

Photoelectrics Retro-reflective, Polarized Type PA18CSP20, DC, PBTP-housing

CARLO GAVAZZI



- Range: 2.0 m
- Modulated red light, polarized
- Supply voltage: 10 to 40 VDC
- Output: 200 mA NPN or PNP
- Make and break switching functions, LED, indication
- Protection: Reverse polarity, short-circuit, transients
- Improved immunity to reflecting surfaces
- Cable and plug versions



Product Description

The PA18CSP. is a family of inexpensive general purpose Polarized 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

PA18CSP20NAM1

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	2.0 m	PA18CSP20NA	PA18CSP20NAM1	PA18CSP20PA	PA18CSP20PAM1

Note: Plugs and reflectors to be ordered separately

Specifications

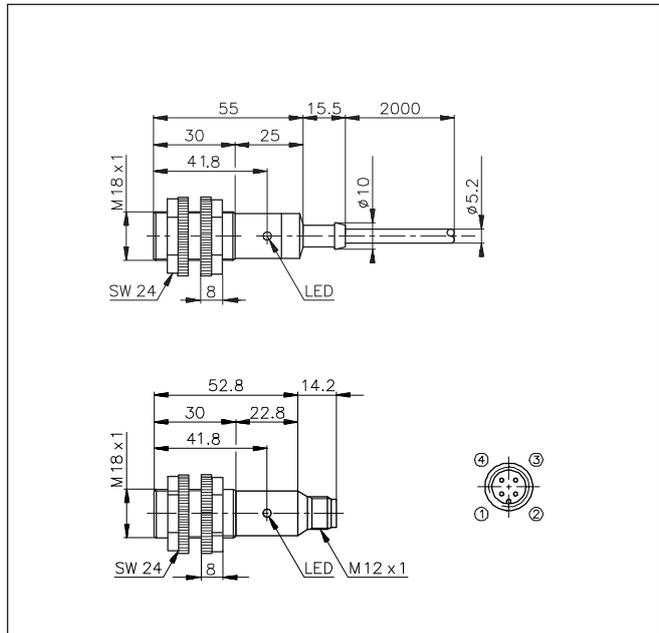
Rated operating dist. (S_n)	Up to 2.0 m Ref. reflector type ER4 Ø 84 mm	Light source	GaAlAs LED, 660 nm
Temperature drift	0.4%/°C	Light type	Red polarized, modulated
Hysteresis (H) (Differential travel)	3 to 20 %	Optical angle	± 2°
Rated operational volt. (U_B)	10 to 40 VDC (ripple included)	Light spot size	150 mm at 2 m
Ripple (U_{rip})	Max. 10%	Ambient light	Max 5'000 lux
Output current Continuous (I _a) Short-time (I)	≤ 200 mA 200 mA max. load capacity 100nF	Operating frequency (f)	Max. 100 Hz, light-dark ratio 1.2
No load supply current (I_O)	Max. 20 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 VDC @ 200 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)
Protection	Reverse polarity, short-circuit, transients	Temperature Operating Storage	-20° to +60°C (-4° to 140°F) -30° to + 70°C (-22° to 158°F)
Transient voltage	1 kV / 0.5 J		
Power ON delay (t_v)	Typ. 70 ms		



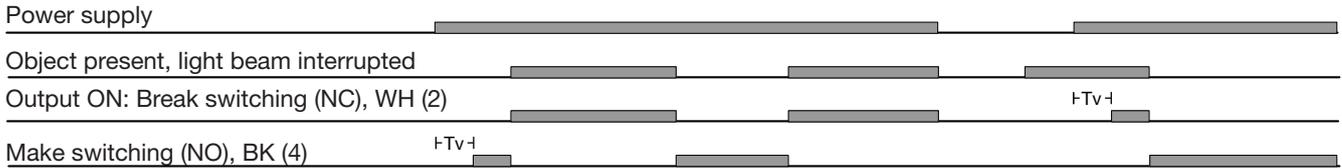
Specifications (cont.)

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

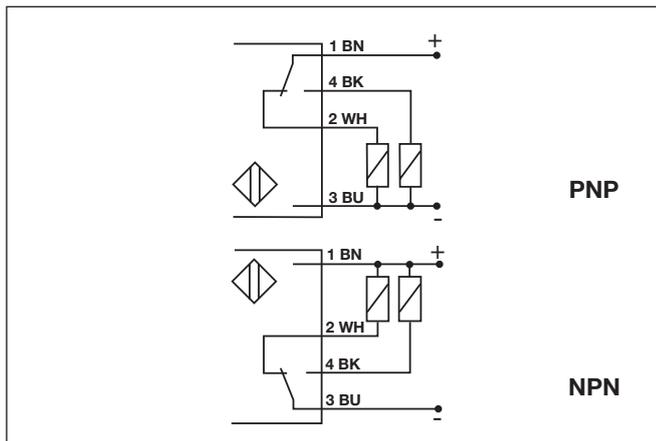
Dimensions



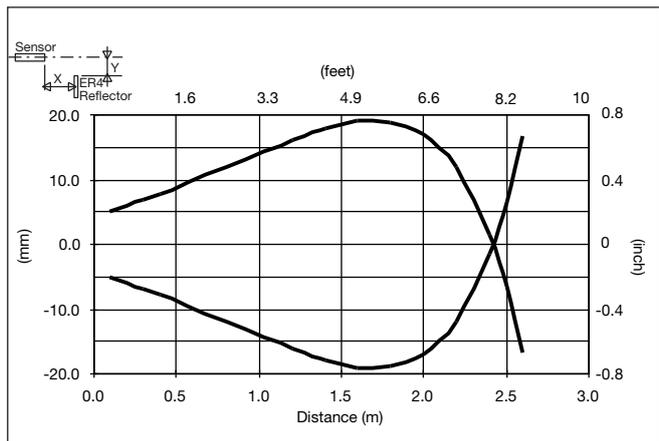
Operation Diagram



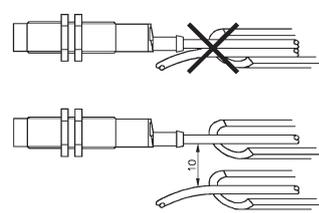
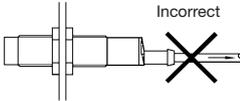
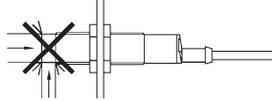
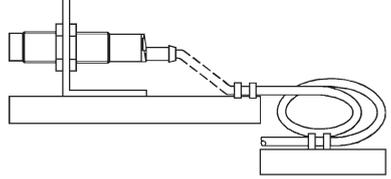
Wiring Diagrams



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 PA18CSP20.
- 2 nuts
- **Packaging:** Plastic bag

Accessories

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

For further information refer to "Accessories".