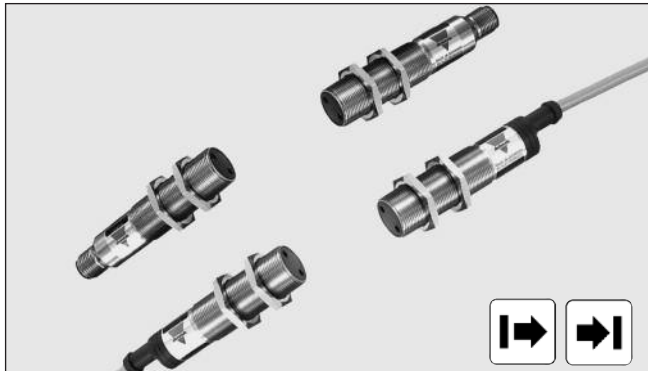


Photoelectrics Through-beam Type ET 1820 DC, Nickel-plated Brass Housing

CARLO GAVAZZI



- Range: 20 m
- Adjustable sensitivity
- Modulated infrared light
- Make and break switching functions, NPN, PNP (200 mA)
- LED-indication for power supply ON (emitter) and target detected (receiver)
- Supply voltage: 10 to 40 VDC
- Heavy duty M18 metal housing, IP 67
- Cable and plug versions



Product Description

The ET1820 is a family of general purpose through-beam sensors in an industrial standard M18 nickel-plated brass housing for heavy duty applications. They are useful for simple applications where a basic sensor provide adequate

sensing performance. The sensors are easy to adjust with a 270° single turn potentiometer. The output is a 4-wire complementary (NO and NC) circuit with NPN (current sinking) or PNP (current sourcing) open collector transistor output.

Ordering Key

ET 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. Receiver/NPN Make & break switching	Ordering no. Receiver/PNP Make & break switching	Ordering no. Emitter
M18	20 m	Cable	ET 1820 NPAS	ET 1820 PPAS	ET 1820
M18	20 m	Plug	ET 1820 NPAS-1	ET 1820 PPAS-1	ET 1820-1

Note: Please order emitter and receiver separately.

Specifications Emitter

Rated operational volt. (U_B)	10 to 40 VDC (ripple included)
Ripple (U_{rpp})	≤ 10%
Supply current (I_o)	≤ 20 mA
Protection	Reverse polarity, short-circuits, transients
Light source	GaAlAs LED, 880 nm
Light type	Infrared, modulated
Optical angle	± 2°
Indication	LED, green
Supply ON	

Specifications Receiver

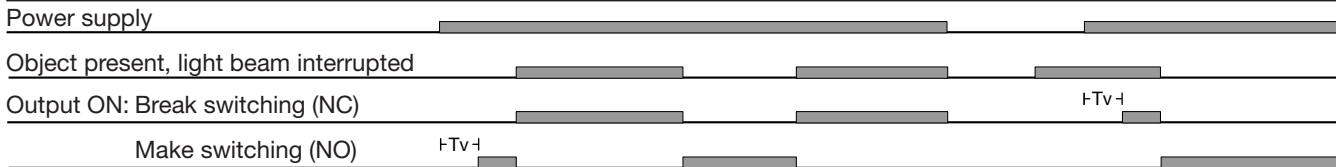
Rated operating dist. (S_n)	Up to 20 m
Sensitivity	270° single turn pot. meter
Temperature drift	0.6%/°C
Hysteresis (H) (Differential travel)	3 to 20%
Rated operational volt. (U_B)	10 to 40 VDC (ripple included)
Ripple (U_{rpp})	Max. 10%
No-load supply current (I_o)	Max. 12 mA (typ. 8 mA)
Min. operational current (I_e)	0.5 mA
OFF-state current (I_r)	Max. 100 μA (typ. 0)
Output current	
Continuous (I_e)	Max. 200 mA
Short-time (I)	200 mA
	Max. load capacity 100 nF
Voltage drop (U_d)	Max. 2.5 VDC
Protection	Reverse polarity, short-circuit, transients
Optical angle	± 2°
Ambient light	Max. 5,000 lux
Operating frequency (f)	Typ. 170 Hz
Response time	
OFF-ON (t_{ON})	Typ. 1.6 ms
ON-OFF (t_{OFF})	Typ. 4.2 ms



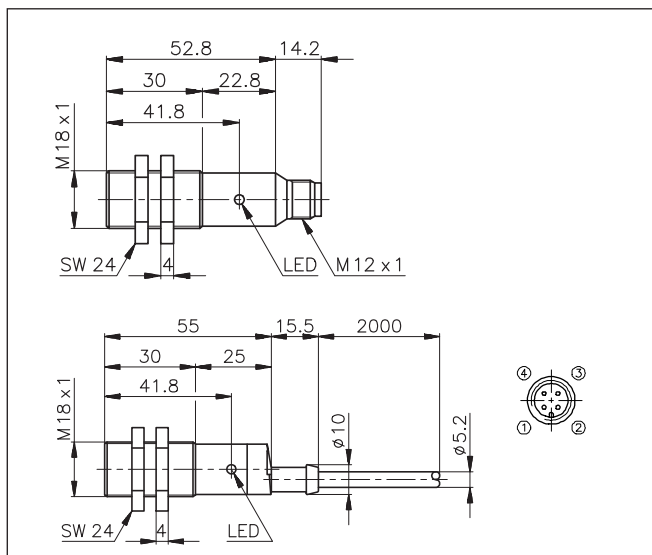
General Specifications

Power ON delay (t_v)	70 ms	Housing material	
Indication	Light and dark (Complementary switch) Output ON LED, yellow	Body	Nickel plated brass
Environment	Overvoltage category Pollution degree Degree of protection	Front	PC, black
Temperature	Operating Storage	Cable end	Polyester, black
Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)	Nuts	Nickel plated brass
Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)	Connection	
Dielectric voltage	500 VAC (IEC 60364-4-41)	Cable	Grey, 2 m oilproof, PVC, 4 x 0.34 mm ² , ø 5.2 mm
		Receiver Ermittler	2 x 0.5 mm ² , ø 5.2 mm
		Plug	M12 x 1
		Cables for plug (M1)	CON.1A-..series
		Weight	
		Cable version	137 g
		Plug version	54 g
		Approvals	UL, CSA
		CE-marking	Yes

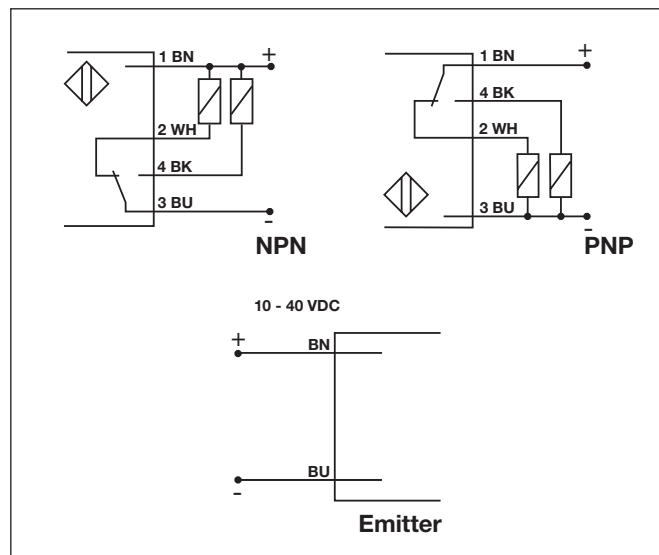
Operation Diagram



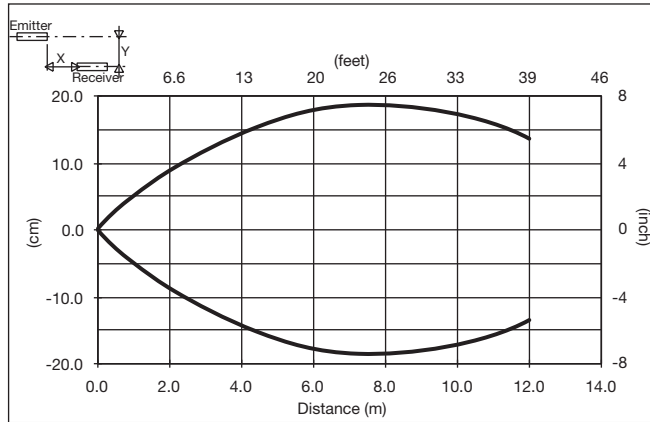
Dimensions



Wiring Diagrams



Detection Diagram



Delivery Contents

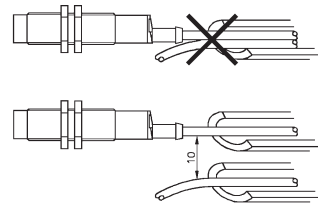
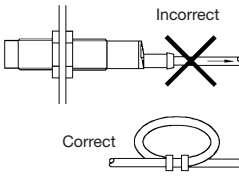
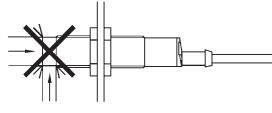
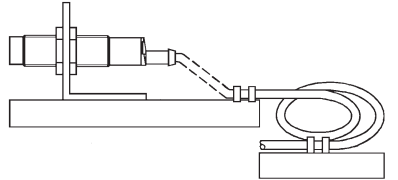
- Photoelectric switch: ET 1820
- 2 nuts
- **Packaging:** Plastic bag

Accessories

- MB18A
- Connector type CON.1A../CON.14NF.. series
- APA18-RAR
- APA18-AR

For further information refer to "Accessories".

Installation Hints

<p><i>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</i></p> 	<p><i>Relief of cable strain</i></p>  <p>Incorrect</p> <p>Correct</p> <p>The cable should not be pulled</p>	<p><i>Protection of the sensing face</i></p>  <p>A proximity switch should not serve as mechanical stop</p>	<p><i>Switch mounted on mobile carrier</i></p>  <p>Any repetitive flexing of the cable should be avoided</p>
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