

Photoelectrics

Retro-reflective, Polarized

Type PA18CLP20T, AC, PBTP housing

CARLO GAVAZZI



- Range: 2.0 m
- Modulated red light, polarized
- Supply voltage: 20 to 250 VAC
- Output: 500 mA SCR
- Make and break switching functions
- LED-output indication
- Improved immunity to reflecting surfaces
- Cable and plug versions

Product Description

The PA18CLP.. is a family of inexpensive general purpose Polarized Retro-reflective sensors in industrial standard 18 mm cylindrical PBTP housing. They are useful for simple applica-

tions where a basic sensor provides adequate sensing performance. The sensors are simple to use and no adjustment are necessary. The output is a 2-wire NO or NC thyristor (SCR) output.

Ordering Key

PA18CLP20TOM6

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

Type Selection

Housing diameter	Rated operating dist. (S _n)	Ordering no. SCR/Cable Make switching	Ordering no. SCR/Plug Make switching	Ordering no. SCR/Cable Break switching	Ordering no. SCR/Plug Break switching
M18	2.0 m	PA18CLP20TO	PA18CLP20TOM6	PA18CLP20TC	PA18CLP20TCM6

Note: Plugs and reflectors to be ordered separately.

Specifications

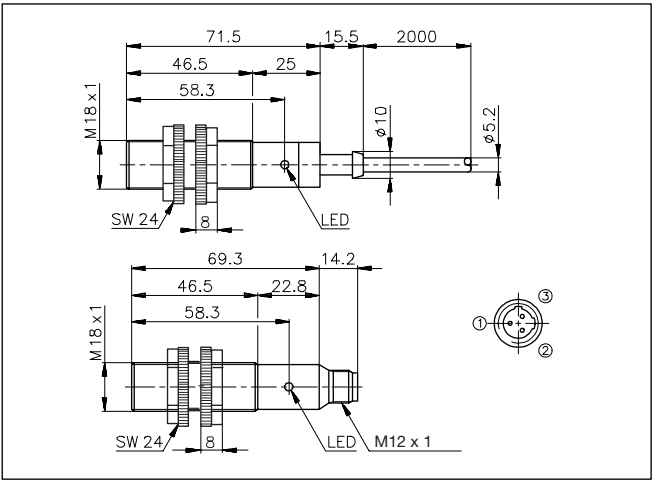
Rated operating dist. (S_n)	Up to 2.0 m. Ref. reflector type ER4 Ø 84 mm	Light spot size	150 mm at 2 m
Blind zone	0.15 m	Ambient light	Max 5'000 lux
Temperature drift	0.4%/°C	Operating frequency (f)	Max. 25 Hz light-dark ratio 1.2
Hysteresis (H) (Differential travel)	3 to 20 %	Response time OFF-ON (t _{ON}) ON-OFF (t _{OFF})	≤ 20 ms ≤ 30 ms
Rated operational volt. (U_B)	20 to 250 VAC, 45 to 65 Hz	Power ON delay (t_v)	Typ. 70 ms
Output current (AC 12, AC 140) Continuous (I _a) Short-time (I)	≤ 500 mA ≤ 3 A, max. 20 ms	Indication function Output ON	Dark (NC) or light (NO) switching LED, yellow
Min. operational current (I_m)	10 mA	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)
OFF-state current (I_i)	≤ 5 mA, typ. 2.6 mA	Temperature Operating Storage	-20° to +60°C (-4° to 140°F) -30° to +70°C (-22° to 158°F)
Voltage drop (U_d)	Typ. ≤ 7 VAC max. ≤ 10 VAC	Vibration	10 to 150 Hz, 0.5 mm/- 7.5 g (IEC 60068-2-6)
Protection	Transients	Shock	2 x 1 m 100 x 0.5 m (IEC 60068-2-32)
Transient voltage	1 kV / 0.5 J	Dielectric voltage	1600 V (IEC 60364-4-41)
Light source Light type Optical angle	GaAlAs LED, 660 nm Red polarized, modulated ± 2°		



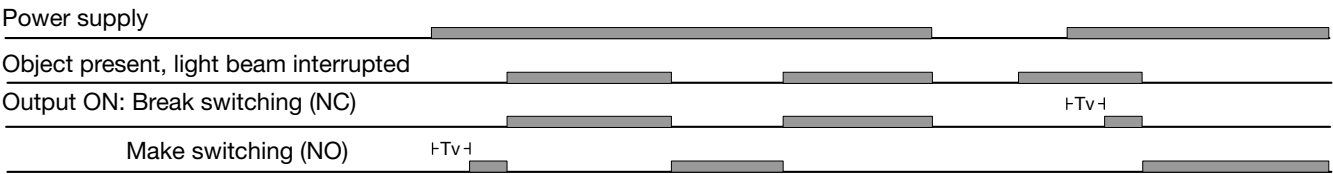
Specifications (cont.)

Housing material	
Body	PBTP thermoplastic polyester
Front	PMMA, red
Cable (Cable end)	PVC, black
Nuts	Reinforced nylon
Connection	
Cable	Grey, 2 m, 2 x 0.5 mm², oilproof PVC
Plug	M12 x 1
Cables for plug (M6)	CONH6A...series
Weight	
Cable version	105 g
Plug version	22 g
Approvals	
UL, CSA	
CE-marking	
Yes	

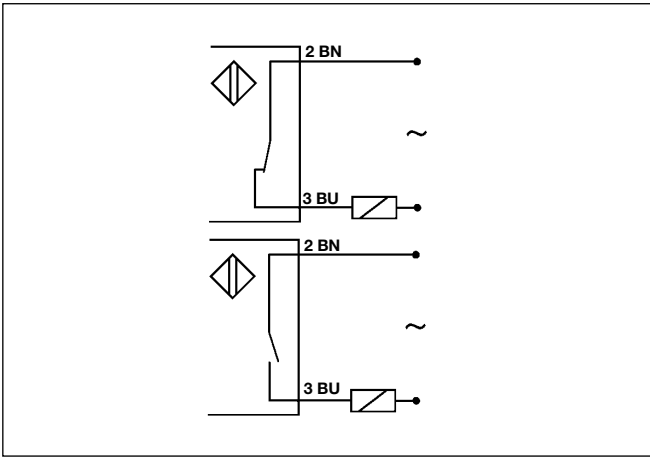
Dimensions



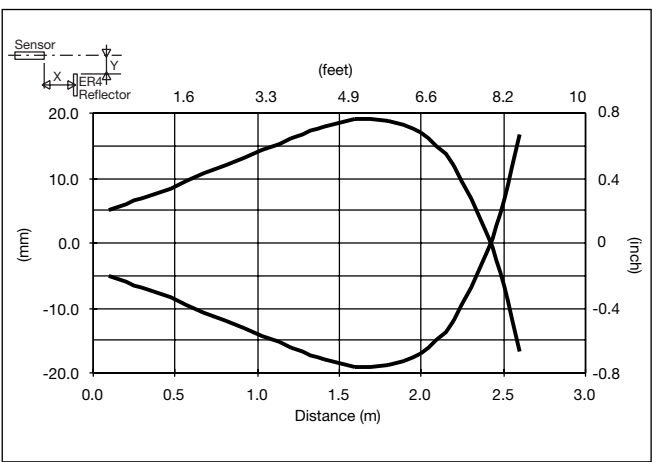
Operation Diagram



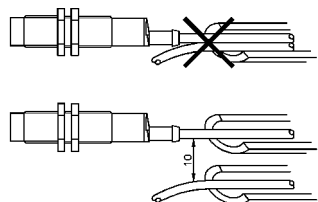
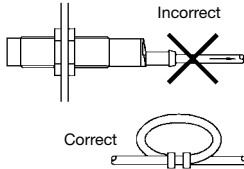
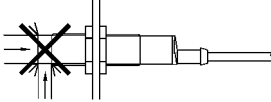
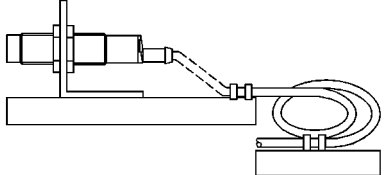
Wiring Diagrams



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: PA18CLP20T.
- 2 nuts
- **Packaging:** Plastic bag

Accessories

- Reflectors: ER series
- Connector type CON.6A... serie
- Options: Fibre optics
- MB18A
- APA18-RAR

For further information refer to "Accessories".