

Photoelectrics Retro-reflective Type PA18CSR30., DC, PBTP-housing

CARLO GAVAZZI



- Range: 3 m
- Modulated infrared light
- Supply voltage: 10 to 40 VDC
- Output: 200 mA NPN or PNP
- Make and break switching function, LED indication
- Protection: Reverse polarity, short circuit, transients
- High immunity to ambient light
- Cable and plug versions



Product Description

The PA18CSR.. 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 4-wire complementary (NO and NC) output in NPN (current sinking) or PNP (current sourcing).

Ordering Key

PA18CSR30NAM1

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. NPN/Cable Make & break swit.	Ordering no. NPN/Plug Make & break swit.	Ordering no. PNP/Cable Make & break swit.	Ordering no. PNP/Plug Make & break swit.
M18	3 m	PA18CSR30NA	PA18CSR30NAM1	PA18CSR30PA	PA18CSR30PAM1

Note: Plugs and reflectors to be ordered separately

Specifications

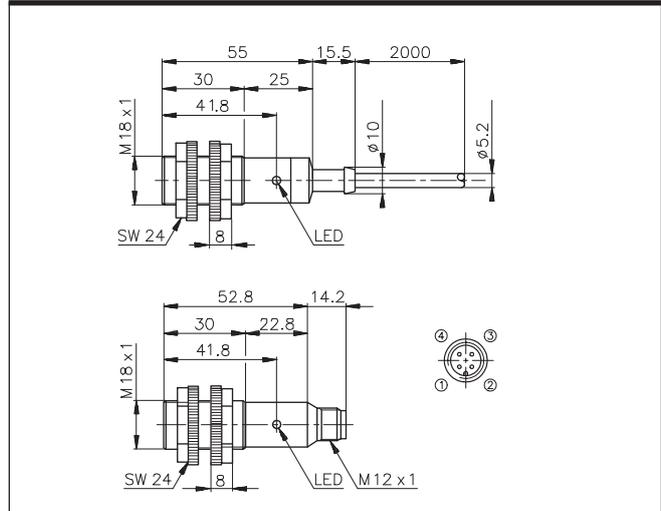
Rated operating dist. (S_n)	Up to 3 m Reflector type ER4 Ø 84 mm	Light source	GaAlAs LED, 880 nm
Temperature drift	0.4%/K	Light type	Infrared, modulated
Hysteresis (H) (Differential travel)	3 to 20%	Optical angle	± 2.2°
Rated operational volt. (U_b)	10 to 40 VDC (ripple included)	Light spot size	150 mm at 2 m
Ripple (U_{rip})	Max. 10%	Ambient light	Max. 10,000 lux
Output current Continuous (I _e) Short-time (I)	Max. 200 mA 200 mA, max. load capacity 100 nF	Operating frequency (f)	Max. 120 Hz, light/dark ratio 1:2
No load supply current (I_o)	Max. 20 mA @ 200 mA	Response time OFF-ON (t _{ON}) ON-OFF (t _{OFF})	≤ 3.2 ms ≤ 5 ms
Min. operational current (I_m)	0.5 mA	Indication function	Dark and light (complementary switch) LED, yellow
OFF-state current (I_r)	Max. 100 µA	Output ON	
Voltage drop (U_d)	Max. 2.5 V	Environment	
Protection	Reverse polarity, short circuit overload, transients	Overvoltage category	III (IEC 60664/60664A; 60947-1)
Transient voltage	1 kV/0.5 J	Pollution degree	3 (IEC 60664/60664A; 60947-1)
Power ON delay (t_v)	Typ. 100 ms	Degree of protection	IP 67 (IEC 60529; 60947-1)
		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 60068-2-6)
		Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)



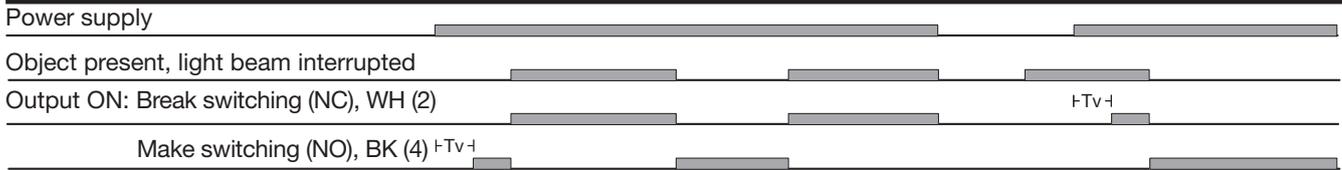
Specifications (cont.)

Dielectric voltage	600 VAC (IEC 60364-4-41)
Housing material	PBTP, grey thermoplastic polyester
Body	Luran®, black
Front	Polyester, black
Cable end	Reinforced nylon
Nuts	
Connection	
Cable	Grey, 2 m, 4 x 0.35 mm ² , oilproof PVC
Plug	M12 x 1
Cables for plug (M1)	CON.1A-...series
Weight	
Cable version	100 g
Plug version	17 g
Approvals	UL, CSA
CE-marking	Yes

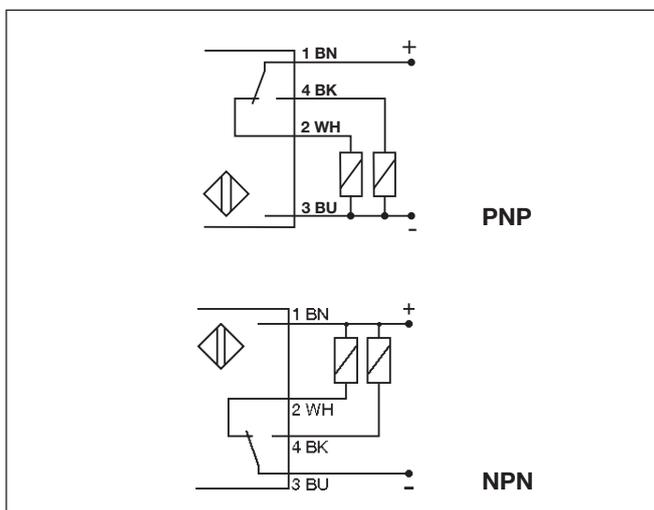
Dimensions



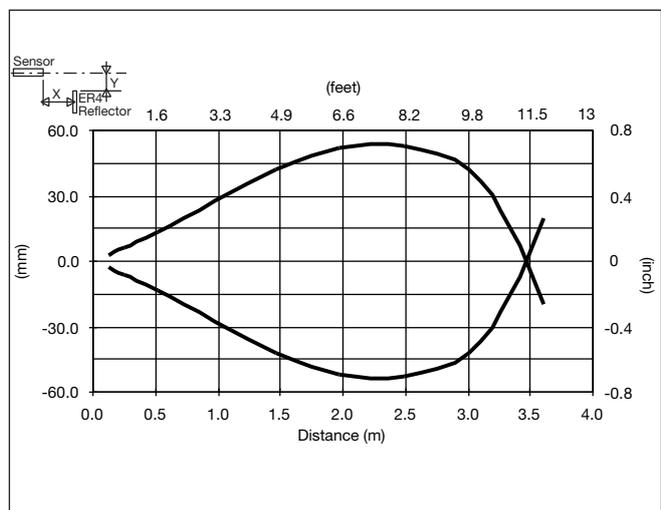
Operation Diagram



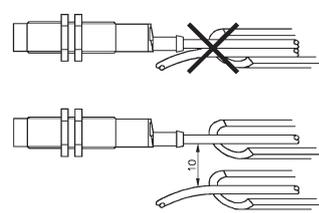
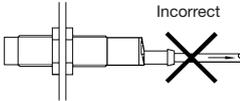
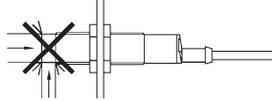
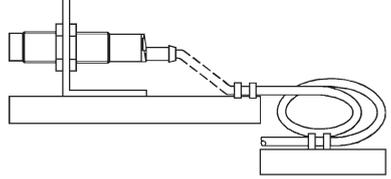
Wiring Diagrams



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: PA18CSR30..
- 2 nuts
- **Packaging:** plastic bag

Accessories

- Reflectors: ER series
- Plugs: CON.1A-.. serie
- MB18A
- APA18-RAR

For further information refer to "Accessories"