

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) OR WIFI MODULE OPTIONAL
- ROBUST ALUMINIUM HOUSING (ULTRA-LIGHT) – GUARANTEED 10 YEARS
- BACKLIT TFT COLOUR DISPLAY & KEYPAD
- LITHIUM-ION BATTERY
- ROBUST TRANSPORT CASE

ECOM-EN3 FLUE GAS ANALYSER

✓ = Standard ● = Option



MEASUREMENT	RANGE	RESOLUTION	ACCURACY	
Maximal amount of gas sensors			*= Higher value prevails	4
O ₂	0...21 %	0,1 vol. %	± 0,3 vol. %	✓
CO ppm (H ₂ -comp.)	0...4000 ppm	1 ppm	± 20 ppm / 5% of measured value*	✓
CO ppm (H ₂ -comp.)	0...10.000 ppm	1 ppm	± 20 ppm / 5% of measured value*	●
CO ppm (n. H ₂ -comp.)	0...20.000 ppm	1 ppm	± 40 ppm / 10% measured value*	●
CO %	0...63.000 ppm	5 ppm	± 100 ppm / 10% of measured value*	●
CO ₂ IR sensor	0...20%	0,1 vol. %	± 0,5 vol. % / 5% of measured value*	●
CO ₂ IR sensor	0...100%	0,1 vol. %	± 5 vol. % measure. range end value	●
NO	0...5000 ppm	1 ppm	± 5 ppm / 5% of measured value*	●
NO Low	0...500 ppm	0,1 ppm	± 5 ppm / 5% of measured value*	●
NO ₂	0...1000 ppm	1 ppm	± 5 ppm / 5% of measured value* ⁽¹⁾	●
NO ₂ Low	0...100 ppm	0,1 ppm	± 5 ppm / 5% of measured value* ⁽¹⁾	●
SO ₂	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 measured value* ⁽¹⁾	●
H ₂	0...20.000 ppm	1 ppm	± 100 ppm or 5 % of measured value*	●
H ₂ S ppm	0... 1000 ppm	1 ppm	± 10 ppm / 5% of measured value*	●
CH ₄ IR sensor	0... 5%	0,01 vol. %	± 0,2 vol. % / 5% of measured value*	●
CH ₄ IR sensor	0...100%	0,1 vol. %	± 5 vol. % measure. range end value	●
CxHx (catalytic)	0...4 %	0,01 vol. %		●
T-Gas	0...500°C	1°C	± 2°C (0-125°C) ± 3°C (125-250°C) ± 4°C (250-500°C)	✓
T-Air	0...99°C	1°C	± 1°C	✓
Pressure / ΔP	± 100 hPa	0,01 hPa	± 2%	✓
Soot (manual)	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	✓
GAS SAMPLING GAS TEMPERATURE MEASUREMENT				
Sampling probe (SCD), unheated 220 mm (8.6 in.), Ø 8 mm, with thermocouple				① ✓
3-chamber sampling tubing, length approx. 2.6 m (8.5 ft.)				② ✓
Fixation cone with Teflon protection ring and stainless-steel tip				③ ✓
NOx sampling tubing with Teflon sleeve				●
High-value T-Gas plug				✓
COMBUSTION AIR SENSOR				
T-Room sensor (PT 2000) with cable ca. 3 m (10ft.), magnet fixation & fixation cone				✓
DATA INDICATION / INPUT				
TFT colour display 78 x 58 cm, 320 x 240 Dots, backlighted, graphic-/zoom-capable				④ ✓
Keypad with alphanumerical input function				⑤ ✓
DATA PRINTOUT				
Integral thermal quick-printer, paper width 58 mm (2.2 in.)				⑥ ✓
Address on protocol changeable by user (via keypad)				✓
DATA PROCESSING				
Slot for MM card; data logger function				✓
Bluetooth Low Energy (BLE) interface				●
Bluetooth Classic interface (for operation of remote monitor ecom-R only)				●
Wi-Fi interface				●
Data exchange with gratis ecom® PC software MiniDV, DAS.NT.2, DAS 5.01				✓
Disturbance diagnosis with ecom-AK via connection cable				●
CONNECTIONS				
Charging connection at instrument				✓
Multi-function interface				✓
USB interface for data transfer				✓
Analog outputs				●

GAS SENSORS | OPTIONS

NO MEASUREMENT, 0-5000 PPM

(Item no. 107303)

NO MEASUREMENT, LOW 0-500 PPM

(Item no. 107320)

NO₂ MEASUREMENT, 0-1000 PPM ⁽¹⁾

(Item no. 107305)

NO₂ MEASUREMENT, LOW 0-100 PPM ⁽¹⁾

(Item no. 107321)

SO₂ MEASUREMENT, 0-5000 PPM ⁽¹⁾

(Item no. 107330)

SO₂ MEASUREMENT, LOW 0-100 PPM ⁽¹⁾

(Item no. 107053)

CO PPM ENHANCED RANGE, 0-10.000 PPM

(Item no. 50102221)

CO% MEASUREMENT, 0-63.000 PPM ⁽²⁾

(Item no. 107310)

CO 0-20.000 PPM (non H₂-komp.), inst. of H₂-comp.

(Item no. 107311)

CO₂ MEASUREMENT 0-20%, IR SENSOR

(Item no. 107340)

CO₂ MEASUREMENT 0-100%, IR SENSOR

(Item no. 107217)

H₂ MEASUREMENT 0-20.000 PPM

(Item no. 107343)

H₂S MEASUREMENT 0-1000 PPM

(Item no. 107331)

CH₄ MEASUREMENT 0-5%, IR SENSOR

(Item no. 107341)

CH₄ MEASUREMENT 0-100%, IR SENSOR

(Item no. 107342)

C_xH_y 0-4% VOL, CATALYTIC

(Item no. 102994)

⁽¹⁾ Gas cooler and NOx tubing recommended⁽²⁾ Additional filtering recommended

GAS COOLER | OPTION

MINI GAS COOLER with automatic condensation evacuation, instead of automatic trap

(Item no. 107111)

DIFFERENTIAL PRESSURE | ACCESSORY

TUBING, for ΔP measurement (± 0-100 hPa), Length approx. 1.5 m (4.9 in.)

Item no. 105484



DATA RECORDING | ACCESSORY

MM CARD 2 GB

Item no. 102469



DATA TRANSFER | ACCESSORY & OPTIONS

DATA CABLE USB, ANALYSER -> PC

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

Item no. 55818

⁽¹⁾ Guaranteed by use of NOx sampling tubing.

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	7 ✓
Electric mini gas cooler with automatic condensation evacuation	•
POWER SUPPLY	
Mains / battery operation	✓
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	8 ✓
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	9 ✓
Comfort shoulder carrying strap	✓
Connection pieces for easy docking of optional undercase	10 ✓
Undercase	11 •
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	✓
Registered for TÜV test and approval acc. to 1. BImSchV 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. 107011



DATA TRANSFER | ACCESSORY & OPTIONS

OPTION BLUETOOTH LOW ENERGY (BLE)

Direct equipment

Transfer / Recording of measurement values

Remark: Option cannot be installed simultaneously to Wi-Fi option.

(Item no. 107202)

OPTION BLUETOOTH CLASSIC, direct equipment

Operation of remote monitor ecom-R.

Remark: Option cannot be installed simultaneously to Wi-Fi option.

(Item no. 107208)

WI-FI OPTION V1, Direct equipment

For use of APP "Remote display"

Remark: Option cannot be installed simultaneously to Bluetooth option.

(Item no. 107203)

[APP short description on penultimate page.](#)



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

REMOTE MONITORING | ACCESSORY

ECOM-R

Wireless remote monitor and controller

Data view, data remote recording & printout via Bluetooth Classic (Bluetooth option compulsory)

- LCD display, backlit, graphic-capable
- Magnet on the back for fixation on metal surfaces
- Socket for cable connection by disturbed reception
- 2 one-way batteries 1.5 V AA Mignon (incl.)
- Main housing: metal, side panels: plastics
- Dimensions: approx. 145 x 80 x 45 mm (W x H x D)
- Weight: approx. 390 g

Item no. 102350

(Item no. only valid when monitor ordered together with analyser. By later equipment a differing item no. is to be considered.)



CONNECTION CABLE ANALYSER <=> ECOM-R

By difficult communication

- Length 10 m

Item no. 103276

TRANSPORT | ACCESSORIES & ALTERNATIVES

UNDERCASE ⁽¹⁾

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. 106737



SAMPLING SYSTEM | ALTERNATIVE

PROBE GRIP COMPLETE WITH THERMOCOUPLE

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

LENGTH 450 MM (1.4 FT) 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 5,0 M (15 FT.) Item no. 107402 ⁽¹⁾

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.)

- Material: fabrics
- 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



ΔT 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
- Resolution: 0.1 m/s

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

(Item no. 107201)

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

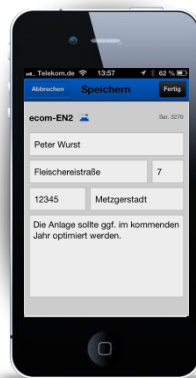
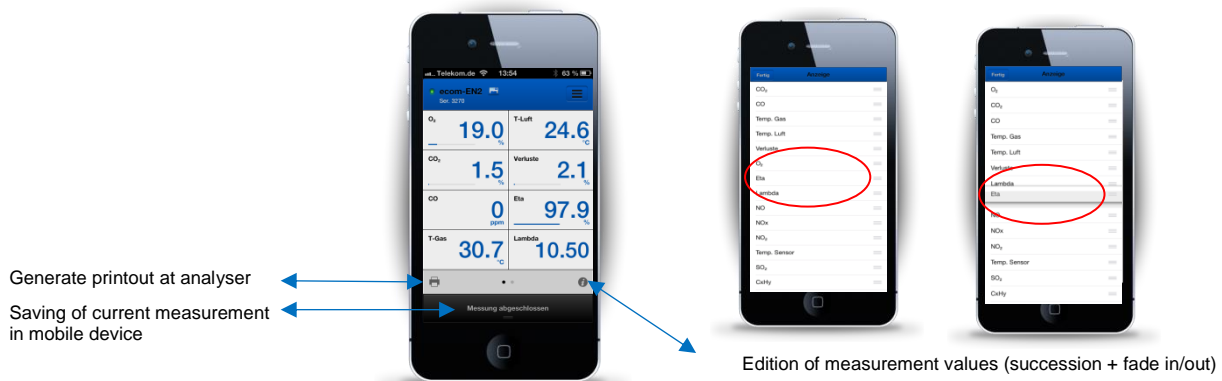
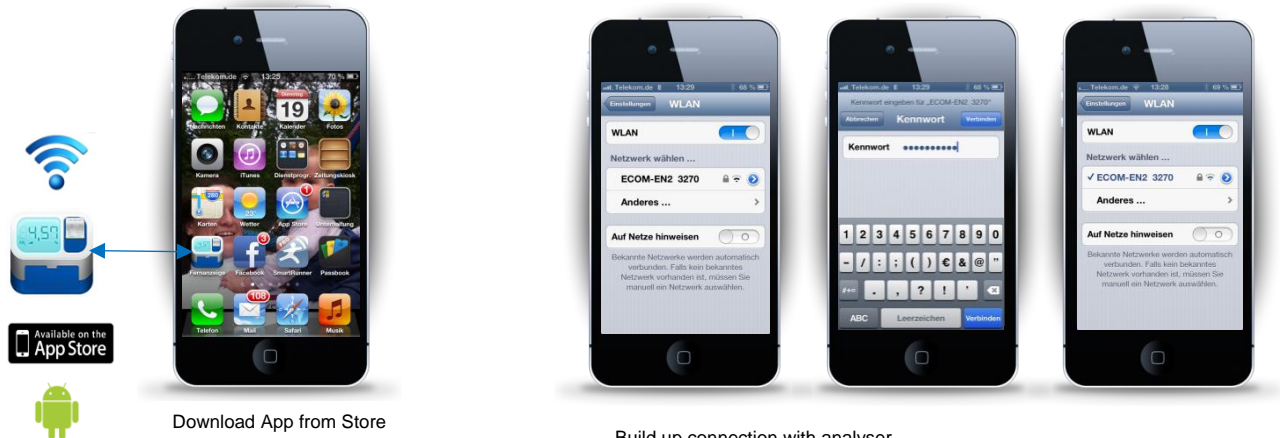
NO_x-/SO₂ filter, large size

Item no. 107204



SIMPLE AND MODERN DATA MONITORING & TRANSFER WITH THE APP “REMOTE MONITOR” FOR ECOM INSTRUMENTS

- CURRENTLY AVAILABLE IN CHINESE, DANISH, DUTCH, ENGLISH, FRENCH, GERMAN SWEDISH -



Recording of name, address + notes



Customer information incl. geo data



Export data: PDF, csv



By e-mail, Cloud, printout

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 or upgradeable with radio module, Bluetooth or Wi-Fi option 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



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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