

ECOM-J2KNpro INDUSTRY

- MOBILE, COMPACT AND CUSTOMIZABLE ANALYSER DELIVERY PROGRAM FOR ANALYSIS AND MONITORING OF EMISSION VALUES ISSUED FROM INDUSTRIAL COMBUSTION PROCESSES
- BASIC VERSION WITH O₂ AND CO LONGLIFE GAS SENSORS – UP TO 6 ELECTROCHEMICAL SENSORS INSTALLABLE
- OPTIONAL INFRARED BENCH FOR UP TO 3 GAS COMPONENTS
- CO SENSOR OVERLOAD PROTECTION & FRESH AIR PURGE WITHOUT MEASUREMENT INTERRUPTION
- CONNECTION FOR HEATED GAS SAMPLING SYSTEM
- DETACHABLE RADIO CONTROL MODULE WITH COLOUR DISPLAY
- FOLDABLE ANTENNA FOR RADIO SIGNAL AMPLIFICATION
- MAGNETIC VALVE FOR QUASI-CONTINUOUS MEASUREMENT OPERATION
- BRUSHLESS, LOW MAINTENANCE, HIGH-PERFORMING GAS PUMP FOR QUICK GAS CONVEYANCE
- GAS COOLER WITH ELECTRONIC LEVEL MONITORING & AUTOMATIC CONDENSATE EVACUATION - VARIANT IN STAINLESS STEEL
- INTEGRAL THERMAL QUICK-PRINTER
- BLUETOOTH LOW ENERGY –BLE-
- LITHIUM-ION BATTERY
- BACKLIT DISPLAY & KEYPAD
- HIGH-VALUE T-GAS PLUG
- ROBUST AND ULTRALIGHT ALUMINIUM HOUSING
- ROBUST TRANSPORT CASE, UPGRADEABLE WITH OPTIONAL UNDERCASE / TROLLEY

The delivery program ecom-J2KNpro INDUSTRY consists of 2 models:

- the ecom-J2KNpro IN
- the ecom-J2KNpro INS.

Both are designed for high respectively industrial requirements: use of **infra-red technology**, quasi-continuous operation thanks to integral **magnetic valve**, data logging operation, **foldable antenna** at basic module for radio amplification by large-sized plants, **connection of heated sampling systems, gas cooler**.

They can be equipped with up to 6 electrochemical sensors at a total and the measurement spectrum can be extended to 9 parameters thanks to the optional infrared bench.

Due to the variety of applications and different requirements, the basic model does not cover a specific sampling system which can be determined by the user according to individual criteria and needs out of a comprehensive selection list.

Differing features of the ecom-J2KNpro INS are the gas cooler made out of stainless steel and the special inner tubing, both selected for and optimized gas preparation and measurement of highly water-soluble gases like HCl or NH₃.

The robust, hard-wearing transport case is optimally designed to withstand tough operation conditions and offers, if need be, additional storage space thanks to an optional undercase.



MAIN FEATURES QUICK OVERVIEW

- 1 Connection heated sampling system
- 2 Detachable radio control module
- 3 Colour display
- 4 Backlit keypad
- 5 Integral thermal quick-printer
- 6 Foldable antenna for radio transfer amplification
- 7 Gas cooler with automatic condensate evacuation
- 8 Additional display
- 9 Pollutants filter (NOx/SO₂) for CO sensor protection
- 10 Special PTFE filter for infrared bench
- 11 Aluminium-framed transport case, XL size
- 12 Under case (option)



ecom-J2KNpro Industry with optional undercase.
Selected sampling system: pistol grip probe and NOx tubing.

TECHNICAL DATA & FEATURES				✓ = Standard IN / INS ● = Option IN / INS ■ = Standard INS
MEASUREMENT	RANGE	RESOLUTION	ACCURACY	
Maximal amount of gas sensors			*= Higher value prevails	6
O ₂	0...21 %	0,01 vol. %	± 0,3 vol. %	✓
CO ppm (H ₂ -comp.)	0...4000 ppm	1 ppm	± 20 ppm / 5% of meas. value*	✓
CO ppm (H ₂ -comp.)	0...10.000 ppm	1 ppm	± 20 ppm / 5% of meas. value*	●
CO ppm (n. H ₂ -comp.)	0...20.000 ppm	1 ppm	± 40 ppm / 10% meas. value*	●
CO % (IR)	0...63.000 ppm	10 ppm	± 200 ppm / 3% of meas. value*	●
CO %	0...63.000 ppm	5 ppm	± 100 ppm / 10% of meas. value*	●
NO	0...5000 ppm	1 ppm	± 5 ppm / 5% of meas. value*	●
NO ExtraLow	0...300 ppm	0,1 ppm	± 2 ppm / 5% of meas. value*	●
NO ₂	0...1000 ppm	1 ppm	± 5 ppm / 5% of meas. value*	●
NO ₂ Low	0...100 ppm	0,1 ppm	± 5 ppm / 5% of meas. value*	●
SO ₂	0...5000 ppm	1 ppm	± 5 ppm / 5% of meas. value*	●
SO ₂ (Low CO)	0...5000 ppm	1 ppm	± 5 ppm / 5% of measured value* ⁽¹⁾	●
SO ₂ Low	0...100 ppm	0,1 ppm	± 5 ppm / 5% of meas. value*	●
H ₂	0...2000 ppm	1 ppm	± 10 ppm / 5 % of meas. value*	●
H ₂	0...20.000 ppm	1 ppm	± 100 ppm / 5 % of meas. value*	●
H ₂ S ppm	0...1000 ppm	1 ppm	± 10 ppm / 5 % of meas. value*	●
CxHx (catalytic)	0...4 %	0,01 vol. %		●
CxHx IR (propane)	0...2000 ppm	1 ppm	± 4 ppm / 3% of meas. value*	●
CxHx IR (methane)	0...3%	0,001%	± 0,005 vol. % / 3% of meas. value*	●
CH ₄ IR sensor	0...100%	0,1 vol. %	± 5 vol. % measure. range end value	●
CO ₂ IR	0...20%	0,1 vol. %	± 0,3 vol. % / 3% measured value*	●
T-Gas	0...500°C	1°C	± 2°C (0-125°C) ± 3°C (125-250°C) ± 4°C (250-500°C)	●
NH ₃	On request – cf. information as to application conditions and measurement results.			
HCl	On request – cf. information as to application conditions and measurement results.			
T-Air	0...99°C	1°C	± 1°C	✓
Pressure / ΔP	± 100 hPa	0,01 hPa	± 2%	✓
Soot (integral)	0...9			●
CALCULATION		RANGE		
CO ₂		0...CO ₂ max		✓
Combustion efficiency (ETA)		0...120%		✓
Excess air (Lambda)		>1		✓
Losses		0...100%		✓
CO _(U) undiluted		x ppm		✓
Dew point		x°C		✓
mg/m ³		x mg/m ³		✓
mg/kWh		x mg/kWh		✓
O ₂ reference		x %O ₂		✓
NOx via NO measured (estimated NOx value) ⁽¹⁾		= 1.05 NO		●
GAS SAMPLING				
Not included, at choice (see § gas sampling)				✓
Connection for heated sampling system, type SBK2				1 ✓
High-value T-Gas plug				✓
COMBUSTION AIR SENSOR				
T-Room sensor (PT 2000) L = 100 mm, cable (ca. 3 m), magnet fixation & fixation cone				✓
DATA INDICATION / INPUT				
Detachable monitoring/controlling module Frequency 868 MHz, coverage by free sight approx. 70 m (70 yds.) With magnet on the back for positioning at metal surfaces				2 ✓
LCD colour display 78 x 58 cm, 320 x 240 dots, backlit, graphic/zoom-capable				3 ✓
Keypad with alphanumerical input function				4 ✓
DATA PRINTOUT				
Integral thermal quick-printer, paper width 58 mm				5 ✓
Matrix printer 58 mm (instead of thermal printer)				●
Address on protocol changeable by user (via keypad)				✓
DATA PROCESSING				
Slot for MM card; data logger function				✓
Interface Bluetooth Low Energy (BLE)				✓
Wi-Fi interface (instead of BLE)				●
Data exchange with gratis ecom® PC software MiniDV, DAS.NT.2, DAS 5.01				✓

⁽¹⁾ When only NO; by NO+NO₂ = NOx measurement.

PRINTER | OPTION

MATRIX PRINTER instead of thermal printer
For a long-lasting and non-fading documentation of the measurement value
(Item no. 108172)

GAS SENSORS | OPTIONS

NO MEASUREMENT, 0-5000 ppm (EC)
(Item no. 101500)

NO MEASUREMENT, ExtraLow 0-300 ppm (EC)
(Item no. 108505)

NO₂ MEASUREMENT, 0-1000 ppm (EC)
(Item no. 101502)

NO₂ MEASUREMENT, Low 0-100 ppm (EC)
(Item no. 101503)

SO₂ MEASUREMENT, 0-5000 ppm (EC)
(Item no. 101504)

SO₂ MEASUREMENT, 0-5000 ppm (LOW CO) (EC)
(Item no. 108548)

SO₂ MEASUREMENT, Low 0-100 ppm (EC)
(Item no. 107051)

CO% MEASUREMENT, 0-63.000 ppm ⁽¹⁾ (EC)
(Item no. 101505)

CO 0-20.000 ppm (non H₂-comp.), instead of H₂-comp. (EC)
(Item no. 108313)

CxHy 0-4% vol. (catalytic)
(Item no. 101561)

CH₄-MEASUREMENT 0-100%, IR SENSOR ⁽²⁾
(Item no. 107342)

H₂ MEASUREMENT 0-2000 ppm -via CO sensor- (EC)
(Item no. 101655)

H₂ MEASUREMENT 0-20.000 ppm (EC)
(Item no. 107433) – in case H₂S, NH₃ or HCl also ordered.
(Item no. 107434)

H₂S MEASUREMENT 0-1000 ppm, CH₄ filter (EC)
(Item no. 103401)

⁽¹⁾ Additional filtering recommended

⁽²⁾ Special tubing for biogas analysis optionally available

NH₃ OR HCl VIA ELECTROCHEMISTRY

NH₃ or HCl electrochemical sensors can only provide with readings according to specifications provided:
• the analyser is fitted with a stainless-steel gas cooler, a NOx tubing, an internal special gas conducting tubing and a soil-free sampling probe,
• furthermore, no condensate should linger at all in the gas path.

The latest condition is usually however only fulfilled for a short time only and only at the beginning of a measurement. Therefore, the detection of these gases with electrochemical sensors is substantially limited as well as the availability of measurement results.

DATA PROCESSING	
Receiving capability for diagnostic data collected by ecom-AK (optional)	✓
Foldable radio antenna at basic unit	✓
CONNECTIONS	
Multi-function interface	✓
USB interface for data transfer	✓
Analog inputs (2), 2 x 4...20 mA, or 2 x PT 2000 or 1 x 4...20 mA 1 PT 2000	•
MEASUREMENT GAS PREPARATION	
Extra-quick gas transport (quick availability of measurement data)	✓
High-performing gas pump, brushless, low-maintenance	✓
Gas cooler with electronic monitoring and automatic condensation evacuation	✓
Stainless-steel gas cooler with electronic monitoring & automatic condensation evacuation	■
Integral magnetic valve for automatic, quasi-continuous measurement & recording	✓
Special inner tubing for quick conveyance of highly soluble gases	■
POWER SUPPLY	
Mains power: 230 V / 50 Hz~; Lithium-Ion battery 7,2 V / 11,6 Ah with long-operation time	✓
Mains power cord length approx. 2.3 m	✓
Helix power cable (instead of standard straight cord style)	•
OPERATION SAFETY	
Heated gas channel plate for avoidance of moisture formation	✓
Internal air pressure sensor (range 300 to 1100 hPa)	✓
Temperature trend indication for stream core search	✓
Automatic self-test during calibration phase	✓
Automatic CO switch-off (= sensor protection & prolongation of life span)	✓
Fresh air purge w/o. measurement interruption (= other values measured w/o. time loss)	✓
Fresh air purge after operation	✓
Pressure-compensated gas channel plate (optimized gas flow w/o. pressure fluctuation)	✓
Flow meter for optical control of pump performance	✓
Electronic condensation monitoring	✓
Longlife sensors	✓
Separate LCD display for monitoring & indication of operation stands of several elements like pump, probe heating, radio transfer quality as well as display of error messages. Electronic flow meter and monitoring. Automatic instrument switch-off by decreasing & insufficient pump performance.	✓
Toxic pollutants filter (NOx/SO ₂) for CO sensor	✓
PTFE filter for IR bench	•
TRANSPORT	
Robust aluminium-framed transport case in XL size	✓
Comfort shoulder carrying strap	✓
Connection pieces for easy docking of optional undercase	✓
Undercase	•
Trolley	•
Outdoor case set (main case, undercase, trolley) IP 43	•
DIMENSIONS WEIGHT OTHERS	
Dimensions: approx. 510 x 315 x 250 mm (W x H x D)	✓
Weight: approx. 13 kg	✓
Calibration certificate, issued after instrument calibration into calibration chamber	✓
Tested and approved acc. to 1. BImSchV (O ₂ /CO/Temp./Pressure) and EN 50379-2	✓
Aluminium housing with 10 years guarantee	✓
Admissible ambient temperature: +5... +40°C; max. 90 % rH, non-condensing	
Admissible storage temperature: -20... +50°C	
Fuel types: up to maximal 16 possible	
Recommended interval for check/maintenance: 1 year	
Item no. ecom-J2KNpro IN basic: 7108008 Item no. ecom-J2KNpro INS basic: 7108009	
INFRARED MEASUREMENT OPTIONS ⁽³⁾	
1 PARAMETER	
CO 0-63.000 ppm (Item no. 104996)	
CO ₂ 0-20% (Item no. 101512)	
C _x H _y 0-2000 ppm (C ₃ H ₈ propane) (Item no. 101513)	
C _x H _y 0-30.000 ppm (CH ₄ methane) (Item no. 101514)	
2 PARAMETERS	
CO 0-63.000 PPM, CO ₂ 0-20% (Item no. 101515)	
CO 0-63.000 ppm, C _x H _y 0-2000 ppm (C ₃ H ₈ propane) (Item no. 101516)	
CO 0-63.000 ppm, C _x H _y 0-30.000 ppm (CH ₄ methane) (Item no. 104841)	
CO ₂ 0-20%, C _x H _y 0-2000 ppm (C ₃ H ₈ propane) (Item no. 101517)	
CO ₂ 0-20%, C _x H _y 30.000 ppm (CH ₄ methane) (Item no. 101518)	
3 PARAMETERS	
CO 0-63.000 ppm, CO ₂ 0-20%, C _x H _y 0-2000 ppm (C ₃ H ₈ propane) (Item no. 101519)	
CO 0-63.000 ppm, CO ₂ 0-20%, C _x H _y 0-30.000 ppm (CH ₄ methane) (Item no. 101723)	
⁽³⁾ Recommended measurement time: up to 15 minutes.	
CONSUMABLES FOR STOCK	
Fine dust filter (10 pcs)	Item no. 100568
Thermal printer paper roll	Item no. 50513
Matrix printer paper roll	Item no. 51596
Soot filter papers (200 pcs)	Item no. 50515
NOx-SO ₂ filter	Item no. 52169
PTFE-Filter (by IR bench)	Item no. 100803
MEASUREMENT WITH INFRARED BENCH	
In order to achieve accurate measurement results using an infrared bench (especially by methane), it is necessary to perform a fresh air calibration every 15 minutes, therefore this time is indicated as maximal measurement time.	
In order to bring the infrared measurement bench on operation temperature, it is recommended to switch on the instrument 15 minutes before starting the fresh air calibration.	

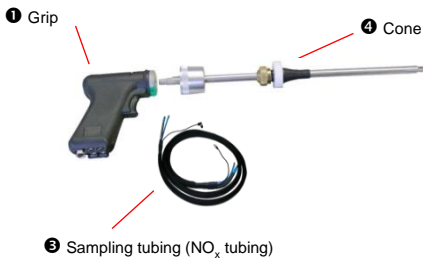
GAS SAMPLING | SELECTION

Because of the variety of applications and the differing requirements related to each, the basic analyser does not cover a specific sampling system. The latest is to be selected by the user according to individual criterion among the following options:

- pistol grip probe (SU/SB) with NO_x sampling tubing,
- heated sampling system.

Each option offers various lengths of probe tips and sampling tubing.

CONCEPT SU/SB SAMPLING SYSTEM



GRIP SB, PROBE TIP Ø 10 MM, CONE

LENGTH 300 mm	(Item no. 107512)
LENGTH 350 mm	(Item no. 107513)
LENGTH 500 mm	(Item no. 107515) ⁽¹⁾
LENGTH 700 mm	(Item no. 107516) ⁽¹⁾
LENGTH 1000 mm	(Item no. 107517) ⁽¹⁾
LENGTH 1500 mm	(Item no. 107518) ⁽¹⁾

HIGH-TEMPERATURE PROBE TIP

Application range up to 1100°C, with HT cone Ø 10 mm

LENGTH 750 mm	(Item no. 101183) ⁽¹⁾
LENGTH 1000 mm	(Item no. 30001303) ⁽¹⁾
LENGTH 1500 mm	(Item no. 101608) ⁽¹⁾

NO_x TUBING, 3-CHAMBER, WITH ODU PLUG

LENGTH 3,5 m	(Item no. 106931)
LENGTH 5,0 m	(Item no. 106932) ⁽¹⁾
LENGTH 10,0 m	(Item no. 107362) ⁽¹⁾

⁽¹⁾ Because of its length this item is not storable in the standard case.
For transport purposes, it must be detached and stowed separately.

HEAT-PROTECTIVE SHIELD

- For probe tips SB/SU Ø 10 mm
- Material: AlMg³. Hole Ø 10 mm, with knurled screw
- Dimensions: approx. 195 x 120 x 1.5 mm
- Weight: approx. 90 g

Item no. 101527

PROBE PIPE | ACCESSORY

PROTECTION BAG

For probe tips (all types) up to 750 mm

- Material: fabrics
- Dimensions: approx. 86 x 7.5 x 3 cm
- Weight: approx. 350 g

Item no. 55991



CONCEPT HEATED SAMPLING SYSTEM SBK2

1 Heated head with probe pipe & thermocouple and cone

A heated sampling head with hot gas filter for protection against premature soiling. The thermocouple is firmly connected to the head; an exchange of the probe tip against a longer version is practically possible, but the accuracy of the temperature values is no more guaranteed. Available lengths: 300 mm to 1500 mm.

It consists of:

1. Heated head with probe tip and cone

Head with hot gas filter for protection against premature soiling. The thermocouple is firmly connected to the head; an exchange of the probe tip against a longer version is practically possible, but the accuracy of the temperature values is no more guaranteed. Available lengths: 300 mm to 1500 mm.

2. Heated tubing

Thanks to its heating the tubing avoids wash-out effects.

Maximal operation temperature 200°C.

The SBK2 system is not suitable for 110V operation.

2 Heated tubing



Termination of the NO_x tubing at a 7 m length.

HEATED HEAD INCLUDING FIXATION CONE

Pipe length 300 mm ⁽²⁾	(Item no. 102950)
Pipe length 500 mm	(Item no. 102951)
Pipe length 700 mm	(Item no. 102952)
Pipe length 1000 mm	(Item no. 102953)
Pipe length 1500 mm	(Item no. 102953)

HEATED TUBING 230 VAC, 100 W/M

Length 3,4 m ⁽²⁾	Item no. 102960
Length 7,0 m	Item no. 102961

COMPLETE SYSTEM WITH TUBING 3.4 M

Head with pipe length ⁽²⁾ 300 mm	Item no. 102955
Head with pipe length 500 mm	Item no. 102956
Head with pipe length 700 mm	Item no. 102957
Head with pipe length 1000 mm	Item no. 102958
Head with pipe length 1500 mm	Item no. 102959

COMPLETE SYSTEM WITH TUBING 7.0 M

Head with pipe length 300 mm	Item no. 103040
Head with pipe length 500 mm	Item no. 103041
Head with pipe length 700 mm	Item no. 103042
Head with pipe length 1000 mm	Item no. 103043
Head with pipe length 1500 mm	Item no. 103044

⁽²⁾ Item can be stowed in optional under-case.



HEATED HEAD | ACCESSORY

HANDLE, FOR HEATED HEAD

Bracket made out of galvanized steel, with aluminium grip and NBR rubber

- Weight: ca. 310 g

Item no. 100942



T-ROOM MEASUREMENT | ALTERNATIVE

T-ROOM STICK PT 2000

- Dimensions: approx. 28 x Ø 11 mm
- Weight: approx. 5 g

Item no. 102888



T-ROOM PROBE PT 2000

- Length 260 mm, with 3 m cable

Item no. 104569



TRANSPORT | ACCESSORIES & OPTIONS

UNDERCASE

Additional storage space for accessories/small parts

- Dimensions: approx. 510 x 130 x 250 mm
- Weight: approx. 1.6 kg
- With fixation for trolley (item no. 101274)

Item no. 106721



TROLLEY ¹³

For fixation at under-case

Item no. 101274



DATA TRANSFER | ACCESSORIES & OPTIONS

CONNECTION CABLE BASIC/CONTROL MODULE

- In case of slight disturbed radio transfer
- Length approx. 10 m

Item no. 55604



DATA CABLE USB, INSTRUMENT -> PC

- For data transfer to PC
- Length approx. 2 m

Item no. 55818



DATA RECORDING | ACCESSORY

MM CARD 2 GB

Item no. 102469



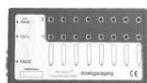
WI-FI OPTION, instead of Bluetooth Lo Energy

(Item no. 108193)

8-CHANNEL ANALOG OUTPUT BOX (V / mA)

Connection box for external logging/recording units

- Dim.: approx. 165 x 85 x 30 mm (L x W x H)
- Weight: approx. 0.3 kg
- Incl. charger, cable to analyser, RS 232 cable, software



Item no. 101769

ANALOG INPUTS | OPTION

2 analog inputs for connection of external sensors

2 X 4...20 MA (Item no. 108203)

2 X PT 2000 (Item no. 108204)

1 X 4...20 MA + 1 PT 2000 (Item no. 108205)

POWER SUPPLY | OPTION

HELIX MAINS POWER CORD (instead straight style)

By longer distance measuring point – power source

(Item no. 104461)

SIMPLE & MODERN DATA MONITORING & TRANSFER WITH THE APP **ecomMANDER**

MEASURE | DISPLAY | RECORD | TRANSFER

1. Download App
from App Store /
Playstore
free of charge



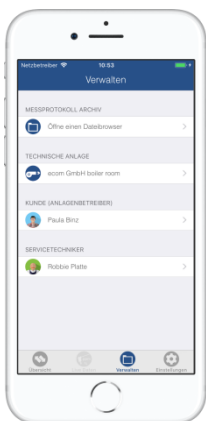
2. Activate pairing via wireless
connection | Select instrument | Done!



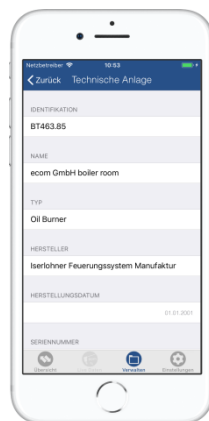
3. Live display of
measurement values



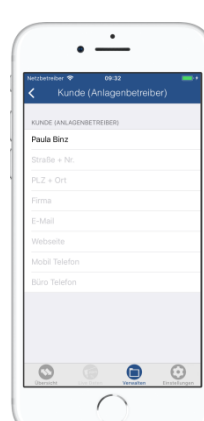
3. Spot and punctual
measurements



3. Intuitive menu



3. Data of
combustion plant



3. Customer data








3. Data related to
service engineer



4. Creation of measurement
protocols in
practical PDF format

ecomMANDER APP

-  **SIMPLE CONNECTION**
 - Automatic identification of ecom instrument via wireless pairing
 - Recording of last active connection
 - Use not limited to a specific instrument
-  **SIMPLE HANDLING**
 - Remote monitoring of measurement
 - Start / stop of CO sensor purge
 - Printout of measurement results
 - Switch to stand-by mode
-  **SMART DATA PROCESSING**
 - Display of all measurement parameters
 - Organisation of customer data
 - Recording and management of measurement values
 - Archiving and / or export of measurement values via PDF

Download free of charge  

THE BELOW ICONS ILLUSTRATED IN ALL OUR PRODUCT INFORMATION SHEETS DO HAVE THE FOLLOWING MEANING:



EXTREMELY PRECISE - FOR EXACT MEASUREMENT ACCURACY.

After completion of the production process, the instrument is then professionally calibrated into a calibration chamber in order to eliminate possible cross-sensitivities. In order to measure in practice with the highest possible exactitude.



EXTREMELY EFFICIENT - ENHANCED CONVEYANCE CAPABILITY.

The product is fitted with a particularly performing pump which -compared to other instruments- is conveying many times over within the same period of time.



EXTREMELY BROAD REACH - WIRELESS COMMUNICATION.

Product fitted with radio module or Bluetooth Low Energy (BLE) for wireless, unerring data transfer.



EXTREMELY SAFE – FOR MORE OPERATION SAFETY & PRODUCT LONGEVITY.

The model is or can be equipped with operation safety technique which protects its sensible components and contribute herewith to an increased life span.



EXTREMELY STABLE - SHOCK-PROOF.

Increased protection for safe transport / unintentional fall.
All-round protection provided by robust transport case resp. protective housing.



EXTREMELY COOL - DRIED SAMPLED GAS AND INCREASED READING ACCURACY.

The model is or can be equipped with a gas cooler which cools down the sampled gas and herewith makes sure that especially water-soluble gas components do not dilute but get conveyed to the sensors.



EXTREMELY LOSS-FREE – FOR SWIFT GAS TRANSPORT WITHOUT WASHOUT EFFECTS.

Special tubing either part of the standard model delivery package or available optionally provide with a quick gas transport, free of wash-out effects. Water-soluble components do not get lost but reach the measuring sensors.



EXTREMELY COMPLETE - ALL INCLUSIVE – PRODUCT READY-TO-MEASURE.

The product is completely ready to measure and does not require any further components to be operated. Respectively a kit of essential consumables is covered in the delivery package, thus avoiding being forced to quit a measurement process because of a missing spare filter or else small part.

FOCUSED APPLICATION RESPECTIVELY USER PROFILE ECOM® FLUE GAS ANALYSERS



CRAFTS
Chimney-sweep
Heating installer



SERVICE ORGANISATIONS & FACILITY-MANAGEMENT
Maintenance & adjustment of home smaller boilers. Manufacturers of smaller boilers; Facility Management (building maintenance companies).
Service divisions with many technicians.



BURNER & BOILER MANUFACTURERS
Companies manufacturing resp. maintaining larger boiler and burner.
Service divisions with lots of technicians.



COGENERATION
Companies manufacturing resp. maintaining engines or combined heat and power plants. An exact NO_x measurement is of specific importance in this sector.



OIL & GAS
Raw material production
Transport
Processing



INDUSTRIAL APPLICATIONS
Mining
Foundries
Cement factories
Cookery plants
Chemical process heating
Waste combustion, etc.



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FLUE GAS ANALYSIS PRESSURE MEASUREMENT

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