# Photoelectrics
# Diffuse-reflective
# Type PA18CLD0.T, AC, PBTP-housing

CARLO GAVAZZI



- **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 dif-fuse adjustable type). The output is a 2-wire NO or NC thyristor (SCR) output.

## Ordering Key

**PA18CLD04TCM6SA**

- **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. ($S_n$) | 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

| | |
|---|---|
| **Rated operating dist.** ($S_n$) | |
| Adjustable | Up to 400 mm |
| Fixed | 100, 200 or 400 mm |
| | Reference target: Kodak test card R27, white, 90% reflectivity |
| Size: $S_n$ < 400 mm | 100 x 100 mm |
| $S_n$ ≥ 400 mm | 200 x 200 mm |
| **Sensitivity** | |
| Adjustable type only | 270° turn potentiometer, |
| **Temperature drift** | 0.4%/K |
| **Hysteresis** (H) | |
| (Differential travel) | 3 to 20%, |
| **Rated operational volt.** ($U_B$) | 20 to 250 VAC, 45 to 65 Hz |
| **Output current** (AC12, AC140) | |
| Continuous ($I_e$) | ≤ 500 mA |
| Short-time (I) | ≤ 3 A, max. 20 ms |

| | |
|---|---|
| **Min. operational current** ($I_m$) | 10 mA |
| **OFF-state current** ($I_r$) | Max < 5 mA, typ. 2.6 mA |
| **Voltage drop** ($U_d$) | Max ≤ 10 V, typ. 7 VAC |
| **Protection** | Transients |
| **Transient voltage** | Max 1 kV/0,5 J |
| **Light source** | GaAlAs LED, 880 nm |
| **Light type** | Infrared, modulated synchronized |
| **Sensing angle** | ± 25° at 1/2 range |
| **Ambient light** | Max 10'000 lux |
| **Operating frequency** (f) | 20 Hz, light/dark ratio 1:2 |
| **Response time** | |
| OFF-ON ($t_{ON}$) | ≤ 20 ms |
| ON-OFF ($t_{OFF}$) | ≤ 30 ms |
| **Power ON delay** ($t_V$) | Typ. 100 ms |
| **Indication function** | Dark (NC) or light (NO) switching |
| Output ON | LED, yellow |



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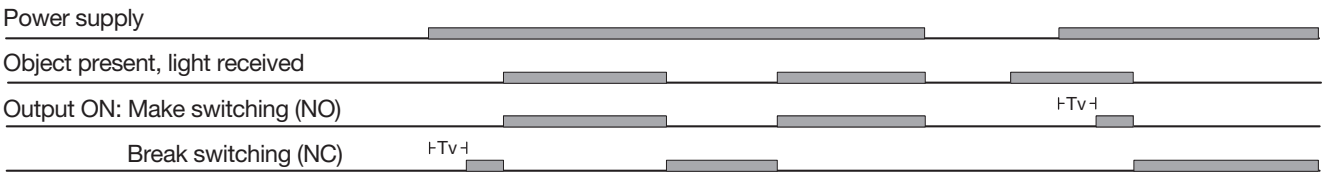
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## Specifications (cont.)

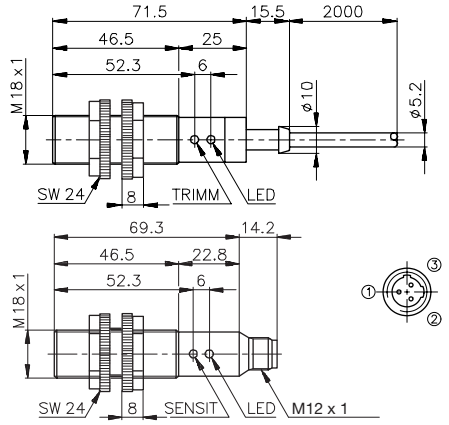
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|---|---|
| **Environment** | |
| Overvoltage category | III (IEC 60664/60664A; 60947-1) |
| Pollution degree | 3 (IEC 60664/60664A; 60947-1) |
| Degree of protection | IP 67 (IEC 60529; 60947-1) |
| **Temperature** | |
| Operating | -20° to +60°C (-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) |
| **Shock** | 2 x 1 m 100 x 0.5 m (IEC 60068-2-32) |
| **Dielectric voltage** | 1600 VAC (IEC 60364-4-41) |

| | |
|---|---|
| **Housing material** | |
| Body | PBTP, grey thermoplastic polyester |
| Front | Luran®, black |
| Cable end | Polyester, black |
| Nuts | Reinforced nylon |
| **Connection** | |
| Cable | Grey, 2 m, 2 x 0.5 mm², oilproof PVC, |
| Plug | M12 x 1 |
| Cables for plug (M6) | CON.6A-.. series |
| **Weight** | |
| Cable version | 105 g |
| Plug version | 22 g |
| **Approvals** | UL, CSA |
| **CE-marking** | Yes |

## Operation Diagram

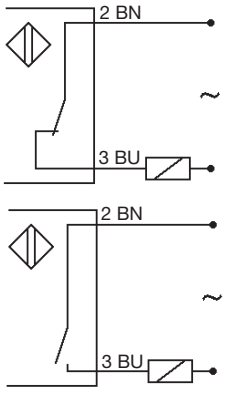



## Dimensions

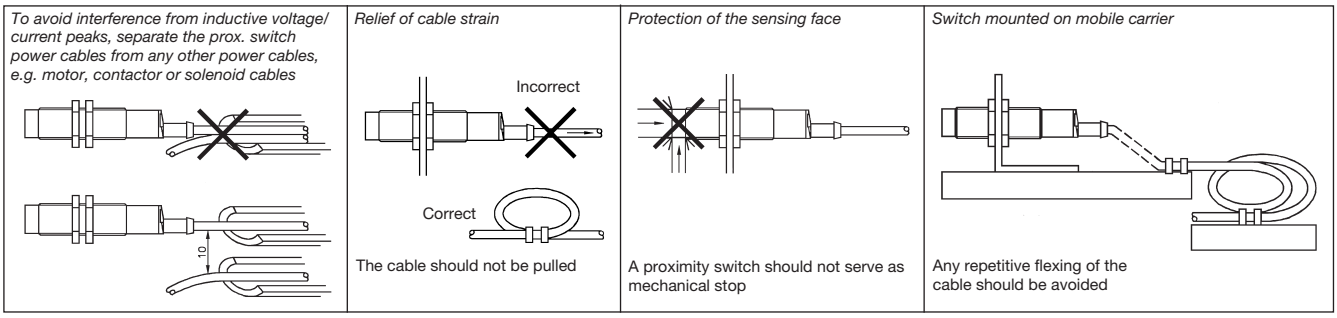



Note: Sensitivity only 400 mm adjustable

## Wiring Diagrams




## Installation Hints

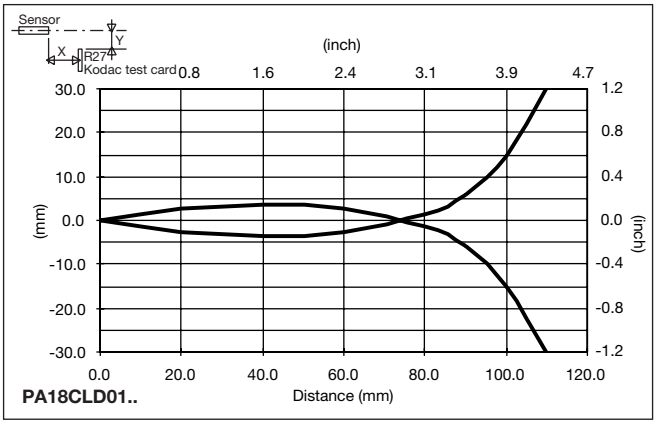


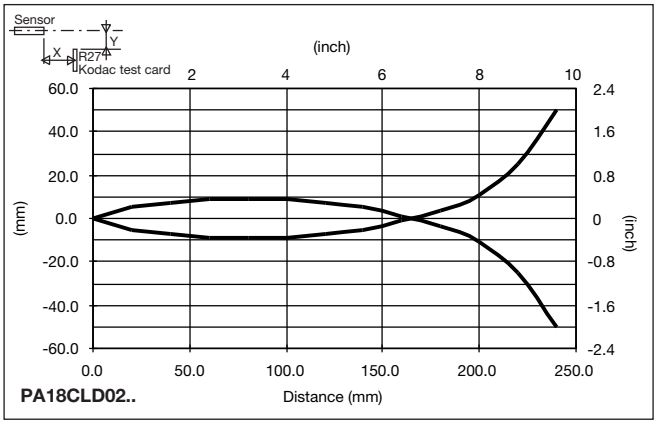


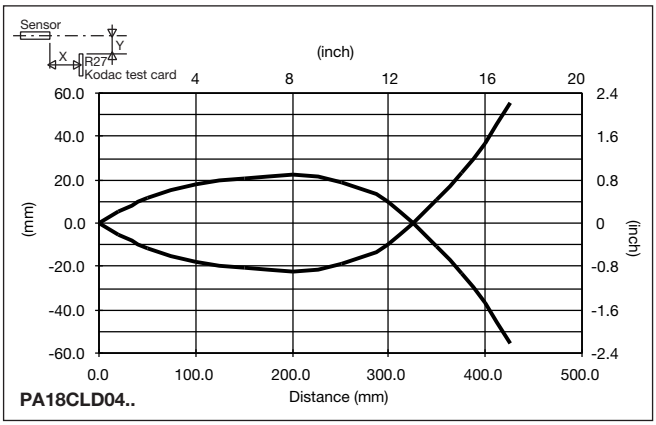

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## Detection Diagrams




## Delivery Contents

- Photoelectric switch: PA18CLD04T
- 2 nuts
- **Packaging:** plastic bag

## Accessories

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



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