Gas Sensor ME 1250
Oxygen O_2

Müller-Elektronik AG
Gaswarnanlagen & Wasserqualität

Data Sheet

Version 10/2022, Technical changes reserved

O_2

Gas	Oxygen
Formula	O_2
CAS number	7782-44-7
Relative density	1.11
Appearance	Colorless Odorless
Hazards O_2 V% too low	Impairment until unconsciousness
Hazards O_2 V% too high	Increased flammability of materials and gases

- **Automatic zero point calibration**
- **Active noise reduction on the output signal**
- **Linear measurement signal depending on the gas concentration**
- **High response sensitivity with a short response time**
- **Selective and reliable measurement with stable measuring signal and zero point**
- **Temperature compensated measurement**
- **Long service life**

The ME1250 Gas Sensor is a remote measuring unit for monitoring oxygen concentration. Lack of oxygen impairs health, up to unconsciousness and danger to life. Too high oxygen content poses a risk of fire and explosion, since materials and gases have a higher flammability with increased oxygen concentration.

The microprocessor-controlled electronics of the sensor, adapted to the specific properties of the measuring cell, enable fast and reliable signal processing. The measured gas concentration is transmitted to a Gas Control Panel, which can manage a large number of distributed gas sensors.

Thanks to bus communication, only one cable is required, which can be continued from sensor to sensor. The ME 1250 Gas Sensor is also available with an analogue output signal of 4…20 mA. The measured gas concentration can thereby be processed by other PLC (Programmable Logic Controllers).

The optional relay module expands the ME 1250 Gas Sensor internally with 3 relays for direct switching of signal transmitters without the use of a Control Panel.

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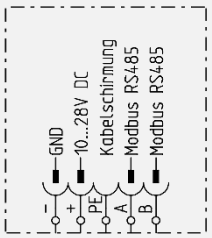
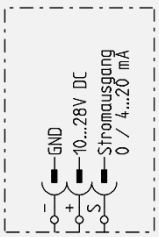
Technical Specifications

Measurement method	Electrochemical		
Measuring range	0…25 Vol.-%		other measuring ranges on request
Alarm thresholds	Alarm 1: Alarm 2: Alarm 3: Alarm 5:	19 Vol.-% 17 Vol.-% 23 Vol.-% 24 Vol.-%	recommendation
Lifespan in air	up to 3 years		according to cell manufacturer
Break-in period	12 h		according to cell manufacturer
Response time t_{90}	< 8 sec		
Operating voltage	10…28 VDC		nominal 24 VDC
Ambient temperature	-40…+50 °C		
Humidity	15…90% rF		non-condensing
Mounting height	usually 150 cm above floor		depending on the application
Casing	*Default:* Powder-coated aluminum Orange RAL 2004 80 x 125 x 59 mm 500 g		*Optional:* ABS plastic Light gray RAL 7035 81 x 121 x 56 mm 250 g
Cable entry	M20		
EU conformity	CE mark including EMC test		

Versions

Article code	**12BUS-O2-21**	**1250-O2-21**
Description	ME 1250 Bus	ME 1250 Analogue
Output signal	Bus communication with Control Panel	Analogue 4…20 mA Load max. 800 Ω at 24V input
Connection	4-core cable U72M 1x4x0.6 mm Shielded	3-core cable U72M 1x4x0.6 mm or CY 0.5 mm² Shielded
		
Topology	Bus, tree or star topology	Star topology
Power	< 0.15 W	< 0.8 W

Cross sensitivity

Due to the electrochemical measurement principle, the measurement is more selective than other measurement methods. The cross-sensitivity table can be found in the online version of this data sheet.

Accessories

Article code	
1250-REL	Relay module for single sensor
1250-AIR-BOX	Add-on box for ventilation duct
1250-AIR-FLOW	Hose fitting
1250-SUP	Mounting plate for round columns
1250-SCHUTZ	Weather protection

Maintenance

Annual calibration and function check
with calibration gas, carried out by trained staff.

Consumables

Article code	
CELL-O2-M100	Measuring cell for oxygen Lifespan: up to 3 years

- The service life of the measuring cell can be shortened by high humidity.

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