

# Photoelectrics

## Diffuse-reflective

### Type PA18CLD0.T, AC, PBTP-housing



- Range: 400 mm adjustable  
100, 200 or 400 mm fixed
- Modulated, infrared light
- Supply voltage: 20 to 250 VAC
- Output: 500 mA SCR
- Make or break switching function, LED indication
- High immunity to ambient light
- Cable and plug versions

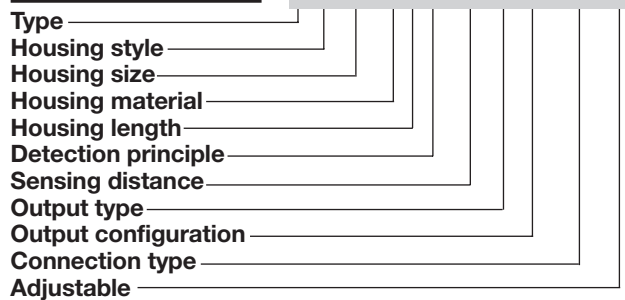


### Product Description

The PA18CLD.. is a family of inexpensive general purpose Diffuse-reflective sensors in industrial standard 18 mm cylindrical PBTP housing. They are useful for simple applications where a basic sensor provides adequate

sensing performance. The sensors are simple to use and no adjustment are necessary (except 400 mm diffuse adjustable type). The output is a 2-wire NO or NC thyristor (SCR) output.

### Ordering Key PA18CLD04TCM6SA



### 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
M 18	100 mm fixed	PA18CLD01TO	PA18CLD01TOM6	PA18CLD01TC	PA18CLD01TCM6
M 18	200 mm fixed	PA18CLD02TO	PA18CLD02TOM6	PA18CLD02TC	PA18CLD02TCM6
M 18	400 mm fixed	PA18CLD04TO	PA18CLD04TOM6	PA18CLD04TC	PA18CLD04TCM6
M 18	400 mm adjust.	PA18CLD04TOSA	PA18CLD04TOM6SA	PA18CLD04TCSA	PA18CLD04TCM6SA

Note: Plugs to be ordered separately

### Specifications

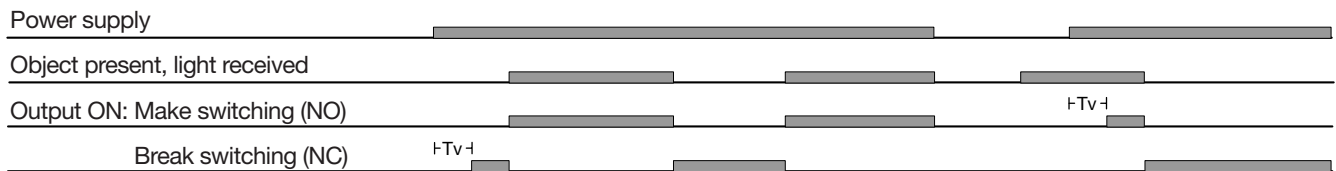
<b>Rated operating dist. (S<sub>n</sub>)</b> Adjustable Fixed	Up to 400 mm 100, 200 or 400 mm	<b>Min. operational current (I<sub>m</sub>)</b> 10 mA	10 mA
	Reference target: Kodak test card R27, white, 90% reflectivity 100 x 100 mm 200 x 200 mm		<b>OFF-state current (I<sub>l</sub>)</b> Max < 5 mA, typ. 2.6 mA
Size: S <sub>n</sub> < 400 mm S <sub>n</sub> ≥ 400 mm		<b>Voltage drop (U<sub>d</sub>)</b> Max ≤ 10 V, typ. 7 VAC	
<b>Sensitivity</b> Adjustable type only	270° turn potentiometer,	<b>Protection</b>	Transients
<b>Temperature drift</b>	0.4%/K	<b>Transient voltage</b>	Max 1 kV/0,5 J
<b>Hysteresis (H)</b> (Differential travel)	3 to 20%,	<b>Light source</b>	GaAlAs LED, 880 nm
<b>Rated operational volt. (U<sub>B</sub>)</b>	20 to 250 VAC, 45 to 65 Hz	<b>Light type</b>	Infrared, modulated synchronized
<b>Output current (AC12, AC140)</b> Continuous (I <sub>a</sub> ) Short-time (I)	≤ 500 mA ≤ 3 A, max. 20 ms	<b>Sensing angle</b>	± 25° at 1/2 range
		<b>Ambient light</b>	Max 10'000 lux
		<b>Operating frequency (f)</b>	20 Hz, light/dark ratio 1:2
		<b>Response time</b> OFF-ON (t <sub>ON</sub> ) ON-OFF (t <sub>OFF</sub> )	≤ 20 ms ≤ 30 ms
		<b>Power ON delay (t<sub>v</sub>)</b>	Typ. 100 ms
		<b>Indication function</b> Output ON	Dark (NC) or light (NO) switching LED, yellow



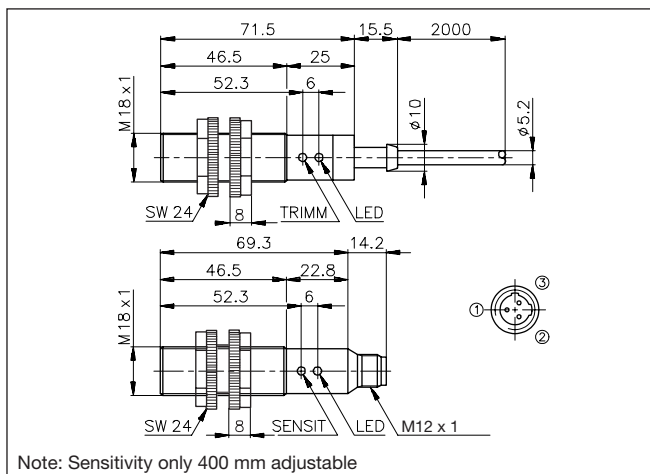
## Specifications (cont.)

<b>Environment</b> Overvoltage category Pollution degree Degree of protection	III (IEC 60664/60664A; 60947-1) 3 (IEC 60664/60664A; 60947-1) IP 67 (IEC 60529; 60947-1)	<b>Housing material</b> Body  Front Cable end Nuts	PBTP, grey thermoplastic polyester Luran®, black Polyester, black Reinforced nylon
<b>Temperature</b> Operating Storage	-20° to +60°C (-4° to 140°F) -30° to +70°C (-22° to 158°F)	<b>Connection</b> Cable	Grey, 2 m, 2 x 0.5 mm <sup>2</sup> , oilproof PVC, M12 x 1 CON.6A-... series
<b>Vibration</b>	10 to 150 Hz, 0.5 mm/- 7.5 g (IEC 60068-2-6)	Plug Cables for plug (M6)	
<b>Shock</b>	2 x 1 m 100 x 0.5 m (IEC 60068-2-32)	<b>Weight</b> Cable version Plug version	105 g 22 g
<b>Dielectric voltage</b>	1600 VAC (IEC 60364-4-41)	<b>Approvals</b>	UL, CSA
		<b>CE-marking</b>	Yes

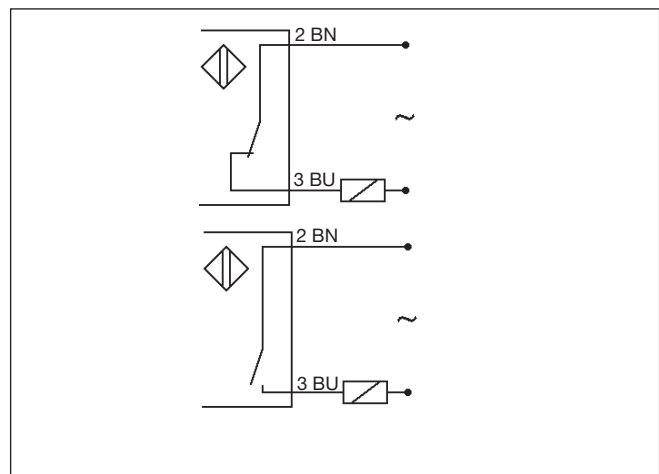
## Operation Diagram



## Dimensions



## Wiring Diagrams



## 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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