

OPERATING INSTRUCTION

GAS SENSOR GMF 700 IR



**GMF 700 IR
CO2**



**GMF 700 IR
Methane / Propane**

Important!

The device may only be operated if these operating instruction has been understood and is applied.

The annex "Safety for installers and operators" must be observed! If it is not available, please ask for it.

Sensoric

The IR sensor 700 GMF is operated by an infrared long-life sensor.
The signal is converted to the signal range of 4-20mA current within the measuring range.

The sensors provide a corresponding output signal that can generate in an evaluation unit via a load resistor to ground a usable voltage signal.

Assembly

The sensor is designed for wall mounting.
Please note the relative gas density to air for proper mounting height.

Connection to the sensor

To supply the gas sensor IR GMF 700 a DC voltage of 12 - 35V is required.

As sensor cable should be used a shielded cable, such as JY (St) 2x2x0.8 mm.
The shield wire on the housing have to be connected to the sensor.
The bare shield wire must not come into contact with the circuit.

The other wire colors can be assigned as follows:

red => +24V (KI 1), white => 4-20mA (KI 2), black => 0 V (KI 3)

The shield wire is to drill on the evaluation unit with the yellow wire and is to connect the protective conductor PE (terminal 4 to the evaluation unit). (This should only be done when the sensor housing is not already grounded by the assembly).

Maintenance aids

Zero gas (synthetic air) for CO₂ sensor: CO₂ free

Calibration gas (40% .. 100% of range) for CO₂ measurement: CO₂ in N₂

Gas feed fittings (flow controller, flow meter 0-1 liters / min)

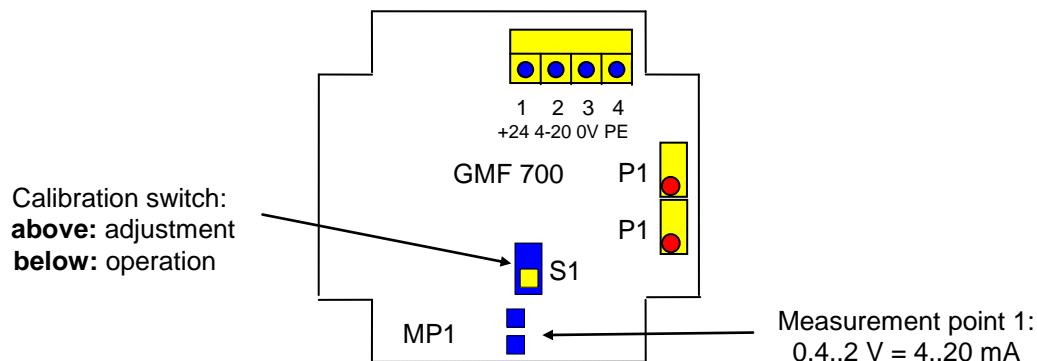
Suitable gas feed port

Instruction for adjustment

The test gas must be at ambient temperature, that is the same temperature as the probe.

1. Put calibration switch in position "calibration"
 - Zero point suppression is now switched off for 60 sec
 - Reset Calibration switch to position "Operation"
2. Adjustment of zero point:
 - Feed zero gas
 - Adjust with potentiometer P1 the signal current to 4 mA
3. Adjustment of the gain:
 - Feed test gas
 - With the potentiometer P2 signal current to the gas concentration adjust PK corresponding to signal current ($I = 4 \text{ mA} + 16 \text{ mA} * PK / \text{range}$)
 - Recheck zero point

Terminals for GMF 700 IR



Commissioning

The setting for the sensors has to be checked during commissioning by a test gas feeding.

Maintenance

To maintain the reliability a service at certain intervals is required. The maintenance intervals are given on the inspection sticker on the evaluation.

There is a maximum of 1 year.

Decommissioning

Is the sensor for longer than 4 weeks off, it must be checked with test gas or recalibrated.

Technical data:

Measuring principle:	infrared light absorption, 2 wavelenghts
Typ of gas:	CO ₂
Measuring range:	0..1000/3000/5000/10000 ppm / 0..5/10/20/100 vol% factory set
Gas type:	carbon dioxide
Measuring area:	0..100 %UEG factory set
Measuring accuracy:	+/-1% of measuring range
Starting time:	< 60 sec
Response time T90:	< 60 sec
Temperature area:	-20..+50°C
Humidity range:	0..100% RH
Pressure range:	700-1300 hPa
Housing:	aluminium LxWxD: 80x80x70mm
Protection type:	IP65
Gas entry:	diffusion, olephobe und hydrophobe teflon membrane
Output signal:	4-20mA, linear
Max. load:	500 R
CE-conformity:	emission: living area, immunity: industrial area
Weight:	450g
Supply:	12-35V DC
Connecting cable:	bis 500 m: JY (ST) Y 2x2x0,8 mm ² ,

Status as of May 2011

Technical changes reserved