

# Photoelectrics Retro-reflective, Polarized Type PA18ALP20T., AC, PBTP housing

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- Range: 2.0 m
- Modulated red light, polarized
- Supply voltage: 20 to 250 VAC
- Output: 500 mA SCR
- Make and break switching functions
- LED-output indication
- Improved immunity to reflecting surfaces
- Heavy duty M18 metal housing, IP67
- Cable and plug versions



## Product Description

The PA18ALP20T. is a family of general purpose polarized retro-reflective sensor in a long M18 nickel-plated brass housing for heavy duty applications. They are useful for simple applications where a

basic sensor provides adequate sensing performance. The sensors are easy to adjust with a 270° single-turn potentiometer. The output is a 2-wire NO or NC thyristor (SCR) output.

## Ordering Key PA18ALP20TOM6SA

Type	PA18ALP20TOM6SA
Housing style	
Housing size	
Housing material	
Housing length	
Detection principle	
Sensing distance	
Output type	
Output configuration	
Connection type	
Adjustable	

## Type Selection

Housing diameter	Rated operating dist. (S <sub>n</sub> )	Ordering no. SCR/cable Make switching	Ordering no. SCR/plug Make switching	Ordering no. SCR/cable Break switching	Ordering no. SCR/plug Break switching
M18	2 m	PA18ALP20TOSA	PA18ALP20TOM6SA	PA18ALP20TCSA	PA18ALP20TCM6SA

Note: Plugs and reflector to be ordered separately

## Specifications

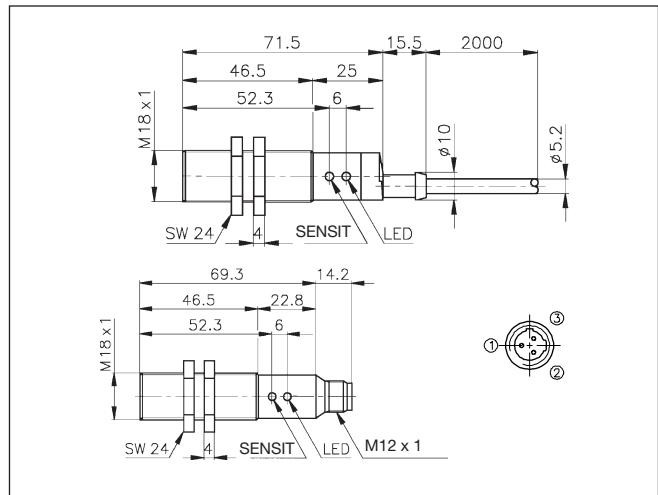
Rated operating dist. (S <sub>n</sub> )	Up to 2.0 m. Ref. reflector type ER4 Ø 84 mm	Light spot size	150 mm at 2 m
Sensitivity	270° single-turn pot. meter	Ambient light	Max 5'000 lux
Blind zone	0.15 m	Operating frequency (f)	Max. 25 Hz light-dark ratio 1.2
Temperature drift	0.4%/°C	Response time	OFF-ON (t <sub>ON</sub> ) ON-OFF (t <sub>OFF</sub> )
Hysteresis (H) (Differential travel)	3 to 20 %		≤ 20 ms ≤ 30 ms
Rated operational volt. (U <sub>B</sub> )	20 to 250 VAC, 45 to 65 Hz	Power ON delay (t <sub>v</sub> )	Typ. 70 ms
Output current (AC 12, AC 140)	Continuous (I <sub>a</sub> ) Short-time (I)	Indication function	Dark (NC) or light (NO) switching LED, yellow
	≤ 500 mA ≤ 3 A, max. 20 ms	Environment	Overvoltage category Pollution degree Degree of protection
Min. operational current (I <sub>m</sub> )	10 mA		II (IEC 60664/60664A; 60947-1) 3 (IEC 60664/60664A; 60947-1) IP 67 (IEC 60529; 60947-1)
OFF-state current (I <sub>r</sub> )	≤ 5 mA, typ. 2.6 mA	Temperature	Operating Storage
Voltage drop (U <sub>d</sub> )	Typ. ≤ 7 VAC Max. ≤ 10 VAC		-20° to +60°C (-4° to 140°F) -30° to +70°C (-22° to 158°F)
Protection	Transients	Vibration	10 to 150 Hz, 0.5 mm/- 7.5 g (IEC 60068-2-6)
Transient voltage	1 kV / 0.5 J	Shock	2 x 1 m 100 x 0.5 m (IEC 60068-2-32)
Light source	GaAlAs LED, 660 nm	Dielectric voltage	1500 V (IEC 60364-4-41)
Light type	Red polarized, modulated		
Optical angle	± 2°		



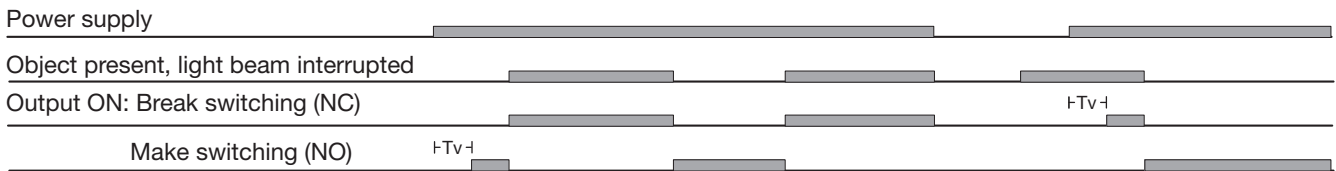
## Specifications (cont.)

<b>Housing material</b>	
Body	Nickel-plated brass
Front	PMMA, red
Cable (Cable end)	PVC, black
Nuts	Nickel-plated brass
<b>Connection</b>	
Cable	Grey, 2 m, 2 x 0.5 mm <sup>2</sup> , oilproof PVC
Plug	M12 x 1
Cables for plug (M6)	CONH6A...series
<b>Weight</b>	
Cable version	230 g
Plug version	145 g
<b>Approvals</b>	UL, CSA
<b>CE-marking</b>	Yes

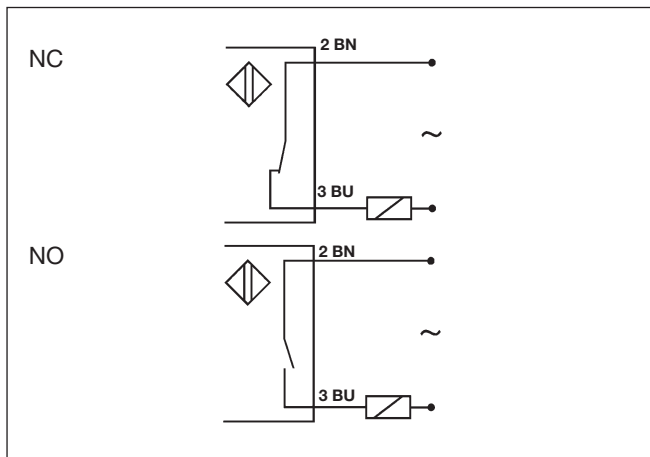
## Dimensions



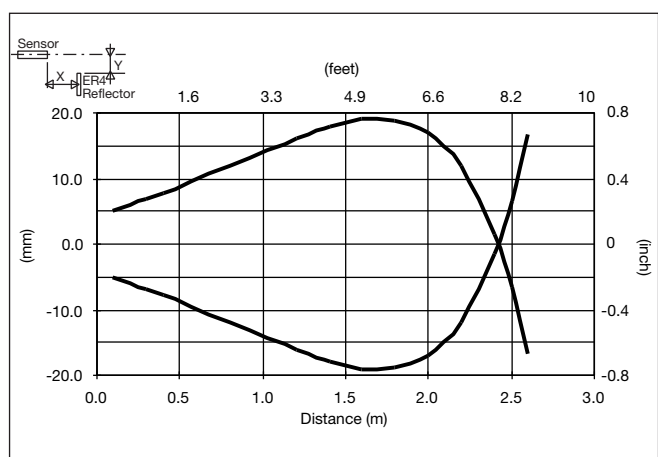
## Operation Diagram



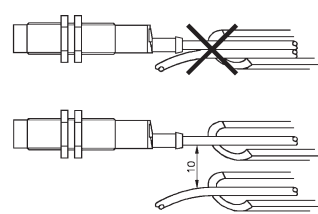
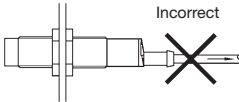

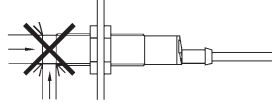
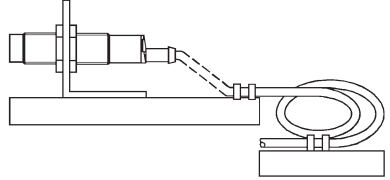
## Wiring Diagrams



## Detection 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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## Delivery Contents

- Photoelectric switch: PA18ALP20..
- 2 nuts
- **Packaging:** Plastic bag

## Accessories

- Reflectors: ER series
- Connector type CON.6A... serie
- MB18A
- APA18-RAR

For further information refer to "Accessories".