# Photoelectrics Diffuse-reflective Type EO1804.PAS, DC, Metal-housing





- 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 souring).

## Ordering Key EO

EO 18 04 NPA S-1

### **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	<b>EO 1804 NPAS</b>	EO 1804 NPAS-1	EO 1804 PPAS	EO 1804 PPAS-1

#### **Specifications**

Rated operating dist. (S <sub>n</sub> ) Adjustable	Up to 400 mm Reference target: Kodak test card R27, white, 90% reflectivity 200 x 200 mm	
Sensitivity	270° turn potentiometer	
Temperature drift	0.4%/K	
Hysteresis (H) (Differential travel)	3 to 20%	
Rated operational volt. (U <sub>B</sub> )	10 to 40 VDC (ripple included)	
Ripple (U <sub>rpp</sub> )	Max. 10%	
Output current Continuous (I <sub>e</sub> ) Short-time (I)	Max. 200 mA 200 mA, max. load capacity 100 nF	
No load supply current (I <sub>O</sub> )	Max. 20 mA	
Min. operational current (I <sub>m</sub> )	0.5 mA	
OFF-state current (I <sub>r</sub> )	Max. 100 μA	
Voltage drop (U <sub>d</sub> )	Max. 2.5 V @ 200 mA	
Protection	Reverse polarity, short circuit, transients	
Transient voltage	Max. 1 kV/0.5 J	
Light source	GaAlAs LED, 880 nm	

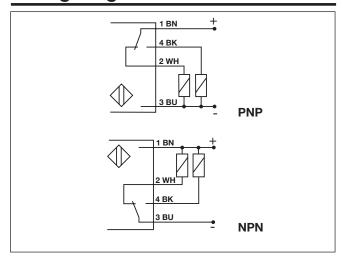
Light type	Infrared, modulated synchronized	
Sensing angle	± 25° at <sup>1</sup> / <sub>2</sub> range	
Ambient light	Max. 10,000 lux	
Operating frequency (f)	120 Hz, light/dark ratio 1:2	
Response time OFF-ON (t <sub>ON</sub> ) ON-OFF (t <sub>OFF</sub> )	≤ 3.2 ms ≤ 5 ms	
Power ON delay (t <sub>v</sub> )	Typ. 100 ms	
Indication function Output ON	Dark and light (complementary switch) LED, yellow	
Environment 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)	
Temperature Operating Storage	-20° to +60°C (-4° to 140°F) -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	500 VAC (IEC 60365-4-41)	



## **Specifications (cont.)**

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

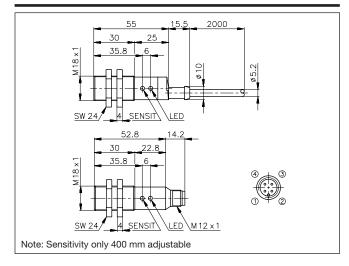
## **Wiring Diagrams**



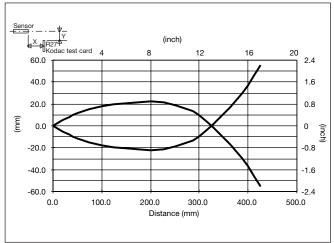
## **Operation Diagram**

Power supply			
Object present, light received			
Output ON: Make switching (NO) BK (4)		⊦Tv⊣	
Break switching (NC) WH (2) FTV-			

#### **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"