

# Reflex Sensor for Roller Conveyor Systems

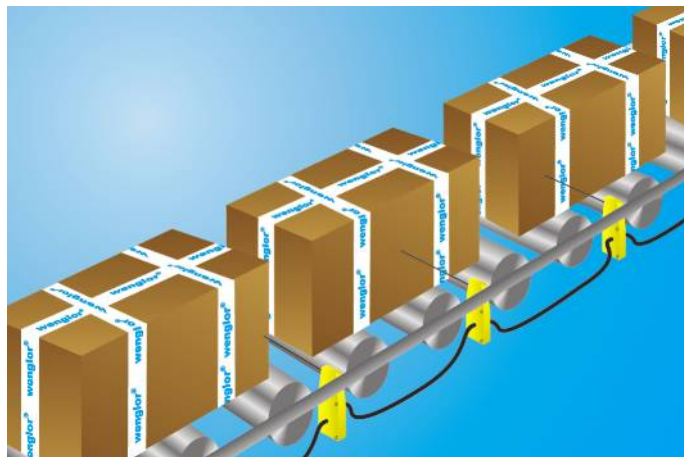
## OPT302-P08

Part Number



- Electronic background suppression
- Fully encapsulated
- Integrated logic
- Scaled switching distance adjuster

These sensors have been specially designed for use in accumulation roller conveyors. Their compact design allows for installation between rollers below the transport level. They are thus protected against mechanical damage.



### Technical Data

| Optical Data              |                |
|---------------------------|----------------|
| Range                     | 550 mm         |
| Potentiometer min         | 220...270 mm   |
| Potentiometer center      | 320...400 mm   |
| Potentiometer max         | 550...630 mm   |
| Switching Hysteresis      | < 15 %         |
| Light Source              | Infrared Light |
| Wave Length               | 880 nm         |
| Service Life (T = +25 °C) | 100000 h       |
| Risk Group (EN 62471)     | 1              |
| Max. Ambient Light        | 10000 Lux      |
| Opening Angle             | 5 °            |

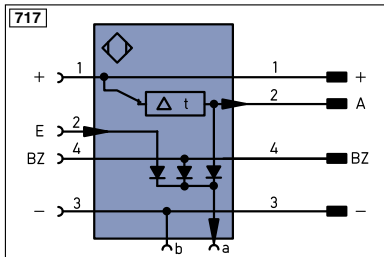
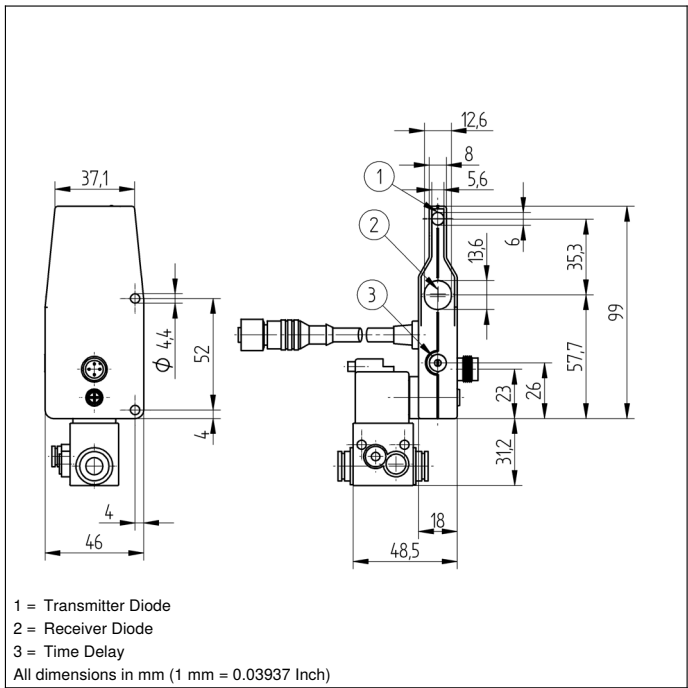
| Electrical Data                                    |              |
|----------------------------------------------------|--------------|
| Supply Voltage                                     | 18...30 V DC |
| Current Consumption Sensor (U <sub>b</sub> = 24 V) | < 30 mA      |
| Switching Frequency                                | 100 Hz       |
| Response Time                                      | 5 ms         |
| On-Delay                                           | 0...2 s      |
| Temperature Drift                                  | < 10 %       |
| Temperature Range                                  | -15...50 °C  |
| Switching Outputs                                  | 1            |
| Switching Output Voltage Drop                      | < 0,8 V      |
| PNP Switching Output/Switching Current             | 200 mA       |
| Short Circuit Protection                           | yes          |
| Reverse Polarity Protection                        | yes          |
| Overload Protection                                | yes          |
| Logic                                              | yes          |
| Block Discharge                                    | yes          |
| Valve Control                                      | yes          |
| Protection Class                                   | III          |

| Mechanical Data      |                |
|----------------------|----------------|
| Adjustment           | Potentiometer  |
| Housing Material     | Plastic        |
| Full Encapsulation   | yes            |
| Degree of Protection | IP65           |
| Connection           | M12 × 1; 4-pin |
| Cable Length         | 2 m            |

| Pneumatic Solenoid Valve Unit |               |
|-------------------------------|---------------|
| Valve no.                     | K25           |
| Supply Voltage Valve          | 19,2...28,8 V |
| Current Consumption Valve     | 86 mA         |
| Operating Pressure            | 0...4 bar     |
| Nominal Width                 | 1,2 mm        |
| Nominal flow rate 1 -> 2      | 50 NL/min     |
| Supply line connector pipe    | 2× 8×1        |
| Working line connector pipe   | 4×1           |
| Valve function                | 3/2-Way       |
| Switching function            | NC            |

|                                    |        |
|------------------------------------|--------|
| PNP NC                             |        |
| Connection Diagram No.             | 717    |
| Control Panel No.                  | OP1    |
| Suitable Connection Technology No. | 2   2s |
| Suitable Mounting Technology No.   | 420    |





#### Legend

|         |                                 |       |                              |
|---------|---------------------------------|-------|------------------------------|
| +       | Supply Voltage +                | nc    | not connected                |
| -       | Supply Voltage 0 V              | U     | Test Input                   |
| ~       | Supply Voltage (AC Voltage)     | Ū     | Test Input inverted          |
| A       | Switching Output (NO)           | W     | Trigger Input                |
| Ā       | Switching Output (NC)           | O     | Analog Output                |
| V       | Contamination/Error Output (NO) | O-    | Ground for the Analog Output |
| Ṽ       | Contamination/Error Output (NC) | BZ    | Block Discharge              |
| E       | Input (analog or digital)       | AWV   | Valve Output                 |
| T       | Teach Input                     | a     | Valve Control Output +       |
| Z       | Time Delay (activation)         | b     | Valve Control Output 0 V     |
| S       | Shielding                       | SY    | Synchronization              |
| RxD     | Interface Receive Path          | E+    | Receiver-Line                |
| TxD     | Interface Send Path             | S+    | Emitter-Line                 |
| RDY     | Ready                           | ±     | Grounding                    |
| GND     | Ground                          | SnR   | Switching Distance Reduction |
| CL      | Clock                           | Rx+/- | Ethernet Receive Path        |
| E/A     | Output/Input programmable       | Tx+/- | Ethernet Send Path           |
| IO-Link | IO-Link                         | Bus   | Interfaces-Bus A(+)/B(-)     |
| PoE     | Power over Ethernet             | La    | Emitted Light disengageable  |
| IN      | Safety Input                    | Mag   | Magnet activation            |
| OSSD    | Safety Output                   | RES   | Input confirmation           |
| Signal  | Signal Output                   | EDM   | Contacting Monitoring        |

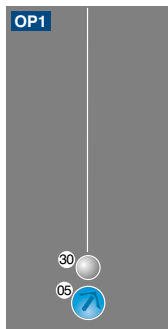
Wire Colors according to DIN IEC 757

|      |              |
|------|--------------|
| 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 |

## Complementary Products

Adapter OPT70N, OPT70S, OPT70P

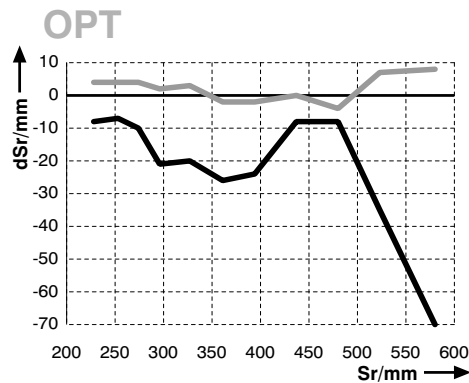
## Ctrl. Panel



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

## Switching Distance Deviation

Typical characteristic curve based on Kodak white (90 % remission)



Pot. = Potentiometer Setting  
dSr = Switching Distance Change  
— black 6 % remission  
— grey 18 % remission