n-Butane Gas Detector

C4H10

Aug.10

Display-version

n-Butane Wall

n-Butane Duct

Features

- **Digital measurement value processing incl. temperature compensation**
- **Comfort calibration with selective access release**
- **Continuous monotoring**
- **Low output drift**
- **Poisoning stable**
- **Long life sensor**
- **Modular plug-in technology**
- **Easy maintenance/calibration**
- **Reverse polarity protected**
- **Overload protected and short circuit proof**
- **(0)4-20mA or (0)2-10Vdc output signal**
- **2 relays output adjustable switching thresholds**
- **Manual adresseing for RS485 mode. eg. Modbus**

Technical Data

Gas	n-Butane C4H10
Detection principle	Ex sensor, catalytic bead (pellistor)
Measuring range	0 - 100% LEL
Accuracy	+/- 1% of reading
Long-term zero point drift	< +/- 6% measuring/year
Long-term sensitivity drift	< +/- 1,5% measuring/month
Response time	t50 <3 sec., t90 <10 sec./methane
Storage time	Max 6 months
Mounting height	Close to the floor
Output signal	(0)4-20mA, load 500ohm
Selectable	(0)2-10Vdc, load 50kohm
Starting point	0/20%
Relay 1	30Vac/dc, 0,5A, pot.free SPDT
Relay 2	Dito SPNO/SPNC potential free
Consumption	30mA, max 0,8VA
Serial Interface	
Transciever	RS485/19200 Baud/9600 at Mod
Power supply	16-28Vac/dc,reverse polarity prot. for 2-wire mode only Vdc
Power consumption	35mA,max(0,85VA)without option
Expected lifetime	3 years,normal operating envirom.
Humidity range	5-95% rH non-condensing
Operating range	-20 up to +50C
Temperature drift	< 1%
Rating	IP65 Protection Class
Pressure range	Atmospheric +/-20%

Application

The transmitter is used within a wide commercial range for detecting flammable gases and vapours.

Due to the standard output signal and the RS485 interface the O2 transmitter is compatible to the Gas Controller GCM and GCD as well s to any other electronic control or automation system

Ordering Codes

Wall Mounting	**Manual calibration via potentiometer**
NBUT 100VC	n-Butane 0-100% LEL
	Service Tool
NBUT 100VCT	n-Butane 0-100% LEL

/MOD	Protocol for Modbus
/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 Tox-transmitters
/HEAT	Temp.controlled heating element 3C +/-2C0,3VA
/BUZZ	Internal warning summer 85dB
/STAIN	Enclosure of stainless steel
/SERV	Service Tool with Keyapad and LCD-display
/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

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Physical characteristics

Enclosure	Polycarbonate, halogen-free
Flammability	UL94 V2
Enclosure colour	RAL light grey
Dimensions WxHxD	94 x 130 x 57mm
Weight	approx 0,5kg
Cable entry	Standard 1 x M20
Wire connection	Screw terminal, min 0,25mm2 and max 2,5mm2
Wire distance	Current signal 500m Voltage signal 200m
Guidelines	EMC Directive 89/336/EEC

Warning buzzer

Accoustic pressure	85db (distance 300m)
Frequency	2,35 kHz
Power consumption	30mA, (max 0,8VA)

LCD display

LCD	Two lines, each 16 characters
Power consumption	10mA (max 0,3VA)

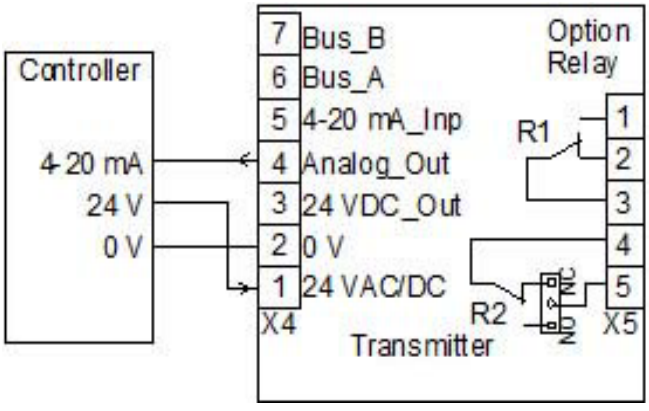
Heating

Temperature controlled	3C +/-2C
Ambient temperature	-40C
Power supply	18-28Vdc/ac
Power consumption	0,3A, 7,5VA

Analogue input

Only for RS-485 mode	4-20mA overload and short-circuit proof, input resistance 200ohm
Power supply for external transmitter	24Vdc max.50mA

Connecting Diagram



Relay Package

The two relays are activated in depence of the gas concentraion.

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 jumper NO/NC.

See fig.1 and 3.

Relay one 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.

Alarm threshold 1	**= Relay 1:**	**10 % LEL**
Alarm threshold 2	**= Relay 2:**	**20 % LEL**
Switching hysteresis:		**5 % LEL**