

Retro-Reflex Sensor for Roller Conveyor Systems

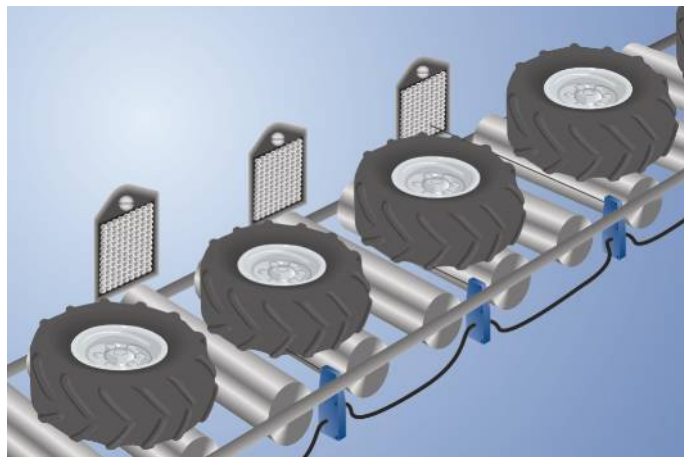
OPT162-P06

Part Number



- Fully encapsulated
- Integrated logic
- Large working range
- Recognition of high-gloss and jet black objects

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 | 6500 mm |
| Reference Reflector/Reflector Foil | RQ100BA |
| Min. Distance to Reflector | 100 mm |
| Switching Hysteresis | < 15 % |
| Light Source | Red Light |
| Polarization Filter | yes |
| Service Life (T = +25 °C) | 100000 h |
| Max. Ambient Light | 10000 Lux |
| Opening Angle | 5 ° |
| Two-Lens Optic | yes |

| Electrical Data | |
|--|--------------|
| Supply Voltage | 18...30 V DC |
| Current Consumption Sensor (U _b = 24 V) | < 30 mA |
| Switching Frequency | 100 Hz |
| Response Time | 5 ms |
| Temperature Drift | < 10 % |
| Temperature Range | -15...50 °C |
| Number of 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 Forwarding | yes |
| Valve Control | yes |
| Protection Class | III |

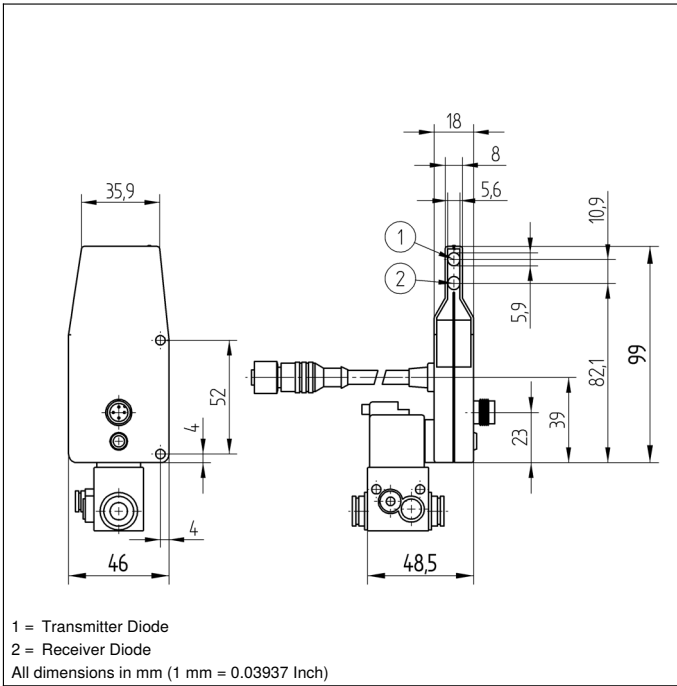
| Mechanical Data | |
|----------------------|----------------|
| Setting Method | Potentiometer |
| Housing Material | Plastic |
| Full Encapsulation | yes |
| Degree of Protection | IP65 |
| Connection | M12 × 1; 4-pin |
| Cable Length | 150 cm |

| Pneumatic Solenoid Valve Unit | |
|-------------------------------|---------------|
| Valve no. | K04 |
| Supply Voltage Valve | 19,2...28,8 V |
| Current Consumption Valve | 86 mA |
| Operating Pressure | 4...7 bar |
| Nominal Width | 0,8 mm |
| Nominal flow rate 1 -> 2 | 20 NL/min |
| Nominal flow rate 2 -> 3 | 100 NL/min |
| Supply-Line Connector Pipe | 2 × 8 × 1 |
| Working-Line Connector Pipe | 4 × 1 |
| Valve function | 3/2-Way |
| Switching function | NC |

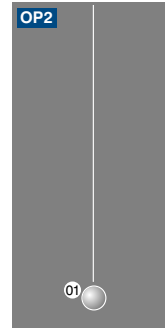
| | |
|-----------------------------------|---------------|
| PNP NO | ● |
| Connection Diagram No. | 716 |
| Control Panel No. | OP2 |
| Suitable Connection Equipment No. | 2 2s |
| Suitable Mounting Technology No. | 420 |

Complementary Products

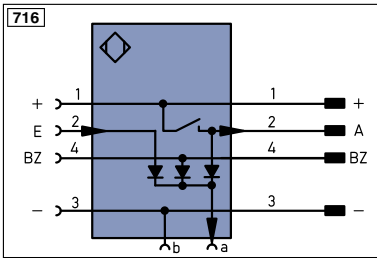
Adapter OPT70N, OPT70S, OPT70P
Reflector, Reflector Foil



Ctrl. Panel



01 = Switching Status Indicator



Legend

| | | | | | |
|-----------------------|--|------------------|--------------------------------|------------------------------------|----------------------|
| + | Supply Voltage + | PT | Platinum measuring resistor | EN ⁰ RS422 | Encoder A/Ā (TTL) |
| - | Supply Voltage 0 V | nc | not connected | EN ⁰ 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 | AMIN | Digital output MIN |
| V | Contamination/Error Output (NO) | W- | Ground for the Trigger Input | AMAX | Digital output MAX |
| V̄ | Contamination/Error Output (NC) | O | Analog Output | AOk | 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) | AWV | Valve Output | OLt | Brightness output |
| S | Shielding | a | Valve Control Output + | M | Maintenance reserved |
| RxD | Interface Receive Path | b | Valve Control Output 0 V | rsv | reserved |
| TxD | Interface Send Path | SY | Synchronization | Wire Colors according to IEC 60757 | |
| 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 _n R | 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 | La | 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 | GNVE | Green/Yellow |

Feasible reflector distance

Reflector type, mounting distance

| | | | |
|-----------|--------------|-----------|--------------|
| RQ100BA | 0,25...6,5 m | ZRAE02B01 | 0,2...1,8 m |
| RE18040BA | 0,1...4 m | ZRME03B01 | 0,15...2 m |
| RR84BA | 0,25...5 m | RF505 | 0,15...1,9 m |
| RR84BA | 0,2...5 m | RF508 | 0,15...1,9 m |
| RE9538BA | 0,15...2 m | RF258 | 0,15...1,5 m |
| RR50_A | 0,15...3 m | ZRDF03K01 | 0,1...3,5 m |
| RE6040BR | 0,2...2,5 m | ZRDF10K01 | 0,1...4,5 m |
| RE8222BA | 0,25...1,8 m | | |

