

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

CARLO GAVAZZI



- Range: Fibre dependent
 - Diffuse Reflective typ. 80 mm
 - Through Beam typ. 200 mm
- Manual distance set-up by keyboard +/-
- Sensitivity bar graph LEDs
- Keyboard lock
- Microprocessor controlled and EEPROM parameter storage
- Operational voltage 10 - 30 V DC
- Output 100 mA, NPN and PNP
- Light or dark seitching selectable
- Cable or M8 standard plug
- IP65 protection
- cUL and CE approved

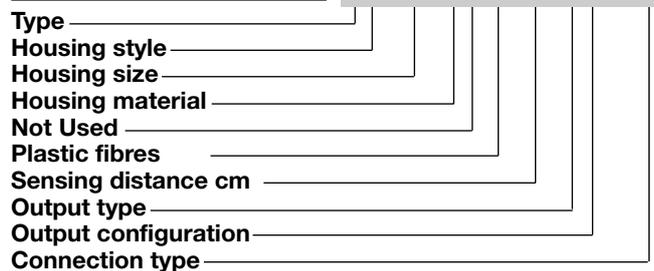
Product Description

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

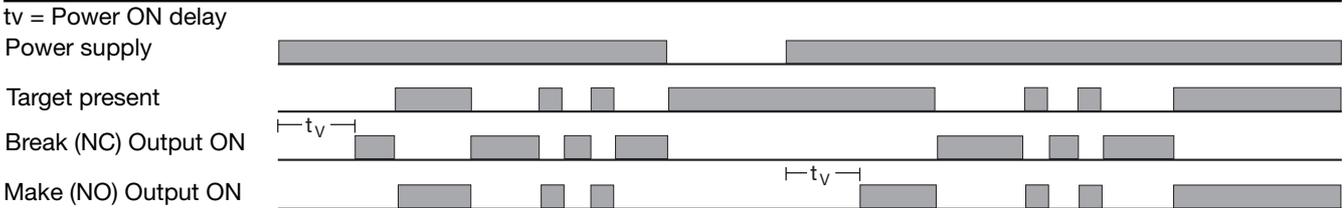
Rated operating distance (S_n) Diffuse mode Through beam mode	See optical fibre table Up to 80 mm Up to 200 mm	Voltage drop (U_d) I _L = 100 mA I _L = 10 mA	≤ 2 VDC ≤ 1 VDC
Sensitivity Manual distance setup	Sensitivity increase or decrease by pressing + or - keyboard	Remote input ON OFF	≤ 1.4 VDC ≥ 3.0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



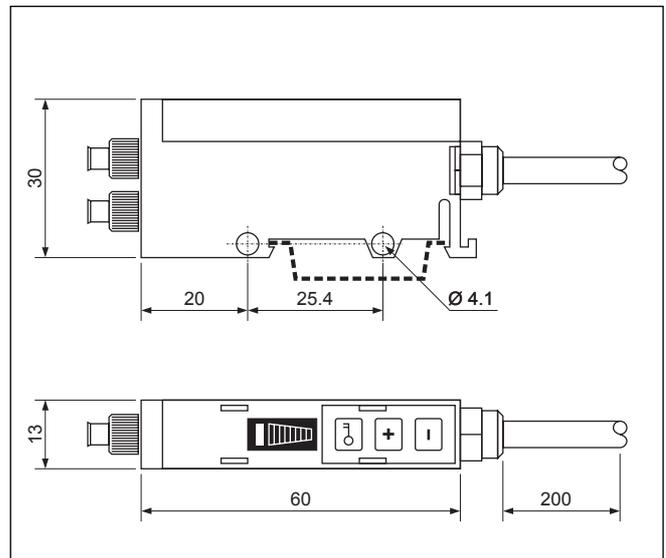
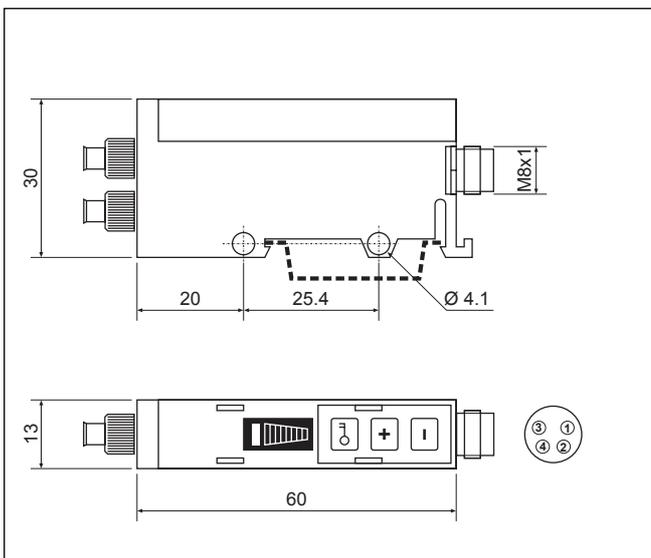
Specifications (cont.)

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) -20° to +80°C (-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



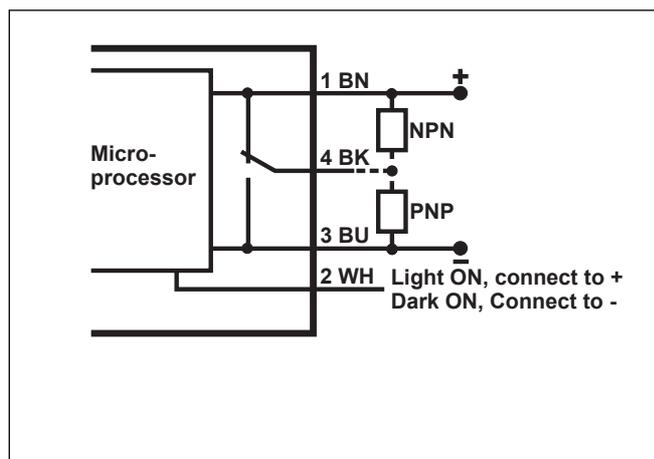
Dimensions



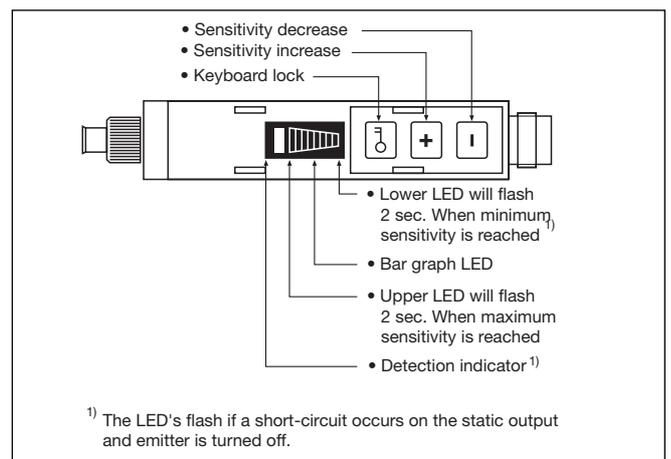
Detection Diagram

<p>Keyboard Unlock</p>	<p>Press  for 3 sec.</p> <p>until the bar graph stops flashing</p>	<p>Sensitivity adjustment To increase</p>	<p>Press  step by step</p> <p>or continuous action.</p> <p> Upper LED will flash (2 sec.) when maximum sensitivity is reached.</p>
<p>Lock</p>	<p>Press  for 3 sec.</p> <p>until the bar graph stops flashing</p>	<p>To decrease</p>	<p>Press  step by step</p> <p>or continuous action</p> <p> Lower LED will flash (2 sec.) when minimum sensitivity is reached</p>

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..

For further information refer to "Accessories"