

Photoelectrics Retro-reflective, Polarized Type PA3P

CARLO GAVAZZI



- 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



Product Description

Polarized, retro-reflective photoelectric 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	Light spot size	65 mm at 2m
Temperature drift	0.4%/K	Ambient light	Max. 10,000 lux
Rated operational volt. (U_B)	10 to 40 VDC (ripple incl.)	Operating frequency (f)	1000 Hz, light/dark ratio 1:2
Ripple (U_{ripple})	10%	Response time	
Output current		OFF-ON (t _{ON})	≤ 660 μs
Continuous (I _a)	≤ 200 mA	ON-OFF (t _{OFF})	≤ 330 μs
Short-time (I)	200 mA, Max. load capacity 100 nF	Power ON delay (t_v)	Typ. 100 ms
No load supply current (I_o)	≤ 40 mA	Indication	
OFF-state current (I_r)	Max. 100 μA	Output ON	LED, yellow
Voltage drop (U_d)	≤ 2.5 VDC	Environment	
Protection	Reverse polarity, overload short-circuit, transients	Overvoltage category	III (IEC 60664/60664A; 60947-1)
Transient voltage	≤ 1 kV/0.5 J	Pollution degree	3 (IEC 60664/60664A; 60947-1)
Sensitivity	Adjustable, 20 turn pot	Degree of protection	IP 67 (IEC 60529; 60947-1)
Light source	GaAlAs LED 660 nm	Temperature	
Light type	visible red polarized, modulated, synchronized	Operating	-20° to +60°C (-4° to 140°F)
Optical angle	±1°	Storage	-30° to +70°C (-22° to 158°F)
		Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)

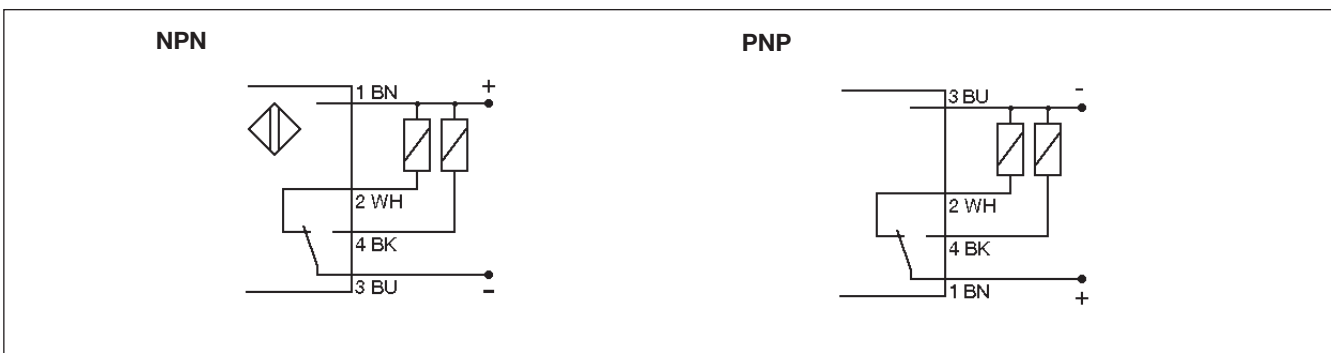
Specifications (cont.)

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

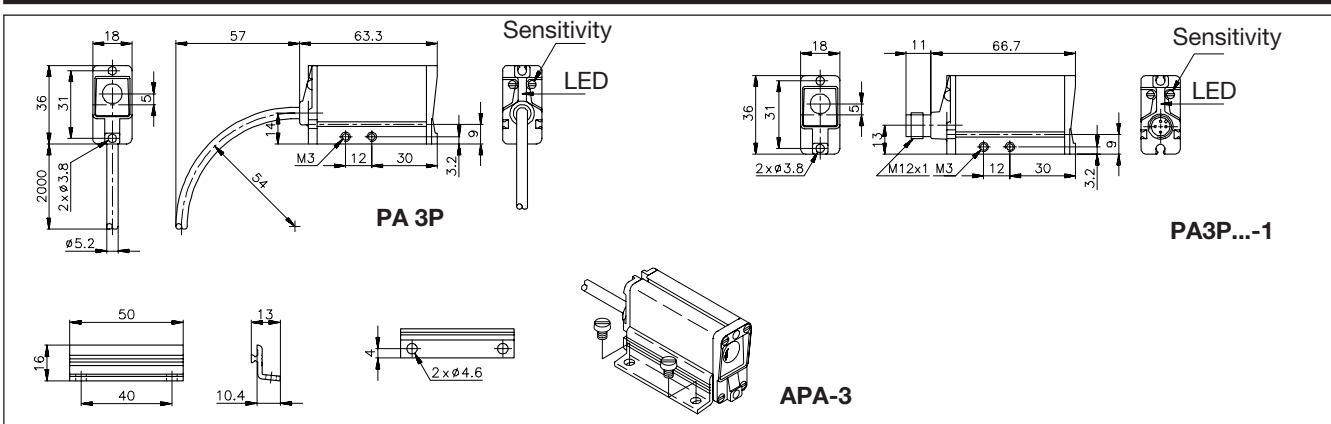
Truth Table

	Make switching		Break switching	
	Yes	No	Yes	No
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

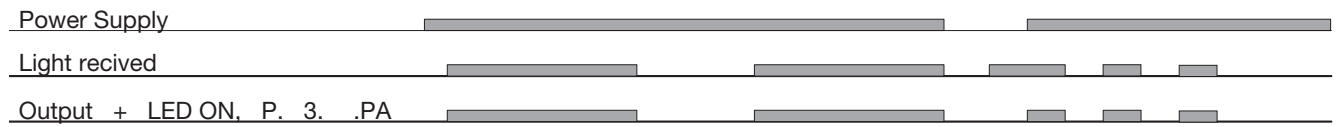
Wiring Diagrams



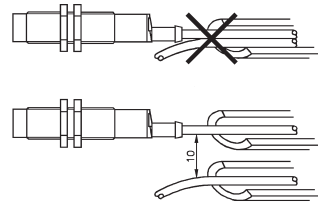
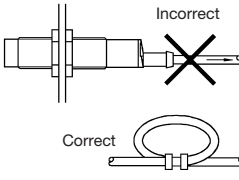
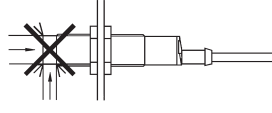
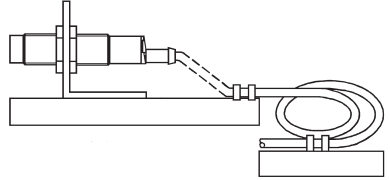
Dimensions



Operation Diagram



Installation Hints

<p>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</p> 	<p>Relief of cable strain</p>  <p>Incorrect</p> <p>Correct</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>Switch mounted on mobile carrier</p>  <p>Any repetitive flexing of the cable should be avoided</p>
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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