SERIES 4

The next generation in gas analysis

SIGNAL GROUP

DUOTEC AS

MÅLEINSTRUMENTER TIL MILJØKONTROL

The vision.....

At Signal we wanted to create the next generation in gas analysers. The first range to combine the highest specification detectors with a modern user interface. We wanted them to have cutting edge features available whilst being flexible enough to be adapted to any application. Lastly we wanted to supply them complete with software that was open source to allow our users to collaborate, doing what they do best to drive innovation in the use of our products for ever more sophisticated uses.

User Interface

The experience of a product doesn't come from the inside, it comes from what you touch. The user interface is all you have to control a gas analyser and obtain readings, so it is paramount that it is as good as it can be.

With S4 the user interface has a touch screen and intuitive structure, to make operating, calibrating and fault finding easy and fast.

The screen comes with an onboard data logging function that uses a USB memory stick or SD card for storing the data. This is then easily uploaded to your laptop or desktop computer.

Features:

- Touch screen
- SD card or USB flash memory
- RS232 and Ethernet comms
- AK protocol
- Up to 35 programmable alarms
- Optional CAN bus

Options/Configuration

S4 has been designed from scratch with flexibility in mind. From the end user looking for a full turnkey analyser solution with all the latest functionality to a systems integrator looking to add value to a high specification detector, S4 can be configured at a competitive price to meet your needs.

Options are available for OEM detector benches, for analysers without a front panel screen for installation into systems, multiple component analysers and dual detector arrangements plus a wide range of gas path configurations to ensure that every customer has their analyser just the way they want it.

Further information on the configurability of our analysers is available with our price list.

SOLAR
Flame Ionisation Detector

A unique design of FID (Flame Ionisation Detector) consisting of a precision monobloc arrangement. The design uses a ceramic isolated flame jet tip, a cylindrical collector and a venturi effect air/fuel/sample for optimum performance.

PULSAR
Non-Dispersive Infra-Red

This design uses a single cell with a rotating gas filter wheel to provide a zero and reference value and minimise cross interference. Using a single cell prevents drift caused by cell contamination and the expensive periodic cleaning and replacement of optics required by other products.

QUASAR
Chemiluminescence

A very high specification is achieved using a “soft discharge” neon lamp ozone generator with ambient air, compared with other products on the market that require a continuous supply of pure oxygen.

The Signal SOLAR flame ionisation detector product line is unique in the market with its precision machined, monobloc arrangement. This has enabled a uniformity of production so that every analyser has exactly the same characteristics. The monobloc provides a very compact and leak proof design. The sample pump, where installed, uses a brushless DC motor for total reliability.

Options include:

- Semi heated version for ambient applications
- Heated version to 191°C for regulated applications
- Dual detector arrangement for true simultaneous measurement
- Catalyst version for methane only and methane/non-methane measurement

Gas Filter Correlation is the variant of NDIR best suited to combustion gas analysis. Instead of a dual beam sample cell and a reference cell, this method uses only a single cell for both sample and reference, reducing problems caused by cell contamination.

Pulsar represents the lowest temperature drift specification available on the market. This increased stability combined with excellent linearity across a very wide dynamic range makes our analyser suitable for even the most demanding of applications.

Options include:

- Multiple gases measured in one analyser
- Measurement of CO, CO_2, NO, N_2O. CH_4, HCl and SO_2
- Measurement of O_2 can be added with paramagnetic, zirconia or even electrochemical cell

For our reference analyser the high vacuum and heated design also demonstrates a very low quenching effect from CO_2 and H_2O.

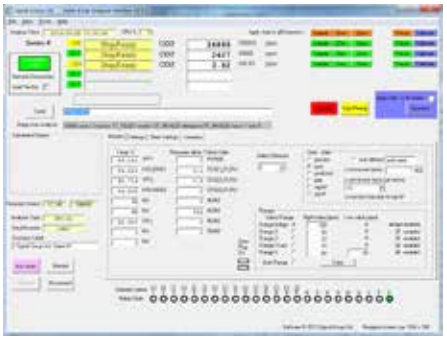
With extensive years of use in the demanding automotive industry, for testing catalyst and catalyst development, the chemiluminescence NOx analyser from Signal has always represented the ultimate in accurate, reliable readings.

Options include:

- Basic entry-level version
- Heated, vacuum version for regulated applications
- Dual detector analyser for true simultaneous measurement of NO and NO_2
- Option for NH_3 measurement

S4i Software

The S4 range of analysers is supplied complete with remote interface software as standard, S4i. This is open source software designed to provide a wide range of functionality, but also to give users the opportunity to to modify and write their own software to use with S4 in their own applications. We believe that it is through collaboration of this nature that real innovation is achieved.



The S4i software offers a whole host of new and exciting features compared with the old Series 3. It boasts incredible remote diagnostic capabilities, allowing Signal service to dial-in and identify, and hopefully rectify, faults from our offices in the UK. It has a fully functional automated zero and span function for straightforward calibration. The ranges are fully definable by the user, full scale and even the desired units (ppm, %, mg/M^3) can be selected to suit.

Much of the accuracy of an analyser comes from the electronics. Issues like linearisation and electronic noise or ambient temperature effects are often overlooked but have a major influence on performance. The Series 4 provides a polynomial calibration for linearity to give a high degree of accuracy throughout the full scale. This is especially important for inherently non-linear methods for detection such as Infra-Red.

Graphical user interface - features:

Colour touch screen
SD card flash memory logging all channels
USB for uploads/downloads
Displays: readings, chart trace, flow rates, alarms, faults, linearisation function

Communications

I/O RS232, Ethernet, (TCP/IP)
AK protocol, CAN bus (optional),
0-10V DC, 4-20mA
35 contact closures (programmable)

"We've designed the new user interface to make our customers' lives as easy as possible"

James Clements, Head of Development

Represented by:

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