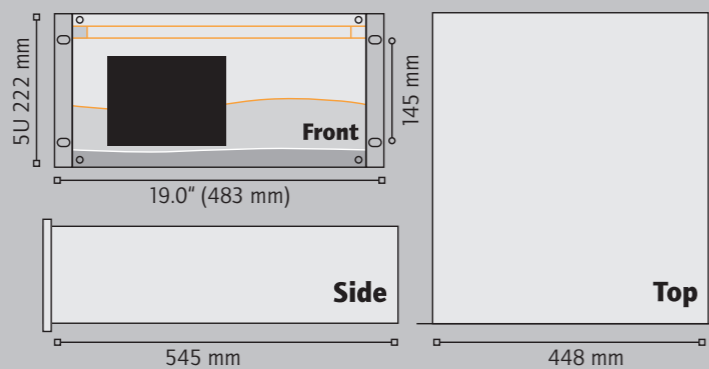


SPECIFICATIONS

| | |
|---|---|
| Accuracy | 0.5 % at full scale |
| Drift | 1 % over 24 hours |
| Temperature drift | 1 % per degree |
| Operating temperature | ± 20°C without wide variations of temperature |
| Sampling gas | N₂, Ar, He, Air, H₂, O₂ or CO₂ |
| Sample gas connection | 1/8" Swagelok SS |
| Sample flow rate | Approximately 3 to 5 l/h |
| Sample pressure | Lower than 100 mBar |
| Combustive gas | Synthetic air |
| Combustive gas connection | 1/8" Swagelok SS |
| Combustive gas pressure | Type : FID510 : from 4 to 9 Bar Type : FID511 : 2 Bar stable |
| Combustive gas flow rate | 300 ml/min |
| Recommended quality | 5.0 |
| Fuel gas | Hydrogen |
| Fuel gas connection | 1/8" Swagelok SS |
| Fuel gas pressure | Type : FID510 : from 4 to 9 Bar Type : FID511 : 1 Bar stable |
| Fuel gas flow rate | 38 ml/min |
| Recommended quality | 5.0 or 6.0 depending on the application (LQL) |
| Carrier gas | Nitrogen |
| Carrier gas connection | 1/8" Swagelok SS |
| Carrier gas pressure | from 4 to 9 Bar |
| Carrier gas flow rate | 2 to 6 l/h |
| Recommended quality | 5.0 or 6.0 depending on the application (LQL) |
| Power supply | 220 Vac, 50-60 Hz |
| Power consumption | 320 VA |
| 4-20 mA output | 1 for CH4 1 for NMHC |
| RJ-45 connection | Computerised system maintenance |
| Output relays (SPST 2 amperes / 250 Vac) | 1 General Alarm contact 1 Alarm High contact 1 Alarm High High contact |

Dimensions

Standard rack mount 5U
Height > 222 mm | Depth > 545 mm | Width > 483 mm



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Line 500



*A new generation
of intelligent detectors*

FID510

CH₄/NMHC analyser

Analysis of **CH₄** and **NMHC**
in **PPB** or **PPM** or **%** level



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ORTHODYNE
GAS CHROMATOGRAPHY

FID510

CH₄/NMHC analyser

The FID510 is an analytical system that measures CH₄ and NMHC impurities in ppm, in ppb or in % level in various gases, such as Oxygen, Air, Carbon Dioxide, Nitrogen, Argon, Helium and Hydrogen.

PRINCIPLE

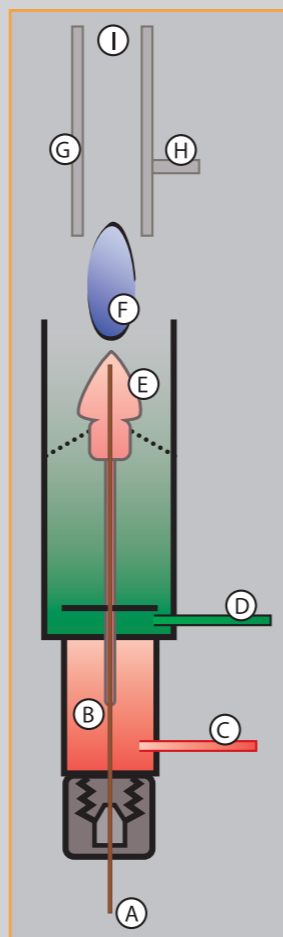
The FID510 module is composed of a flame ionization detector placed in a temperature regulated chamber and coupled with *GC technology*.

This analyser has been designed for stand-alone operation. Easy configuration and quick start-up make this new system ideal for *process gas analysis*.

In addition to its user-friendly interface, this analyser has its own chromatographic software that enables the concentration of *CH₄* and *NMHC* to be displayed directly.

The equipment status, together with any programmable alarm levels, are signalled to the exterior by output relays.

Two analog *4-20 mA* outputs provide information about *CH₄* and *NMHC* concentration levels.



FID DETECTOR EXPLANATION

The above diagram shows the general construction of a FID.

Organic compounds from the separation column are injected into the detector housing where they are mixed with Hydrogen and Synthetic Air before entering the detector nozzle where the mixture is burned.

During this process, organic compounds are broken down into carbon fragments and acquire a positive charge (i.e., become ionized) at the surface of the anode.

Carbon fragments are detected by the collector.

The signal is then amplified and sent to the data processing system.

- A > Sample inlet
- B > Mixture between the sample and the Hydrogen
- C > Hydrogen inlet
- D > Synthetic Air inlet
- E > Nozzle
- F > Flame tip
- G > Collector
- H > Anode & Ignitor
- I > Flame guard

FEATURES

- < 10 ppb resolution guaranteed. (Quantification level limit)
- User-friendly software.
- GC technology used for complete separation between CH₄, NMHC and the balance gas.
- NMHC : Total Hydrocarbons from C₂ to C₅ (Given in CH₄ equivalent)
- Electronic flame-out guard circuit.
- Automatic fuel shut off system.
- Adjustable alarm and oven settings.
- Fast response.
- Possibility of auto-calibration programming – ideal for unmanned plant conditions.
- Easy access to pressure and flow control devices.
- CE marked.



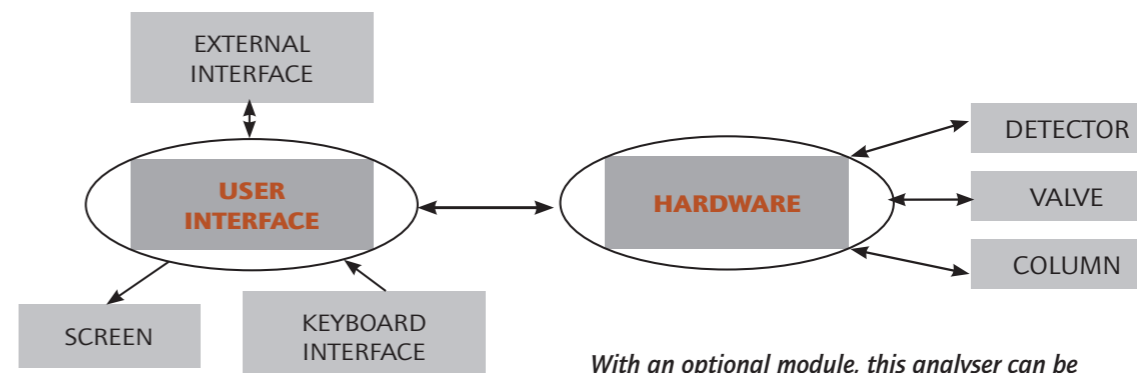
Type of configuration

- **FID510** : Plug and Play solution with a Mass Pressure Controller on the carrier gas and Mass Flow Controllers on both feeding gases.
- **FID511** : Solution with a Mass Pressure Controller on the carrier gas and a capillary system on both feeding gases.

Applications

- Air separation plants
- Cryogenic truck loading station
- Specialty gas laboratories
- Process control
- Steel industry

System overview



With an optional module, this analyser can be controlled remotely over Ethernet or the Internet.

Line 500 - FID 510 - CH₄/NMHC analyser