

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

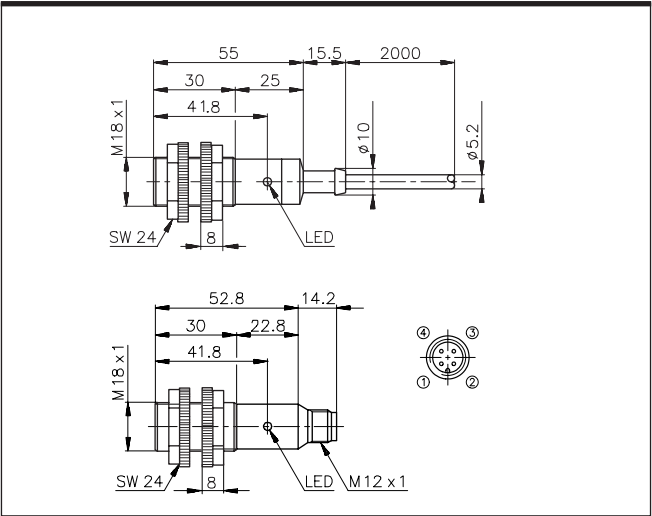
Rated operating dist. (S_n)	Up to 3 m Reflector type ER4 Ø 84 mm	Light source	GaAlAs LED, 880 nm
Temperature drift	0.4%/K	Light type	Infrared, modulated
Hysteresis (H) (Differential travel)	3 to 20%	Optical angle	± 2.2°
Rated operational volt. (U_s)	10 to 40 VDC (ripple included)	Light spot size	150 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	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)
Voltage drop (U_d)	Max. 2.5 V	Temperature Operating Storage	-20° to +60°C (-4° to 140°F) -30° to +70°C (-22° to 158°F)
Protection	Reverse polarity, short circuit overload, transients	Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)
Transient voltage	1 kV/0.5 J	Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)
Power ON delay (t_v)	Typ. 100 ms		



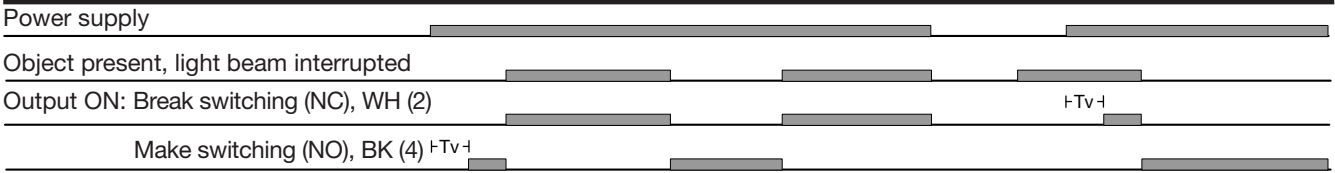
Specifications (cont.)

Dielectric voltage	600 VAC (IEC 60364-4-41)
Housing material	PBTP, grey thermoplastic polyester
Body	Luran®, black
Front	Polyester, black
Cable end	Polyester, black
Nuts	Reinforced nylon
Connection	
Cable	Grey, 2 m, 4 x 0.35 mm², 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

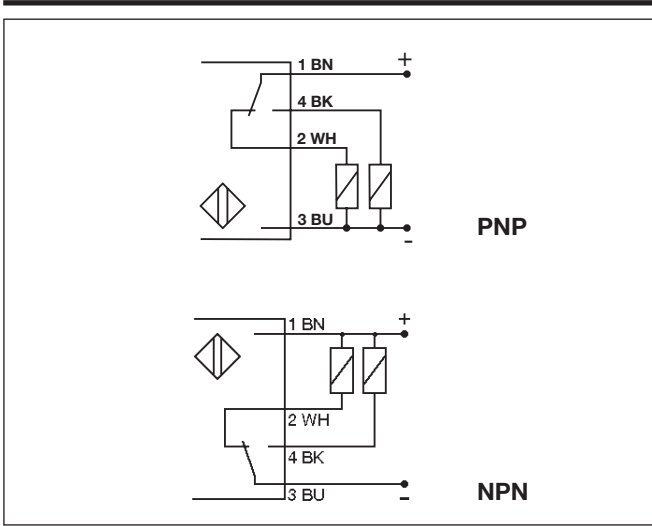
Dimensions



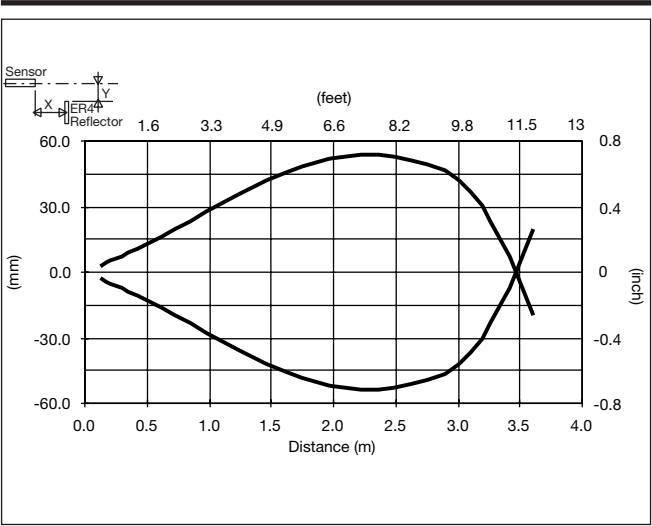
Operation Diagram



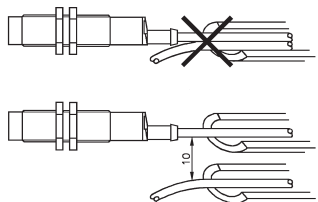
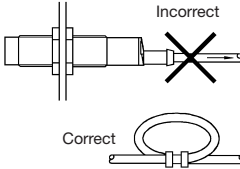
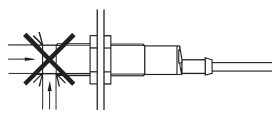
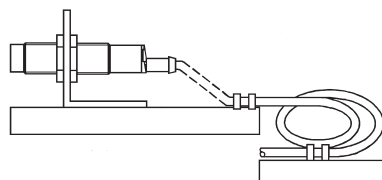
Wiring Diagrams



Detection Diagram



Installation Hints

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

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

Accessories

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

For further information refer to "Accessories"