



# NOVA<sup>plus</sup> BIOGAS

Advanced analyzer for Biogas, engine emissions tuning and compliance reporting

**BIOGAS:** O<sub>2</sub> | CO<sub>2</sub> | CH<sub>4</sub> | H<sub>2</sub>S

**EMISSION:** O<sub>2</sub> | CO | NO<sub>x</sub> | NO | NO<sub>2</sub>

**With Wireless Remote Control Unit**



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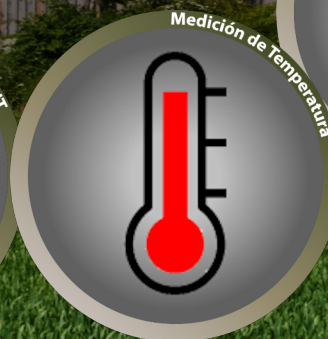
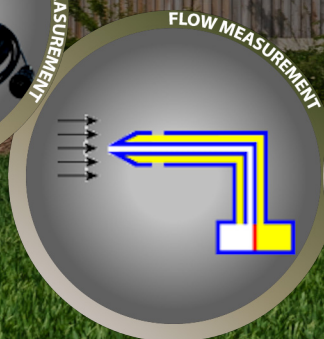
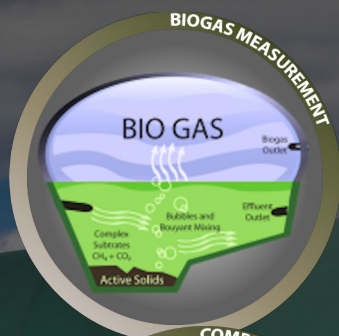
Whenever your analyzer needs to achieve more

## BASE Unit Features and Options:

- Peltier Gas Cooler
- Integrated High Speed Printer
- High energy Lithium Ion Battery provides up to 10 hours of run time
- Compact and robust transport case

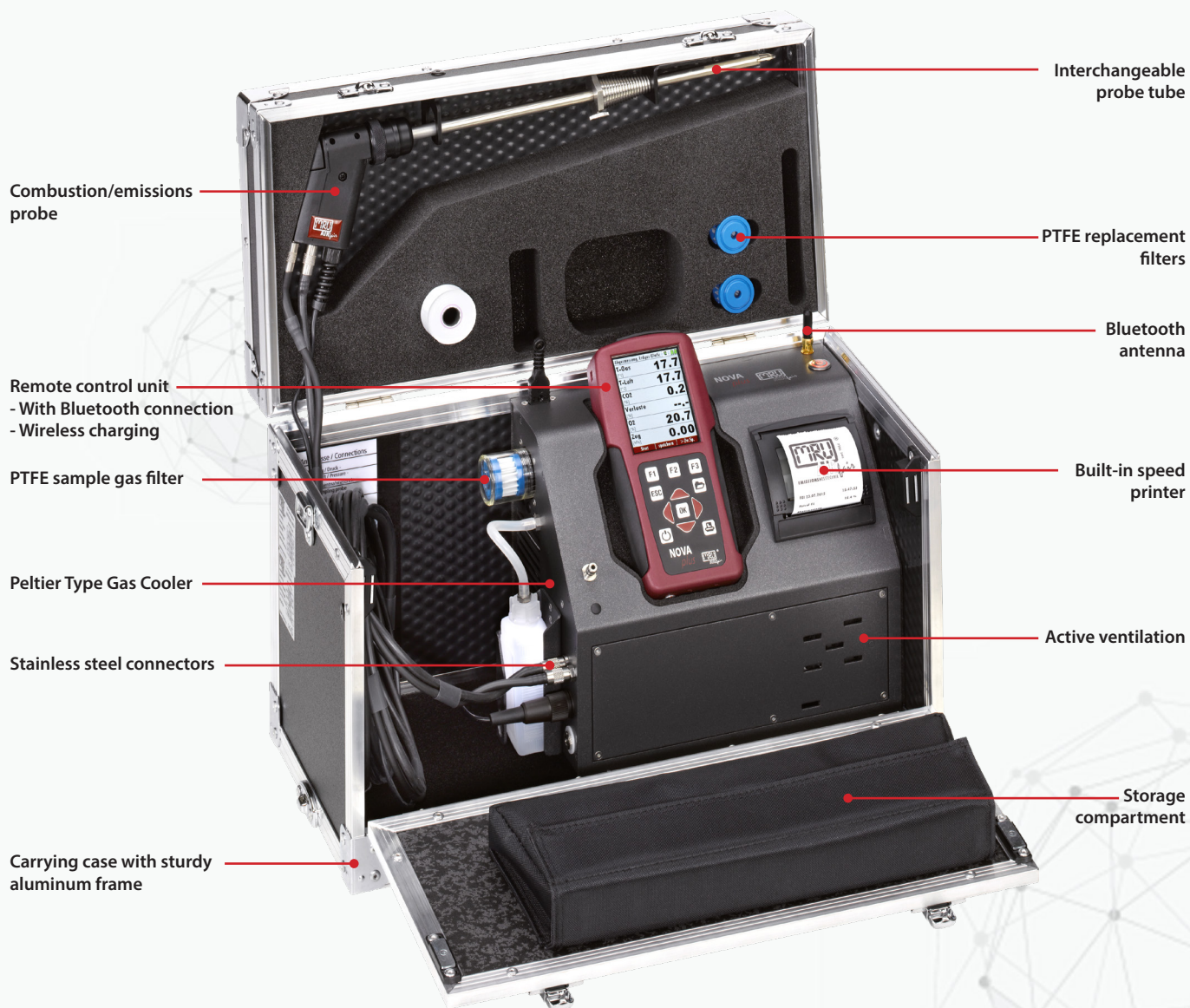
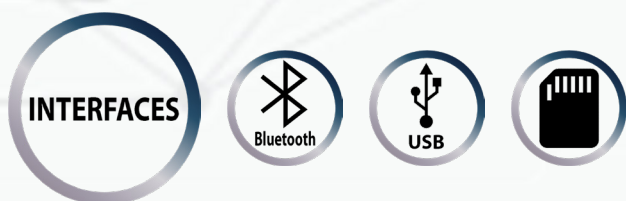
## Functions and options of the RCU:

- Remote control unit for analyzer operation:
- Bluetooth communication with the base unit
- OPTIONAL
- Differential temperature measurement
- Differential pressure measurement
- Flow velocity measurement
- AUX port for additional parameters
- Internal data storage of up to 16,000 data sets
- Large back lit color display with zoom function
- Durable and dirt resistant keyboard
- High energy Lithium Ion battery provides up to 30 hours of run time



# BIOGAS - COMBUSTION - EMISSIONS

- With up to 7 real gas measurements
- Biogas: CH<sub>4</sub>, CO<sub>2</sub>, O<sub>2</sub>, H<sub>2</sub>S
- Emissions: O<sub>2</sub>, CO, NO, NO<sub>2</sub>
- Integrated solenoid valve for automatic zeroing
- Internal sample flow monitoring
- Robust and versatile



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## TECHNICAL SPECIFICATIONS

| BIOGAS components |                  |             | Measuring Ranges              | Accuracy   |
|-------------------|------------------|-------------|-------------------------------|--|
| CO <sub>2</sub>   | Carbon dioxide   | DUAL NDIR   | 0 ... 100 Vol %               | ± 0.3 % or 3 % of reading                                |
| CH <sub>4</sub>   | Methane          | DUAL NDIR   | 0 ... 100 Vol %               | ± 0.3 % or 3 % of reading                                |
| O <sub>2</sub>    | Oxygen           | (Long life) | 0 ... 25%                     | ± 0.2 Vol-% abs.   |
| H <sub>2</sub> S  | Hydrogen Sulfide | STD         | 0 ... 2,000 ppm / 5,000 ppm * | ± 5 ppm or 5 % (0 ... 500 ppm), 10 % (> 500 ppm) reading |
| H <sub>2</sub> S  | Hydrogen Sulfide | High        | 100 ... 5,000 / 10,000 ppm *  | ± 50 ppm or 5 % reading                                  |

| EMISSION components |                  |                              | Measuring Ranges            | Accuracy   |
|---------------------|------------------|------------------------------|-----------------------------|--|
| O <sub>2</sub>      | Oxygen           | (Long life)                  | 0 ... 25%                   | ± 0.2 Vol-% abs.   |
| CO                  | Carbon monoxide  | (H <sub>2</sub> compensated) | 0 ... 10,000 / 20,000 ppm * | ± 20 ppm or 5 % of reading < 10,000 ppm / 10 % of reading > 10,000 ppm |
| CO                  | Carbon monoxide  | (low)                        | 0 ... 500 **                | ± 2.0 ppm or 5 % of reading  |
| NO                  | Nitric oxide     |                              | 0 ... 1,000 / 5,000 ppm *   | ± 5 ppm or 5 % of reading < 1,000 ppm / 10 % of reading > 1,000 ppm    |
| NO                  | Nitric oxide     | (low)                        | 0 ... 300 **                | ± 2.0 ppm or 5 % of reading  |
| NO <sub>2</sub>     | Nitrogen dioxide |                              | 0 ... 200 / 1,000 ppm *     | ± 5 ppm or 5 % of reading < 200 ppm / 10 % of reading > 200 ppm        |
| NO <sub>2</sub>     | Nitrogen dioxide | (low)                        | 0 ... 300 **                | ± 2.0 ppm or 5 % of reading  |

\* recommended overload range for short time measurements only

\*\* they are not separate sensors; selected sensors are used with a special calibration

| Other measured components             | Measuring Ranges  | Resolution | Accuracy   |
|---------------------------------------|---|------------|--|
| Stack / Flue gas temperature          | 32 ... 1,202°F (0 ... 650°C) with stainless steel<br>32 ... 2,012°F (0 ... 1100°C) with Inconel | 1 °F       | ± 4°F ... < 392°F / 1 % reading > 392°F<br>± 4°F ... < 392°F / 1 % reading > 392°F |
| Primary air / Ambient air temperature | 32 ... 212°F (0 ... 100 °C)   | 1°F        | ± 2°F  |
| Differential temperature              | Up to 2,012°F (0 ... 1100°C)<br>(with suitable material of sampling tube)                       | 1°F        | ± 4°F ... < 392°F / 1 % reading > 392°F  |
| Stack draft                           | +/- 40 inH <sub>2</sub> O (120hPa)  | 1 Pa       | ± 0.01 inH <sub>2</sub> O or 1% reading  |
| Differential pressure                 | +/- 120 inH <sub>2</sub> O (120hPa)   | 1 Pa       | ± 0.01 inH <sub>2</sub> O or 1% reading  |
| Gas flow velocity measurement         | 3 ... 100 m/s (using Pitot tube)  | 0.1 m/s    |  |

| GENERAL SPECIFICATIONS |   |
|------------------------|---|
| Internal memory        | 16,000 data sets  |
| Data transmission      | via USB, SD Card  |
| Interfaces             | USB   |
| Display                | 3.5" TFT color display  |
| Operation temperature  | 41°F ... 113°F (5 ... 45°C) max. 95 % RH, none condensing                           |
| Storage temperature    | -4°F ... 122°F (-20°C ... 50°C)   |
| Ambient conditions     | not in aggressive, corrosive, or high dust ambiance, not for use in hazardous areas |
| Battery operated       | Lithium-Ion battery, 10 h operation time for base unit / 25h operation time for RCU |
| Grid power supply      | 100 - 240 V AC / 50 ... 60 Hz 1.4A  |
| Protection class       | IP 30 base unit / IP 20 base unit open  |
| Weight                 | approx. 16.3 lbs.   |
| Dimensions             | (W x H x D) 18.5" x 9" x 12" complete unit / 7.36" x 3.54" x 1.5" RCU               |

Data subject to change without notice



**MRU Instruments, Inc.**  
 Humble, TEXAS 77396 USA  
 Tel.: +1 (832) 230-0155  
 Info@mru-instruments.com  
 www.mru-instruments.com

MRU Representative: