

Reflex Sensor

TO11PB3

Part Number

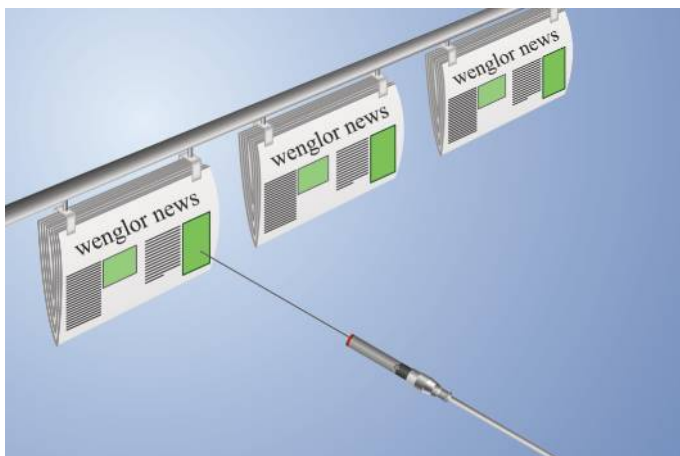


- Adjustable detection range
- Compact housing

Technical Data

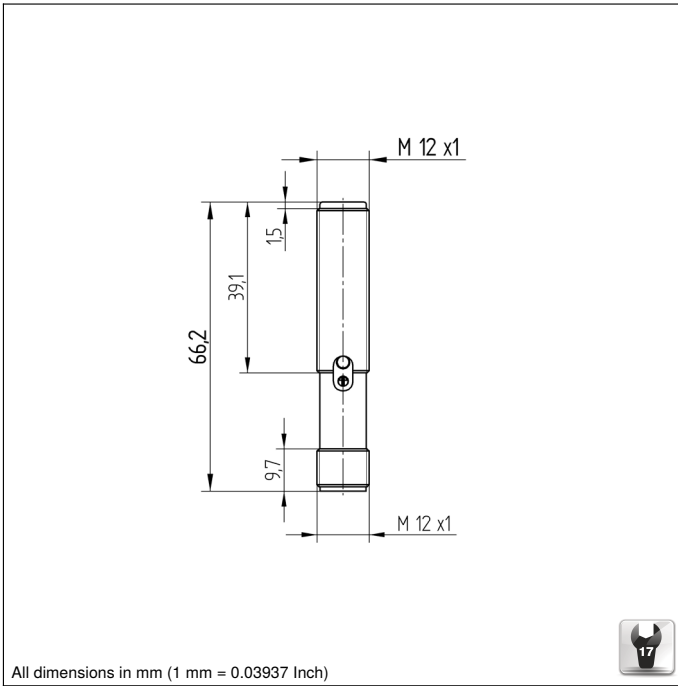
| Optical Data | |
|---|---------------------|
| Range | 100 mm |
| Switching Hysteresis | < 15 % |
| Light Source | Infrared Light |
| Service Life (T = +25 °C) | 100000 h |
| Risk Group (EN 62471) | 1 |
| Max. Ambient Light | 10000 Lux |
| Opening Angle | 12 ° |
| Electrical Data | |
| Supply Voltage | 10...30 V DC |
| Current Consumption (U _b = 24 V) | < 40 mA |
| Switching Frequency | 800 Hz |
| Response Time | 650 μs |
| Temperature Drift | < 10 % |
| Temperature Range | -25...60 °C |
| Switching Output Voltage Drop | < 2,5 V |
| PNP Switching Output/Switching Current | 200 mA |
| Residual Current Switching Output | < 50 μA |
| Short Circuit Protection | yes |
| Reverse Polarity Protection | yes |
| Overload Protection | yes |
| Protection Class | III |
| Mechanical Data | |
| Setting Method | Potentiometer |
| Housing Material | CuZn, nickel-plated |
| Full Encapsulation | yes |
| Degree of Protection | IP67 |
| Connection | M12 × 1; 4-pin |
| PNP NO | ● |
| Connection Diagram No. | 1021 |
| Control Panel No. | 02 |
| Suitable Connection Equipment No. | 2 |
| Suitable Mounting Technology No. | 170 |

The transmitter and receiver in these sensors are located in a single housing. The sensor evaluates transmitted light reflected back from the object. The output is switched as soon as an object passes the selected range. Bright objects reflect more light than dark objects, and can thus be recognized from greater distances.

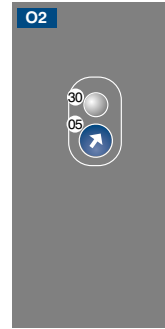


Complementary Products

PNP-NPN Converter BG2V1P-N-2M

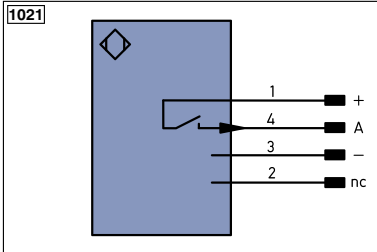


Ctrl. Panel



05 = Switching Distance Adjuster
 30 = Switching Status/Contamination Warning

1021



Legend

| | | | | | |
|-----------------------|--|-----------------|--------------------------------|--------------------------------------|---------------------|
| + | Supply Voltage + | PT | Platinum measuring resistor | EN ^{A/RS422} | Encoder A/Ā (TTL) |
| - | Supply Voltage 0 V | nc | not connected | EN ^{B/RS422} | Encoder B/B̄ (TTL) |
| ~ | Supply Voltage (AC Voltage) | U | Test Input | EN ^A | Encoder A |
| A | Switching Output (NO) | Ū | Test Input inverted | EN ^B | Encoder B |
| Ā | Switching Output (NC) | W | Trigger Input | A ^{MIN} | Digital output MIN |
| V | Contamination/Error Output (NO) | W- | Ground for the Trigger Input | A ^{MAX} | Digital output MAX |
| Ṽ | Contamination/Error Output (NC) | O | Analog Output | A ^{OK} | Digital output OK |
| E | Input (analog or digital) | O- | Ground for the Analog Output | SY ^{In} | Synchronization In |
| T | Teach Input | BZ | Block Discharge | SY ^{OUT} | Synchronization OUT |
| Z | Time Delay (activation) | A ^{WV} | Valve Output | OL ^T | Brightness output |
| S | Shielding | a | Valve Control Output + | M | Maintenance |
| RxD | Interface Receive Path | b | Valve Control Output 0 V | rsv | reserved |
| TxD | Interface Send Path | SY | Synchronization | Wire Colors according to DIN IEC 757 | |
| RDY | Ready | SY- | Ground for the Synchronization | BK | Black |
| GND | Ground | E+ | Receiver-Line | BN | Brown |
| CL | Clock | S+ | Emitter-Line | RD | Red |
| E/A | Output/Input programmable | ± | Grounding | OG | Orange |
| | IO-Link | S ^{nR} | Switching Distance Reduction | YE | Yellow |
| PoE | Power over Ethernet | Rx+/- | Ethernet Receive Path | GN | Green |
| IN | Safety Input | Tx+/- | Ethernet Send Path | BU | Blue |
| OSSD | Safety Output | Bus | Interfaces-Bus A(+)/B(-) | VT | Violet |
| Signal | Signal Output | L ^a | Emitted Light disengageable | GY | Grey |
| Bl_D+/- | Ethernet Gigabit bidirect. data line (A-D) | Mag | Magnet activation | WH | White |
| EN ^{0/RS422} | Encoder 0-pulse 0-0̄ (TTL) | RES | Input confirmation | PK | Pink |
| | | EDM | Contactur Monitoring | GN ^{YE} | Green/Yellow |

