



Applications:

InCa Bio 04 is a bio gas analyzer to determine and control the components of biogas during the biogas production.

Description of InCa Bio 04

InCa Bio 04 measures the main components of bio gas CH_4 , CO_2 , O_2 and H_2S . Each component gives an output signal of 4...20 mA or a bus interface. Methane and Carbon dioxide are measured with an optical method (infrared) and oxygen and hydrogen sulfide are measured with a chemical method.

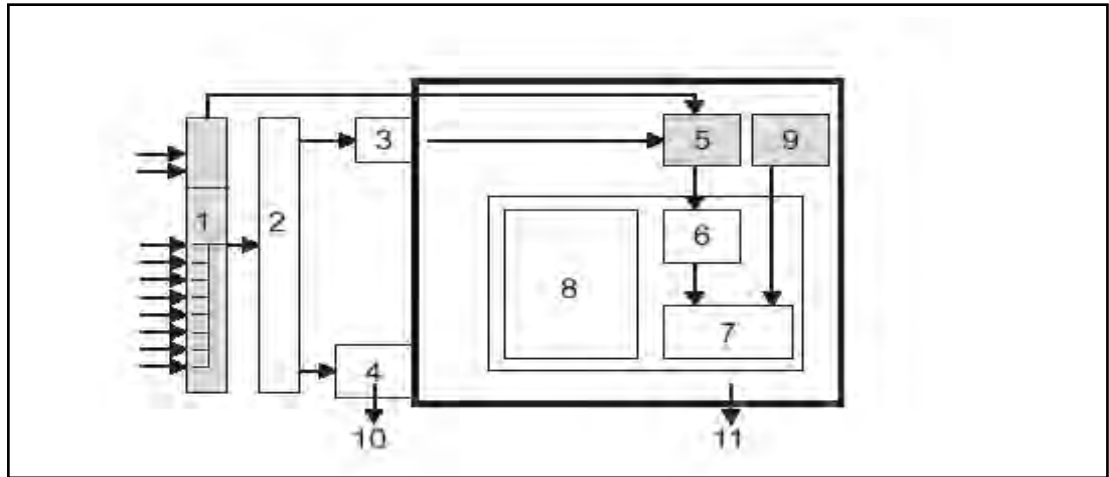
With a method which is protected through a patent by Union the component H_2S can be measured with good accuracy in a wide range of 25 ppm up to 5000 ppm. Also high concentrations of hydrogen sulfide do not shorten essentially the life cycle of the H_2S Sensor. The process gas

will be cleaned and dried before the measurement, with an built in integrated double step peltier cooler. After that the process gas passes a flame arrestor .

Up to eight process gas lines can be measured and controlled by the system. These are switched from one to the next periodically by the system. Before each measurement there starts a Zero point test and with a jet pump or a flexible pump the water will be succed. The gas is dry and clean.

Each just measured line is always dry and clean. The very sensitive measuring cuvettes cannot be polluted by dirty process gas .

The both electrochemical sensor units are pre calibrated and very easy to change as well as both membrane pumps.



Measurement principle InCa Bio 04

1	Processgas	2	Peltier Cooler
3	Flame arrestor	4	Flexible pump
5	Pump gas	6	Optical sensors
7	Electrochemical Sensors	8	Microprocessor
9	Pump air	10	Condensat
11	Offgas		

Technical Data

Dimensions, Weight

Width	620 mm
Depth	700 mm
Height	215 mm
Weight	38 kg

Measuring Technique NDIR Double beam

CO ₂	0...100 Vol %
CH ₄	0...100 Vol %
Accuracy:	± 1 % full scale

Measuring Technique Electrochemical method

O ₂	0...25 Vol %
H ₂ S	0...5000 ppm
Accuracy:	± 3 % full scale
µ-Puls Verfahren	
H ₂ S	50...5000 ppm
Accuracy:	± 10 % real Value

Death time T90

20 Seconds

Gas Flow

minimum 20...45 l/h

Powersupply

90...240VAC, 50/60 Hz

Output Signals

- 1 * RS 232
- 4 * 4..20 mA,
- max 8 pieces (Option)
- 2 * Relais,
- max 8 pieces (Option)

Gas line switches (Option)

- max 8 lines processgas
- 1 Calibration gas
- 1 „0“ Gas

Condens water output (Option)

- Jet pump (high level differential pressure in the gas line)
- Flexible Tube (low level differential pressure in the gas line)

Gas conditioning (Option)

- Double step gas cooler
- Flame arrestor ATEX
- easy changeable
- Pump module for long operation

Output Signals (Option)

- Profibus-DP
- Modbus-Plus
- Modbus-RTU
- ControlNet
- Interbus