



## EC22 O Transmitter

Oxygen monitoring  
even in helium-containing  
environments



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Monitoring oxygen is part of the basic safety concept in many manufacturing processes. Many industries, such as semiconductor manufacturing or laboratory and research facilities, also use helium, because it is both a good electrical insulator and chemically extremely inert.

However, timely detection of oxygen deficiency is made more difficult when a very light gas such as helium escapes, since its gas density is only 0.14 (air = 1). Specially designed to monitor oxygen in environments with gases of low molecular weight gases, the EC22 O with partial pressure sensor was developed.

## 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 EC22 O. The green one indicates operational readiness, the yellow one signals faults or special states.



Analog version of the EC22 O with one cable entry

## Communication

Signal transmission, e.g. to GfG controllers or higher-level process control systems, is either using 4-20 mA industry standard (alternatively also with 0.2-1 mA) or using the digital RS-485 interface (Modbus RTU).

## Reliable and Cost-effective

Additionally, a smart electronic system controls temperature compensation and facilitates operation and maintenance. The high quality and durable sensor (expected 5-years life) ensures many years of use.

## The best measurement method

The EC22 O with partial pressure sensor is the only way to reliably monitor the concentration of oxygen even in environments that contain or may contain helium.

## The 22 series transmitters

In addition to the highly specialized EC22 O, the 22 series offers a wide range of other high-quality transmitters for many gases and measuring ranges:

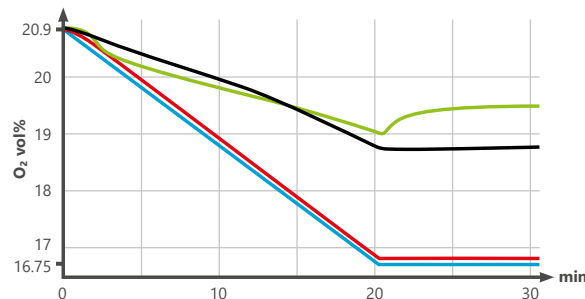
- CC22** For monitoring combustible gases
- CC22 ex** For monitoring combustible gases in Ex zone 2
- CS22** For monitoring refrigerants
- EC22** For monitoring toxic gases, H<sub>2</sub> and O<sub>2</sub>
- IR22** For monitoring combustible gases and CO<sub>2</sub>
- IR22 F** For monitoring CO<sub>2</sub> in cold stores
- ZD22** For monitoring O<sub>2</sub>

The 22 series transmitters are usually available in a version with or without display, push buttons and buzzer.

## Sensor readings of different sensor technologies

**0 to 20 % helium in the air**  
Adding 1 % helium per minute

- O<sub>2</sub> level
- EC partial pressure sensor
- Zirconium dioxide sensor
- Standard EC sensor



## EC22 O Technical Data:

**Measuring principle:** Electrochemical (EC)  
**Measuring range:** 0 to 35 vol%<sup>1</sup>  
**Gas supply:** Diffusion or gassing per flow adapter

**Lifetime of the sensor:** 5 years  
**Response time:** t<sub>90</sub> ≤ 5 s

**Temperature:** 0 to +50 °C  
**Humidity:** 0 to 90 % r. h.  
**Air pressure:** 70 to 125 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 153 x 49 mm (W x H x D)  
**Weight:** 310 to 390 g

<sup>1</sup> Configurable measuring range

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