These sensors have scratch-resistant optics and the emitted light can be switched off. They use the transit time measurement principle to measure the distance between the sensor and the object. For this reason, the object's color, shape and surface characteristics have practically no influence on measurement results. Even dark objects can be reliably recognized.

---

### Technical Data

#### Optical Data
- **Working Range**: 0.1...10.1 m
- **Measuring Range**: 10 m
- **Resolution**: 1...12 mm
- **Linearity**: 0.5 %
- **Switching Hysteresis**: 3...20 mm
- **Light Source**: Laser (red)
- **Wavelength**: 660 nm
- **Service Life (T = +25 °C)**: 100000 h
- **Laser Class (EN 60825-1)**: 2
- **Max. Ambient Light**: 10000 Lux
- **Beam Divergence**: < 2 mrad
- **Light Spot Diameter**: see Table 1

#### Electrical Data
- **Supply Voltage**: 18...30 V DC
- **Current Consumption (Ub = 24 V)**: < 100 mA
- **Switching Frequency**: 50 Hz
- **Measuring Rate**: 1...100 /s
- **Response Time**: 10...200 ms
- **On-/Off-Delay**: 0...10000 ms
- **Temperature Drift (-10 °C < Tu < 50 °C)**: < 0.2 mm/K
- **Temperature Drift (Tu < -10 °C, Tu > 50 °C)**: < 0.4 mm/K
- **Temperature Range**: -25...60 °C
- **Number of Switching Outputs**: 2
- **Switching Output Voltage Drop**: < 2.5 V
- **Switching Output/Switching Current**: 200 mA
- **Analog Output**: 0...10 V/4...20 mA
- **Short Circuit Protection**: yes
- **Reverse Polarity and Overload Protection**: yes
- **Protection Class**: III
- **FDA Accession Number**: 0710891-002

#### Mechanical Data
- **Setting Method**: Menu (OLED)
- **Housing Material**: Plastic
- **Degree of Protection**: IP68
- **Connection**: M12 × 1; 4-pin

#### Safety-relevant Data
- **MTTFd (EN ISO 13849-1)**: 346.68 a
- **Configurable as PNP/NPN/Push-Pull**
- **Analog Output**

---

### Complementary Products

- **Analog Evaluation Unit AW02**
- **Set Protective Housing ZST-NN-02**
Specifications are subject to change without notice.