

OPERATING INSTRUCTION

GAS SENSOR GMF 300 P V2

GMF 300 P
Ceiling mounting



GMF 300 P
Ground mounting



Attention!

The sensors may only be operated if this operating instruction has been understood and is applied.
The annex "Safety for installers and operators" must be observed!

Destination of use

This device is for measuring combustible gases 0..100% LEL in the ambient air.
Output signal is 4...20 mA current. The signal is linear to the gas concentration.

Sensoric

The sensitive element of this measuring device is a pellistor for combustible gases.

Assembly

This unit must be mounted at the top of the room, if the gas that will be measured is lighter than air, f.e. methane.

The unit must be mounted at the wall beneath the ground, if the gas that will be measured is heavier than air, f.e. propane.

Connection to a gaswarning unit

Supply voltage can vary be within 12,5...28 Volt DC.

Use shielded 4-wire cable JY(St) 2x2x0.8mm. Connection example:
red => +24V (KI 1), white => 4-20mA (KI 2), black => 0 V (KI 3), yellow => PE (KI 4)

The shield wire is to be drilled on the yellow wire and both must be connected to clamp 4 (PE) at the gaswarning unit.

At the measuring sensor unit the shield wire is to be connected to the metal case (Screw at the soil of the sensor case) Make sure, that the non isolated shield wire doesn't touch the electronic circuit.

Do **not** connect the shield wire and the wire to clamp 4 at the measuring unit, when the sensor is mounted on a iron or steel girder or other grounded sections.

Avoiding alarm at power-on

In the first minute after connecting to supply, the output signal is not stable. The measuring unit will cause alarm because the sensor must be preheated.

To avoid the alarms set the flag in the gaswarning central GAZ/GDZ/GDS menue KALTSTART to 1 minute.

Adjusting the output signal

Do not adjust this unit before 2 hours after power on.
The probe gas must be tempered to the ambient air, as well as the measuring unit.

Equipment

Multimeter 0-20 V
Screw driver
Zero gas (synth. Air gas bottle)
Calibration gas (30 or 40% LEL gas bottle)
Flow control valve, flow meter 0..1 liter/minute)
gas exposing adaptor

The unit must be calibrated at two points.

It is to be done in the following sequence:

1. Adjusting the bridge voltage

(If 1. was made very well, trimmer P3 setting has no effect on the output of zero point)

The sensor must be exposed to zero-gas (synthetic air) with a low flow rating = 0,2 liter/minute.
The trimmer **P1** must be adjusted in accordance to a reading of **0,0 mV** at **MP1**.

2. Zero point adjusting

Keep on exposing zero-gas with a low flow rating = 0,2 liter/minute.

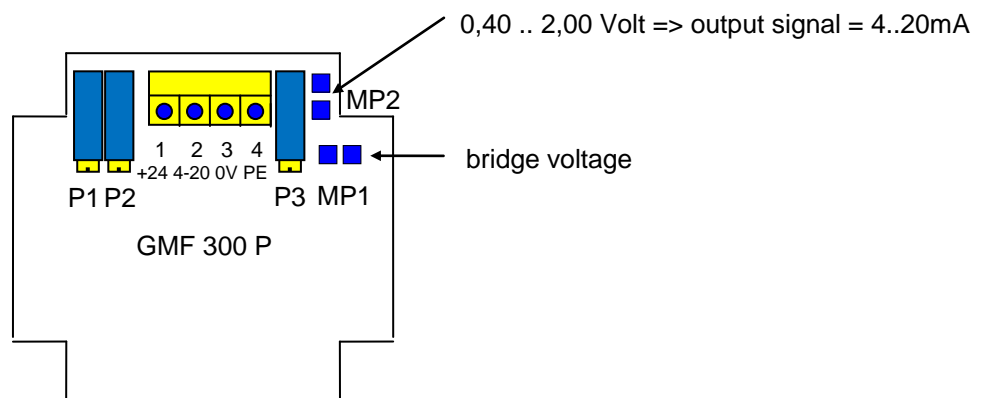
Now the trimmer **P2** must be adjusted in according to zero-gas to a reading of **0,4 Volt** at **MP2**.

3. Adjusting the output signal to probe gas

The sensor must be exposed with probe-gas (25..40% LEL) with a low flow rating = 0,2 liter/minute.

Adjust trimmer **P3** so that you can read a voltage in accordance to the probe gas concentration at **MP2** (see output signal table).

Placement Scheme GMF 300 P



Output signal table for pellistor sensor:

The Load on MP2 is 100 Ohm

Measuring range 0-100% LEL combustible gases

Concentration	0% UEG	10% UEG	20% UEG	25% UEG	30% UEG	40% UEG	100% UEG
Output current:	4 mA	5,6 mA	7.2 mA	8 mA	8.8 mA	10.4 mA	20.0 mA
Pin voltage MP2:	0.400 V	0.56 V	0.72 V	0.8 V	0.88 V	1.04 V	2.000 V

Putting into operation

The correct setting of the output signal is to be controlled by exposing the measuring unit to an well-known gas concentration. The setting of alarm points at the gaswarning unit is to be controlled.

Maintenance

The sensor needs maintenance and adjusting every year cycle.

Putting out of operation

Is the sensor out of operation for more than 4 weeks, the sensor needs calibration before it can be used correctly.

Technical data

Application:	dusty, dirty areas
Housing:	aluminum, LxWxD: 90x80x80 mm, protection class: IP65
Gas entry:	diffusion, sinter metal filter, protection class IP44
Output signal:	4-20mA, linear, temperature compensated
Supply:	12,5-28V DC
Connection cable:	up to 600 m: JY (ST) Y 2x2x0,8 mm ² , above 600 m: 4x1,5 mm ² , shielded
Advantages:	linearity, high precision, to semiconductor-sensors contrary low cross-sensitivity against solvent-steams, electromagnetically, mechanicly dust proof packaging, ignition restraining sinter metal sensor housing.

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Technical changes reserved