

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. PNP/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

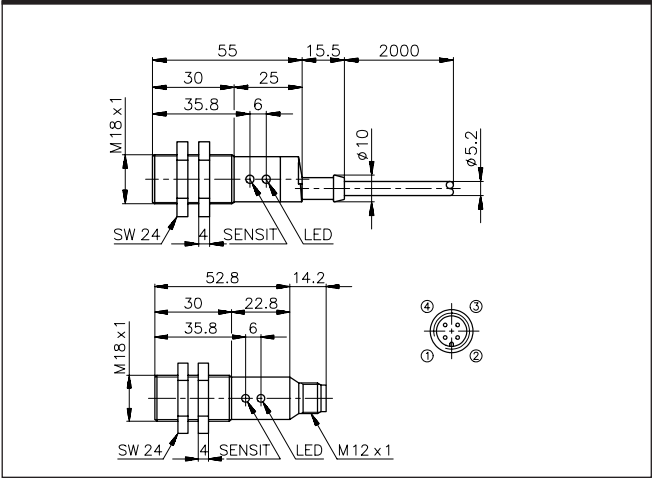
Rated operating dist. (S_n)	Up to 3 m Ref. reflector type ER4 Ø 84 mm	Optical angle	± 2.2°
Sensitivity Adjustable	270° single turn pot. meter	Light spot size	150 mm at 2 m
Temperature drift	0.4%/K	Ambient light	Max. 10,000 lux
Hysteresis (H) (Differential travel)	3 to 20%	Operating frequency (f)	Max. 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_{pp})	Max. 10%	Indication function Output ON	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 (I₀)	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 Light type	GaAlAs LED, 880 nm Infrared, modulated		



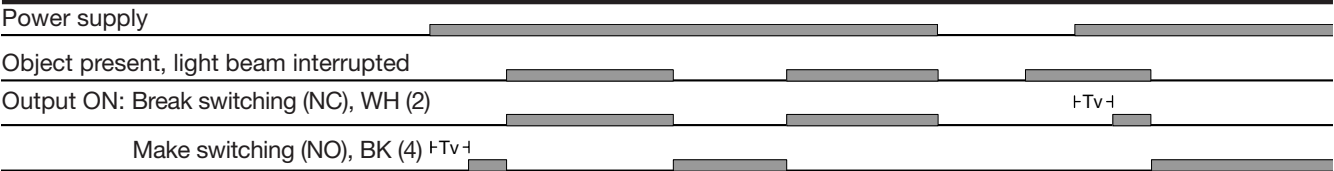
Specifications (cont.)

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

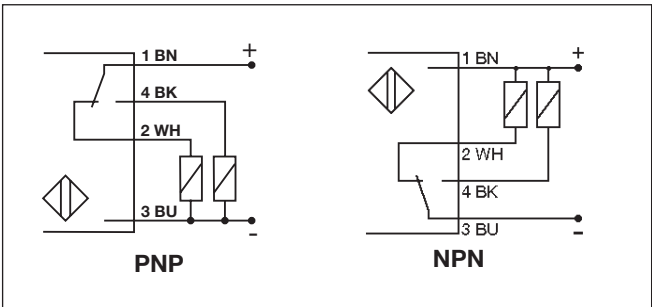
Dimensions



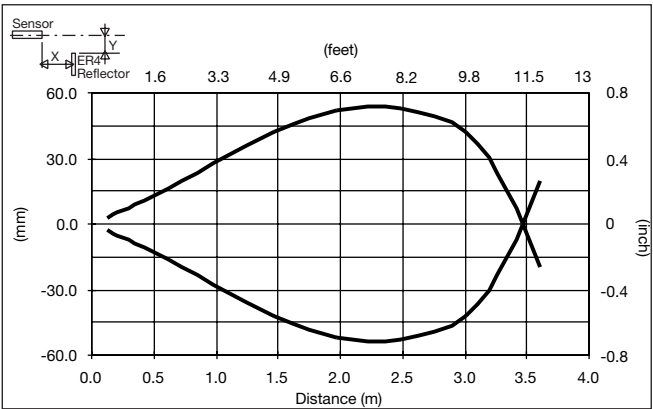
Operation Diagram



Wiring Diagrams



Detection Diagram



Installation Hints

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

Relief of cable strain

Incorrect

Correct

The cable should not be pulled

Protection of the sensing face

A proximity switch should not serve as mechanical stop

Switch mounted on mobile carrier

Any repetitive flexing of the cable should be avoided

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)