

Photoelectrics Diffuse-reflective Type PA18CSD0., DC, PBTP-housing

CARLO GAVAZZI



- Range: 400 mm adjustable
100, 200 or 400 mm fixed
- 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 PA18CSD.. is a family of inexpensive general purpose Diffuse-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 (except 400 mm diffuse adjustable type). The output is a 4-wire complementary (NO and NC) output in NPN (current sinking) or PNP (current sourcing).

Ordering Key PA18CSD04NAM1SA

Type	SA
Housing style	04
Housing size	04
Housing material	04
Housing length	04
Detection principle	04
Sensing distance	04
Output type	04
Output configuration	04
Connection type	04
Adjustable	04

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	100 mm fixed	PA18CSD01NA	PA18CSD01NAM1	PA18CSD01PA	PA18CSD01PAM1
M18	200 mm fixed	PA18CSD02NA	PA18CSD02NAM1	PA18CSD02PA	PA18CSD02PAM1
M18	400 mm fixed	PA18CSD04NA	PA18CSD04NAM1	PA18CSD04PA	PA18CSD04PAM1
M18	400 mm adjust.	PA18CSD04NASA	PA18CSD04NAM1SA	PA18CSD04PASA	PA18CSD04PAM1SA

Note: Plugs to be ordered separately

Specifications

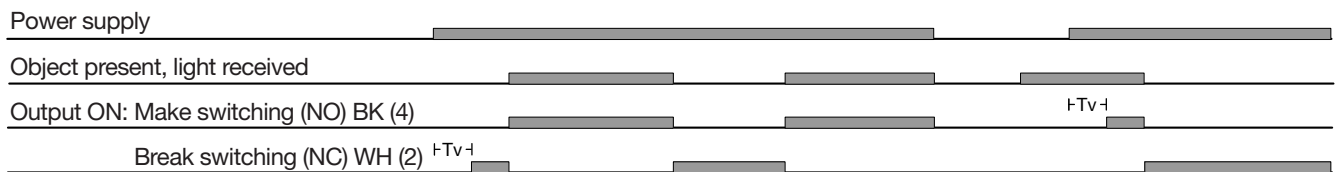
Rated operating dist. (S_n) Adjustable Fixed	Up to 400 mm 100, 200 or 400 mm	No load supply current (I_o)	Max. 20 mA
	Reference target: Kodak test card R27, white, 90% reflectivity 100 x 100 mm 200 x 200 mm	Min. operational current (I_m)	0.5 mA
Size: S _n < 400 mm S _n ≥ 400 mm		OFF-state current (I_i)	Max. 100 μA
		Voltage drop (U_d)	Max. 2.5 V @ 200 mA
Sensitivity Adjustable type only	270° turn potentiometer	Protection	Reverse polarity, short circuit, transients
Temperature drift	0.4%/K	Transient voltage	Max. 1 kV/0.5 J
Hysteresis (H) (Differential travel)	3 to 20%	Light source	GaAlAs LED, 880 nm
Rated operational volt. (U_B)	10 to 40 VDC (ripple included)	Light type	Infrared, modulated synchronized
Ripple (U_{rip})	Max. 10%	Sensing angle	± 25° at 1/2 range
Output current Continuous (I _e) Short-time (I)	Max. 200 mA 200 mA, max. load capacity 100 nF	Ambient light	Max. 10,000 lux
		Operating frequency (f)	120 Hz, light/dark ratio 1:2
		Response time OFF-ON (t _{ON}) ON-OFF (t _{OFF})	≤ 3.2 ms ≤ 5 ms
		Power ON delay (t_v)	Typ. 100 ms



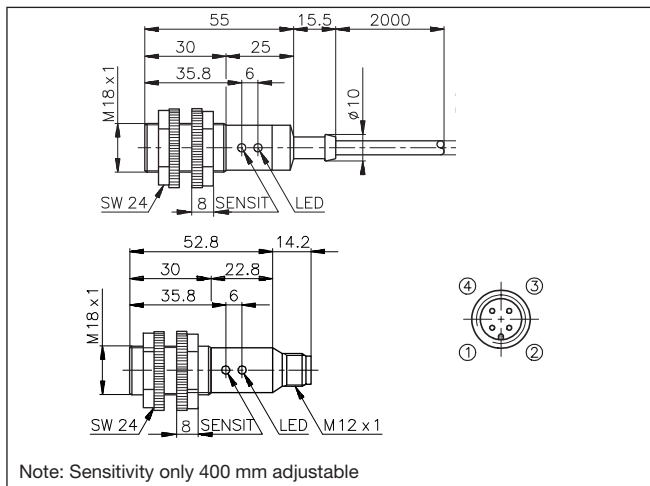
Specifications (cont.)

Indication function	Dark and light (complementary switch) LED, yellow	Housing material	Body PBTP, grey thermoplastic polyester Luran®, black Front Polyester, black Cable end Polyester, black Nuts Reinforced nylon
Environment	III (IEC 60664/60664A; 60947-1) Pollution degree 3 (IEC 60664/60664A; 60947-1) Degree of protection IP 67 (IEC 60529; 60947-1)	Connection	Cable Grey, 2 m, 4 x 0.35 mm ² oilproof PVC Plug M12 x 1 Cables for plug (M1) CON.1-.... series
Temperature	Operating -20° to +60°C (-4° to 140°F) Storage -30° to + 70°C (-22° to 158°F)	Weight	Cable version 100 g Plug version 17 g
Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6)	Approvals	UL, CSA
Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-32)	CE-marking	Yes
Dielectric voltage	600 VAC (IEC 60365-4-41)		

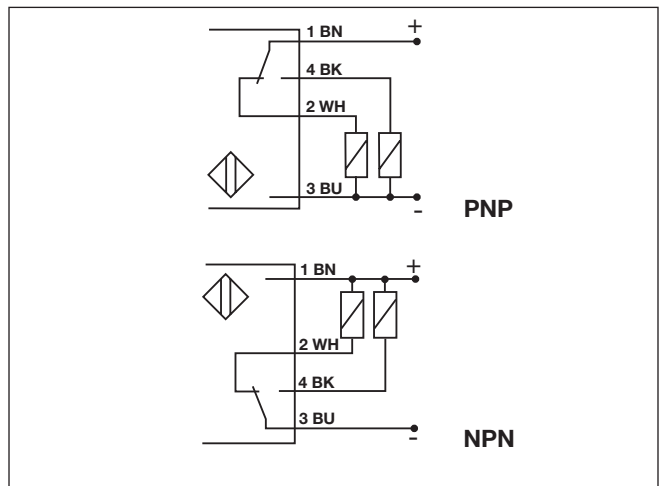
Operation Diagram



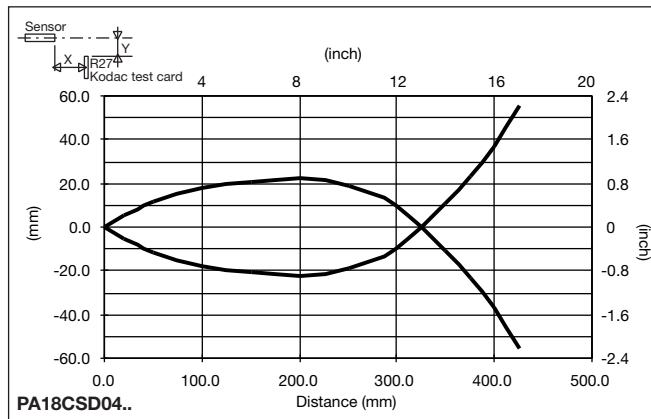
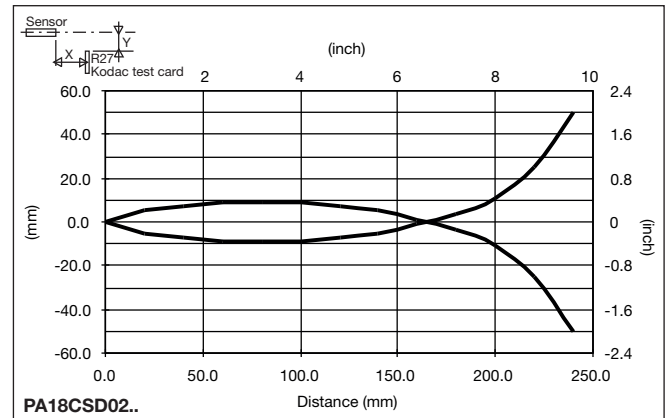
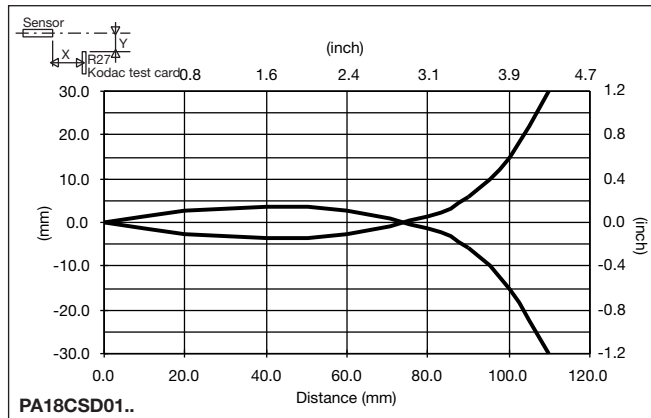
Dimensions



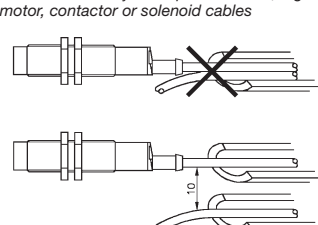
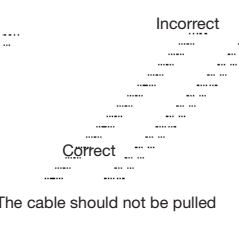
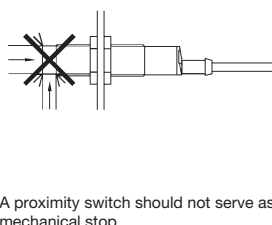
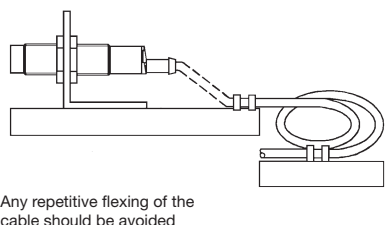
Wiring Diagrams



Detection Diagrams



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>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 PA18CSD04
- 2 nuts
- **Packaging:** plastic bag

Accessories

- MB18A
- Connector type CON.1A-..
- Screw driver for adjustments: 77-000
- APA18-RAR

For further information refer to "Accessories"