Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Photoelectrics, Fibre Optic Sensor
Contrast Sensor
Type PD 60 CNK 18 BP ..

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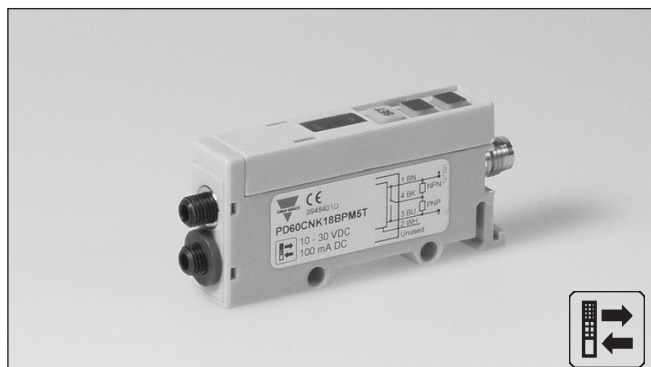
- **Range: 18 mm ±2 mm**
- **Microprocessor controlled and EEPROM parameter storage**
- **Operational voltage 10 - 30 V DC**
- **Output 100 mA, NPN and PNP**
- **Light or dark switching selectable**
- **Cable or M8 standard plug**
- **IP65 protection**
- **cUL and CE approved**
- **Manual contrast set-up**

CE c(UL)

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 ±2 mm	**PD 60 CNK 18 BP T**	**PD 60 CNK 18 BP M5 T**

Fibre To be ordered separately.	100 cm fibre w. M18 lens head **FPDK01SCC100**

Specifications

Detection distance	18 mm ±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 µs
		ON-OFF (t_{OFF})	≤ 25 µs
Ripple (U_{rpp})	≤ 10%	**Power ON delay** (t_v)	≤ 300 ms
Output current		**Output function**	
Continuous (I_e)	100 mA	NPN and PNP	Available (Push-Pull output)
Short-time (I)	100 mA	**Indication function**	
No load supply current (I_o)	50 mA	Insufficient contrast	Both green LED and red key flash for 2 s
Switching frequency	20 kHz		
Voltage drop (U_d)		Short-circuit output	Both green LED and red key flash continuously
I_L = 100 mA	≤ 2 VDC		
I_L = 10 mA	≤ 1 VDC	**Environment**	
Protection	Short-circuit, reverse polarity, transients	Installation category	II (IEC 60664/60664A;60947-1)
		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 (FPDK01SCC100)	**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)

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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 [SET] for 4 sec.

1st colour has now been learned
Triangle LED goes ON

Colour 2
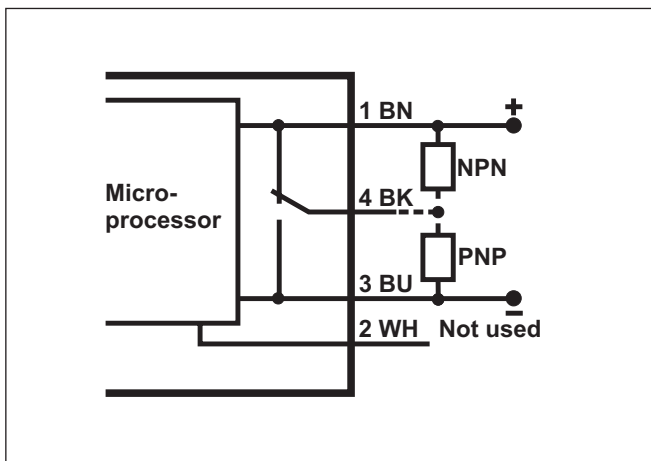
Press [SET] for 4 sec.

2nd colour has now been learned
Triangle LED goes OFF

Output can be inverted by teaching colour 2 first
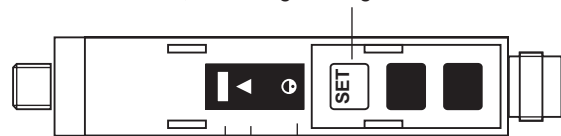
Dimensions
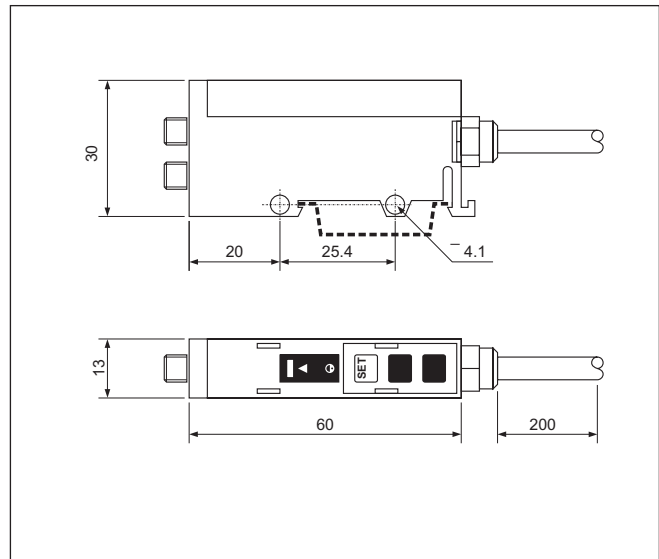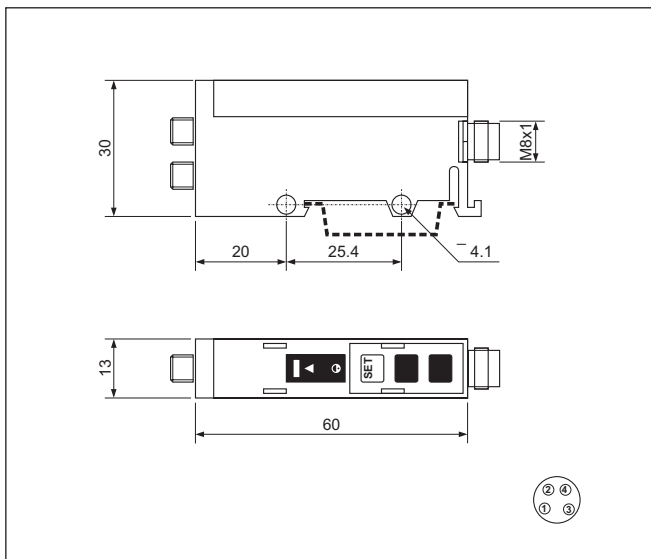
Wiring Diagram

Keyboard and LED

Press for 4 secs:
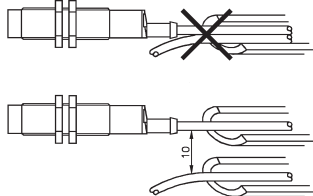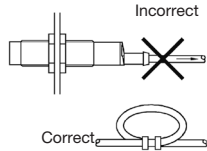1st colour is learned, and triangle LED goes ON
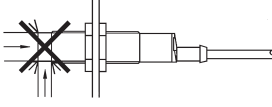
Press for 4 secs again:
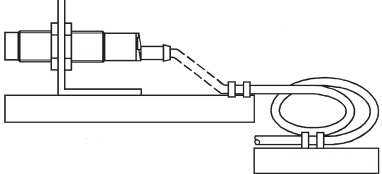2nd colour is learned, and triangle LED goes OFF

Key LED, goes on when a key is hit

Triangle LED

Detection of the lightest colour

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

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

Specifications are subject to change without notice (13.09.2010)

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

Delivery Contents

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

Accessories

- Plastic fibre type FPDK01SCC100

Ø 8   M18 x 100   39,3   57,5   100