



Gas sensor KSS 532 for detection of Refrigerants (Freon)



Mode of Operation

The KSS 532 gas measurement probe is used for the detection of fluorinated and chlorinated refrigerants (Freon).

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.

The measurement reacts through oxidation/reduction with oxygen. This characteristic has the result that other Freons could be measured as well, and gases that are oxidised/reduced on the surface of the sensor could lead to false alarms. The most suitable application is in „calm“ rooms, i.e., used in rooms in which no other gases are normally expected to be present.

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).

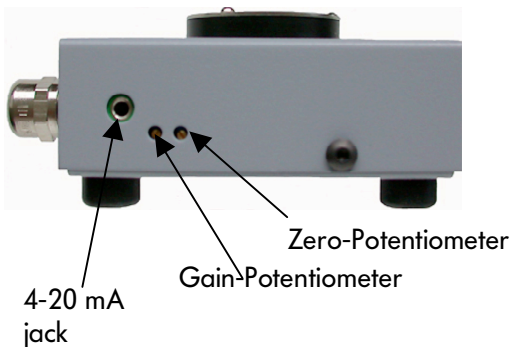
Sensing element specification

Sensitivity:	at least 10 ppm
Measuring range:	max. 2500 ppm
Linearity:	linearised
Response time t 90:	max. 60 sec
Operating temperature:	-20 °C ... +50 °C
Start up after reconditioning:	maximal 1 hour
Air humidity:	40 – 100 % rh
Position sensitivity:	none
Life span by 20 °C:	at least 1 year from experience 5-8 year

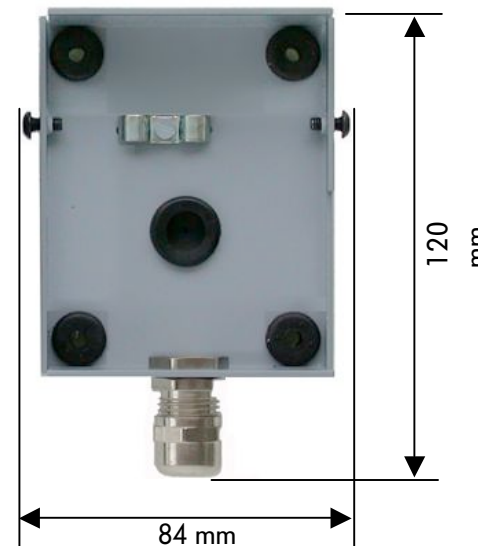
Sensor electronic specification

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

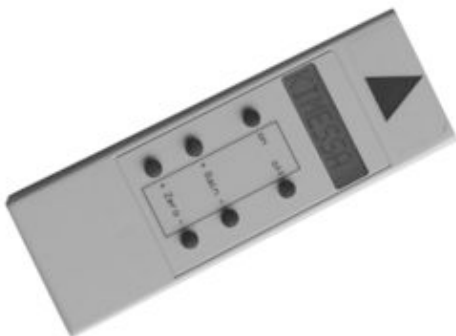
Electronic



Dimensions



Accessory: Calibration Remote Control CRC



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