

# Transmitter ZD21

for Oxygen (O<sub>2</sub>)



- Sensor lifetime 5 years
- Fast response:  $t_{90} < 2$  seconds
- No influence from pressure, humidity or temperature
- No damage from carbon dioxide CO<sub>2</sub>
- Easy on-site calibration
- Low cost of ownership

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# Transmitter ZD21 for Oxygen (O<sub>2</sub>)

## Zirconium dioxide - How does it work?

The transmitter ZD21 is a powerful transmitter for the detection of oxygen, using an amperometric sensors based on an electrochemical zirconium dioxide oxygen pump cell. The detection principle features a good longterm stability and selectivity. When a voltage is connected to the cell, the oxygen ions are pumped from the cathode to the anode. The cathode provides a gas diffusion barrier. Increasing the voltage leads to a saturation current that is equal to the oxygen concentration in the ambient air.



ZD21 with GMA81

## The oxygen transmitter

The ZD21 is an „intelligent“ transmitter providing an extremely short response time of  $t_{90} < 2$  seconds. The sensor is unaffected by pressure variations, temperature or



Transmitter ZD21 built-in and with external sensor

humidity and will not be damaged by carbon dioxide (CO<sub>2</sub>). High-tech electronics allow easy operation and maintenance and also increases operational safety and accuracy.

## Wide selection of detection ranges

A wide variety of detection ranges are available, from 0-0.1 % Vol O<sub>2</sub> up to 96 % Vol O<sub>2</sub>.

## All advantages at a glance

- Excellent stability
- Short response time
- High selectivity
- Temperature compensation
- Long sensor lifetime

# Transmitter ZD21 Technical Data

## Gas:

Oxygen (O<sub>2</sub>)

## Detection principle:

Zirconium dioxide

## Detection range:

0 .. 25 % Vol.

## Special detection range:

0 .. 1000 ppm  
0 .. 2, 0 .. 5, 0 .. 96 % Vol.

## Detection accuracy:

+/- 0.1 % Vol.  
(repeatability)

## Gas supply:

Diffusion  
(flow measurement with adapter)

## Response time (t<sub>90</sub>):

< 2 seconds  
(0 .. 21 Vol.-% O<sub>2</sub>)

## Temperature:

-25°C .. +50°C  
(-30°C .. +110°C optional)

## Humidity:

0 .. 99 % rel. humidity

## Pressure:

920 .. 1080 hPa  
(200 .. 5000 hPa optional)

## Expected sensor life:

> 5 years  
(depending on environment)

## Output signal:

0.2 .. 1 mA / 4 .. 20 mA

## Power supply:

10 .. 32 VDC/3W

## Casing material:

Aluminium

## Casing protection:

IP54

## Cable gland:

3-wire / PG 11

## Dimensions:

100 x 100 x 57 mm  
(W x H x D)

## Weight:

approx. 370 g



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