

# Retro-Reflex Sensor

## Universal

# LW86NCT3

Part Number

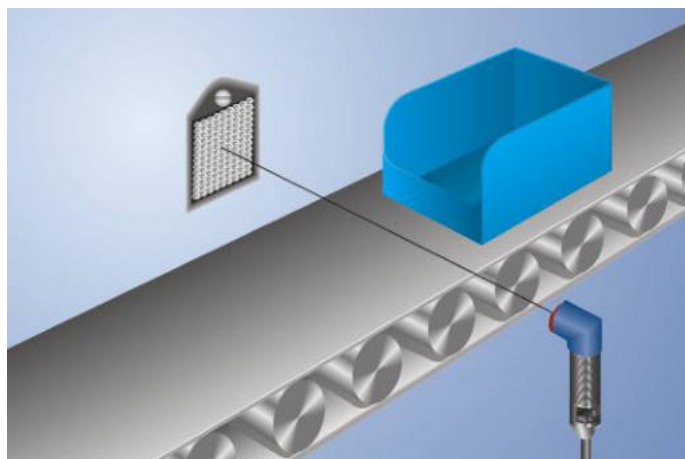


- Stainless steel housing
- Teach-in, external teach-in

## Technical Data

| Optical Data                                |                 |
|---------------------------------------------|-----------------|
| Range                                       | 6000 mm         |
| Reference Reflector/Reflector Foil          | RQ100BA         |
| Switching Hysteresis                        | < 5 %           |
| 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                              | 10...30 V DC    |
| Current Consumption (U <sub>b</sub> = 24 V) | < 40 mA         |
| Switching Frequency                         | 2 kHz           |
| Response Time                               | 250 µs          |
| On-/Off-Delay (RS-232)                      | 0...5 s         |
| Temperature Drift                           | < 5 %           |
| Temperature Range                           | -25...60 °C     |
| Switching Output Voltage Drop               | < 2,5 V         |
| NPN Switching Output/Switching Current      | 100 mA          |
| Residual Current Switching Output           | < 50 µA         |
| Short Circuit Protection                    | yes             |
| Reverse Polarity Protection                 | yes             |
| Overload Protection                         | yes             |
| Lockable                                    | 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 × 1; 4-pin  |
| NPN NC                                      | ●               |
| RS-232 with Adapterbox                      | ●               |
| Connection Diagram No.                      | 352             |
| Control Panel No.                           | D7              |
| Suitable Connection Equipment No.           | 2               |
| Suitable Mounting Technology No.            | 150             |

A reflector must be used in combination with these sensors. They can be installed in all kinds of industrial environments thanks to ample functional reserve. Even reflective objects can be reliably recognized through the use of polarized light.



## Complementary Products

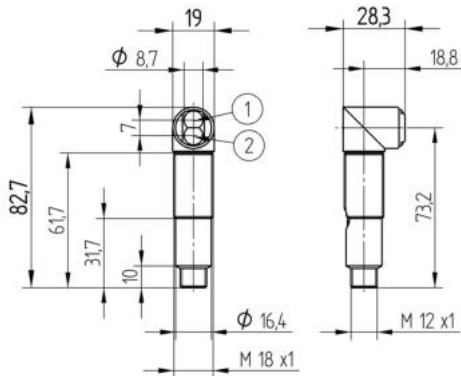
|                           |
|---------------------------|
| Adapterbox A232           |
| Reflector, Reflector Foil |
| Software                  |

## Ctrl. Panel

D7



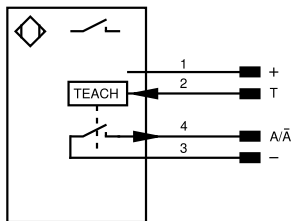
01 = Switching Status Indicator  
02 = Contamination Warning  
06 = Teach Button



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



352



### 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)                | Ů       | 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                  | ACK                                    | 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                | ENAR422 | Encoder A/A (TTL)              |                                        |                     |

## Feasible reflector distance

Reflector type, mounting distance

|           |              |           |              |
|-----------|--------------|-----------|--------------|
| RQ100BA   | 0,02...6 m   | RR25_M    | 0,02...1,6 m |
| RE18040BA | 0,02...3,3 m | RR25KP    | 0,02...1,4 m |
| RQ84BA    | 0,01...4,5 m | RR21_M    | 0,01...1,6 m |
| RR84BA    | 0,02...4,5 m | ZRAE02B01 | 0,02...3 m   |
| RE9538BA  | 0,02...1,5 m | ZRME01B01 | 0,02...1 m   |
| RE6151BM  | 0,01...4,5 m | ZRME03B01 | 0,02...2,8 m |
| RE6151BH  | 0,02...2,3 m | ZRMR02K01 | 0,02...1,1 m |
| RR50_A    | 0,02...4 m   | ZRMS02_01 | 0,01...1,5 m |
| RE6040BA  | 0,02...4 m   | RF505     | 0,06...1,6 m |
| RE8222BA  | 0,01...2 m   | RF255     | 0,06...1,2 m |
| RR34_M    | 0,01...2,4 m | RF508     | 0,06...1,6 m |
| RE3220BM  | 0,01...1,6 m | RF258     | 0,06...1,2 m |
| RE6210BM  | 0,01...1,6 m | ZRDF_K01  | 0,06...4 m   |

