



Gas sensor KSS 113 for combustible gases and vapours in the range 0-100 % LEL



Mode of Operation

The KSS 113 gas measurement probe is used for the detection of explosive gas/vapour/air mixtures.

The gas/vapour/air mixture that occurs diffuses through the flame protection barrier to the active metal oxide surface. A temporary shortage of oxygen electrons arises on the indirectly heated surface during the presence of a gas concentration. This shortage of electrons produces a change in the conductivity, and thereby changes the voltage, which is evaluated as a signal. If the gas concentration reduces, the missing oxygen electrons will be replaced from the ambient air once again.

Depending on the use and the application, the required measurement element will be integrated into the measurement probe, i.e., various measurement elements are available, which must be taken into account when replacing them.

The potentiometers and the 3.5 mm jack connection for the calibration are accessible from the outside, and permits a "one-man" calibration.

The optical calibration unit type "Calibration Remote Control CRC" is as accessory available, which permits calibration even if the gas-sensors are difficult to reach (or placed very high).

Calibration

The gas measurement probe requires a longer stabilisation time when the gas measurement probe is first switched on. If the gas measurement probe has been put out of operation for more than 2 weeks, even after several years of use, the gas measurement element will require at least 48 hours to stabilise. If a calibration is carried out before the end of this stabilisation time, while the sensitivity of the measurement element is still increasing, faulty alarms could result.

Maintenance

The measurement element with its associated electronics must be checked at least once or twice a year. The gas measurement probe must also be checked if the measurement element has been exposed to a gas concentration (gas alarm).

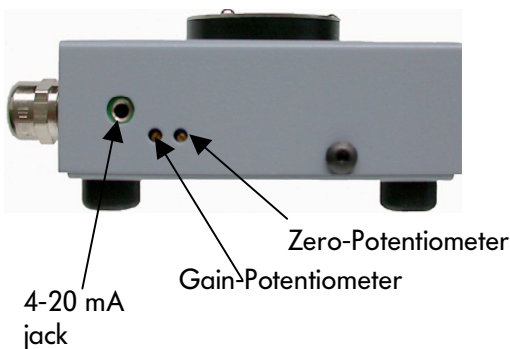
Sensor specification (CH₄)

Sensitivity:	at least 0,1 Vol.% (1000 ppm)
Measuring range:	max. 5 Vol.%
Linearity:	linearised
Response time t 90:	max. 20 sec
Operating temperature:	-30 °C ... +70 °C
Start up after reconditioning	approx. 1 hour
Air humidity:	25 – 95 % rh
Position sensitivity:	none
Life span by 20 °C:	at least 1 year from experience 5-8 year

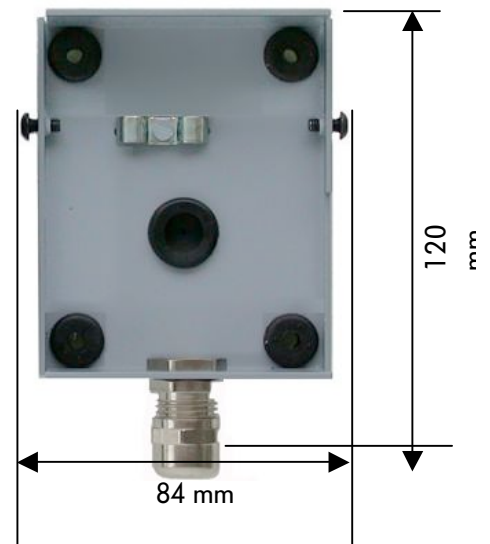
Sensor electronic specification

Cable:	3-core cable, shielded
Power supply:	15...35 VDC
Sensor current:	max. 110 mA
Output signal:	4...20 mA/max. 60 mA
Operating temperature:	-40 °C ... +85 °C

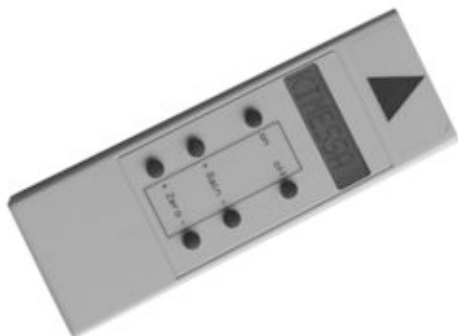
Electronic



Dimensions



Accessory: Calibration Remote Control „CRC“



Calibration unit „CRC“
for „one-man“-calibration for a
gas sensor type KSS/KSP