PA18 Series
Compact and Powerful Photoelectric Sensors

- Diffuse Reflective
- Retro-Reflective
- Through-Beam
PA18 Series
Compact Photoelectric Sensors for Flexible Customized Solutions

This powerful PA18 sensor series, with its cost effective, compact design and robust ABS housing, offers a space saving and easy-to-clean solution for a variety of applications in e.g. material handling, textile and food & beverage industries. Due to their longer sensing distance, their high-speed detection and their improved LED diagnostics, the PA18 sensors provide an excellent price to performance ratio. Being resistant to high temperatures, high-pressure cleaning, strong cleaning agents and disinfectants, these sensors are especially well suited for reliable detection in harsh environments.

The PA18 series of diffuse reflective, retro-reflective and through-beam sensors is available in both axial (straight) and radial (90° right-angled) versions.

High Technology
A built-in microprocessor guarantees advanced filtering and detection ensuring flexible customized solutions.

Easy Adjustment
A very precise and linear sensitivity adjustment and use of a manual potentiometer provide accurate and easy setting from close distances to full range.

Easy Mounting
The PA18 series comes with a new mounting accessory that facilitates fast and easy mounting.

Easy to Clean
Due to the smart and simple mounting accessory and the robust design of the sensors, cleaning has become more efficient and easier.

High Immunity
The PA18 sensors possess a remarkably high immunity to light and electromagnetic disturbances. System maintenance is hereby reduced and the application uptime is increased.

Harsh Environments
The PA18 sensors have been developed to operate in the harshest conditions. They conform to the standards of ECOLAB, IP67 and IP69K.

Approvals
CE (EN60947-5-2)
cULus (UL508) supply class 2
Food & Beverage: ECOLAB certified
PA18 - Powerful and Compact Sensors

Your Benefits

**Small Compact Housing**
- M18 x 40 mm (Axial cable)
- M18 x 44 mm (Axial plug)
- M18 x 50 mm (Radial cable)
- M18 x 54 mm (Radial plug)

**LED Indication**
The sensor functions are easily diagnosed by the dual LED indication in four combinations.

**Axial**

**Radial**

**Manual Potentiometer**
The potentiometer can be left on maximum for plug & play setup, or the sensitivity level can be optimized as circumstances may require. For retro-reflective and through-beam versions this allows detection of semitransparent objects.

**Clear Robust Laser Printing**
Laser engraving has replaced the sensor label ensuring that the information stays intact after any cleaning process.

Mounting
Installation of the PA18 sensor is swiftly and easily carried out by means of a new mounting bracket, APA18-MB1. In addition, this simple accessory results in a smooth and neat finish and a space saving, easy-to-clean application.

Cleaning
Built to withstand cleaning with water at 80°C (176°F), high pressure washing up to 100 bar (1,450 psi) and to resist alkaline and acidic cleaning agents, the PA18 sensor series is an excellent solution for applications where harsh cleaning methods are required.
The PA18 photoelectric sensor is technologically advanced yet small, economical and easy to use without compromising quality and durability.

**Specifications**

- Power supply 10 – 30 VDC
- Output current rating: 100 mA
- Output voltage drop: 2 VDC @ 100 mA
- Short-circuit, reverse polarity and over load protected
- The sensors feature two outputs Normally Open (NO) and Normally Closed (NC) in a single sensor
- Separate models for NPN or PNP outputs
- The sensors are available in 2 m cable or quick disconnect 4-pin M12 connector
- Temperature range: -25°C to +60°C (-13°F to +140°F)

**NO and NC in One Sensor**

The PA18 sensors offer the freedom to choose between a normally open and normally closed output. This drastically reduces demands on storage capacity and stock control.

**Efficient Lens Design**

The optimized aspherical lens design results in a wide sensing angle and a much longer sensing range.

**Advanced Microprocessor**

The built-in microprocessor uses advanced filtering and detection principles which efficiently eliminate false detection caused by common light sources, flash beacon lamps or electromagnetic interference. Furthermore, this microprocessor facilitates significantly faster detection.
## Selection Guide

<table>
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<th>Family Name</th>
<th>Plastic Housing</th>
<th>Housing Type</th>
<th>Sensing Principle</th>
<th>Sensing Distance</th>
<th>Output Type</th>
<th>Output Function</th>
<th>Connection</th>
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<tr>
<td>PA18</td>
<td>C</td>
<td>A: Axial</td>
<td>R: Radial</td>
<td>XX</td>
<td>N: NPN</td>
<td>A: NO &amp; NC</td>
<td>Blank: Cable M1: M12 plug</td>
<td>SA: Sensitive adjustment</td>
</tr>
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### The PA18 Family

#### Diffuse Reflective

- **Visible red emitter**
  - 1.0 m/0.8 m at 90% reflectance
  - Output Type: NO & NC
  - Connection: Cable, 2 m
  - Connection Types: Axial: PA18CAD10NASA, PA18CAD10PASA; Radial: PA18CRD08NASA, PA18CRD08PASA
  - Connector: M12 Connector

#### Retro Reflective

- **Infrared emitter**
  - 6.5 m/5.0 m at ER4 reflector Ø80 mm
  - Output Type: NO & NC
  - Connection: Cable, 2 m
  - Connection Types: Axial: PA18CAR65NASA, PA18CAR65PASA; Radial: PA18CRR50NASA, PA18CRR50PASA
  - Connector: M12 Connector

#### Polarized Retro Reflective

- **Visible red emitter**
  - 5.0 m/4.0 m at ER4 reflector Ø80 mm
  - Output Type: NO & NC
  - Connection: Cable, 2 m
  - Connection Types: Axial: PA18CAP50NASA, PA18CAP50PASA; Radial: PA18CRP40NASA, PA18CRP40PASA
  - Connector: M12 Connector

#### Through-Beam Emitter

- **Infrared light**
  - 20 m/16 m
  - Output Type: NO & NC
  - Connection: Cable, 2 m
  - Connection Types: Axial: PA18CAT20, PA18CAT20; Radial: PA18CRT16, PA18CRT16
  - Connector: M12 Connector

#### Through-Beam Receiver

- **Infrared light**
  - 20 m/16 m
  - Output Type: NO & NC
  - Connection: Cable, 2 m
  - Connection Types: Axial: PA18CAT20NASA, PA18CAT20PASA; Radial: PA18CRT16NASA, PA18CRT16PASA
  - Connector: M12 Connector
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