

# Through-Beam Sensor

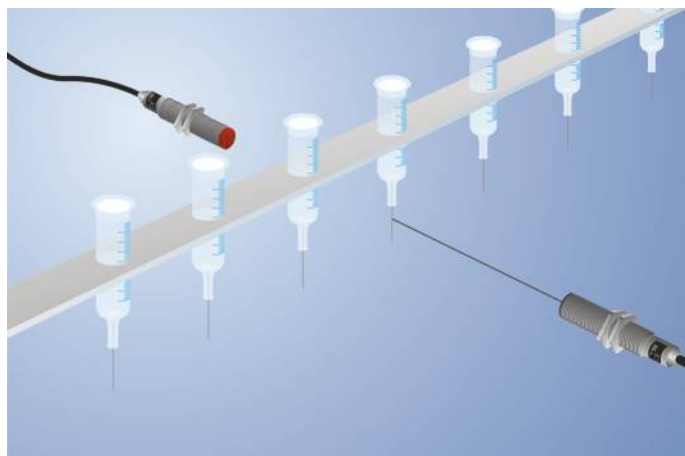
## ZD600PCT3 LASER

Part Number



- Range: 60 m
- Smallest recognizable part: 0,05 mm
- Teach-in, external teach-in

These through-beam sensors are best suited for use in industrial environments. Thanks to their large working range, the devices demonstrate excellent functional reliability in highly contaminated environments. The sensors can be checked for correct functioning via the test input.



### Technical Data

#### Optical Data

|                            |             |
|----------------------------|-------------|
| Range                      | 60000 mm    |
| Smallest Recognizable Part | 50 $\mu$ m  |
| Switching Hysteresis       | < 15 %      |
| Light Source               | Laser (red) |
| Service Life (T = +25 °C)  | 100000 h    |
| Laser Class (EN 60825-1)   | 2           |
| Max. Ambient Light         | 10000 Lux   |
| Opening Angle              | 12 °        |

#### Electrical Data

|                                       |              |
|---------------------------------------|--------------|
| Sensor Type                           | Receiver     |
| Supply Voltage                        | 10...30 V DC |
| Current Consumption (Ub = 24 V)       | < 15 mA      |
| Switching Frequency                   | 5 kHz        |
| Response Time                         | 100 $\mu$ s  |
| On-/Off-Delay (RS-232)                | 0...5 s      |
| Temperature Drift                     | < 10 %       |
| Temperature Range                     | -25...60 °C  |
| Switching Output Voltage Drop         | < 2,5 V      |
| Switching Output/Switching Current    | 200 mA       |
| Short Circuit and Overload Protection | yes          |
| Reverse Polarity Protection           | yes          |
| Teach Mode                            | NT, MT       |
| Protection Class                      | III          |

#### Mechanical Data

|                      |                       |
|----------------------|-----------------------|
| Setting Method       | Teach-In              |
| Housing Material     | Stainless Steel       |
| Full Encapsulation   | yes                   |
| Degree of Protection | IP67                  |
| Connection           | M12 $\times$ 1; 4-pin |

#### Safety-relevant Data

|                        |           |
|------------------------|-----------|
| MTTFd (EN ISO 13849-1) | 2612,16 a |
|------------------------|-----------|

PNP NC

RS-232 with Adapterbox

Connection Diagram No.

Control Panel No.

Suitable Connection Equipment No.

Suitable Mounting Technology No.

152

D7

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150

### Suitable Emitter

ZD6003

### Complementary Products

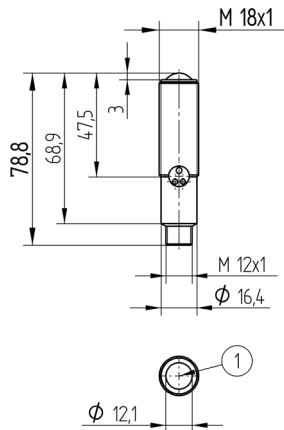
|                                    |
|------------------------------------|
| Adapterbox A232                    |
| Dust Extraction Tube STAUBTUBUS-01 |
| Lens LA7                           |
| PNP-NPN Converter BG2V1P-N-2M      |
| Software                           |

### Ctrl. Panel

D7



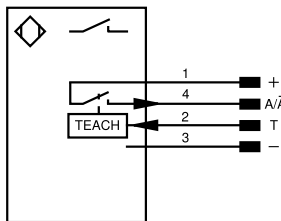
01 = Switching Status Indicator  
02 = Contamination Warning  
06 = Teach Button



1 = Receiver Diode  
All dimensions in mm (1 mm = 0.03937 Inch)



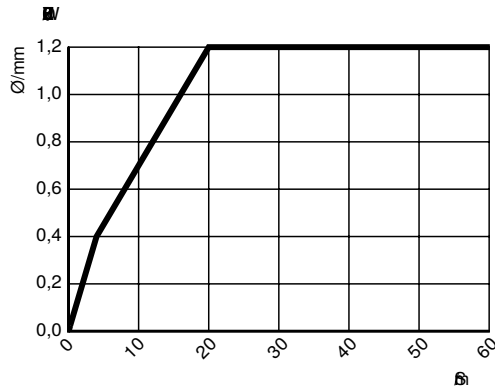
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| Legend    |                                            |           |                                |                                        |                     |
|-----------|--------------------------------------------|-----------|--------------------------------|----------------------------------------|---------------------|
| +         | Supply Voltage +                           | nc        | Not connected                  | ENBRS422                               | Encoder B/B (TTL)   |
| -         | Supply Voltage 0 V                         | U         | Test Input                     | ENA                                    | Encoder A           |
| ~         | Supply Voltage (AC Voltage)                | Ü         | Test Input inverted            | ENB                                    | Encoder B           |
| A         | Switching Output (NO)                      | W         | Trigger Input                  | AMIN                                   | Digital output MIN  |
| Ā         | Switching Output (NC)                      | W-        | Ground for the Trigger Input   | AMAX                                   | Digital output MAX  |
| V         | Contamination/Error Output (NO)            | O         | Analog Output                  | AOK                                    | Digital output OK   |
| ȳ         | Contamination/Error Output (NC)            | O-        | Ground for the Analog Output   | SY In                                  | Synchronization In  |
| E         | Input (analog or digital)                  | BZ        | Block Discharge                | SY OUT                                 | Synchronization OUT |
| T         | Teach Input                                | Amv       | Valve Output                   | OLT                                    | Brightness output   |
| Z         | Time Delay (activation)                    | a         | Valve Control Output +         | M                                      | Maintenance         |
| S         | Shielding                                  | b         | Valve Control Output 0 V       | rsv                                    | Reserved            |
| RxD       | Interface Receive Path                     | SY        | Synchronization                | Wire Colors according to DIN IEC 60757 |                     |
| TxD       | Interface Send Path                        | SY-       | Ground for the Synchronization | BK                                     | Black               |
| RDY       | Ready                                      | E+        | Receiver-Line                  | BN                                     | Brown               |
| GND       | Ground                                     | S+        | Emitter-Line                   | RD                                     | Red                 |
| CL        | Clock                                      | ±         | Grounding                      | OG                                     | Orange              |
| E/A       | Output/Input programmable                  | SnR       | Switching Distance Reduction   | YE                                     | Yellow              |
| IO-Link   | IO-Link                                    | Rx+/-     | Ethernet Receive Path          | GN                                     | Green               |
| PoE       | Power over Ethernet                        | Tx+/-     | Ethernet Send Path             | BU                                     | Blue                |
| IN        | Safety Input                               | Bus       | Interfaces-Bus A(+)/B(-)       | VT                                     | Violet              |
| OSSD      | Safety Output                              | La        | Emitted Light disengageable    | GY                                     | Grey                |
| Signal    | Signal Output                              | Mag       | Magnet activation              | WH                                     | White               |
| BI_D+/-   | Ethernet Gigabit bidirect. data line (A-D) | RES       | Input confirmation             | PK                                     | Pink                |
| ENo RS422 | Encoder 0-pulse 0/0 (TTL)                  | EDM       | Contact Monitoring             | GNYE                                   | Green/Yellow        |
| PT        | Platinum measuring resistor                | ENARIS422 | Encoder A/A (TTL)              |                                        |                     |

### Smallest Recognizable Part

Based on the Distance between Emitter and Receiver



S<sub>r</sub> = Switching Distance  
Ø = Diameter, Smallest Recognizable Part

