
Connection	
Cable	2 m, 4 x 0.35 mm <sup>2</sup> ,
	$\emptyset$ 5.2 mm, oilproof PVC,
	Note: Other lengths on
	request
Plug	CONH1A
Weight	175 g cable version
-	85 g plug version
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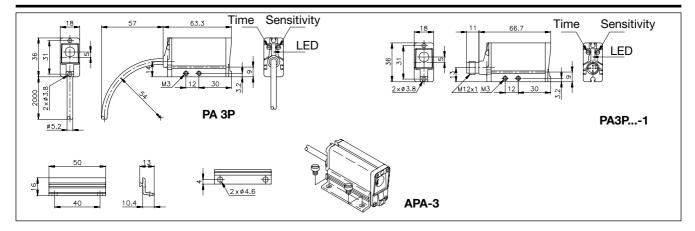
### **Truth Table**

	Make switching		Break switching	
Object present	Yes	No	Yes	No
LED	OFF	ON	OFF	ON
Load	Non-active	Active	Active	Non-active
Output NPN	High	Low	Low	High
Output PNP	Low	High	High	Low

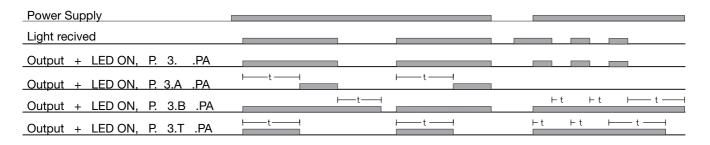
## **Wiring Diagrams**



#### **Dimensions**



## **Operation Diagram**



#### **Accessories**

- Reflectors: ER series.
- Adjustable mounting bracket APA-2 with two M 3 x 10 mm screws, washers and M 3 nuts
- Plugs: Standard M 12, CONH1A-.. serie.

#### **Delivery Contents**

- Photoelectric switch: PA3P.
- Rail mounting bracket APA-3
- Screwdriver for adjustments, 77-000
- Installation instruction
- Packaging: Carton box

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