



## EC22 Transmitter

# For monitoring toxic gases, H<sub>2</sub> and O<sub>2</sub>



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If toxic gases, hydrogen or oxygen are to be monitored outside hazardous areas, the EC22 transmitter is a reliable and economical solution. In combination with GfG's proven controllers, the transmitter can be used in a wide variety of applications thanks to a large selection of sensors.

The EC22 operates according to the proven electrochemical measuring principle, which is characterized by a linear signal, energy efficiency and high sensitivity. It is ideal for selectively monitoring toxic gases, hydrogen or oxygen.

The EC22 hardware complies with the European Functional Safety Standard DIN EN 61508-2: 2011 for many gases. The SIL levels (up to SIL3) in single-channel (1oo1) or redundant (1oo2) use are listed in the overview of gases.



EC22 Transmitter with one cable gland for analog connection

## Communication and service

Signal transmission is either by 4-20 mA industry standard (alternatively 0.2-1 mA) or digitally over the RS-485 interface (Modbus / RTU). Test gas for function control and sensor adjustment can be safely supplied using a calibration adapter. All maintenance work can be carried out by a single person.

## Protection class and display elements

The compact housing for wall mounting is protected against splash water and dust (IP54). Two status LEDs are located on the front of the EC22 to indicate the operating status and faults as well as any service required.

## Reliable measurement and low operating costs

The electronics of the transmitter controls the stabilization of voltage, processing of the measured value output and detection of malfunctions at the measuring point. The built-in temperature compensation ensures highest measuring accuracy. Long-life and inexpensive sensors keep the running costs low.

## Various models for different applications

The basic version of the EC22 is sufficient for many applications. If a measured value on site is needed, there is also a version with display and acoustic alarm.

**EC22** Basic version for a wide range of electrochemical sensors

**EC22 D** With display and acoustic alarm

In combination with GfG's powerful controllers, both versions are the ideal choice for monitoring a wide range of gases.

Overview of gases and SIL levels <sup>1</sup> :		1oo1		1oo2			1oo1		1oo2			1oo1		1oo2	
		2	3	1	2		2	3	1	2		1	2	1	2
» Ammonia (NH <sub>3</sub> )		2	3	1	2	» Fluorine (F <sub>2</sub> )	1	2	» Hydrogen sulfide (H <sub>2</sub> S)	1	2	1	2		
» Chlorine (Cl <sub>2</sub> )		1	2	2	3	» Carbon monoxide (CO)	2	3	» Silane (SiH <sub>4</sub> )	-	-	-	-		
» Chlorine dioxide (ClO <sub>2</sub> )		-	-	2	3	» Ozone (O <sub>3</sub> )	2	3	» Nitrogen dioxide (NO <sub>2</sub> )	1	2	1	2		
» Hydrogen chloride (HCl)		1	2	2	3	» Oxygen (O <sub>2</sub> )	2	3	» Nitric oxide (NO)	1	2	1	2		
» Hydrogen cyanide (HCN)		1	2	1	2	» Sulfur dioxide (SO <sub>2</sub> )	1	2	» Hydrogen (H <sub>2</sub> )	-	-	-	-		

# EC22 Technical Data:

**Measuring principle:** Electrochemical (EC)  
**Measuring range:** Sensor dependent  
**Gas supply:** Diffusion or gassing per calibration adapter

**Lifetime of the sensor:** 2-3 years<sup>2</sup>

**Response time:** Sensor dependent

**Temperature:** -20 to +50 °C<sup>2</sup>  
**Humidity:** 20 to 95 % r. h.<sup>2</sup>  
**Air pressure:** 80 to 120 kPa<sup>2</sup>  
**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 123 x 49 mm (W x H x D)  
**Weight:** 120 to 150 g<sup>2</sup>  
**Approvals / Certifications:**  
 Functional  
 Safety (SIL): DIN EN 61508-2: 2011

<sup>1</sup> Depending on sensor and measuring range, <sup>2</sup> Sensor dependent

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