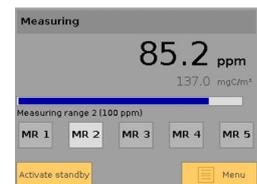




Hydrocarbon Analyzer SmartFID For Mobile Application

- microprocessor-driven for automated operation
- 5,7" LCD touch screen for operation and display of operation status
- measuring range: 0-100.000 ppm / 0-160.000 mgC, configurable automatic measuring range change-over
- automatic monitoring of essential tasks and parameters
- internal storage of measurement values (datalogging function), output to USB-device in XML-format for direct input in Microsoft EXCEL
- 2 configurable measurement value outputs 0/4...20mA
- integrated heater control for a curing tube of up to 5 meter length
- ethernet interface to connect external modules
- different languages selectable
- case with handle and integrated gas bottles for hydrogen and test gas



just mease

SmartFID was designed as a mobile unit.

Options

For SmartFID we offer extensive additional components to adapt the device optimally to its particular task.

Sampling

- measuring gas probes
- filter systems
- heated pipes

Service

- consulting
- project planning
- maintenance

Additional Modules

- methane-converter
- oxygen-acquisition



The parts which are in contact with measuring gas are heated up 200° C so that SmartFID can be used in almost every industrial process without condensation problems.

Advantages

- automatic operation with extensive self-operated monitoring and securityfunctions
- internal datalogging
- network-compatible
- compact design
- approved detector-geometry
- low fuel gas consumption
- low operating cost
- internal temperature control for heated pipes

SmartFID

Measuring Principle

SmartFID is a mobile device for continuous measurement of volatile organic compounds (VOC). It works with a flame ionization detector (FID) and converts hydrocarbon concentrations in a measuring gas sample into an electrical signal. This happens with a hydrogen diffusion flame and VOC-free air in a burner in an electrical field. The hydrocarbons in the sample gas are cracked up in CH-fragments which oxidate to CHO⁺-Ions.

This ion flow can be measured and is proportional to the concentration of VOC. The measurement values are displayed on the touchscreen in units of ppm or mgC/m³ so that a translation is not necessary.

The measuring gas sample is drawn by an integrated diaphragm pump which is installed in the heated sensor block. A part of the gas is led to the FID the remaining gas is led out via bypass.

A pressure control keeps the pressure of the measuring gas constant when the gas is entering the analysis chamber. The parts that are in contact with the measuring gas are heated up to 200° C so that SmartFID can be used in almost every industrial process without condensation problems.

The device comes with a self-control of detector-flame, measuring gas pump, sample-pressure and bias voltage.



Technical Data SmartFID

measuring components	hydrocarbons, chlorinated hydrocarbons
measuring principle	flame-ionization-detection (FID)
measuring ranges (relativ zu C ₃ H ₈)	5 selectable ranges/ automatic measuring range change-over: standard: 0 ... 10 ppm bis 0 ... 10 Vol.% optionale probe measuring ranges: 0 ... 1 ppm bis 0 ... 1 Vol.%, additionally free configurable measuring ranges
detection limit	≤1,5% of upper range value
linearity	±1,0% of selected range
repeatability	≤1,0% at constant temperature and constant pressure
zero-point-drift	≤0,5% of upper range value per month
sensitivity-drift	≤2,8% of upper range value per week
O ₂ -cross-sensitivity	<1,8% related to 80 ppm C ₃ H ₈
warm-up time	25 min
T ₉₀ -time	typ. <1,5 s
measuring gas conditions	
pressure	atmospheric ±0,05 bar
temperature	0 – 230 °C
flow	approx. 1,2 l/min
sample gas connection	clamp collar screwing for stainless steel tube, OD 6 mm or quick fastener
supporting gases	
fuel gas	hydrogen, category 5.0, residual content of hydrocarbons <0,5 ppm, pressure: 3 bar, consumption in continuous operation: 1,2 l/h; alternatively H ₂ /He-mixture, consumption: approx. 2,4 l/h
calibration gas	concentration of approx. 80% of range (typ. propane) in synthetic air, pressure: 3 bar, consumption during calibration process: 1,6 l/min
combustion air/ zero gas	external supply (free of hydrocarbons), pressure: 3 bar
connector	quick coupling
energy supply	115 or 230 V AC 48 ... 63 Hz; power consumption: maximal 350 W on heating process typ. 120 W during operation (without catalytic converter); maximal 540 W on heating process typ. 150 W during operation (with catalytic converter);
weight	analyzer: 16 kg
dimensions (H x W x D)	420 mm x 470 mm x 310 mm
signal outputs	
analog outputs	2 free configurable 0...4 - 20 mA outputs
digital outputs	3 free configurable potential-free contacts, 250 V AC 1 A
conformities	CE, EMV, VDE 0701, DIN EN 15267-3 projected



Fields Of Application

SmartFID is suitable for measurement of

- emissions from thermic, catalytic, biological, and activated charcoal exhaust air purification plants
- maximum work place concentration value
- hydrocarbon emission in crude gas and clean gas
- process monitoring and control of manufacturing plants
- emissions from (combustion) engines
- detection of hydrocarbon-breakthroughs in exhaust air purifiers and chemical cleaning plants
- emissions on power plants, garbage incineration plants and mechanical waste treatment plants
- government agencies and supervision organizations

*The information contained by this brochure are no warranted characteristics.

