

# Photoelectrics

## Retro-reflective

### Type ER1830.PAS, DC, Metal-housing

CARLO GAVAZZI



- Range: 3 m
- 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
- Cable and plug versions

## Product Description

Retro-reflective photoelectric switch with extended range up to 3 m. Easily adjustable sensitivity with 270° potentiometer. LED output indication.

Short M18 metal housing for heavy duty applications. IP 67. Easy mounting. DC and AC types, fully protected.

## Ordering Key

**ER 18 30 NPA S-1**

Type	ER
Housing diameter	18
Range	30
Output type	NPA
Housing material	S
Connection type	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	3 m	ER 1830 NPAS	ER 1830 NPAS-1	ER 1830 PPAS	ER 1830 PPAS-1

## Specifications

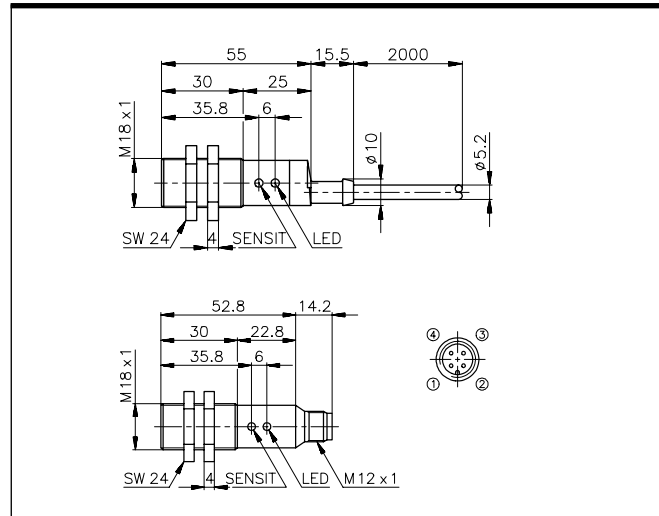
<b>Rated operating dist. (S<sub>n</sub>)</b>	Up to 3 m Ref. reflector type ER4 Ø 84 mm	<b>Optical angle</b>	± 2.2°
<b>Sensitivity</b> Adjustable	270° single turn pot. meter	<b>Light spot size</b>	150 mm at 2 m
<b>Temperature drift</b>	0.4%/K	<b>Ambient light</b>	Max. 10,000 lux
<b>Hysteresis (H)</b> (Differential travel)	3 to 20%	<b>Operating frequency (f)</b>	Max. 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>	
<b>Ripple (U<sub>rip</sub>)</b>	Max. 10%	OFF-ON (t <sub>ON</sub> )	≤ 3.2 ms
<b>Output current</b>		ON-OFF (t <sub>OFF</sub> )	≤ 5 ms
Continuous (I <sub>e</sub> )	Max. 200 mA	<b>Indication function</b>	Dark and light (complementary switch)
Short-time (I)	200 mA, max. load capacity 100 nF	Output ON	LED, yellow
<b>No load supply current (I<sub>o</sub>)</b>	Max. 20 mA @ 200 mA	<b>Environment</b>	
<b>Min. operational current (I<sub>m</sub>)</b>	0.5 mA	Overvoltage category	III (IEC 60664/60664A; 60947-1)
<b>OFF-state current (I<sub>r</sub>)</b>	Max. 100 µA	Pollution degree	3 (IEC 60664/60664A; 60947-1)
<b>Voltage drop (U<sub>d</sub>)</b>	Max. 2.5 V	Degree of protection	IP 67 (IEC 60529; 60947-1)
<b>Protection</b>	Reverse polarity, short circuit overload, transients	<b>Temperature</b>	
<b>Transient voltage</b>	1 kV/0.5 J	Operating	-20° to +60°C (-4° to 140°F)
<b>Power ON delay (t<sub>v</sub>)</b>	Typ. 100 ms	Storage	-30° to +70°C (-22° to 158°F)
<b>Light source</b>	GaAlAs LED, 880 nm	<b>Vibration</b>	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)
<b>Light type</b>	Infrared, modulated	<b>Shock</b>	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)
		<b>Dielectric voltage</b>	600 VAC (IEC 60364-4-41)
		<b>Housing material</b>	
		Body	Nickel plated brass
		Front	Luran®, black
		Cable end	Polyester, black
		Nuts	Nickel plated brass



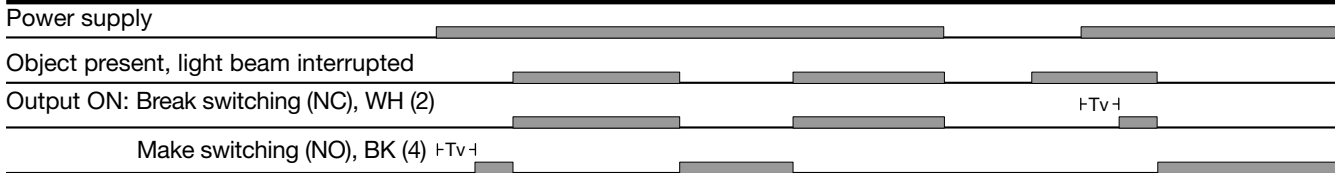
## Specifications (cont.)

<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.1A-...series
<b>Weight</b>	
Cable version	140 g
Plug version	55 g
<b>Approvals</b>	UL, CSA
<b>CE-marking</b>	Yes

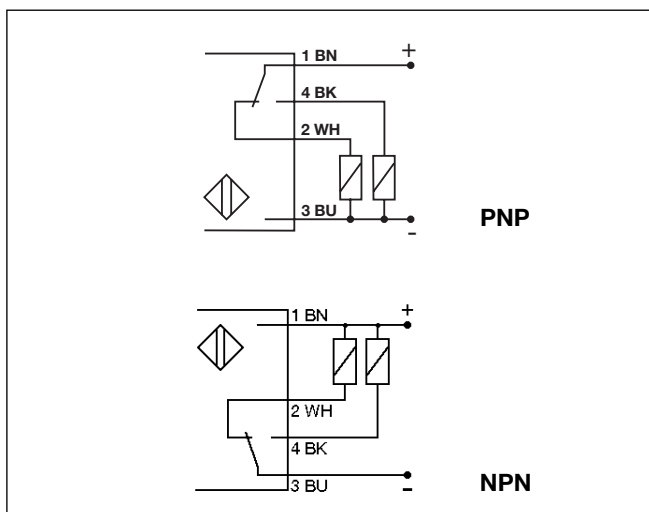
## Dimensions



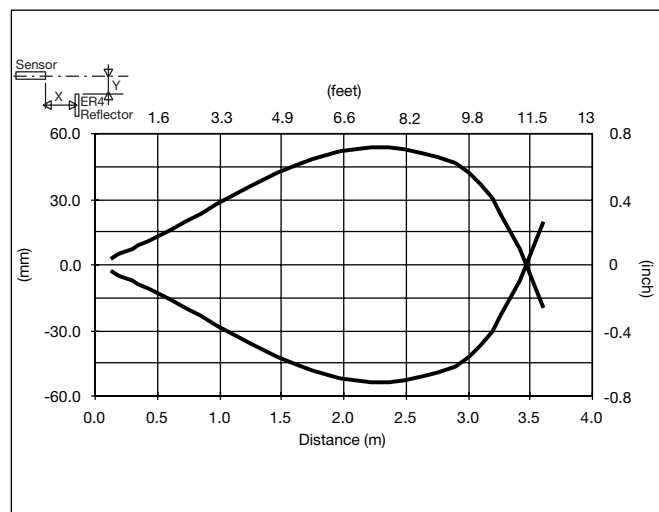
## Operation Diagram



## Wiring Diagrams



## Detection Diagram



## Delivery Contents

- Photoelectric switch: ER1830
- 2 nuts
- **Packaging:** plastic bag

## Accessories

- Reflectors: ER series
- Plugs: CON.1A-... serie
- MB18A
- APA18-RAR

For further information refer to "Accessories"