

# Photoelectrics Diffuse-reflective Type PA18ALD04T., AC, Metal-housing

CARLO GAVAZZI



- Range: 400 mm adjustable
- 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
- Heavy duty M18 metal housing, IP67
- Cable and plug versions



## Product Description

The PA18ALD.. is a family of general purpose diffuse-reflective sensors in industrial standard 18 mm cylindrical 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 270° single-turn potentiometer. The output is a 2-wire NO or NC thyristor (SCR) output.

## Ordering Key

**PA18ALD04TOM6SA**

Type	_____
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	400 mm	PA18ALD04TOSA	PA18ALD04TOM6SA	PA18ALD04TCSA	PA18ALD04TCM6SA

**Note:** Plugs to be ordered separately

## Specifications

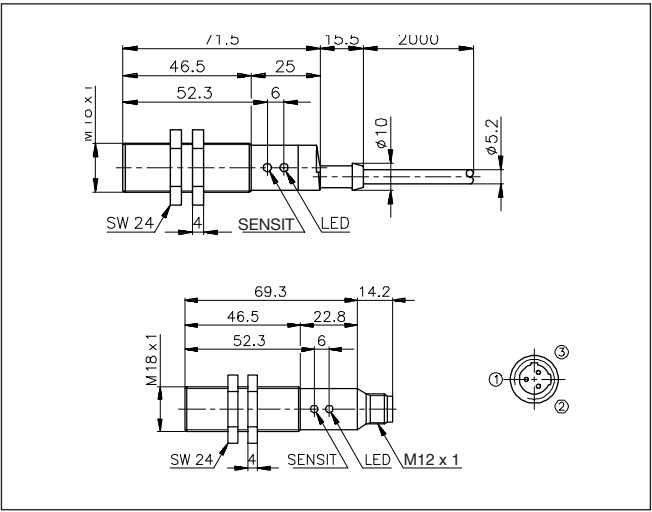
<b>Rated operating dist. (S<sub>n</sub>)</b> Adjustable	Up to 400 mm, Ref. target Kodac test card 227, white, 90° reflectivity, 200 x 200 mm	<b>Sensing angle</b>	± 25° at 1/2 range
<b>Sensitivity</b>	270° single-turn pot. meter	<b>Ambient light</b>	Max 10'000 lux
<b>Temperature drift</b>	0.4%/K	<b>Operating frequency (f)</b>	20 Hz, light/dark ratio 1:2
<b>Hysteresis (H)</b> (Differential travel)	3 to 20%,	<b>Response time</b> OFF-ON (t <sub>ON</sub> ) ON-OFF (t <sub>OFF</sub> )	≤ 20 ms ≤ 30 ms
<b>Rated operational volt. (U<sub>B</sub>)</b>	20 to 250 VAC, 45 to 65 Hz	<b>Power ON delay (t<sub>v</sub>)</b>	Typ. 100 ms
<b>Output current (AC12, AC140)</b> Continuous (I <sub>a</sub> ) Short-time (I)	≤ 500 mA ≤ 3A, max. 20 ms	<b>Indication function</b> Output ON	Dark (NC) or light (NO) switching LED, yellow
<b>Min. operational current (I<sub>m</sub>)</b>	10 mA	<b>Environment</b> Overvoltage category Pollution degree Degree of protection	II (IEC 60664/60664A; 60947-1) 3 (IEC 60664/60664A; 60947-1) IP 67 (IEC 60529; 60947-1)
<b>OFF-state current (I<sub>r</sub>)</b>	Max < 5 mA, typ. 2.6 mA	<b>Temperature</b> Operating Storage	-20° to +60°C (-4° to 140°F) -30° to +70°C (-22° to 158°F)
<b>Voltage drop (U<sub>d</sub>)</b>	Max ≤ 10 V, typ. 7 VAC	<b>Vibration</b>	10 to 150 Hz, 0.5 mm/-7.5 g (IEC 60068-2-6)
<b>Protection</b>	Transients	<b>Shock</b>	2 x 1 m 100 x 0.5 m (IEC 60068-2-32)
<b>Transient voltage</b>	Max. 1 kV/0,5 J	<b>Dielectric voltage</b>	1600 VAC
<b>Light source</b>	GaAlAs LED, 880 nm		
<b>Light type</b>	Infrared, modulated synchronized		



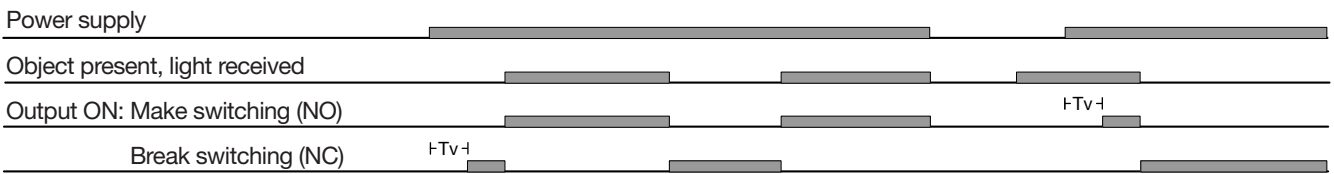
Specifications (cont.)

(IEC 60364-4-41)	
Housing material	
Body	Nickel-plated brass
Front	Luran®, black
Cable end	Polyester, black
Nuts	Nickel-plated brass
Connection	
Cable	Grey, 2 m, 2 x 0.5 mm <sup>2</sup> , oilproof PVC, M12 x 1
Plug	CON.6A-... series
Cables for plug (-6)	
Weight	
Cable version	150 g
Plug version	65 g
Approvals	UL, CSA

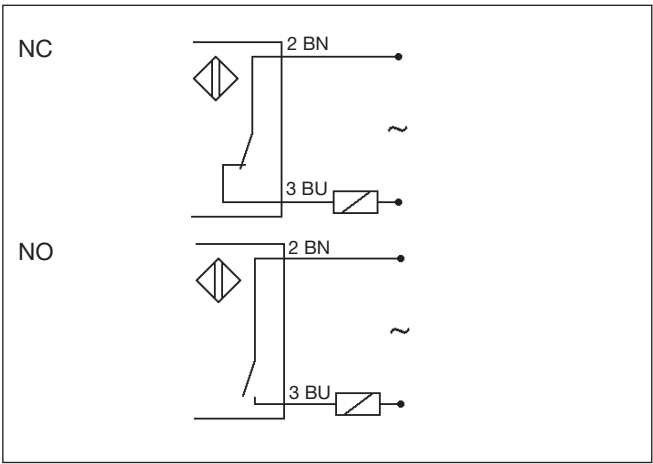
Dimensions



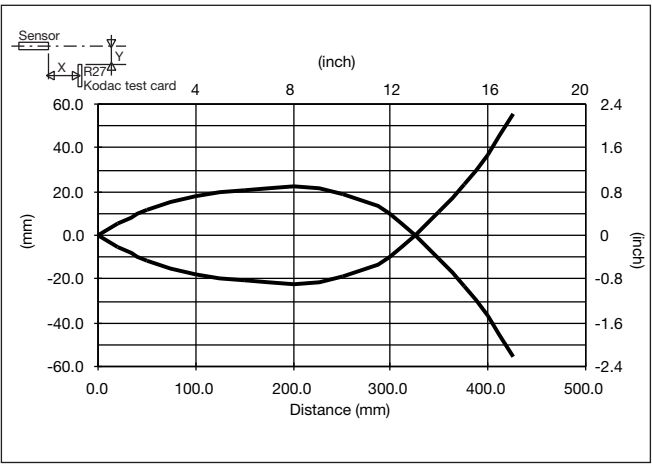
Operation Diagram



Wiring Diagrams



Detection Diagram



Delivery Contents

- Photoelectric switch: PA18ALD04..
- 2 nuts
- **Packaging:** plastic bag

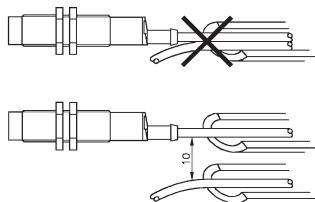
Accessories

- Connector type CON.6A-.. series.
- Screw driver for adjustments: 77-000
- MB18A
- APA18-RAR

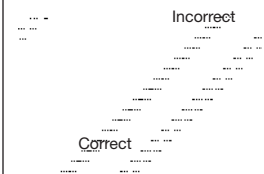
For further informations refer to “Accessories”

## 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

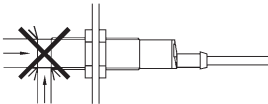


Relief of cable strain



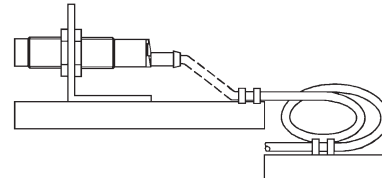
The cable should not be pulled

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

# Mouser Electronics

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