



OPEN UP - SWITCH ON - MEASURE - SAVE DATA - DONE!

ECOM-EN3

- CUSTOMIZABLE FLUE GAS
 ANALYSER IN COMPACT DESIGN
- BASIC VERSION WITH O₂ AND CO LONGLIFE SENSORS -FURTHER UPGRADE POSSIBLE
- CO-SENSOR OVERLOAD

 PROTECTION WITHOUT

 MEASUREMENT INTERRUPTION
- HIGH-PERFORMING GAS PUMP WITH LOW MAINTENANCE
- CONDENSATE TRAP WITH ELECTRONIC LEVEL MONITORING
- THERMAL QUICK-PRINTER 58 MM
- HIGH-VALUE T-GAS PLUG



- DIGITAL STATUS INDICATION (BATTERY CHARGING STAND, INSTRUMENT STAND, DATA TRANSFER QUALITY)
- BLUETOOTH LOW ENERGY -BLE-
- ROBUST ALUMINIUM HOUSING (ULTRA-LIGHT) – GUARANTEED 10 YEARS
- BACKLIT TFT COLOUR DISPLAY& KEYPAD
- LITHIUM-ION BATTERY
- ROBUST TRANSPORT CASE







TECHNICAL DATA & FEATURES BASIC MODEL GAS SENSORS | OPTIONS NO MEASUREMENT, 0-5000 PPM MEASUREMENT RANGE RESOLUTION **ACCURACY** (Item no. 107303) Maximal amount of gas sensors *= Higher value prevails 4 0...21 % 0,01 vol.% ± 0,3 vol. % NO MEASUREMENT, EXTRALOW 0-300 PPM CO ppm (H₂-comp.) 0...4000 ppm 1 ppm ± 20 ppm / 5% of measured value* (Item no. 108506) 0...10.000 ppm ± 20 ppm / 5% of measured value* CO ppm (H2-comp.) 1 ppm NO₂ MEASUREMENT, 0-1000 PPM (1) 0...20.000 ppm ± 40 ppm / 10% measured value* CO ppm (n. H₂-comp.) 1 ppm (Item no. 107305) CO% 0...63,000 ppm 5 ppm ± 100 ppm / 10% of measured value* CO₂ IR sensor 0...20% 0.1 vol. % ± 0.5 vol. % / 5% of measured value* NO₂ MEASUREMENT, LOW 0-100 PPM (1) CO₂ IR sensor 0...100% 0.1 vol. % ± 5 vol. % measure, range end value (Item no. 107321) NO 0...5000 ppm 1 ppm ± 5 ppm / 5% of measured value* SO₂ MEASUREMENT, 0-5000 PPM (1) NO ExtraLow 0...300 ppm ± 2 ppm / 5% of measured value* 0,1 ppm (Item no. 107330) NO₂ ± 5 ppm / 5% of measured value* (1) 0...1000 ppm 1 ppm NO₂ Low ± 5 ppm / 5% of measured value* (1) 0...100 ppm 0,1 ppm SO₂ MEASUREMENT, 0-5000 PPM (LOW CO) (1) SO₂ 0...5000 ppm 1 ppm ± 5 ppm / 5% of measured value* (1) (Item no. 108549) SO₂ (Low CO) 0...5000 ppm 1 ppm ± 5 ppm / 5% of measured value* (1) SO₂ MEASUREMENT, LOW 0-100 PPM (1) SO₂ Low 0...100 ppm 0.1 ppm ± 5 ppm / 5% of measured value* (1) (Item no. 107053) H₂ 0...20.000 ppm 1 ppm ± 100 ppm or 5 % of measured value* CO PPM ENHANCED RANGE, 0-10.000 PPM H₂S ppm 0... 1000 ppm 1 ppm ± 10 ppm / 5% of measured value* (Item no. 50102221) CH₄ IR sensor 0... 5% 0,01 vol. % ± 0,2 vol. % / 5% of measured value* CH₄ IR sensor 0...100% 0,1 vol. % ± 5 vol. % measure. range end value CO% MEASUREMENT, 0-63.000 PPM (2) CxHx (catalytic) 0...4 % 0.01 vol.% (Item no. 107310) T-Gas 0...500°C 0,1°C ± 2°C or 1,5% of measured value* CO 0-20.000 PPM (non H₂-komp.), inst. of H₂-comp. T-Air 0...99°C 0,1°C ±1°C (Item no. 107311) Pressure / ΔP \pm 100 hPa 0,01 hPa ± 2% ✓ Soot (manual) 0...9 • CO2 MEASUREMENT 0-20%. IR SENSOR CALCULATION **RANGE** (Item no. 107340) CO₂ 0...CO2max CO2 MEASUREMENT 0-100%, IR SENSOR Combustion efficiency (ETA) 0...120% ✓ (Item no. 107345) Excess air (Lambda) >1 Losses 0...100% H₂ MEASUREMENT 0-20.000 PPM CO(U) undiluted x ppm Dew point x°C ✓ (Item no. 107339) mg/m³ ✓ x ma/m³ H₂S MEASUREMENT 0-1000 PPM mg/kWh x mg/kWh (Item no. 107331) 1 x %O2 O2 reference NOx via NO measured (estimated NOx value) (2) = 1.05 NO• CH₄ MEASUREMENT 0-5%, IR SENSOR GAS SAMPLING | GAS TEMPERATURE MEASUREMENT (Item no. 107341) Sampling probe (SCD), unheated 220 mm (8.6 in.), Ø 8 mm, with thermocouple CH4 MEASUREMENT 0-100%. IR SENSOR 1 2 3-chamber sampling tubing, length approx. 2.6 m (8.5 ft.) (Item no. 107342) 1 Fixation cone with Teflon protection ring and stainless-steel tip NOx sampling tubing with Teflon sleeve CxHy 0-4% VOL, CATALYTIC / High-value T-Gas plug (Item no. 102994) **COMBUSTION AIR SENSOR** (1) Gas cooler and NOx tubing recommended T-Room sensor (PT 2000) with cable ca. 3 m (10ft.), magnet fixation & fixation cone (2) Additional filtering recommended **DATA INDICATION / INPUT** GAS COOLER | OPTION ✓ TFT colour display 78 x 58 cm, 320 x 240 Dots, backlighted, graphic-/zoom-capable MINI GAS COOLER with automatic condensation Keypad with alphanumerical input function 6 ✓ evacuation, instead of condensation trap **DATA PRINTOUT** (Item no. 107111) 1 Integral thermal quick-printer, paper width 58 mm (2.2 in.) DIFFERENTIAL PRESSURE | ACCESSORY Address on protocol changeable by user (via keypad) DATA PROCESSING **TUBING**, for ΔP measurement (\pm 0-100 hPa), Length approx. 1.5 m (4.9 in.) Slot for MM card; data logger function Bluetooth Low Energy (BLE) interface Item no. 105484 Wi-Fi interface (instead of BLE) **DATA RECORDING | ACCESSORY** Data exchange with gratis ecom® PC software MiniDV, DAS.NT.2, DAS 5.01 MM CARD 2 GB Disturbance diagnosis with ecom-AK via connection cable Item no. 102469 CONNECTIONS Charging connection at instrument ✓ ✓ Multi-function interface

USB interface for data transfer

 $^{^{(1)}}$ Guaranteed by use of NOx sampling tubing. | $^{(2)}$ When only NO; by NO+NO₂ = NOx measurement.







MEASUREMENT GAS PREPARATION	
Extra-quick gas transport (quick availability of measurement data)	✓
High-performing, brushless gas pump with low maintenance	✓
Condensation trap with electronic monitoring and integral particle filter	✓
Electric mini gas cooler with automatic condensation evacuation	•
POWER SUPPLY	
Mains / battery operation	1
External charger, cable length approx. 3 m (10 ft.) – Recharging by closed case possible	✓
Battery charging via car cigarette lighter	•
Lithium-Ion battery 7,2 V / 11,6 Ah with long-operation time	•
OPERATION SAFETY	
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)	✓
Integral flow measurement for control of pump performance	✓
Electronic condensation monitoring	✓
Longlife sensors	✓
Toxic pollutants filter for CO sensor (NOx/SO ₂ filtering cartridge)	•
Digital status indication (battery charging stand, instrument, data transfer quality)	✓
TRANSPORT	
Aluminium-framed robust transport case	V
Comfort shoulder carrying strap	✓
Connection pieces for easy docking of optional undercase)
Undercase	•
Fixation for soot pump in case cover	•
Alternative case size	•
DIMENSIONS WEIGHT OTHERS	
Dimensions (W x H x D): approx. 400 x 260 x 205 mm (15.7 x 10.2 x 8 in.)	
Weight: approx. 7 kg (15.4 pd.)	
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	



DATA TRANSFER | ACCESSORIES & OPTION

DATA CABLE USB, ANALYSER -> PC

• For data transfer to PC, approx. 2 m



Item no. 55818

WI-FI OPTION, instead of Bluetooth Low Energy

Item no. 107203

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

SOOT MEASUREMENT | MANUAL

Consisting of each 1 manual soot, pump, soot comparison scale, tube of piston grease, socket wrench and 200 soot papers



Length: approx. 39 cm; weight: approx. 0.5 kg

Item no. 50538

T-ROOM MEASUREMENT | ALTERNATIVE

T-ROOM STICK PT 2000

- Dim.: approx. 28 x Ø 11 mm (1.1 x Ø 0.04 in.)
- Weight: approx. 5 g (0.17 oz.)

Item no. 102888



CONSUMABLES | FOR STOCK

Fine dust filter (pack of 10 pcs)

Item no. 100568

Thermal printer paper roll

Item no. 56181







TRANSPORT | ACCESSORIES & ALTERNATIVES

UNDERCASE 111

For the practical stowage of soot pump, sensors, gas leak detector, small tools, etc.

For standard transport case, basic height

- Dimensions (W x H x D): approx. 400 x 90 x 205 mm (15.7 x 3.5 x 8 in.)
- Weight: approx. 1.2 kg (2.6 pd.)

Item no. 108599

SAMPLING SYSTEM | ALTERNATIVE

PROBE GRIP COMPLETE WITH THERMOCOUPLE

LENGTH 300 MM (1 FT.) Item no. 104014 (1) Item no. 51838 (1) *

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

* Sell-out item – Available as long as stock lasts!

3-CHAMBER TUBING

LENGTH 450 MM (1.4 FT)

Item no. 106902 (1) LENGTH 5,0 M (15 FT.)

NO_X TUBING

LENGTH 3,5 M (11.5 FT) Item no. 107420 (1)

SAMPLING SYSTEM | ACCESSORY

PROBE EXTENSION PIECE

With flexible silicone centerpiece.

Slipped over probe tip by measurements at hardly accessible, angled measurement openings.

Item no. 103492

Remark: Because of the missing thermocouple within the extension piece, no accurate gas temperature can be measured. The value which finally reaches the thermocouple of the probe has been influenced by the heat loss along the gas conveyance path.

PROBES | ACCESSORY

PROTECTION BAG

For probe tips (all types) up to 750 mm (2.4 ft.)

- Dimensions: approx. 86 x 7.5 x 3 cm (33.8 x 2.9 x 1.1 in.)
- Weight: approx. 350 g (12.3 oz.)

Item no. 55991









AT MEASUREMENT | ACCESSORIES

CONTACT SENSOR T-ROOM (PT2000)

- Range: -20 to 100°C
- Resolution: 0.1°C
- Measurement uncertainty: ± 1°C
- Suitable for pipe Ø up to 100 mm
- · Cable length: 3 m (10 ft.)

Item no. 12019

CONTACT SENSOR T-GAS (NI/CRNI)

- Range: -20 to 100°C
- · Resolution: 0,1°C
- · Measurement uncertainty: ± 1°C
- Suitable for pipe Ø up to 100 mm
- Cable length: 3 m (10 ft.)

Item no.: 106982

FLOW VELOCITY / DYNAMIC PRESSURE

Internal hardware unit - enables the measurement (item doesn't cover any probe of random type)

- Range: 0-50 m / sec
- Accuracy: ± 0,2 m/s or ± 1% of measurement value

Data valid by use of Prandtl / Pitot probe (not included in package - available from specialized trade).

DYNAMIC PRESSURE PROBE*

- Range: up to 3 m / sec
- Accuracy: ± 2.5% of measuring range final value
- Length: approx. 250 mm (9.8 in.)
- Tubing/cable approx. 2.5 m (8.2 ft.) & fixation cone

Length = 250 mm (9.8 in.) Item no. 104118 Length = 1000 mm (39.3 in.) Item no. 104560 Length = 1500 mm (59 in.) Item no. 105333

* The offered item is not a Pitot tube.

POWER SUPPLY | OPTION & ACCESSORY

CAR CHARGING CABLE

Item no. 30000460

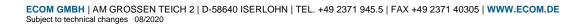
EXTERNAL FILTERING CARTRIDGE

TOXIC POLLUTANTS FILTERING FOR CO SENSOR

NOx-/SO₂ filter, large size

Item no. 107204











SIMPLE & MODERN DATA MONITORING & TRANSFER WITH THE APP & ECOMMANDER

MEASURE | DISPLAY | RECORD | TRANSFER





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

⊕ €COMMANDER 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 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.

WATCH AT VIDEO CLIPS ON



OUR YOUTUBE CHANNEL



AND EXPERIENCE UNIQUE



MEASUREMENT TECHNOLOGY!



FOCUSED APPLICATION RESPECTIVELY USER PROFILE ECOM® FLUE GAS ANALYSERS





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

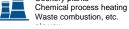
Companies manufacturing resp. maintaining engines or combined heat and power plants. An exact NO_x measurement is of specific importance in this sector.



OIL & GAS
Raw material production
Transport
Processing



INDUSTRIAL APPLICATIONS Mining Foundries Cement factories Cookery plants





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BURNER DIAGNOSIS GAS LEAK DETECTION

FLUE GAS ANALYSIS PRESSURE MEASUREMENT

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