Photoelectrics
Retro-reflective
Type PA18CLR30T, AC, PBTP housing



- **Range: 3 m**
- **Modulated infrared light**
- **Supply voltage: 20 to 250 VAC**
- **Output: 500 mA SCR**
- **Make and break switching functions**
- **LED output indication**
- **High immunity to ambient light**
- **Cable and plug versions**

Product Description

The PA18CLR.. is a family of inexpensive general purpose Retro-reflective 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 2-wire NO or NC thyristor (SCR) output.

Ordering Key

PA18CLR30TOM6

- **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	3 m	**PA18CLR30TO**	**PA18CLR30TOM6**	**PA18CLR30TC**	**PA18CLR30TCM6**

Note: Plugs and reflectors to be ordered separately

Specifications

Rated operating dist. (S_n)	Up to 3 m Ref. reflector type ER4, ∅ 84 mm
Temperature drift	0.4%/K
Hysteresis (H) (Differential travel)	 3 to 20%
Rated operational volt. (U_B)	20 to 250 VAC, 45 to 65 Hz
Output current (AC 12, AC 140) Continuous (I_e) Short-time (I)	 ≤ 500 mA ≤ 3 A, max. 20 ms
Min. operational current (I_m)	10 mA
OFF-state current (I_r)	< 5 mA, typ. 2.6 mA
Voltage drop (U_d)	≤ 10 VAC, typ. 7 VAC
Protection	Transients
Transient voltage	1 kV/0.5 J
Light source	GaAlAs LED, 880 nm
Light type	Infrared, modulated
Optical angle	± 2.2°
Light spot size	150 mm at 2 m
Ambient light	Max. 10,000 lux

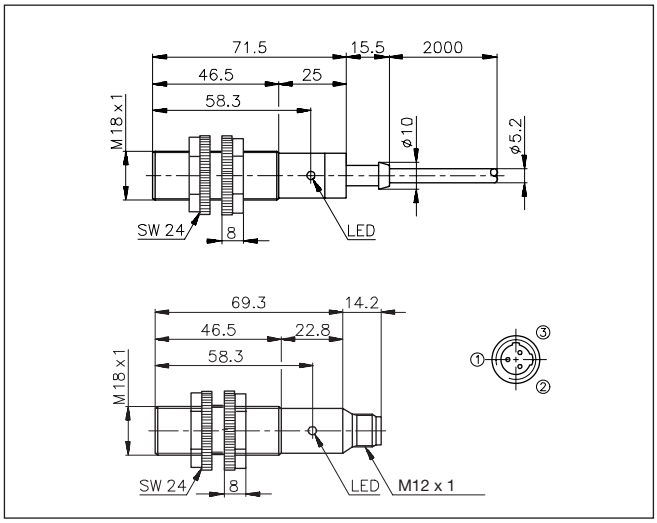
Operating frequency (f)	Max. 20 Hz, light/dark ratio 1:2
Response time OFF-ON (t_{ON}) ON-OFF (t_{OFF})	 ≤ 20 ms ≤ 30 ms
Power ON delay (t_v)	Typ. 100 ms
Indication function Output ON	Dark (NC) or light (NO) switching LED, yellow
Environment Overvoltage category Pollution degree Degree of protection	 III (IEC 60664/60664A; 60947-1) 3 (IEC 60664/60664A; 60947-1) IP 67 (IEC 60529; 60947-1)
Temperature Operating Storage	 -20° to +60°C (-4° to 140°F) -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)
Dielectric voltage	1600 V (IEC 60364-4-41)

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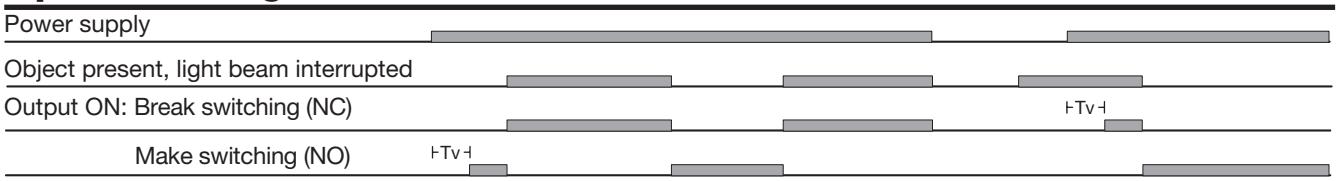
Specifications (cont.)

Housing material	
Body	PBTP grey thermoplastic polyester
Front	Luran®, black
Cable end	Polyester, black
Nuts	Reinforced nylon
Connection	
Cable	Grey, 2 m, 2 x 0.5 mm², oilproof PVC
Plug	M12 x 1
Cables for plug (M6)	CON.6A-.. serie
Weight	
Cable version	105 g
Plug version	22 g
Approvals	UL, CSA
CE-marking	Yes

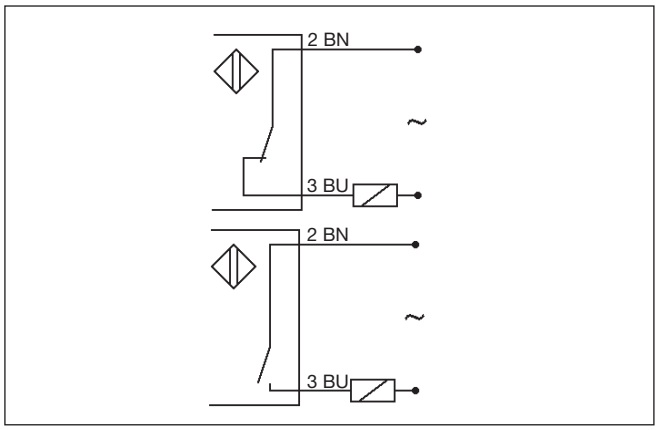
Dimensions



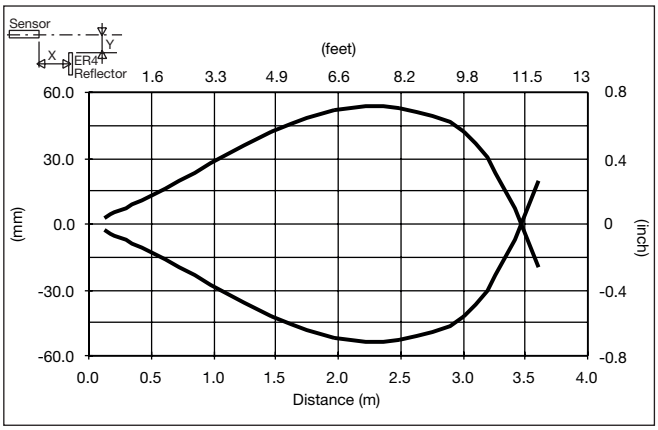
Operation Diagram



Wiring Diagrams



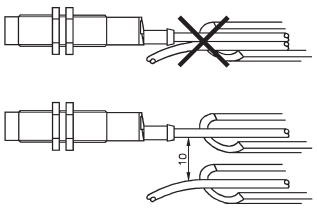
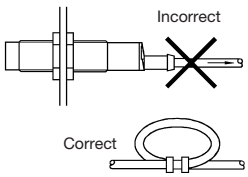
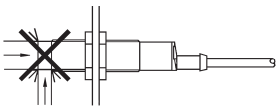
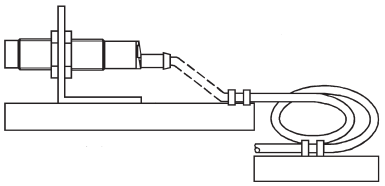
Detection Diagram



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Installation Hints

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	*Relief of cable strain*	*Protection of the sensing face*	*Switch mounted on mobile carrier*
	 The cable should not be pulled	 A proximity switch should not serve as mechanical stop	 Any repetitive flexing of the cable should be avoided

Delivery Contents

- Photoelectric switch: PA18CLR30T.
- 2 nuts
- **Packaging:** plastic bag

Accessories

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

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