

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 _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

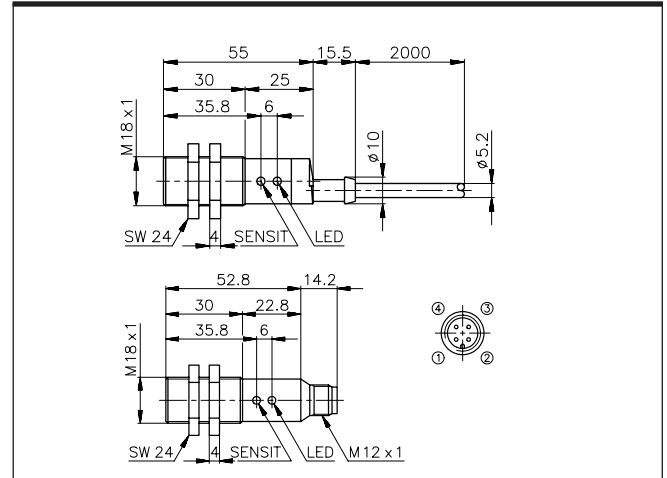
Rated operating dist. (S_n)	Up to 3 m Ref. reflector type ER4 Ø 84 mm	Optical angle	± 2.2°
Sensitivity Adjustable	270° single turn pot. meter	Light spot size	150 mm at 2 m
Temperature drift	0.4%/K	Ambient light	Max. 10,000 lux
Hysteresis (H) (Differential travel)	3 to 20%	Operating frequency (f)	Max. 120 Hz, light/dark ratio 1:2
Rated operational volt. (U_b)	10 to 40 VDC (ripple included)	Response time OFF-ON (t _{ON}) ON-OFF (t _{OFF})	≤ 3.2 ms ≤ 5 ms
Ripple (U_{rip})	Max. 10%	Indication function	Dark and light (complementary switch) LED, yellow
Output current Continuous (I _b) Short-time (I)	Max. 200 mA 200 mA, max. load capacity 100 nF	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)
No load supply current (I_o)	Max. 20 mA @ 200 mA	Temperature Operating Storage	-20° to +60°C (-4° to 140°F) -30° to +70°C (-22° to 158°F)
Min. operational current (I_m)	0.5 mA	Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)
OFF-state current (I_r)	Max. 100 µA	Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)
Voltage drop (U_d)	Max. 2.5 V	Dielectric voltage	600 VAC (IEC 60364-4-41)
Protection	Reverse polarity, short circuit overload, transients	Housing material Body Front Cable end Nuts	Nickel plated brass Luran®, black Polyester, black Nickel plated brass
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		



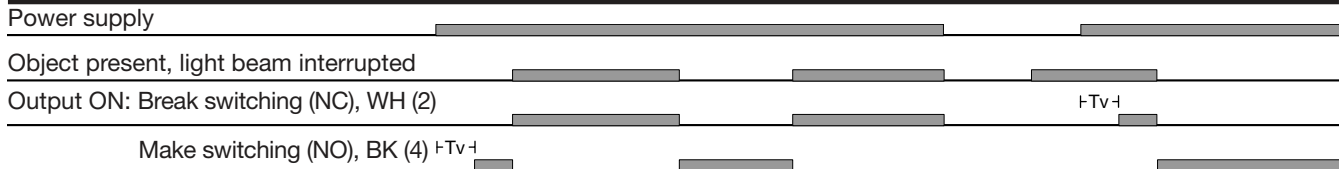
Specifications (cont.)

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

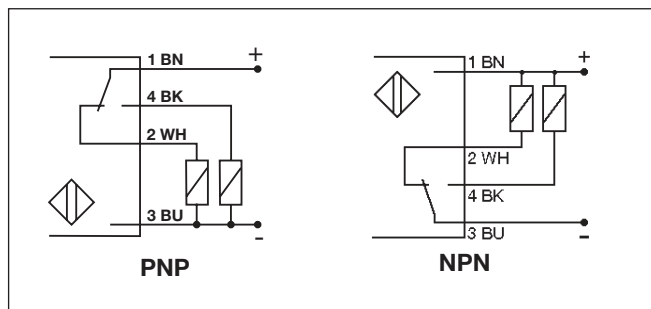
Dimensions



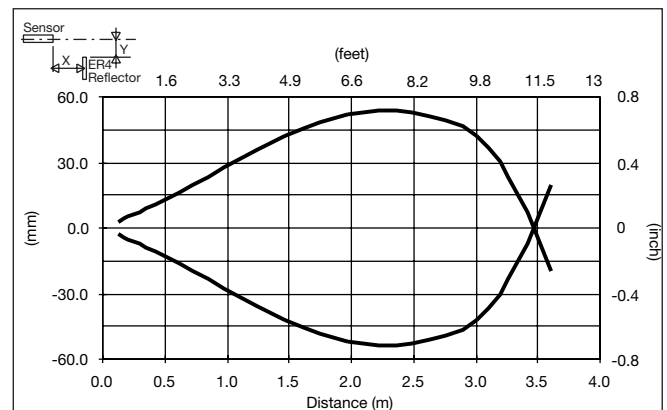
Operation Diagram



Wiring Diagrams



Detection Diagram



Installation Hints

<p>To avoid interference from inductive voltage/current peaks, separate the prox. switch power cables from any other power cables, e.g. motor, contactor or solenoid cables</p>	<p>Relief of cable strain</p> <p>The cable should not be pulled</p>	<p>Protection of the sensing face</p> <p>A proximity switch should not serve as mechanical stop</p>	<p>Switch mounted on mobile carrier</p> <p>Any repetitive flexing of the cable should be avoided</p>
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Delivery Contents

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

Accessories

- Reflectors: ER series
- Connector type CON.1A./CON.14NF.. series
- MB18A
- APA18-RAR

For further information refer to "Accessories"
 Specifications are subject to change without notice (08.02.06)