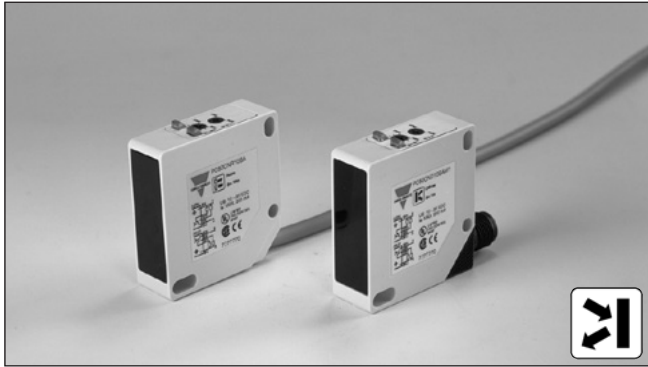


Photoelectrics

Diffuse-reflective, Transistor Output

Type PC50CND20BA



- Range: 2 m
- Adjustable sensitivity
- Modulated, infrared light
- Supply voltage: 10 to 30 VDC
- Output: 200 mA, NPN or PNP (selectable)
- Make and break switching function
- LED for output indication, signal stability and power ON
- Protection: reverse polarity, short circuit, transients
- Cable and plug version
- High degree of EMC



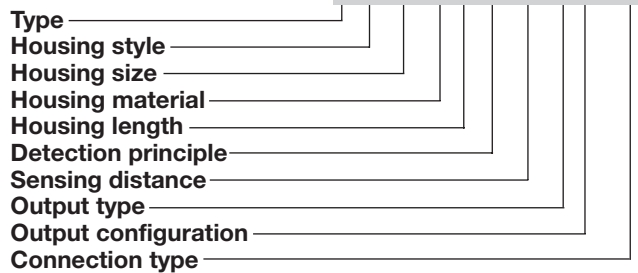
Product Description

The PC50CND. is a family of general purpose diffuse-reflective sensors in a compact square 17 x 50 x 50 mm reinforced PC/ABS-housing. They are useful in applications where basic sensors provide adequate sensing

performance. The long sensing range together with sensitivity adjustment gives a very flexible sensor. The DC types are with a transistor output and the configuration is fully programmable (NPN, PNP, NO and NC).

Ordering Key

PC50CND20BAM1



Type Selection

| Housing W x H x D | Range S _n | Ordering no. NPN & PNP cable Make & break switching | Ordering no. NPN & PNP plug Make & break switching |
|----------------------|-------------------------|---|--|
| 17 x 50 x 50 mm | 2 m | PC 50 CND 20 BA | PC 50 CND 20 BAM1 |

Specifications

| | | | |
|---|---|---|---|
| Rated operating distance (S_n) | Up to 2 m, reference target Kodak test card R 27, white, 90% reflectivity, 200 x 200 mm | Light source | GaAIAs, LED, 880 nm |
| Blind zone | Typ. 10 cm (max. 30 cm) | Light type | infrared, modulated |
| Sensitivity | Adjustable by single-turn potentiometer | Sensing angle | ± 12° |
| Temperature drift | ≤ 0.5%/°C | Ambient light | Max. 5'000 lux |
| Hysteresis (H) Differential travel | 3 - 20% | Operating frequency | 100 Hz |
| Rated operational volt. (U_B) | 10 to 30 VDC (ripple included) | Response time OFF-ON (t _{ON}) ON-OFF (t _{OFF}) | ≤ 2.5 ms ≤ 2.5 ms |
| Ripple (U_{rpp}) | ≤ 10% | Power ON delay (t_v) | < 300 ms |
| Output current Continuous (I _a) Short-time (I) | ≤ 200 mA ≤ 200 mA (max. load capacity 100 nF) | Output function NPN and PNP Complementary function | Switch selectable Make and break (NO + NC) |
| No load supply current (I_o) | ≤ 40 mA | Indication function Output ON Signal stability ON and power ON | LED, yellow LED, green |
| Minimum operational current (I_m) | 0.5 mA | Environment Installation category | II (IEC 60664/60664A; 60947-1) |
| OFF-state current (I_r) | ≤ 100 μA | Pollution degree | 3 (IEC 60664/60664A; 60947-1) |
| Voltage drop (U_d) | ≤ 2.5 VDC @ 200 mA | Degree of protection | IP 67 (IEC 60529; 60947-1) |
| Protection | Short-circuit, reverse polarity, transients | Temperature Operating Storage | -20° to +60°C (-4° to +140°F) -25° to +80°C (-13° to +176°F) |

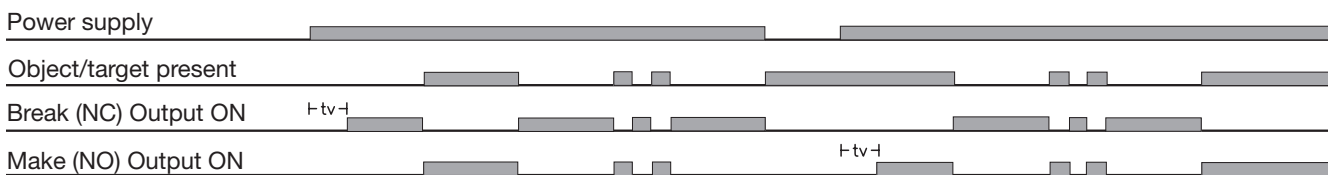


Specifications (cont.)

| | | | |
|---------------------------------|--|---------------------------------------|--|
| Vibration | 10 to 150 Hz, 0.5 mm/7.5 g (IEC 60068-2-6) | Connection | PVC, grey, 2 m, 4 x 0.34 mm ² |
| Shock | 2 x 1 m & 100 x 0.5 m (IEC 60068-2-6, 60068-2-32) | Cable Plug Cables for plug (M1) | PBTP, M12 x 1 CON.1A-series |
| Rated insulation voltage | 50 VAC (rms) | Weight | 110 g/32 g |
| Housing material | PC/ABS, grey Front glass PC black Mounting bracket Steel, galvanized | Cable type/plug type | UL, CSA |
| | | Approvals | Yes |
| | | CE-marking | |

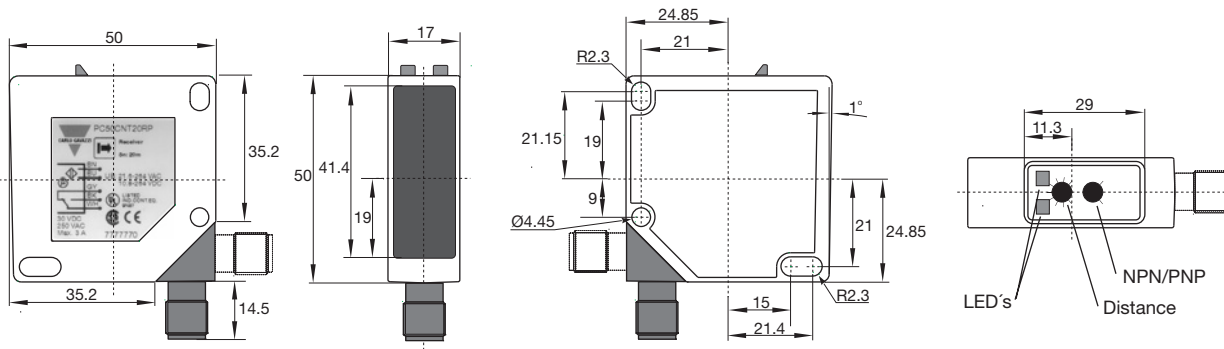
Operation Diagram

tv = Power ON delay

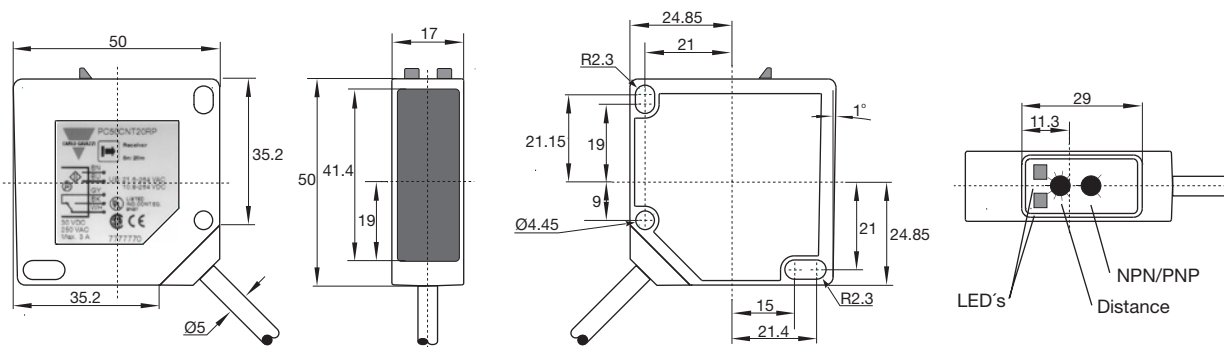


Dimensions

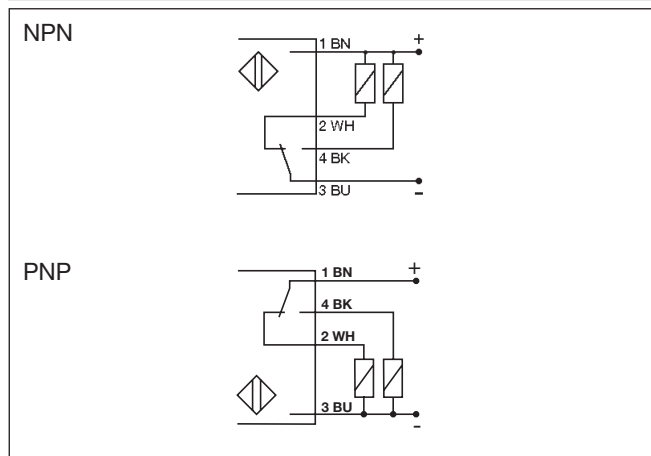
Plug version



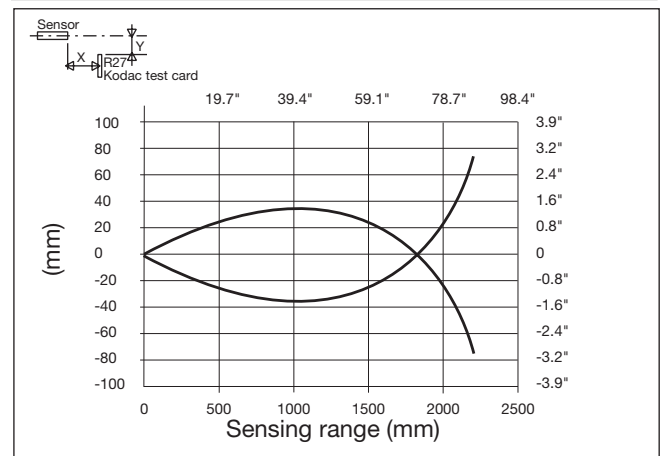
Cable version



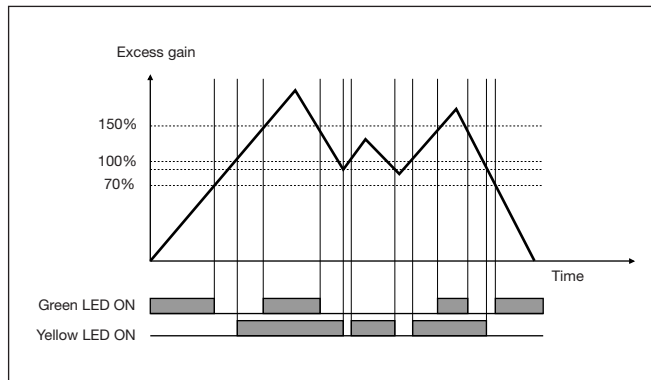
Wiring Diagrams



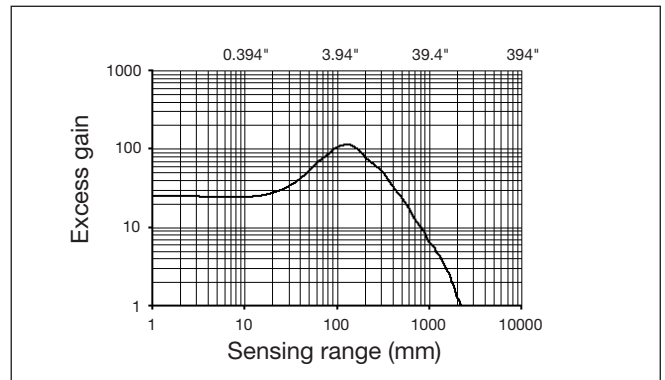
Detection Diagram



Signal Stability



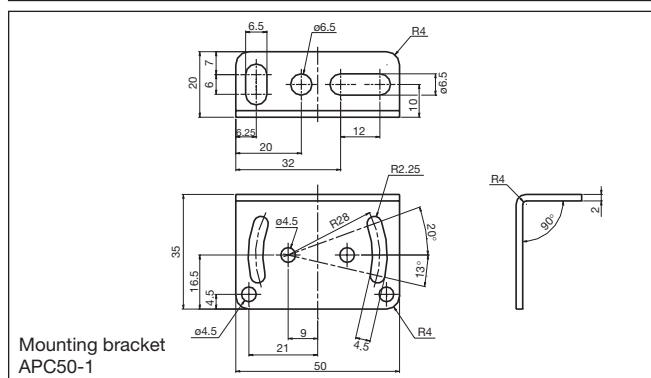
Excess Gain



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>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> |
|---|---|---|--|

Delivery Contents



- Photoelectric switch: PC50 CND..
- Installation instruction
- Mounting bracket APC50-1
- Packaging: Cardboard box

Accessories

- Screwdriver for adjustment: 77-001
- Connector type CON.1A..