

O₂ | NO | NO₂ | CO | CO₂ | SO₂ | HC as CH₄ or C₃H₈ | H₂

NOVAplus EMI

Portable, multifunction
flue gas analyzer.

with wireless Remote Control Unit



NOVAplus EMI

First choice for smart gas analysis

The combination of infrared measurement technology and electrochemical sensors ensures versatility and reliable analysis even of small measuring ranges.
NOVAplus EMI – portable industrial measurement at attractive budget prices

With **NOVAplus EMI**, the simultaneous analysis of up to 8 exhaust gas components is possible:

NO_x | NO | NO₂ | CO | CO₂ | SO₂ | HC as CH₄ or C₃H₈ | O₂ | H₂S

We offer you these special advantages:

- Automatic measuring program with data recording
- Automatic zero point measurement for long-term measurements
- Lithium-ion battery operation



Tested AMS
Regular
Surveillance

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ID 000072196



Sira
Certificate
No.
MC200366/00

TÜV and MCERTS
certified by SIRA for
„portable systems“

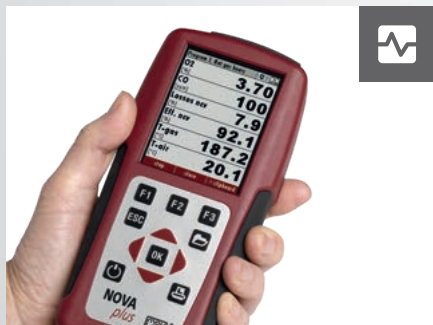
The gases and measuring ranges

Gas	Method1	Measuring range min./max.	Note
O ₂	EC	0 ... 25 %	TÜV certified
CO	EC	0 ... 10,000/20,000	TÜV certified
CO	NDIR	0 ... 2,000 ppm/10.00 %	—
CO ₂	NDIR	0 ... 40.00 %	TÜV certified
CH ₄	NDIR	0 ... 2,000 ppm/4.00 %	—
C ₃ H ₈	NDIR	0 ... 2,000/20,000 ppm	—
NO	EC	0 ... 1,000/5,000 ppm	TÜV certified
NO ₂	EC	0 ... 200/1,000 ppm	TÜV certified
SO ₂	EC	0 ... 2,000/5,000 ppm	TÜV certified
H ₂ S	EC	0 ... 500/2,000 ppm	—



The device in detail

An overview of the special features



Remote Control Unit (RCU)

Small sized, light weight, with bright color 3,5" TFT display, contactless charging



Easy to use interfaces

SD card and Mini USB



Highspeed printer

built-in, prints graphics as well



Remote control unit in comfort edition also usable as a separate measuring instrument eg for pressure, temperature, leakage detection and more

attachable compartment for accessories



The gas conditioning and sampling

An overview



Gas sampling probe for industrial combustions, unheated, without filter for short, complete emission monitoring including NO_2/SO_2 , probe handle for exchangeable tubes, with 2,7 m gas sampling line (VITON)



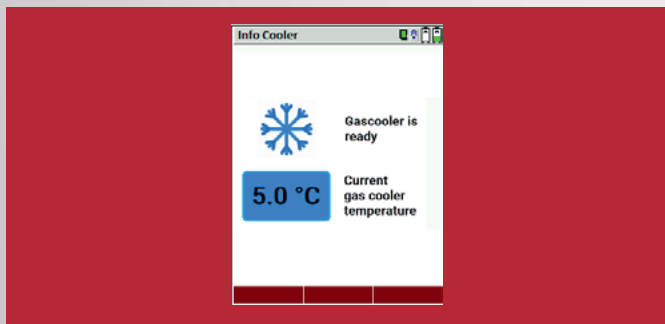
Heated gas sampling probe with heated sampling line, length 3 m, +130°C temperature regulated Gas temperature measurement using K-type thermocouple. With heated, easy replaceable quartz wool filter.



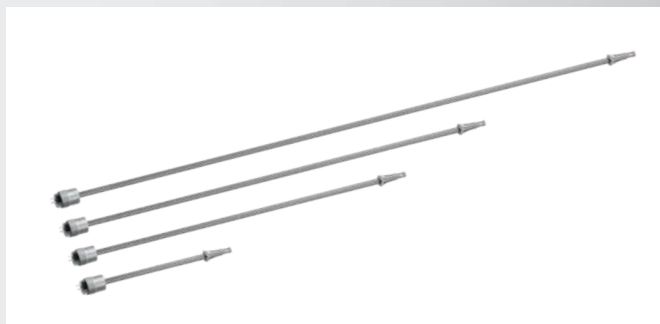
Gas sampling probe for industrial combustions, with heated probe handle and easy replaceable quartz glass wool filter for exchangeable tubes



Large, efficient condensate separator with PTFE (Teflon) coated filter



Peltier gas cooler (Option) comes with automatic condensate pump



Probe tubes in various lengths and materials for temperature ranges from 800° to 1.700°C

Practical accessories and options

For more flexibility and applications



Pitot tubes for flow velocity measurement

- L-type or S-type with temperature measurement (up to 1,000 °C), length: 300 ... 1,500 mm
- Measuring ranges from 3 to 100 m/s
- Additional calculation of the volume flow (m^3/s)



Automatic soot measurement

- incl. soot probe with heated handle and replaceable probe tube



Detector probe

- with interchangeable sensors for e.g. HC leakage detections spillage test, etc. (Comfort type RCU required)



CO-sensor protection by Purafil filter

- recommended for use at CHP engines

PC software "MRU4Win"

- Software for Windows to visualize measure data, manage, export and print
- Connect multiple devices at the same time and read out live values
- Logging and saving live values
- Database with customer contacts, attachments and manage users
- Export measurement reports as PDF
- Documents with customized logo and print out the address
- Read out data storage, save measurements, print and save as PDF



NOVAplus EMI

Technical data

NOVAPLUS Multi purpose analyzer

Fuel types

Instrument with up to 6 electrochemical cells, NDIR multi-gas bench and wireless remote control
RCU natural gas, liquid gas, oil heavy, oil light, pellets, wood, coal, bio diesel, expandable fuel type list

Measurement components	Accuracy	Range
Oxygen O₂	0 ... 25,0 Vol- %	± 0,2 Vol- % abS.
Carbon monoxide CO (H₂-comp)	0 ... 4.000 ppm *overload up to 10.000 ppm	± 10 ppm or 5 % reading up to 4.000 ppm** or 10 % reading up to 10.000 ppm**
Carbon monoxide CO low (special software and calibration)	0 ... 300 ppm (with 0,1 ppm resolution)	± 2,0 ppm or 5 % reading**
Carbon monoxide CO high	0 ... 4.000 ppm *overload up to 20.000 ppm	± 100 ppm or 5 % reading up to 4.000 ppm** or 5 % reading up to 20.000 ppm**
Carbon monoxide CO very high	0 ... 4,00 % *overload up to 10 %	± 0,02 % or 5 % reading up to 4 %** or 10 % reading up to 10 %**
Nitric monoxide NO	0 ... 1.000 ppm *overload up to 5.000 ppm	± 5 ppm or 5 % reading up to 1.000 ppm** or 10 % reading up to 5.000 ppm**
Nitric monoxide NO low (special software and calibration)	0 ... 300 ppm (with 0,1 ppm resolution)	± 2,0 ppm or 5 % reading**
Nitric dioxide NO₂	0 ... 200 ppm *overload up to 1.000 ppm	± 5 ppm or 5 % reading up to 200 ppm** or 10 % reading up to 1.000 ppm**
Nitric dioxide NO₂ low (software option)	0 ... 300 ppm (with 0,1 ppm resolution)	± 5 ppm or 5 % reading up to 200 ppm** or 10 % reading up to 1.000 ppm**
Sulfur dioxide SO₂	0 ... 2.000 ppm *overload up to 5.000 ppm	± 10 ppm or 5 % reading up to 2.000 ppm** or 10 % reading up to 5.000 ppm**
Sulfur dioxide SO₂ low (software option)	0 ... 300 ppm (with 0,1 ppm resolution)	± 10 ppm or 5 % reading up to 2.000 ppm** or 10 % reading up to 5.000 ppm**
Hydrogen sulphide H₂S	0 ... 50/200* ppm	± 2 ppm or 5 % reading up to 50 ppm **/ 10 % reading up to 100 ppm **
Hydrogen sulphide H₂S	0 ... 2,000/5,000* ppm	± 5 ppm or 5 % reading up to 2,000 ppm **/ 10 % reading up to 2,000 ppm **
Hydrogen sulphide H₂S	0 ... 5,000/10,000* ppm	± 10 ppm or 5 % reading up to 2,000 ppm **/ 10 % reading up to 2,000 ppm **

1-gas NDIR bench

Carbon dioxide CO₂	0 ... 50,00 Vol- %	± 0,3 % or 5 % of the measured value**
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2-gas NDIR bench

CO₂ / CH₄	0 ... 100,00 Vol- % / 0 ... 100,00 Vol- %	± 0,5 % or 5 % of the measured value**
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3-gas NDIR bench

Carbon monoxide CO	0 ... 2.000 ppm up to max. 10 %	± 20 ppm or ± 2 % reading**
Carbon dioxide CO₂	0 ... up to max. 50 %	± 0,1 % or ± 2 % reading**
Hydrocarbons CH₄ (Methane) or	0 ... 2.000 ppm up to max. 4 %	± 10 ppm or ± 2 % reading**
Hydrocarbons C₃H₈ (Propane)	0 ... 2.000 ppm up to max. 2 %	± 10 ppm or ± 2 % reading**

Temperature / pressure

Stack gas temperature T.Gas	0 ... 650 °C (Stainless Steel tube) 0 ... 1.100 °C (Inconel Steel tube)	± 2 °C ... < 200 °C or 1 % reading** ± 2 °C ... < 200 °C or 1 % reading**
Differential temperature	up to 650 °C or up to 1.700 °C (with suitable material of sampling tube)	
Combustion air temperature T.Air	0 ... 100 °C	± 1 °C
Draft/Diff. pressure (base station)	- 100 ... + 100 hPa	± 0,02 hPa
Draft/Diff. pressure (remote control)	- 200 ... + 200 hPa	± 0,02 hPa

Calculated values: (fuel type depending)		
Carbon dioxide CO ₂	0 ... CO ₂ max.	± 0,3 Vol-% abS.
Heat losses qA	0 ... 99,9 %	
Efficiency	0 ... 100 % (120 % for condensing boilers)	
Air Ratio	1 ... 9,99	
Excess Air	0 ... 99,9 %	
Combustion calculations	fuel type depending: CO ₂ , excess air, heat losses, efficiency, dew point, CO/CO ₂ ratio mg/Nm ³ ,	
Emission calculations	NO _x as mg/Nm ³ , including O ₂ referencing (normalisation) to user settable value	
General specifications		
Operation temperature	+ 5 ... + 45 °C, max. 95 % RH, none condensing	
Storage temperature	– 20 ... + 50 °C	
Ambient conditions	not in aggressive, corrosive or high dust ambience, not for use in hazardous areas	
Power supply – base station	High energy lithium-ion battery 20 h operation, with gas cooler 10 h	
– remote control	High energy lithium-ion battery 30 h operation	
Mains	Wall-plug grid power supply, 100 – 240 Vac / 50 ... 60 Hz, 12 V DC/5A	
Type of protection	IP 20	
Weight	approx. 7,4 kg (with 2 sensors, probe, power supply, case)	
Dimensions (W x H x D)	470 x 314 x 235 mm	

MRU – Competence in gas analysis. Since 1984.



**MRU · Messgeraete für Rauchgase
und Umweltschutz GmbH**

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