

# Photoelectrics Through-beam Type PA18CST10, DC, PBTP-housing

CARLO GAVAZZI



- Range: 10 m
- Modulated infrared light
- Supply voltage: 10-40 VDC
- Output: 200 mA NPN or PNP
- Make and break switching functions
- LED-indication for power supply ON (emitter) and target detected (receiver)
- Protection: Reverse polarity, short-circuit, transients
- Cable and plug versions

## Product Description

The PA18CST.. is a family of inexpensive general purpose Through beam sensors in industrial standard 18 mm cylindrical PBTP housing. They are useful for simple applications where a basic sensor provides adequate

sensing performance. The sensors are simple to use and no adjustment are necessary. The output is a 4-wire complementary (NO and NC) output in NPN (current sinking) or PNP (current sourcing).

## Ordering Key

**PA18CST10NAM1**

Type	_____
Housing style	_____
Housing size	_____
Housing material	_____
Housing length	_____
Detection principle	_____
Sensing distance	_____
Output type	_____
Output configuration	_____
Connection type	_____

## Type Selection

Hous. diam.	Rated ope. dist. (S <sub>n</sub> )	Ordering no. Rec./NPN Cable Make & break	Ordering no. Rec./NPN Plug Make & break	Ordering no. Rec./PNP Cable Make & break	Ordering no. Rec./PNP Plug Make & break	Ordering no. Emitter Cable	Ordering no. Emitter Plug
M18	10 m	PA18CST10NA	PA18CST10NAM1	PA18CST10PA	PA18CST10PAM1	PA18CST10	PA18CST10M1

**Note:** Please order emitter and receiver separately. Plugs to be ordered separately.

## Specifications Emitter

<b>Rated operational volt. (U<sub>B</sub>)</b>	10 to 40 VDC (ripple included)
<b>Ripple (U<sub>rp</sub>)</b>	≤ 10%
<b>Supply current (I<sub>o</sub>)</b>	≤ 20 mA
<b>Protection</b>	Reverse polarity, short-circuits, transients
<b>Light source</b>	GaAlAs LED, 880 nm
<b>Light type</b>	Infrared, modulated
<b>Optical angle</b>	±2°
<b>Indication</b> Supply ON	LED, green

## Specifications Receiver

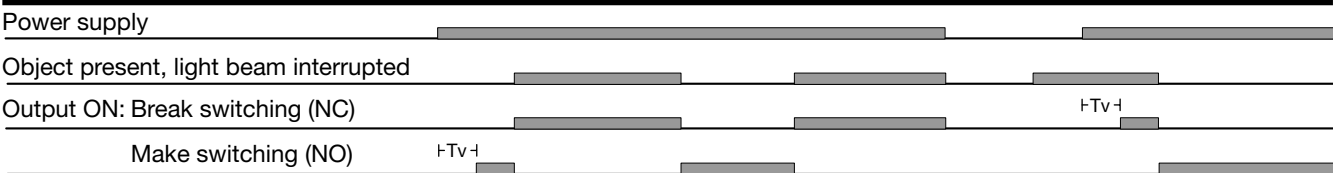
<b>Rated operating dist. (S<sub>n</sub>)</b>	Up to 10 m
<b>Temperature drift</b>	0.6%/°C
<b>Hysteresis (H)</b> (Differential travel)	3 to 20%
<b>Rated operational volt. (U<sub>B</sub>)</b>	10 to 40 VDC (ripple included)
<b>Ripple (U<sub>rp</sub>)</b>	Max. 10%
<b>No-load supply current (I<sub>o</sub>)</b>	Max. 12 mA (typ. 8 mA)
<b>Min. operational current (I<sub>e</sub>)</b>	0.5 mA
<b>OFF-state current (I<sub>i</sub>)</b>	Max. 100 µA (typ. 0)
<b>Output current</b> Continuous (I <sub>e</sub> ) Short-time (I)	Max. 200 mA 200 mA Max. load capacity 100 nF
<b>Voltage drop (U<sub>d</sub>)</b>	Max. 2.5 VDC
<b>Protection</b>	Reverse polarity, short-circuit, transients
<b>Optical angle</b>	±2°
<b>Ambient light</b>	Max. 5,000 lux
<b>Operating frequency (f)</b>	Typ. 170 Hz
<b>Response time</b> OFF-ON (t <sub>ON</sub> ) ON-OFF (t <sub>OFF</sub> )	Typ. 1.6 ms Typ. 4.2 ms



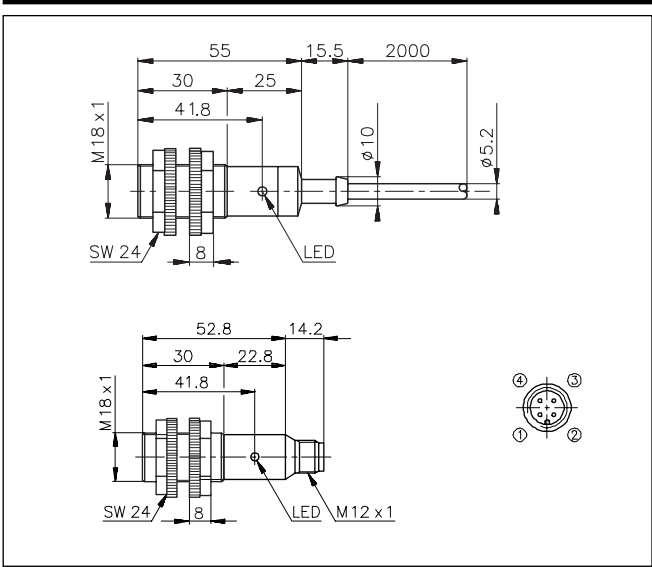
General Specifications

Power ON delay (t <sub>v</sub> )	70 ms	Housing material	
Indication	Light and dark (Complementary switch) LED, yellow	Body	PBTP grey thermoplastic polyester housing Luran®, black
Output ON		Front	
Environment		Cable end	Polyester, black
Overvoltage category	III (IEC 60664/664A; 60947-1)	Nuts	Reinforced nylon
Pollution degree	3 (IEC 60664/664A; 60947-1)	Connection	
Degree of protection	IP 67 (IEC 60529; 60947-1)	Cable	Grey, 2 m oilproof, PVC, 4 x 0.34 mm <sup>2</sup> , ø 5.2 mm
Temperature		Receiver	2 x 0.5 mm <sup>2</sup> , ø 5.2 mm
Operating	-20° to +60°C (-4° to +140°F)	Ermittler	M 12 x 1
Storage	-30° to +70°C (-22° to +158°F)	Plug	CON.1A-..series
Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)	Cables for plug (M1)	
Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)	Weight	
Dielectric voltage	600 VAC (IEC 60364-4-41)	Cable version	100 g
		Plug version	17 g
		Approvals	UL
		CE-marking	Yes

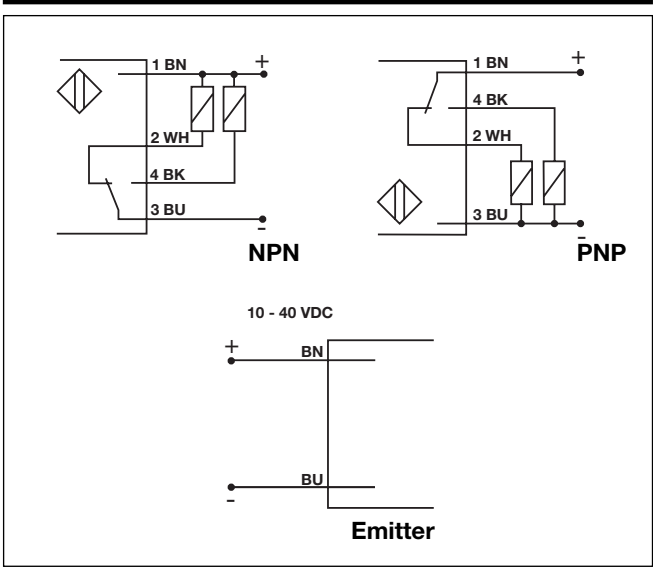
Operation Diagram



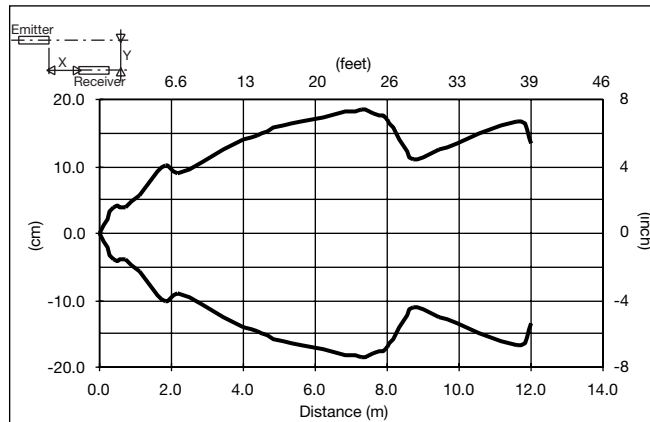
Dimensions



Wiring Diagrams



## Detection Diagram



## Delivery Contents

- Photoelectric switch: PA18CST10...
- 2 nuts
- **Packaging:** Plastic bag

## Accessories

- MB18A
- Plugs DC versions: CON.1A-...series
- Option: Fibre-optics
- APA18-RAR
- APA18-AR

For further information refer to "Accessories".