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UMSITEC
Umwelt- und Sicherheitstechnik

OPERATION INSTRUCTION

GMF 330 Z O2 BUS for RS485 BUS

OXYGEN Sensor with Zirkonium Sonde



**GMF 330 Z O2
Standard**



**GMF 332 Z O2 DA
mit concentration display**



**GMF 330 Z O2 CA
for CA-Container**



**GMF 330 Z O2 K
for pipe connection**

Important!

The devices may only be operated if this operation instruction has been understood and is applied. The appendix "Safety instructions for installers and operators" must be observed!

Sensoric technology

The sensor GMF 330 Z is powered by zirconium sensors.

The sensor signal is evaluated digital and is available for information for reading via the RS 485 BUS and analysis via a BUS center.

The sensor must be heated, so that it can react to gases.

The power consumption of the sensor is between 130mA (supply = 28V) and 340mA (supply = 12V).

Depending on the cable length results a voltage drop from the indicator to the sensor, which must be considered in the conception design. It should be kept as low as possible.

Mounting

The sensor is suitable for wall or ceiling mounting.

Sensor connection

The sensor GMF 330 Z can be operated with an unregulated DC voltage of 15-35V.

IMPORTANT: There is required a pre-fuse of 315 mA slow.

Up to 400 m can be used as a measuring 2x2x0.8mm Sensor Cable shielded cable JY (St).

The wire colors can be assigned as follows:

red => +24V (class 1), white => A(cl 2), yellow => B(cl 3) black => 0 V (KI 4), drain wire => PE (cl 5)

The drain wire is connected in the cable with the shield.

The drain wire at the sensor must be connected with the metal housing.

CAUTION: When installing, make sure that naked wire end and the bare drain wire are coated with an insulating and can not come into contact with the circuit.

If the metal housing is mounted on grounded steel beams, the drain wire and the core for terminal 5 (PE) must not be connected at the evaluation device.

Heating period

After applying the supply the sensor performs a self-test. Thereafter, the zirconium sensor is heated for 3 minutes.

Meanwhile, a measured value of 20.9% is outputted, which corresponds to the partial pressure of an air-oxygen concentration of 20.9% vol%. This value can be changed in the service menu.

Adjustment

The sensor is factory calibrated and extremely stable. Regular maintenance is still required to control the functional ability.

The sensor can be calibrated using any known gas concentration:

1. For this purpose, the service mobile III is connected to the jack, which indicated the current gas concentration.
2. By means of test gas adapter apply test gas (approx. 0.2 l / min)
3. The adjustment is made by means of the adjustment trimmer on the service phone until the required gas concentration is displayed.

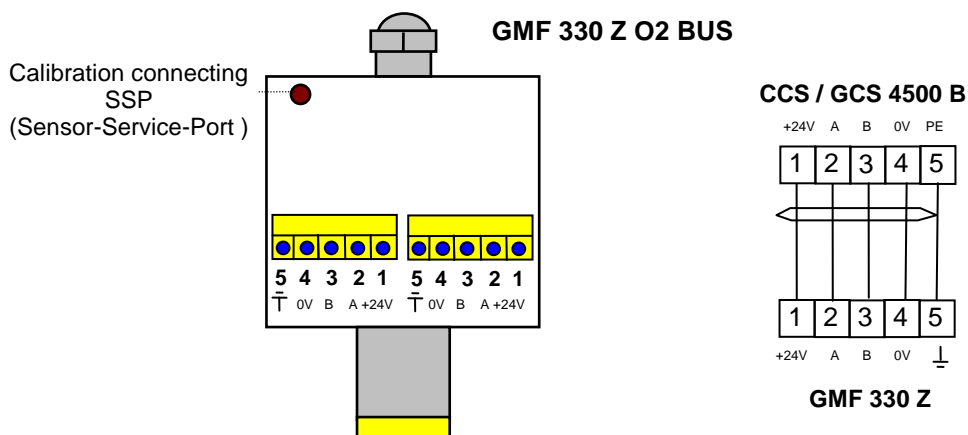
CAUTION: Potentiometers must not be adjusted. They have no effect on the calibration!

Maintenance aids

Service mobile III
Control zero-gas (nitrogen)
Calibration - test gas (known oxygen concentration)
Gas feeding armatures (flow regulator, flow meter 0 - 1 liter/min)
Gas feeding adaptor

The sensor can be calibrated using any known oxygen concentration.

Connection diagram



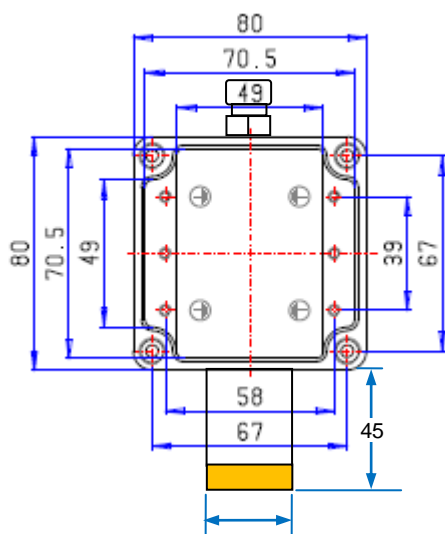
Technical Data: GMF 330 Z O2

Suitability: dusty, dirty rooms, laboratory rooms, air conditioning, etc.
 Not suitable: environments with very high carbon dioxide content or presence of corrosive gases
 Measuring principle: zirconium oxide
 Type of gas: oxygen
 Measuring range: 0..25 vol%, 0..100 vol%, type of construction
 Accuracy : <+/-1% of measuring range
 Display: LCD display concentration, on request
 Lead time: < 4 minutes
 Response time T90: < 40 sec
 Temperature range: -30..+60°C (ambient)
 Humidity range: 0..95% RH
 Pressure range: 700-1300 hPa
 Housing: aluminium, LxWxH: 160x80x60mm
 Typ of protection: IP65
 Gas access: diffusion, sinter filter
 Output signal: RS485
 Life time: >30.000 operation hours
 Storage time: > 2Jahre
 CE-conformity: Distribution: living area: immunity: industrial area
 Weight: 730g
 Supply: 15-35V DC
 Power consumption: 4 W
 Connection cable: up to 400 m: JY (ST) Y 2x2x0,8 mm², (supply >24V)
 from 400 m: 4x1,5 mm², shielded

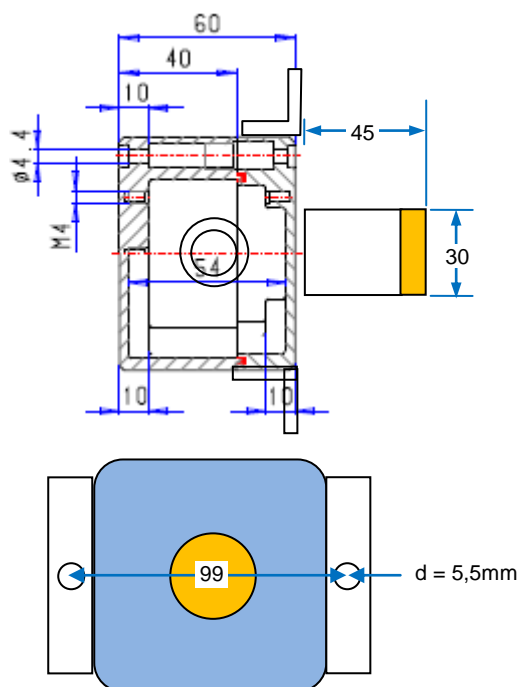
Bestell-Nr.	Ausführung	Messbereich	Digitalanzeige
GMF 330 Z O2 25V	Standard housing	0...25 Vol%	-
GMF 330 Z O2 100V	Standard housing	0...100 Vol%	-
GMF 330 Z O2 25V CA	for CA-Container	0...25 Vol%	-
GMF 330 Z O2 25V K	for pipe connection	0...25 Vol%	-
GMF 330 Z O2 25V KL	for air conditioning compressor	0...25 Vol%	-
GMF 332 Z O2 100V DA	Standard housing	0...100 Vol%	digital display
GMF 332 Z O2 25V DA	Standard housing	0...25 Vol%	digital display
GMF 335 Z O2 25V VA	Stainless steel housing	0...25 Vol%	-

Housing dimensions: GMF 330 Z O2

Wall mounting:



Pipe connection:



Commissioning

The setting of the sensor must be checked during commissioning by a test gas feeder.

Maintenance

In order to maintain the functional reliability maintenance at specific intervals is required. The maintenance intervals is given in the inspection sticker on the evaluation device. It is at most 1 year.

Decommissioning

If the sensor is for longer than 4 weeks off, it must be checked after one week of operation with test gas or be recalibrated.

Status as December 2010

Subject to technical changes