



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:

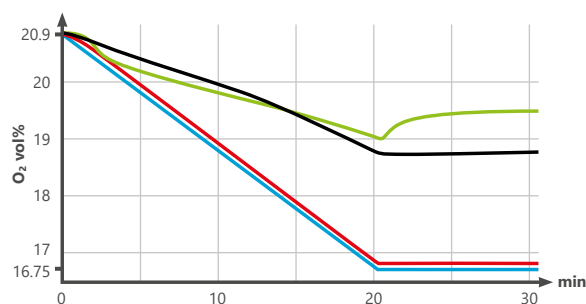
CC22	For monitoring combustible gases
CC22 ex	For monitoring combustible gases in Ex zone 2
CS22	For monitoring refrigerants
EC22	For monitoring toxic gases, H ₂ and O ₂
IR22	For monitoring combustible gases and CO ₂
IR22 F	For monitoring CO ₂ in cold stores
ZD22	For monitoring O ₂

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

— O₂ 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%¹
Gas supply: Diffusion or gassing per flow adapter

Lifetime of the sensor: 5 years
Response time: $t_{90} \leq 5$ 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

¹ Configurable measuring range

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