

# Reflex Sensor with Background Suppression

## HR12PCT2

Part Number



- Electronic background suppression
- Red light
- Simple installation
- Teach-in, external teach-in

### Technical Data

#### Optical Data

|                           |             |
|---------------------------|-------------|
| Range                     | 120 mm      |
| Adjustable Range          | 35...120 mm |
| Switching Hysteresis      | < 5 %       |
| Light Source              | Red Light   |
| Service Life (T = +25 °C) | 100000 h    |
| Max. Ambient Light        | 10000 Lux   |
| Light Spot Diameter       | see Table 1 |

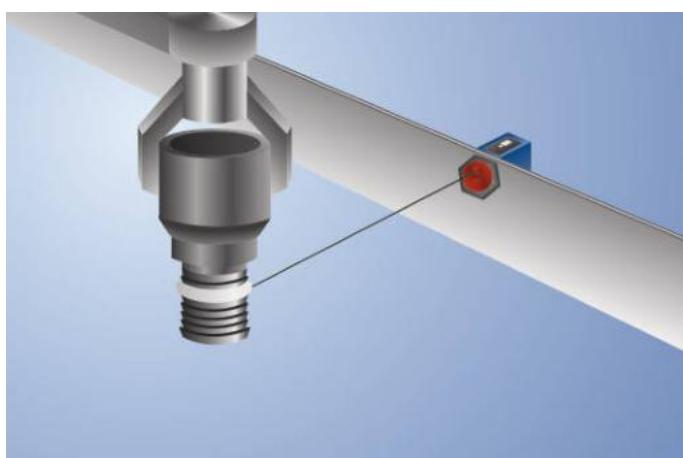
#### Electrical Data

|  |              |
|--|--------------|
| Supply Voltage                         | 10...30 V DC |
| Current Consumption (Ub = 24 V)        | < 30 mA      |
| Switching Frequency                    | 750 Hz       |
| Response Time                          | 667 µs       |
| On-/Off-Delay (RS-232)                 | 0...1 s      |
| Temperature Drift                      | < 5 %        |
| Temperature Range                      | -25...60 °C  |
| Switching Output Voltage Drop          | < 2,5 V      |
| PNP Switching Output/Switching Current | 200 mA       |
| Short Circuit Protection               | yes          |
| Reverse Polarity Protection            | yes          |
| Overload Protection                    | yes          |
| Lockable                               | yes          |
| Teach Mode                             | HT, VT       |
| Protection Class                       | III          |

#### Mechanical Data

|                                   |                |
|-----------------------------------|----------------|
| Setting Method                    | Teach-In       |
| Housing Material                  | Plastic        |
| Full Encapsulation                | yes            |
| Degree of Protection              | IP67           |
| Connection                        | M12 x 1; 4-pin |
| PNP NO/NC switchable              | ●              |
| RS-232 with Adapterbox            | ●              |
| Connection Diagram No.            | 152            |
| Control Panel No.                 | M3             |
| Suitable Connection Equipment No. | 2              |
| Suitable Mounting Technology No.  | 150   370      |

These sensors detect distance by measuring angles. They are particularly good at recognizing objects in front of any background. The color, shape and surface characteristics of the object have practically no influence on sensor switching performance. The sensor is easy to install with its integrated M18 threaded fixation, and can be easily protected as well.



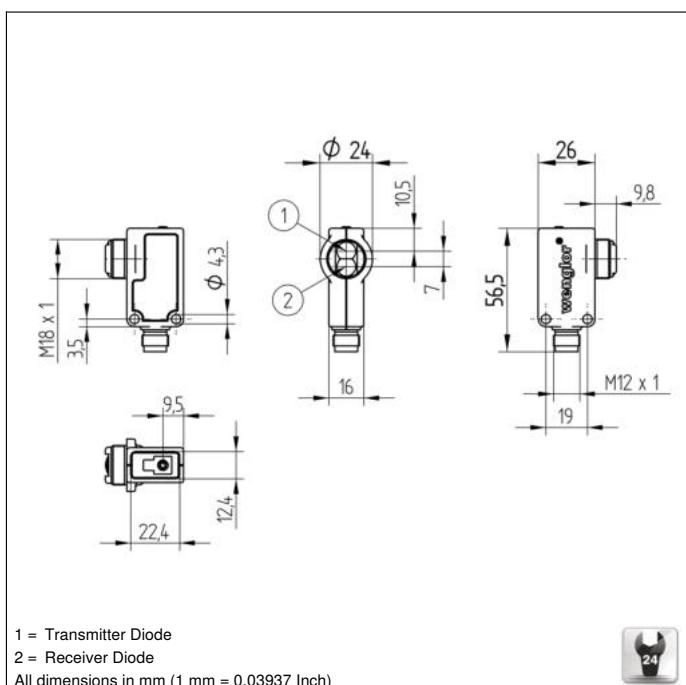
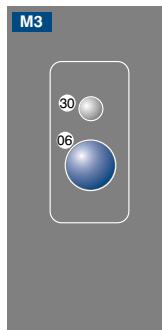
### Complementary Products

Adapterbox A232

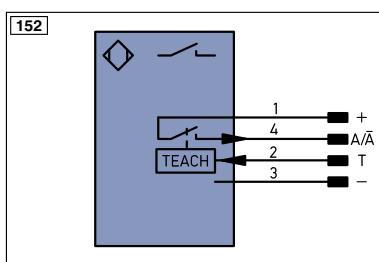
Dust Extraction Tube STAUBTUBUS-01

PNP-NPN Converter BG2V1P-N-2M

Software


**Ctrl. Panel**


06 = Teach Button  
30 = Switching Status/Contamination Warning


**Legend**

|          |   |
|----------|---|
| PT       | Platinum measuring resistor               |
| nc       | not connected                             |
| U        | Test Input                                |
| Ü        | Test Input inverted                       |
| W        | Trigger Input                             |
| W-       | Ground for the Trigger Input              |
| O        | Analog Output                             |
| O-       | Ground for the Analog Output              |
| BZ       | Block Discharge                           |
| Awv      | Valve Output                              |
| a        | Valve Control Output +                    |
| b        | Valve Control Output 0 V                  |
| SY       | Synchronization                           |
| SY-      | Ground for the Synchronization            |
| E+       | Receiver-Line                             |
| S+       | Emitter-Line                              |
| ±        | Grounding                                 |
| SnR      | Switching Distance Reduction              |
| RxD      | Interface Receive Path                    |
| TxD      | Interface Send Path                       |
| RDY      | Ready                                     |
| GND      | Ground                                    |
| CL       | Clock                                     |
| E/A      | Output/Input programmable                 |
| IO-Link  | IO-Link                                   |
| PoE      | Power over Ethernet                       |
| IN       | Safety Input                              |
| OSD      | Safety Output                             |
| Signal   | Signal Output                             |
| BL-D     | Ethernet Gigabit bidirec. data line (A-D) |
| EN0RS422 | Encoder 0-pulse 0-0 (TTL)                 |

Wire Colors according to DIN IEC 757

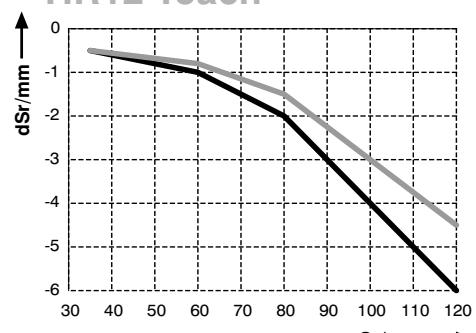
|      |              |
|------|--------------|
| BK   | Black        |
| BN   | Brown        |
| RD   | Red          |
| OG   | Orange       |
| YE   | Yellow       |
| GN   | Green        |
| BU   | Blue         |
| VT   | Violet       |
| GY   | Grey         |
| WH   | White        |
| PK   | Pink         |
| GNYE | Green/Yellow |

**Table 1**

|                     |        |        |
|---------------------|--------|--------|
| Detection Range     | 60 mm  | 120 mm |
| Light Spot Diameter | 2,5 mm | 5 mm   |

**Switching Distance Deviation**

Typical characteristic curve based on white, 90 % remission

**HR12-Teach**


dSr = Switching Distance Change

Sr = Switching Distance

black 6 % remission

grey 18 % remission

