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**
- **Housing diameter**
- **Range**
- **Output type**
- **Housing material**
- **Connection type**

Type Selection

Housing diameter	Rated operating dist. (S_n)	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

Rated operating dist. (S_n)	Up to 3 m Ref. reflector type ER4 ∅ 84 mm
Sensitivity Adjustable	 270° single turn pot. meter
Temperature drift	0.4%/K
Hysteresis (H) (Differential travel)	 3 to 20%
Rated operational volt. (U_B)	10 to 40 VDC (ripple included)
Ripple (U_{rpp})	Max. 10%
Output current Continuous (I_e) Short-time (I)	 Max. 200 mA 200 mA, max. load capacity 100 nF
No load supply current (I_O)	Max. 20 mA @ 200 mA
Min. operational current (I_m)	0.5 mA
OFF-state current (I_r)	Max. 100 μA
Voltage drop (U_d)	Max. 2.5 V
Protection	Reverse polarity, short circuit
	overload, transients
Transient voltage	1 kV/0.5 J
Power ON delay (t_v)	Typ. 100 ms
Light source	GaAlAs LED, 880 nm
Light type	Infrared, modulated
Optical angle	± 2.2°

Light spot size	150 mm at 2 m
Ambient light	Max. 10,000 lux
Operating frequency (f)	Max. 120 Hz, light/dark ratio 1:2
Response time OFF-ON (t_{ON}) ON-OFF (t_{OFF})	 ≤ 3.2 ms ≤ 5 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 **Shock**	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6) 2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)
Dielectric voltage	600 VAC (IEC 60364-4-41)
Housing material Body Front Cable end Nuts	 Nickel plated brass Luran®, black Polyester, black Nickel plated brass

ООО «Сенсорен Электро» +7(495)150-48-00 info@sensoren.ru

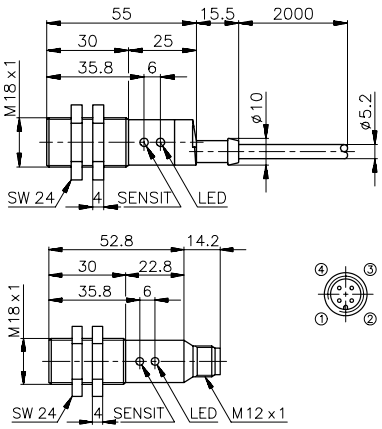
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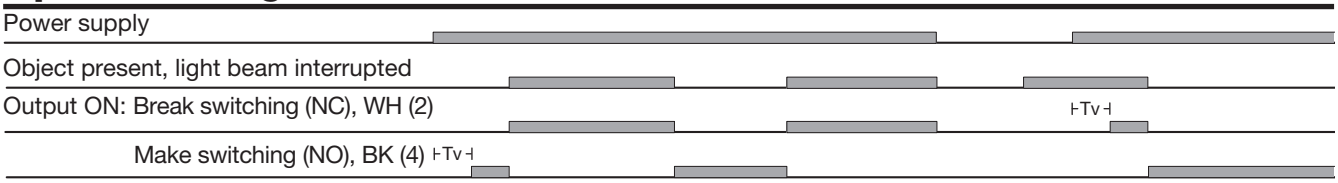
Specifications (cont.)

Connection	
Cable	Grey, 2 m, 4 x 0.35 mm², oilproof PVC
Plug	M12 x 1
Cables for plug (-1)	CON.14NF.. series
Weight	
Cable version	140 g
Plug version	55 g
Approvals	UL, CSA
CE-marking	Yes

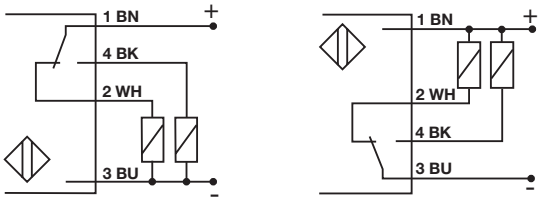
Dimensions



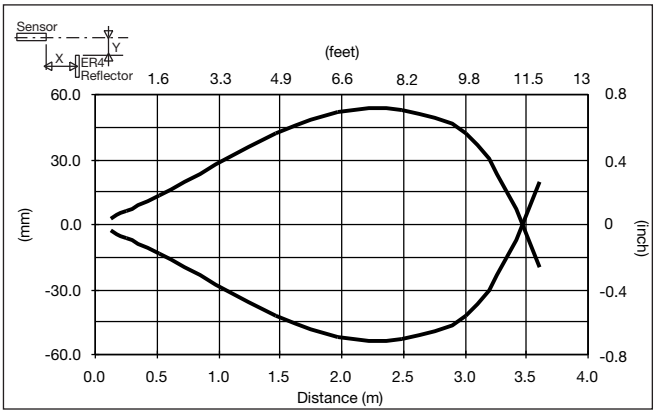
Operation Diagram



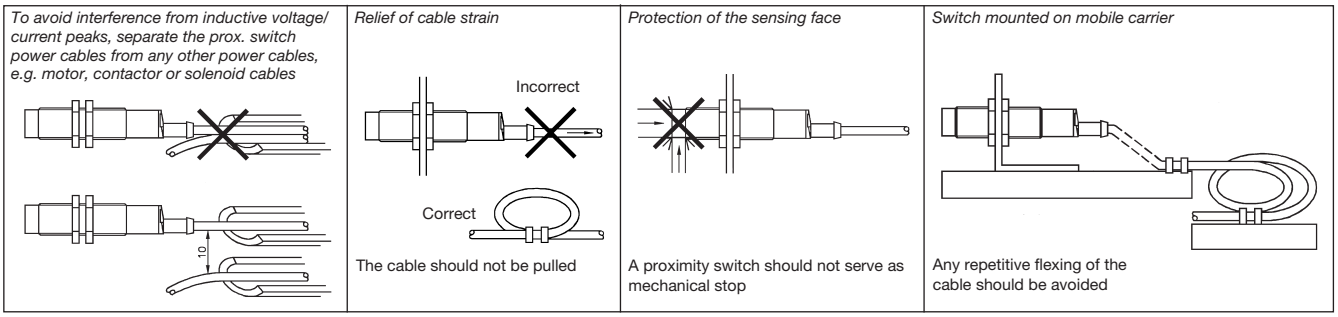
Wiring Diagrams



Detection Diagram



Installation Hints



Delivery Contents

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

Accessories

- Reflectors: ER series
- Connector type CON.14NF.. series
- MB18A
- APA18-RAR

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