



Refrigerant Gas Detector 20-300ppm

HFC3

Nov.10



HFC Display



HFC
Wall



HFC Duct



Features

- Linear output signal
- Sensor with long-life time
- Low zero drift point
- Digital measurement value processing incl. temperature compensation
- Good stability to poisoning
- Continuous monitoring
- Modular plug-in technology
- Comfort calibration with selective access release
- Integrated heating element temperature controlled for down to -40 degree(option)

Technical Data

Detected Gas	Refrigerant gases
Sensor Element	Semi-conductor sensor
Measuring range	20-300ppm
Response time	t90 <40 sec.
Oxygen concentration	21%(standard)18% minimum level
Repeatability	+/-20%
Pressure range	800-1100hPa
Storage time	Max 12 months
Output signal	
(0)4-20mA	Load < 500ohm
(0)2-10Vdc	Load > 50kohm
Starting point 0/20%	Proportional, overload and short circuit proof
Relay 1	30Vac/dc, 0,5A, pot.free SPDT
Relay 2	Dito SPNO/SPNC
Wiring distance	Current signal cirka 500m Voltage signal cirka 200m
Cable entry	1 x M20
Serial interface	RS4819200 Baud(9600Modbus)
Power supply	16-28Vac/dc reverse polarity prot
Power consumption	60mA, max (1,1VA) without option
Analogue input	4-20mA, input resistance 200ohm
Expected lifetime	>5 years normal operating environ.
Humidity range	5-95%rH non-condensing
Operating range	Continuous -10 up to +50C
Rating	IP65 Protection Cl. Halogenfree

Application

For leak detection in cooling systems with refrigerant gas as cooling agents HFC, such as cold storage depots, ventilations systems, breweries, ice rinks etc to assure the compliance with requirements according to EN378-3.

Due to the analogue output signal and the RS485 serial interface the refrigerant transmitter is compatible to any electronic analogue control, DDC/PLC control or automation system.

Description

Refrigerant gas detectors with semi-conductor sensor for continuous monitoring leakages of cooling agents like hydrofluorcarbon (HFC).

The semi-conductor typical, non-linear signal is translated into a linear, temperature-compensated output signal.

A comfortable calibration routine with selective access release is integrated in the transmitter.

Ordering Codes

Manual addressing and calibration

HFC3R134aVC	Gas Detector 20-300ppm
HFC3R404aVC	Gas Detector 20-300ppm
HFC3R416aVC	Gas Detector 20-300ppm
HFC3R507VC	Gas Detector 20-300ppm
HFC3R410aVC	Gas Detector 20-300ppm
HFC3R411aVC	Gas Detector 20-300ppm

Addressing and calibration with service tool

HFC3R134aVCT	Gas Detector 20-300ppm
HFC3R404aVCT	Gas Detector 20-300ppm
HFC3R416aVCT	Gas Detector 20-300ppm
HFC3R507VCT	Gas Detector 20-300ppm
HFC3R410aVCT	Gas Detector 20-300ppm
HFC3R411aVCT	Gas Detector 20-300ppm

Pressure range Atmospheric +/-15%

These products meet the CE-approval

Other refrigerant gases on request

cont.

Automatikprodukter



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Relay Package

The two relays are activated in dependence of gas concentration.

If the gas concentration exceeds the adjusted alarm threshold, the corresponding relay switches on.

If the gas concentration falls below the threshold minus hysteresis, the relay switches off again.

The contact function for relay 2, NC (normally closed) or NO (normally open) can be selected via the jumper NO/NC.

See figure.

Relay 1 is equipped with a change-over contact.

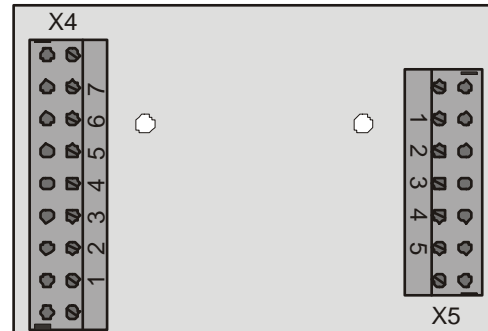
Via the Modbus interface the two alarm thresholds and the hysteresis are freely adjustable at the PC within the measuring range.

The procedure can be read from the user manual "Modbus Software".

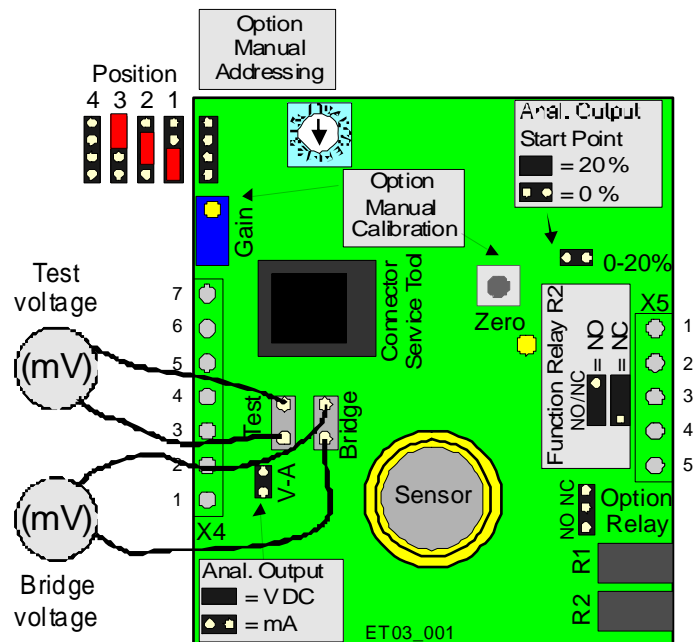
The following parameters are factory-set for the measuring range 0-2000 ppm.

20-2000ppm	Threshold
Relay output 1	100 ppm
Relay output 2	200 ppm
Switching hysteresis	25 ppm

Terminal Block



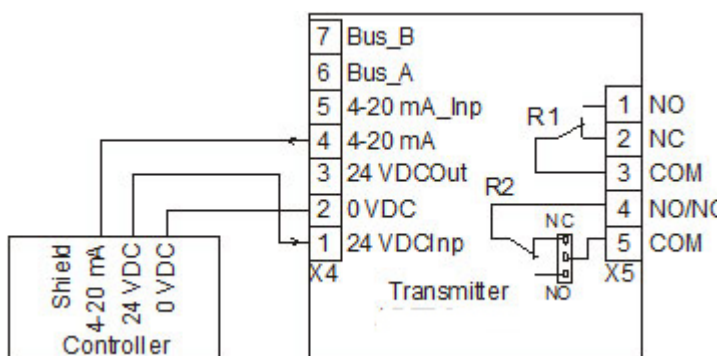
PCB-board



Selection analog output signal

Jumper 0- 20 %	Jumper V-A	Output signal
Not set	Not set	0 – 20 mA
Set	Not set	4 – 20 mA
Not set	Set	0 – 10 V
Set	Set	2 – 10 V

Connecting Diagram



MOD	Protocol for Modbus
CUST	Protocol for customers specifications
HEAT	Temp.controlled heating element 3C +/-2C 0,3VA
GCD	Protocol for GCD-series
REL	Relay pack see rear side
DUCT	Duct Mounting
LCD	Two lines, 16 characters each
CAL 2	Calibration Kit for transmitters
STAIN	Enclosure of stainless steel
AIN	4-20mA analogue input
GAS 17	Calibration gas 17 liter
REG	Pressure regulator flow adjusted to 0,5 lit/min.
Warning devices	See special datasheet
Warning signs	See special datasheet