

Photoelectrics

Retro-reflective, Polarized

Type EP 1820, DC, PBTP-housing



- Range: 2.0 m
- Modulated red light, polarized
- Supply voltage: 10 to 40 VDC
- Output: 200 mA NPN or PNP
- Make and break switching functions, LED, indication
- Protection: Reverse polarity, short-circuit, transients
- Improved immunity to reflecting surfaces
- Heavy duty M18 metal housing, IP67
- Cable and plug versions



Product Description

The EP1830 is a family of general purpose polarized retro-reflective sensors in a short M18 metal housing for heavy duty applications. They are useful for simple applications, where a basic sensor

provides adequate sensing performance. The sensors are easy to adjust with a 270° single turn potentiometer. The output is a 4-wire complementary NO or NC thyristor (SCR) output.

Ordering Key

EP 18 20 NPA S-1

Type _____
 Housing diameter _____
 Range _____
 Output type _____
 Housing material _____
 Connection type _____

Type Selection

Housing diameter	Rated operating dist. (S _n)	Connection	Ordering no. NPN Make & break switching	Ordering no. PNP Make & break switching
M18	2.0 m	Cable	EP 1820 NPAS	EP 1820 PPAS
M18	2.0 m	Plug	EP 1820 NPAS-1	EP 1820 PPAS-1

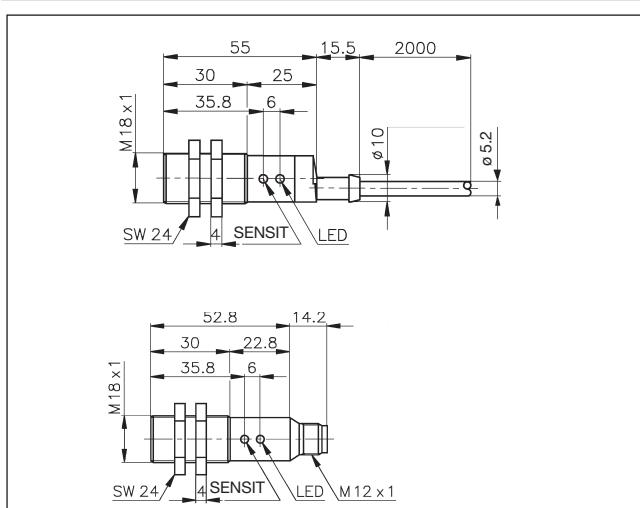
Specifications

Rated operating dist. (S _n)	Up to 2.0 m Ref. reflector type ER4, Ø 84 mm	Light source	GaAlAs LED, 660 nm
Sensitivity	270° single turn pot.meter	Light type	Red polarized, modulated
Temperature drift	0.4%/°C	Optical angle	± 2°
Hysteresis (H) (Differential travel)	3 to 20 %	Light spot size	150 mm at 2 m
Rated operational volt. (U _B)	10 to 40 VDC (ripple included)	Ambient light	Max 5'000 lux
Ripple (U _{pp})	Max. 10%	Operating frequency (f)	Max. 100 Hz, light-dark ratio 1.2
Output current		Response time	
Continuous (I _o)	≤ 200 mA	OFF-ON (t _{ON})	≤ 3.2 ms
Short-time (I _l)	200 mA max. load capacity 100nF	ON-OFF (t _{OFF})	≤ 5 ms
No load supply current (I _O)	Max. 20 mA	Indication	
Min. operational current (I _m)	0,5 mA	Function	Dark and light (complementary) switch.
OFF-state current (I _r)	Max. 100 µA	Output ON	LED, yellow
Voltage drop (U _d)	Max. 2.5 VDC @ 200 mA	Environment	
Protection	Reverse polarity, short-circuit, transients	Overvoltage category	III (IEC 60664/60664A; 60947-1)
Transient voltage	1 kV / 0.5 J	Pollution degree	3 (IEC 60664/60664A; 60947-1)
Power ON delay (t _v)	Typ. 70 ms	Degree of protection	IP 67 (IEC 60529; 60947-1)
		Temperature	
		Operating	-20° to +60°C (-4° to 140°F)
		Storage	-30° to + 70°C (-22° to 158°F)
		Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)
		Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)

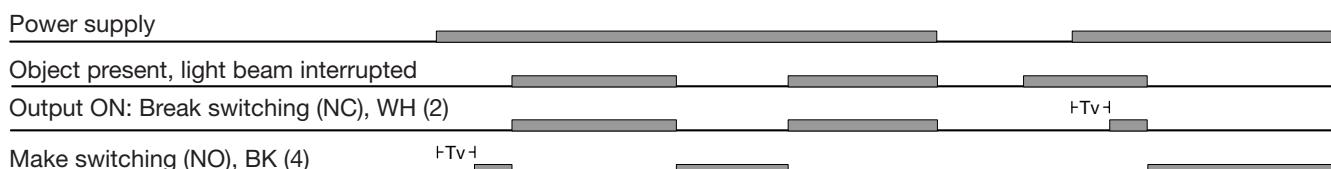
Specifications (cont.)

Dielectric voltage	500 V (IEC 60364-4-41)
Housing material	
Body	Nickel plated brass
Front	PMMA, red
Cable end	Polyester, black
Nuts	Nickel plated brass
Connection	
Cable	Grey, 2 m, 4 x 0.35 mm ² , oilproof PVC
Plug	M12 x 1
Cable for plug (M1)	CON.1A... series
Weight	
Cable version	175 g
Plug version	90 g
CE-marking	Yes

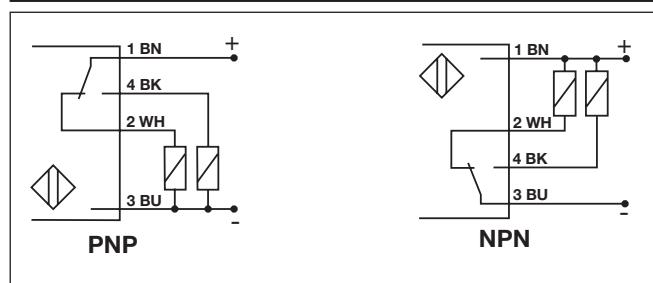
Dimensions



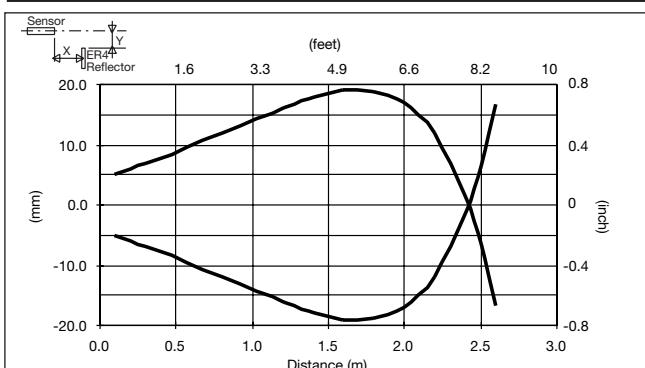
Operation Diagram



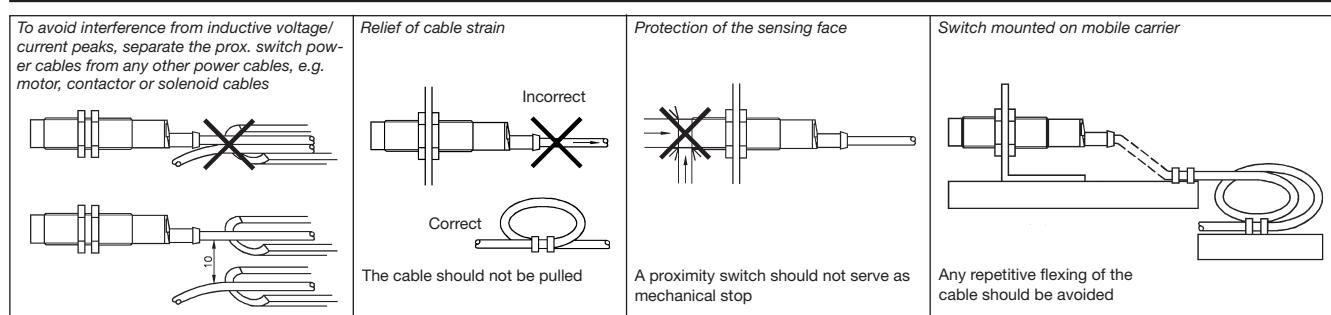
Wiring Diagrams



Detection Diagram



Installation Hints



Delivery Contents

- Photoelectric switch ER1820.
- 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".