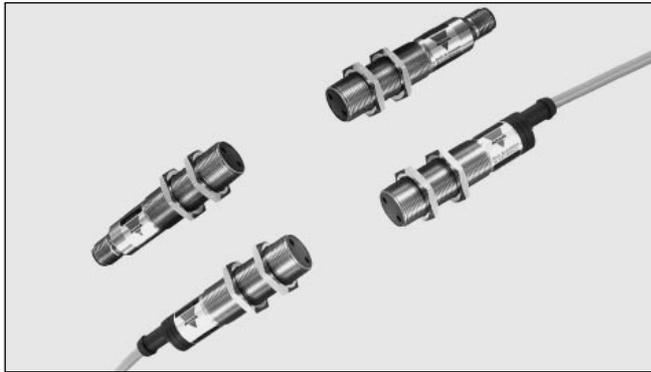
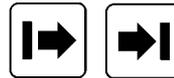


Photoelectrics Through-beam Type ET 1820



- 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 M 18 metal housing, IP 67
- Cable and plug versions



Product Description

High power through-beam photoelectric switch. Range up to 20 m. Easily adjustable sensitivity with 270° potentiometer. LED output indication. Precise detection through

narrow beam. Short M 18 metal housing for heavy duty applications. IP 67. Easy mounting. All types fully protected. Cable and plug versions.

Ordering Key

ET 18 20 NPA S-1



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
M 18	20 m 20 m	Cable Plug	ET 1820 NPAS ET 1820 NPAS-1	ET 1820 PPAS ET 1820 PPAS-1	ET 1820 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	GaAIAs LED, 880 nm
Light type	Infrared, modulated
Optical angle	±2°
Indication	
Supply ON	LED, green

Specifications Receiver

Rated operational volt. (U _B)	10 to 40 VDC (ripple included)
Ripple (U _{rpp})	≤ 10%
No-load supply current (I _o)	≤ 12 mA (typ. 8 mA)
OFF-state current (I _o)	≤ 100 μA (typ. 0)
Output current (I _o)	
Continuous	≤ 200 mA
Voltage drop (U _d)	≤ 2.5 VDC
Protection	Reverse polarity, short-circuit, transients
Hysteresis	3 - 20%
Temperature drift	0.6%/°C
Sensitivity	Adjustable by single turn potentiometer
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
Power ON delay (t _v)	70 ms
Indication	
Output ON	LED, yellow



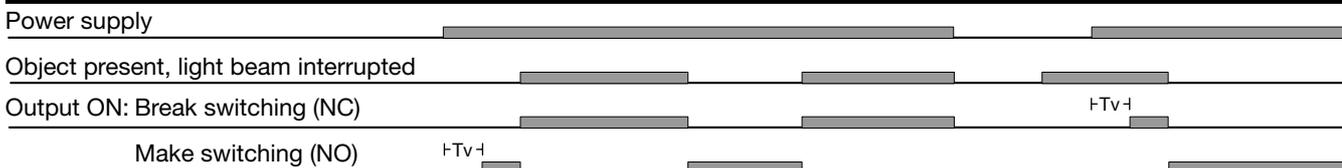
General Specifications

Environment	
Overvoltage category	III (IEC 664/664A; 947-1)
Pollution degree	3 (IEC 664/664A; 947-1)
Degree of protection	IP 67 (IEC 529; 947-1) Note: Plug version, IP 67 with mounted plug, CONH1A-.
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 68-2-6)
Shock	2 x 1 m & 100 x 0.5 m (IEC 68-2-32)
Dielectric voltage	500 VAC (rms)
Housing material	
Body	Nickel-plated brass
Front	Luran, red
Back (Cable end)	Polyester, black
Connector	Nickel-plated brass
Nuts	Nickel-plated brass, M 18 x 1 mm SW 24
Connection	
Cable	Grey, 2 m oilproof, PVC, 4 x 0.34 m, ø 5.2 mm Note: Other length on request
Plug	Standard M 12 type CONH1A-.. Note: Plug to be ordered separately
Weight	
Cable version	137 g
Plug version	54 g

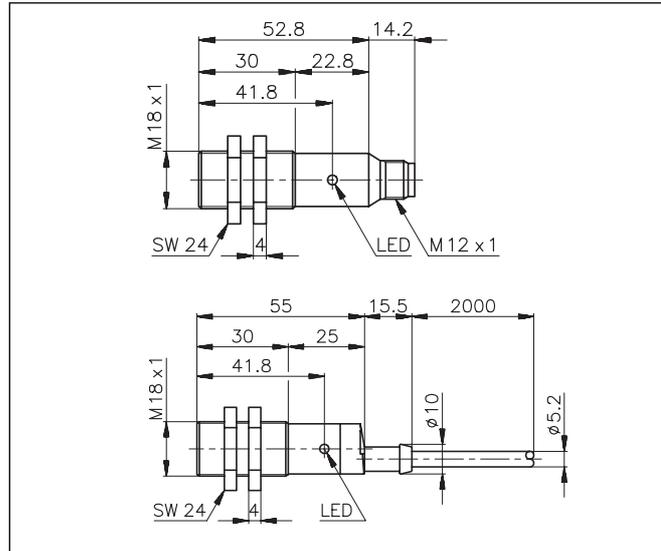
Truth Table

	Make switching		Break switching	
	Yes	No	Yes	No
Object present	Yes	No	Yes	No
DC types				
LED	Off	On	Off	On
Load	Non-active	Active	Active	Non-active
Output NPN	High	Low	Low	High
Output PNP	Low	High	High	Low
AC types				
LED	Off	On	On	Off
Load	Non-active	Active	Active	Non-active

Operation Diagram



Dimensions



Accessories

Plugs	90° angle	Straight
M 12 plug without cable	CONH1A-A	CONH1A-S
M 12 plug with 2 m cable	CONH1A-A2	CONH1A-S2
M 12 plug with 5 m cable	CONH1A-A5	CONH1A-S5

Delivery Contents

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

Wiring Diagrams

