FLUE GAS ANALYSIS
CRAFTS - FACILITY – ADJUSTMENT MEASUREMENT

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

ECOM-EN3-R

■ COMPACT ANALYSER WITH INTEGRAL SOOT MEASUREMENT

■ BASIC VERSION WITH O_2 AND CO LONGLIFE SENSORS – FURTHER UPGRADE POSSIBLE

■ CO-SENSOR OVERLOAD PROTECTION WITHOUT MEASUREMENT INTERRUPTION

■ HEATED SOOT PROBE 250 MM, Ø 10 MM, 3-CHAMBER HOSE 3 M

■ HIGH-PERFORMING GAS PUMP WITH **LOW MAINTENANCE**

■ CONDENSATE TRAP WITH ELECTRONIC LEVEL MONITORING

■ INTEGRAL 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

■ BACKLIT **TFT COLOUR DISPLAY** & KEYPAD

■ ROBUST ALUMINIUM HOUSING

■ LITHIUM-ION BATTERY

■ ROBUST TRANSPORT CASE

TECHNICAL DATA & FEATURES BASIC MODEL

✔ = 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 (H₂-comp.)	0…4000 ppm	1 ppm	± 20 ppm / 5% measured value*	✔
CO ppm (H₂-comp.)	0…10.000 ppm	1 ppm	± 20 ppm / 5% measured value*	●
CO ppm (n. H₂-comp.)	0…20.000 ppm	1 ppm	± 40 ppm / 10% measured value*	●
CO %	0…63.000 ppm	5 ppm	± 100 ppm / 10% measured value*	●
CO_2 IR sensor	0…20%	0,1 vol.%	± 0,5 vol. % / 5% 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% measured value*	●
NO Low	0…500 ppm	0,1 ppm	± 5 ppm / 5% measured value*	●
NO_2	0…1000 ppm	1 ppm	± 5 ppm / 5% measured value* [1]	●
NO_2 Low	0…100 ppm	0,1 ppm	± 5 ppm / 5% measured value* [1]	●
SO_2	0…5000 ppm	1 ppm	± 5 ppm / 5% measured value* [1]	●
SO_2 Low	0…100 ppm	0,1 ppm	± 5 ppm / 5% measured value* [1]	●
H_2	0…20.000 ppm	1 ppm	± 100 ppm or 5 % of measured value*	●
H_2S ppm	0…1000 ppm	1 ppm	± 10 ppm / 5% measured value*	●
CH_4 IR sensor	0…5%	0,01 vol. %	± 0,2 vol. % / 5% measured value*	●
CH_4 IR sensor	0…100%	0,1 vol. %	± 5 vol. % measure. range end value	●
C_xH_x (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 (integral)	0…9			✔

CALCULATION	RANGE	
CO_2	0...CO_2max	✔
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 (SB), heated 250 mm (9.8 in.), ∅ 10 mm, with thermocouple	❶	✔
3-chamber sampling tubing, length approx. 3 m (10 ft.)	❷	✔
Fixation cone with Teflon protection ring and stainless-steel tip	❸	✔
NOx sampling tubing with Teflon sleeve		●
High-value T-Gas plug		✔

COMBUSTION AIR SENSOR

T-Room sensor (PT 2000) with cable ca. 3 m (10 ft.), magnet fixation & fixation cone	✔

DATA INDICATION / INPUT

TFT colour display 78 x 58 cm, 320 x 240 Dots, backlighted, graphic-/zoom-capable	❹	✔
Keypad with alphanumerical input function	❺	✔

DATA PRINTOUT

Integral thermal quick-printer, paper width 58 mm (2.2 in.)	❻	✔
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	✔

[1] Guaranteed by use of NOx sampling tubing.

GAS SENSORS | OPTIONS

NO MEASUREMENT, 0-5000 PPM
(Item no. 107303)

NO MEASUREMENT, LOW 0-500 PPM
(Item no. 107320)

NO_2 MEASUREMENT, 0-1000 PPM [1]
(Item no. 107305)

NO_2 MEASUREMENT, LOW 0-100 PPM [1]
(Item no. 107321)

SO_2 MEASUREMENT, 0-5000 PPM [1]
(Item no. 107330)

SO_2 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)

CO_2 MEASUREMENT 0-20%, IR-SENSOR
(Item no. 107340)

CO_2 MEASUREMENT 0-100%, IR-SENSOR
(Item no. 107345)

H_2 MEASUREMENT 0-20.000 PPM
(Item no. 107339)

H_2S MEASUREMENT 0-1000 PPM
(Item no. 107331)

CH_4 MEASUREMENT 0-5%, IR SENSOR
(Item no. 107341)

CH_4 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 condensation 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

MEASUREMENT GAS PREPARATION

Extra-quick gas transport (quick availability of measurement data)		✓
High-performing 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		✓
Charger, cable length approx. 3 m (10 ft.) – Recharging possible by closed case		✓
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	•

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	

Item no. basic model 107012

DATA CABLE USB, ANALYSER -> PC
• For data transfer to PC
• Length approx. 2 m
Item no. 55818

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 (sell-out item, available as long as stocks last).

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.

T-ROOM MEASUREMENT | ALTERNATIVE

T-ROOM STICK PT 2000
• Dim.: approx. 28 x ∅ 11 mm (1.1 x ∅ 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**
Soot filter paper (pack of 200 pcs)	**Item no. 50515**

REMOTE MONITORING | ACCESSORY

ECOM-R*
Wireless remote monitor and controller
Data view, data remote recording & printout via Bluetooth Classic (BT Classic 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. 104115

* Sell-out item - Available as long as stocks last!

CONNECTION CABLE ANALYSER < = > ECOM-R
By difficult communication
• Length 10 m
Item no. 103276

TRANSPORT | ACCESSORY

UNDERCASE 11

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

- 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

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.

SAMPLING SYSTEM | ALTERNATIVES

PROBE TIP SB/SU ∅ 10 MM

LENGTH   300 MM (1 FT.)   **Item no. 100912** [1]
LENGTH   350 MM (1.1 FT)   **Item no. 106832** [1]
LENGTH   500 MM (1.6 FT)   **Item no. 100914** [1]

FLEXIBLE PROBE TIP ∅ 8 MM

For measurements at hardly accessible measurement openings

- With fixation cone, special version
- Flexible tubing
- Thermocouple 300 mm
- Tip screwable on probe grip SB/SU style
- Length approx. 400 mm

Item no. 102353 [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.

3-CHAMBER TUBING

LENGTH   5,0 M (16 FT)   **Item no. 106914** [1]

NOX SAMPLING TUBING

LENGTH   3,5 M (11.5 FT)   **Item no. 106931** [1]
LENGTH   5,0 M (16 FT)   **Item no. 106932** [1]

PROBES | ACCESSORY

PROTECTION BAG

For probe tips (all types) up to 750 mm

- 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

POWER SUPPLY | ACCESSORY

CAR CHARGING CABLE

Item no. 30000460

EXTERNAL FILTERING CARTRIDGE

TOXIC POLLUTANTS FILTERING FOR CO SENSOR

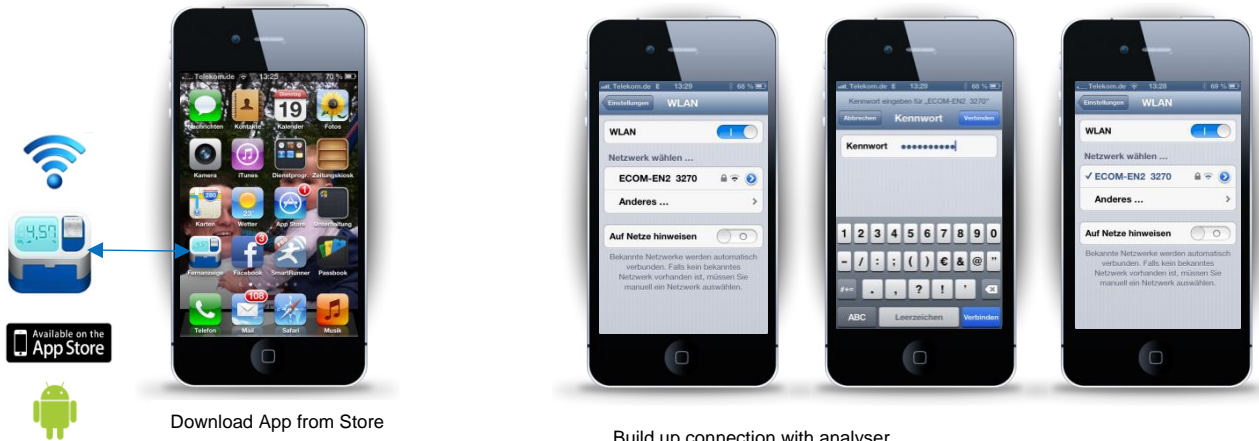NOx-/SO$_2$ filter, large size

Item no. 107204

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

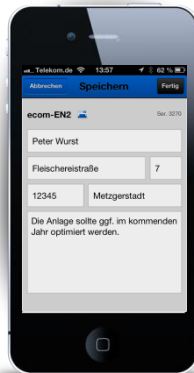- CURRENTLY AVAILABLE IN CHINESE, DANISH, DUTCH, ENGLISH, FRENCH, GERMAN SWEDISH -

Download App from Store
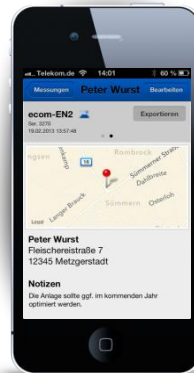

Build up connection with analyser…

Generate printout at analyser

Saving of current measurement in mobile device

Edition of measurement values (succession + fade in/out)

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.

ECOM® PRODUCTS – YOUR PARTNERS FOR:

BURNER DIAGNOSIS   GAS LEAK DETECTION
FLUE GAS ANALYSIS   PRESSURE MEASUREMENT