RASI700- The industrial flue gas and emissions Analyser

The most trusted hand held analyser for servicing, commissioning and testing Gas & Diesel Engines, CHP's, industrial boilers and burners, gas turbines, industrial processes and biogas boilers.

RASI 700 Industrial flue gas analyser

These compact hand held industrial flue gas analyser come as standard fitted with a Long Life O2 sensor and can be configured with up to 6 electrochemical measurement sensors (CO, NO, NO2, SO2 and H2S) and a special designed dual range NDIR infrared sensor for direct measurement of CO2% and HC (Hydrocarbon) in the flue.

This makes the RASI700 unique in the market and a valuable solution for emissions testing at low cost.
All the sensors can be installed at the same time, making the RASI700 the only 8-gases flue gas analyser for use in industry.

In addition to the above, the RASI700 measure as standard draught (continuously) and differential pressure and Temperature up to 1200 °C . Optionally it can be configured to measure gas velocity and mass flow using our extensive range of type L and type S pitot tubes.

Each RASI700 is equipped as standard with Bluetooth communication to work together with our MRU4U mobile app or WIN4U Windows software.

Key Features

- True 8 sensors hand held analyser installed at the same time

- 02, CO, CO-low NO, NO-Low, NO2, NO2-Low, SO2, H2S, CO2% and HC ppm measurements

- Separate NO & NO2 sensors for TRUE NOx measurement

- NDIR CO2% and CH ppm sensor

- Emissions reading in mg/m3 and/or ppm with O2 reference user selectable

- CO cell up to 20000 ppm with enhanced NO filter

- Display all combustion parameters

- Continuous draft/pressure measurement along with flue gas readings.

- Data logging and data export on CSV format to SD card

- Bluetooth for communication with MRU4U mobile app

- Special sampling probe with 2.7 mm special Viton hose provide protection against SO2/NO2 absorption

True NOx measuring

The continuous & high fluctuation of the NO2 portion in the stationary engines or industrial boilers requires to make separate measurement of both NO and NO2 to provide accurate "True" NOx values.
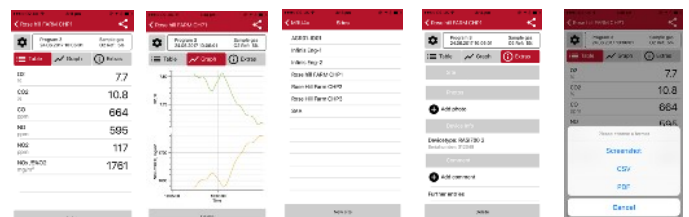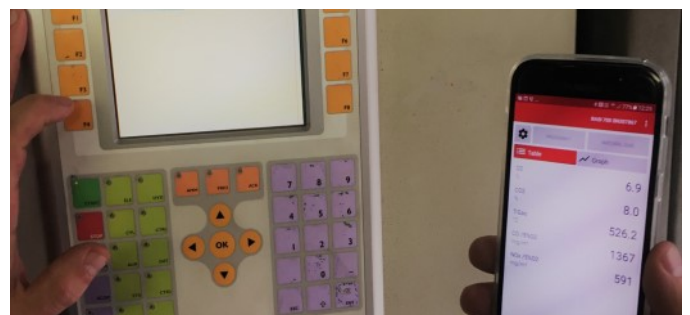
Equally important is ensure that the Total NOx is reported in the correct way.

The Environmental Agencies around the world require the operator to report the total NOx in mg/m3, in term of NO2 and corrected for O2% reference. Typical O2% correction are as per below below:

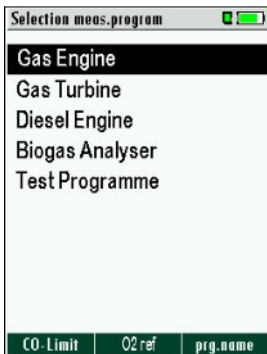|	Gas Engines	Diesel Engines	Industrial Boilers	Gas Turbine
O2 ref:	5 %	15 %	3 %	15 %

Free MRU4U mobile app (IOS/ANDROID) for remote control, visualization & reporting.

Work faster and safer with our new MRU4U mobile app with specific engine reporting function. Capture and share data with your colleague in a more efficient way. Turn your smart device into a gas analyser. Leave the analyser in the exhaust and be in front of the screen " Noxing" and "mapping" the engine. Data are saved under a Job Number and additional information such as Delivery Pressure, Engine Load, CH4% content and Engine Condition can be entered to be saved together with the exhaust measurements.

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Measurements made easy

The RASI700 smart menu guides step by step trough the whole measurement process to make it easy and safe for the operator. The large 3.5 " TFT graphic colour display provides information relevant to the application and guides the user through the measurements from start to finish. No instrument-specific knowledge is therefore required. Instrument settings, such as correct O2% reference and display values are activated by selecting the application.
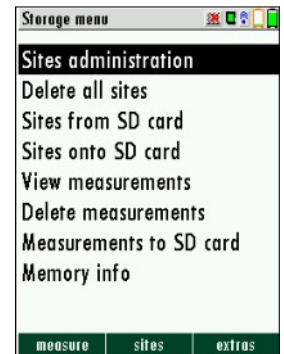User can rename programmes and configure them as required.

| **Application selection** | **Exhaust measurement** | **Biogas measurement (option)** | **Data Capture & site administration** |

Accurate CH4% and CO2% NDIR measurements

The RASI700 can be equipped with a single or dual bench NDIR sensors for direct measurement of CO2 % and CH% or PPM depending from the application.

Commissioning Gas Engines on Biogas Plant or servicing BIOGAS boiler might require the operator to measure the quality of the gas (CH4 %) to trim the boiler

CO2% value in the flue of industrial boilers, biogas boilers or engines can **ONLY** be measured and not calculated.

Higher CO cell 0-20000 ppm

All the new RASI 700 are now equipped as standard with an higher range CO (H2 comp) measurement cell which is able to with-stand CO concentration up to 20000 ppm with-out any dilution. The new cell also have an enhanced NO filter.

CO sensor protection

To prevent the sensor to be over-saturated which always lead to a long sensor recovery and often to the sensor to be damaged, each RASI700 is fitted as standard with an additional purge pump which will protect the CO sensor from un-expected higher level then normal.

Modular sampling probe with large selection of probe lengths for great flexibility

The RASI700 industrial flue gas analyser offers a wide range of gas sampling probes. All our probes are modular and they measure pressure(Draught) and temperature at the same time. They come in different length starting from 365 mm trough 2000 mm either in stainless steel or Inconel 600 material to with-stand higher temperatures up to 1200°C.

Our sampling probe is supplied with 2.7 m Viton sampling line to prevent NO2 abortion. Thanks to the COAX design, integrated type K thermocouple and triple hose, the RASI 700 provides temperature and back pressure readings simultaneously with the combustion measurements.

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Kit Suggestion for Gas and Diesel Engines

RASI 700 Engine Exhaust Emissions Analyser

	Part Number
Include:	RASI700NEW-KIT-ENG01
RASI 700 main Unit with integrated water trap and filter, temperature and pressure readings and IRDA communication for optional printer	
02 sensor 0-25 %	
CO sensor 0-20000 ppm	
NO sensor 0-5000 ppm	
NO2 sensor 0-1000 ppm	
Bluetooth communication	
MRU4U mobile app	
Gas Sampling Probe for Industrial Engines	
USB lead/wall charge	
Double wall robust ABS transport case	

Options/Accessories

Description	Part Number
IRDA Fast Infrared Printer, USB charging	RASI-ACC-22
S02 sensor (suggested for emissions on Diesel Engines)	RASI700-SENS-09
Water trap Star Filter	RASI-CON-01
Thermal Paper (PK 10)	RASI-CON-02
Flow Option	RASI-OPT-13
Straight Pitot tube	RASI-PTUB-250-12

RASI 700 shown in its standard double wall case with document lid and hard customised foam.

RASI 700 Combined Emissions and Gas Analyser

	Part Number
Include:	RASI700NEW-KIT-ENG03
RASI 700 main Unit with integrated water trap and filter, temperature and pressure readings and IRDA communication for optional printer	
02 sensor 0-25 %	
CO sensor 0-20000 ppm	
NO sensor 0-5000 ppm	
NO2 sensor 0-1000 ppm	
H2S sensor 0-2500 ppm	
CH4 % NDIR 0-100 %	
CO2 % NDIR 0-100 %	
Bluetooth communication	
MRU4U mobile app	
Gas Sampling Probe for Industrial Engines	
Gas sampling tubing	
USB lead/wall charge	
Double wall robust ABS transport case	

Flow Measurement Option

Extend the functionality of your gas analyser with the flow option. Range 1 to 100 m/S.

New Straight Pitot Tube
3 ways straight pitot tube allow for simultaneously sample of gas quality, flow velocity including mass flow and adapter to fit the most common 1/2" ball valve to avoid gas escape during positioning.
Dimension: 12 mm x 250 mm

Kit Suggestion for Industrial Boilers

RASI 700 Industrial Flue Gas Analyser basic KIT for O2, CO

	Part Number
Include:	RASI700NEW-KIT-IND01
RASI 700 main Unit with integrated water trap and filter, temperature and pressure readings and IRDA communication for optional printer	
02 sensor 0-25 %	
CO sensor 0-20000 ppm	
Bluetooth communication	
MRU4U mobile app	
Modular Gas Sampling Probe for Industrial applications, 365 mm x 8 mm with 2.7 mt hose	
USB lead/wall charge	
Double wall robust ABS transport	

RASI 700 Industrial Flue Gas Analyser KIT for O2, CO, NO, NO2 (True NOx)

	Part Number
Include:	RASI700NEW-KIT-IND03
RASI 700 main Unit with integrated water trap and filter, temperature and pressure readings and IRDA communication for optional printer	
02 sensor 0-25 %	
CO sensor 0-20000 ppm	
NO sensor 0-5000 ppm	
NO2 sensor 0-1000 ppm	
Bluetooth communication	
MRU4U mobile app	
Modular Gas Sampling Probe for Industrial applications, 365 mm x 8 mm with 2.7 mt hose	
USB lead/wall charge	
Double wall robust ABS transport	

RASI 700 Industrial Flue Gas Analyser basic KIT for O2, CO,NO (NOx)

	Part Number
Include:	RASI700NEW-KIT-IND02
RASI 700 main Unit with integrated water trap and filter, temperature and pressure readings and IRDA communication for optional printer	
02 sensor 0-25 %	
CO sensor 0-20000 ppm	
NO sensor 0-5000 ppm (Calculated NOX)	
Bluetooth communication	
MRU4U mobile app	
Modular Gas Sampling Probe for Industrial applications, 365 mm x 8 mm with 2.7 mt hose	
USB lead/wall charge	
Double wall robust ABS transport	

Options/Accessories

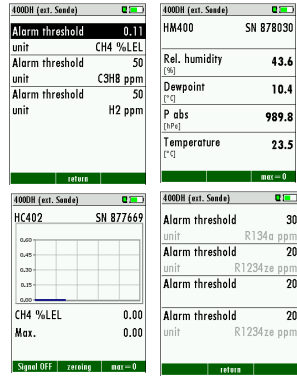| Description	Part Number
IRDA Fast Infrared Printer, USB charging	RASI-ACC-22
S02 sensor 0-5000 ppm	RASI700-SENS-09
CO2% NDIR 0-40 for CO2% direct measurement	RASI700-SENS-10

RASI 700 shown in its standard double wall case with document lid and hard customised foam.

Technical Specifications

Measurements	Range	Accuracy	Resolution	Sensor Type
Oxygen (O2)	0 to 25 %	± 0,2 % abs Vol	0.01 % Vo%	Electrochemical
Carbon Monoxide (CO-H2)	0 to 20000 ppm	± 10 ppm or 5% reading (0-4000 ppm) 10% reading (4000 to 20000 ppm)	1 ppm	Electrochemical
Nitric Oxide (NO)	0 to 5000 ppm	± 5 ppm or 5% reading (0-1000 ppm) 10% reading (1000 to 5000 ppm)	1 ppm	Electrochemical
Nitrogen Dioxide (NO2)	0 to 1000 ppm	± 5 ppm or 5% reading (0-200 ppm) 10% reading (200 to 1000 ppm)	1 ppm	Electrochemical
Sulfur Dioxide (SO2)	0 to 5000 ppm	± 5 ppm or 5% reading (0-1000 ppm) 10% reading (1000 to 5000 ppm)	1 ppm	Electrochemical
Hydrogen Sulphide (H2S)	0 to 5000 ppm	± 5 ppm or 5% reading (0-500 ppm) 10% reading up to 5.000 ppm**	1 ppm	Electrochemical
CO2 % NDIR	0 to 40 %	± 0.5 % Vol	0.01 % Vol	NDIR
CH4 % Methane	0 to 100 %	± 0.3 % Vol (0-10 % range) ± 0.5 % Vol (10-65 % range) ± 1.5 % Vol (65 to 100% range)	0.01 % Vol	NDIR
CO2% Carbon Dioxide	0 to 100 %	± 0.3 % Vol (0-10 % range) ± 0.5 % Vol (10-65 % range) ± 1.5 % Vol (65 to 100% range)	0.01% vol	NDIR
Exhaust Gas Temperature	0 to 1200 °C	± 2 °C	0.1 °C	Piezoresistive
Pressure (gauge, diff, back)	-300 to 300 mbar	± 0.02 mbar	0.01 mbar	Piezoresistive
Draught	-40 to 40 mbar	± 0.02 mbar	0.01 mbar	Piezoresistive
Barometric Pressure	850 to 1150 mbar	± 10 mbar	0.1 mbar	Piezoresistive
Flow Velocity (option)	1 to 100 m/sec	± 0.5 m/sec	0.1 m/sec	Pitot tube
Combustion and Environmental calculations				
O2 Normalization	NOx and CO automatically displayed in mg/m3 and or ppm with user define % O2 reference			
True NOx	(NO+NO2) corrected and reported in term of NO2 as per EA guidelines			
Lambda (Air Ratio)	1 to 9.99			
Digital				
Digital Communication	mini-USB, SD, Infrared, Bluetooth™ (data transfer to smartphone, tablet or PC)			
Data logging	Manual or automatic up to 16000– Data export to SD card in CSV format			
Site management	Up to 4000 sites, with ID number and address			
General				
Display	3.5" TFT graphic colour display			
Power	Internal Li-Ion Rechargeable batteries (15 hours continuous operation)			
AC adapter	wall-plug grid power supply, 100 - 240 Vac / 50 ... 60 Hz			
Charging	Trough MINI USB port (USB cable and wall plug supplied)			
IP Protection	IP 30			
Dimensions/weight	110 x 225 x 52 mm , approx. 750 g			
Operating Temperature	5 to 45 °C , 95 % HR non condensing			
Storage Temperature	0-50 °C			
Approvals	CE, TUV SUD EN 50379-2			
Probe	Modular gas sampling probe, 365 mm immersion depth, incl. cone, heat shield, thermocouple NiCr-Ni (TI) Tmax 850 °C and NO2/SO2 special triple hose 2.7 m for simultaneous gas sampling, pressure and temperature measurement			

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Multifunction probe HD400 (Option)

Our new multifunction probe with "plug and play" sensors extend the use of the RASI700 to. Each probe can be used in conjunction with one of more sensors to turn the RASI700 in:

Professional Gas Sniffer for Methane, LPG and H2
Quantify and display readings in ppm, % LEL or LEL
Detect even smaller leak
Graphical and numerical display
Visual and Audible alarms

Environmental measurement
Display Dew Point, Relative Humidity, Barometric Pressure and Ambient Temperature

Refrigerant Gas Sniffer

CO ambient

The picture shows the RASI 700 connected the HD400 probe looking for leaks around flanges in a CHP Gas engine on Natural Gas Installation

Model	Description
400DH-11182	400DH multifunctional probe with-out sensor
HC402-11173	Methane, LPG, H2 sniffer sensor (LEL, % LEL, ppm)
HC400-11138	Methane (CH4) sniffer sensor (LEL, % LEL, ppm)
CO400-12130	CO sniffer sensor (CO ambient measurement)
CD400-12623	CO2 ppm sensor 0-2000 ppm (CO2% ambient measurement)
HM400-11922	Environmental Measurement sensor (RH%, Pabs, Dew Point)

Contact us today:

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For continue product improvement, specifications and product design are subjected to change with-out any notice

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