

Medium – Control – Systeme

Franke & Hagenest GmbH

Borngasse 1a * 04600 Altenburg

Telefon : +49 3447 499 313 0

Telefax : +49 3447 499 313 6

E-Mail : info@mcs-gaswarnanlagen.de

MCS

Instruction C2H2-Sensor, electro-chemical GMS C2H2 EC



Sensor connection

The sensor is supplied with 10-24 Volt direct current by means of 2-wire technology. The polarity is unimportant due to the built-in rectifier.

The 4 mA basic current is used for powering the assembly.

Shielded cable JY(St)Y 2x2x0.8mm can be used for supplying the sensors.

The lead colours can be assigned as follows:

White => 4-20mA (terminal 2)

Red => +24V (terminal 3)

When using sensor casings made from metal, the drain wire from the sensor must be connected to the floor of the metal enclosure.

Sensing technology

The sensor is operated by electro-chemical 2-wire sensors. Their signal is converted to the measuring current range of 4-20mA.

A measuring range of electro-chemical sensors can be utilised. By using jumpers these are set to the corresponding sensor signal (see table).

The service lifetime of the electro-chemical sensors differ depending on the type and is stated on the data sheet.

Adjustment

Electro-chemical sensors must have operated for approx. 1 hour before the adjustment can be performed.

The calibration gas must have the same temperature as the surrounding area, i.e. the same temperature as the sensor

Measurement Equipment

Voltmeter 0-2 V
Screwdriver
Zero gas (synthetic air)
Calibration gas (C₂H₂ 5000ppm)
Gas supply equipment (flow regulator, flow meter 0-1 litre/minute)
Gas supply pipe connection

The adjustment is performed as follows:

Zero balance

The balance is performed at the sensor

- Unscrew the cap from the sensor
- Connect a digital voltmeter to the measurement pins "MP" (measurement range 0 - 2 V)
- Connect the testing pipe connector to the filter
- Add a zero gas concentration (synthetic air)
- The gas flow should be 0.5 litres/minute
- The gas temperature should have room temperature
- Now set the voltage with the trimmer "NP" to 0.04 V.

4-20mA balance with calibration gas supply

The balance is performed at the sensor

- Connect a digital voltmeter to the measurement pins "MP" (measurement range 0 - 2 V)
- Connect the calibration gas pipe connector to the filter
- Add a gas concentration (max. measurement range).
- The gas flow should be 0.5 litres/minute
- The gas temperature should have room temperature.
- Now set the voltage with the trimmer "V" to 0.2 V (Gas concentration = measurement range).

