



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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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

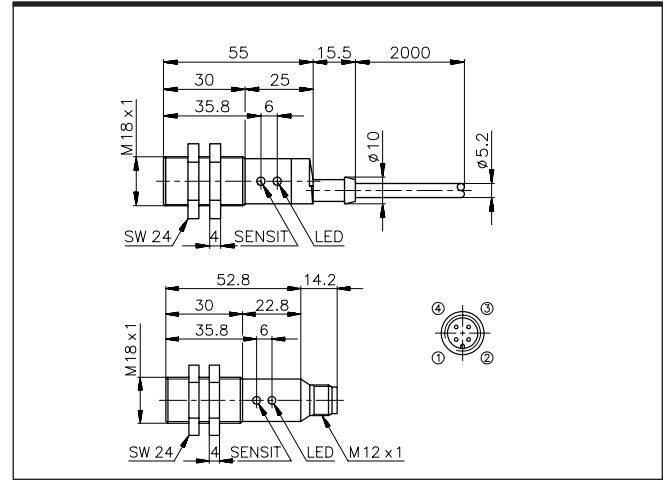
Rated operating dist. (S_n)	Up to 3 m Ref. reflector type ER4 Ø 84 mm	Optical angle	± 2.2°
Sensitivity Adjustable	270° single turn pot. meter	Light spot size	150 mm at 2 m
Temperature drift	0.4%/K	Ambient light	Max. 10,000 lux
Hysteresis (H) (Differential travel)	3 to 20%	Operating frequency (f)	Max. 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		



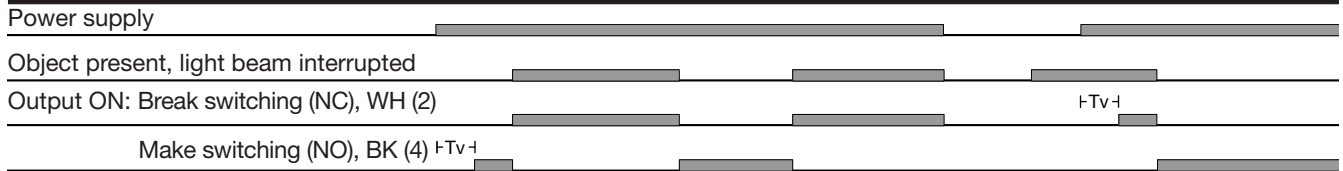
Specifications (cont.)

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

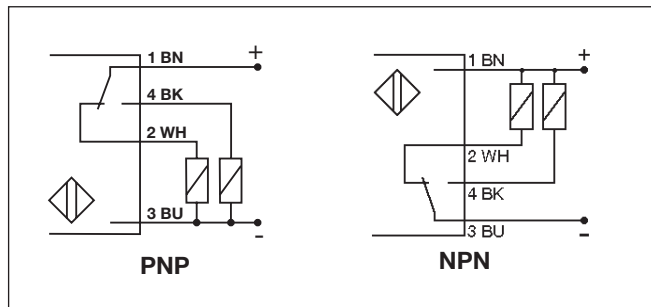
Dimensions



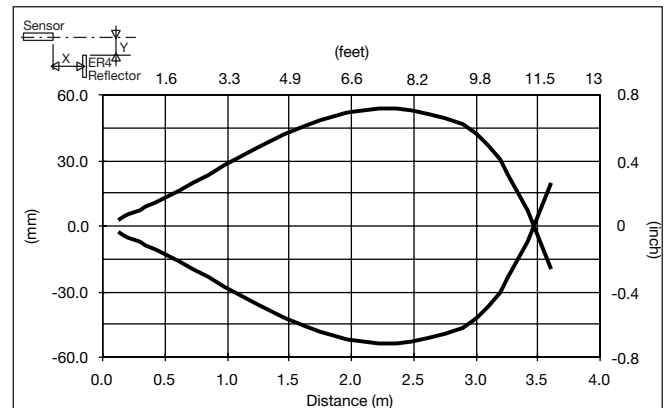
Operation Diagram



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>Incorrect</p> <p>Correct</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)