MULTILYZER® STe

Flue Gas Analyzer

BlueLine®

Bluetooth® SMART

SYSTRONIK Messtechnologie

BlueLine INSTRUMENTS.co.uk

TÜV SÜD EN 50379

TÜVRheinland® CERT ISO 9001

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. The measured gas values can be displayed in five and the measured pressure values in 9 different units. 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_{H2}, CO_{HIGH}, NO, NO_2, SO_2). 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. USB, Bluetooth® Smart (BLE), infrared and MicroSD interface are available for communication with other devices, PC or the EUROprinter.

Functionality

Measurement of:

- O_2 (oxygen)
- CO_{HIGH} (carbon monoxide)
- CO_{H2} (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_{au} (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 flue gas analysis, temperature measurement, measurement of the concentration of carbon monoxide in the environment, Pressure Measurement adjustment of the instrument settings or editing the MicroSD 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.

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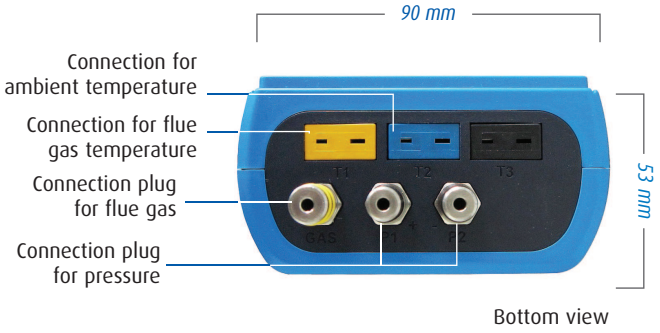
An extremely compact Flue Gas Analyzer



Bottom view

Top view

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!**

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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

O_2 (oxygen)	
Range	0 to 21.0 Vol.%
Accuracy	± 0,2 Vol.% RDG
Resolution	0,1 Vol.%
CO (carbon monoxide) with H_2-Compensation	
Range	0 to 4.000 ppm
Accuracy	± 5 ppm (< 50 ppm) ± 5% RDG (> 50 ppm)
Resolution	1 ppm
CO_2 (carbon dioxide)	
Range	0 to $CO_{2\ max}$ max (depending on fuel)
Accuracy	± 0,2 Vol.%
Resolution	0,1 Vol.%
Flue gas temperature	
Range	0 to +1.000 °C
Accuracy	± 1 °C +1 (0 to +300 °C) ± 1 % RDG (from +300 °C)
Resolution	1 °C
Temperature combustion air	
Range	-20 to +200 °C
Accuracy	± 3 °C (-20 to 0 °C) ± 1 °C (0,1 to +200 °C)
Resolution	0,1 °C
Pressure	
Range	± 130 hPa
Accuracy	± 2 Pa (up ± 2,00 hPa) ± 1 % RDG (above ± 2.,00 hPa)
Resolution	0,01 hPa (< 19,9 hPa), 0,1hPa (>20 hPa)

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 O_2, CO_{H2}, CO_{HIGH}, NO, temperature and pressure.

Options

NO	
Range	0 to 2.000 ppm
Accuracy	± 5 ppm(<50 ppm) / ± 5% RDG (>50ppm)
Resolution	1 pmm
NO_2	
Range	0 to 2.000 ppm
Accuracy	± 10 ppm (<50 ppm) / ± 10 % RDG (>50 ppm)
Resolution	1 ppm
SO_2	
Range	0 to 2.00 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.-%

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Modern communication techniques

General specifications	
Dimensions (L x W x D)	220 x 90 x 53 mm (including protective holster)
Weight	About 685 gram (including protective holster)
Material housing	Plastic
Display	Graphic color screen 3,5" (240 x 320 pixels)
Data communication	Wireless infra-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)

Accessories included

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).

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Optional accessories

Modular probe system

Base handle for interchangeable probes.

Base handle with hose and condensate filter cadridge

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

523228 523229 523358

Note: Exemplary images

EUROprinter

The BlueLine® EUROprinter is a useful thermal printer for wireless printing of measurement results from various BlueLine® instruments. The EUROprinter communicates with the measuring instrument by means of wireless infra-red communication. The EUROprinter is suitable for use with the BLUELYZER ST Flue Gas Analyzer, the EUROLYZER ST(e) service analyzer, the MULTILYZER STe und NG service 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.

PTFE-filter(5pieces)

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.