

Device overview

Type	Measurand	Description	Measuring range	Page
OXY 3690 MP	O ₂	Air oxygen transmitter incl. sensor	Oxygen concentration: 0.0..100.0 % O ₂	70
OXY 3610 MP	O ₂	Transmitter incl. sensor for dissolved oxygen in liquids	Oxygen concentration: 0.00..25.00 mg/l (dissolved)	71
GT10-CO2-1R	CO ₂	CO ₂ -transmitter	Carbon dioxide: 0..2000 ppm CO ₂ or 0..5000 ppm CO ₂	72
GODOX200	O ₂	Optical oxygen measuring transducer	Oxygen concentration: 0.00..20 mg/l (dissolved) Oxygen saturation: 0..200 % O ₂	73

Air Oxygen Transmitter incl. Electrode OXY 3690 MP



- O₂-sensor element exchangeable
- Appropriate to air with high CO₂-concentrations
- Input electrically isolated

Characteristics

The OXY 3690 MP measures the oxygen concentration in air. Depending on the selected design type the device is appropriate to either pure oxygen (i.e. low CO₂ concentration) or to air with very high CO₂ concentration.

Technical data

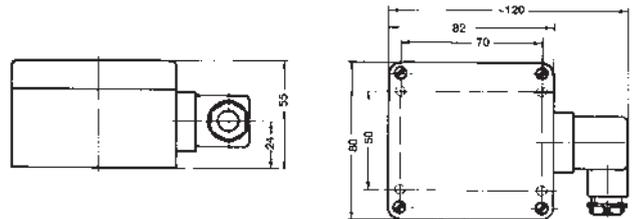
Measuring range
 Oxygen concentration : 0.0..100.0 % O₂
 Temperature : -20.0..+50.0 °C
 Accuracy (transmitter) at 20.9 % O₂, 1000 mbar abs.
 Oxygen : ±0.1 % ± 1 digit
 Temperature : ±0.1 °C ± 1 digit
 Output signal (only O₂) : 4..20 mA (2-wire)
 0..10 V (3-wire)
 Electrical isolation : input electrically isolated
 Working temperature : 0..50 °C
 Power supply : 12..30 V DC at 4..20 mA
 18..30 V DC at 0..10 V
 Permissible impedance : R_A [Ω] = (U_V [V] - 12 V) / 0.02 mA
 Permissible load : R_L > 3000 Ω
 Reverse voltage protect.: 50 V permanent
 Display : 10 mm high, 4-digit LCD display
 Electric connection : elbow-type plug (EN 175301-803/A),
 max. wire cross-section: 1.5 mm²,
 wire diameter from 4.5..7.0 mm
 Sensor connection : 5-pole screw-able diode socket
 Calibration : 1-point-calibration at atmospheric air
 Air pressure compensat.: 500..2000 hPa abs., manual input
 Over- / under-pressure : max. 0.25 bar
 Housing : ABS

O₂-sensor element

	GOEL 370
Measuring range	0.0..100.0 % O ₂
Response time T ₉₀	< 10 s
Application	for air or pure oxygen or for air or air with high CO ₂ -concentration
	GOEL 380
Measuring range	0.0..25.0 % O ₂
Response time T ₉₀	< 5 s
Application	for air with little CO ₂ -concentration, response time shoots

Temp. compensation : integrated in oxygen sensor
 Connection cable : 1.3 m with 5-pole screw-able diode plug
 Working pressure : 500..2000 hPa (static)
 for air or gas inflow option GOO (oxygen probe GOO ... / MU) is needed

Dimensions



Measuring probe : Ø 40 x 103 mm
 (153 mm incl. bend protection)

Ordering code

OXY3690MP - 1. - 2. - 3. - 4.

1. O₂-sensor element	
0	GOEL 370 for air and pure oxygen
1	GOEL 380
2. Sensor design	
GGO	closed sensor design (suited for over- and under- pressure, used at gas-tight systems)
GOO	open sensor design (e.g. suitable for air or gas inflow, pressure cannot be built up)
3. Output signal	
A1	4..20 mA (2-wire)
V2	0..10 V (3-wire)
4. Cable length	
L01	1.3 m cable
L10	10 m cable

Ordering example: OXY3690MP-0-GGO-A1-L01

Accessories / Spare parts

GOEL 370

Spare sensor element

Measuring transducer incl. electrode for dissolved oxygen in liquids OXY 3610 MP



- Interchangeable O₂ electrode
- Electrode: active membrane type with integrated NTC resistance
- Galvanically isolated input
- Incl. galvanic oxygen sensor with temperature measurement
- Local display

Features

The OXY 3610 MP is designed for measurement of oxygen concentrations in liquids. Depending on the accuracy requirement of the measurement, the sensor can simply be calibrated in air (ideally, use a calibration bottle) at the push of a button, e.g. once per week.

The OXY 3610 MP is used in aquariums, fish husbandry and in measurement of spring water and well water.

Technical data

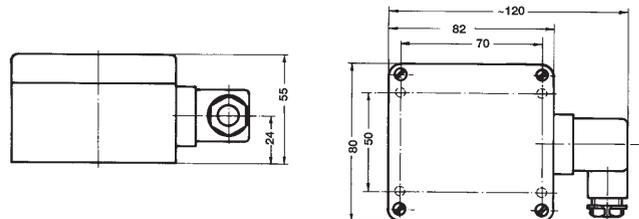
Measuring range	
Oxygen concentration	: 0.00..25.00 mg/l (dissolved)
Temperature	: 0.0..50.0°C
Accuracy (measuring transducer)	
Oxygen	: ±1.5 % of measured value ±0.2 mg/l
Temperature	: ±0.1 °C ±1 digit
Output signal (only O₂)	
	: 4..20 mA, (2-wire)
	: 0..10 V (3-wire option)
Galvanic Isolation	
	: Galvanically isolated input
Working temperature	
	: 0 – 50 °C
Auxiliary energy	
	: 12..30 V DC at 4..20 mA
	: 18..30 V DC at 0..10 V
Permissible resistance	
	: $R_A [\Omega] = (U_V [V] - 12 V) / 0.02 \text{ mA}$
Permissible load	
	: $R_L > 3000 \Omega$
Reverse polarity protection	
	: 10 mm height, 4-digit display
Electrical connection	
	: Angle connector acc. to EN 175301-803/A, maximum cable cross-section: 1.5 mm ² , cable diameter of 4.5..7.0 mm

Sensor connection : 5-pole diode socket, screw-fitting
 Calibration : 1-point calibration in atmospheric air
 Housing : ABS

O₂ electrode (GWO 3600 MU)

Electrode : Active membrane type, with integrated NTC resistance
 Response time : 95 % in 10 s, temperature-dependent
 Operating pressure : max. 3 bar
 Flow speed : min. 30 cm/s
 Connection cable : 4 m with 5-pole diode plug, screw-fitting

Dimension



Oxygen probe : Diameter Ø: 12.0 ±0.2 mm
 Installation length: 110 mm
 Overall length: 220 mm incl. anti-kink protection

Ordering code

OXY3610MP - 1. - 2.

1. Output signal	
A1	4..20 mA, (2-wire)
V2	0..10 V (3-wire)
2. Cable length	
L04	4 m cable
L10	10 m cable
L20	20 m cable
L30	30 m cable

Order example:
 OXY3610MP-A1-L04

Accessories / Spare parts

GWO 3600-L04-MU (article no. 607198)

Spare electrode with 4 m cable

GWO 3600-L10-MU (article no. 610382)

Spare electrode with 10 m cable

GSKA 3600 (article no. 601414)

PVC protective cap, sinking

GAS 3600 (article no. 603497)

Working set (comprising 3 spare membrane heads and 100 ml of KOH electrolyte)

GWOK 01 (article no. 601411)

Spare membrane head

KOH 100 (article no. 603356)

Spare electrolyte KOH, 100 ml bottle

GCAL 3610 (article no. 611371)

Calibration bottle

CO₂ Transmitter GT10-CO2-1R



- Excellent long term stability
- Auto-calibration procedure
- Output signal freely scalable

Characteristics

The high-quality and precise CO₂ transmitter works according to the infrared principle (NDIR). An auto-calibration procedure compensates aging effects. This ensures the excellent long-term stability of this transmitter.

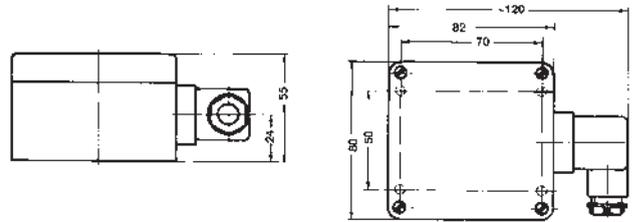
Due to the fact that CO₂ is an important indicator for air quality in rooms, it is very important for modern climate control to measure the CO₂ content.

Due to the freely adjustable output signal the transmitter can be used for nearly each existing controller input. Additionally, there is an on-site display which shows beside the current CO₂ concentration the minimum and maximum values as well as an optical alarm.

Technical data

Measuring range	
MB1	: 0..2000 ppm CO ₂
MB2	: 0..5000 ppm CO ₂
Measuring principle : infrared principle (NDIR)	
Accuracy	
MB1	: ±50 ppm ± 2 % of meas. value
MB2	: ±50 ppm ± 3 % of meas. value
Output signal (only O ₂) : 4..20 mA, 0..1 V, 0..10 V (3-wire)	
Working temperature : -10..+50°C	
Power supply : 12..30 V DC at 4..20 mA and 0..1 V 18..30 V DC at 0..10 V max. 600 mA	
Permissible burden	: R _s < 200 Ω
Permissible load	: R _L > 3000 Ω
Display	: 10 mm high, 4-digit LCD-display
Electric connection	: elbow-type plug (EN 175301-803/A), max. wire cross section: 1.5 mm ² , wire diameter from 4.5..7.0 mm
Housing	: ABS

Dimensions



Ordering code

GT10-CO2-1R - 1. - 2.

1. Measuring range	
MB1	MB1: 0..2000 ppm CO ₂
MB2	MB2: 0..5000 ppm CO ₂
2. Output signal	
A1	4..20 mA (3-wire)
V1	0..1 V (3-wire)
V2	0..10 V (3-wire)

Ordering example:
GT10-CO2-1R-MB1-A1

Optical oxygen measuring transducer GODOX 200



Standard version – ST (with storage bottle)



Salt water version – PS (with storage bottle)

- Low-maintenance optical measuring without electrolyte
- No flow required
- Two 4-20 mA (or 0-5V, switchable) outputs: concentration and saturation
- Full pressure and temperature compensation
- Salt water correction de/activatable
- Low-maintenance and durable
- Calibration only 1 time per year in many applications!
- Easily replaceable membrane heads

Features

The GODOX 200 oxygen measuring transducer is a durable measuring system for low-maintenance continuous use in water. In comparison with electrochemical sensors, it is provided without electrolyte, making it significantly more operationally stable and uncomplicated. Problems associated with flow are completely eliminated as a result! Measurement takes place with a fluorescence run time method. Together with the complete data preparation, including automatic environmental pressure, temperature and activatable salt water compensation, it is a worry-free package for permanent measurement applications. Measurement is possible to a maximum depth of 30 m. The service life of the easily replaceable measuring membrane is normally 2 years.

The PS version is produced entirely in PVC and permanently resistant to salt water.

Technical data

Measuring ranges

(both can be used simultaneously)

- Oxygen concentration : 0..20 mg/l (=ppm)
- Oxygen saturation : 0..200 % O₂
- Output signal : 4..20mA or 0..5V (switchable)
- Accuracy : ±0.1 mg/l below 1 mg/l
±0.2 mg/l above 1 mg/l
- Response time T90 : <30 seconds

- Operating temperature : 0..65 °C
- Max. pressure : 3 bar or 30 m water column
- Protection rating**
- Evaluation electronics : IP40 (ensure adequate weather protection with outdoor use)

- Power supply : 5..16 V DC, max. 160mA

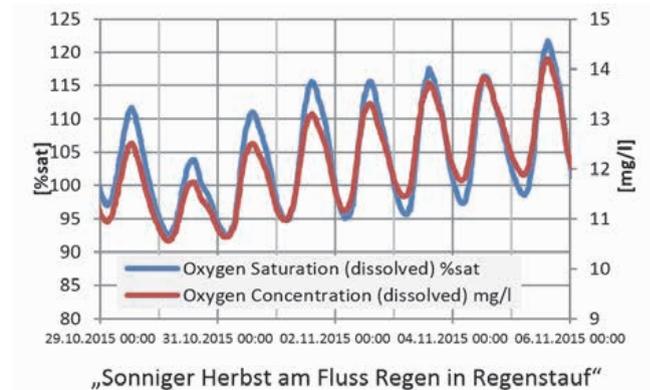
Material

- Housing
- Standard version –ST : PVC/stainless steel
- Salt water version –PS : PVC
- Membrane : PET

Sensor dimensions

- Length : 225 mm length
- Installation length : 70.5 mm
- Diameter : 42.1 mm
- Installation diameter : 28.0 mm
- Process connection : 1" NPT front/rear (others available on request)

Data evaluation with data logger connected



Connections

Loose cable ends:

No	Colour	Description
1	red	Power supply +
2	black	Power supply -, GND signal
3	green	O ₂ concentration signal
4	white	O ₂ saturation signal



Ordering code

GODOX 200

Standard version –ST
Article number 608019

Salt water version –PS
Article number 608020

Scope of delivery

- Measuring transducer, comprising sensor body and evaluation electronics, connected by cable
- Storage cap

Accessories

- **GSKA 200** (article no. 607992)
Stainless steel protective cap
(mechanical protection / protection from animals)
- **EMS 200** (article no. 607990)
Spare membrane head set
- **Power supply: Mains adapter GNG 12/300**
(article no. 600274)