



Measurement parameter

- Methane
- Carbon dioxide
- Hydrogen sulphide
- Oxygen
- Higher hydrocarbons (C₂₊)

Applications

- Biogas
- Sewage gas plants
- Landfill sites
- Glass / ceramics
- Energy supply
- Energy generation
- Environment



INCA1051

Multi-gas analyzer

The multi-gas analyzers of the device series **INCA1051** are used to determine the gas composition

- Methane
- Carbon dioxide
- Hydrogen sulphide
- Oxygen
- Higher hydrocarbons (C₂₊)

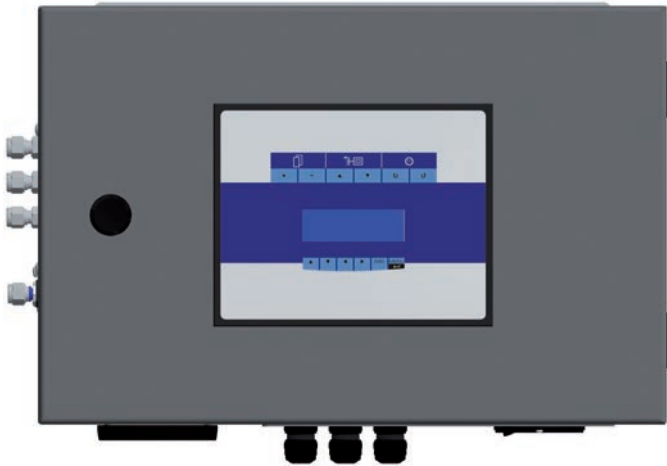
The multi-gas analyzers of the device series **INCA1051** are engineered for indoor installation. Condensate-free gases can be measured only with gas pressure. The device can be designed with max. 1 sample gas inlet and 2 calibration gas inlets.

Technical data INCA1051

Measuring module	Meas. methods	Measuring ranges	Measuring accuracy
CH ₄	NDIR	0 – 100 Vol.-%	+/- 1% FS ¹⁾
CH ₄	NDIR	80 – 100 Vol.-%	+/- 1% FS ¹⁾
C ₂₊	NDIR	0 – 20 Vol.-%	+/- 2,5% FS ¹⁾
CO ₂	NDIR	0 – 100 Vol.-%	+/- 1% FS ¹⁾
CO ₂	NDIR	0 – 10 Vol.-%	+/- 1,5% FS ¹⁾
O ₂	EC	0 – 25 Vol.-%	+/- 3% MV ²⁾
H ₂ S	EC	0 – 100 ppm	+/- 3% FS ¹⁾
H ₂ S	EC	0 – 2.000 ppm	+/- 30 ppm (≤ 1000 ppm)
			+/- 3 % MV ²⁾ (≤ 1000 ppm)
			> 25 ppm: ± 15% v. MV)
Calorific value Hi	calculated ³⁾	8 – 11.5 kWh/m ³	+/- 1.5% FS ¹⁾
Wobbe-Index Wi	calculated ³⁾	10 – 14.3 kWh/m ³	+/- 2% FS ¹⁾
Relative density (SG)	calculated ³⁾	0.5 – 0.8	+/- 3% FS ¹⁾

On request
¹⁾ FS: of full scale
²⁾ MV: of the measured value
³⁾ From previously selected gas components

Table 1: Typical measuring range INCA1051



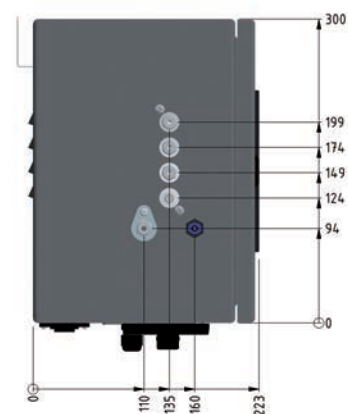
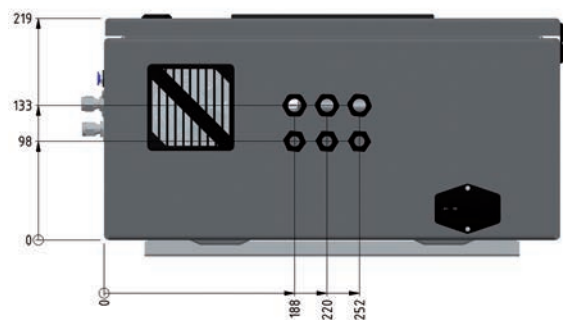
Option (T-Modelle) INCA1051

Typ	con./ discont.	CH ₄ [Vol.-%]	CO ₂ [Vol.-%]	H ₂ S [ppm]	O ₂ [Vol.-%]	SG [rel.]	H ₂ [Vol.-%]	C ₂₊ [Vol.-%]
T024	discont.	-	-	-	0 – 25 disc.	-	-	-
T025	cont.	-	-	-	0 – 25 cont.	-	-	-
T026	discont.	-	-	0 – 2000 disc.	-	-	-	-
T028	discont.	-	-	0 – 100 disc.	-	-	-	-
T030	discont.	0 – 100 disc.	-	0 – 2000 disc.	0 – 25 disc.	-	-	-
T032	discont.	0 – 100 disc.	-	0 – 2000 disc.	-	-	-	-
T036	discont.	0 – 100 disc.	-	-	0 – 25 disc.	-	-	-
T037	cont.	0 – 100 cont.	-	-	0 – 25 cont.	-	-	-
T038	discont.	-	0 – 100 disc.	-	-	-	-	-
T039	cont.	-	0 – 100 cont.	-	-	-	-	-
T041	cont.	-	-	-	-	-	0,2 – 2,2 cont.	-
T301	cont.	80 – 100 cont. (selective)	-	-	-	-	-	0 – 20 cont.
T303	cont.	0 – 100 cont. (selective)	-	-	-	-	-	0 – 20 cont.
T311	cont.	0 – 100 cont. (selective)	0 – 20 cont.	-	0 – 25 cont.	-	-	-

Cont. = Online measuring; discont. = min. 15 min

Table 2: Typical combinations of sensors (further on request)

Technical data



Technical data INCA1051

Weight [kg]	10
Dimensions (WxHxD) [mm]	480x330x223
Degree of protection	IP40
Setup site	inside
Power supply	100 – 240 V, 50/60 Hz
Max. power consumption	100 VA
Inlets of gas	
Inlets of process gas	1
Inlets of calibration gas	2
Inlets purging gas (air)	1
Gas connection	Compression fitting 6 mm
Max. gas inlet pressure	50 mbar rel.
Min. gas inlet pressure	20 mbar rel.
Rel. gas humidity	< 95% condensate free
Ambient conditions	
Operating temperature	5 – 45 °C
Humidity	0 – 95% rel. air humidity
Ambient pressure	900 – 1250 hPa (0,9 – 1,2 bar)
Storage temperature	-20 – 60° C
Interfaces	
Relays	3
Dig. Interface	RS232
4 – 20 mA	optional
Fieldbus	optional
Remote maintenance (IP/TCP)	optional
Approval (optional)	NRTL approval by SGS, standards: UL61010-1, CAN/CSA-C22.2 No. 61010-1 (customer reference 710162)

Table 3: Technical data INCA1051



About UNION Instruments

UNION Instruments GmbH, founded in 1919, is a specialized supplier of measuring instruments in the areas of calorimetry and gas composition. Its user and customer base includes biogas producers, the chemical industry, and energy and water suppliers. The company has its headquarters in Karlsruhe and a subsidiary in Lübeck. With 30 international distributors, UNION Instruments operates worldwide. The company's core businesses include development and production as well as maintenance, service, and support.

Our service performance



Support

The **UNION-hotline** helps to solve all inquiries and urgent issues fast and easy. Device specific concerns can be solved worldwide within minutes by direct communication via **TEAMVIEWER**.



Original spare parts

Original spare parts for the majority of UNION's products are on stock directly at site and ready for dispatch within a few hours.



Software

For read-out of measurement and calibration data a device-specific software is available for our clients. In addition to the graphic display of measurement data its export in several database formats is possible.



Training

UNION offers individual in-house training or on-site seminars for installation, use and maintenance of our devices even at the customer's premises. Training is individually adapted to the client's requirements.



Repair service

A global service for inspection, maintenance and repair of our devices and systems is provided directly by UNION and via its distributors.



Certification

Since 20 years we have implemented the ISO9001 system. UNION's products are certified to ATEX and UL/CSA directives accordingly. Industrial safety **"Safety with System"** is part of UNION's company policy.



Engineering

In the last decades UNION compiled a very high level to the state of the art that covers many market segments. So a wide range of possible solution approaches is on-hand.



Calibration

As part of maintenance and service UNION provides the validation and re-calibration of measuring devices in conformity with certified custody transfer instruments and / or traceable perpendicular.



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