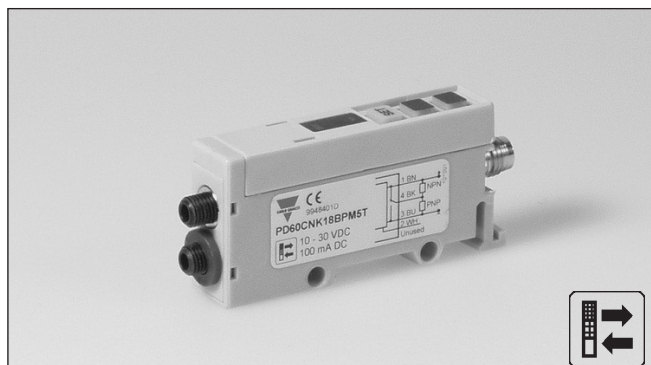


Photoelectrics, Fibre Optic Sensor

Contrast Sensor

Type PD 60 CNK 18 BP ..

CARLO GAVAZZI



- Range: 18 mm $\pm$ 2 mm
- Microprocessor controlled and EEPROM parameter storage
- Operational voltage 10 - 30 V DC
- Output 100 mA, NPN and PNP
- Light or dark switching selectable
- Cable or M8 standard plug
- IP65 protection
- cUL and CE approved
- Manual contrast set-up



Product Description

The PD60CNK18BP.. is a fibre optic amplifier made specifically for plastic fibres to detect contrast. The sensor is microprocessor-based and features manual distance setup by keyboard. NO or NC (light or dark mode) output is select-able by wiring. The sensor output is built as

a Push-pull output that performs both a NPN and a PNP output, which are fully protected against short-circuit, transients and wrong polarity. The sensor is built in a strong 13 x 30 x 60 mm polycarbonate housing for DIN-rail mounting.

Ordering Key

PD60CNK18BPM5T

Type _____
Housing style _____
Housing size _____
Housing material _____
Not used _____
Plastic fibres _____
Sensing distance mm _____
Output type _____
Output configuration _____
Connection type _____
Teach-in _____

Type Selection

Housing W x H x D	Range S _n	Ordering no. NPN and PNP cable	Ordering no. NPN and PNP plug
13 x 30 x 60 mm	18 mm $\pm$ 2 mm	PD 60 CNK 18 BP T	PD 60 CNK 18 BP M5 T

Fibre 100 cm fibre w. M18 lens head **FDPK01SCC100**
To be ordered separately.

Specifications

Detection distance	18 mm $\pm$ 2 mm	Sunlight	20'000 Lux
Temperature drift	< 0,4%/°C	Response time	
Rated operational volt. (U_B)	10 to 30 VDC (ripple included)	OFF-ON (t _{ON})	≤ 25 μ s
Ripple (U_{rip})	≤ 10%	ON-OFF (t _{OFF})	≤ 25 μ s
Output current		Power ON delay (t_v)	≤ 300 ms
Continuous (I _a)	100 mA	Output function	
Short-time (I)	100 mA	NPN and PNP	Available (Push-Pull output)
No load supply current (I_o)	50 mA	Indication function	
Switching frequency	20 kHz	Insufficient contrast	Both green LED and red key flash for 2 s
Voltage drop (U_d)		Short-circuit output	Both green LED and red key flash continuously
I _L = 100 mA	≤ 2 VDC	Environment	
I _L = 10 mA	≤ 1 VDC	Installation category	II (IEC 60664/60664A;60947-1)
Protection	Short-circuit, reverse polarity, transients	Pollution degree	3 (IEC 60664/60664A;60947-1)
Light source	White LED	Degree of protection	IP 65 (IEC 60529; 60947-1)
Spot diameter @18 mm	1.5 mm (FDPK01SCC100)	Temperature	
Modulation frequency	40 kHz	Operating	0° to +40°C (32° to +104°F)
Ambient light		Storage	-20° to +80°C (-4° to +176°F)
Incandescent light	10'000 Lux	Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC60068-2-6)



Specifications (cont.)

Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-6, 60068-2-32)
Rated insulation voltage	50 VAC (rms)
Housing material	
Body	Polycarbonate
Connection	
Cable	PVC, black, 2 m, 4 x 0.25 mm²
Plug	NPB, M8 x 1
Cable for plug (M5)	CONB5A-series
Weight	24 g
Approvals	cUL
CE-marking	Yes

Programming Function

Teach-in

Colour 1

Press  for 4 sec.

1st colour has now been learned
Triangle LED goes ON

Colour 2

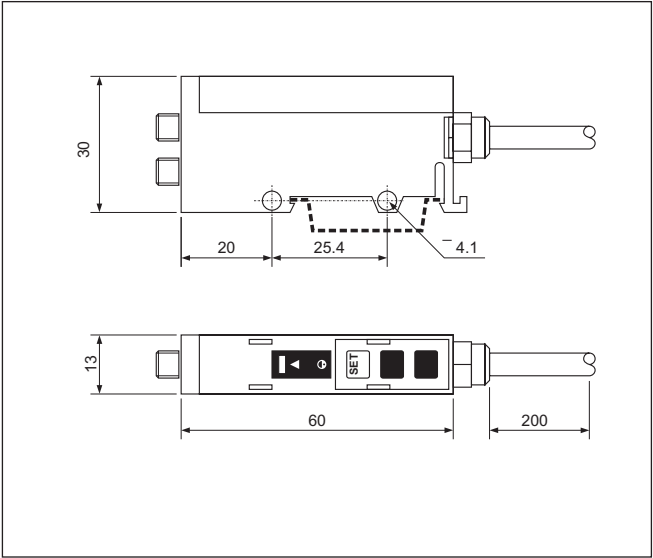
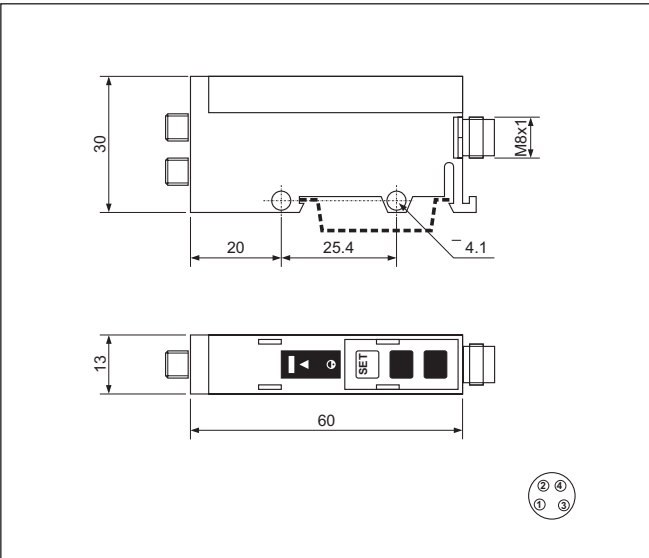
sec.

Press  for 4

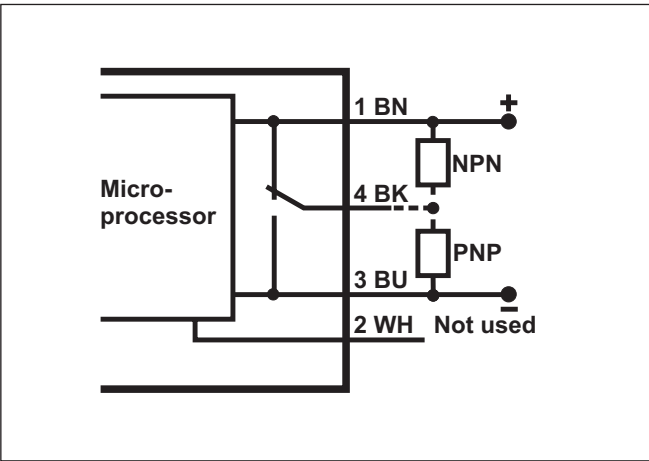
2nd colour has now been learned
Triangle LED goes OFF

Output can be inverted by
teaching colour 2 first

Dimensions



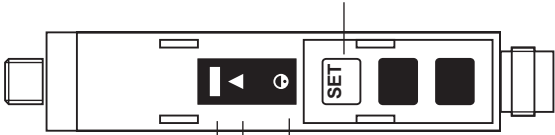
Wiring Diagram



Keyboard and LED

Press for 4 secs:
1st colour is learned, and triangle LED goes ON

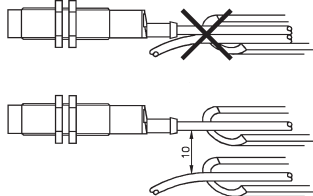
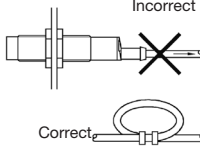
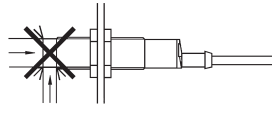
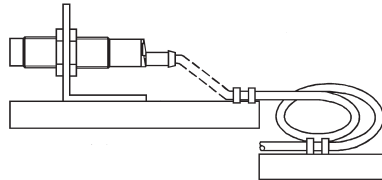
Press for 4 secs again:
2nd colour is learned, and triangle LED goes OFF



* Insufficient contrast:
both green LED and red key flash for 2 s

* Short-circuit output:
both green LED and red key flash continuously

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: PD60CNK18BP..
- Installation instruction
- **Packaging:** Cardboard box

Accessories

- Plastic fibre type FPDK01SCC100

