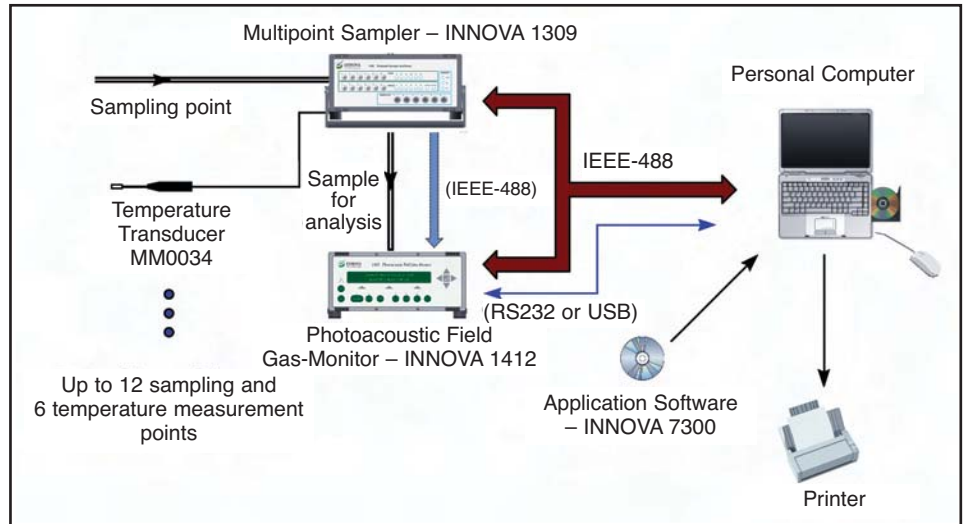


Uses:

- Remote-control of a system comprising: a LumaSense Technologies Gas Monitor and one Multipoint Sampler, or up to two Multipoint Sampler and Doser units
- Enables multi-gas sampling in up to 12 locations
- Enables age-of-air measurements with PC control

Features:

- Synchronizes the sampling functions of the Sampler units to the measurement cycle of the Gas Monitor
- For each location, the 7300 stores up to five gas concentrations, the humidity and the temperature of the air
- Calculates the air-exchange efficiency, age-of-air, 8-hour average and other parameters for each location
- Displays measurement data in either table or in graph form; the user chooses the data to be displayed
- Up to six graphs can be drawn on the same axes giving direct comparison of results from different locations
- Data from external programs (for example, calculation of air-velocity) can be imported into the 7300
- Open Database Connectivity (ODBC) for data exchange (for example, to spreadsheet and database programs)
- The 7300 runs under Windows® 98, 2000, NT and XP



Introduction

The Application Software – INNOVA 7300 enables remote control of the gas monitors 1412 or 1314 and one 1309 or one or two 1303 from a personal computer. If the 1303 is connected only the sample channels and temperature transducers can be used. The software coordinates the functions of the instruments to form a monitoring system which, via tubing, can perform gas-monitoring tasks in up to 12 different locations.

When the user sets up a measurement task using the software, the task is performed automatically. Measurement data is collected and displayed on the screen. When the measurements are complete, the data-processing facilities of the software are used to calculate the parameters the user requires.

On-line help makes the software easy to use.

Getting Started

The Monitor and the Sampler unit(s) are connected to the computer via the RS232 or IEEE-488 interface or an RS232 to an USB converter. The user decides the locations where the measurements should be performed, and connects the Sampler unit(s) to these locations with tubing. Air-samples are then drawn from the locations and analyzed by the Gas Monitor. The air temperature can also be measured in different locations and recorded by the software. The 1309 has 12 sample channels and six temperature inputs and the 1303 has each six sample channels and six temperature inputs.

The user starts the 7300 and opens a database to receive the data from the new task and configures the 7300 to the desired task. When the configuration is complete, the task can be started and the 7300 is in control of the instruments.

Multipoint Gas Monitoring

The 7300 realize a powerful multipoint, multigas monitoring system. Air-samples can be drawn from up to 12 sampling points and delivered to the Monitor. The Monitor can then measure the concentrations of up to five gases and water vapor in each

Applications Software – INNOVA 7300

sample. The user sets the Monitor by choosing the gases that will be monitored during the measurement, and by setting the time between each measurements cycle. The Sampler units are setup for monitoring by selecting the sampling channels to be used and the type of measurement sequence to be used.

There are three measurement sequences available: the user sequence, the normal sequence and the alarm sequence. The user sequence allows you to combine the selected sampling channels in a defined sequence of up to 20 entries (see Fig.1). The normal sequence lets you measure the sample channels in their basic order. When the last entry is reached the software loops back to the first channel. The alarm sequence measures in the same sequence as the normal sequence until an alarm level is reached. When this occurs, the normal measurement sequence is overridden and every second measurement is then made on the channel showing the alarm.

Data Exchange Capability

The Open Database Connectivity (ODBC) enables measurement data to be stored in a format that makes it readily available to other programs to produce tailor made reports, presentations or simple printouts of the data.

Data Display and Output

Measurement data, and the running status of the instruments, are displayed on screen. Measurement data can be presented as a graph (Fig.2) or in table form (Fig.3); each is updated as new data is received. When using the graph format, up to six curves (gas-concentration/time, temperature/time, averaged data or data from external programs) can be shown simultaneously. The data displayed on the curves can then be processed, as described in the following section.

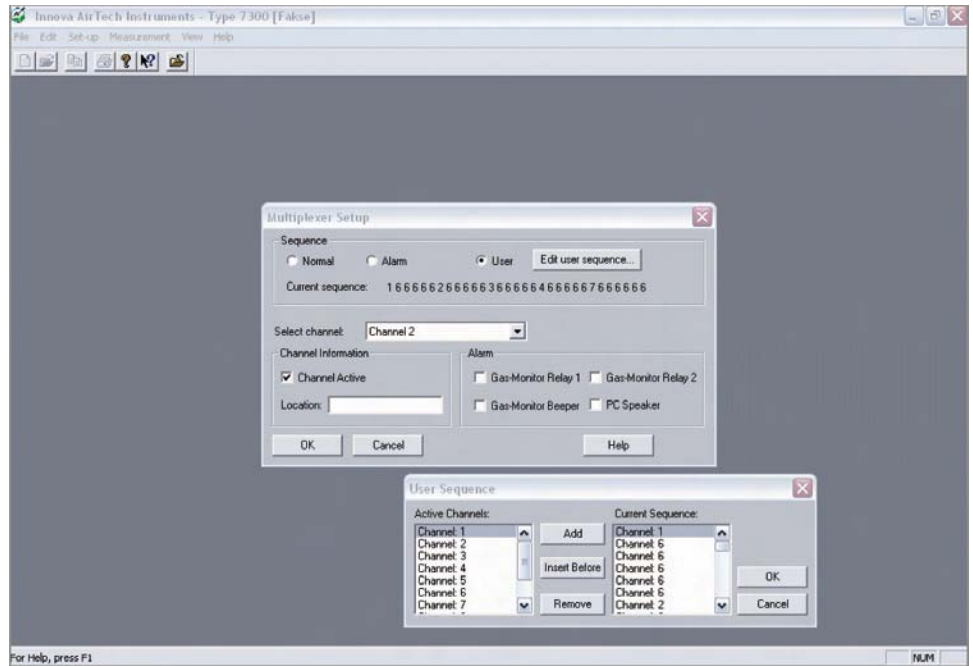


Fig.1 The Multiplexer Setup dialogue. This dialogue enables you to set up the measurement sequence. The User sequence (illustrated) allows you to define which channels samples are taken from, and the order the samples are delivered to the monitor.

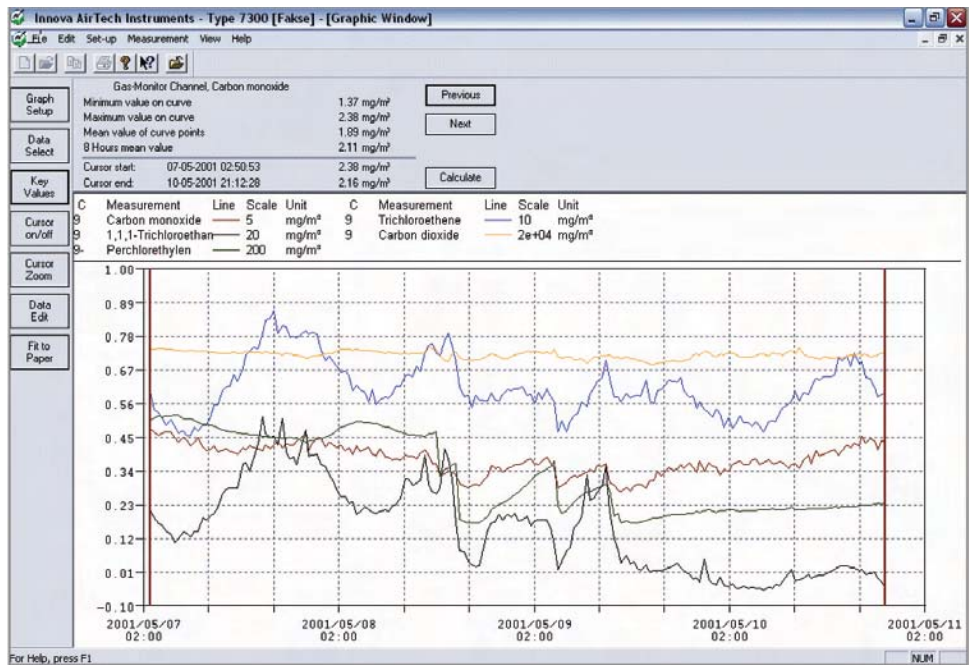


Fig. 2 The graphic data window show up to six graphs on the same axes. The user "builds" the graphs by selecting the data plotted, the style and colour of the lines. A cursor function is available with this window, enabling the user to zoom in on interesting regions of the graph, or edit data on the curves, to remove untypical data or events from the parameter calculations.

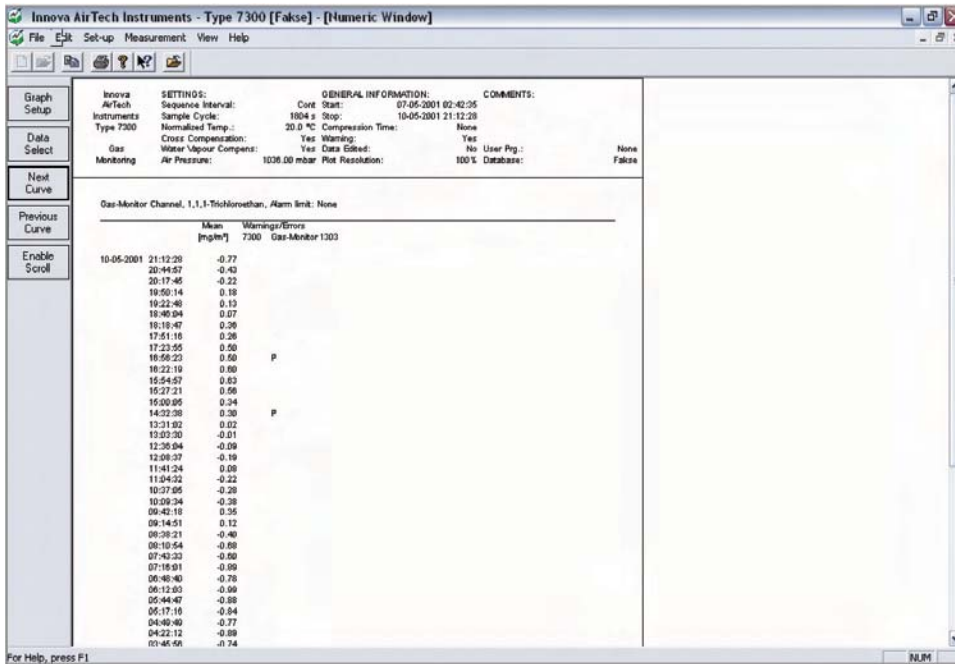


Fig.3 The Numeric data window. This window shows measurement results and other appropriate information in table form for each sample channel.

Calculation of Results

Using the Cursor and Key Values function, the user selects the data to be used for further processing by marking the curves with the two vertical cursors. Using this function 7300 is able to calculate the values of a wide range of parameters (Fig.4), for example: average gas-concentrations; the age-of-air; the air-exchange efficiency. A full list of all the parameters that can be calculated by the 7300 is given in the specifications.

External Program

To supplement the measurement data received from the system, the 7300 can import up to 12 data values from an external program – for example, a program which calculates air velocity, or other useful data. The imported data can be displayed on-screen and is stored in the 7300's database.

Alarm Trigger

Alarm levels are user-defined and when an alarm is triggered, the software setup can enable a signal to be sent from the gas monitor's relay(s). This signal can be used to evoke an action, for example sounding of a siren, which can possibly prevent the situation from becoming serious.

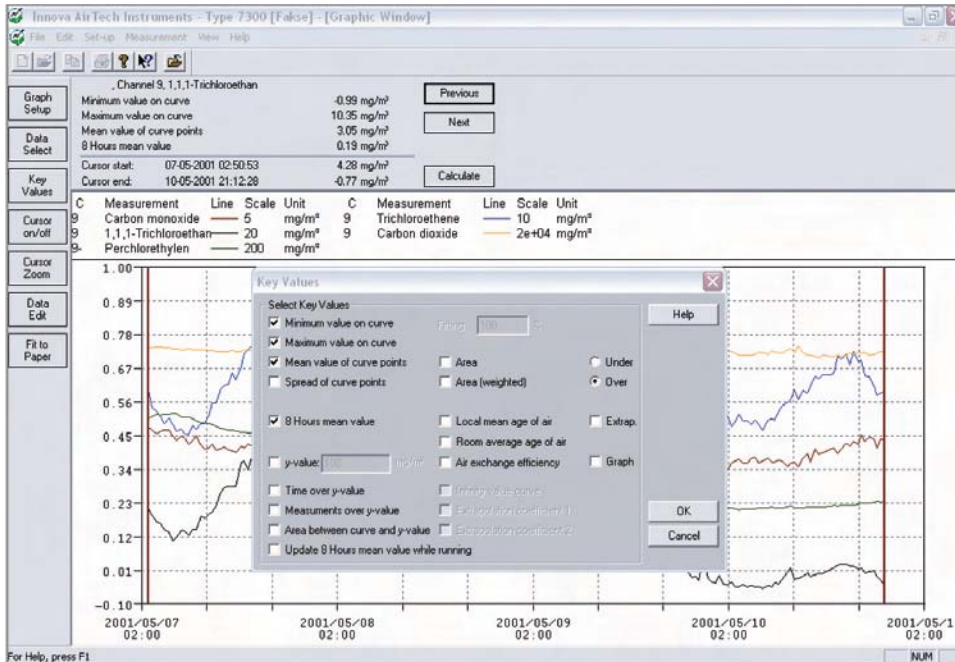


Fig. 4 The Key Values dialogue shows a list of parameters for which the software can calculate values, using the data defined on the curves of the measurement results.

Specifications – INNOVA 7300

The 7300 software and manual is supplied on a CD and comes complete with a Security Key, which ensures that only authorized users can perform measurements. Data analysis on existing data files can be done without the Security Key.

SYSTEM REQUIREMENTS

Photoacoustic Field Gas-Monitor – INNOVA 1412 or previous models
Photoacoustic Multi-gas Monitor – INNOVA 1314

Multipoint Sampler – INNOVA 1309 (one)

Multipoint Sampler and Doser – INNOVA 1303 (one or two)

Temperature Transducers (up to twelve)

Air Temperature Transducer – MM0034

Operative Temperature Transducer – MM0060

Cables:

From computer to Monitor (alternatives):

RS-232 cable 25/9 pinWL0945

RS-232 cable 25/25 pinWL0946

IEEE-488 cable, 2 mAO0265

IEEE-488 cable, 1 mWL0845

From Monitor to Sampler (alternatives):

IEEE-488 cable, 2 mAO0265

IEEE-488 cable, 1 mWL0845

COMPUTER REQUIREMENTS

Hardware:

Pentium processor or better

Min. 8 Mbyte RAM

Min. 20 Mbyte free space available on hard-disk

One serial port (RS-232) or USB port using RS-232 to USB converter WL0945

Software:

Windows® 98, NT, 2000 or XP

DATA EXCHANGE CAPABILITY

Data can be exported to Database or Spreadsheet programs, e.g. Microsoft Access, Microsoft Excel or Application Software – INNOVA 7620, either using comma delimited files or using Open Database Connectivity (ODBC)

CALCULATION OF VALUES

The 7300 can calculate the values of the following parameters from the curves printed from measurement results:

- Mean value of curve points
- Spread of curve points
- Minimum/maximum values on curve
- Area under the curve
- Weighted area under the curve
- Time that the curve is over a given y-value
- No. of measurements over a given y-value
- Area under curve and over a given y-value
- Total area under extrapolated curve
- Extrapolation coefficients
- Air-exchange efficiency
- Air-exchange efficiency with extrapolation
- Local-mean age-of-air
- Local-mean age-of-air with extrapolation
- Room-average age-of-air
- Room-average age-of-air with extrapolation
- 8-hour mean value of curve points

Ordering Information

7300 Application Software for Gas Monitoring

Includes the following accessories:

Instruction Manual

Security Key

USB Converter JV0901

BASIC SYSTEM REQUIREMENTS

Photoacoustic Field Gas-Monitor – INNOVA 1412

Multipoint Sampler – INNOVA 1309

Personal Computer

Teflon Tubing AF0614

Cables:

From computer to Monitor (alternatives):

RS-232 cable 25/9 pin WL0945

RS-232 cable 25/25 pin WL0946

IEEE-488 cable, 2 m AO0265

IEEE-488 cable, 1 m WL0845

From Monitor to Sampler (alternatives):

IEEE-488 cable, 2 m AO0265

IEEE-488 cable, 1 m WL0845

LumaSense Technologies reserves the right to change specifications and accessories without notice.

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