The AMPRO 2000 is a true 7 sensors Handheld Emission Analyzer which can be equipped with up to 6 electrochemical sensors and a CO2 IR-bench (sensor) for simultaneously measurement. Selected cells can be installed for low CO and low NO with resolution down to only 0.1 ppm.

- Modern, slim enclosure with magnets on the rear side
- Super bright, color 3.5” TFT-Display with LED backlight and zoom function
- Mini-USB interface for data transfer and battery charging
- IR Interface for external printer
- Integrated condensate trap with PTFE filter and backlight
- Internal storage for up to 16,000 data sets
- Integrated SD Card reader for additional data storage and data transfer to PC
- Menu guided software and function keys
- Rechargeable Battery Li-Ion for up to 15 hours operation time
- Stainless steel gas and pressure connectors
- Bluetooth for wireless data transmission (OPTION)
- Weight with 7 Sensors, without probe, less than 2.2 lbs.
THE MOST POWERFUL HANDHELD GAS ANALYZER

Suitable for emission monitoring of combustions and industrial processes

**Functions of the AMPRO 2000**

- Simultaneous measurements of up to 7 gas components! e.g. O₂, CO H₂-comp., NO, NO₂, NO(x), SO₂, COhigh, COvery high, up to 6 electrochemical sensor configurations are possible! Plus additional NDIR bench with CO₂
- Emission calculations like: mg/m³, NO(x) as mg/m³ NO₂, true measurement of NO(x) = NO + NO₂, including O₂ referencing (normalization) to user definable values
- Gas temperature measurement up to 2,012°F (use stainless steel up to 1,200°F, use Inconel tubes up to 2,012°F)
- Large condensate separator with PTFE (Teflon) coated filter
- Air purging pump for CO-sensor protection (not possible with NDIR)
- Internal data storage for up to 16,000 measurements!
- Color backlit 3.5" TFT display with zoom function
- Customizable screen settings
- Durable and dirt resistant keypad
- IR Interface for external printer (printer is optional)
- Integrated SD Card reader for additional data storage and data transfer to PC

**Continuous analysis of:**

- O₂ Long-life (0...21 Vol.-%)
- CO H₂-compensated (0...4,000 / Overload 10,000 ppm)
- Combustion air temperature (short plug included)
- Stack gas temperature
- Stack pressure
- Differential pressure
- Differential temperature

**Combustion calculations (fuel type dependent):**

- CO₂
- CO/CO₂ ratio
- Dew point
- Excess air and air ratio (Lambda)
- Combustion efficiency
- Heat losses

**Interfaces:**

- Bluetooth*: Date transfer
  * Option
- USB: Data Transfer
  Battery charging
- SD Card: 2 GB
  Data Memory
  * Option
- IR: For external printer
- AUX: For additional external sensors
  * Option
THE MOST POWERFUL HANDHELD GAS ANALYZER
Suitable for emission monitoring of combustions and industrial processes

**FLUE GAS** measurement

**TEMPERATURE** measurement

**PRESSURE** measurement

**FLOW - SPEED** measurement

**GAS LEAKAGE** detection

**SPEED PRINTER**

**external**

**PROBES** and hoses
MRU offers a wide range of probes and hoses of all kind of applications
Standard probes for up to 1200°F
Industrial probes for up to 3000°F

**Condensate separator**
Effective, high volume, backlit condensate separator with reusable Teflon filter for protection against dirt and soiling, with robust stainless steel connector (gas port)

**Top Connections**
SD Card reader
USB Port
IRDA/BlueTooth

**Active CO Sensor protection**
using 2nd internal pump (not possible with NDIR module)

**3.5” TFT Color Display with ZOOM function**
Customizable

**Menu guided software and function keys**

**User friendly, dirt and moisture resistant key pad**

**AUX**
universal auxiliary socket, for connection of HC or CO gas detector, other pressure, temperature external sensors

**K-type temperature sockets**

**Robust stainless steel connectors** for draft and pressure
AMPRO 2000 analyzer  Hand held analyzer with up to 6 electrochemical sensors and a single or dual gas NDIR bench
natural gas, liquid gas, oil light, pellets, wood, coal, user definable fuels

<table>
<thead>
<tr>
<th>Measurement components</th>
<th>Measuring range</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>O2 Oxygen</td>
<td>0 ... 21.0 Vol-%</td>
<td>± 0.2 Vol-% abs.</td>
</tr>
<tr>
<td>CO Carbon monoxide</td>
<td>0 ... 4,000 ppm</td>
<td>± 20 ppm or</td>
</tr>
<tr>
<td></td>
<td>overload 10,000 ppm *</td>
<td>5 % reading &lt; 4,000 ppm / 10 % reading &gt; 4,000 ppm</td>
</tr>
<tr>
<td>CO Carbon monoxide</td>
<td>0 ... 500 ppm</td>
<td>± 0 ppm or 5 % reading</td>
</tr>
<tr>
<td></td>
<td>overload 10,000 ppm</td>
<td>5 % reading &lt; 4,000 ppm / 10 % reading &gt; 4,000 ppm</td>
</tr>
<tr>
<td>CO Carbon monoxide</td>
<td>0 ... 4,000 ppm</td>
<td>± 0.02 ppm or</td>
</tr>
<tr>
<td></td>
<td>overload 20,000 ppm *</td>
<td>5 % reading &lt; 4,000 ppm / 10 % reading &gt; 4,000 ppm</td>
</tr>
<tr>
<td>CO Carbon monoxide</td>
<td>0 ... 40,000 ppm</td>
<td>± 0.02% or</td>
</tr>
<tr>
<td></td>
<td>overload 100,000 ppm *</td>
<td>5 % reading &lt; 0.4% / 10 % reading &gt; 0.4%</td>
</tr>
<tr>
<td>NO Nitric oxide</td>
<td>0 ... 1,000 ppm</td>
<td>± 8 ppm or</td>
</tr>
<tr>
<td></td>
<td>overload 5,000 ppm</td>
<td>5 % reading &lt; 1,000 ppm / 10 % reading &gt; 1,000 ppm</td>
</tr>
<tr>
<td>NO2 Nitrogen dioxide</td>
<td>0 ... 200 ppm</td>
<td>± 5 ppm or</td>
</tr>
<tr>
<td></td>
<td>overload 1,000 ppm</td>
<td>5 % reading &lt; 200 ppm / 10 % reading &gt; 200 ppm</td>
</tr>
<tr>
<td>SO2 Sulfur dioxide</td>
<td>0 ... 2,000 ppm</td>
<td>± 10 ppm or</td>
</tr>
<tr>
<td></td>
<td>overload 5,000 ppm</td>
<td>5 % reading &lt; 2,000 ppm / 10 % reading &gt; 2,000 ppm</td>
</tr>
<tr>
<td>CO2 Carbon dioxide</td>
<td>0 ... CO2 max.</td>
<td>± 0.3 % or 5% reading</td>
</tr>
</tbody>
</table>

* 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°F / 1 % reading > 392°F

Primary-air / Ambient temperature
0 ... 212°F
± 2°F

Differential temperature
up to 2,012°F
± 4°F ... < 392°F / 1 % reading > 392°F
(with suitable material of sampling tube)

Stack / Differential pressure
+/- 40 inH2O (100hPa)
± 0.01 inH2O or 1% reading
Gas flow velocity measurement
1 ... 40 m/s (using Pitot tube)

Calculated values (fuel type dependent)
Carbon dioxide
0 ... CO2 max.
Air Ratio (Lambda)
1 ... 9.99
Heat losses qA
0 ... 99.9 %
Excess Air
0 ... 99.9
Efficiency
0 ... 100 % / 120 %
CO/CO2 ratio
0 ... 10

General specifications
Operation temperature
41°F .... 113°F, max. 95 % RH, none condensing
Storage temperature
-4°F .... 122°F
Ambient conditions
not in aggressive, corrosive or high dust ambience, not for use in hazardous areas
Power supply
Lithium-Ion battery, 15 h operation, (with NDIR +/- 6h)
Grid power supply
100 - 240 V AC / 50 ... 60 Hz 1A
Protection class
IP42
Weight
approx. 2.2 lbs (with 7 sensors)
Dimensions
(W x H x D) 4.3” x 8.8” x 2.04”