

Photoelectrics, Fibre Optic Sensor Plastic Fibres Type PD 60 CNX 20 BP ..



- Range: Fibre dependent
 - Diffuse Reflective typ. 80 mm
 - Through Beam typ. 200 mm
- Manual distance set-up by keyboard +/-
- Sensitivity bar graph LEDs
- Microprocessor controlled and EEPROM parameter storage
- Operational voltage 10 - 30 V DC
- Output 100 mA, NPN and PNP
- Light or dark switching selectable
- IP65 protection



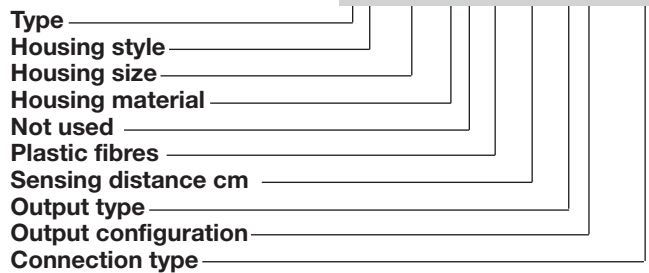
Product Description

The PD60CNX20BP. is a fibre optic amplifier made specific for plastic fibres. The sensor is microprocessor based and has a manual distance set-up by keyboard. NO or NC (light or dark mode) output are selectable by wiring. The sensor output is build as a Push-pull output that performs both a NPN and PNP output which are fully protected against short-circuit, transients and

wrong polarity. The sensor is build in a strong 13 x 30 x 60 mm polycarbonate housing for DIN-rail mounting. The sensors are suitable for applications that require little space and high accuracy such as: Small part detection, tight locations, checking parts, counting, precise part positioning, material handling and assembly and robotics

Ordering Key

PD 60 CNX 20 BP M5



Type Selection

Housing W x H x D	Range S _n (Fibre dependent)	Ordering no. NPN and PNP cable Make or break switching	Ordering no. NPN and PNP plug Make or break switching
13 x 30 x 60 mm	80 mm diffuse mode 200 mm through beam mode	PD 60 CNX 20 BP	PD 60 CNX 20 BP M5

Specifications

Rated operating distance (S_n) Diffuse mode Through beam mode	See optical fibre table Up to 80 mm Up to 200 mm	Voltage drop (U_d) I _L = 100 mA I _L = 10 mA	≤ 2 VDC ≤ 1 VDC
Sensitivity Manual distance setup	Sensitivity increase or decrease by pressing + or - keyboard	Remote input ON OFF	≤ 1.4 VDC ≥ 3.0 VDC
Temperature drift	< 0,4%/°C	Protection	Short-circuit, reverse polarity, transients
Hysteresis (H) Differential travel	≤ 5%	Light source	GaAlAs, LED 660 nm
Rated operational volt. (U_B)	10 to 30 VDC (ripple included)	Light type	Red modulated
Ripple (U_{rpp})	≤ 10%	Ambient light Incandescent light Sunlight	10'000 Lux 20'000 Lux
Output current Continuous (I _a) Short-time (I)	100 mA 100 mA	Operating frequency	1 KHz
No load supply current (I_o)	≤ 40 mA	Response time OFF-ON (t _{ON}) ON-OFF (t _{OFF})	≤ 500 μs ≤ 500 μs
		Power ON delay (t_v)	≤ 300 ms

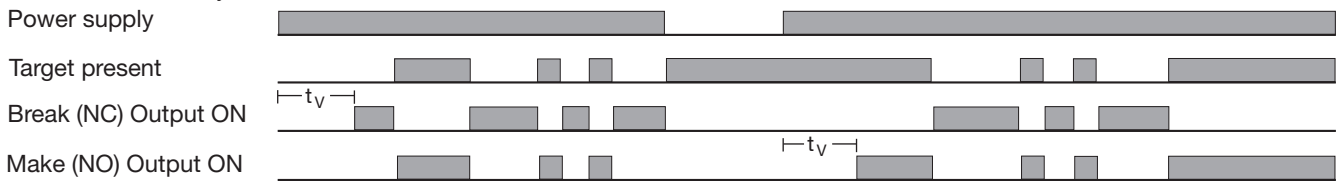


Specifications (cont.)

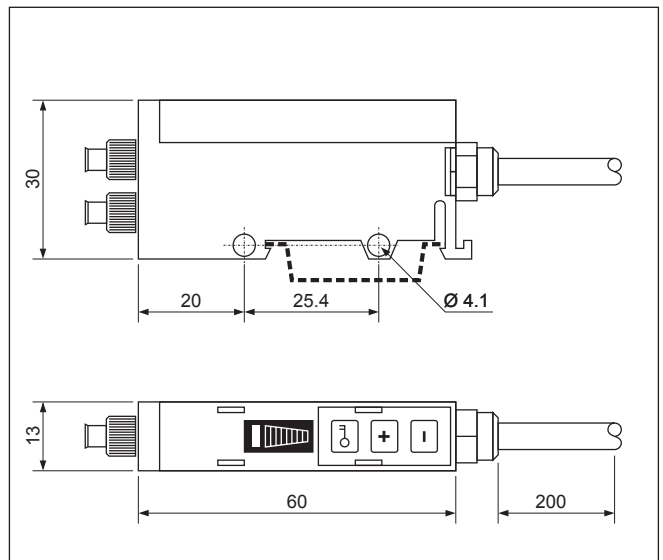
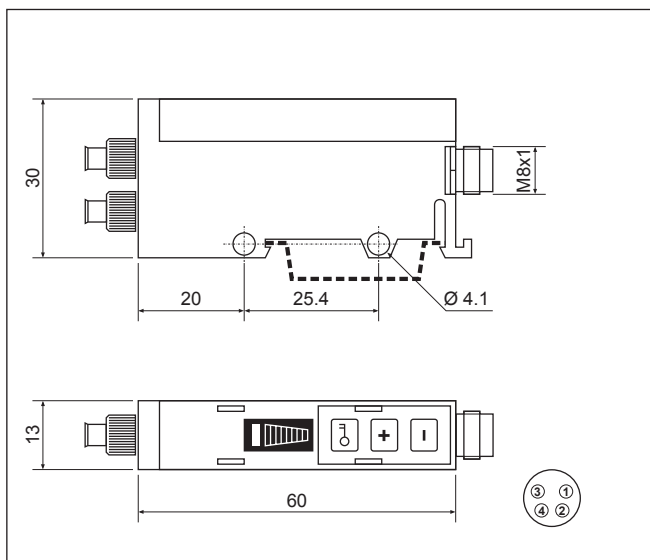
Output function NPN and PNP Make or break	Available (Push-Pull output) Programming by wiring	Vibration	10 to 150 Hz, 0.5 mm/7.5 g (IEC60068-2-6)
Indication function Output Sensitivity	Green LED Bar graph, red	Shock	2 x 1 m & 100 x 0.5 m (IEC 60068-2-6, 60068-2-32)
Environment Installation category Pollution degree Degree of protection	II (IEC 60664/60664A;60947-1) 3 (IEC 60664/60664A;60947-1) IP 65 (IEC 60529; 60947-1)	Rated insulation voltage	50 VAC (rms)
Temperature Operating Storage	0° to +60°C (32° to +140°F) -20Y to +80YC (-4° to +176°F)	Housing material Body	Polycarbonate
		Connection Cable Plug Cables for plug (M5)	PVC, grey, 2 m, 4 x 0,25 mm ² NPB, M8 x 1 CONG5A-series
		Weight	24 g
		Approvals	cUL
		CE-marking	Yes

Operation Diagram

t_v = Power ON delay




Dimensions






Programming Functions

Keyboard
Unlock

Press  for 3 sec.


until the bar graph stops flashing

Lock


Press  for 3 sec.

until the bar graph stops flashing


Sensitivity adjustment
To increase

Press  step by step


or continuous action.

 Upper LED will flash (2 sec.) when maximum sensitivity is reached.

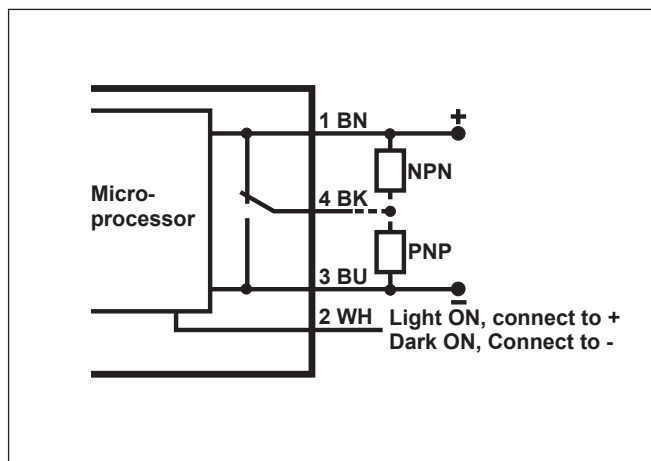
To decrease

Press  step by step

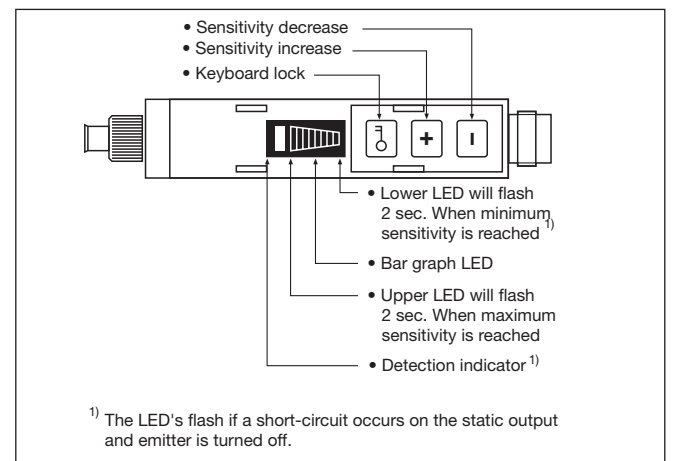
or continuous action

 Lower LED will flash (2 sec.) when minimum sensitivity is reached

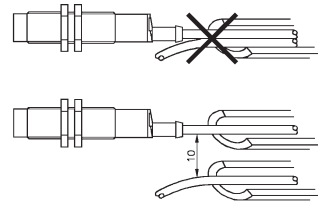


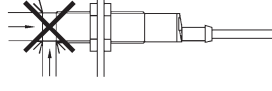
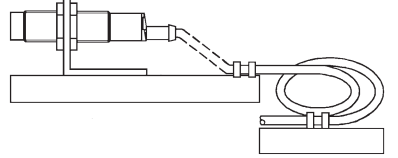
Wiring Diagram



Keyboard and LED



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: PD60CNX20BP..
- Installation instruction
- **Packaging:** Cardboard box

Accessories

- Plastic fibres type FPD.., FPT..
- Connector type: CONG5A../CON.54NF

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