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 Manual Gas Detector GMS CL2 EC

Gas Detector Connection

The gas detector GMS CL2 EC has to be installed close to ground level (e.g. 30cm distance).

The gas detector is supplied with 10-24 Volt direct current voltage with 2-wire-technology. Hereby can be the polarity of the built in rectifier in any order.

The 4 mA basic current is responsible for the supply of the component.

An isolated JY(St)Y 2x2x0.8mm can be used for the cable connection. The conductor color can be assigned as followed:

White => 4-20mA (Kl 1)	Red => +24V (Kl 2)

The continuity drain wire is to be twisted with the yellow wire and to be connected with connector block 4.

The drain wire is connected in the cable with the isolation.

If the detector housing is made of metal, the the drain wire is to be connected to the metal housing ground.

Sensor Technology

The gas detector is operated with an electro chemical 3-wire-sensor, whose signal is translated into a measuring current range of 4-20 mA.

Different electro chemical sensors can be used. With the support of jumpers, the respective sensor signals will be aligned. (pls see below table).

The life-cycle of electro chemical sensors is different from type to type and can be found in the data sheet.

Sensor Adjustment

Electro chemical sensors have to be in operation for ca. one (1) hour prior to start of sensor adjustment.

The test gas temperature has to be equivalent to ambient temperature, hence the same temperature as the gas detector.

Supporting Devices

Voltage Meter 0-20 V
Screwdriver
Meniscus (synthetic air)
Calibration Gas (CL2 20ppm)
Flow Control Device, Flow Control Meter (0-1 Liter/Min)
Gas Connector / Adapter

Bei der Justage wird folgendermaßen verfahren:

Zero Balance Adjustment

The zero balance adjustment will be done directly at the gas detector.

- Remove the screws of the cover of the gas detector and the cover itself
- Connect the digital voltage meter with the measuring pin "MP" (measuring range of 0-10V)
- Plug on the gas connector / adapter onto the filter
- Aerate the meniscus 0-gas concentration (synthetic air)
- The gas flow should be ca. 0.5 Liter/Min
- The gas temperature shall be same as the room temperature
- Adjust the voltage with the trimmer "NP" to 40 mV (4 mA)

4 – 20 mA Balance Adjustment

The balance adjustment will be done directly at the gas detector.

- Connect the digital voltage meter to the measuring pin "MP" (measuring range of 0-2V)
- Plug on the gas connector / adapter onto the filter
- Aerate the gas concentration (max. measuring range)
- The gas flow should be ca. 0.5 Liter/Min
- The gas temperature shall be same as the room temperature
- Adjust the voltage with the trimmer "V" to 200 mV

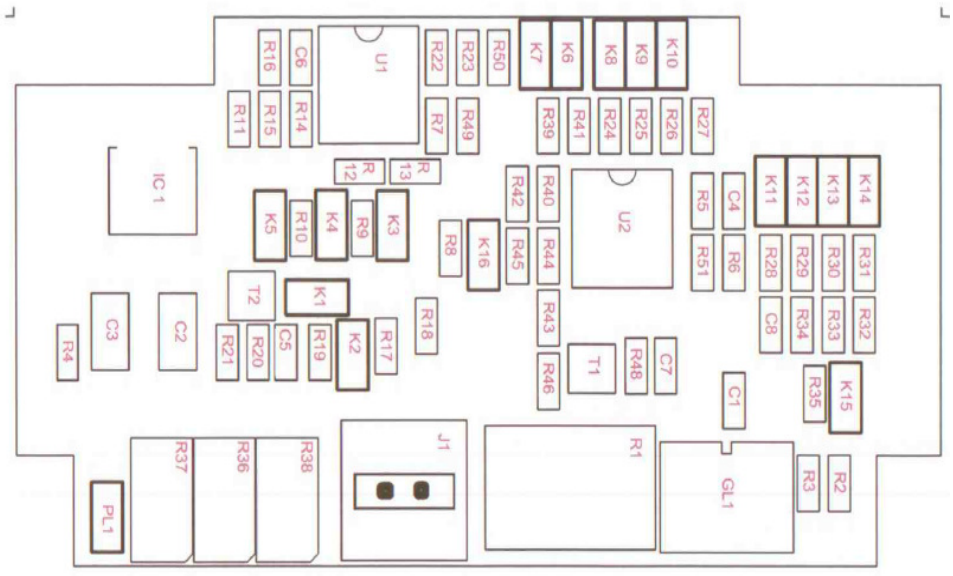
Jumber Adjustment

	Kurzschl.	arb.Wid.	Verstärk.	Verstärk.	Verstärk.	Inv.	Noninv	Temp-K.	Temp-K.	Temp-K.	Temp-K.	Temp-K.	Temp-K.	Temp-K.	NTC off	Poto
Sensor	**K 01**	**K 02**	**K 03**	**K 04**	**K 05**	**K 06**	**K 07**	**K 08**	**K 09**	**K 10**	**K 11**	**K 12**	**K 13**	**K 14**	**K 16**	**P3**
CO	x		x		x		x	x			x					
H2	x		x		x		x	x			x					
H2S	x		x		x		x	x			x					
SO2	x		x		x		x	x			x					
CH2O	x		x		x		x	x			x					
SiH4	x		x		x		x	x			x					
NH3	x		x				x	x			x					
SO2	x			x	x		x	x			x					
HCl	x			x	x		x	x			x					
NH3	x			x	x		x	x			x					
PH3	x			x	x		x	x	x		x					
NO2	x	x			x	x			x							
CL2	x	x			x	x			x							
O3	x					x			x							
NO			x	x			x	x			x					x
EtO			x	x			x	x			x					x
CO ECO	x		x		x	x		x			x				x	

x = bridge closed

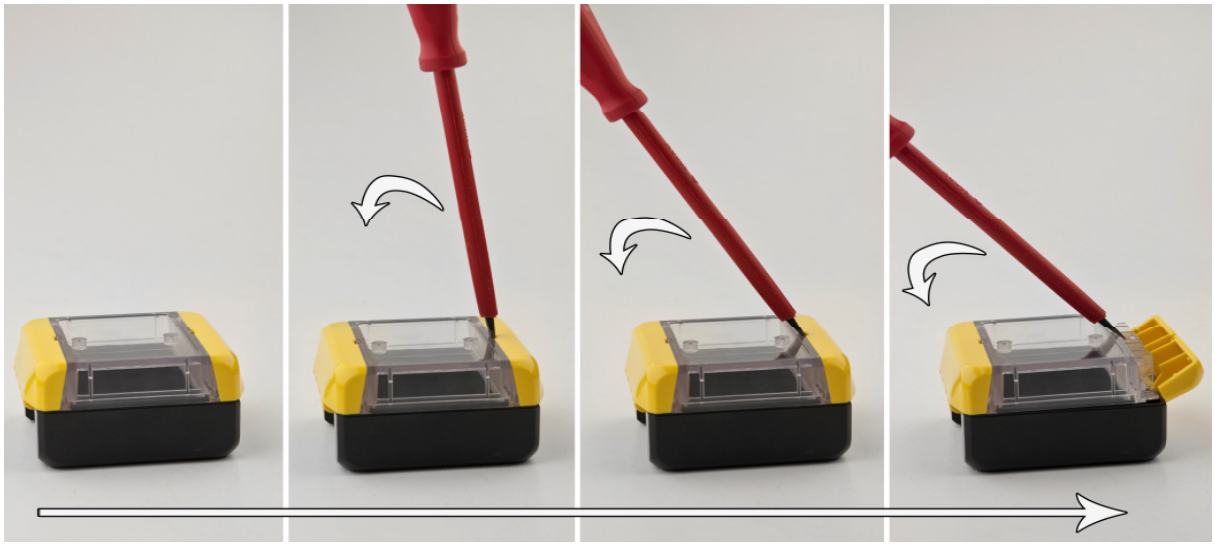
Removing of temperature compensation: **Close K 15** **Remove NTC at position R33**

Display Universal EC- Gas Detector



MP	NP	Verst	+	Signal

Tip for opening the housing



Technical Data

Area of application	dusty and soiled rooms
Housing type	**Polycarbonat,** Aluminium,
Dimensions (LxWxH)	80x80x60 mm
Housing protection classification	IP 54
Sensor protection classification	IP 44
EMV protection	based on EN 50082
Diffusion protection	yes
Sinter filter	bronze
Mechanical resilience	high
Measuring range	0-20 ppm, other MR upon inquiry
Measuring principle:	elektro chemical 3-conductor
Working principle:	continuous
Pressure range	1 bar +-10%
Relative Humidity	15 ... 95%
Temperature range	- 25 ... + 40 ° C
Temperature compensation	yes
Reproducibility	H2S: < ± 3%
Response time	H2S: t90 < 30 sec
Cross-sensitivity	see specific sensor data sheet
Linearity	H2S: < ± 5% within calibration range
Output-signal	4 – 20 mA, two conductor; max. 500 Ω working resistance
Operating voltage	24 V/DC
Connection type	series terminal, 2-pin
Cable length	up to 600 m : Y (ST) 2 x 2 x 0,8 mm² from 600 m : 4x1,5 mm², shielded
Life cycle	2 years, normal strain / exposure