NOVA plus BIOGAS

MULTIGAS ANALYZER FOR BIOGAS MEASUREMENTS

For biogas and cogeneration CHP engine emissions measurements

O_2 CO_2 CH_4 H_2S CO NO NO_2 NO_x

MRU AIR fair since 1984 ®

EMISSION MONITORING SYSTEMS

NOVAplus BIOGAS

COMPACT AND MULTIFUNCTION GAS ANALYZER FOR BIOGAS & EMISSIONS MEASUREMENTS

For long-term biogas and cogeneration heat and power engine emissions testing

Functions of the NOVAplus

>> Simultaneous measurements of up to 7 gas components!
Biogas measurement: O2, H2S, CH4 and CO2 (infrared for CO2/CH4)
Emissions measurement: O2, CO*, NO*, NO2* and CO2
>> Biogas pressure measurement (or stack pressure)
>> Standard O2 measurement with long-life cell (approx. 4-5 years estimated life span)
>> Super bright, color 3.5" TFT display with LED backlight
>> Sample preparation with condensate separator and Teflon filter (optional gas cooler)
>> Intuitive menu guided software and function keys
>> Internal data storage for up to 16,000 measurements!
>> High energy Li-Ion battery (up to 20 hours operation time / with gas cooler approx. 10 hrs.)
>> Customizable screen settings
>> Durable and dirt resistant keypad
>> Built-in speed printer with easy paper loading
>> Integrated SD card reader for additional data storage and data transfer to PC
>> Compact and robust transport case

(*) OPTIONS

Simultaneous measurement of:

		BIOGAS	EMISSION
O2	0...21.0 Vol.-%	x	x
CH4	0 ... 100 %	x	
CO2	0 ... 100 %	x	x
H2S	0 ... 2,000 ppm	x	
CO	0 ... 4,000 ppm		x
NO	0 ... 1,000 ppm		x
NO2	0 ... 200 ppm		x

Calculations ***

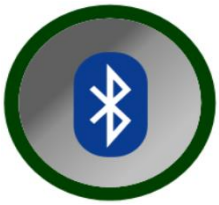
Excess air and air ratio (Lambda)
CO/CO2 proportion
Gas flow volume m3/h
NOx emission calculation
True NOx (NOx = NO + NO2)
*** depending on the sensor configuration

Interfaces:

USB:
Data Transfer

SD Card:
4 GB
Data Memory

OPTIONAL *



Bluetooth*:
Data transfer

AUX*:
For additional external sensors

NOVAplus BIOGAS

WHENEVER YOUR ANALYZER NEEDS TO ACCOMPLISH MORE

Customized for your needs

FLUE GAS measurement

TEMPERATURE measurement

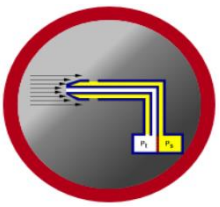
PRESSURE measurement

SOOT measurement

GAS LEAKAGE detection

HUMIDITY measurement

FLOW - SPEED measurement

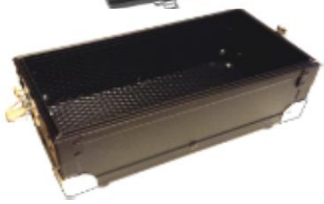


SPEED PRINTER built in

GAS COOLER low energy

SELF DIAGNOSIS software

The NOVAplus comes in a robust aluminum framed transport case



There is also an additional storage case available which will be attached under the main case

Inductive (wireless) charging of the RCU from the base unit

There are two RCU's available - the BASIC and the COMFORT.
Both have a USB port and SD card reader.

Both RCU's communicate with the base unit via Bluetooth.

The COMFORT unit has additional ports at the bottom for Temperature- Pressure measurements and can therefore be used as a stand-alone unit.

An additional Bluetooth module is available for communication to a PC.

NOVAplus BIOGAS

TECHNICAL SPECIFICATIONS

DATA SUBJECT TO CHANGE WITHOUT NOTICE

NOVAplus BIOGAS analyzer Portable analyzer with up to 5 electrochemical sensors and DUAL GAS NDIR bench

BIOGAS components			Measuring range	Accuracy
CO2	Carbon dioxide	2 Gas NDIR	0....100%	± 0.3 % or 5% reading
CH4	Methane	2 Gas NDIR	0....100%	± 0.3 % or 5% reading
O2	Oxygen		0 ... 21.0 Vol-%	± 0.2 Vol-% abs.
H2S	Hydrogen sulfide		0 ... 200 ppm **overload 2,000ppm ***	± 5 ppm or 5 % reading up to 500 ppm 10 % reading up to 2,000 ppm

FLUE GAS components		Measuring range	Accuracy
CO	Carbon monoxide (H2 compensated)	0 ... 4,000 ppm **overload 10,000ppm ***	± 10 ppm or 5 % reading < 4,000 ppm / 10 % reading > 4,000 ppm
CO	Carbon monoxide low	0 ... 500 ppm **with 0.1 ppm resolution ****	± 2.0 ppm or * * 5 % reading
NO	Nitric oxide	0 ... 1,000 ppm **overload 5,000ppm ***	± 5 ppm or 5 % reading < 1,000 ppm / 10 % reading > 1,000 ppm
NO	Nitric oxide low low	0 ... 300 ppm **with 0.1 ppm resolution ****	± 2.0 ppm or * * 5 % reading
NO2	Nitrogen dioxide	0 ... 200 ppm **overload 1,000ppm ***	± 5 ppm or 5 % reading < 200 ppm / 10 % reading > 200 ppm
NO2	Nitrogen dioxide low	0 ... 100 ppm **with 0.1 ppm resolution ****	± 2.0 ppm or * * 5 % reading

***overload range recommend only for short time measurements**
****are not separate sensors; selected sensors are used with special calibration**

Stack / Flue gas temperature	0 ... 1,200°F / 2,012°F **(with stainless steel / Inconel steel tube)**	± 4°F ... < 392°FF / 1 % reading > 392°F
Primary-air / Ambient temperature	0 ... 212°F	± 2°F
Differential temperature	up to 2,012°F **(with suitable material of sampling tube)**	± 4°F ... < 392°FF / 1 % reading > 392°F
Stack / Differential pressure	+/- 40 inH2O (100hPa)	± 0.01 inH2O or 1% reading
Gas flow velocity measurement	1 ... 30 m/s (using Pitot tube)	

General specifications

Operation temperature		41°F .... 113°F, max. 95 % RH, non condensing
Storage temperature		-4°F ..... 122°F
Ambient conditions		not in aggressive, corrosive or high dust environments, not for use in hazardous areas
Power supply	**- Base Unit**	Lithium-Ion battery, 20 h operation, (with gas cooler 10 h)
	- RCU	Lithium-Ion battery, 30 h operation
Grid power supply		100 - 240 Vac / 50 ... 60 Hz / 5A
Protection class		IP20
Weight		Complete unit approx. 16.3lbs / RCU 0.88lbs
Dimensions		Complete unit 18.5" x 9" x 12" (W x H x D) RCU 7.36" x 3.54" x 1.5"

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