

CARLO GAVAZZI
Automation Components



***PA18 Series
Compact and Powerful
Photoelectric Sensors***

***Diffuse Reflective
Retro-Reflective
Through-Beam***



Sense

Sense

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.



**Simplified
Setup**



**Diagnostic
Warning**



**Harsh
Environment**



**Space
Optimization**



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.

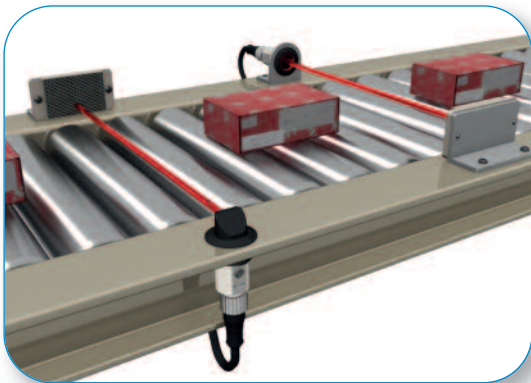
Clear Robust Laser Printing

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

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

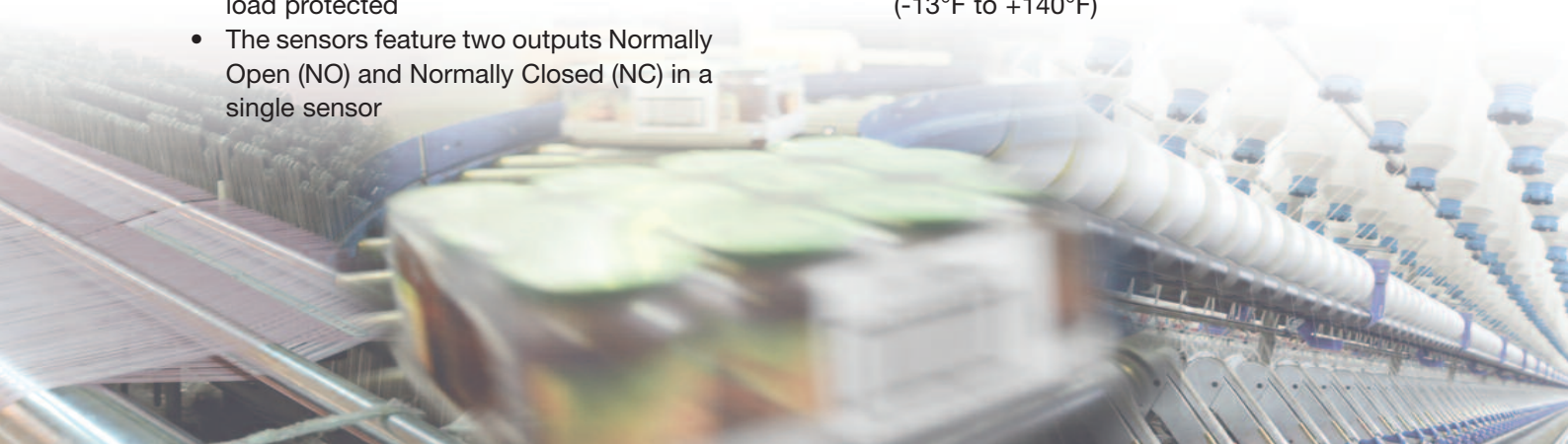
The built-in microprocessor uses advanced filtering and detection principles which efficiently eliminate false detection caused by common light sources, flash beacon lamps or electromagnetic interference.



Furthermore, this microprocessor facilitates significantly faster detection.

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)



Selection Guide

Family Name	Plastic Housing	Housing Type	Sensing Principle	Sensing Distance	Output Type	Output Function	Connection	Special Features
PA18	C	A: Axial R: Radial	D: Diffuse R: Retro reflective P: Polarized retro reflective T: Through beam	XX	N: NPN P: PNP	A: NO & NC	Blank : Cable M1 : M12 plug	SA : Sensitive adjustment

The PA18 Family

Sensor Type	Distances Axial/Radial	Output Type	Connection	Axial 		Radial 	
				NPN Output	PNP Output	NPN Output	PNP Output
Diffuse Reflective							
Visible red emitter	1,0 m/0,8 m at 90% reflectance	NO & NC	Cable, 2 m	PA18CAD10NASA	PA18CAD10PASA	PA18CRD08NASA	PA18CRD08PASA
			M12 Connector	PA18CAD10NAM1SA	PA18CAD10PAM1SA	PA18CRD08NAM1SA	PA18CRD08PAM1SA
Retro Reflective							
Infrared emitter	6,5 m/5,0 m at ER4 reflector Ø80 mm	NO & NC	Cable, 2 m	PA18CAR65NASA	PA18CAR65PASA	PA18CRR50NASA	PA18CRR50PASA
			M12 Connector	PA18CAR65NAM1SA	PA18CAR65PAM1SA	PA18CRR50NAM1SA	PA18CRR50PAM1SA
Polarized Retro Reflective							
Visible red emitter	5,0 m/4,0 m at ER4 reflector Ø80 mm	NO & NC	Cable, 2 m	PA18CAP50NASA	PA18CAP50PASA	PA18CRP40NASA	PA18CRP40PASA
			M12 Connector	PA18CAP50NAM1SA	PA18CAP50PAM1SA	PA18CRP40NAM1SA	PA18CRP40PAM1SA
Through-Beam Emitter							
Infrared light	20 m/16 m		Cable, 2 m	PA18CAT20	PA18CAT20	PA18CRT16	PA18CRT16
			M12 Connector	PA18CAT20M1	PA18CAT20M1	PA18CRT16M1	PA18CRT16M1
Through-Beam Receiver							
Infrared light	20 m/16 m	NO & NC	Cable, 2 m	PA18CAT20NASA	PA18CAT20PASA	PA18CRT16NASA	PA18CRT16PASA
			M12 Connector	PA18CAT20NAM1SA	PA18CAT20PAM1SA	PA18CRT16NAM1SA	PA18CRT16PAM1SA



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