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# Photoelectrics

## Diffuse-reflective

### Type EO1804.PAS, DC, Metal-housing

CARLO GAVAZZI



- Range: 400 mm adjustable
- Modulated, infrared light
- Supply voltage: 10 to 40 VDC
- Output: 200 mA NPN or PNP
- Make and break switching function, LED indication
- Protection: Reverse polarity, short-circuit, transients
- High immunity to ambient light
- Heavy duty M18 metal housing, IP67
- Cable and plug versions



## Product Description

The EO1804 is a family of general purpose Diffuse-reflective sensors in a short M18 metal 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 4-wire complementary (NO and NC) output in NPN (current sinking) or PNP (current sourcing).

## Ordering Key

**EO 18 04 NPA S-1**

Type \_\_\_\_\_  
 Housing diameter \_\_\_\_\_  
 Range \_\_\_\_\_  
 Output type \_\_\_\_\_  
 Housing material \_\_\_\_\_  
 Connection type \_\_\_\_\_

## Type Selection

Housing diameter	Rated operating dist. (S <sub>n</sub> )	Ordering no. NPN/cable Make & break swit.	Ordering no. NPN/plug Make & break swit.	Ordering no. PNP/cable Make & break swit.	Ordering no. PNP/plug Make & break swit.
M18	400 mm	EO 1804 NPAS	EO 1804 NPAS-1	EO 1804 PPAS	EO 1804 PPAS-1

## Specifications

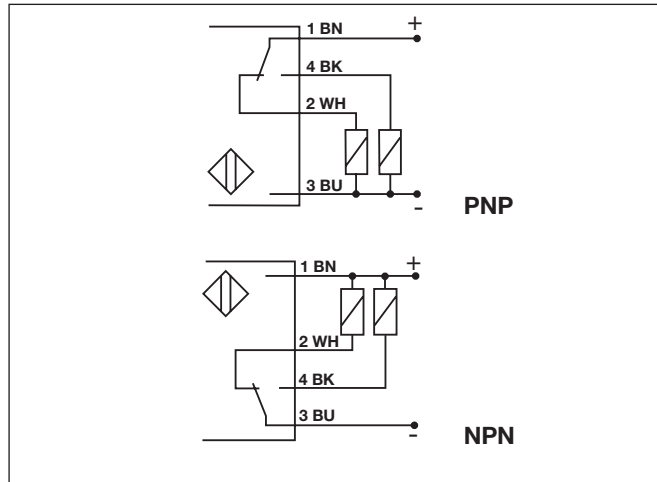
<b>Rated operating dist. (S<sub>n</sub>)</b> Adjustable	Up to 400 mm Reference target: Kodak test card R27, white, 90% reflectivity 200 x 200 mm	<b>Light type</b>	Infrared, modulated synchronized
<b>Sensitivity</b>	270° turn potentiometer	<b>Sensing angle</b>	± 25° at 1/2 range
<b>Temperature drift</b>	0.4%/K	<b>Ambient light</b>	Max. 10,000 lux
<b>Hysteresis (H)</b> (Differential travel)	3 to 20%	<b>Operating frequency (f)</b>	120 Hz, light/dark ratio 1:2
<b>Rated operational volt. (U<sub>B</sub>)</b>	10 to 40 VDC (ripple included)	<b>Response time</b> OFF-ON (t <sub>ON</sub> ) ON-OFF (t <sub>OFF</sub> )	≤ 3.2 ms ≤ 5 ms
<b>Ripple (U<sub>rpp</sub>)</b>	Max. 10%	<b>Power ON delay (t<sub>v</sub>)</b>	Typ. 100 ms
<b>Output current</b> Continuous (I <sub>a</sub> ) Short-time (I)	Max. 200 mA 200 mA, max. load capacity 100 nF	<b>Indication function</b>  Output ON	Dark and light (complementary switch) LED, yellow
<b>No load supply current (I<sub>o</sub>)</b>	Max. 20 mA	<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>Min. operational current (I<sub>m</sub>)</b>	0.5 mA	<b>Temperature</b> Operating Storage	-20° to +60°C (-4° to 140°F) -30° to +70°C (-22° to 158°F)
<b>OFF-state current (I<sub>s</sub>)</b>	Max. 100 μA	<b>Vibration</b>	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)
<b>Voltage drop (U<sub>d</sub>)</b>	Max. 2.5 V @ 200 mA	<b>Shock</b>	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)
<b>Protection</b>	Reverse polarity, short circuit, transients	<b>Dielectric voltage</b>	500 VAC (IEC 60365-4-41)
<b>Transient voltage</b>	Max. 1 kV/0.5 J		
<b>Light source</b>	GaAlAs LED, 880 nm		



## Specifications (cont.)

<b>Housing material</b>	
Body	Nickel plated brass
Front	Luran®, black
Cable end	Polyester, black
Nuts	Nickel plated brass
<b>Connection</b>	
Cable	Grey, 2 m, 4 x 0.35 mm <sup>2</sup> oilproof PVC
Plug	M12 x 1
Cables for plug (-1)	CON.1-.... series
<b>Weight</b>	
Cable version	140 g
Plug version	55 g
<b>Approvals</b>	UL, CSA
<b>CE-marking</b>	Yes

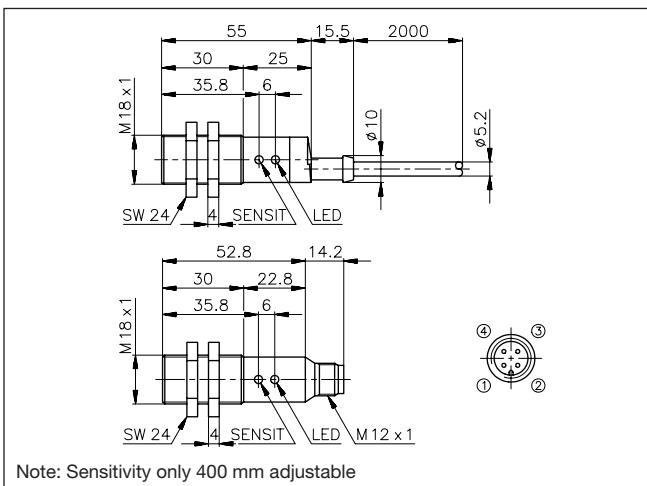
## Wiring Diagrams



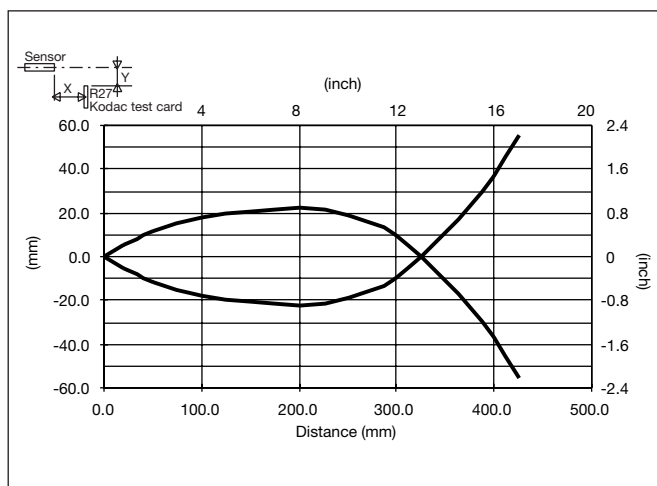
## Operation Diagram



## Dimensions



## Detection Diagram



## Delivery Contents

- Photoelectric switch EO1804.PAS(-1)
- 2 nuts
- **Packaging:** plastic bag

## Accessories

- MB18A
- Connector type CON.1A../CON.14NF.. series
- Screw driver for adjustments: 77-000
- APA18-RAR

For further information refer to "Accessories"