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**

CE

Product Description

Polarized, retro-reflective pho- toelectric switch. Range 3 m. Reliable detection through narrow beam. Quick mounting in 4 positions with included mounting rail. Sturdy metal housing. IP 67. 2 m PVC cable connection or standard M12 plug.

Ordering Key

PA3P NPA-1

Type
Function
Output type
Connection type

Type Selection

Housing W x H x D Rated operating dist. (S_n)	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	**PA 3P NPA**	**PA 3P NPA-1**	**PA 3P PPA**	**PA 3P PPA-1**

Note: Plugs and reflectors to be ordered separately.

Specifications

Rated operating dist. (S_n)	3 m, with reflector type ER 22, ref. target
Temperature drift	0.4%/K
Rated operational volt. (U_B)	10 to 40 VDC (ripple incl.)
Ripple (U_{rpp})	10%
Output current	
Continuous (I_e)	≤ 200 mA
Short-time (I)	200 mA, Max. load capacity 100 nF
No load supply current (I_o)	≤ 40 mA
OFF-state current (I_r)	Max. 100 μA
Voltage drop (U_d)	≤ 2.5 VDC
Protection	Reverse polarity, overload short-circuit, transients
Transient voltage	≤ 1 kV/0.5 J
Sensitivity	Adjustable, 20 turn pot
Light source	GaAlAs LED 660 nm
Light type	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_{ON})	≤ 660 μs
ON-OFF (t_{OFF})	≤ 330 μs
Power ON delay (t_v)	Typ. 100 ms
Indication	
Output ON	LED, yellow
Environment	
Overvoltage category	III (IEC 60664/60664A; 60947-1)
Pollution degree	3 (IEC 60664/60664A; 60947-1)
Degree of protection	IP 67 (IEC 60529; 60947-1)
Temperature	
Operating	-20° to +60°C (-4° to 140°F)
Storage	-30° to + 70°C (-22° to 158°F)
Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)

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Specifications (cont.)

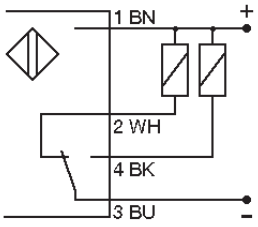
Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)
Dielectric voltage	500 VAC (rms)
Housing material	
Body	Aluminium, anodized
Front	Polycarb., glass-reinforced
Back	Polycarbonate, black
Lenses	Acrylic
Mounting rail APA-3	Aluminium, anodized
	Mounting bracket APA-2 Iron, black
Connection	
Cable	2 m, 4 x 0.35 mm^2, ∅ 5.2 mm, oilproof PVC, **Note:** Other lengths on request
Plug	CON.14NF..
Weight	175 g cable version 85 g plug version
CE-marking	Yes

Truth Table

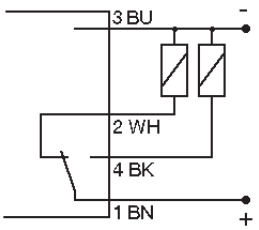
	Make switching		Break switching	
Object present	Yes	No	Yes	No
LED	OFF	ON	OFF	ON
Load	Non-active	Active	Active	Non-active
Output NPN	High	Low	Low	High
Output PNP	Low	High	High	Low

Wiring Diagrams

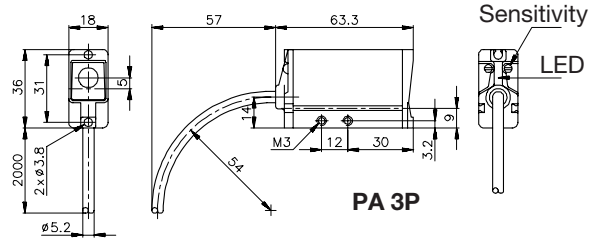
NPN



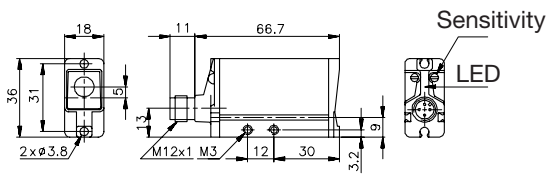
PNP



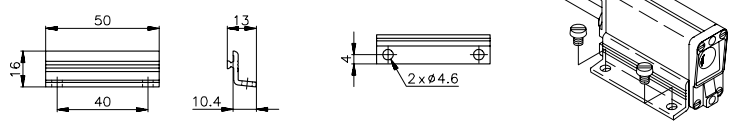
Dimensions



PA 3P



PA3P...-1

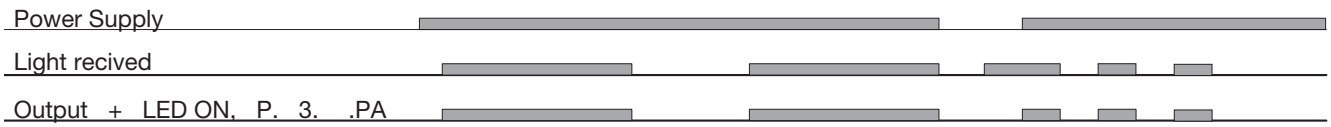


APA-3

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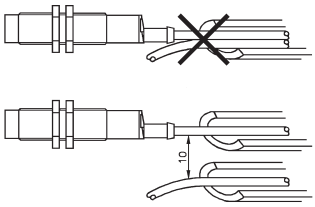
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Operation Diagram

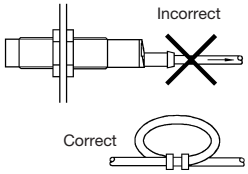


Installation Hints

To avoid interference from inductive voltage/ current peaks, separate the prox. switch power cables from any other power cables, e.g. motor, contactor or solenoid cables

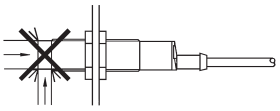


Relief of cable strain



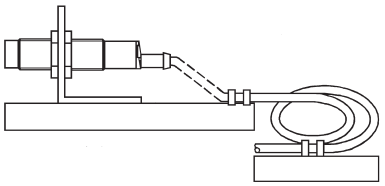
The cable should not be pulled

Protection of the sensing face



A proximity switch should not serve as mechanical stop

Switch mounted on mobile carrier



Any repetitive flexing of the cable should be avoided

Accessories

- Reflectors: ER series.
- Adjustable mounting bracket APA-2 with two M3 x 10 mm screws, washers and M 3 nuts
- Connector type CON.14NF.. 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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