

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	_____
Housing style	_____
Housing size	_____
Housing material	_____
Housing length	_____
Detection principle	_____
Sensing distance	_____
Output type	_____
Output configuration	_____
Connection type	_____
Adjustable	_____

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

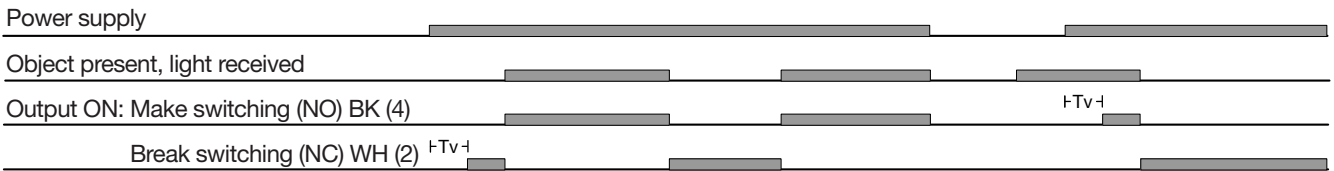
Rated operating dist. (S_n) Adjustable Fixed	Up to 400 mm 100, 200 or 400 mm Reference target: Kodak test card R27, white, 90% reflectivity 100 x 100 mm 200 x 200 mm	No load supply current (I₀)	Max. 20 mA
Size: S _n < 400 mm S _n ≥ 400 mm		Min. operational current (I_m)	0.5 mA
Sensitivity Adjustable type only	270° turn potentiometer	OFF-state current (I_i)	Max. 100 µA
Temperature drift	0.4%/K	Voltage drop (U_d)	Max. 2.5 V @ 200 mA
Hysteresis (H) (Differential travel)	3 to 20%	Protection	Reverse polarity, short circuit, transients
Rated operational volt. (U_B)	10 to 40 VDC (ripple included)	Transient voltage	Max. 1 kV/0.5 J
Ripple (U_{pp})	Max. 10%	Light source	GaAlAs LED, 880 nm
Output current Continuous (I _e) Short-time (I)	Max. 200 mA 200 mA, max. load capacity 100 nF	Light type	Infrared, modulated synchronized
		Sensing angle	± 25° at 1/2 range
		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



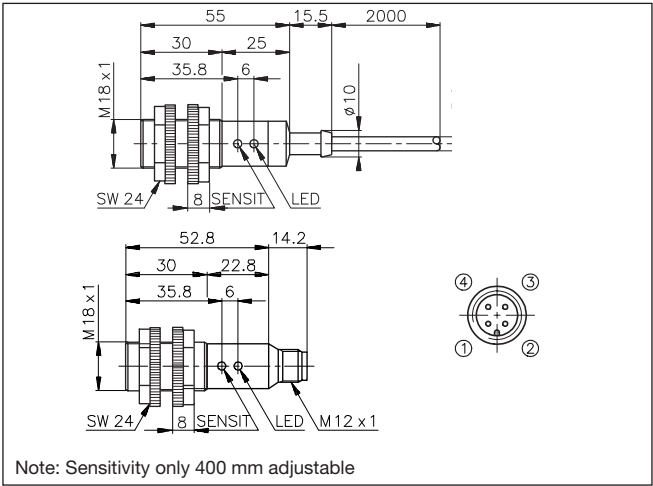
Specifications (cont.)

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

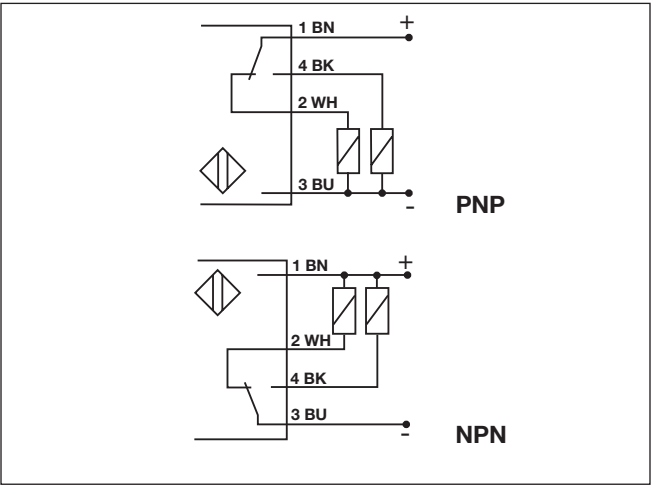
Operation Diagram



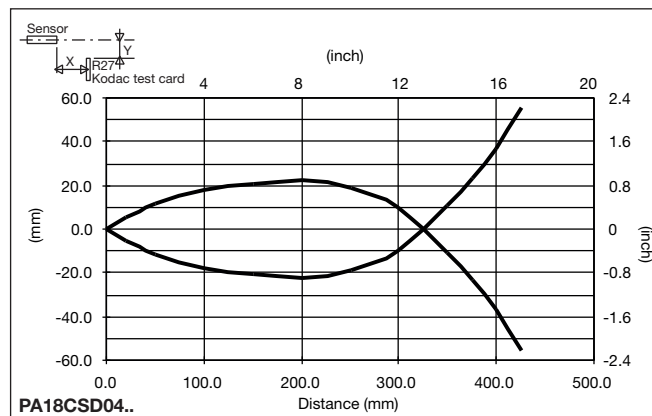
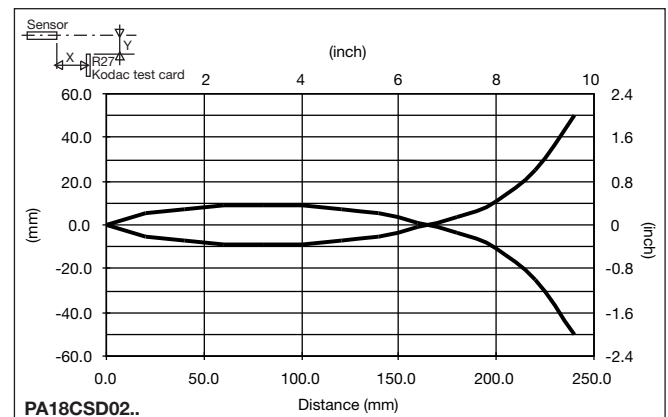
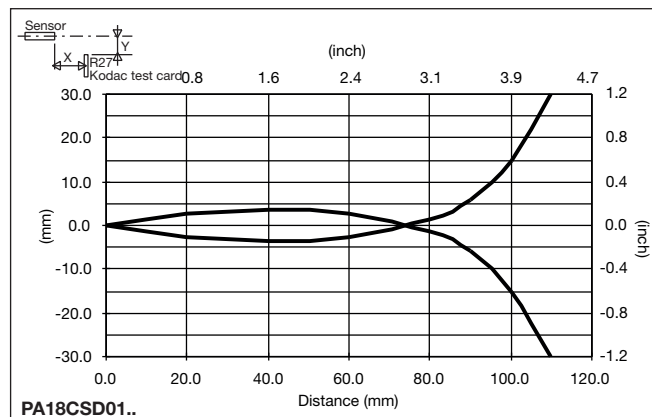
Dimensions



Wiring Diagrams

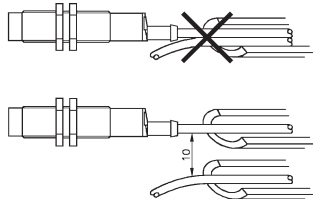


Detection Diagrams

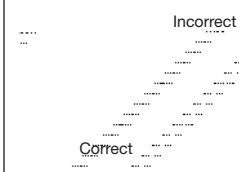


Installation Hints

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

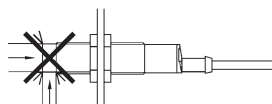


Relief of cable strain



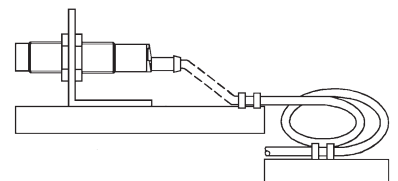
The cable should not be pulled

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

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"