

# ZD22 D Transmitter

**Long-term monitoring of Oxygen**



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## Long-term monitoring of Oxygen

The ZD22 D transmitter was specifically designed for long-term monitoring of oxygen concentrations.

The ZD22 D uses a sensor based on a zirconium dioxide (ZD) electrochemical oxygen pump cell. Selectively for oxygen, the ZD sensor is insensitive to ambient conditions as well as sensor poisons and convinces at the same time with very short response times.

The hardware of the ZD22 D complies with the European Functional Safety Standard DIN EN 61508-2: 2011\*. Thus, hardware SIL2 is possible in single-channel use (1oo1) and SIL3 in redundant use (1oo2).

\* Not for 0.2-1 mA systems.

### Communication and service

Signal transmission uses either 4-20 mA industry standard (alternatively also with 0.2-1 mA) or uses the digital RS-485 interface (Modbus RTU). Test gas for function control and sensor adjustment can be safely supplied using a calibration adapter. All maintenance work can be carried out by a single person.

### Overview of the gases and SI levels:

Other gases on request.

| Oxygen (O <sub>2</sub> ) | Measuring range      | Resolution      | 1oo1 | 1oo2 |
|--------------------------|----------------------|-----------------|------|------|
|                          | 0.01 to 2% by volume | 0.01% by volume | 2    | 3    |
|                          | 0.1 to 25% by volume | 0.1% by volume  | 2    | 3    |
|                          | 1.0 to 96% by volume | 0.2% by volume  | 2    | 3    |
|                          | 10 to 1,000 ppm      | 5 ppm           | 2    | 3    |

### Display and alarm on site

The compact housing for wall mounting is protected against splash water and dust (IP54). It features a 2.2 inch display with integrated alarm and two status LEDs. The display shows gas type and unit as well as the current measured value. In measuring mode it is backlit in green, the display changes to red in the event of an alarm. At the same time an acoustic warning signals.

### Weather protection

A weather resistant housing, shown below, not only protects transmitters against exposure to wind and weather, but also against contamination and excessive temperatures caused by direct sunlight.



### Reliable measurement and low operating costs

The electronic system of the transmitter controls temperature the stabilization of the voltage, processing of the measured value output and detection of malfunctions at the measuring point. The built-in temperature compensation ensures the highest measuring accuracy. The long-life and inexpensive sensors keep the running costs low.



ZD22 D transmitter with display, touch keys and acoustic alarm

## Technical Data: ZD22 D

**Measuring principle:** Zirconium dioxide (ZD)

**Detection range:** Sensor dependent

**Gas supply:** Diffusion or gassing per calibration adapter

**Expected sensor life:** 4-5 years \*

**Response time:**  $t_{90} \leq 5$  s \*

**Temperature:** -4 to +122 °F / -20 to +50 °C

\* Sensor dependent

**Humidity:** 5 to 90% r.h.

**Pressure:** 80 to 120 kPa

**Output signal:**

Analog: 0.2-1 mA or 4-20 mA

Digital: RS-485

**Power supply:** 12 to 30 V DC

**Housing:** Plastic

**Protection class:** IP54

**Dimensions:** 3.78 x 5.6 x 2 in / 96 x 141 x 49 mm  
(W x H x D)

**Weight:** 7.8 oz / 220 g

**Approvals / Certifications:**

Functional Safety (SIL):

DIN EN 61508-2: 2011



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