

ZD22 Transmitter

Long-term monitoring of oxygen



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GERMANY**

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Long-term monitoring of oxygen



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

The ZD22 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 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 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.

Protection level and display elements

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, which indicate the operating status and faults as well as required service work.

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 on site is desired, there is also a variant 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.



ZD22 D transmitter with one cable entry for analog connection

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 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: 175 g

Approvals / Certifications:

Functional

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

¹ Sensor dependent

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