



ZD22 D Transmitter with display and horn

Long-term monitoring of oxygen



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The ZD22 D was developed especially for long-term monitoring of the oxygen concentration.

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 is done either according to the 4-20 mA industry standard (alternatively 0.2-1 mA) or digitally via the RS-485 interface (Modbus / RTU). Test gas for function control and adjustment of the sensor can be safely dispensed via calibration adapter. Moreover, all maintenance work can be carried out by a single technician.

Display and alarm on site

The compact housing for wall mounting is protected against splash water and dust (IP54). There are two status LEDs on the front of the ZD22 D, which indicate the operating status and faults as well as required service work. The D variant of the ZD22 also has a 2.2" display for showing measured values, status information and alarms at the measuring point. In measurement mode backlit in green, the display changes for visual alert to red in the event of an alarm. At the same time, an acoustic alarm signal can be emitted via the integrated horn.

Reliable measurement & low operating costs

The electronics of the transmitter take over the voltage stabilization, processing of the measured value output and detection of disturbances already at the measuring point. The built-in temperature compensation ensures highest measurement accuracy. Long-life sensors that are inexpensive in acquisition keep running costs low.

Variants for different requirements

The basic version of the ZD22 is sufficient for many applications. If a measured value display is required on site, the ZD22 is also available with display and acoustic alarm.

ZD22 Basic variant

ZD22 D with display to show the current measured value

In combination with GfG's powerful controllers, both variants are the right choice for long-term oxygen monitoring.



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Overview of available measuring ranges and SIL:

Oxygen (O ₂)	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 1000 ppm	5 ppm	2	3

ZD22 D Technical Data:

Measuring principle: Zirconium dioxide (ZD)

Measuring range: Sensor dependent (see overview)

Gas supply: Diffusion or gassing per calibration adapter

Lifetime of the sensor: 4-5 years

Response time: $t_{90} \leq 5 \text{ s}^1$

Temperature: -20 to +50 °C

Humidity: 5 to 90 % r. h.

Air 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: 96 x 141 x 49 mm (W x H x D)

Weight: 220 g

Approvals /

Certifications:

Functional

Safety (SIL): DIN EN 61508-2: 2011

¹ Sensor dependent

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