

MULTILYZER® STe

Flue gas Analyzer



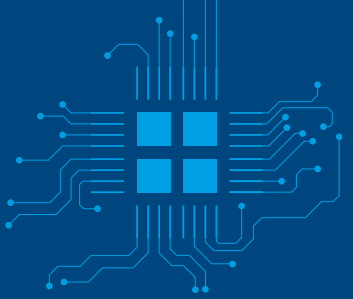
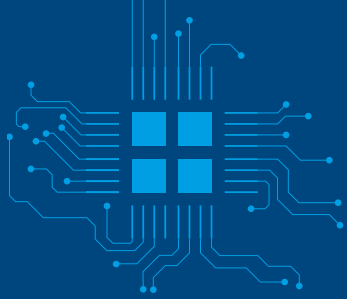
BlueLine®

 **Bluetooth®**
SMART



reddot award 2014
winner

SYSTRONIK
Messtechnologie



Flue gas analyser for measuring small and medium-sized oil, gas and solid fuels fired heating systems according to the German Federal Immission Act and for CO concentration safety checks at gas fired systems. Ideal for servicing solid fuel systems (for example, wood fired systems with temporary CO peaks up to 20,000 ppm) or bivalent, modulating combined heating and power plants.

MULTILYZER STE is a portable flue gas analyser with robust protective sleeve and integrated magnet. The large TFT color display allows to show up to 8 measured values. With automatic instrument check during program start and limit value monitoring. The compact design allows the device to be equipped with any combination of up to six measuring cells (O_2 , CO_{H_2} , CO_{HIGH} , NO, NO_2 , SO_2). The oxygen ECO sensor has an extended lifetime and is resistant against biogenic fuels.

Calculated parameters: CO undiluted (air-free), lambda, CO_2 , Eta efficiency, flue gas loss, dew point, temperature difference.

The CO measuring cell is H_2 -compensated for official measurements. The Datalogger function allows long-term measurements with freely definable intervals. USB, Bluetooth® Smart (BLE), infrared and MicroSD interface are available for communication with other devices, PC or the EUROprinter. The QR - Code function is another way to transfer the measured values via smartphone or tablet to any management software.



Functionality

Measurement of:

- O_2 (oxygen)
- CO_{HIGH} (carbon monoxide)
- CO_{H_2} (H_2 -compensated)
- NO (nitrogen oxide)
- NO_2 (nitrogen dioxide)
- SO_2 (sulfur dioxide)
- Differential/Draft pressure
- T_{air} (ambient temperature)
- T_{gas} (flue gas temperature)
- T_{gas} (differential temperature measurement)
- Barometric pressure

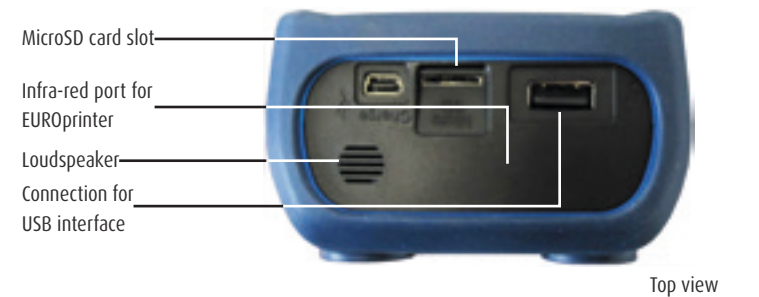
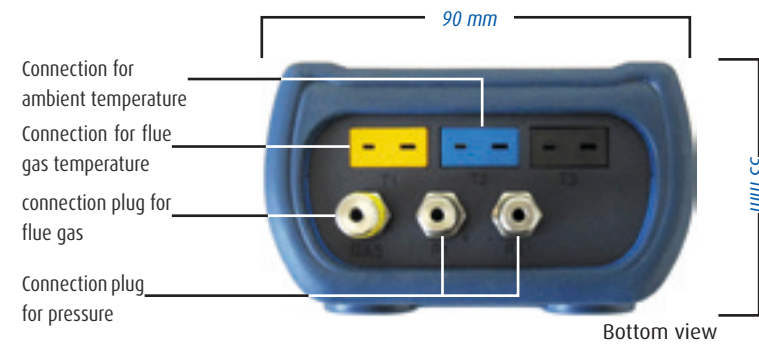
Calculation of:

- CO_2 (carbon dioxide)
- CO undiluted
- Difference in temperature
- Combustion efficiency
- Lambda (excess air)
- Ratio (for UK and AU only)
- Flue-gas losses
- CO_{ref} (with O_{2ref} to configure)
- T_{du} (dewpoint)
- NO_x ($NO+NO_2$)
- NO_{ref}
- SO_{2ref}

Operation

The drop-down menu with colored icons appears immediately after activating the MULTILYZER STE. The touch wheel can be used to choose following programs: flue gas analysis, temperature measurement, CO ambient measurement, Pressure measurement, Pitot measurement (option), instrument settings and memory. You confirm your selection with the enter key.

When using the flue gas analysis function, you will first be asked to make a selection from a list of fuel types. A screen, on which the measured values are clearly shown, will then appear.



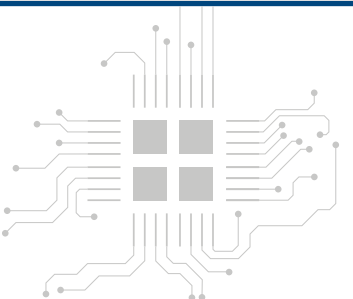
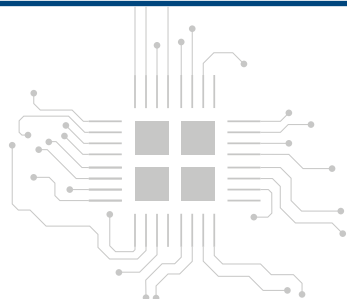
Color screen

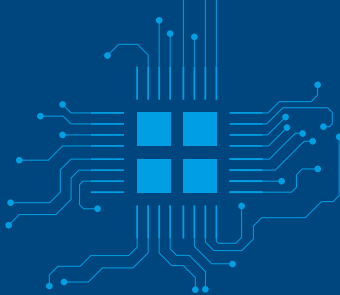
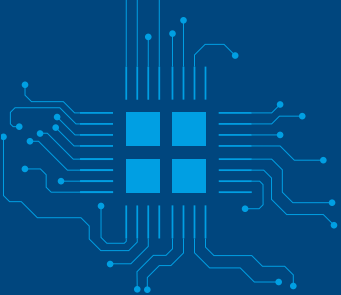
The MULTILYZER STE has a 3,5" (8,9 cm) TFT color display with a resolution of 240 x 320 pixels. The various measurement menus are each displayed in their own unique color, which simplifies navigation.

The display's large viewing angle, clarity and backlight ensure that the data and measurement values displayed are clearly visible under all circumstances.

Easy to use

Due to the clever design, everything is put in a convenient and logical place (see above). The BlueLine® MULTILYZER STE is very compact and therefore easy to handle and transport. You can make the same high quality demands on the MULTILYZER STE as on any other BlueLine® measuring instruments!

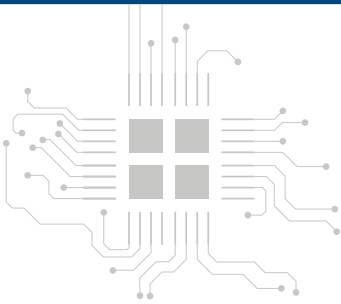
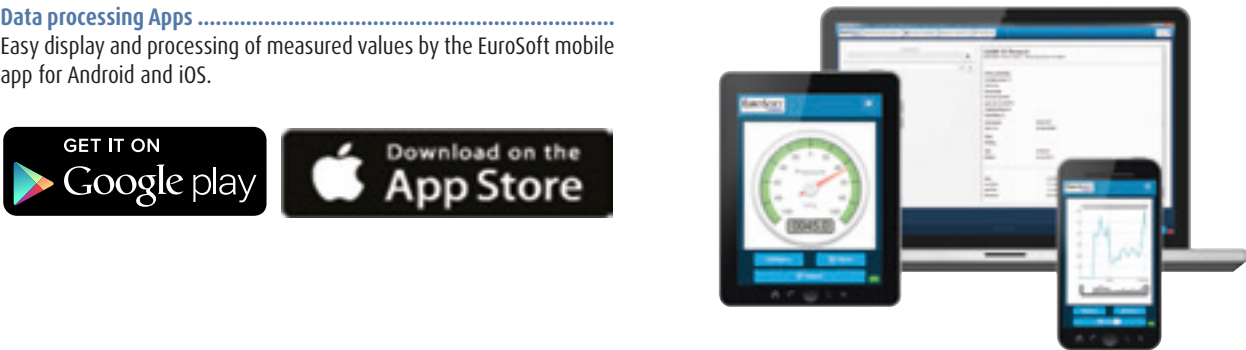




Safety
Safety and security are important aspects in all BlueLine® measuring instruments. For safety of the occupants/users of the building where the central heating system is located, the MULTILYZER STE offers a special function for measuring the concentration of carbon monoxide in the surrounding air. This will enable you to recognize a malfunction in the central heating system and make repairs in time.
The MULTILYZER STE performs a check when starting up, to ensure proper functioning of your instrument. All sensors are checked, the condition of the battery is displayed and, if the calibration date has been exceeded, a message to this effect will be displayed.

Technical specifications	
O₂ (oxygen)	
Range	0 to 21.0 Vol. %
Accuracy	± 0.2 Vol. % RDG
Resolution	0.1 Vol. %
CO (carbon monoxide) with H₂-Compensation	
Range	0 to 4,000 ppm
Accuracy	± 5 ppm (< 50 ppm) ± 5% RDG (> 50 ppm)
Resolution	1 ppm
CO₂ (carbon dioxide)	
Range	0 to CO ₂ max (depending on fuel)
Accuracy	± 0.2 Vol. %
Resolution	0.1 Vol. %
Flue gas temperature	
Range	0 to +1.000 °C
Accuracy	± 1 °C (0 to +300 °C) ± 1 % RDG (from +300 °C)
Resolution	1 °C
Temperature combustion air	
Range	-20 to +200 °C
Accuracy	± 3 °C + 1 Digit (-20 to 0 °C) ± 1 °C + 1 Digit (0.1 to +200 °C)
Resolution	0.1 °C
Pressure	
Range	± 150 hPa
Accuracy	± 2 Pa + 1 Digit (< 2.00 hPa) ± 1 % RDG (> 2.00 hPa)
Resolution	0.01 hPa (< 19.9 hPa), 0.1hPa (>20 hPa)

Data processing Apps
Easy display and processing of measured values by the EuroSoft mobile app for Android and iOS.



The MULTILYZER STE is of course fitted with a condensate cartridge. This part has been placed in the sampling line, so that the user can properly see when the cartridge needs to be emptied. A dust filter and a PTFE-filter have also been fitted in the condensate cartridge. The PTFE-filter prevents the condensate water from reaching the sensors.

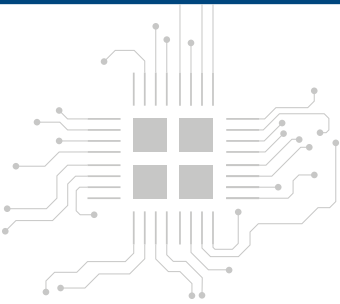
EN50379 part 1 and 2
The EN50379 is the European standard in which the permissible measurement techniques, for measurements of combustion appliances, are specified. The MULTILYZER STE has EN50379 part 1 and 2 certification for measuring O₂, COH₂, COHIGH, NO, temperature and pressure.

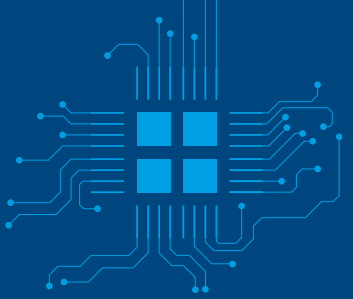
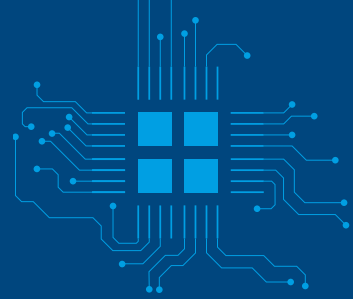
Options	
NO	
Range	0 to 2.000 ppm
Accuracy	± 5 ppm(<50 ppm) / ± 5% RDG (>50ppm)
Resolution	1 pmm
NO₂	
Range	0 to 2,000 ppm
Accuracy	± 10 ppm (<50 ppm) / ± 10 % RDG (>50 ppm)
Resolution	1 ppm
SO₂	
Range	0 to 2,000 ppm
Accuracy	± 10 ppm (<200 ppm) / ±5% RDG (>200 ppm)
Resolution	1 ppm
CO_{high}	
Range	0 to 2,0 Vol.-% (=20,000 ppm)
Accuracy	± 5% RDG
Resolution	0.01 Vol.-%

General specifications	
Dimensions (W x L x D)	90 x 220 x 53 mm (including protective holster)
Weight	About 685 Gram (including protective holster)
Material housing	Polyamide (PA)
Display	Graphic color screen 3,5" (240 x 320 pixels)
Datenkommunikation	Wireless infr-red connection with optional EUROprinter
	Bluetooth Smart (BLE- Bluetooth Low Energy)
Printer	External wireless thermal printer (EUROprinter)
Memory	MicroSD card / SDHC up to 16 GB (optional)
Operating temperature	5 to +40 °C
Storage temperature	-20 to +50 °C
Ingress Protection Rating	IP42 (EN 60529)
Battery	Li-Ion battery 3,6 V / 2.900 mAh
Mains power supply	Mini USB (5 V)



Zubehör im Lieferumfang.....
Hardcover carrying case, space for various accessories for example 300 mm flue gas probe with 2,4 meter hose and condensate cartridge with filter, protective holster with magnets, battery charger /mains power supply, temperature probe for ambient air, instruction manual (incl. copy of EN50379 certificate).





Optional accessories

Modular probe system
Base handle for interchangeable probes.



EUROprinter
The EUROprinter BLE is a useful thermal printer for wireless printing of measurement results from various BlueLine® instruments. The measurement protocol could be send via IR or for longer distances with Bluetooth Smart (BLE) to the EUROprinter BLE. The printer is suitable for use with the BLUELYZER ST or the MULTILYZER STe Flue Gas Analyzer and the S4600-series (differential) pressure meters.

Accessories included: batteries, 1 roll printer paper and user's manual.



Printer paper for the EUROprinter (5 rolls).....
Set of 5 rolls of thermal printer paper



Type	Purpose
523228	Metalpipe (180mm)
523229	Metalpipe (300 mm)
523358	Flexible metal-pipe (400mm)

523228

523229

523358

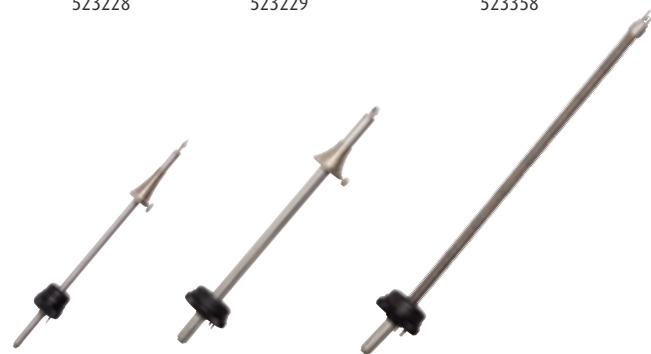
PTFE-filter (5 pieces)
The MULTILYZER STe's condensate cartridge contains a PTFE-filter, which functions as an additional safeguard against condensation.

If the condensate cartridge is not emptied in time, this filter will close access to the Flue Gas Analyzer, so no water can reach the sensors.



Dust filter
The MULTILYZER STe's condensate cartridge contains a dust filter that protects the Flue Gas Analyzer against dust and soot particles.

These particles can damage the instrument if they reach the sensors. The dust filter should be replaced periodically to guarantee proper operation.

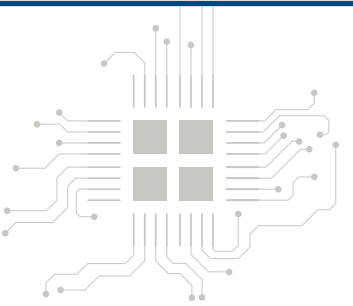
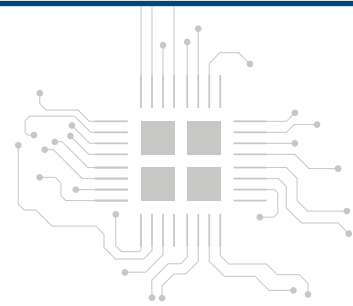


Note: Exemplary images

SYSTRONIK GmbH

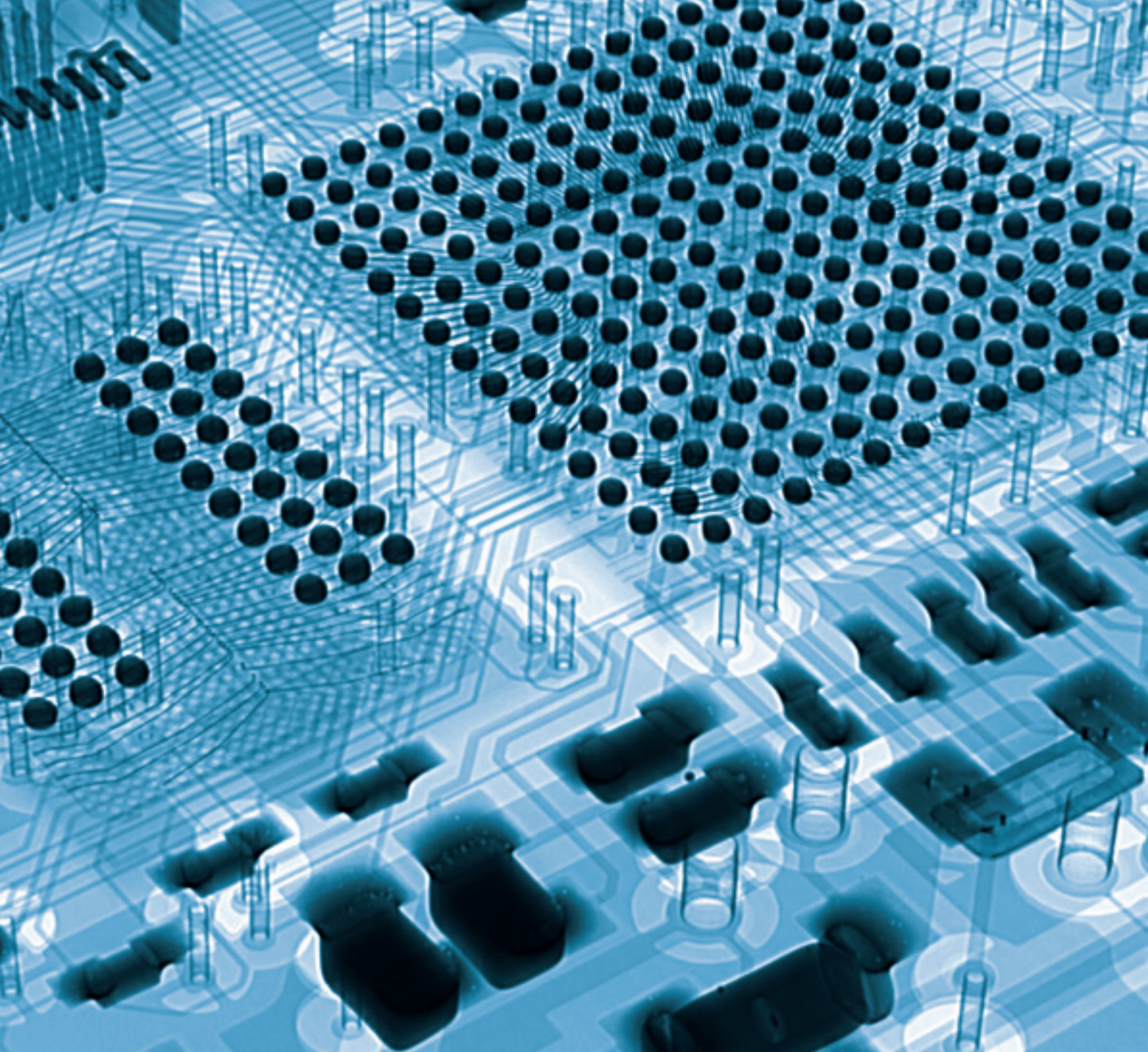
SYSTRONIK GmbH is specialized in development and production high quality measuring instruments for flue gas analysis, testing and maintaining HVAC installations, climate technology and environmental technology.

All SYSTRONIK products meet the highest standards for quality, reliability and safety. Our facilities are certified to full operational requirements of the ISO 9001 quality standard. We are constantly striving to improve our quality assurance position with input from periodic audits by independent experts required for continued ISO 9001 certification.



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