Instruction Manual for LumaSoft Gas Software 7810 and 7860

BE6027-12

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Safety Considerations

October 2012

Safety Considerations.

Throughout this manual Monitor is used for:
Photoacoustic Gas Monitor – INNOVA 1412i
Photoacoustic Gas Monitor – INNOVA 1314i
LumaSense SF6 Leak Detector - 3434i

The Monitor complies with:

- EN/IEC 61010-1, 2nd Edition: Safety requirements for electrical equipment for measurement, control and laboratory use.

C US

- Can/CSA-C22.2 No. 61010-1-04 - Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use
- UL Std. No. 61010A-1 (2nd Edition) - Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use.

To ensure safe operation and retain the Monitor in safe condition, note the following:

EXPLOSION HAZARD!

TO AVOID THE POSSIBILITY OF AN EXPLOSION; MONITORING OF FLAMMABLE GASES IN EXPLOSIVE CONCENTRATIONS MUST NEVER BE ATTEMPTED.

Never operate the Monitor in potentially explosive environments.

When monitoring potentially flammable or toxic gases it is essential that:

- The instrument itself is placed in a well-ventilated area outside the potentially hazardous zone.

- A sufficiently long tube is connected to the air-outlet on the back panel so that the sampled gas is carried away to the open air or to an extraction and/or filtration unit.

Warnings!

- Avoid water condensation in the Monitor.
- Switch off all equipment before connecting or disconnecting their digital interface. Failure to do so could damage the equipment.
- Whenever it is likely that correct function or operating safety of the apparatus has been impaired, the apparatus must be made in-operative and secured against unintended operation.
- Any adjustment, maintenance and repair of the open apparatus under voltage must be avoided as far as possible and, if unavoidable, must be carried out only by trained personnel.
- If a fault is reported by the Monitor that indicates correct function of the instrument may be impaired, consult your local LumaSense Technologies representative. Under no circumstances should repair be attempted by persons not qualified in service of electronic instrumentation.

Chapter 1

Using this Manual

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1.1 Introduction

This manual can be used in several ways. The first time users can work their way through the examples in order to get to know the monitoring system. The more experienced users can jump directly to the relevant chapters in order to gain assistance, and experts can use this manual as a reference book by using the index.

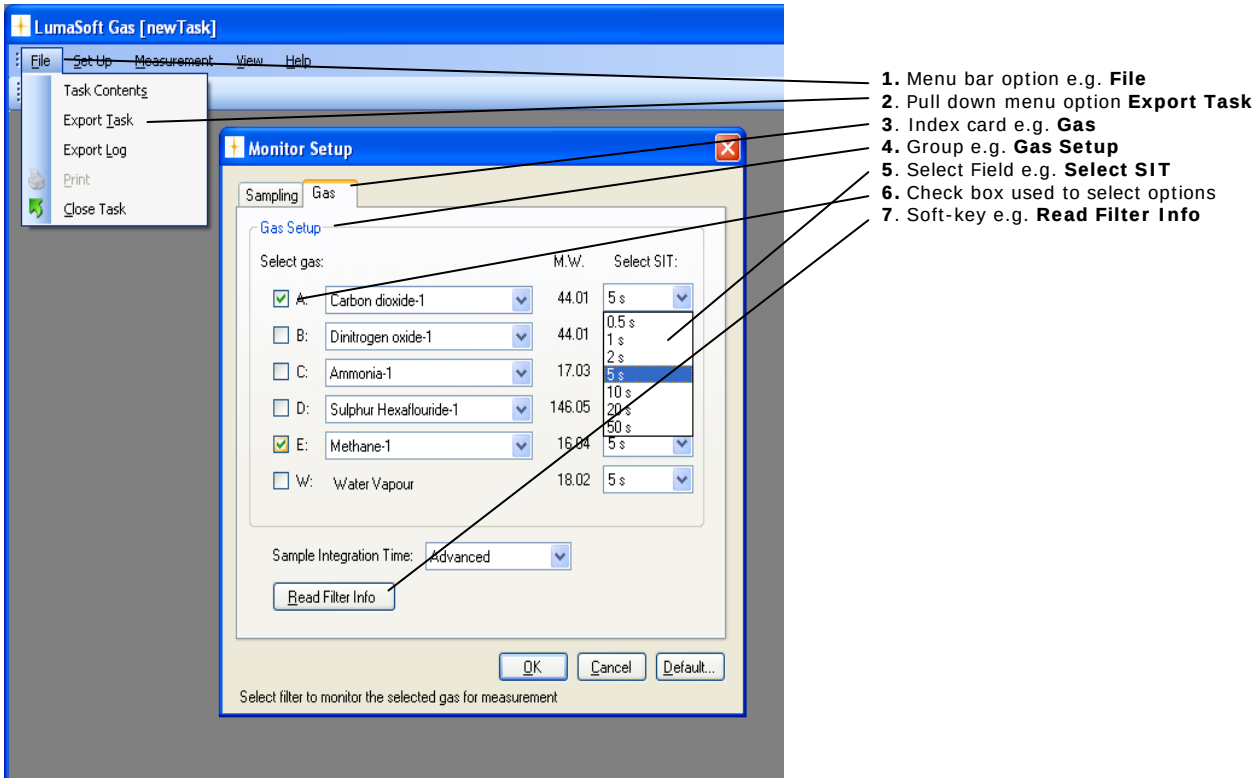
The LumaSoft Gas Single Point 7810 Software is used as a single channel monitoring software for Photoacoustic Gas Monitor – INNOVA 1412i, Photoacoustic Gas Monitor – INNOVA 1314i and LumaSense SF6 Leak Detector - 3434i.

The LumaSoft Gas Multi Point 7860 Software is used as a multi channel monitoring Software for Photoacoustic Gas Monitor – INNOVA 1412i in system, Photoacoustic Gas Monitor – INNOVA 1314i and LumaSense SF6 Leak Detector - 3434i with up to two Multipoint Samplers – INNOVA 1309 or four Multipoint Sampler and Doser - INNOVA 1303.

NOTE: The LumaSoft Gas Multi Point 7860 Software requires a license dongle connected to the USB port in order to run.

1.2 Screens

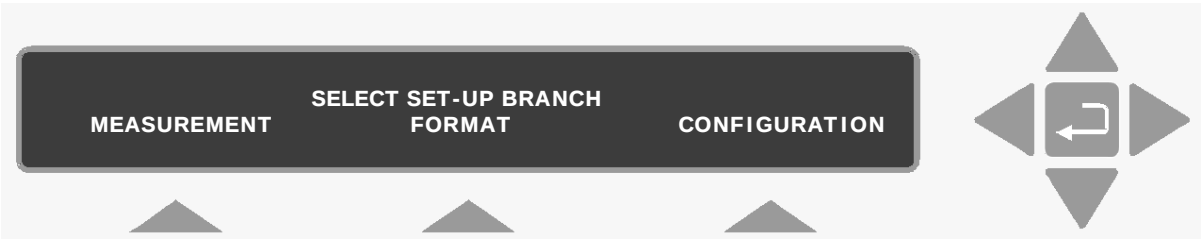
The information displayed on screen is presented in this manual as shown below:



Radio push-buttons: these are not illustrated above, but are commonly used in the software. They act as a toggle function when several options are available, but only one can be selected at a time.

1.3 Stand-alone Use

In some situations, it may be necessary to set up the Monitor without connecting it to a PC. The way these instructions are presented is shown below:

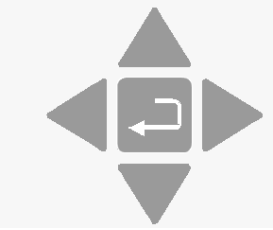


The display above is used through-out this manual. It assists you displaying the text on screen and by indicating which of the push-buttons can and should be pressed.

In general, the push-buttons shown above are used to navigate through the various modes possible within the Monitor but are described in more detail below:

These push-buttons are illustrated as S1, S2 and S3. They correspond to the key and their position on the instrument.

These select push-buttons enable you to select one of the options displayed.



This group of 5 push-buttons are referred to in this manual collectively as the direction keys. The symbols below are used to simplify the instruction in this manual.

▲ & ▼ enable you to increase & decrease numbers, respectively, or to go to the Previous & Next Displays, respectively.

◄ & ► enable you to move across number fields or go to the Previous & Next gases, respectively.

↵, depending on the situations, acts as an “Enter” or “Go To Head” key.

Memory Function push-buttons are always represented with the name of the push-button enclosed in a box which is shaded-in.

SYSTEM Text that appears on the display screen is shown in an open shaded box, using UPPER case letters.

FORMAT **System** ***General*** ***Clock***

When referring to any part of the Set-up “tree”, the text is shown in open shaded boxes with the same typeface as that used in the “tree”.

For further description refer to “BE6025 Instruction Manual, 1412i Photoacoustic Gas Monitor“

1.4 Tool-bar Icons in LumaSoft Gas Monitoring Software 7810 and 7860

The instructions in this manual use the pull-down menu paths to describe how operations are possible. However, in many cases, the icons in the tool-bars can be used to speed things up. Top Level toolbars and icons are presented in the following sections.
Other toolbars and icons will be presented in subsequent chapters.

1.4.1 Toolbar: Manage Users

Opens a window dialog to create new users

Change the password for the administrator

Log off administrator

Show information about software version

1.4.2 Toolbar: Main menu

Create new task

Open existing task

Delete task

Log off

Exit program

Show information about software version

1.4.3 Toolbar: Measurement

System configuration

Start measurement

Stop measurement

Close task

Show information about software version

Chapter 2

Preliminary Tasks

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When taking delivery of the System three very important and preliminary tasks must be completed before starting to operate it:

Install the LumaSoft Gas Software (7810 or 7860) see Section 2.1.
Connect the Monitor and the Multiplexer to a PC (Section 2.2).
Setting-up User Accounts (Section 2.3).

2.1 Installing the LumaSoft Gas Single Point (7810) or Multi Point (7860) Monitoring Software

2.1.1 Computer requirements

The Software is targeted to work on a Desktop/Laptop PC environment running a Microsoft Windows Operating System.

Before installing the Software the PC must meet the following minimum requirements:

Processor	Minimum: 1 gigahertz (GHz) Pentium processor
Operating System	Windows XP SP2 Windows Vista Windows 7
RAM	Minimum: 512 MB (XP) 1024 MB (Vista) 2048 MB (7)
Hard Disk	Up to 500 MB of available space may be required.
Display	Minimum: 1024 x 768 high color, 32-bit
Total port connections	2 USB ports Or 1 USB port and 1 Ethernet (TCP/IP) port Or 1 USB port and one RS232 port
Connection to Gas Monitor	1 USB port Or 1 Ethernet (TCP/IP) port Or 1 RS-232 port
Connection to License dongle	1 USB port for LumaSoft Gas License Dongle Key (This License Dongle key is delivered by LumaSense)

Table 2.1 Computer requirements

Microsoft Office is required if using the export to Excel file format functionality in LumaSoft Gas.

2.1.2 Installing LumaSoft Gas

The LumaSoft Gas software is delivered on a CD with an installation program. Please refer to Appendix A how to perform the installation of the LumaSoft Gas software. It is recommended that your system administrator performs the task of installing the LumaSoft Gas program.

After the installation is successfully completed the LumaSense -> LumaSoft Gas program menu is created.

The “LumaSoft Gas” program icon (Figure 2.1) is also placed on your desktop for easy access to the program.

Figure 2.1 LumaSoft Gas desktop shortcut

2.2 Connecting the Monitor and the Multiplexer to a PC

The Monitor comes complete with an USB interface cable.

Optionally an Ethernet (TCP/IP) interface cable or a 9-pin to 9-pin null modem RS-232 interface cable can be delivered.

2.2.1 Fitting the USB Cable

The USB interface cable can be connected while the gas monitor is switched on.

Locate an USB port at the back of the PC; refer to your PC manual if in doubt. Push the connector on the USB cable on to the USB port socket on the PC.

Locate the output labelled at the back of the Monitor. Push the connector at the other end of the USB cable on to this socket.

2.2.1 Setting the USB Communication Parameters

No setup on the 1412i/1314i/3434i gas monitor is necessary in order to be able to communicate with the 1412i/1314i/3434i gas monitor through an USB connection.

2.2.3 Fitting the Ethernet (TCP/IP) Cable.

The gas monitor can be connected to a local Ethernet network, which communicates using the TCP/IP network interface protocol or to view the homepage of the gas monitor in a standard PC internet browser.

The Ethernet network cable can be connected while the gas monitor is switched on.

Locate the Ethernet socket connector labelled at the back of the Monitor. Connect a standard Ethernet network cable to the Ethernet socket connector on the back of the gas monitor. Connect the other end of the Ethernet network cable to your local network. The yellow LED on the Ethernet socket connector will lit, if a local network connection is detected.

2.2.4 Setting the TCP/IP Communication Parameters

It is recommended that your system administrator sets-up the TCP/IP communication parameters.

The communication parameters for the TCP/IP interface can be set by using the push-buttons on the front of the monitor.

1. Press SET-UP CONFIGURATION System Communication Addressable. The screen display now shows the following text.

```
SELECT ADDRESSABLE SET-UP BRANCH
TCP/IP                          IEEE 488
```

2. Press TCP/IP to enter the TCP/IP setup. During this setup you can also use the ▲ and ▼ keys to go back and forth between the available TCP/IP settings. The screen display now shows the following text.

```
IS 1412i'S IP ADDRESS SET BY DHCP ?
NO                              YES
```

3. Here you can select whether the IP address of the 1412i/1314i/3434i gas monitor is to be assigned by a DHCP server in the local network. If you want the 1412i's, 1314i's or 3434i's IP address to be assigned by the DHCP server press the Yes key, where after you will proceed to the below step 6, as the IP address is set by the DHCP server. If you want yourself to set the IP address of the 1412i/1314i/3434i press the No key. The screen display now shows the following text.

1412i'S IP ADDRESS 192.168.000.200
PRESS ENTER TO CHANGE VALUE

4. Here you can change the IP address of the 1412i/1314i/3434i gas monitor in case the IP address is not set by a DHCP server in the local network. If you want to change the IP address, press the ↵ key. If the IP address does not need to be changed, press the ▼ key and you will proceed to the below step 6.
If you selected to change the IP address, the screen display now shows the following text.

1412i'S IP ADDRESS 192.168.000.200
CANCEL DEFAULT

5. Here you can change the 4 individual numbers in the IP address by using the ▲ and ▼ keys. Each of the 4 individual numbers can be set in the range from 000 to 255.
You can step between the 4 individual numbers in the IP address by using the ◄ and ► keys.
In case you want to return to the start value of the IP address press the CANCEL key. In case you want to return to the default stored value of the IP address press the DEFAULT key.
When you have set the IP address, press the ↵ key. The screen display now shows the following text.

1412i'S IP PORT NUMBER: 23
PRESS ENTER TO CHANGE VALUE

6. Here you can set the IP port number for the TCP/IP communication. This normally does not need to be changed. If you want to change the IP port number press the ↵ key. If the IP port numbers does not need to be changed, press the ▼ key and you will proceed to the below step 8. If you selected to change the IP port number the screen display now shows the following text.

1412i'S IP PORT NUMBER: 23 **CANCEL DEFAULT**

7. Now you can change the IP port number by using the ▲ and ▼ keys. The port number can be set in the range from 0 to 32767.
   In case you want to return to the start value of the IP port number press the CANCEL key. In case you want to return to the default stored value of the IP port number press the DEFAULT key.
   When you have set the IP port number, press the ↵ key. The screen display now shows the following text.

PROTECTED IP ADDRESS 000.000.000.000 **PRESS ENTER TO CHANGE VALUE**

8. In case you want the 1412i/1314i/3434i gas monitor to be able to communicate only with a certain PC on the local network, you can set the IP address of this PC as the protected IP address. This can be desired due to security reasons so no other PC is able to communicate with the 1412i/1314i/3434i gas monitor.
   If no protection is desired the protected IP address should be set to a value of 000.000.000.000.
   If you want to change the protected IP address, press the ↵ key. If the protected IP address does not need to be changed, press the ▼ key and you will proceed to the below step 10.
   If you selected to change the protected IP address the screen display now shows the following text.

PROTECTED IP ADDRESS 000.000.000.000 **CANCEL DEFAULT**

9. Here you can change the 4 individual numbers in the protected IP address by using the ▲ and ▼ keys. Each of the 4 individual numbers can be set in the range from 000 to 255.
   You can step between the 4 individual numbers in the protected IP address by using the ◄ and ► keys.
   In case you want to return to the start value of the protected IP address press the CANCEL key. In case you want to return to the default stored value of the protected IP address press the DEFAULT key.
   When you have set the protected IP address, press the ↵ key.
   If you previously selected the IP address NOT to be set by the DHCP server, you can proceed to the below step 11.
   If you instead selected that the IP address to be set by the DHCP server, the screen display now shows the following text.

CURRENT DHCP ADDRESS 192.168.000.062
ACCEPT

10. Here the IP address of the 1412i/1314i/3434i, which has been assigned by the DHCP server is displayed. This IP address can be used to manually set TCP/IP communication in a PC application, which accesses the 1412i/1314i/3434i gas monitor.
    Press the ACCEPT key to accept.

11. This concludes the setup of the TCP/IP parameters of the 1412i/1314i/3434i gas monitor.
    Press the SET-UP key to leave the setup.

2.2.5 Fitting the RS-232 Cable

Ensure that both the Monitor and the PC are switched off at the mains. Failure to do so may result in your equipment being damaged.
Locate the serial port at the back of the PC; refer to your PC manual if in doubt.
Push the connector on the RS-232 cable on to the serial port socket, and secure it firmly using the securing screws.
Locate the output labelled “RS-232” at the back of the Monitor.
Push the connector at the other end of the RS-232 cable on to this socket, and secure it firmly using the securing screws.
Turn on the PC. Wait for Windows to start up.

The Monitor can be turned on at the mains.

2.2.6 Setting the RS232 Communication Parameters

In order for the RS-232 communication to be successful, it is essential that the communication parameters are set correctly. This is a two stage process: the PC communication port is selected via the LumaSoft Gas software while the baud rate, parity, data bits and stop bits are defined via the Monitor.

The communication parameters necessary for the Monitor to communicate with the LumaSoft Gas are shown below in Table 2.2.

Baud rate	9600
Stop bits	1
Data bits	7
Parity	Even
Hardwire mode	Leased line
Handshake type	Hardwire

Table 2.2 Monitor RS232 communication parameters

These are set as the default values in the Monitor.

To prevent communication errors, the text line terminator, print data log and print error log must be set as shown in Table 2.3.

Text line Terminator	CR-LF
Print Data Log	NO
Print Error Log	NO

Table 2.3 More Monitor parameters

2.2.7 Checking/Changing the RS-232 Communication Parameters in the Monitor

The communication parameters for the serial interface must be set using the push-buttons on the front of the Monitor.

1. Press SET-UP S3 S1 S3 S1 (see Chapter 1.3) .The screen display shows the following text.

SELECT BAUD RATE 9600
PRESS ENTER TO CHANGE VALUE

If the baud rate displayed is incorrect press ↵ and use ▲ and ▼ to display the correct value. Press ↵ again to store the selection.
If the baud rate displayed is correct, then press ▼ to continue to the next parameter.
Press S1 to select 1 STOP BIT.
Press S1 to select 7 DATA BITS
Press S2 to select EVEN PARITY
Press S3 to select LEASED-LINE
Press S3 to select HARD-WIRED HANDSHAKE.
Press SET-UP to exit the set-up mode
Press RESET and S1 in order that the new settings are enabled.

The Monitor and the LumaSoft Gas Monitoring Software are now able to communicate together.

2.2.8 Checking/Changing the Text line Terminator in the Monitor.

The Text line Terminator must be set using the push-buttons on the front of the Monitor.

Press SET-UP S2 ▼S3

Press SET-UP to exit the set-up mode

2.2.9 Selecting the PC communication Port

It is just a simple case of selecting the correct port on the PC. The software shows the COM ports that are present in the system to choose from: COM1, COM2, COM3…. If you are not sure which port the cable is connected on your computer refer to your PC manual.

2.2.10 Setting up a Multipoint System with Multipoint Samplers - INNOVA 1309

The 1309(s) is connected to the Gas Monitor using IEEE-488 cable(s). To avoid data errors, this cable must conform to the specifications laid down in the IEEE-488 standard, particularly with regard to length, connector type and “daisy-chaining”. LumaSense can supply the correct cables, Cable order no. AO0265 (2m) or WL0845 (1m).

Caution: To avoid permanently damaging the delicate electronics in a 1309 or the Monitor, you must ensure that all IEEE-488 instruments are switched off before connecting or disconnecting the interface cables.

The IEEE–488 address of each 1309 in the system must be set before communication with the PC can occur. The address is set using the eight DIP switches located on the back panel of the 1309. The decimal address of the instrument is expressed as a binary number, the MSD (Most significant DIP switch) being to the left looking onto the back panel. Table 2.4 will guide you.

Decimal Address	DIP switch setting (looking onto rear)	1309 multipoint sampler
15	0 0 0 0 1 1 1 1	1
13	0 0 0 0 1 1 0 1	2

Table 2.4 Setting the 1309 address

2.2.11 Setting up a Multipoint System with Multipoint Sampler and Doser - INNOVA 1303.

The 1303(s) is connected to the Gas Monitor using IEEE-488 cable(s). To avoid data errors, this cable must conform to the specifications laid down in the IEEE-488 standard, particularly with regard to length, connector type and “daisy-chaining”. LumaSense can supply the correct cables, Cable order no. AO0265 (2m) or WL0845 (1m).

Caution: To avoid permanently damaging the delicate electronics in a 1303 or the Monitor, you must ensure that all IEEE-488 instruments are switched off before connecting or disconnecting the interface cables.

The IEEE–488 address of each 1303 in the system must be set before communication with the PC can occur. The address is set using the eight DIP switches located on the back panel of the 1303. The decimal address of the instrument is expressed as a binary number, the MSD (Most significant DIP switch) being to the left looking onto the back panel. Table 2.5 will guide you.

Decimal Address	DIP switch setting (looking onto rear)	1303 multipoint sampler
15	0 0 0 0 1 1 1 1	1
13	0 0 0 0 1 1 0 1	2
12	0 0 0 0 1 1 0 0	3
11	0 0 0 0 1 0 1 1	4

Table 2.5 Setting the 1303 address

2.3 Setting-up User Accounts

Setting up user accounts can be performed by the administrator only.

After starting the LumaSoft Gas application the **User Authentication** window opens, where you authenticate yourself as the administrator by specifying the administrator user name and password.

The default administrator password is: *Administra*

Figure 2.2 Login dialogue window

To create new users you can either select the **Manage User** icon from the toolbar or select **Manage User** from the **User** pull down menu, see Figure 2.3.

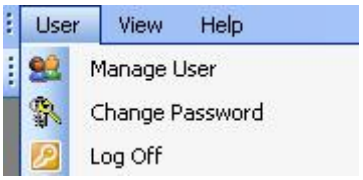


Figure 2.3 User pull-down: Manage User

The **User Accounts** window appears showing a list of the current user accounts, see Figure 2.4.

A predefined user account named *LumaSoftGas* with the highest access level appears the first time the **User Accounts** window is opened. The predefined password for the *LumaSoftGas* user is: *lumasoftgas*

Figure 2.4 User Accounts

2.3.1 Add User Account

In order for the administrator to add a new user account the **Add** soft-key can be selected.

The **Add New User** window appears (see Figure 2.5).

Figure 2.5 Add User Account

The **User Name**, **Password** and **Access Level** for the new user account can be specified.
Please note that the **User Name** and **Password** must contain at least 6 characters and must contain no special characters. Only alphabets and numeric characters are allowed [(a-z), (A-Z), (0-9)] for the **User Name** and **Password** (see Figure 2.6).

Figure 2.6 User access Levels

Three different access levels can be specified. The rights for each of the access levels are described below in table 2.6.

Access level	Rights
Super	All expert rights Delete task
Expert	All operator rights Create a new task Make setup of a task Backup/restore a task
Operator	Open a task. Start a measurement Export a task Export log Export/import a task configuration

Table 2.6 User access levels

2.3.2 Edit User Account

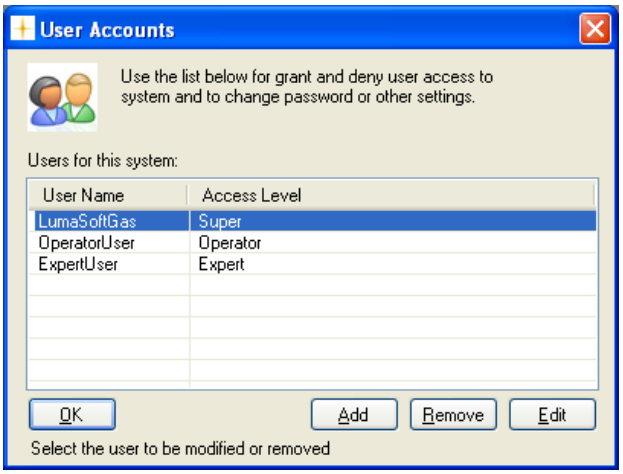


Figure 2.7 User Accounts: Edit

A user account can be edited by the administrator by selecting the **Edit** soft-key in the **User Accounts** window. Before selecting the **Edit** soft-key a **User Name** must be selected in the **User Accounts** window.

Figure 2.8 Edit User Account

The access level can be changed by selecting the **Access Level** field. Also the Password can be changed by selecting the **Reset Password** soft-key. (See Figure 2.8).

Figure 2.9 Reset password dialogue

The **Reset Password** dialogue window appears and the new password for the user account can be entered. (See Figure 2.9).

2.3.3 Remove User Account

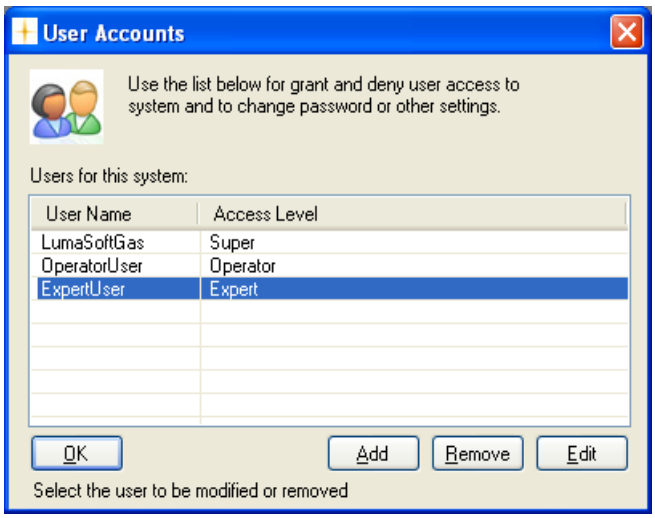


Figure 2.10 User Accounts: Remove

A user account can be removed by selecting the **Remove** soft-key in the **User Accounts** window, see Figure 2.10. Before selecting the **Remove** soft-key a **User Name** must be selected in the **User Accounts** window.

2.3.4 Change password of the administrator

To change the password of the administrator you select the **Change password** icon from the toolbar or select **Change Password** from the **User** pull down menu. (See Figure 2.11)

Figure 2.11 User pull-down: Change Password

The **Change Password** dialogue window (Figure 2.12) appears and the old and new password for the administrator can be entered.

Figure 2.12 Change Password dialogue

2.4 Download of the latest version

You will find the latest version of the software on
http://innova.lumasenseinc.com/downloads

2.5 Back-up and Restoring of calibration data

If you have ordered a calibration from our calibration laboratory, you will receive a CD with a backup of the calibration data. It is very important that you store these data in your Gas Monitoring Software 7304, supplied with the Monitor. Please refer to the **Instruction Manual BE6025** for guidance in how to backup and restore calibration data.

Chapter 3

Set-up Measurement Task

October 2012

This chapter will show the steps how to set-up a measurement task.

Please note that measurement set-up is only allowed for users with **Expert** or **Super** access level. (See Table 2.6)

Log in to the software using your username and password.

Figure 3.1 User Authentication

3.1 New task

Please make sure that you have an USB, Ethernet (TCP/IP) or a RS-232 interface cable connected to the 1412i/1314i/3434i Gas Monitor device.

IMPORTANT! Please note that only one interface cable (either USB, Ethernet (TCP/IP) or RS-232) should be connected at any time.

In order to create a new task select the **New Task** pull-down menu (Figure 3.2).

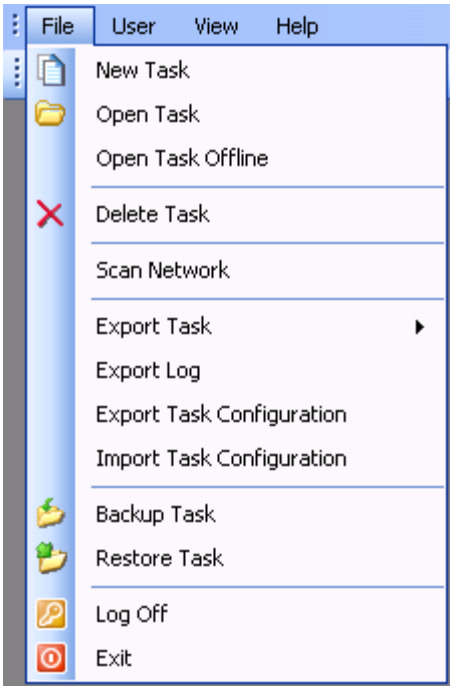


Figure 3.2 File pull-down: New Task

If the 1412i/1314i/3434i device is recognized the **New Task** window (Figure 3.3) opens, where you enter the name of the new task and press the **OK** soft-key. After that you can proceed to section 3.2.

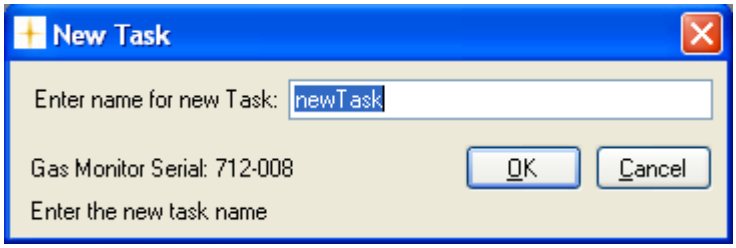


Figure 3.3 Type in the name of the new task.

If the 1412i/1314i/3434i device is NOT recognized the Communication Error message box (Figure 3.4) will appear. Press the **OK** soft-key.

Figure 3.4 Communication Error message box.

If you are using the **USB** interface cable connection please proceed to section 3.1.1.

If you are using the **Ethernet** (TCP/IP) interface cable connection please proceed to section 3.1.2.

If you are using the **RS-232** interface cable connection please proceed to section 3.1.3.

3.1.1 Configuration of the USB interface

The **System Configuration Setup** window appears. Now you select the **USB** radio button as shown in figure 3.5 in case it is not selected.

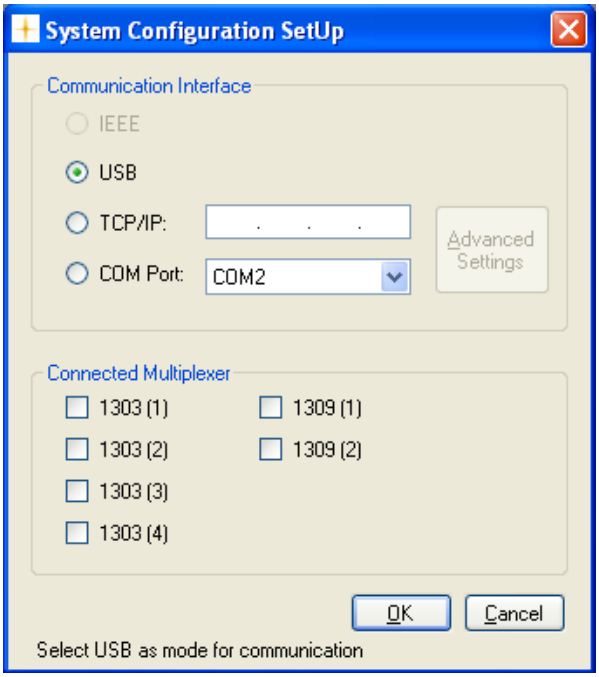


Figure 3.5 Select the USB communication interface.

To close the **System Configuration Setup** press the **OK** soft-key.

If the USB interface already was selected please make sure that the USB interface cable between the PC and the 1412i/1314i/3434i Gas Monitor is securely connected.

Finally please ask your Administrator to check for the presence of the 1412i USB driver in the Device Manager (Figure 3.6). Please note that the 1412i USB driver also supports the 1314i and 3434i Gas Monitor.

Now proceed to section 3.2 in order to create a new task.

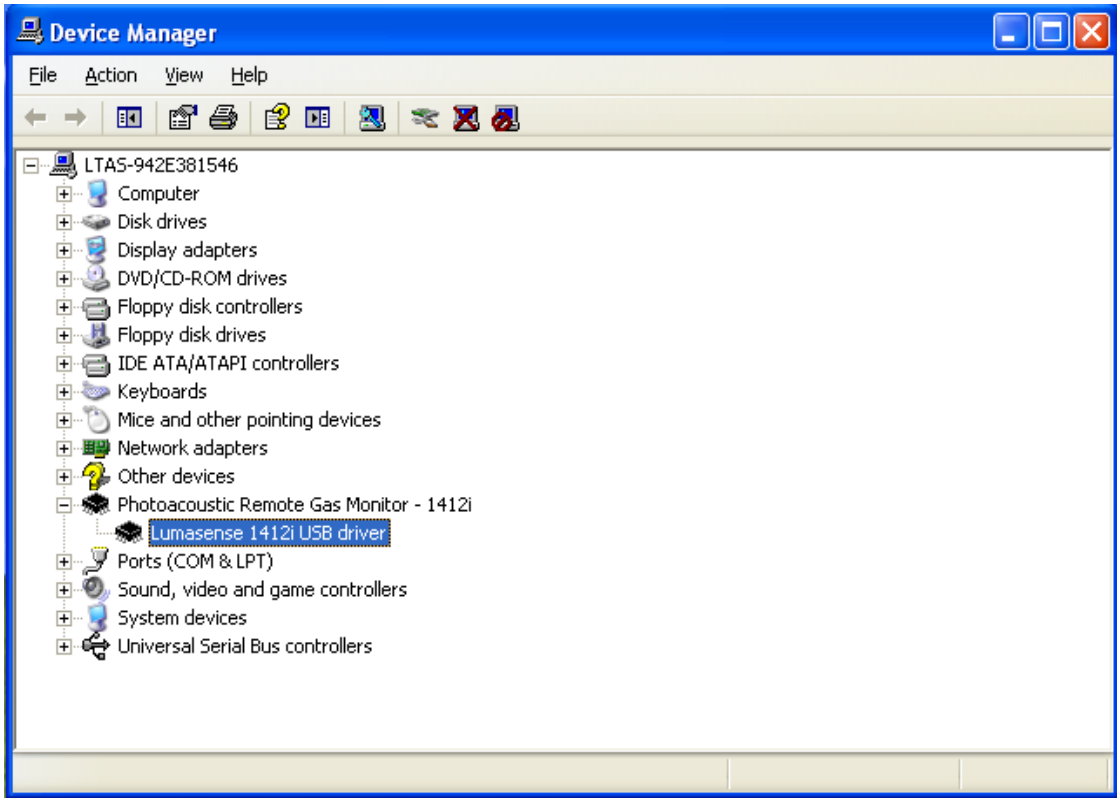


Figure 3.6 The 1412i USB driver.

3.1.2 Configuration of the Ethernet (TCP / IP) interface

The **System Configuration Setup** window appears. Now you select the **TCP / IP:** radio button as shown in figure 3.7 in case it is not selected.

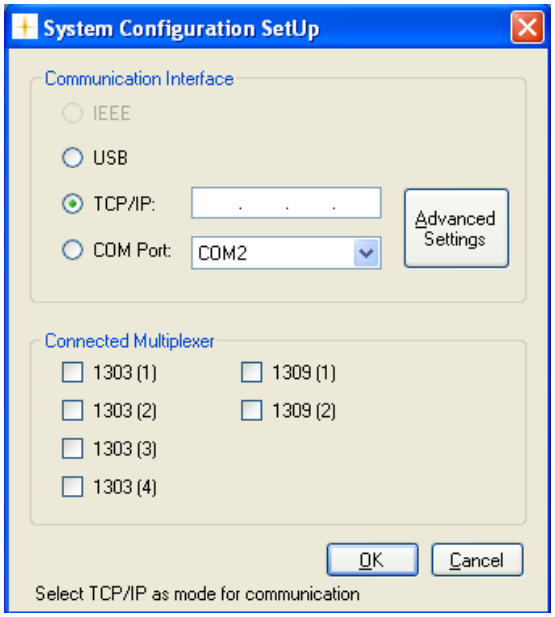


Figure 3.7 Select the TCP/IP communication interface.

Enter the IP address of the Gas Monitor into the IP-address field as shown in Figure 3.8.

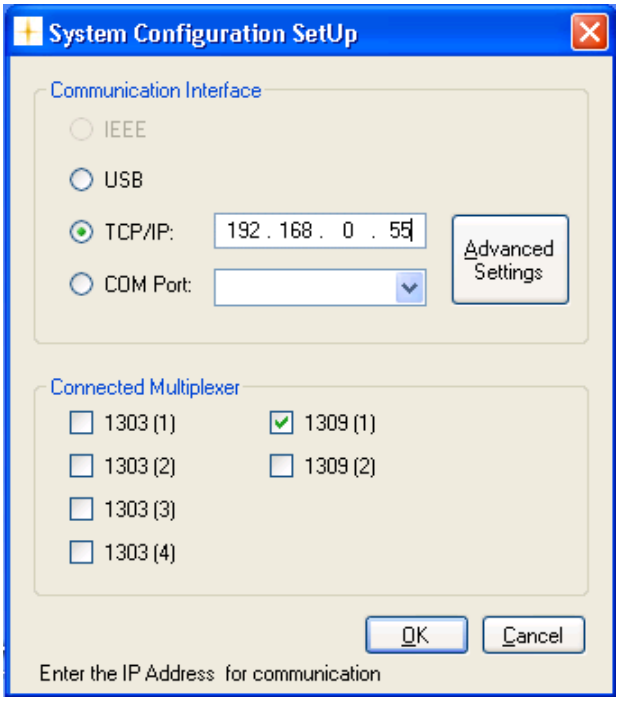


Figure 3.8 Enter the IP Address of the Gas Monitor.

Refer to Section 2.2.4 to find the IP address of the 1412i/1314i/3434i Gas Monitor.

Press the **OK** soft-key to close the **System Configuration Setup** window. Proceed to Section 3.2 in order to create a new task.

If the creation of a new task failed the following message box will appear. It is caused because LumaSoft Gas is unable to communicate with the Gas Monitor through Ethernet (TCP/IP).

Figure 3.9 Communication failed with the Gas Monitor.

Please make sure that the Ethernet (TCP/IP) interface cable between your network and the 1412i/1314i/3434i Gas Monitor is securely connected.

Please ask your **Administrator** to check the TCP/IP settings of the 1412i/1314i/3434i Gas Monitor as described in Section 2.2.4.

Make sure that the **PROTECTED IP ADDRESS** either is set to the IP Address of your PC or set to 000:000:000:000.

Make a note of the IP Address of the 1412i/1314i/3434i device as displayed in the TCP/IP settings.

Your Administrator can now open a DOS Command Prompt to check for a ping reply from the IP Address of the 1412i/1314i/3434i device.

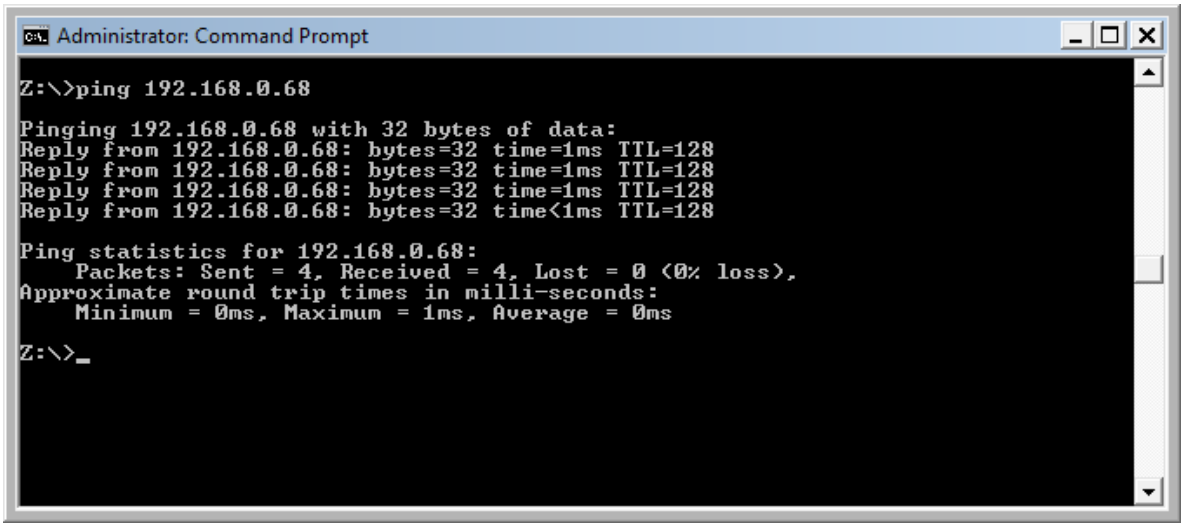


Figure 3.10 Ping reply from the 1412i/1314i/3434i device.

3.1.3 Configuration of the RS-232 interface

The System Configuration Setup window appears. Now you select the **COM Port:** radio button as shown in figure 3.11 in case it is not selected. Press the **OK** soft-key.

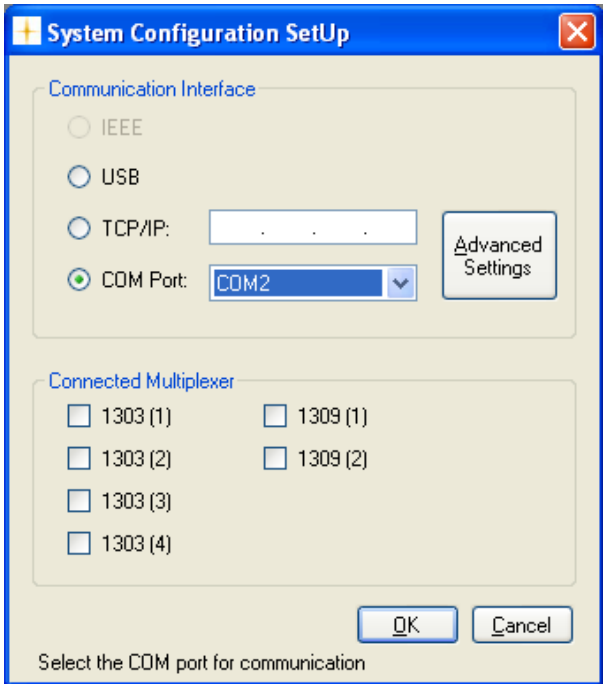


Figure 3.11 Select the RS-232 communication interface.

Select the **Scan Network** pull-down menu (Figure 3.12).

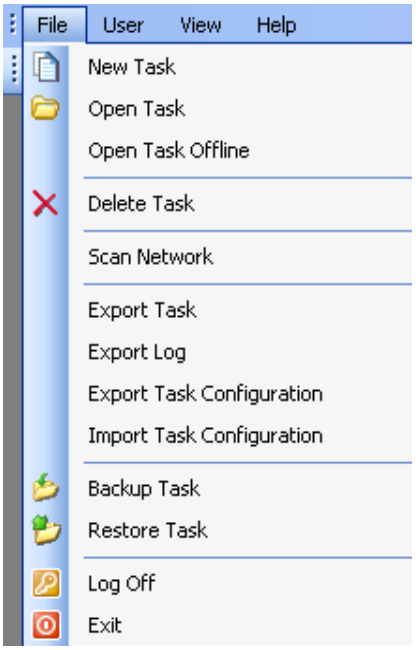


Figure 3.12 File pull-down: Scan Network

A search for a 1412i/1314i/3434i Gas Monitor connected to the RS-232 interface is now performed. When found the **Scan Network** window is shown (Figure 3.13). Press the **New Task** soft-key.

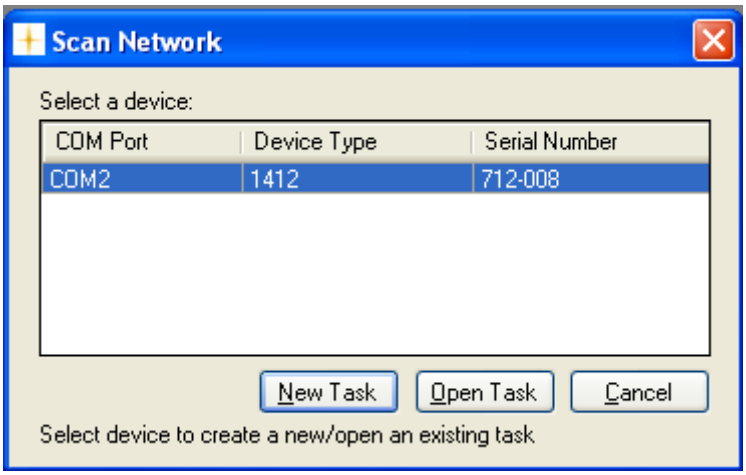


Figure 3.13 Scan Network: COM2 port found

Now the New Task window opens (Figure 3.14). Enter the desired name for your task and press the **OK** soft-key. You can now proceed to Section 3.2.

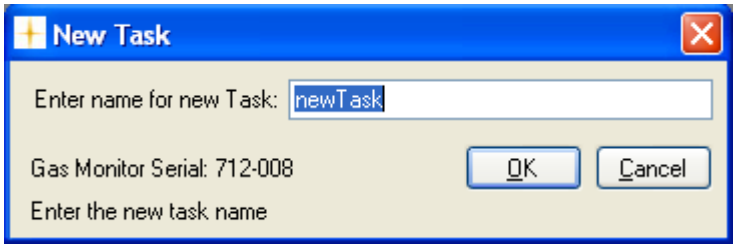


Figure 3.14 New Task: Enter task name

3.2 Measurement set-up

The set up of a new measurement task is carried out in five steps.

3.2.1 Configuration

First step is System Configuration Setup, select **Configuration** in the **Set Up** pull down menu (Figure 3.15) or select the icon from the task bar.

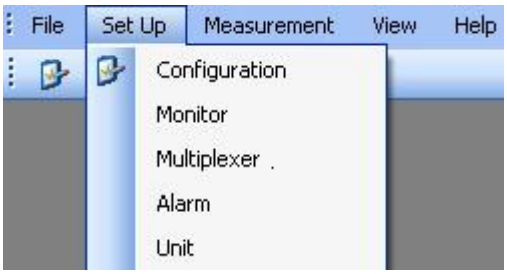


Figure 3.15 Set-up pull-down: Configuration

The following **System Configuration Set Up** window will appear.

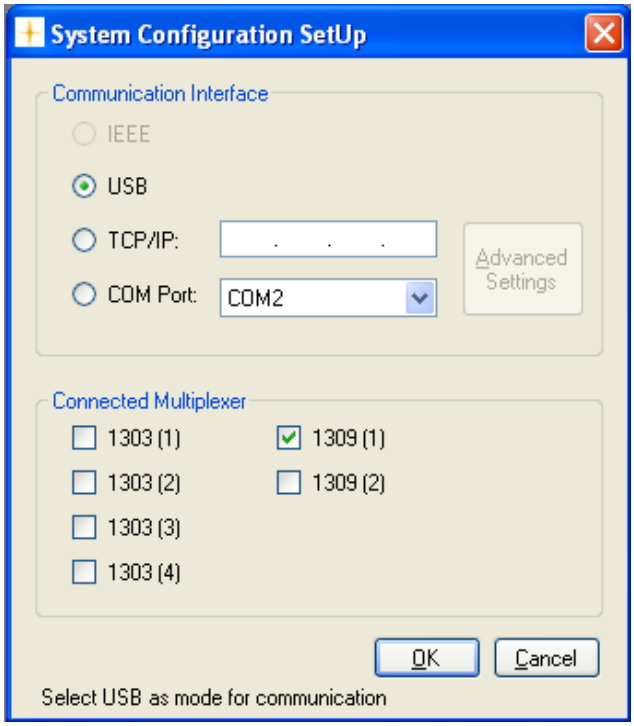


Figure 3.16 System Configuration SetUp

Then make check marks if any multiplexers (1303, 1309) are connected to the Monitor. A maximum of four 1303 or two 1309 can be connected. After finishing the set up, press **OK**.

3.2.2 Monitor Setup

Set up of the Monitor is done by selecting **Monitor** in the **Set Up** pull down menu. (Figure 3.17)

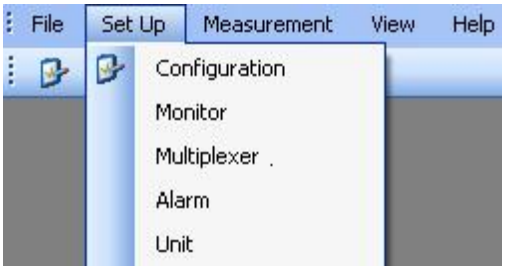


Figure 3.17 Set up pull-down: Monitor

The **Monitor Setup** will appear. (Figure 3.18)

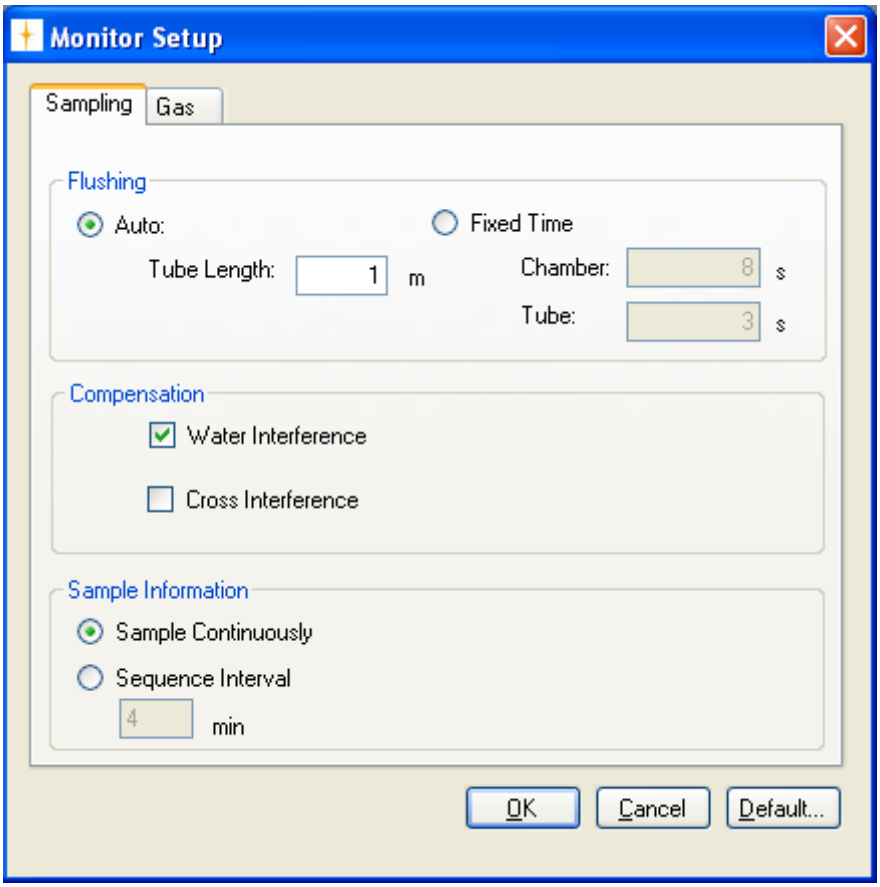


Figure 3.18 Monitor Setup, Sampling

Sampling Index Card

In the **Flushing** group box select if the flushing of the instrument should be Auto or Fixed Time.

By selecting **Auto** the monitoring system controls the flushing by selecting the optimum flushing time. This time can vary as the option takes into account the cleanness of the external air filters and the length of the sampling tube. Type in the length of the tubing. (See Figure 3.18).

Selecting **Fixed Time** allows the user to define a flushing time for chamber and tubing. Table 3.1 shows the acceptable values for flushing chamber and tubing.

Acceptable Values	Interval	Default Value
Chamber: 2 to 60 s	1 s	8 s
Tube: 0 (=off), 3 to 120 s	1 s	3 s

Table 3.1 Acceptable values for flushing the system when selecting Fixed Time flushing

In the **Compensation** group box, see Figure 3.18, compensation for **Water** and **Cross Interference** can be checked on/off.
It is suggested that Water should be compensated for in all measuring situations except where extremely dry gases are being measured.

If any interfering gas other than Water Vapour is present in the ambient air sample, the Monitor can cross compensate for the interference caused by its presence provided that a selective optical filter is installed in the Monitor to measure the concentration of the interfering gas present.

In the **Sample Information** group box, see Figure 3.18, select whether multiplexer sequences are continuous. Select **Sample Continously** if you want the next multiplexer sequence immediately after finishing the previous multiplexer sequence. If **Sequence Interval** is selected a time interval (in minutes) can be set to define the start of one multiplexer sequence to the beginning of the next. If no multiplexer is used the time interval will be between the individual samples.

Gas Index Card

Select the Gas index card and press the **Read Filter Info** soft-key (See Figure 3.19) to read the filter configuration from the Monitor.

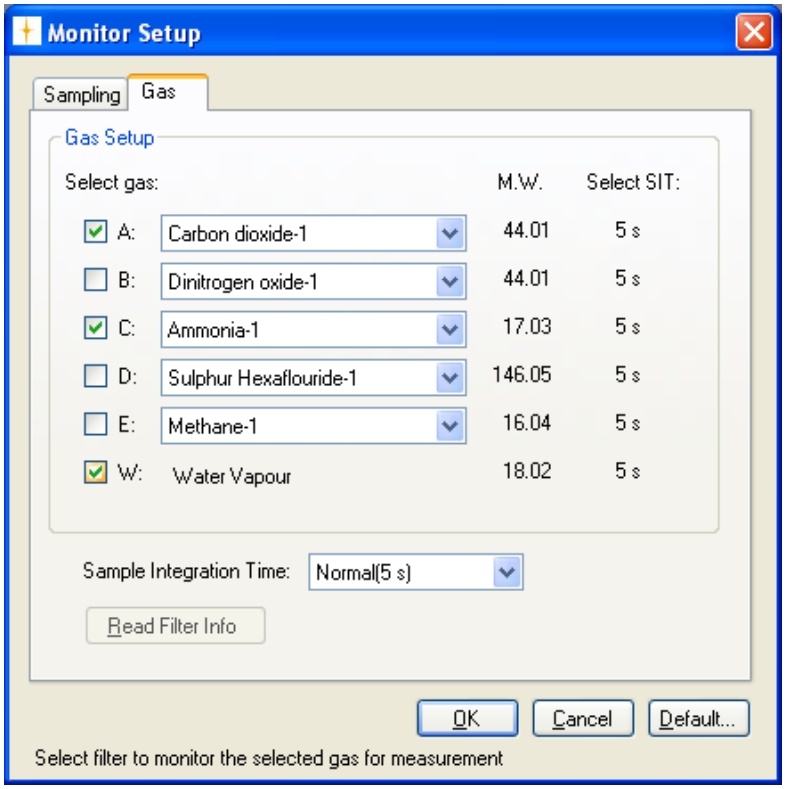


Figure 3.19 Monitor Setup, Gasses to be measured

The calibrations in the Monitor will appear as Gas A, B, C, D and E, see Figure 3.20. Select the gasses which should be measured by using the checkboxes.

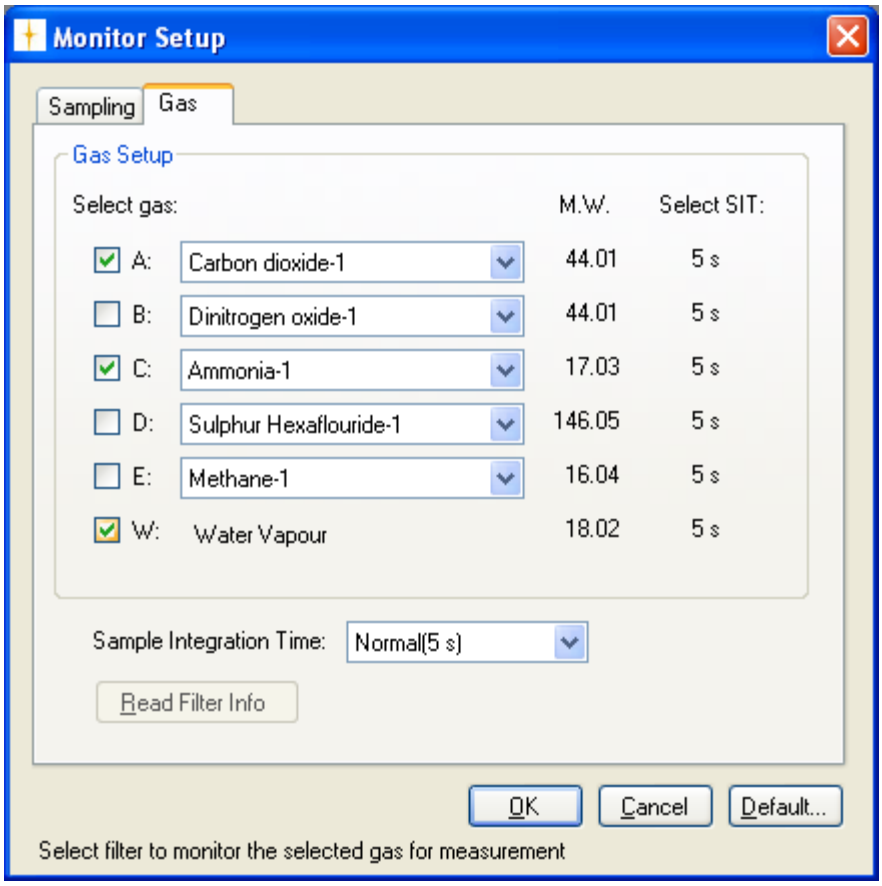


Figure 3.20 Monitor Setup

Also select the Sample Integration Time (SIT) to be used in the measurements and press **OK**.

To select different SIT's for different gases use the **Sample Integration Time** field selection and select **Advanced**.
A select field appears for each gas, see Figure 3.21. Then it is possible to define a SIT for individual gases.

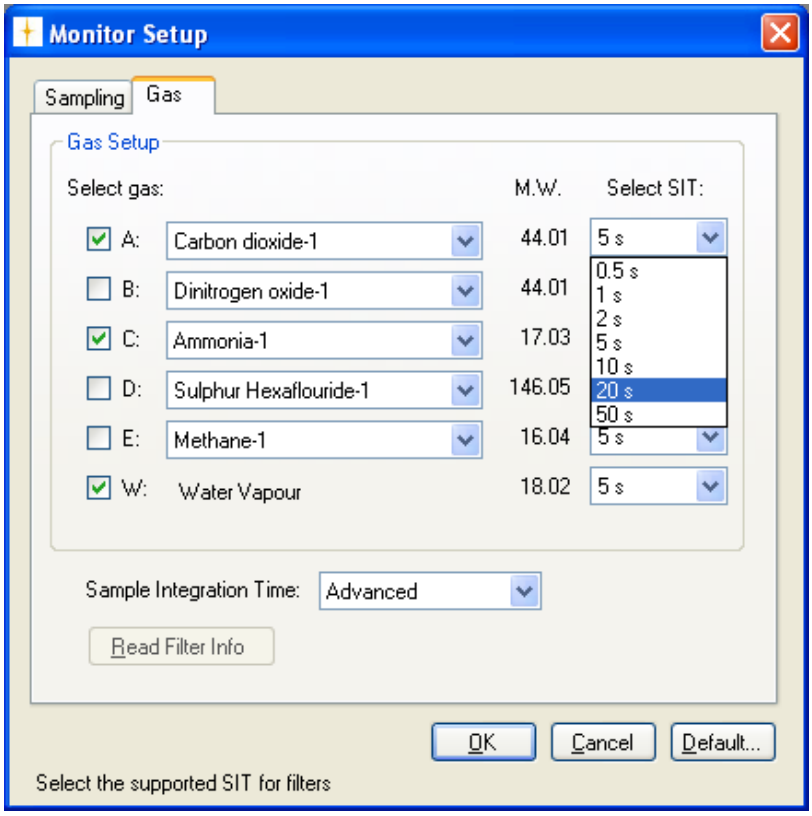


Figure 3.21 By selecting Advanced the user can define SIT for the different gases

3.2.3 Multiplexer setup

If a multiplexer is connected to the Monitor select **Multiplexer** in the **Set Up** pull down menu. (See Figure 3.22)

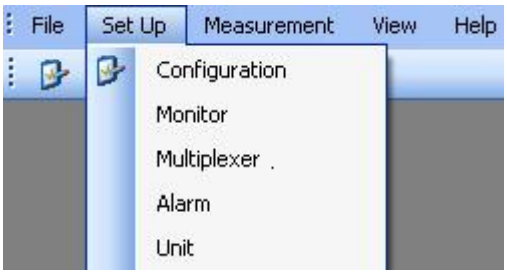


Figure 3.22 Set Up pull-down: Multiplexer

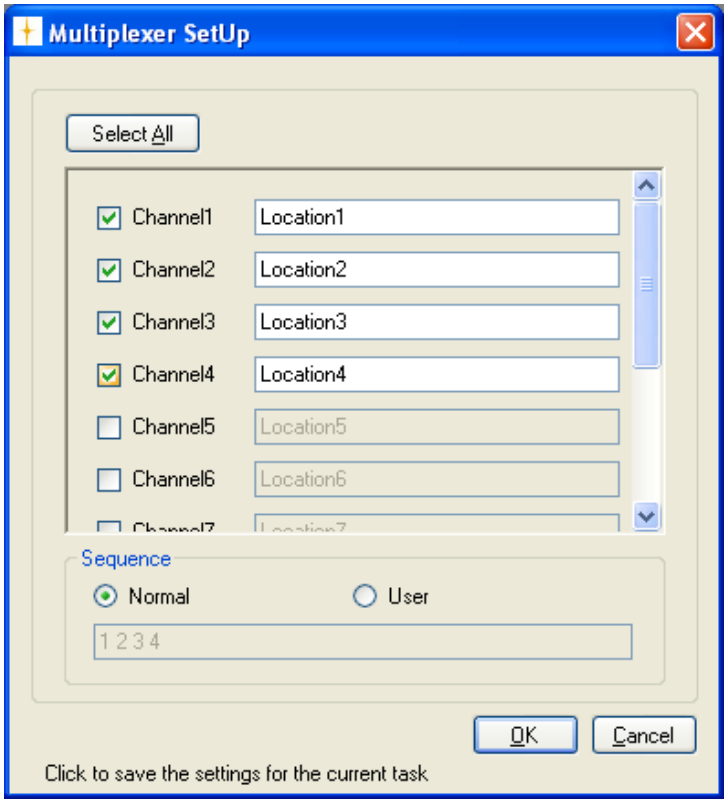


Figure 3.23 Multiplexer SetUp

Select the channels from which the multiplexer should draw air samples. For each channel a specific location or name can be assigned.

Choose between a **Normal** sequence and a **User** sequence. By selecting a normal sequence (see Figure 3.23), air samples will be drawn first from channel 1 then 2, 3, 4 etc., that is in ascending order. Selecting User Sequence allows you to define the sampling order arbitrarily, by typing in the channel numbers in a specific order, see Figure 3.24.

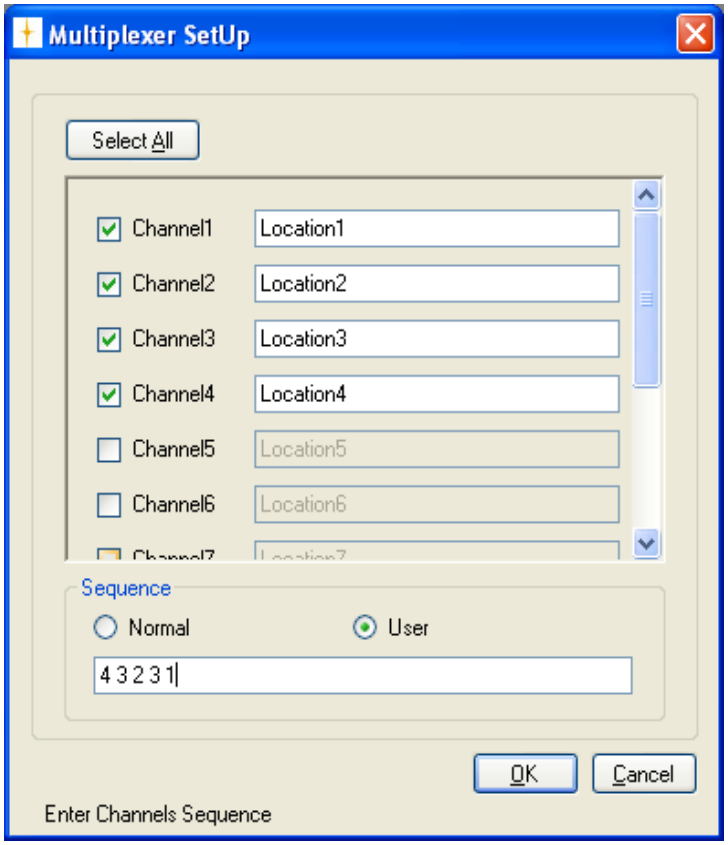


Figure 3.24 User defined sample sequence

3.2.4 Alarms

This function is used to define software alarms for each gas when the concentration reaches either a minimum or a maximum level.

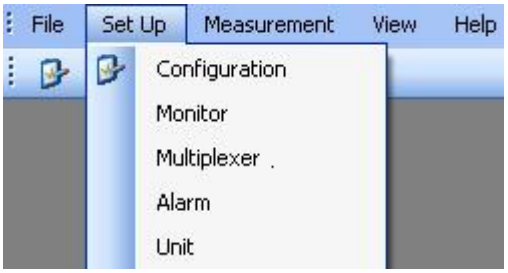


Figure 3.25 Set Up pull-down: Alarm

Select **Alarm** in the **Set Up** pull down menu, and the following window will appear, Figure 3.26.

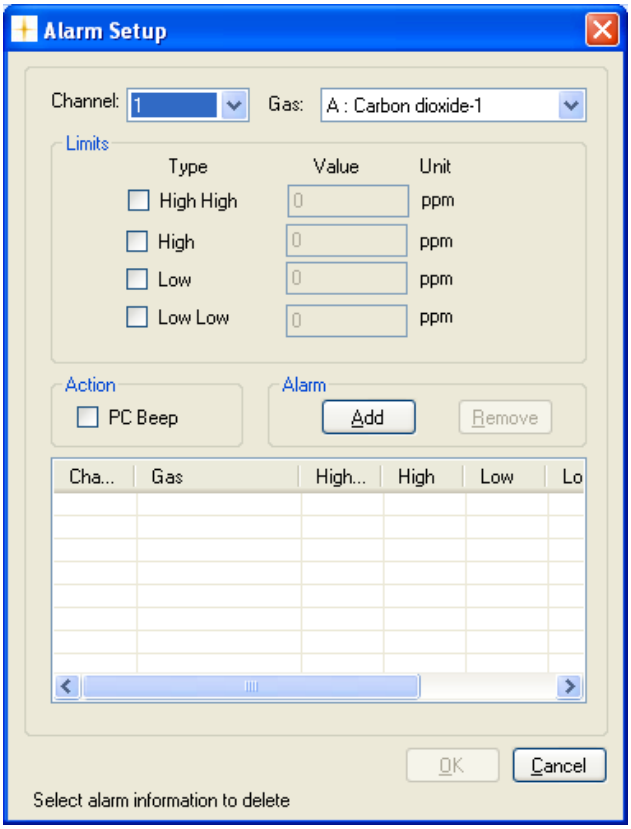


Figure 3.26 Alarm Setup for specific gases

First select the channel number in the field selection box for which the alarm should be configured, as shown in Figure 3.27.

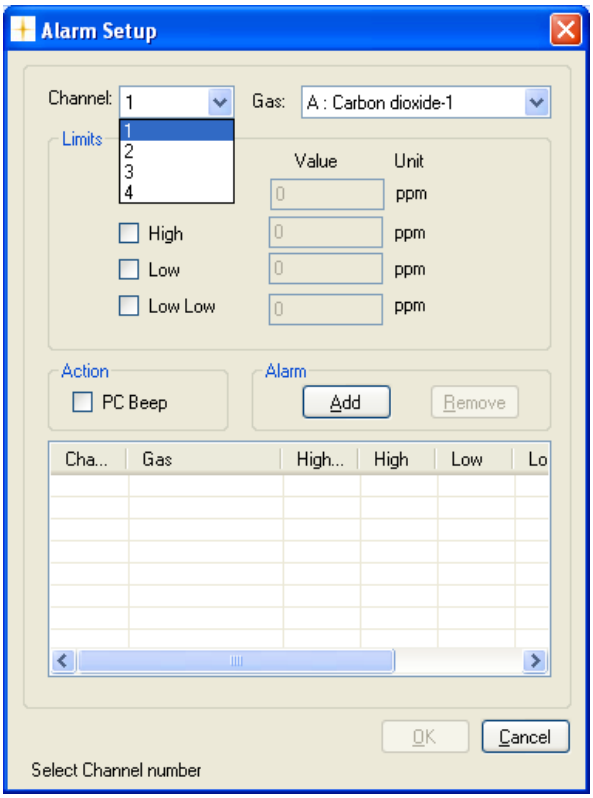


Figure 3.27 Select a channel number in the left pull down box.

Then select the gas for which the alarm should be configured in the **Gas** selection box, see Figure 3.28.

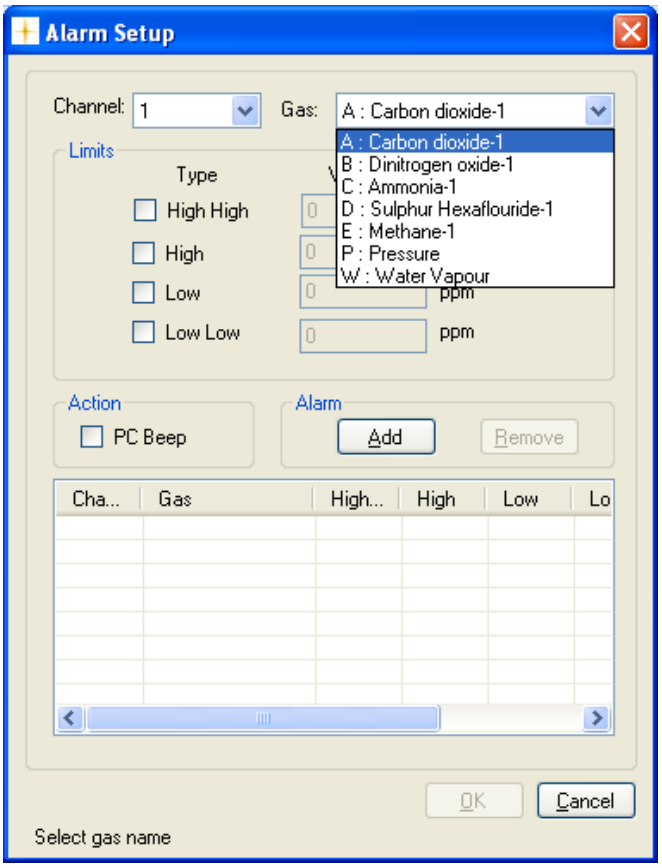


Figure 3.28 Select for which gas the alarm should be configured

There are four different alarms which can be configured: Low, Low Low, High and High High. The **Low** alarm can be set to give a warning that the concentration of the gas is dropping below the normal level. The **Low Low** alarm can then be configured to give a warning whenever the gas concentration drops below the lowest allowable concentration. The **High** and the **High High** alarm levels are set to give a warning for a concentration above a certain limit and that the maximum allowable concentration is exceeded.

To set up an alarm first select between the four mentioned alarms, select concentration unit, and then type in the concentration, se Figure 3.29.

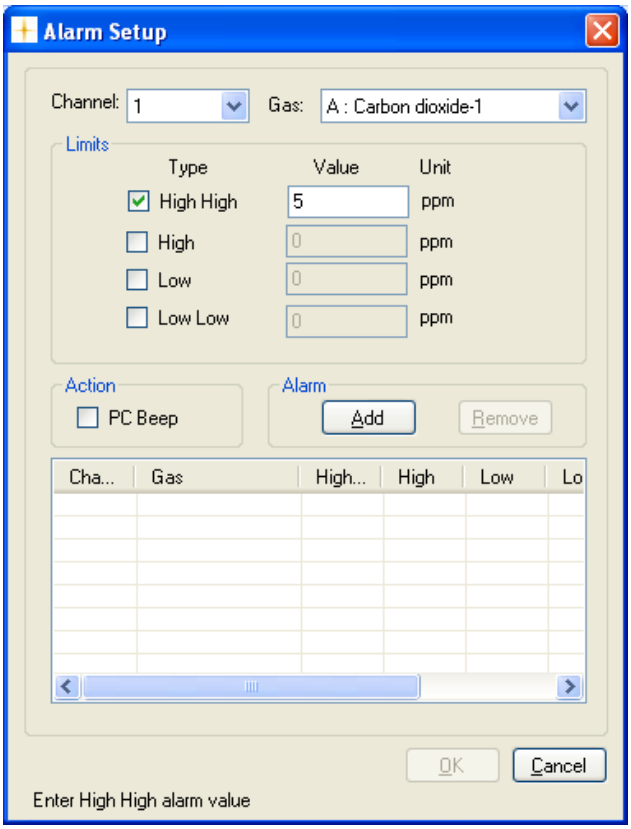


Figure 3.29 Select a type of alarm and type in a value for the gas concentration

When the alarms have been configured choose whether there should be a PC beep when the alarm level is reached. Press **Add** soft-key to add the configured alarms and then **OK** to proceed. (See Figure 3.30)

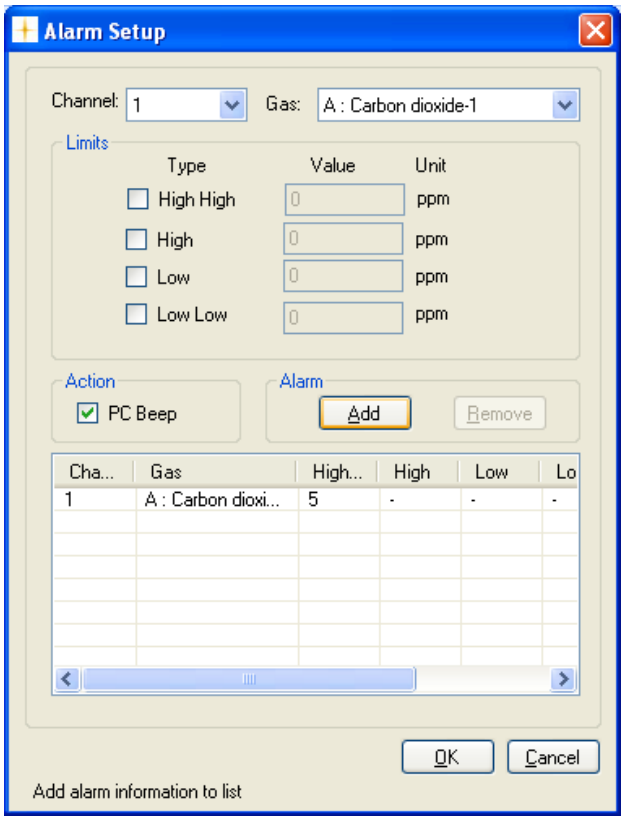


Figure 3.30 Press Add soft-key to add the configured alarms

To remove a gas from the alarm list highlight the gas using a mouse click and press the **Remove** soft-key. (See Figure 3.30)

3.2.5 Units

Select **Unit** in the **Set Up** drop down menu. (See Figure 3.31)

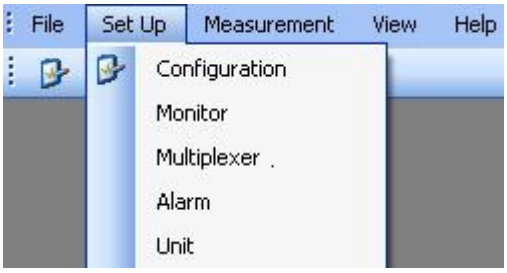


Figure 3.31 Set Up pull-down: Unit

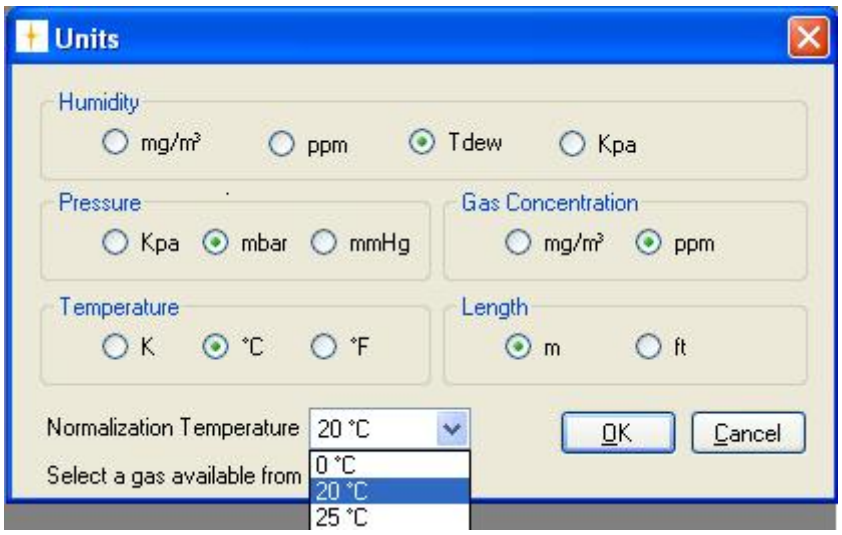


Figure 3.32 Select in which units the data should be displayed

In this window the user can select in which units Humidity, Pressure, Gas Concentration, Temperature and Length will be shown. The Normalization Temperature can also be changed. The normalization temperature is the reference temperature, for reporting data in absolute unit mg/m^3. A normalization temperature of 25°C means that the measured gas concentrations will be calculated in mg/m^3 at 25°C. The user can choose between three different normalization temperatures, see table 3.2.

Display Text	Options	Default Value
NORMALIZATION TEMPERATURE	0°C, 20°C and 25°C	20°C
NORMALIZATION TEMPERATURE	32°F, 68°F and 77°F	68°F
NORMALIZATION TEMPERATURE	273K, 293K and 298K	293K

Table 3.2 The possible values and the default values of the normalization temperature

Chapter 4

Perform Measurement

October 2012

This chapter shows how to

- perform a measurement task. (Section 4.1)
- present the measurement data in graphic display (Channel view). (Section 4.2.1)
- present the measurement data in graphic display (Gas view). (Section 4.2.2)
- present the measurement data in numeric display. (Section 4.3)
- set user events. (Sections 4.2.1.7{Channel view}, 4.2.2.8{Gas view} and 4.3.3)
- print graphic and numeric displays. (Sections 4.2.1.8{Channel view}, 4.2.2.9{Gas view} and 4.3.4)
- display historical data. (Section 4.2.1.9{Channel view}, 4.2.2.10{Gas view}
- view alarms. (Section 4.4)
- export measurement data. (Section 4.5)
- view error and warnings. (Section 4.6)
- export log (Section 4.7)

4.1 Measurement start and stop

If a measurement task is not open, select **File** and **Open Task**, see Figure 4.1 or select from the task bar.

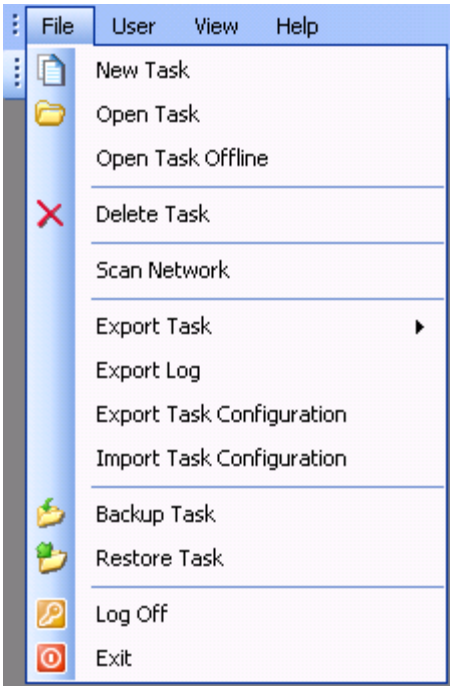


Figure 4.1 File pull-down: Open Task

Select an existing task to open, see Figure 4.2.

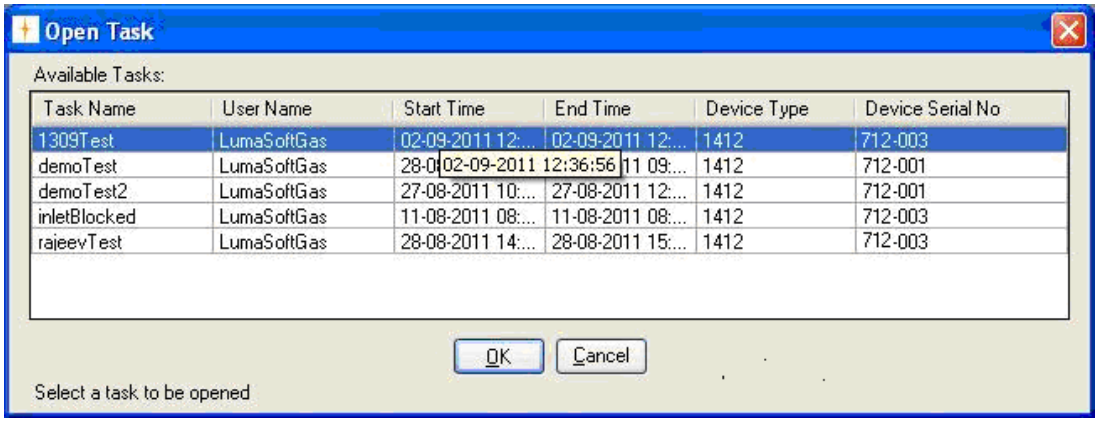


Figure 4.2 Select which task to open

4.1.1 Start Measurement

To start the measurement, select **Measurement** and **Start**, see Figure 4.3, or press the icon with the green arrow in the task bar.

Figure 4.3 Measurement pull-down: Start

The measurement can be started immediately (**Now** option) or at a specific starting time by using the option: **Start at**, see Figure 4.4.

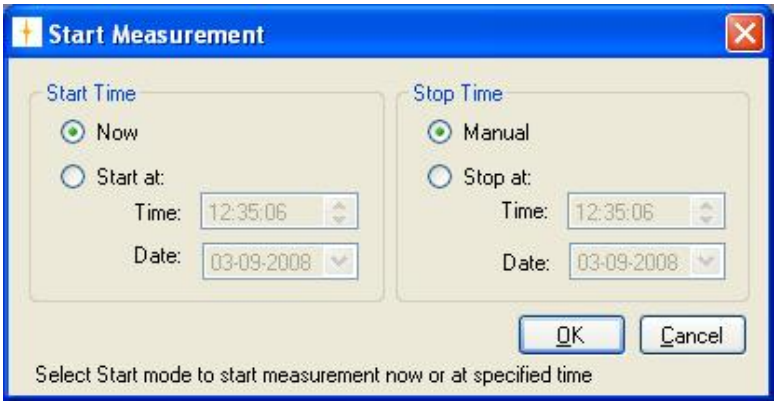


Figure 4.4 Start and stop measurement task

The measurement can be stopped manually (**Manual** option) or at a fixed time using the **Stop at** option. (See Figure 4.4)

A measurement task can be stopped and then restarted at your convenience.

4.1.2 Stop Measurement

To stop the measurement, select **Measurement** and **Stop**, see Figure 4.5, or press the icon in the task bar.

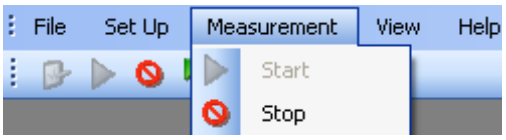


Figure 4.5 Measurement pull-down: Stop

4.2 Presentation of Data in Graphical Window

The measurement data can be presented graphically in two different ways either channel-wise or gas-wise.

If measurement data is presented channel-wise the gas filters is shown in a graphical view for each channel. Proceed to Section 4.2.1 for presentation of graphical data channel-wise.

If measurement data is presented gas-wise the multiplexer channels is shown in a graphical view for each gas filter. Proceed to Section 4.2.2 for presentation of graphical data Gas View.

4.2.1 Presentation of Data in Graphical Window Channel-View

To display measurement data graphically channel-wise select **Graphical Window>Single Channel with Selected Gases View** in the **View** pull-down menu. (See Figure 4.6)

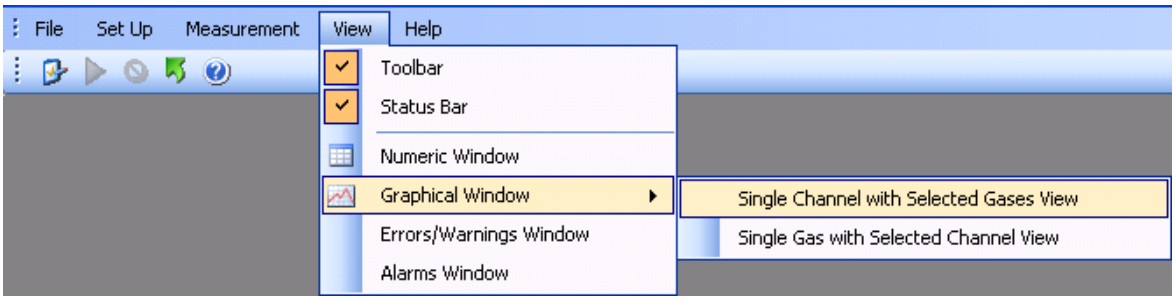


Figure 4.6 View pull-down: Graphical Window>Single Channel with Selected Gases View

4.2.1.1 Configuration of the (Channel-View) graphical window

In the **Configuration** window select if the data should be presented as a **Real Time Graph**, while measurement is in progress, or **Historical Graph**, see Figure 4.7.

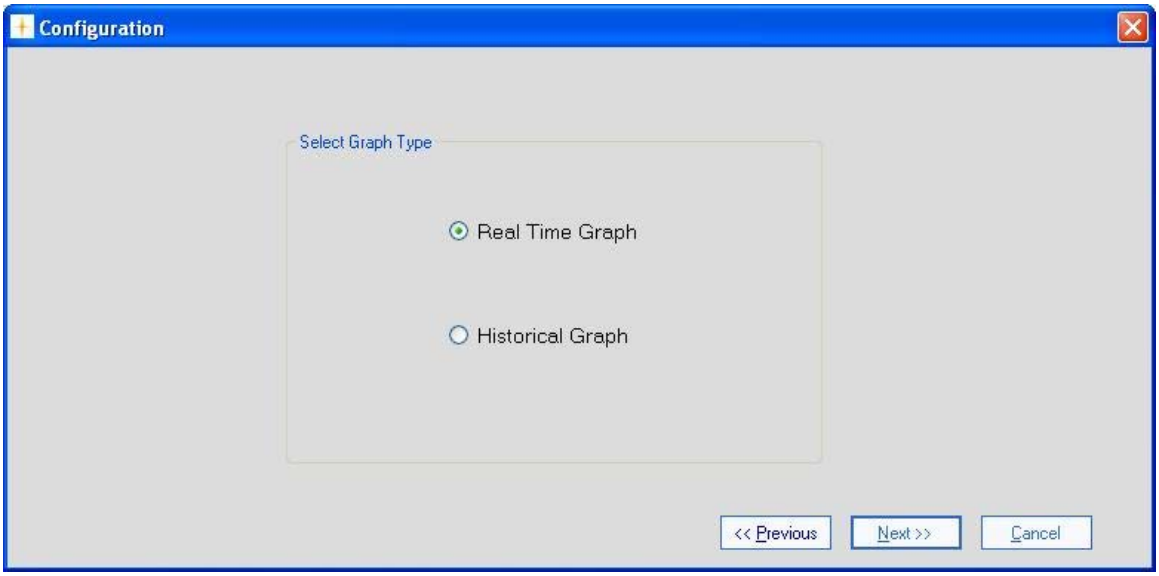


Figure 4.7 Select if the data should be presented in real time or historic

Real Time Graph means that measurement data will be plotted as they arrive from the Monitor.
Historical Graph means viewing of previously measured data

Select **Real Time Graph** and press **Next** to continue.

4.2.1.2 Select Gases (Channel view)

In the gas **Configuration** window, see Figure 4.8, select which of the measured gases to be included in the Graph and press the right going arrow.

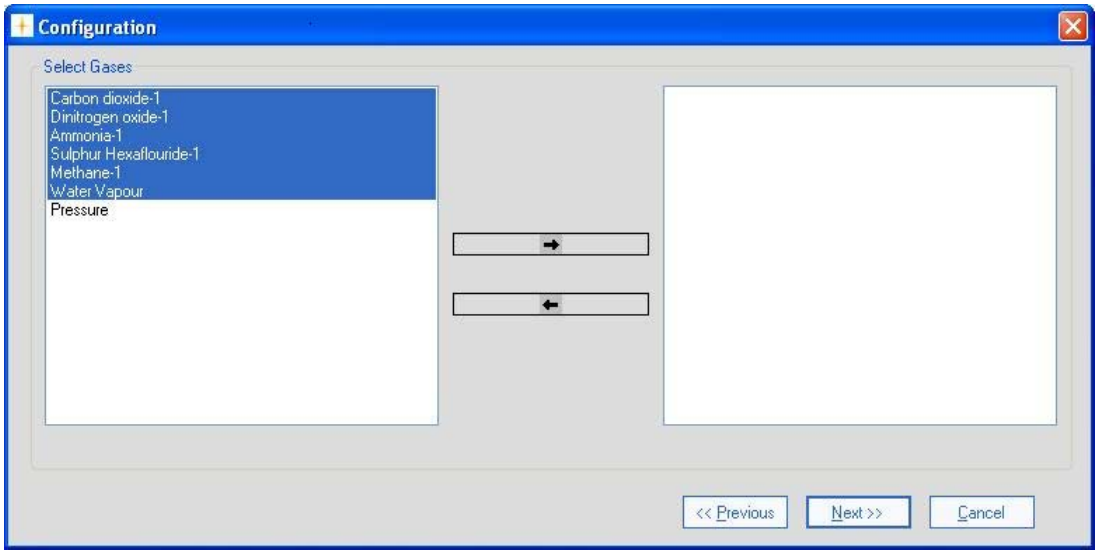


Figure 4.8 Select which gasses to be presented

To select more gasses at one time press Ctrl while selecting. When the gases have been chosen they will appear in the right window, see Figure 4.9. Press **Next** to proceed.

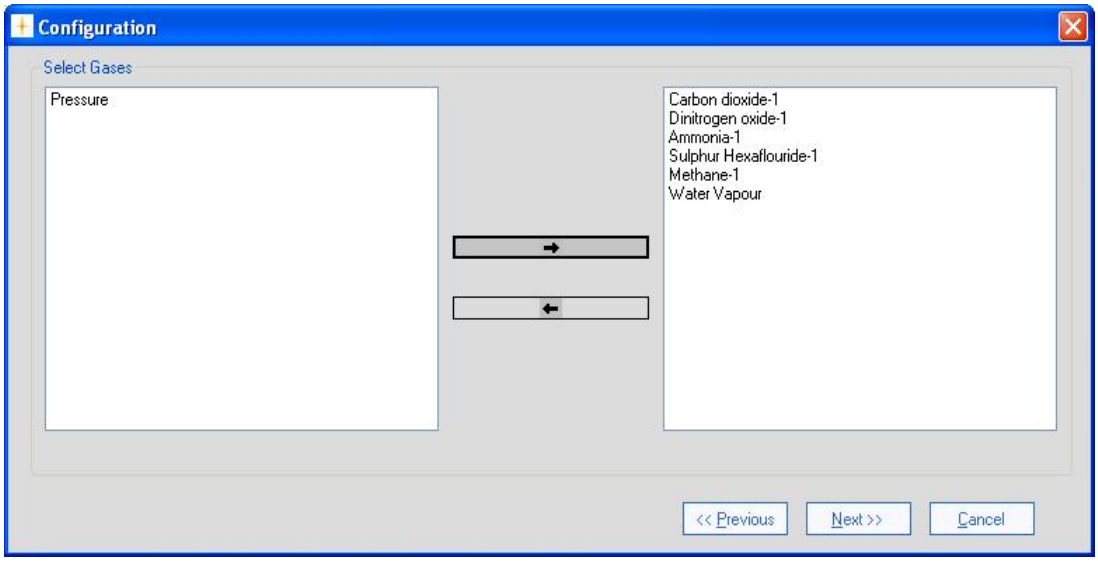


Figure 4.9 The gasses chosen for presentation

4.2.1.3 Configuration of curves (Channel view)

CurveColor

Each of the filters has a default selected curve color, see Figure 4.10.

To change the color of the curves press the colored square in the **CurveColor** column.

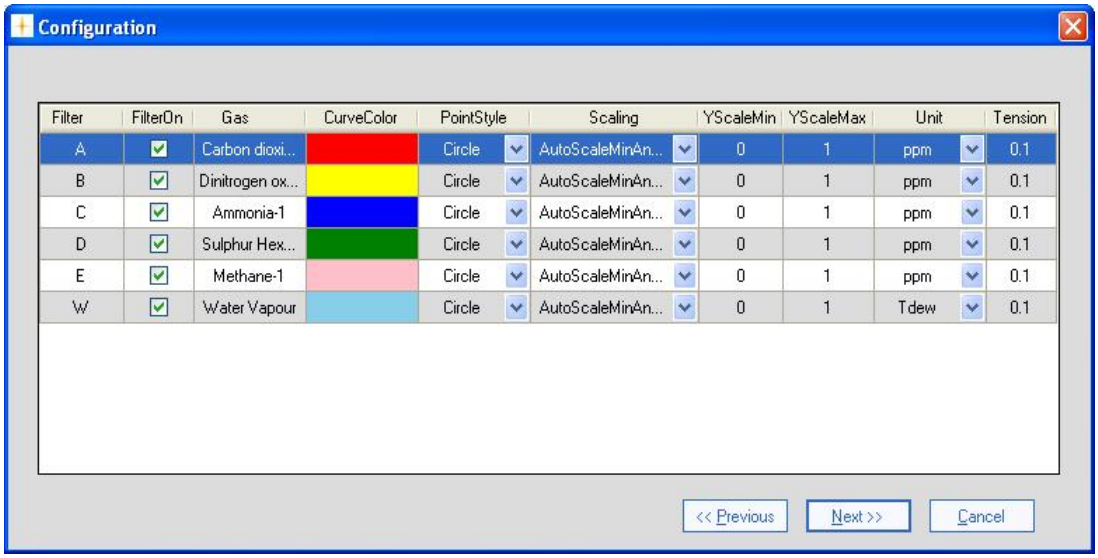


Figure 4.10 Change the color of the curves

Select a color for the curve in the **Color** window, see Figure 4.11.

Figure 4.11 Select a color for the curve

Repeat the procedure for all the gasses.

PointStyle

It is possible to change the style of the plotted measuring points to **Square** or **Circle** using the field selection in the **Point Style** column.

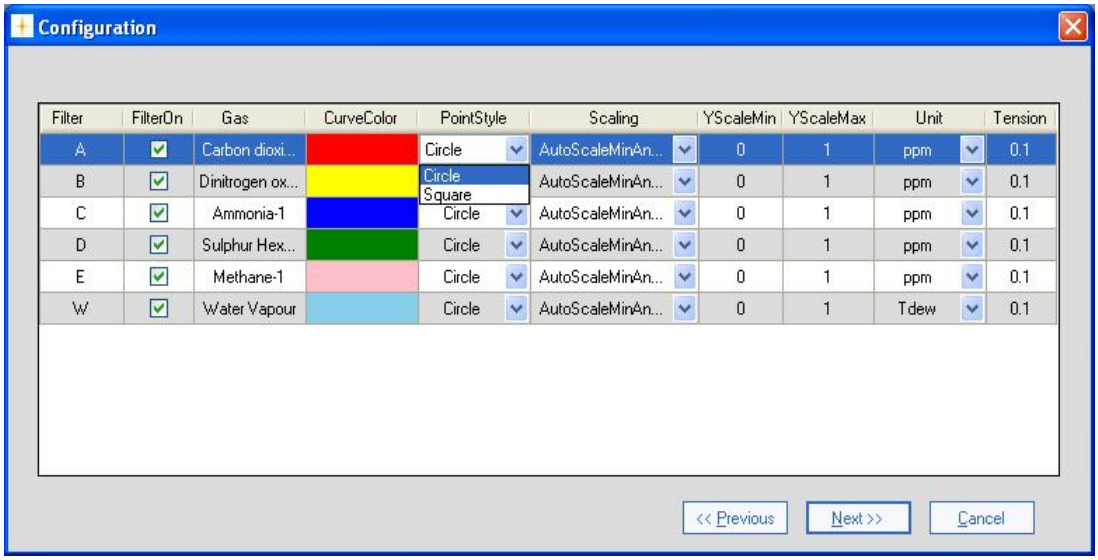


Figure 4.12 Change the style of the measurement points

Scaling

The scaling on the Y-axis can be set to **AutoScaleMinAndMax**, **AutoScaleMax** or **AutoScaleOff** in the field selection individually for each filter in the **Scaling** column. The possible scaling types are described in Table 4.1.

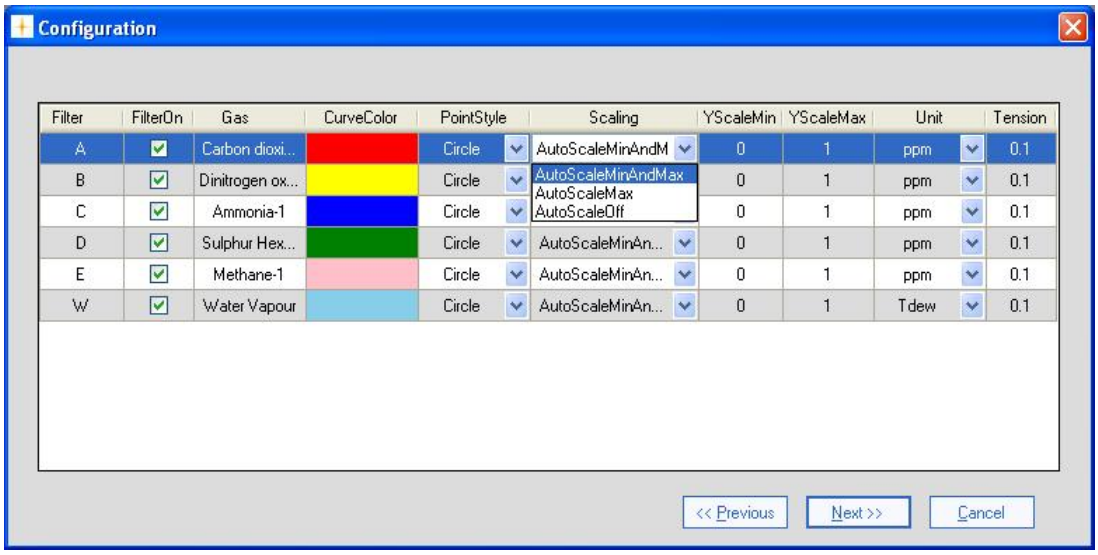


Figure 4.13 Setting the scaling of the axis

AutoScaleMinAndMax	The scale will cover from the lowest measurement value to the highest measured value, i.e. all measurement points will be visible on the graph.
AutoScaleMax	The Y-axis will begin at 0 and the maximum value depends on the highest measured value.
AutoScaleOff	The user defines both minimum and maximum values for the Y scale manually, by defining **YScalemin** and **YScaleMax**. This can be of use to view measurement points in a particular range.

Table 4.1 Shows the possible Scaling types of the Y-axis

Units

In the **Unit** column the unit in which each gas will be displayed in the graphical window can be selected.

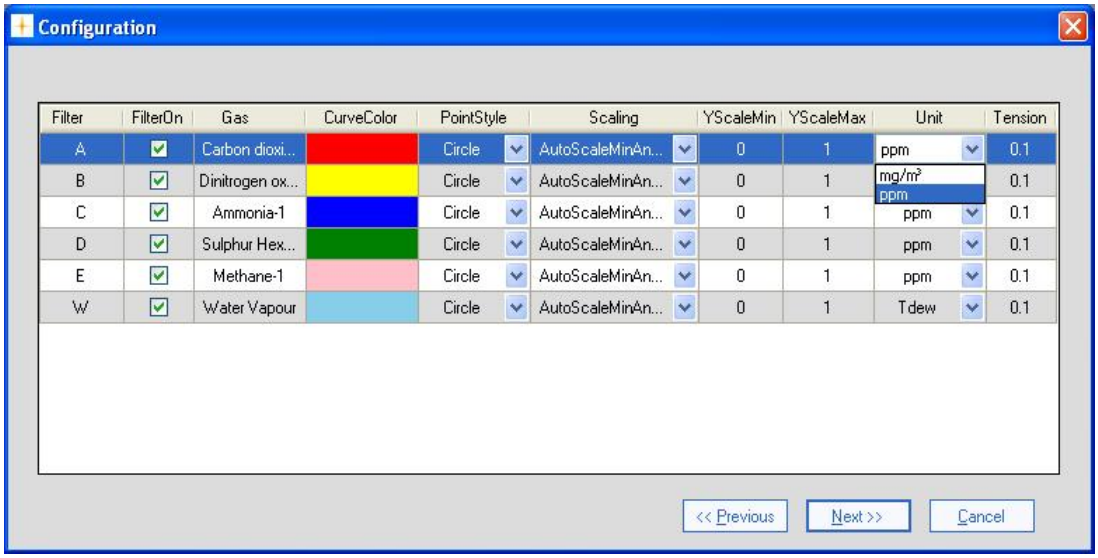


Figure 4.14 Select the unit in which the gas concentrations will be displayed

Table 4.2 shows the possible parameter units and their default settings.

Parameters	Units	Default Unit
Humidity	mg/m^3, ppm, Tdew, kPa	Tdew
Pressure	mbar, mmHg, kPa	kPa
Gas Concentrations	mg/m^3, ppm	ppm

Table 4.2 The possible parameter units with defaults

Tension

By adjusting the **Tension** it is defined how soft/hard the lines between the measuring points should be. If the tension is set to 0 the points are connected by straight lines.

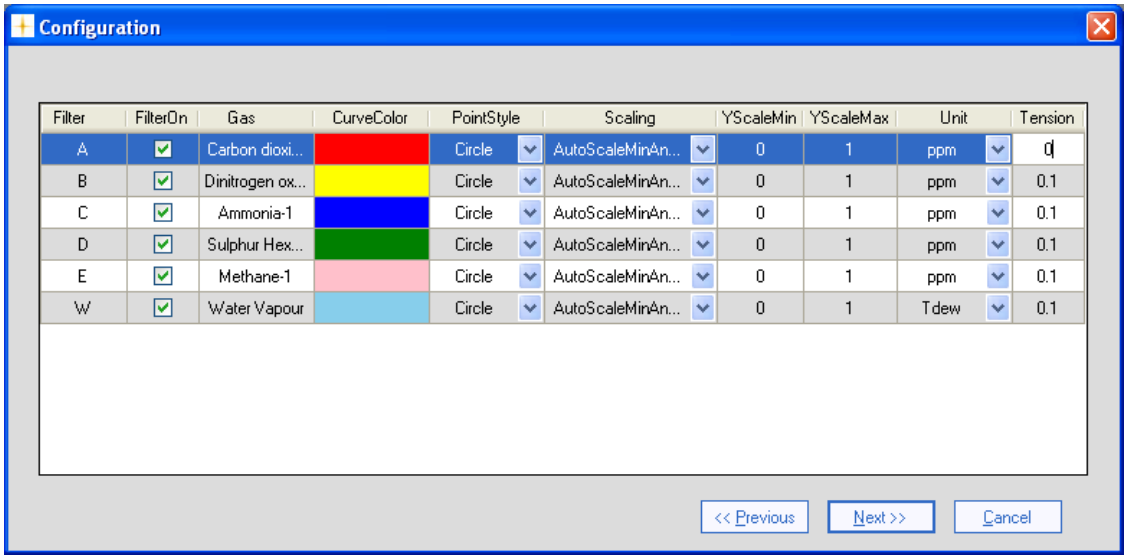


Figure 4.15 Define how hard/soft the lines between measurement points should be

When all the settings has been adjusted press **Next** to proceed.

4.2.1.4 Configuration of the Graph Window (Channel view)

In this configuration window the trend properties are configured. The trend can be given a title by entering a name in the **Graph Title** field. (See Figure 4.16).

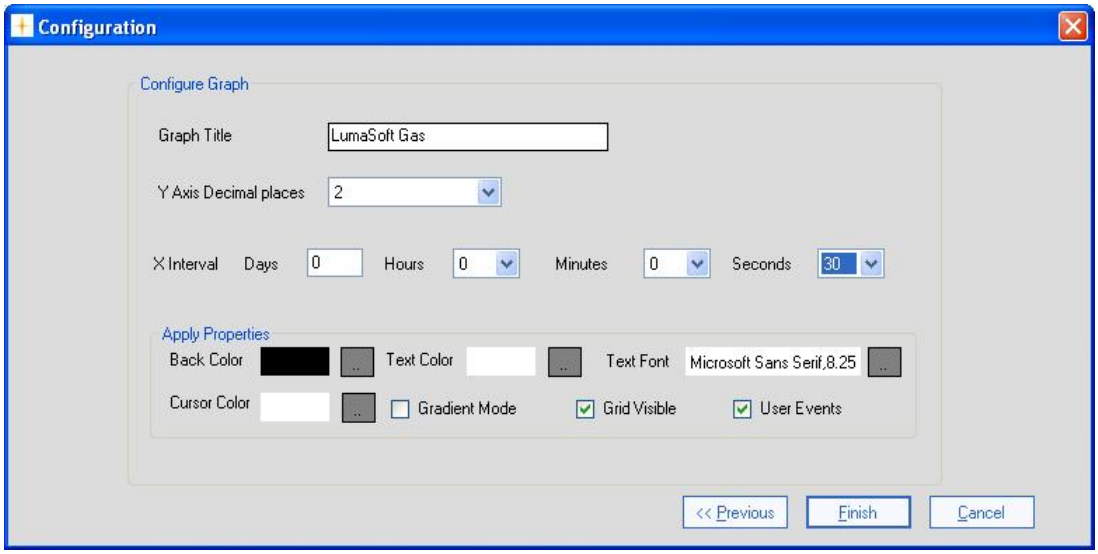


Figure 4.16 Configuration of graph window properties

The number of decimals on the measured values can be selected in the field selection: **Y Axis Decimal places**.
The time interval (**X Interval**) on the X-axis can be set to days, hours, minutes or seconds.

Back Color, **Cursor Color**, **Text Color** and **Font** etc. can be changed by pressing the appropriate grey squares.

Gradient Mode gives a shading of a dark background color.

Grid Visible turns on/off the grid.

User Events turns on/off the display of user events (see Section 4.2.1.7).

Press **Finish** when the configuration is completed.

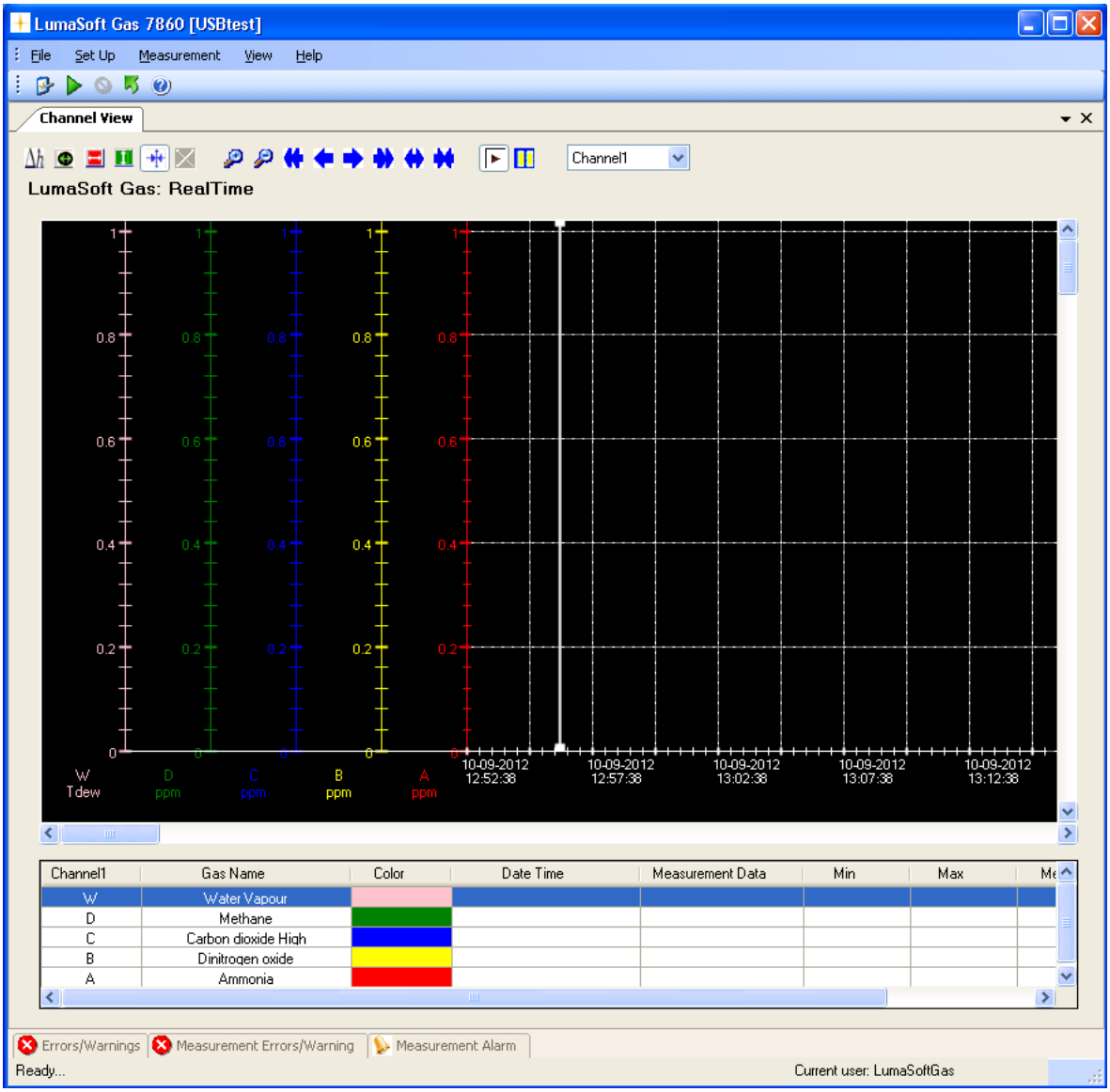


Figure 4.17 The graphical window(Channel View)

Changing the configuration

To change any of the above settings after the configuration is ended press the right mouse button while the cursor is placed in the graph area. Select **Setup** (see Figure 4.18) and the **Configuration** window will appear, see Figure 4.10 and Figure 4.16.

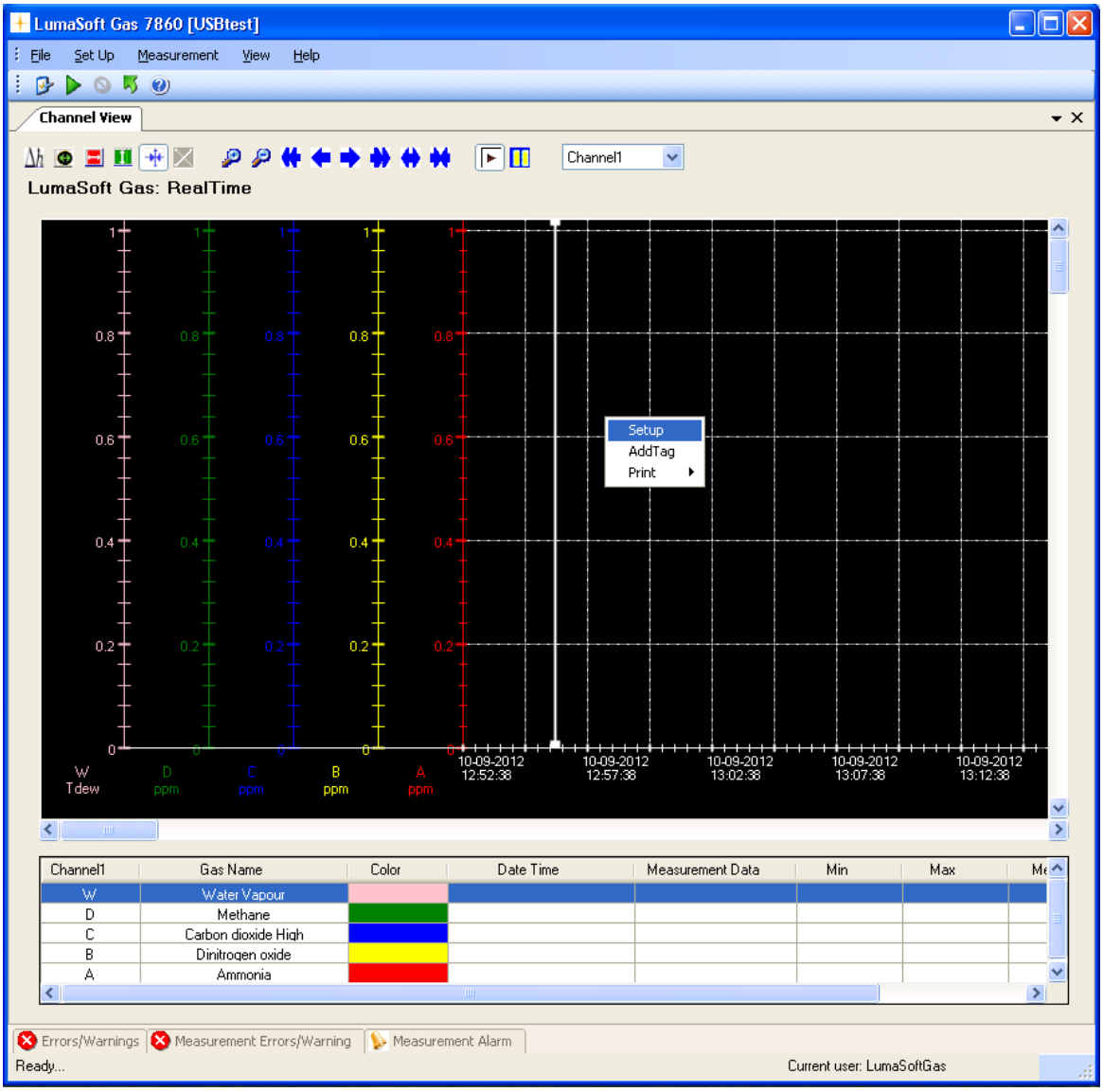


Figure 4.18 To change the configuration in the graphical window press the right button on the mouse

To add a curve for a measured gas, which has not been previously added, press the right mouse button while the cursor is placed in the graph area and select **AddTag**. (See Figure 4.18)

4.2.1.5 The Graphical Window (Channel view)

The graphic window shows the measurement data in a graph. Each filter in the Monitor has its own axis on the graph, see Figure 4.18. Below the graph a window containing a list of the measured gases, and statistics performed from all obtained measurement data (**Min**, **Max**, **Mean** and **Std. Deviation**) is shown. The bottom window is the **Error and Warnings** and **Alarm** window. The number of curves displayed, their color and style are defined by the user as described in Section 4.2.1.1, Section 4.2.1.2, Section 4.2.1.3 and Section 4.2.1.4.

The user can toggle between the **Errors / Warnings**, **Measurement Errors / Warnings** and **Measurement Alarm** windows. The **Errors / Warnings** window will register if any errors have occurred while running the measurement. The window can be hidden by pressing **Auto Hide** icon, or by selecting **Errors / Warnings Window** in the **View** drop down menu, see Figure 4.19.

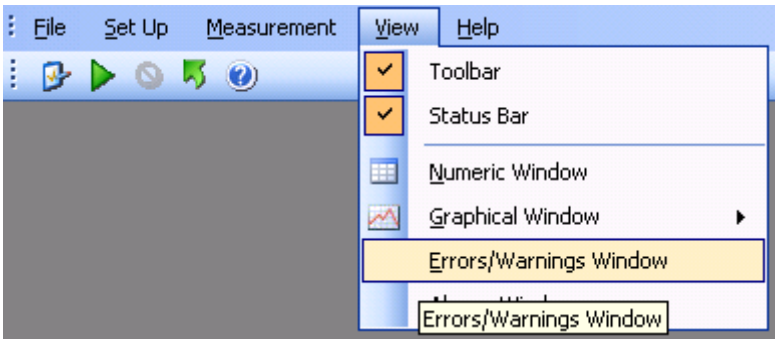


Figure 4.19 View pull-down: Errors/Warnings Window

4.2.1.6 Functions in the Graphical Window (Channel view)

In the top of the Graphical window the Icon Tool Bar is displayed.

The tool bar makes it easier to handle and process the obtained measurement data.

The function behind each icon will be explained in the following section.

Find Difference Δh

The function **Δh**, will calculate the difference in the value for two data points on the same filter curve. Press the Δh icon and then select the two data points with mouse clicks. In the top right corner the difference between the two measurements will be displayed, see Figure 4.20.

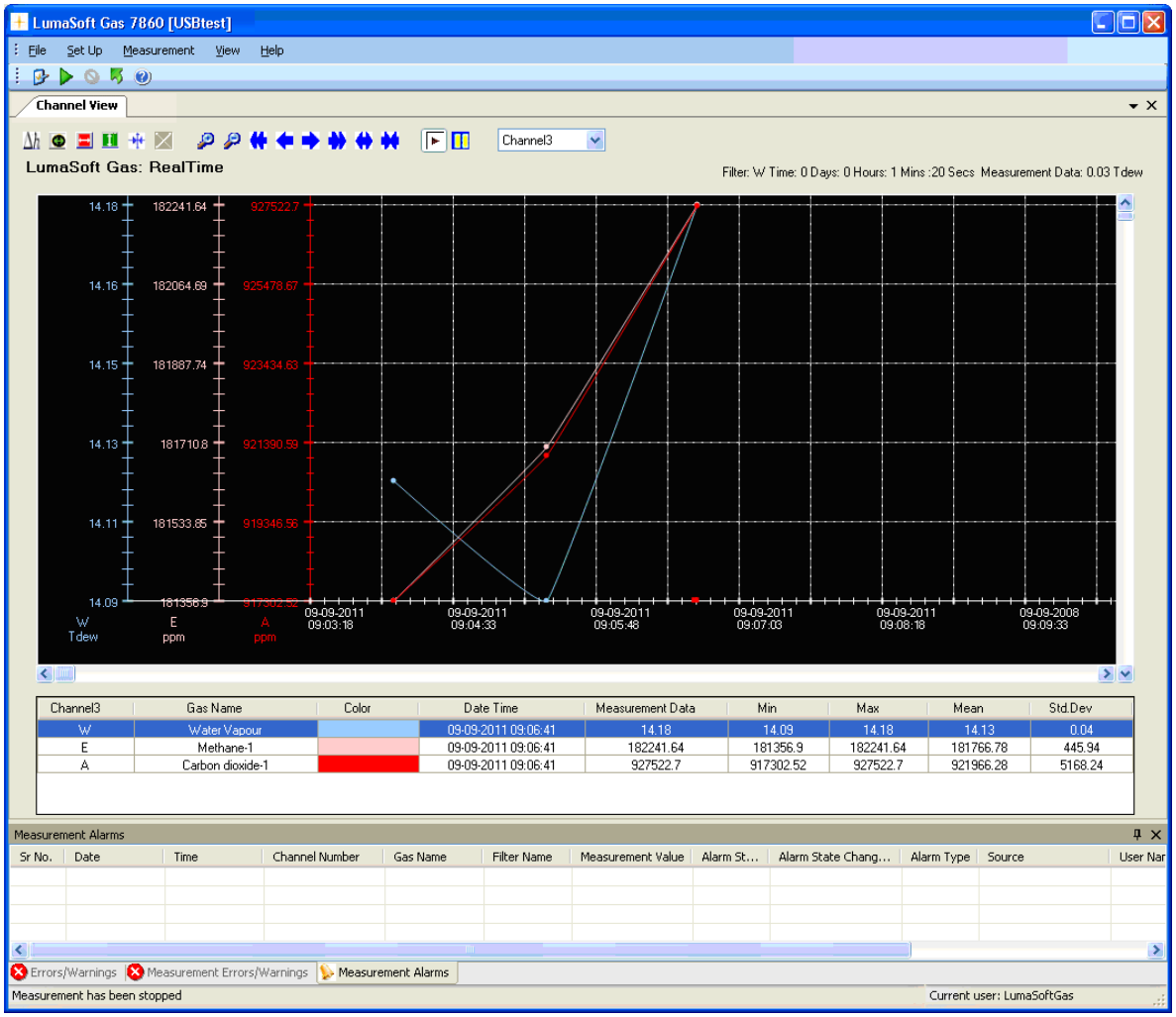


Figure 4.20 Select two measurement points on the same curve to get the difference in concentration

Historical Data Plotting

Historical data plotting is described in Section 4.2.1.9.

X Delta Cursor

Press the **X Delta Cursor** icon and select two points to determine the difference in time. A light red area will appear between the two points and the time difference will be displayed, see Figure 4.21. When using this function the statistics shown in the middle window are calculated for the measurement points within the chosen interval and will be marked with red text color, see Figure 4.21.

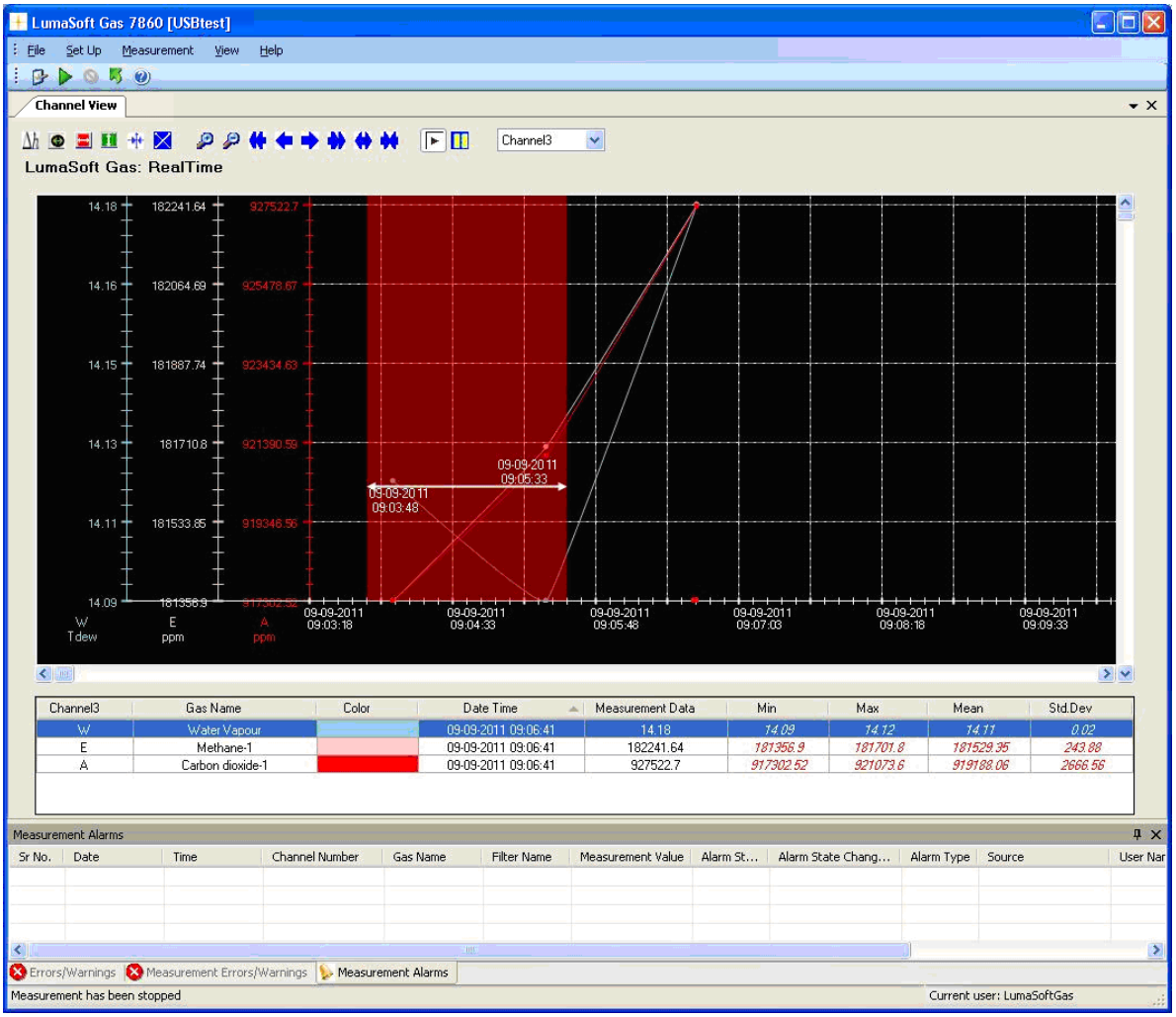


Figure 4.21 Select two measurement points in the graphic window to get the difference in time

Y Delta Cursor

Press the **Y Delta Cursor** icon and select two points where the difference in concentration is needed. A green area will appear between the two points and the min and max value in concentration will be displayed, see Figure 4.22.

By double-clicking on a **Gas Name** in the middle window it is selected for which Gas the min and max concentrations is displayed.

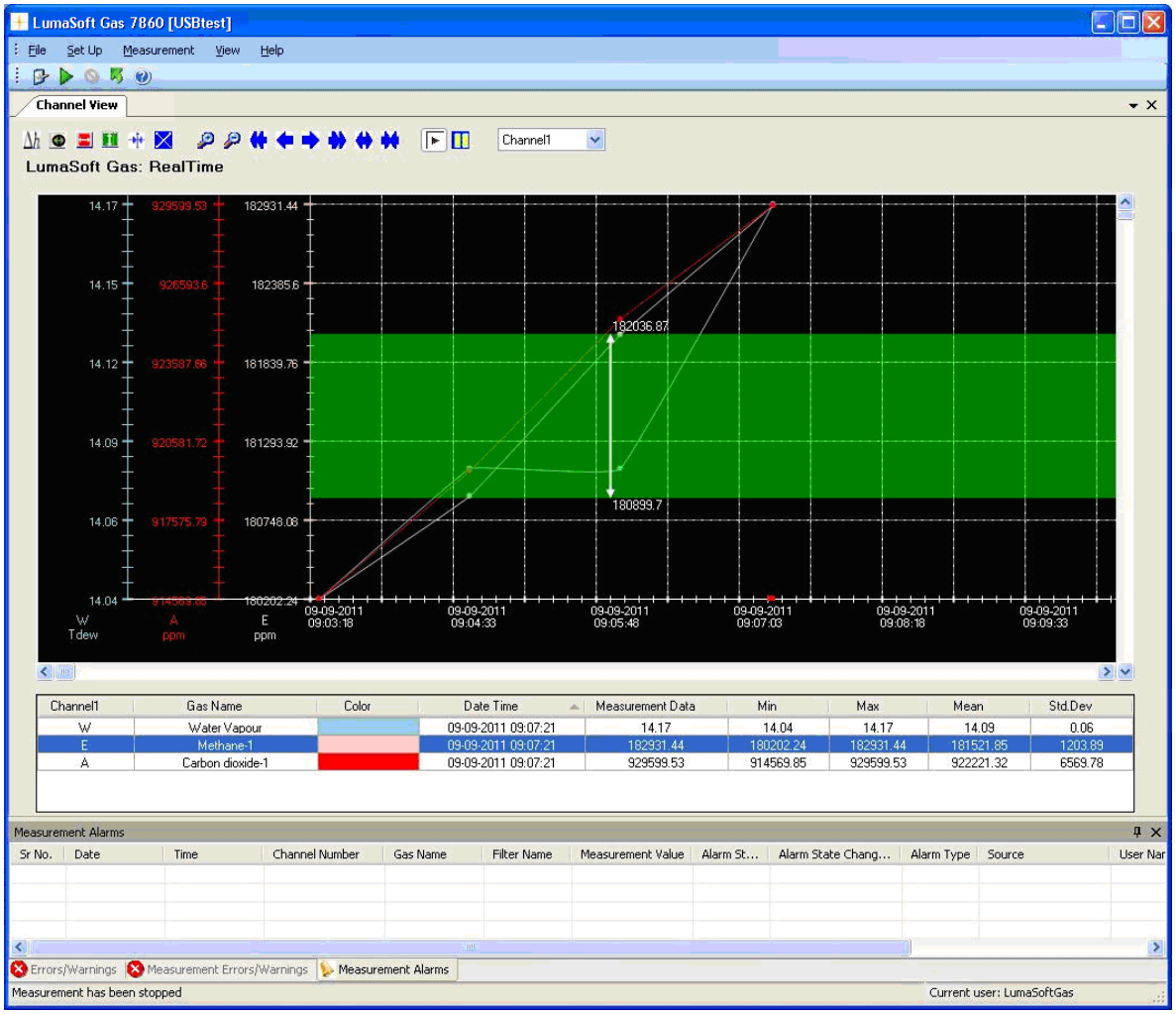


Figure 4.22 Select two measurement points in the graphic window to get the min and max concentrations

Cursor On / Off

The **Cursor** function will give the user opportunity to see the exact measurement values for any given measurement point. Drag the cursor to a specific measurement point and the values will be displayed in colored boxes, see Figure 4.23.

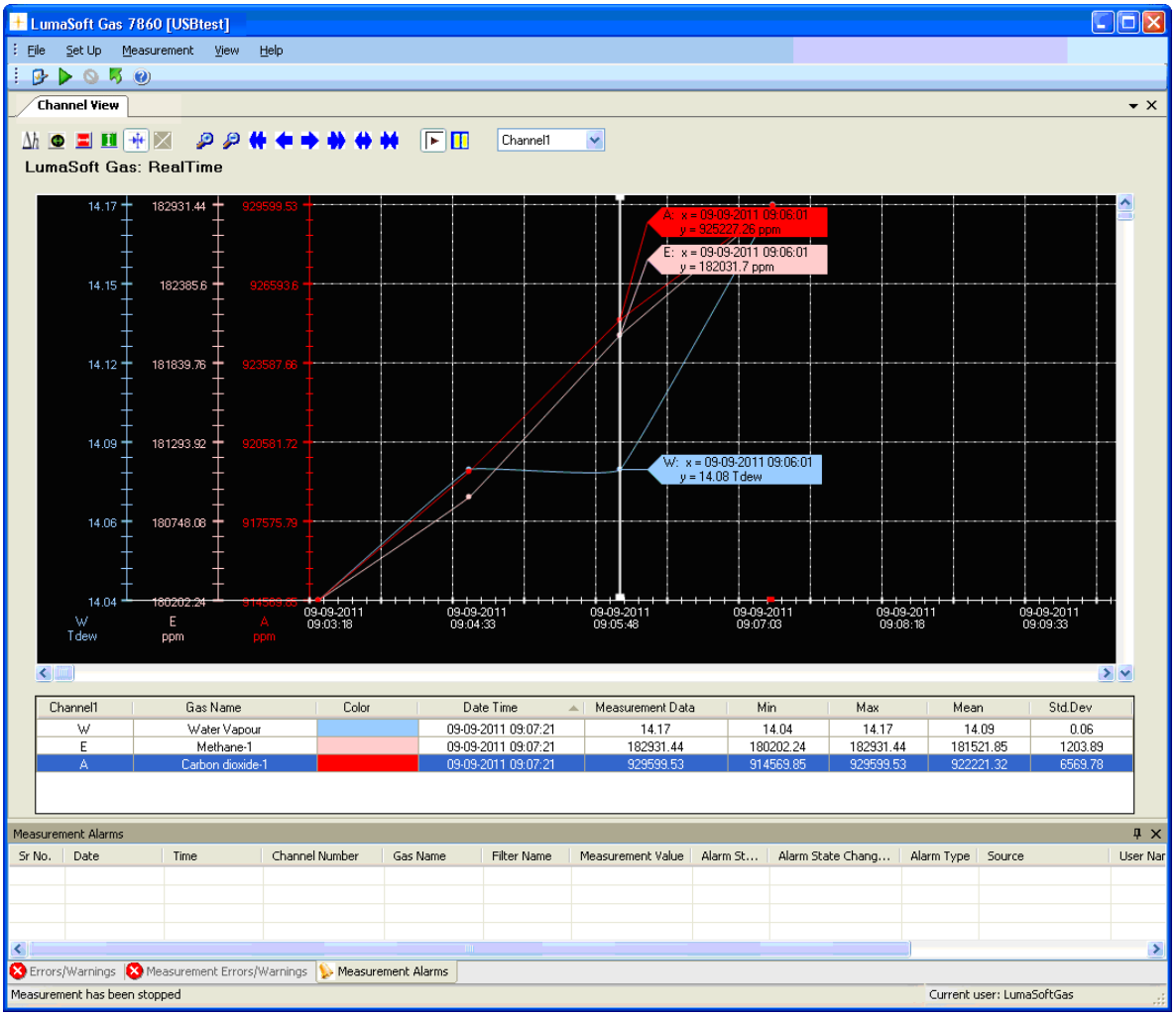


Figure 4.23 Drag the cursor to the measurement point to view the measurement data

Delete Delta Cursor

A **X** or **Y Delta Cursor** can be deleted by pressing this icon . The window below will appear and the desired cursor can be selected and deleted by pressing **Delete**, see Figure 4.24.

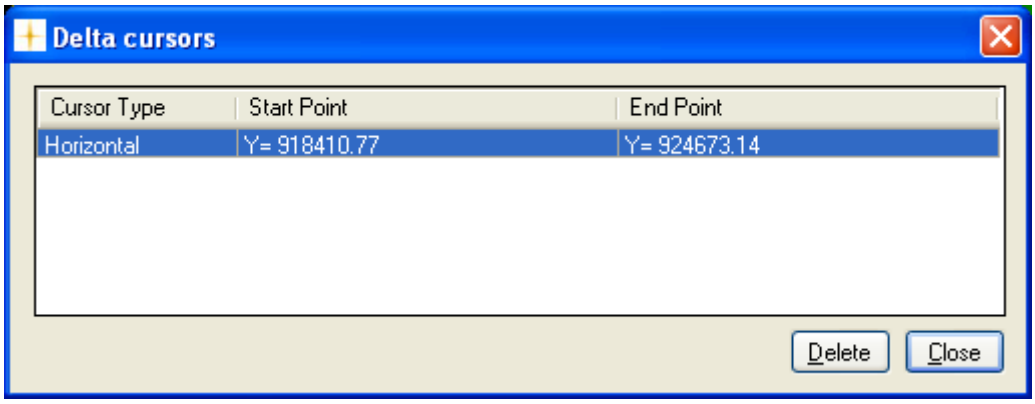


Figure 4.24 Select the cursor which should be deleted and press Delete

Zoom

This function enables the user to zoom in and out on areas of particular interest on the graph by using the two icons: **Zoom In** and **Zoom Out**.

Scroll

If a measurement is running over a longer period of time, these icons can be used to scroll the x axis forth or and back or .

Expand / Compress

These two icons can be used to expand and compress the x-axis. This function can be used to get a better visibility of measurement points lying very close to each other.

Start / Pause measurement

These two icons allow the user to start and pause the display of new measurements points at any time.

Select Channel

This select field box enables switching between the channels on the 1309 which are used to draw air samples, allowing viewing all obtained measurement data for a specific channel, see Figure 4.25.

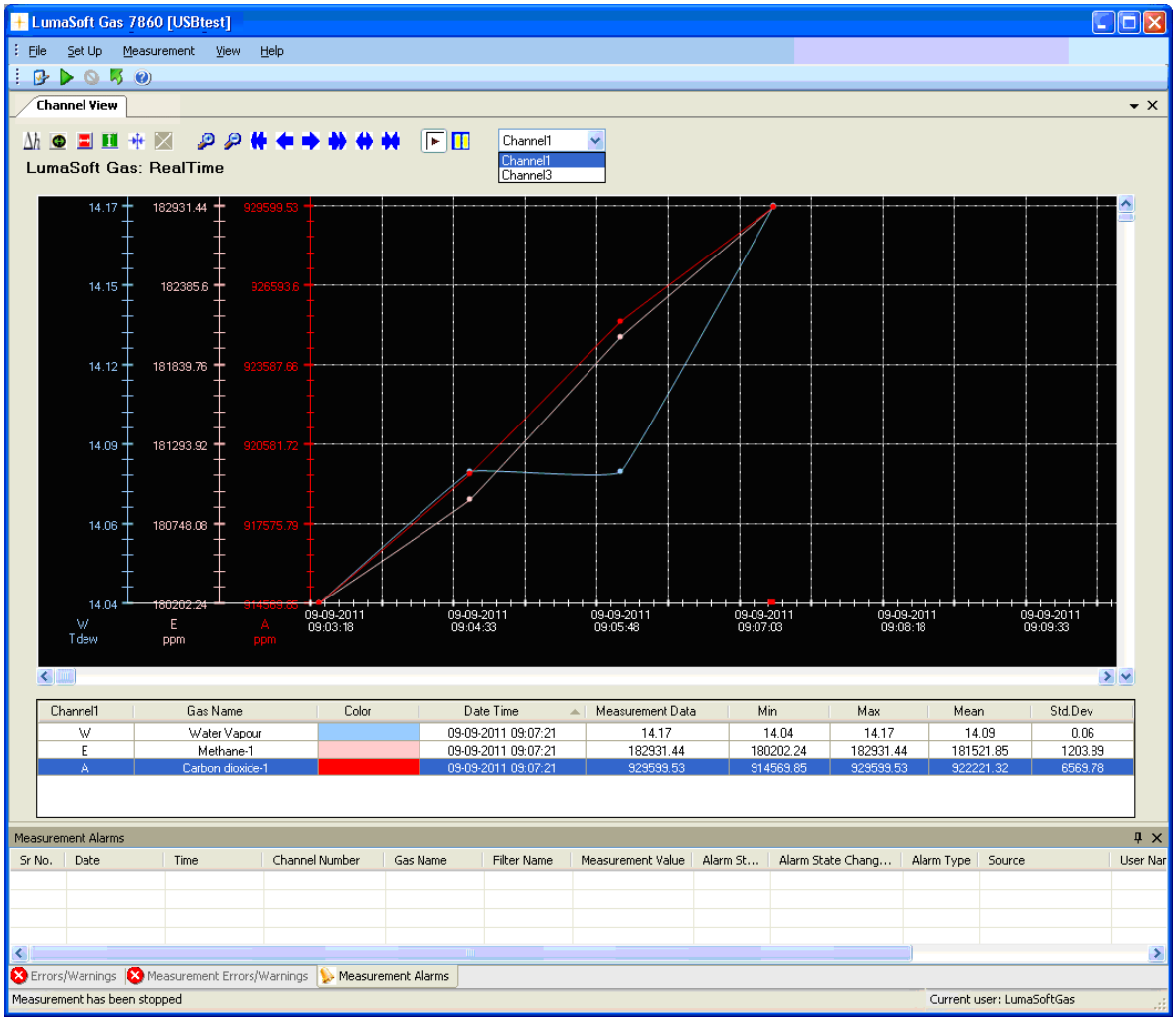


Figure 4.25 Select a channel number in the select field box

4.2.1.7 User Events in the graphical window (Channel view)

If an event occurs or a changed condition happened during a measurement task, it is possible to indicate this event by using the **User Event** function.

To insert a user event press the right mouse button while placing the cursor on the measurement point where the event should be added and select **Add UserEvent**, see Figure 4.26.

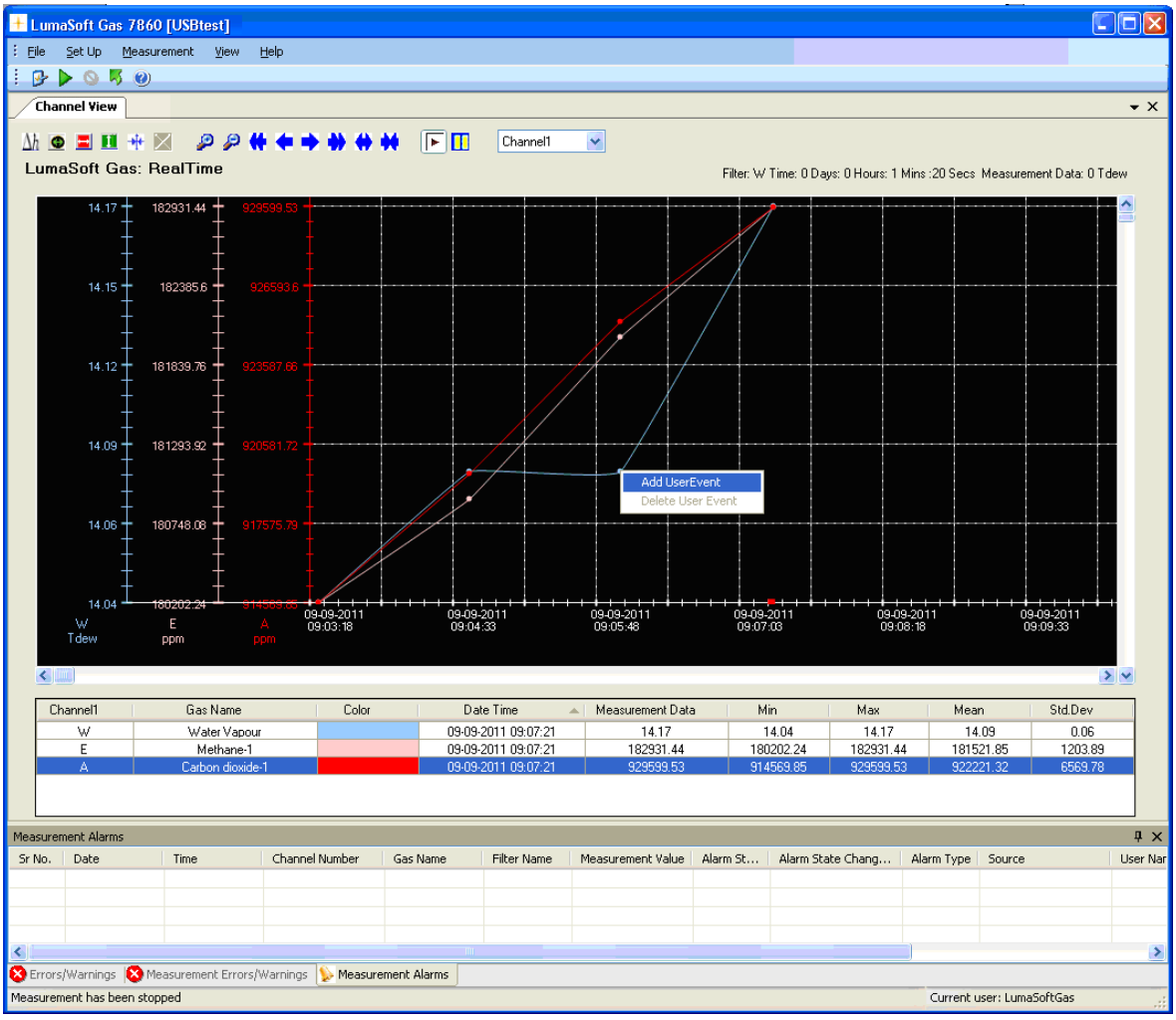


Figure 4.26 Insert User Event by pressing the right mouse button.

The following window, see Figure 4.27, will appear to add a comment to be displayed for this specific user event.

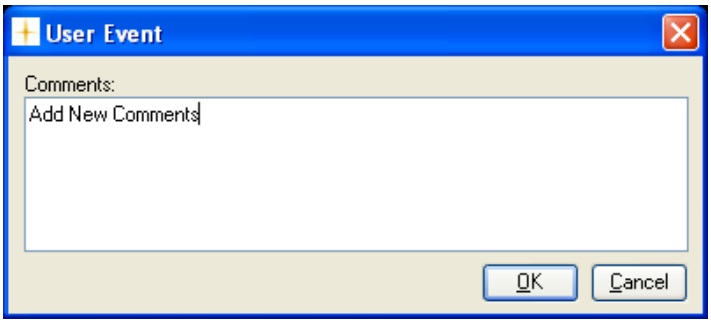


Figure 4.27 Add a comment to be displayed for the user event

Press **OK** to proceed. The user event which has been set up will be shown as an envelope right beside the measurement point, to which it belongs.

To display a user event set the cursor at the envelope.

A user event can be updated or deleted by pressing the right mouse button while placing the cursor on the envelope and selecting either **Update UserEvent** or **Delete UserEvent**.

4.2.1.8 Printing the graphical window(Channel view)

The graphical window can be output to a printer by right-clicking with the mouse button anywhere inside the graphical window to get the print-menu.

Select either **Print** or **Print Preview**, see Figure 4.28.

The **Print** option will make a printer output and the **Print Preview** will make a screen view of the printout.

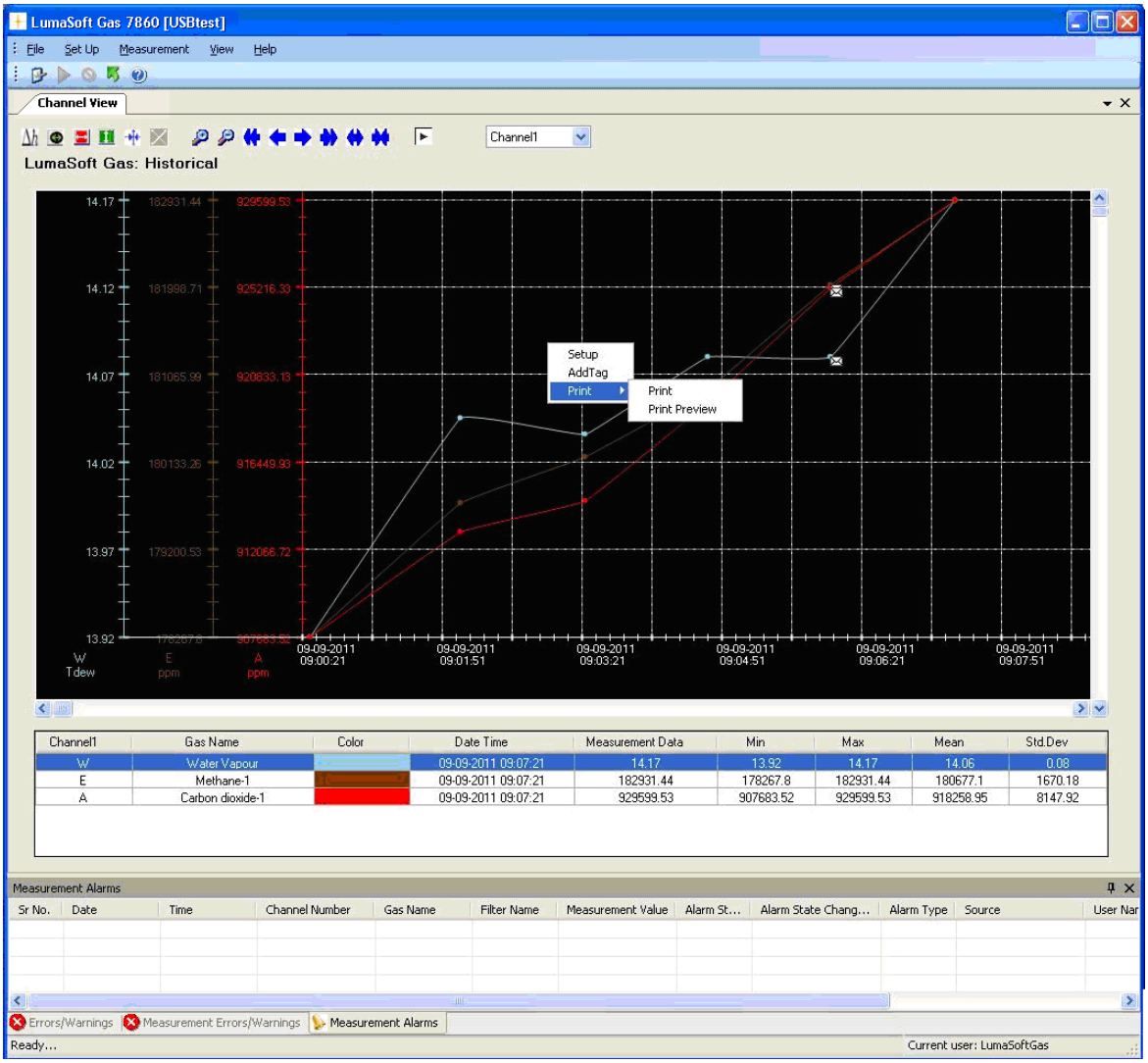


Figure 4.28 Printing the Graphical window(Channel view)

The printout contain the curves and a footer with task name, monitor type and serial number, channel number, information about the task setup, statistical data, see Figure 4.29.

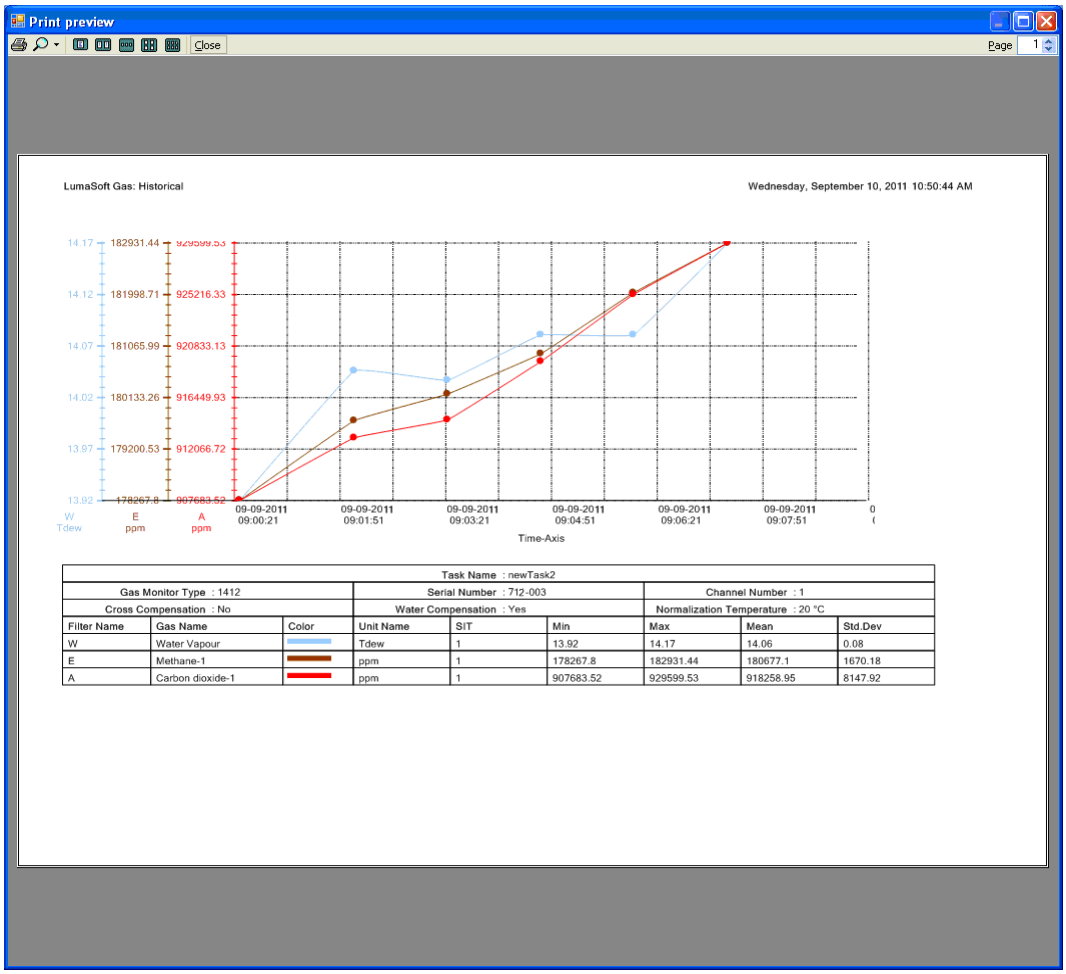


Figure 4.29 Print preview of the Graphical window(Channel view)

4.2.1.9 Displaying historical data (Channel view)

Open an existing task by selecting **Open Task** or **Open Task Offline** in the File drop down menu, see Figure 4.30. The **Open Task Offline** allows opening a task without a Monitor connected.

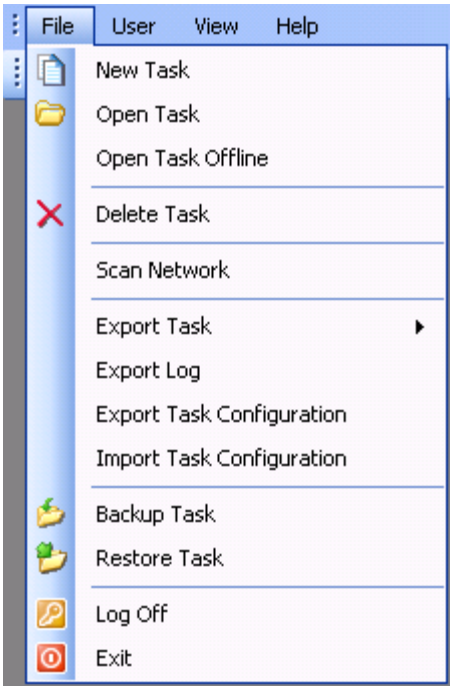
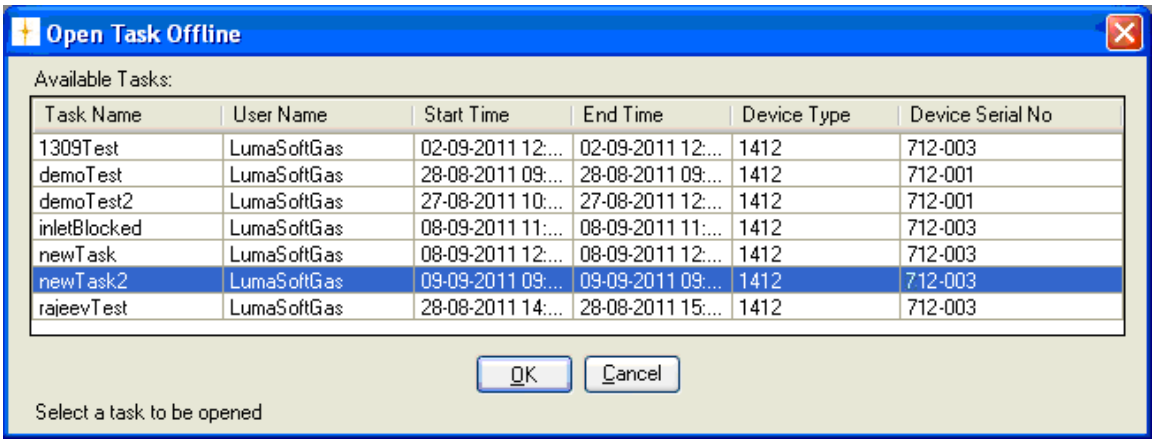


Figure 4.30 File menu: Open Task/Open Task Offline

The desired task can be opened, see Figure 4.31.



Task Name	User Name	Start Time	End Time	Device Type	Device Serial No
1309Test	LumaSoftGas	02-09-2011 12:...	02-09-2011 12:...	1412	712-003
demoTest	LumaSoftGas	28-08-2011 09:...	28-08-2011 09:...	1412	712-001
demoTest2	LumaSoftGas	27-08-2011 10:...	27-08-2011 12:...	1412	712-001
inletBlocked	LumaSoftGas	08-09-2011 11:...	08-09-2011 11:...	1412	712-003
newTask	LumaSoftGas	08-09-2011 12:...	08-09-2011 12:...	1412	712-003
newTask2	LumaSoftGas	09-09-2011 09:...	09-09-2011 09:...	1412	712-003
rajeevTest	LumaSoftGas	28-08-2011 14:...	28-08-2011 15:...	1412	712-003

Figure 4.31 Open Task list.

By selecting **Task Contents** in the **File** pull-down menu, see Figure 4.32, active filters and start/stop time is displayed, see Figure 4.33.

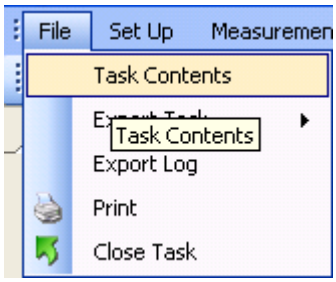


Figure 4.32 File menu: Task Contents.

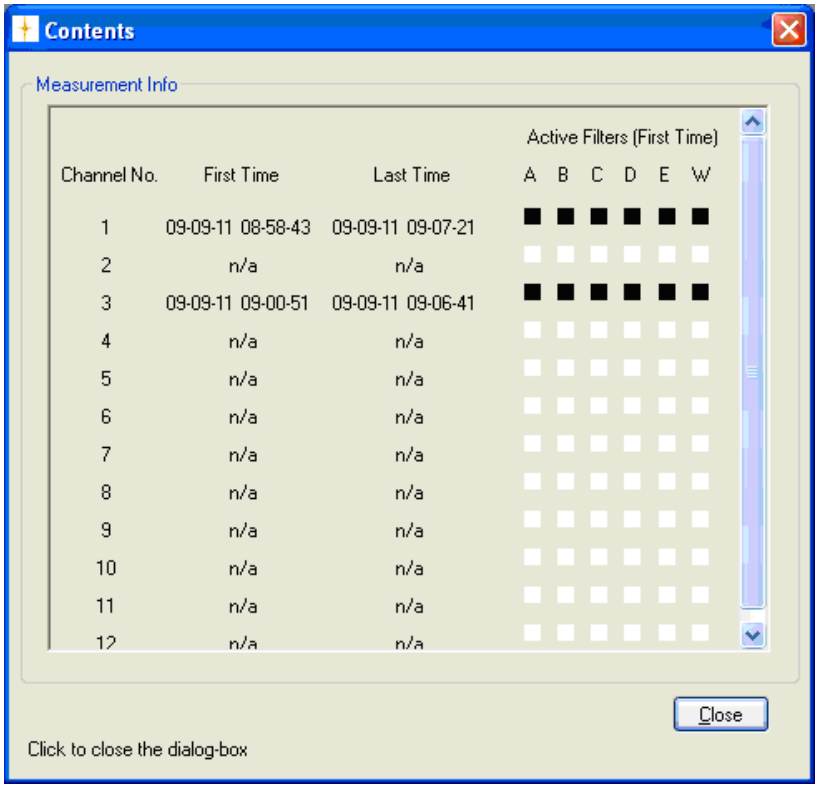


Figure 4.33 Contents window

The historical data can be displayed by selecting **Graphical Window>Single Channel with Selected Gases View** in the **View** drop down menu, see Figure 4.34, then press the **Historical Data Plotting** icon .

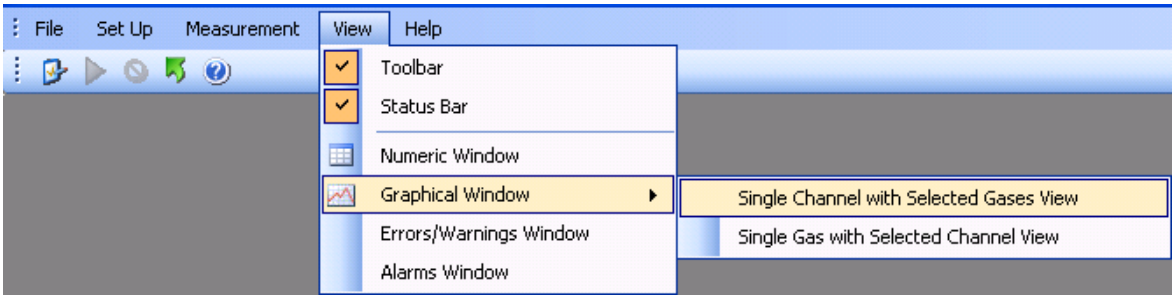


Figure 4.34 View menu: Graphical Window>Single Channel with Selected Gases View

A specific time interval can be selected by entering date and time in the two fields: **From Date** and **To Date**, see Figure 4.35.

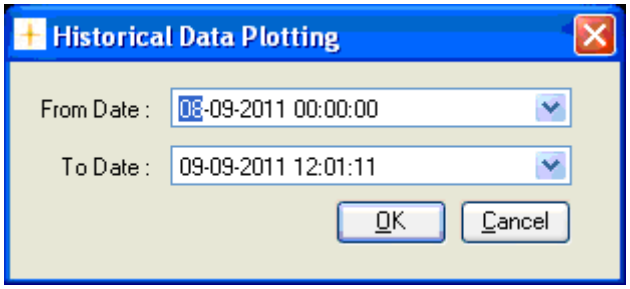


Figure 4.35 Select time interval for historic data plotting.

Click **OK** to display the historical data in a graph.

The functions of the icons in the historical window are the same as in the Real Time Window described in Section 4.2.1.6.

To continue the measurements performed in the specific task, press the green arrow icon or select **Start** in the **Measurement** drop down menu, see Figure 4.3.

To display the incoming measuring data (real time data) select the icon.

4.2.2 Presentation of Data in Graphical Window Gas-View

To display measurement data graphically channel-wise select **Graphical Window>Single Gas with Selected Channel View** in the **View** pull-down menu. (See Figure 4.36)

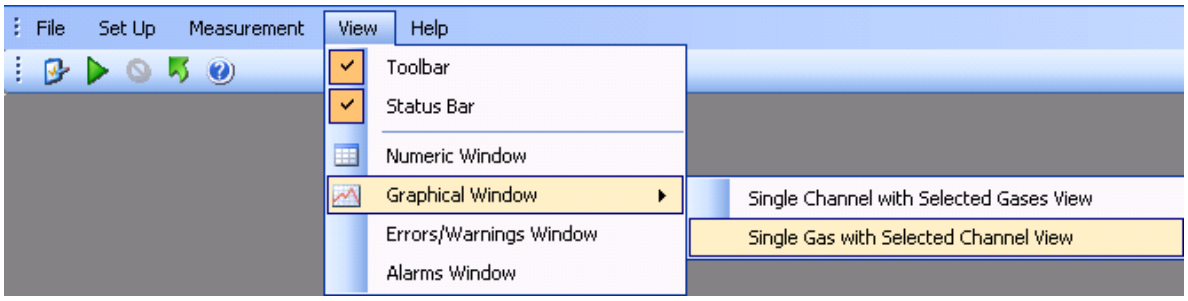


Figure 4.36 View pull-down: Graphical Window>Single Gas with Selected Channel View

4.2.2.1 Configuration of the (Gas-View) graphical window

In the **Configuration** window select if the data should be presented as a **Real Time Graph**, while measurement is in progress, or **Historical Graph**, see Figure 4.37.

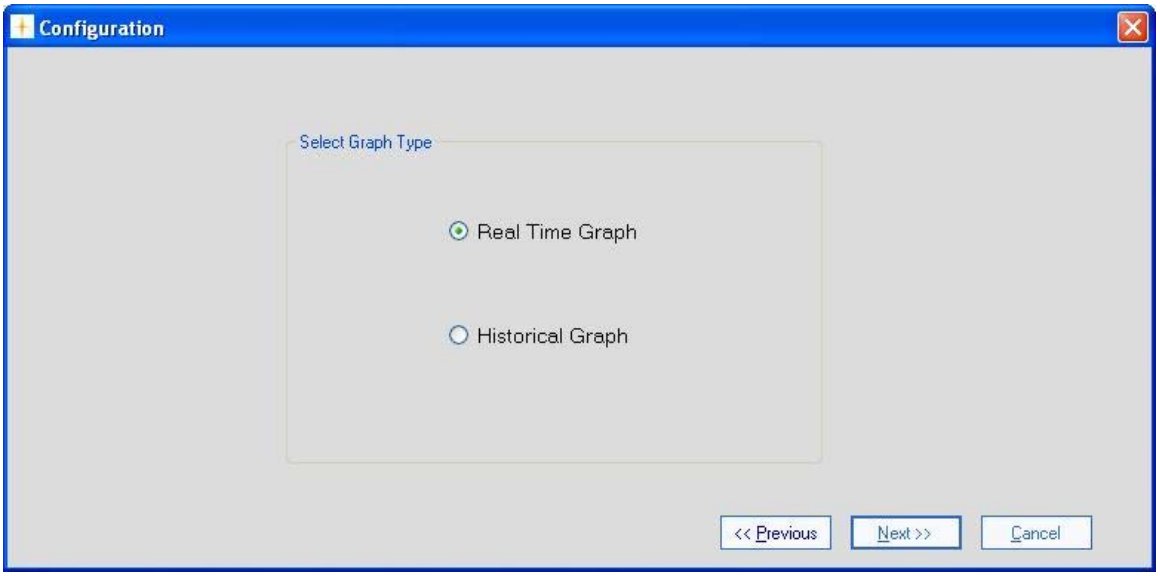


Figure 4.37 Select if the data should be presented in real time or historic

Real Time Graph means that measurement data will be plotted as they arrive from the Monitor.
Historical Graph means viewing of previously measured data

Select **Real Time Graph** and press **Next** to continue.

4.2.2.2 Select Channels (Gas view)

In the channel **Configuration** window, see Figure 4.38, select which of the channels to be included in the Graph and press the right going arrow.

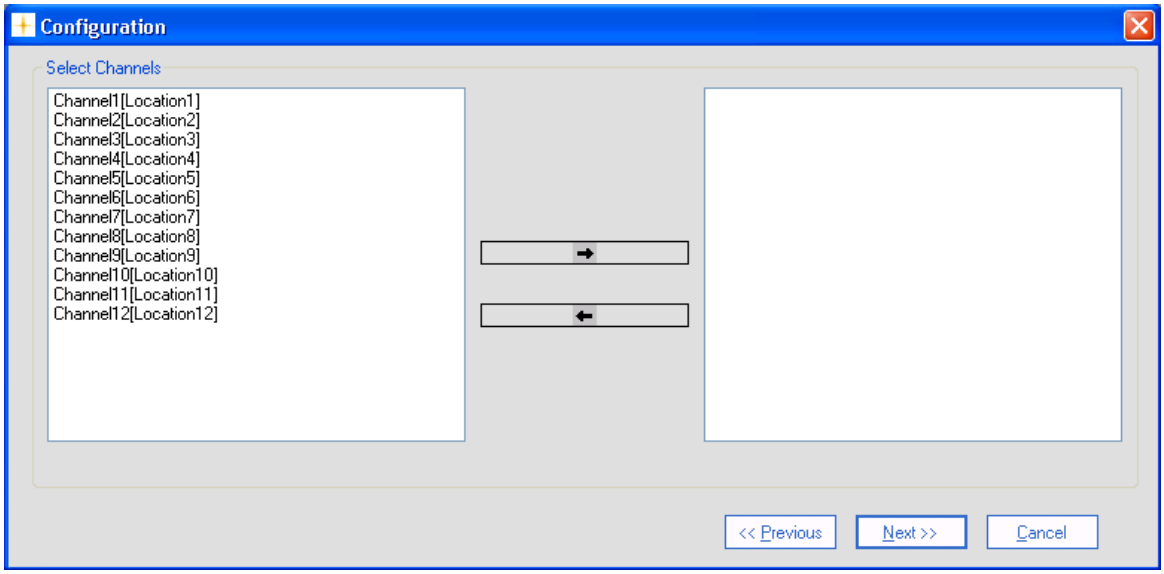


Figure 4.38 Select which channels to be presented

To select more channels at one time press Ctrl while selecting. When the channels have been chosen they will appear in the right window, see Figure 4.39. Press **Next** to proceed.

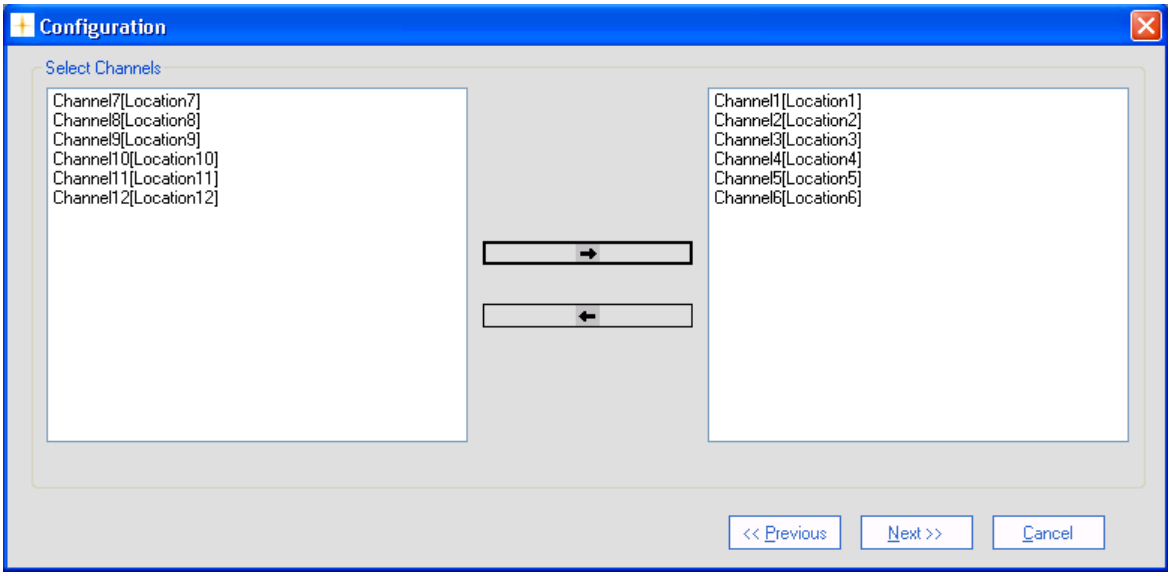


Figure 4.39 The channels chosen for presentation

4.2.2.3 Configuration of curves (Gas view)

CurveColor

Each of the channels has a default selected curve color, see Figure 4.40.

To change the color of the channel press the colored square in the **CurveColor** column.

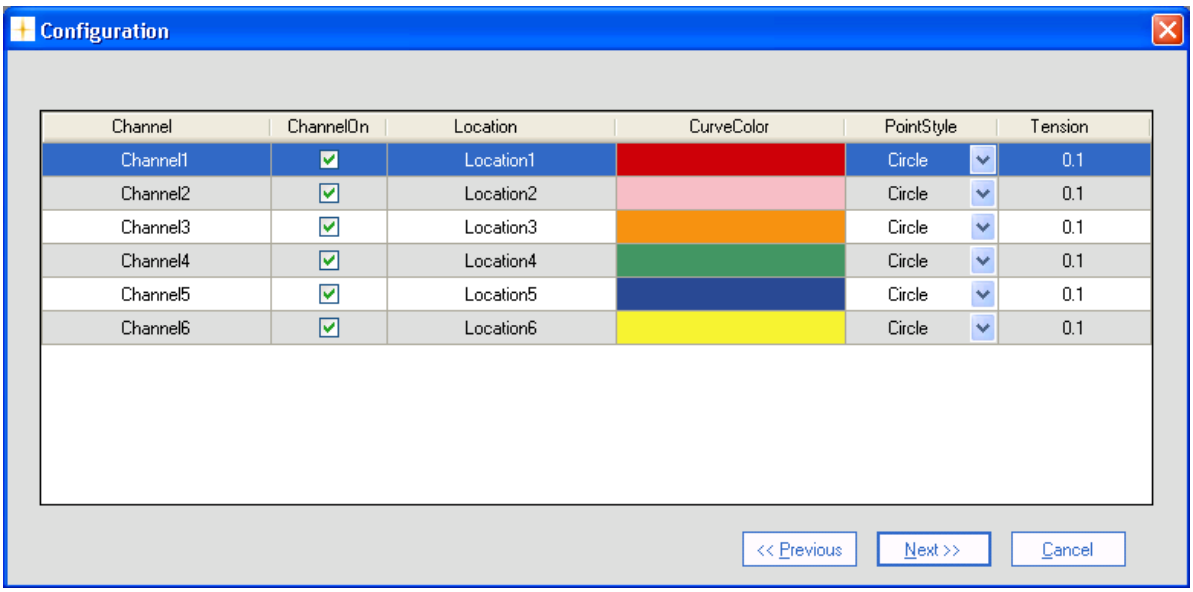


Figure 4.40 Change the color of the curves

Select a color for the curve in the **Color** window, see Figure 4.41.

Figure 4.41 Select a color for the curve

Repeat the procedure for all the gasses.

PointStyle

It is possible to change the style of the plotted measuring points to **Square** or **Circle** using the field selection in the **Point Style** column.

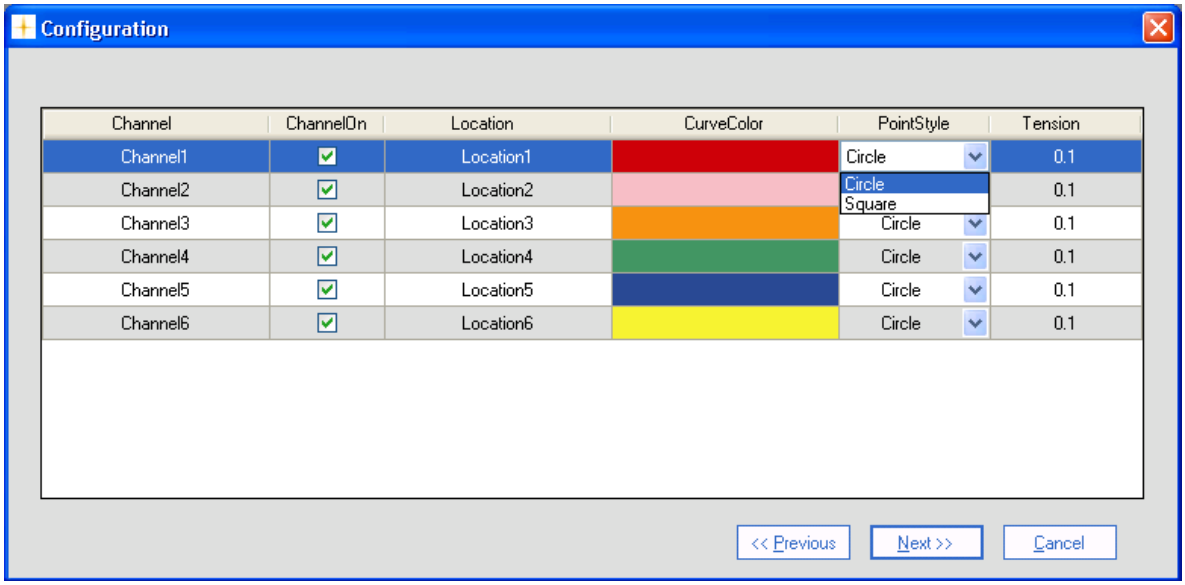


Figure 4.42 Change the style of the measurement points

Tension

By adjusting the **Tension** it is defined how soft/hard the lines between the measuring points should be. If the tension is set to 0 the points are connected by straight lines.

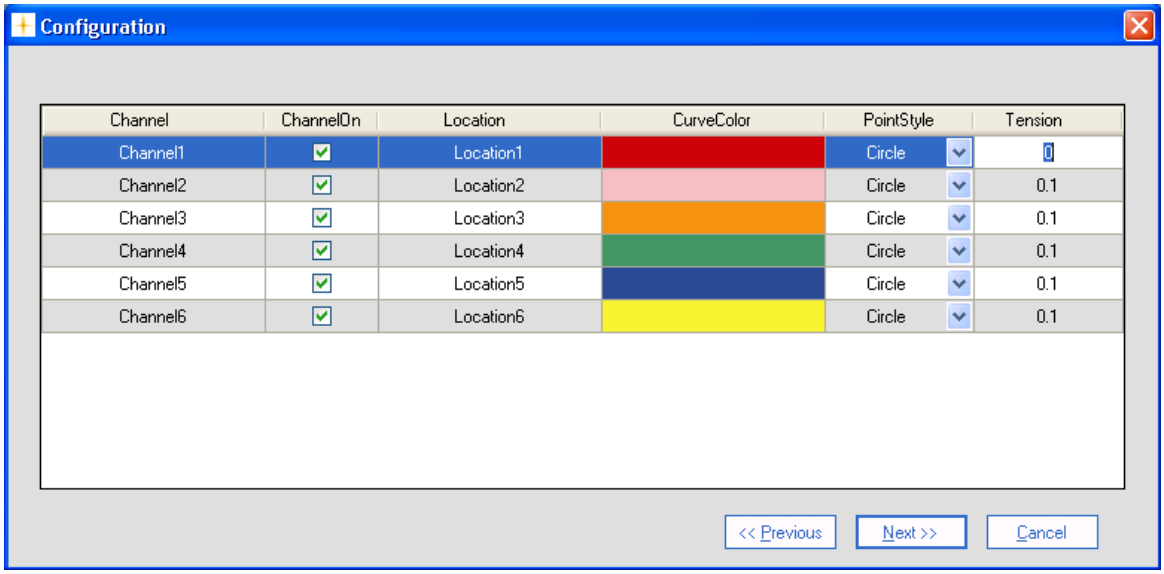


Figure 4.43 Define how hard/soft the lines between measurement points should be

When all the settings has been adjusted press **Next** to proceed.

4.2.2.4 Configuration of filters (Gas view)

Scaling

The scaling on the Y-axis can be set to **AutoScaleMinAndMax**, **AutoScaleMax** or **AutoScaleOff** in the field selection individually for each filter in the **Scaling** column. The possible scaling types are described in Table 4.3.

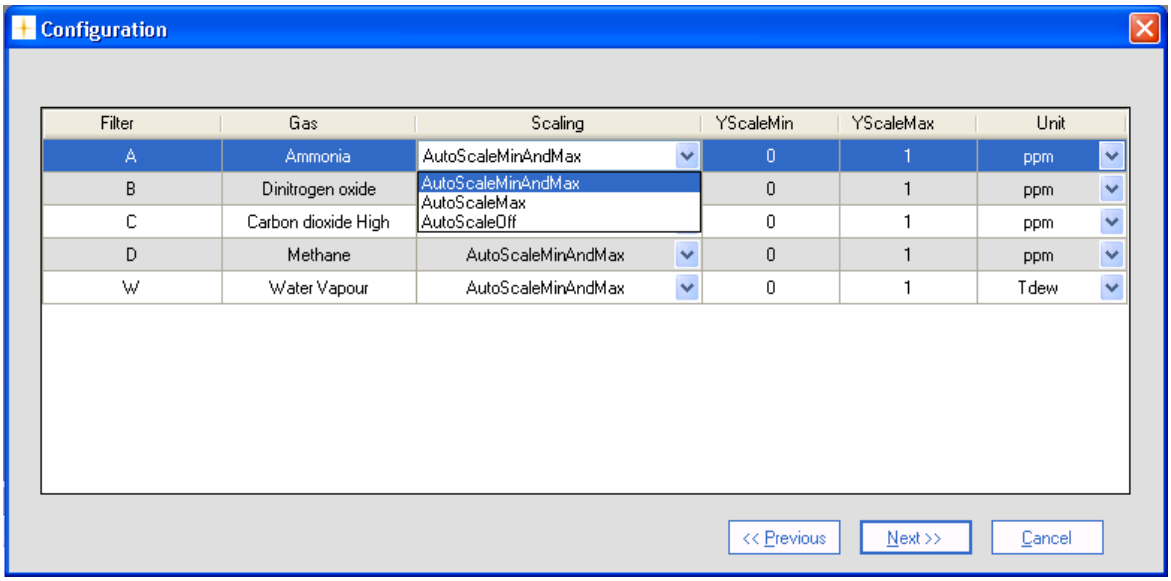


Figure 4.44 Setting the scaling of the axis

AutoScaleMinAndMax	The scale will cover from the lowest measurement value to the highest measured value, i.e. all measurement points will be visible on the graph.
AutoScaleMax	The Y-axis will begin at 0 and the maximum value depends on the highest measured value.
AutoScaleOff	The user defines both minimum and maximum values for the Y scale manually, by defining **YScalemin** and **YScaleMax**. This can be of use to view measurement points in a particular range.

Table 4.3 Shows the possible Scaling types of the Y-axis

Units

In the **Unit** column the unit in which each gas will be displayed in the graphical window can be selected.

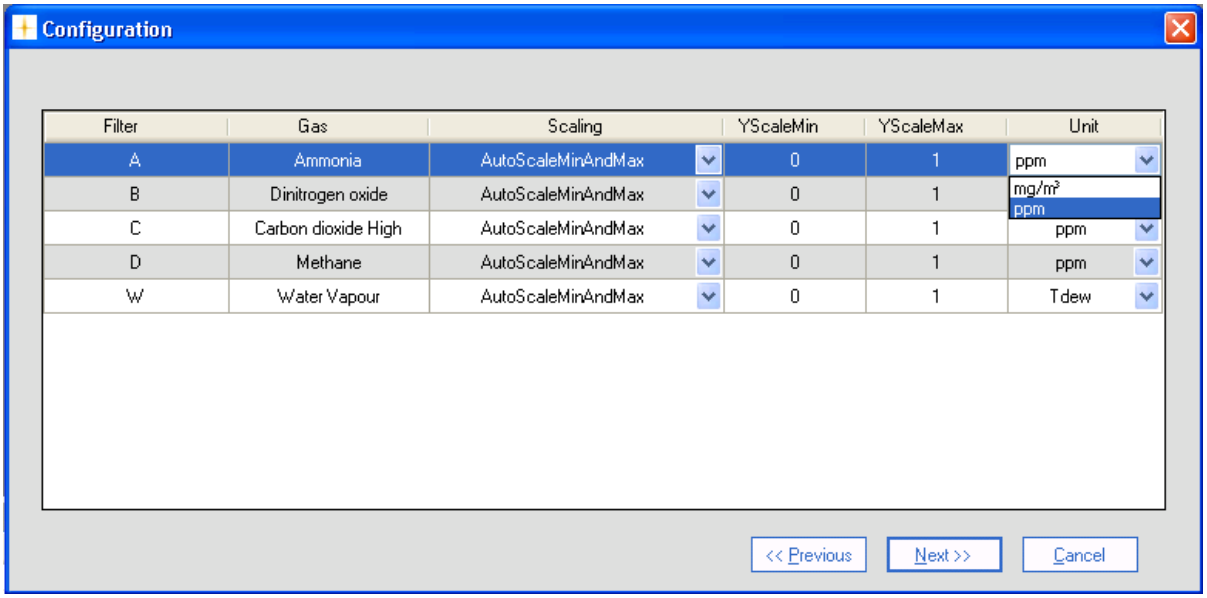


Figure 4.45 Select the unit in which the gas concentrations will be displayed

Table 4.4 shows the possible parameter units and their default settings.

Parameters	Units	Default Unit
Humidity	mg/m^3, ppm, Tdew, kPa	Tdew
Pressure	mbar, mmHg, kPa	kPa
Gas Concentrations	mg/m^3, ppm	ppm

Table 4.4 The possible parameter units with defaults

When all the settings has been adjusted press **Next** to proceed.

4.2.2.5 Configuration of the Graph Window (Gas view)

In this configuration window the trend properties are configured. The trend can be given a title by entering a name in the **Graph Title** field. (See Figure 4.46).

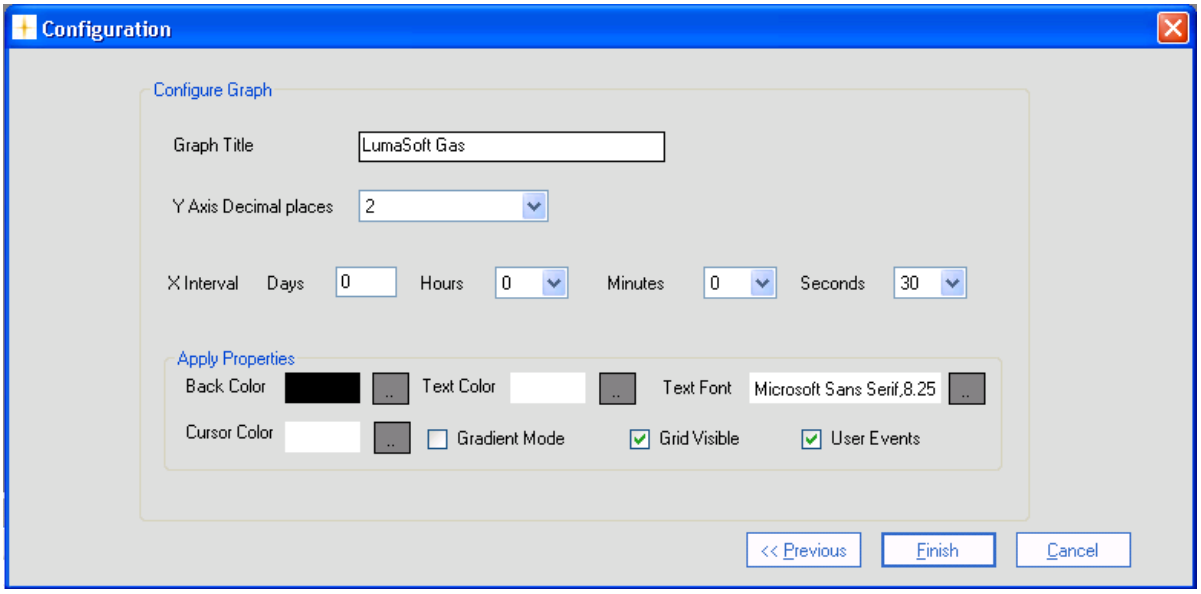


Figure 4.46 Configuration of graph window properties

The number of decimals on the measured values can be selected in the field selection: **Y Axis Decimal places**.
The time interval (**X Interval**) on the X-axis can be set to days, hours, minutes or seconds.

Back Color, **Cursor Color**, **Text Color** and **Font** etc. can be changed by pressing the appropriate grey squares.

Gradient Mode gives a shading of a dark background color.

Grid Visible turns on/off the grid.

User Events turns on/off the display of user events (see Section 4.2.2.7).

Press **Finish** when the configuration is completed.

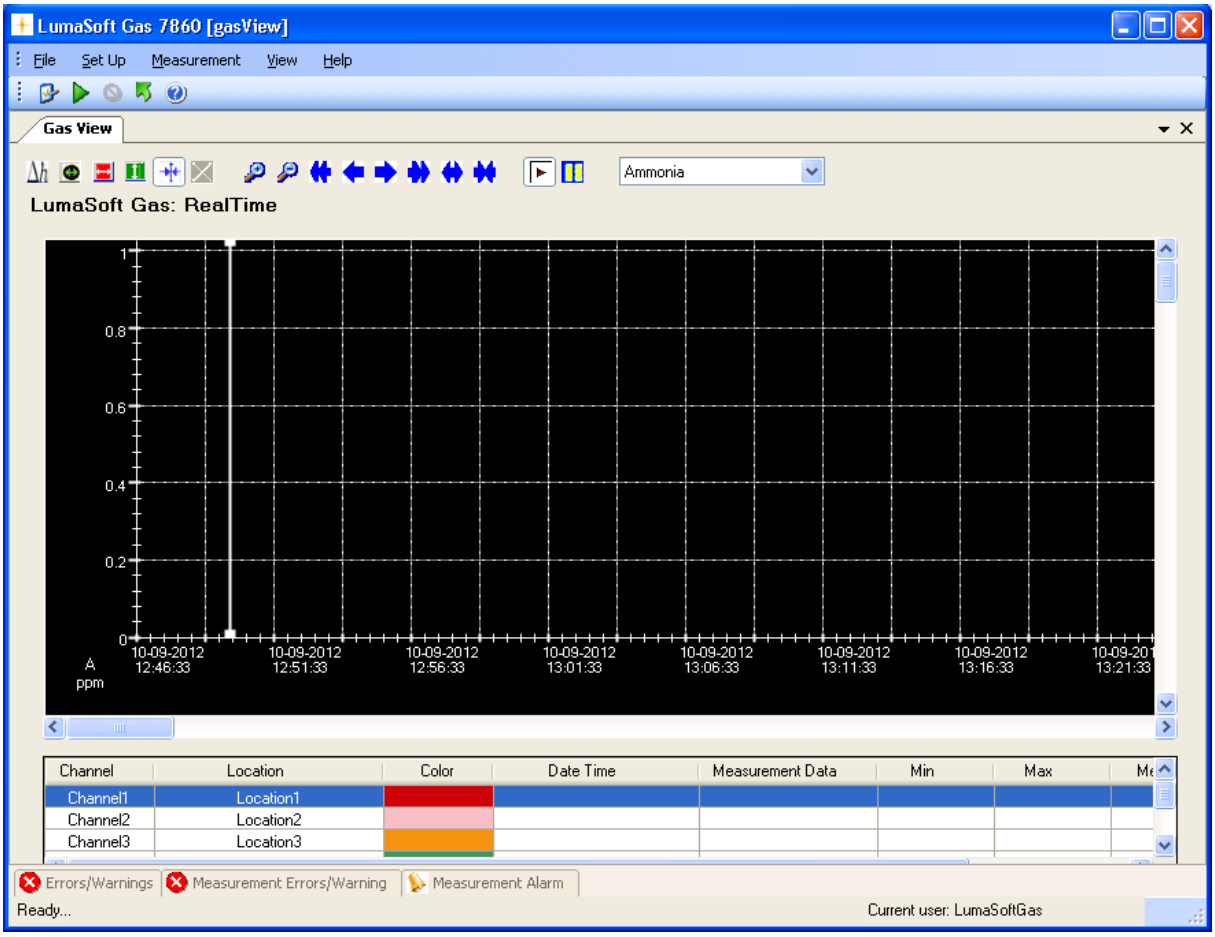


Figure 4.47 The graphical window (Gas View)

Changing the configuration

To change any of the above settings after the configuration is ended press the right mouse button while the cursor is placed in the graph area. Select **Setup** (see Figure 4.48) and the **Configuration** window will appear, see Figure 4.40.

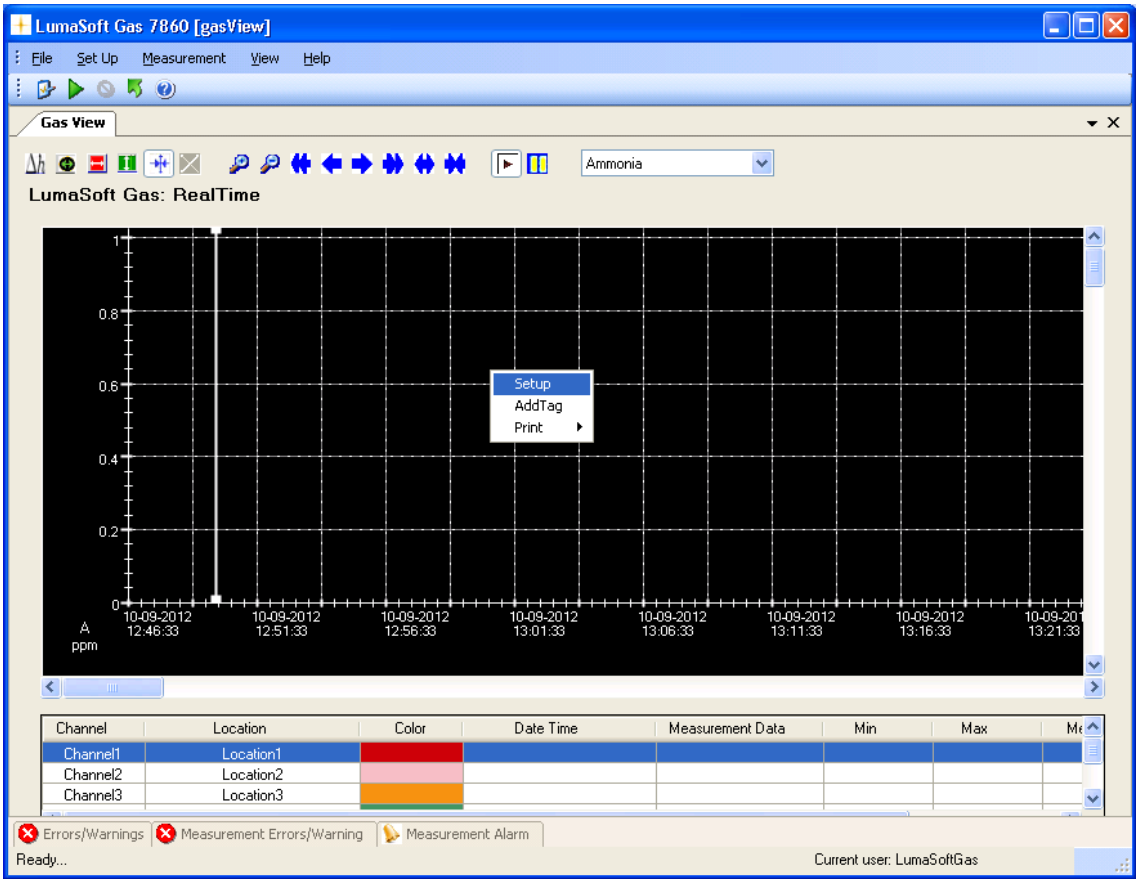


Figure 4.48 To change the configuration in the graphical window(Gas View) press the right button on the mouse

To change (add or remove) the selected channels, press the right mouse button while the cursor is placed in the graph area and select **AddTag**. (See Figure 4.48)

4.2.2.6 The Graphical Window (Gas view)

The graphic window shows the measurement data in a graph. Each filter in the Monitor has its own axis on the graph, see Figure 4.18. Below the graph a window containing a list of the measured gases, and statistics performed from all obtained measurement data (**Min**, **Max**, **Mean** and **Std. Deviation**) is shown. The bottom window is the **Error and Warnings** and **Alarm** window. The number of curves displayed, their color and style are defined by the user as described in Section 4.2.2.1, Section 4.2.2.2, Section 4.2.2.3 and Section 4.2.2.4.

The user can toggle between the **Errors/Warnings**, **Measurement Errors/Warnings** and **Measurement Alarm** windows. The **Errors/Warnings** window will register if any errors have occurred while running the measurement. The window can be hidden by pressing **Auto Hide** icon, or by selecting **Errors/Warnings Window** in the **View** drop down menu, see Figure 4.49.

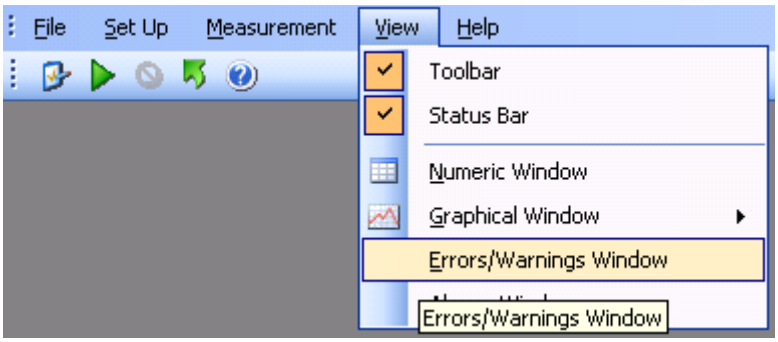


Figure 4.49 View pull-down: Errors/Warnings Window

4.2.2.7 Functions in the Graphical Window (Gas View)

In the top of the Graphical window the Icon Tool Bar is displayed.

The tool bar makes it easier to handle and process the obtained measurement data.

The function behind each icon will be explained in the following section.

Find Difference Δh

The function **Δh**, will calculate the difference in the value for two data points on the same filter curve. Press the Δh icon and then select the two data points with mouse clicks. In the top right corner the difference between the two measurements will be displayed, see Figure 4.50.

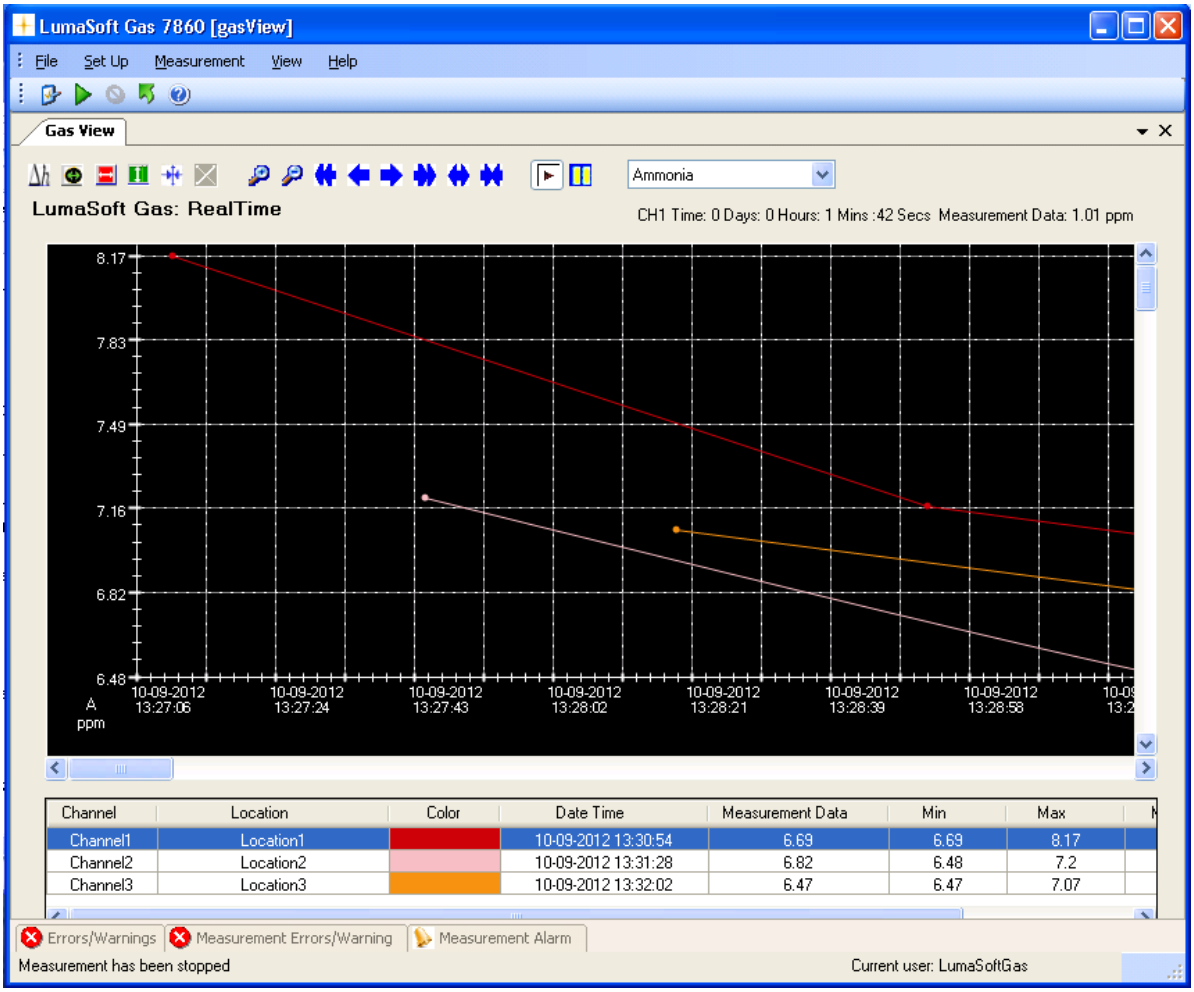


Figure 4.50 Select two measurement points on the same curve to get the difference in concentration

Historical Data Plotting

Historical data plotting is described in Section 4.2.2.9.

X Delta Cursor

Press the **X Delta Cursor** icon and select two points to determine the difference in time. A light red area will appear between the two points and the time difference will be displayed, see Figure 4.52. When using this function the statistics shown in the middle window are calculated for the measurement points within the chosen interval and will be marked with red text color, see Figure 4.51.

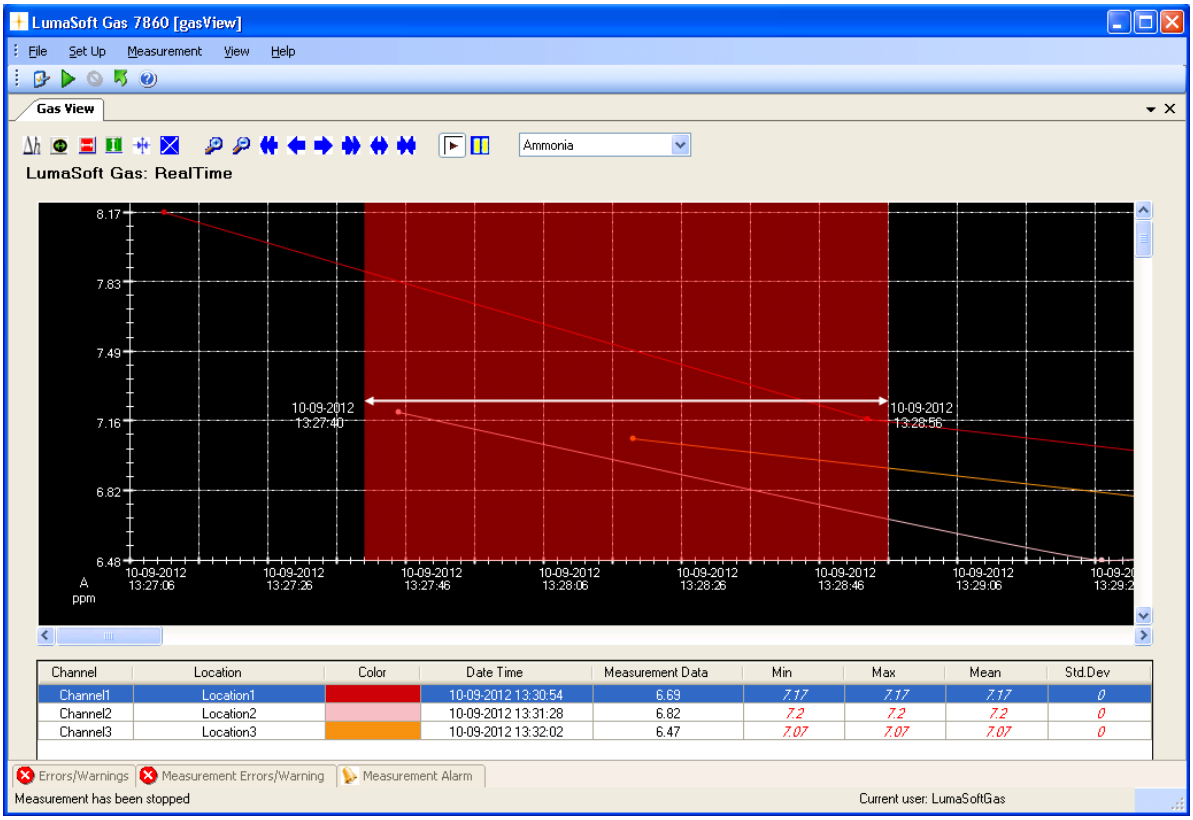


Figure 4.51 Select two measurement points in the graphic window to get the difference in time

Y Delta Cursor

Press the **Y Delta Cursor** icon and select two points where the difference in concentration is needed. A green area will appear between the two points and the min and max value in concentration will be displayed, see Figure 4.52.

By double-clicking on a **Channel** in the middle window it is selected for which Gas the min and max concentrations is displayed.

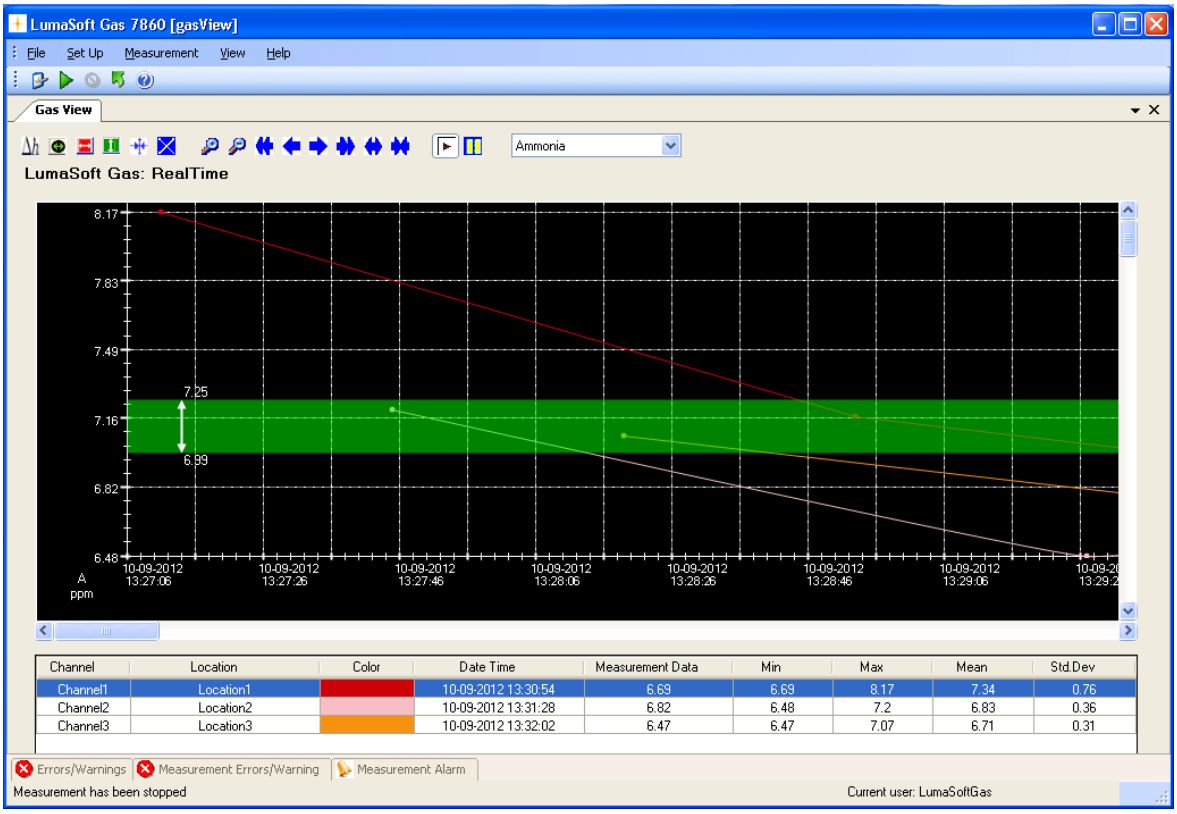


Figure 4.52 Select two measurement points in the graphic window to get the min and max concentrations

Cursor On / Off

The **Cursor** function will give the user opportunity to see the exact measurement values for any given measurement point. Drag the cursor to a specific measurement point and the values will be displayed in colored boxes, see Figure 4.53.

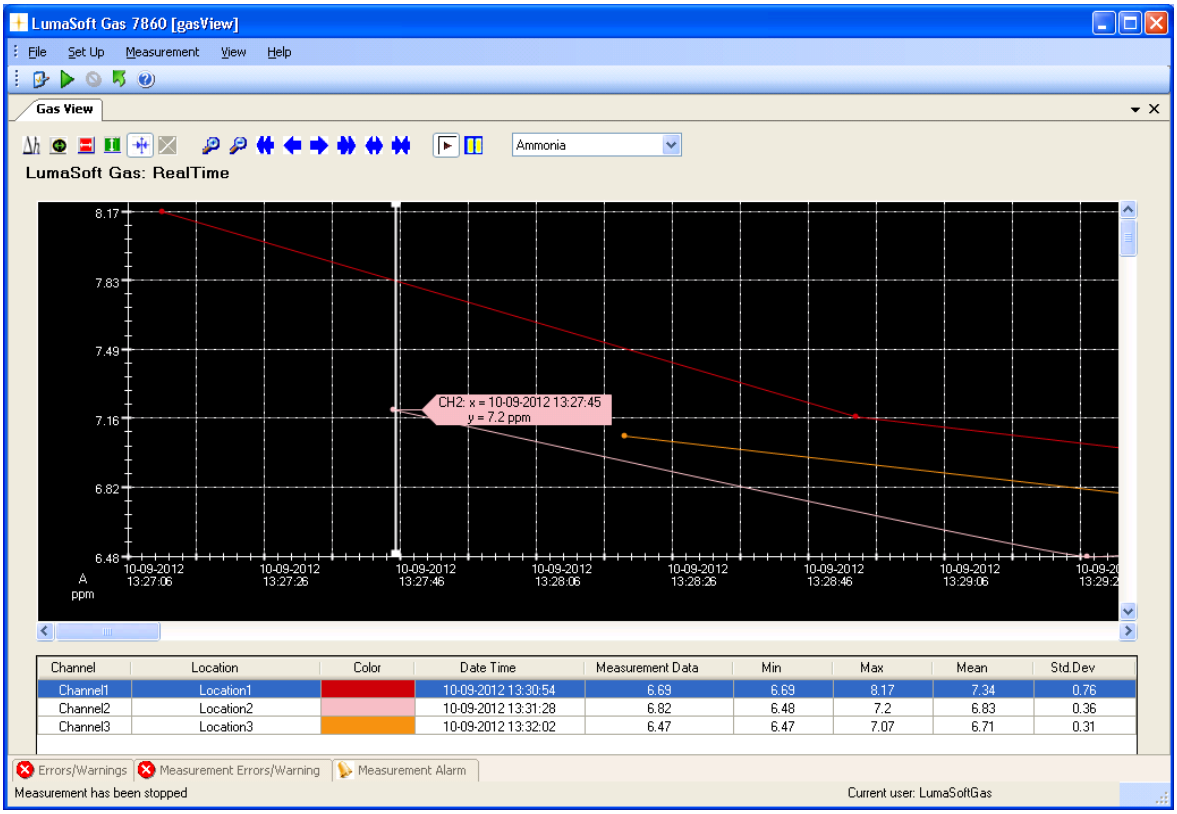


Figure 4.53 Drag the cursor to the measurement point to view the measurement data

Delete Delta Cursor

A **X** or **Y Delta Cursor** can be deleted by pressing this icon . The window below will appear and the desired cursor can be selected and deleted by pressing **Delete**, see Figure 4.54.

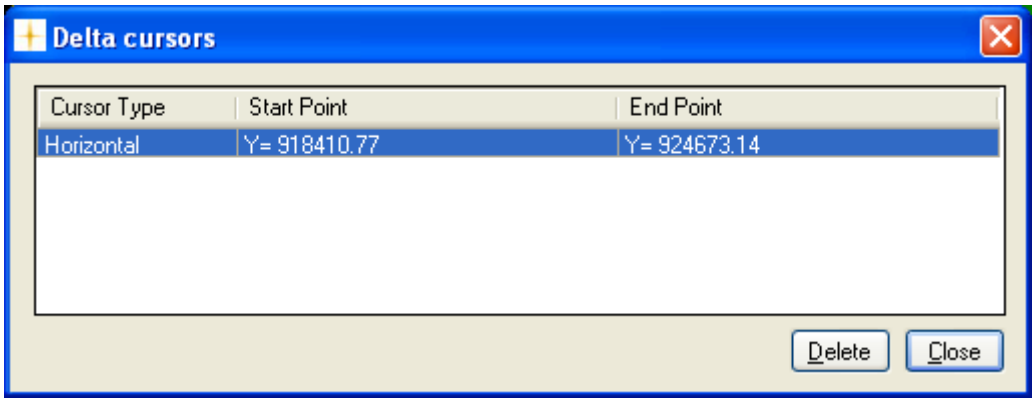


Figure 4.54 Select the cursor which should be deleted and press Delete

Zoom

This function enables the user to zoom in and out on areas of particular interest on the graph by using the two icons: **Zoom In** and **Zoom Out**.

Scroll

If a measurement is running over a longer period of time, these icons can be used to scroll the x axis forth or and back or .

Expand / Compress

These two icons can be used to expand and compress the x-axis. This function can be used to get a better visibility of measurement points lying very close to each other.

Start / Pause measurement

These two icons allow the user to start and pause the display of new measurements points at any time.

Select Gas

This select field box enables switching between the gasses, allowing viewing all obtained measurement data for a specific gas, see Figure 4.55.

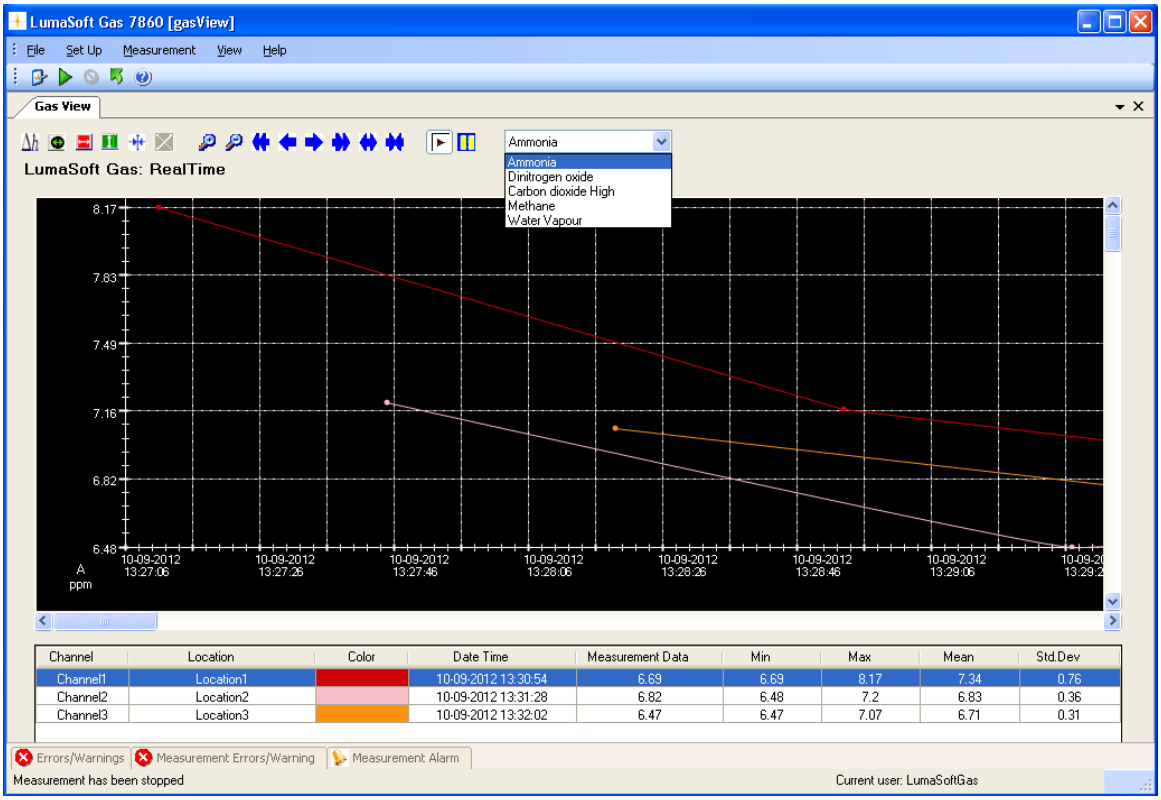


Figure 4.55 Select a gas in the select field box

4.2.2.8 User Events in the graphical window (Gas view)

If an event occurs or a changed condition happened during a measurement task, it is possible to indicate this event by using the **User Event** function.

To insert a user event press the right mouse button while placing the cursor on the measurement point where the event should be added and select **Add UserEvent**, see Figure 4.56.

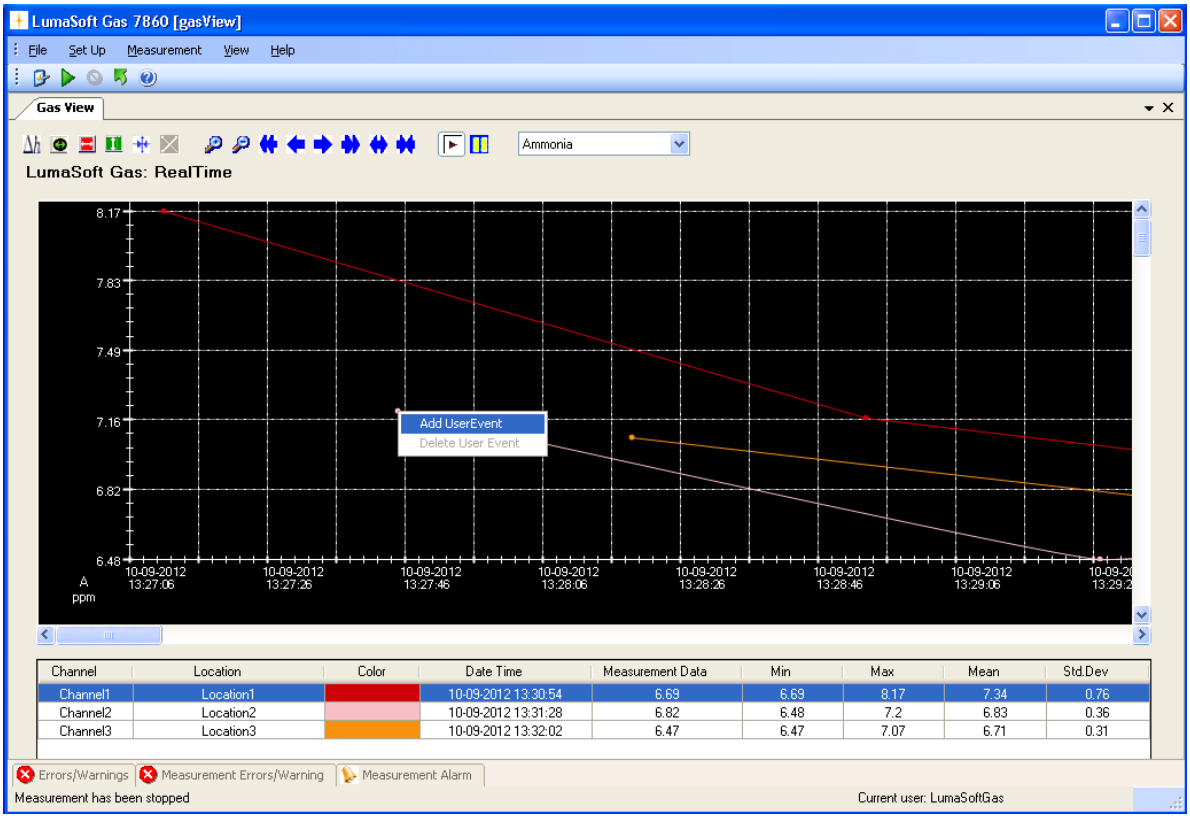


Figure 4.56 Insert User Event by pressing the right mouse button.

The following window, see Figure 4.57, will appear to add a comment to be displayed for this specific user event.

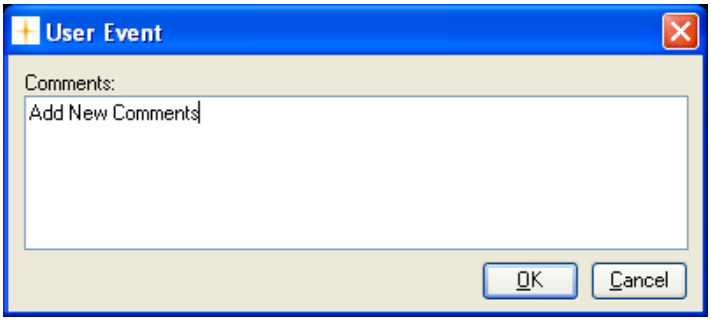


Figure 4.57 Add a comment to be displayed for the user event

Press **OK** to proceed. The user event which has been set up will be shown as an envelope right beside the measurement point, to which it belongs.

To display a user event set the cursor at the envelope.

A user event can be updated or deleted by pressing the right mouse button while placing the cursor on the envelope and selecting either **Update UserEvent** or **Delete UserEvent**.

4.2.2.9 Printing the graphical window(Gas view)

The graphical window can be output to a printer by right-clicking with the mouse button anywhere inside the graphical window to get the print-menu.

Select either **Print** or **Print Preview**, see Figure 4.58.

The **Print** option will make a printer output and the **Print Preview** will make a screen view of the printout.

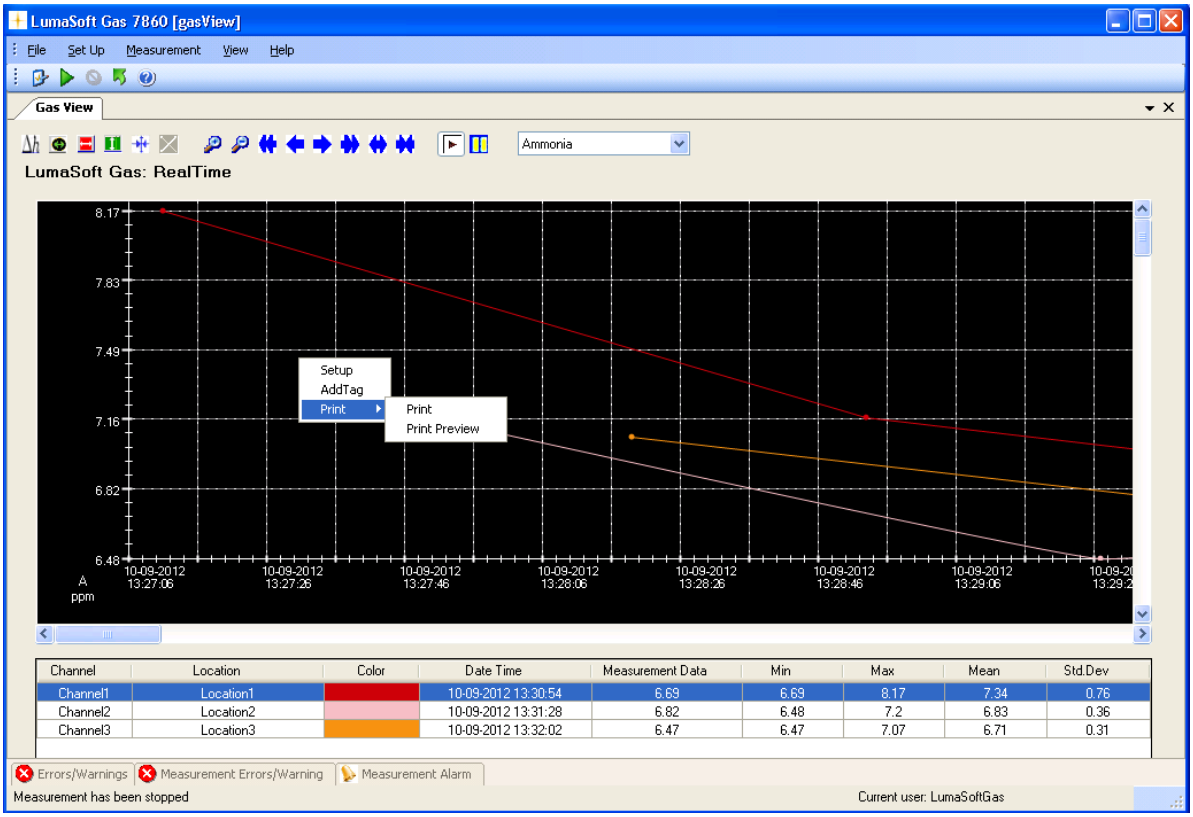
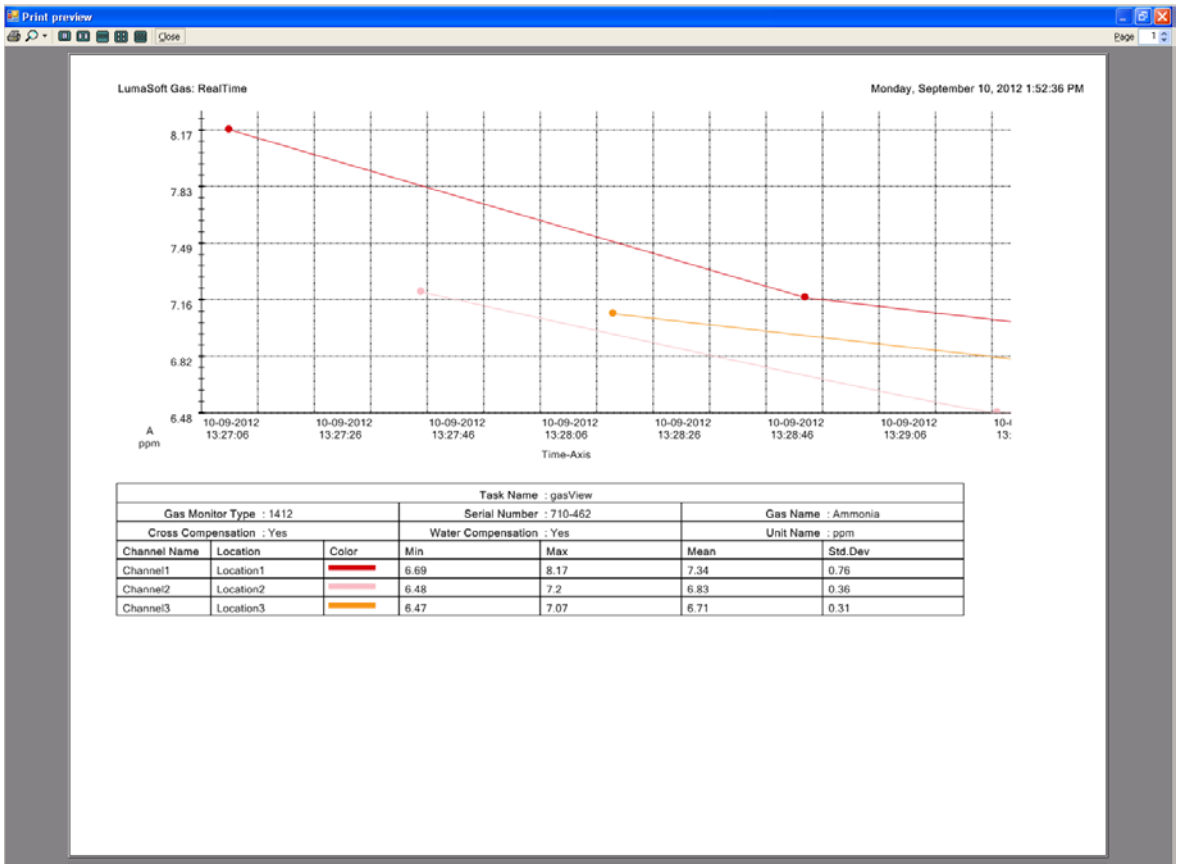


Figure 4.58 Printing the Graphical window(Gas view)

The printout contain the curves and a footer with task name, monitor type and serial number, channel number, information about the task setup, statistical data, see Figure 4.59.



Task Name : gasView						
Gas Monitor Type : 1412			Serial Number : 710-462		Gas Name : Ammonia	
Cross Compensation : Yes			Water Compensation : Yes		Unit Name : ppm	
Channel Name	Location	Color	Min	Max	Mean	Std.Dev
Channel1	Location1		6.69	8.17	7.34	0.76
Channel2	Location2		6.48	7.2	6.83	0.36
Channel3	Location3		6.47	7.07	6.71	0.31

Figure 4.59 Print preview of the Graphical window(Gas view)

4.2.2.10 Displaying historical data (Gas view)

Open an existing task by selecting **Open Task** or **Open Task Offline** in the File drop down menu, see Figure 4.60. The **Open Task Offline** allows opening a task without a Monitor connected.

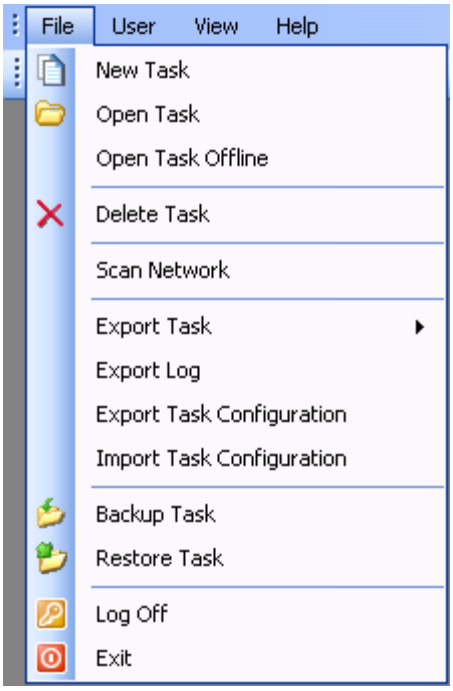
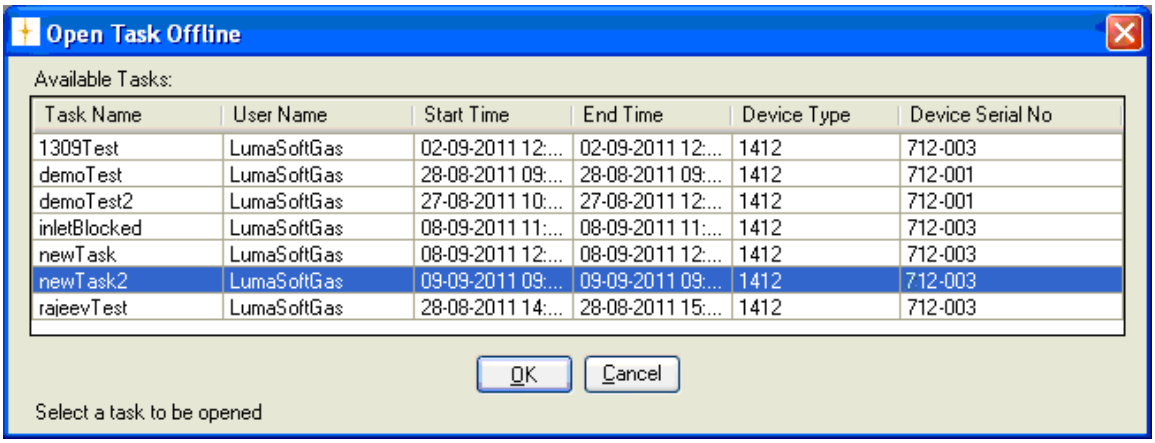


Figure 4.60 File menu: Open Task/Open Task Offline

The desired task can be opened, see Figure 4.61.



Task Name	User Name	Start Time	End Time	Device Type	Device Serial No
1309Test	LumaSoftGas	02-09-2011 12:...	02-09-2011 12:...	1412	712-003
demoTest	LumaSoftGas	28-08-2011 09:...	28-08-2011 09:...	1412	712-001
demoTest2	LumaSoftGas	27-08-2011 10:...	27-08-2011 12:...	1412	712-001
inletBlocked	LumaSoftGas	08-09-2011 11:...	08-09-2011 11:...	1412	712-003
newTask	LumaSoftGas	08-09-2011 12:...	08-09-2011 12:...	1412	712-003
newTask2	LumaSoftGas	09-09-2011 09:...	09-09-2011 09:...	1412	712-003
rajeevTest	LumaSoftGas	28-08-2011 14:...	28-08-2011 15:...	1412	712-003

Figure 4.61 Open Task list.

By selecting **Task Contents** in the **File** pull-down menu, see Figure 4.62, active filters and start/stop time is displayed, see Figure 4.63.

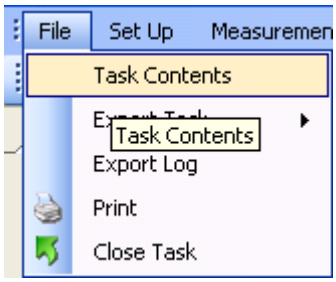


Figure 4.62 File menu: Task Contents.

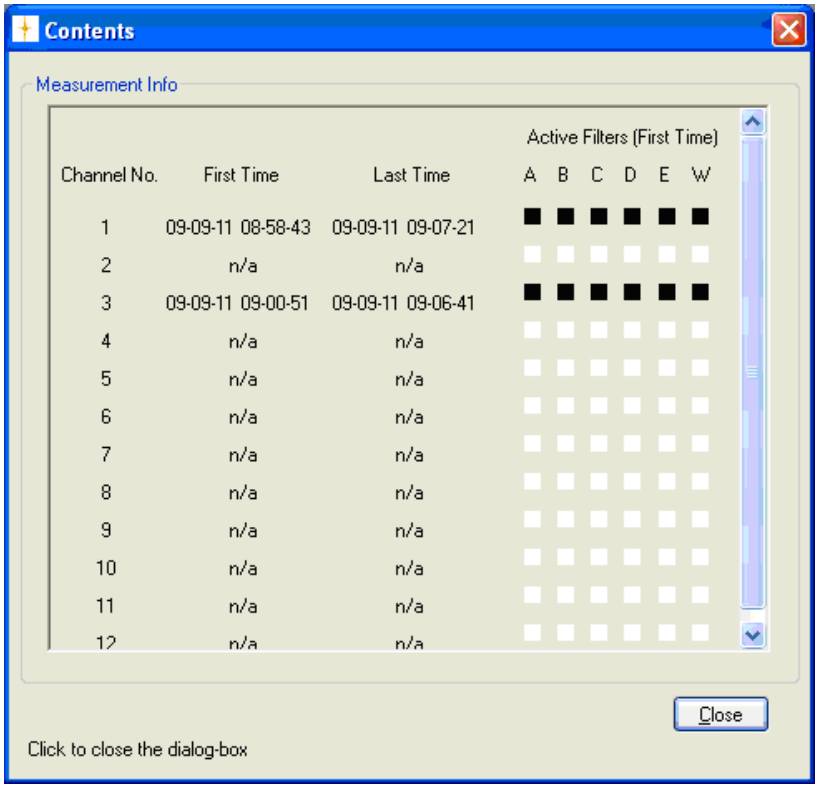


Figure 4.63 Contents window

The historical data can be displayed by selecting **Graphical Window>Single Gas with Selected Channel View** in the **View** drop down menu, see Figure 4.64, then press the **Historical Data Plotting** icon .

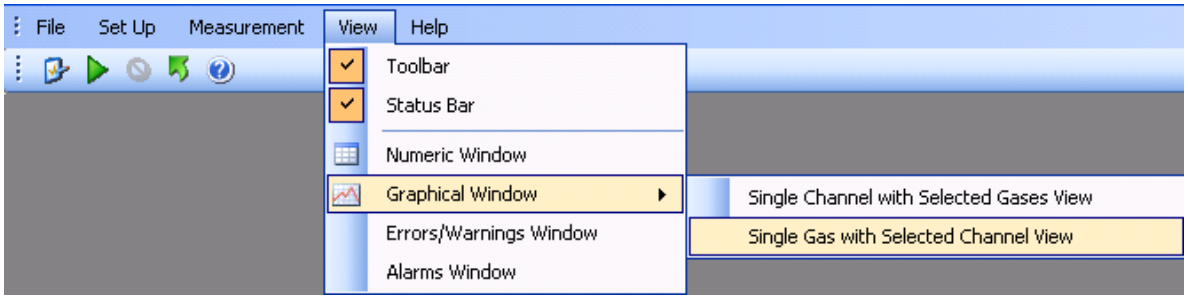


Figure 4.64 View menu: Graphical Window>Single Gas with Selected Channel View

A specific time interval can be selected by entering date and time in the two fields: **From Date** and **To Date**, see Figure 4.65.

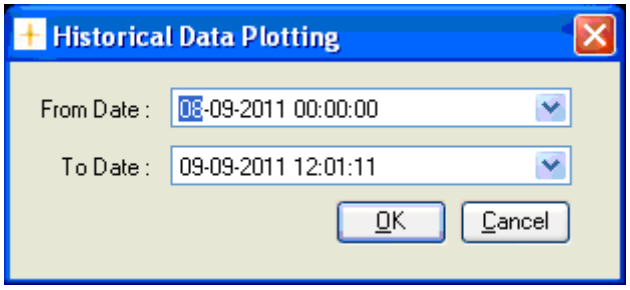


Figure 4.65 Select time interval for historic data plotting.

Click **OK** to display the historical data in a graph.

The functions of the icons in the historical window are the same as in the Real Time Window described in Section 4.2.2.7.

To continue the measurements performed in the specific task, press the green arrow icon or select **Start** in the **Measurement** drop down menu, see Figure 4.3.

To display the incoming measuring data (real time data) select the icon.

4.3 Presentation of Data in the Numeric Window

To display measurement data numeric select **Numeric Window** in the **View** pull-down menu.

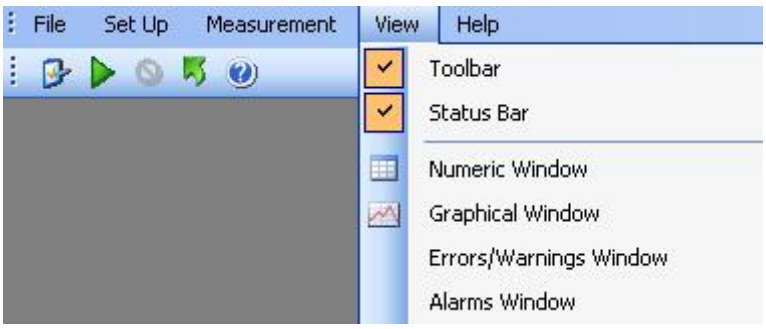


Figure 4.66 View pull-down: Numeric Window

4.3.1 Configuration of the Numeric Window

The **Numeric Window Properties** consists of two Index cards: **Interval** and **Columns**, see Figure 4.67.

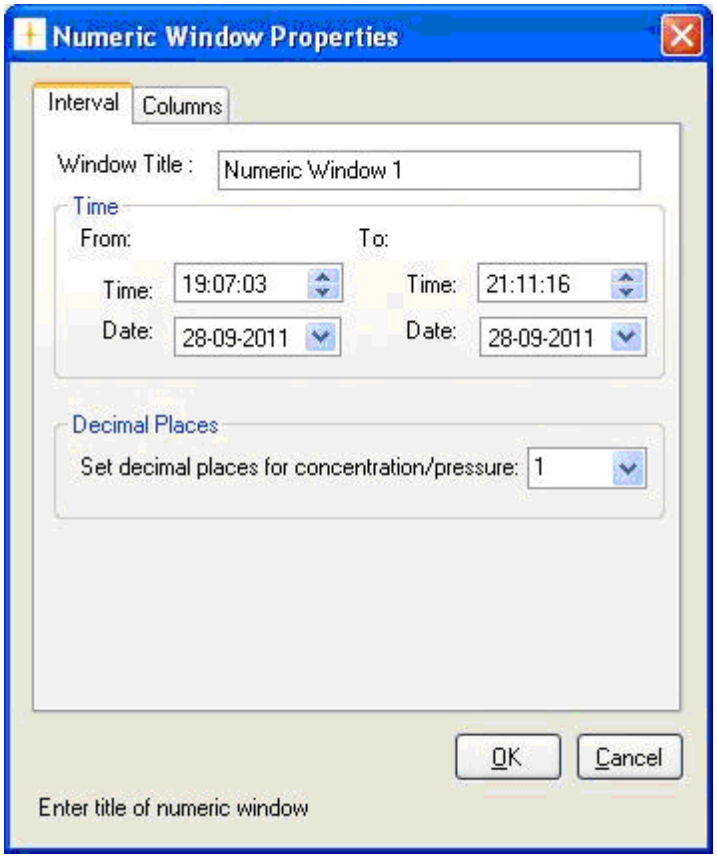


Figure 4.67 Numeric Window Properties

Interval Index Card

Type in a title for the numeric window in the **Window Title** box, see Figure 4.67.

Choose which time interval on a specific date that should be included in the numeric window. This option enables to define the column length as a period of time.

Also the number of decimal places for concentration and pressure values can be selected.

Columns Index Card

Define which component's parameters are displayed in the numeric window.

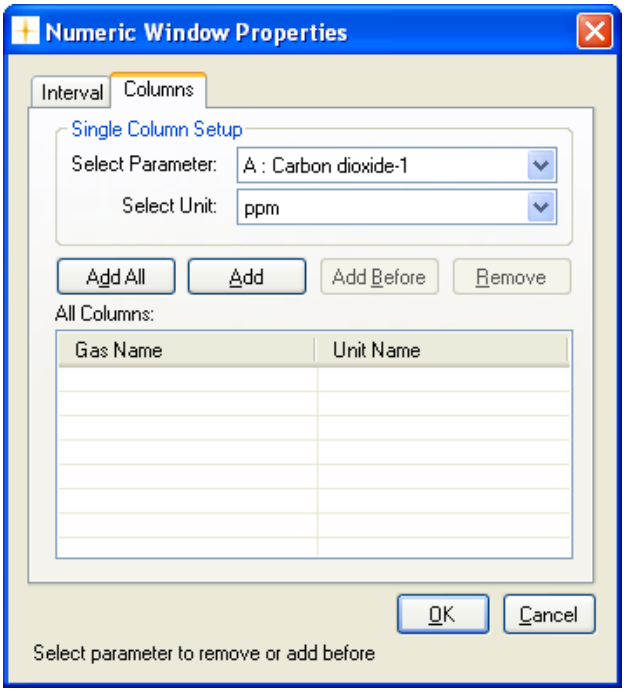


Figure 4.68 Column Index Card

In the **Single Column Setup** select the gases which should be displayed and their units, see Figure 4.68.

Select parameter: by clicking in this field, the names of all the gases and atmospheric pressure measured during this monitoring task are displayed. The gases and pressure are selected individually, see Figure 4.69.

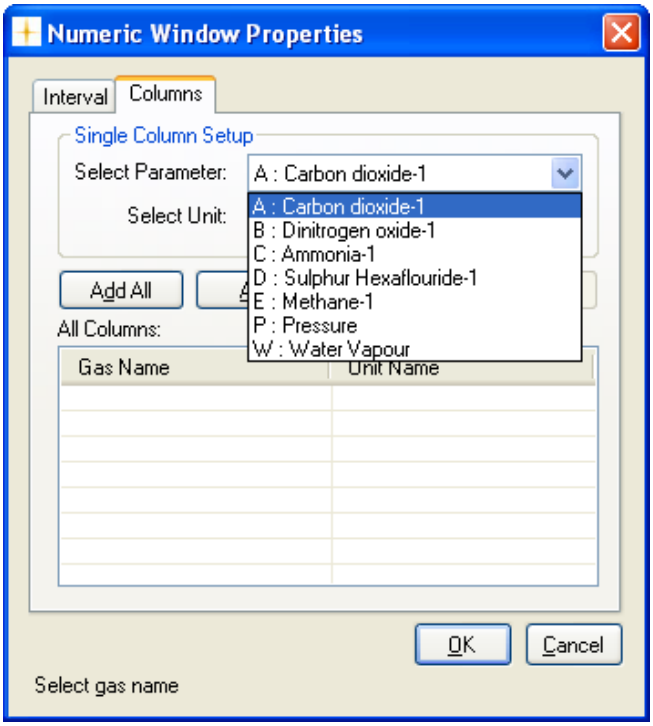


Figure 4.69 Select which gases should be displayed

Select unit: this enables to display the desired unit for each gas and for the atmospheric pressure. Click in the select unit field, and the available units for this parameter will be displayed.

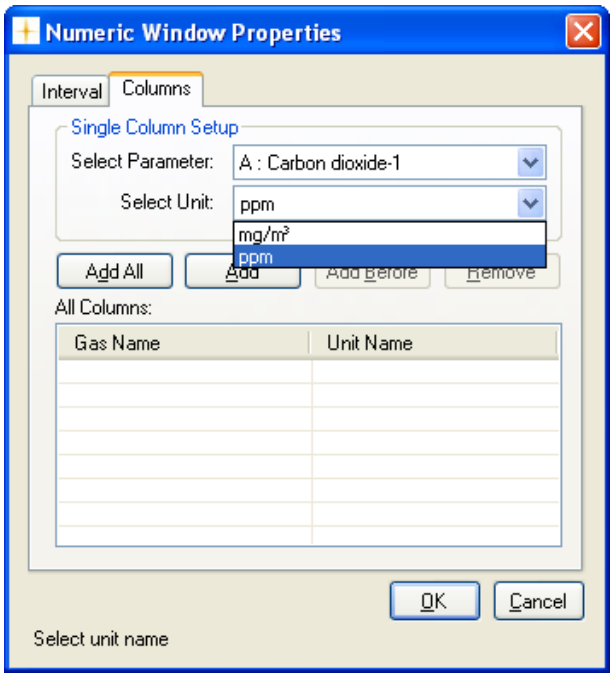


Figure 4.70 Select the units in which the concentration should be displayed

Press **Add** after each selected parameter, see Figure 4.71. To insert the second parameter before the first press **Add Before**. It is also possible to remove a selected parameter by pressing **Remove**.

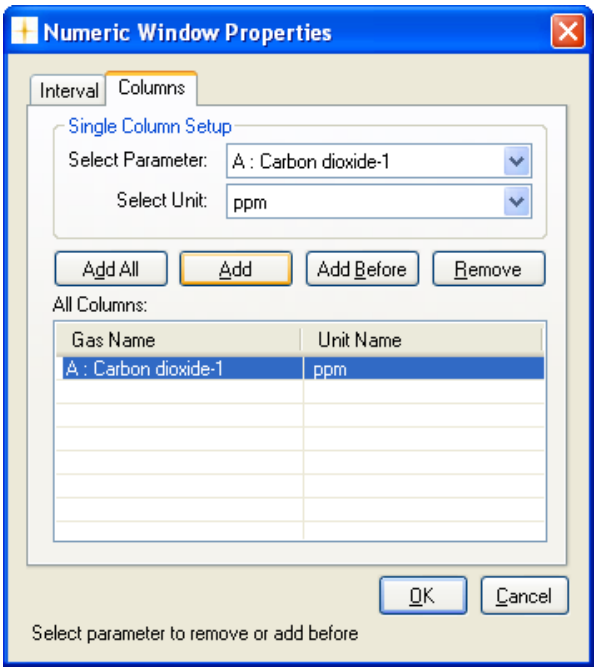


Figure 4.71 The selected gases are shown in the All Columns field

For convenience it is possible to add all the filter parameters using the **Add All** soft-key, see Figure 4.72.

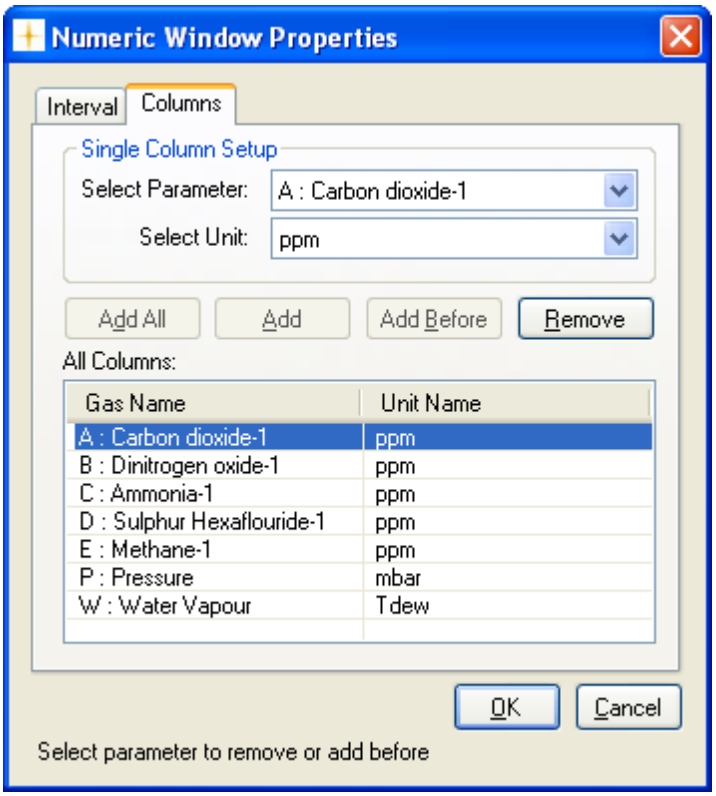


Figure 4.72 All filter parameters added with the Add All soft-key

In the **All Columns** field all component parameters to be displayed in the numeric window must appear. Note that if a parameter already

appears here, but you want to edit the units, then you must remove the existing parameter and add it again with the changed unit.

When all the parameters, which should be displayed in the numeric window, have been selected, press **OK** to proceed.

The numeric window is shown, see Figure 4.73.

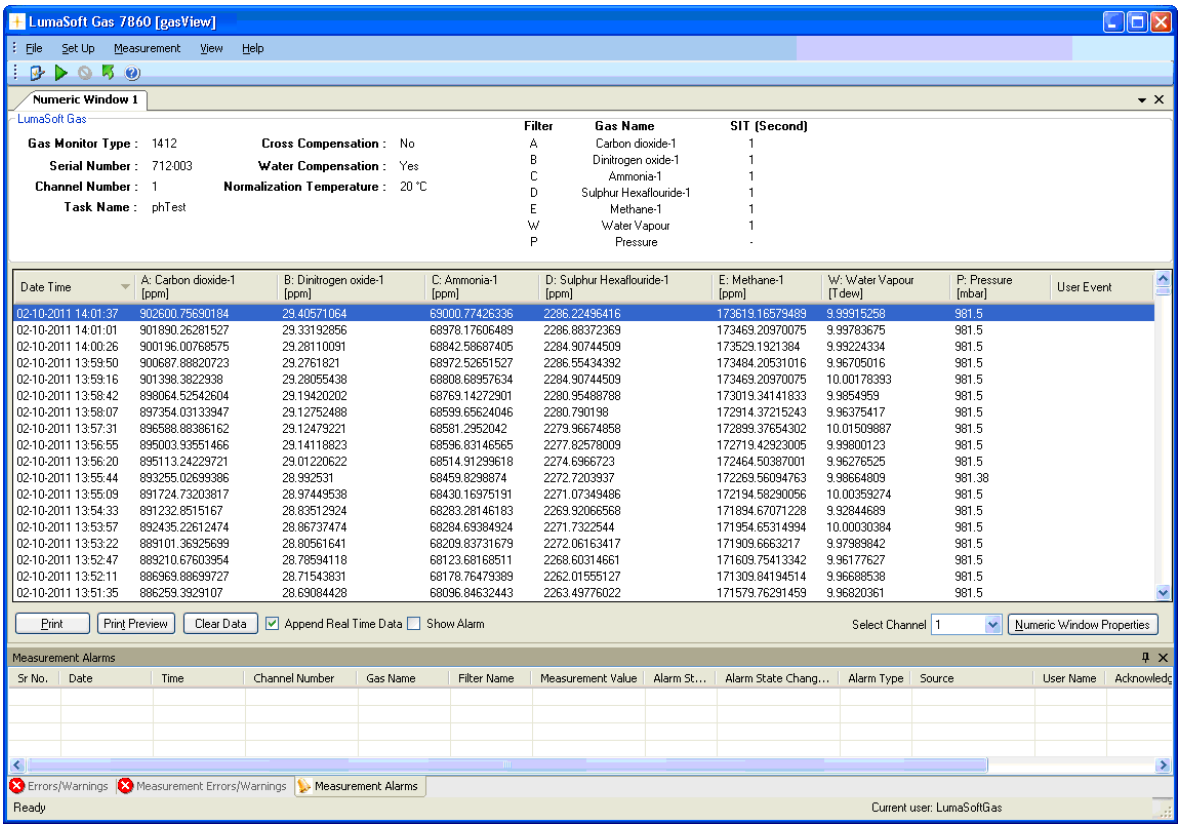


Figure 4.73 The numeric window

4.3.2 The Numeric Window

In the top of the numeric window the serial number for the Monitor and other settings are shown.

This window can display all the measurement data, simultaneously. Gas measurement data are displayed as instantaneous values. If any events have been added during the monitoring task, these are also displayed here. How to generate user events is explained in Section 4.3.3.

The latest measurement results are always displayed at the bottom of the column, previous measurement data roll upwards, disappearing from the view at the top of the column when the defined interval is full.

The Error and Warnings window will register if any errors have occurred while running the measurement. The window can be hidden by pressing

Auto Hide icon or by selecting **Errors / Warnings Window** in the **View** drop down menu, see Figure 4.74.

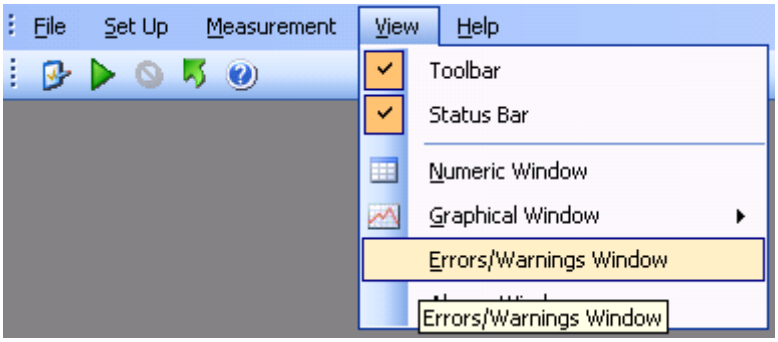


Figure 4.74 View menu: Errors/Warnings Window

4.3.3 User Events in the numeric window

If an event occurs or some conditions are changed during a measurement task it is possible to indicate this event by using the User Event function.

To insert a user event press the right mouse button while placing the cursor on the measurement point where the event should be added and then select **Add User Event**, see Figure 4.75.

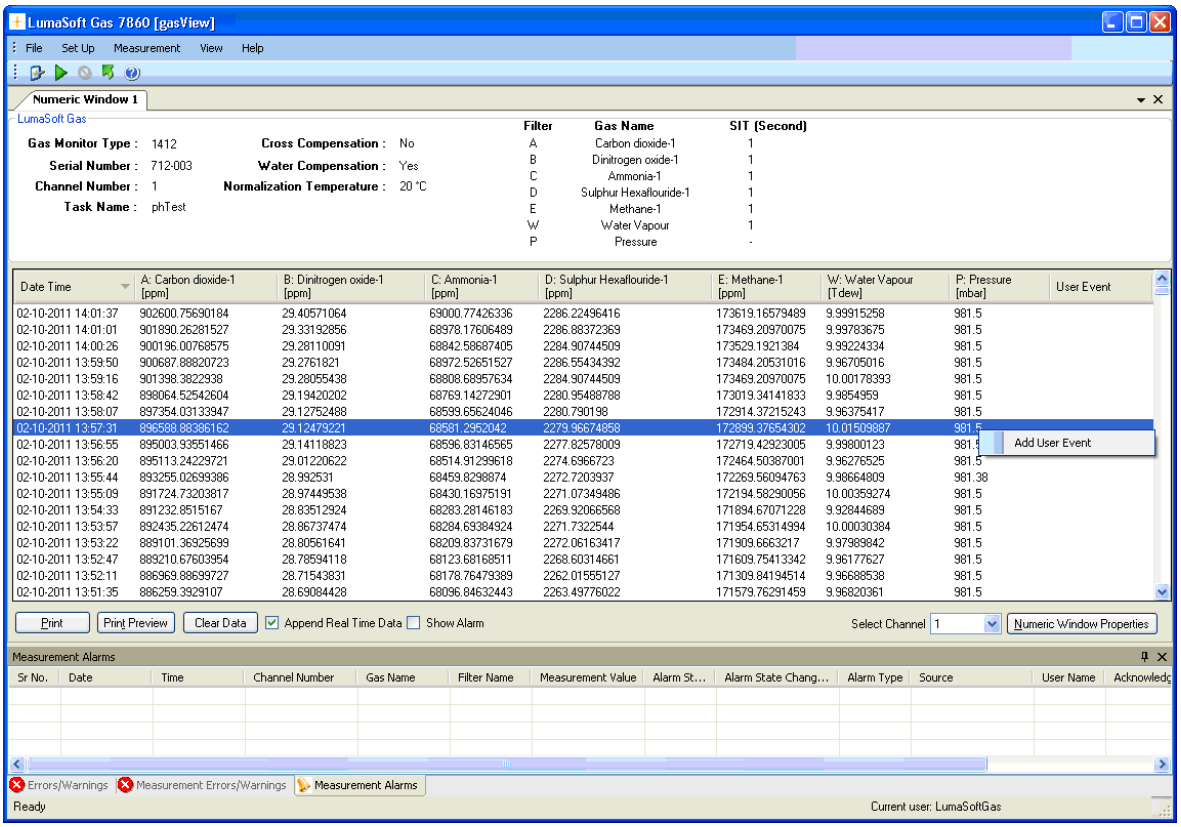


Figure 4.75 To add a User Event

The following window will appear, see Figure 4.76. Add a comment which will be displayed for this specific user event.

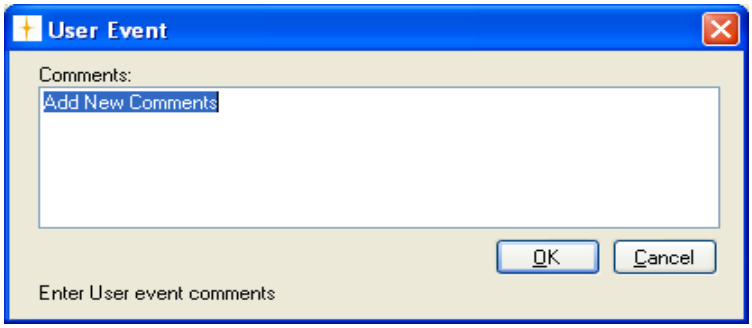


Figure 4.76 Add a comment to be displayed for the user event

Press **OK** to proceed. The user event which has been set up will be shown next to the measurement point, to which it belongs (here the user event "window open" has been added, see Figure 4.77.

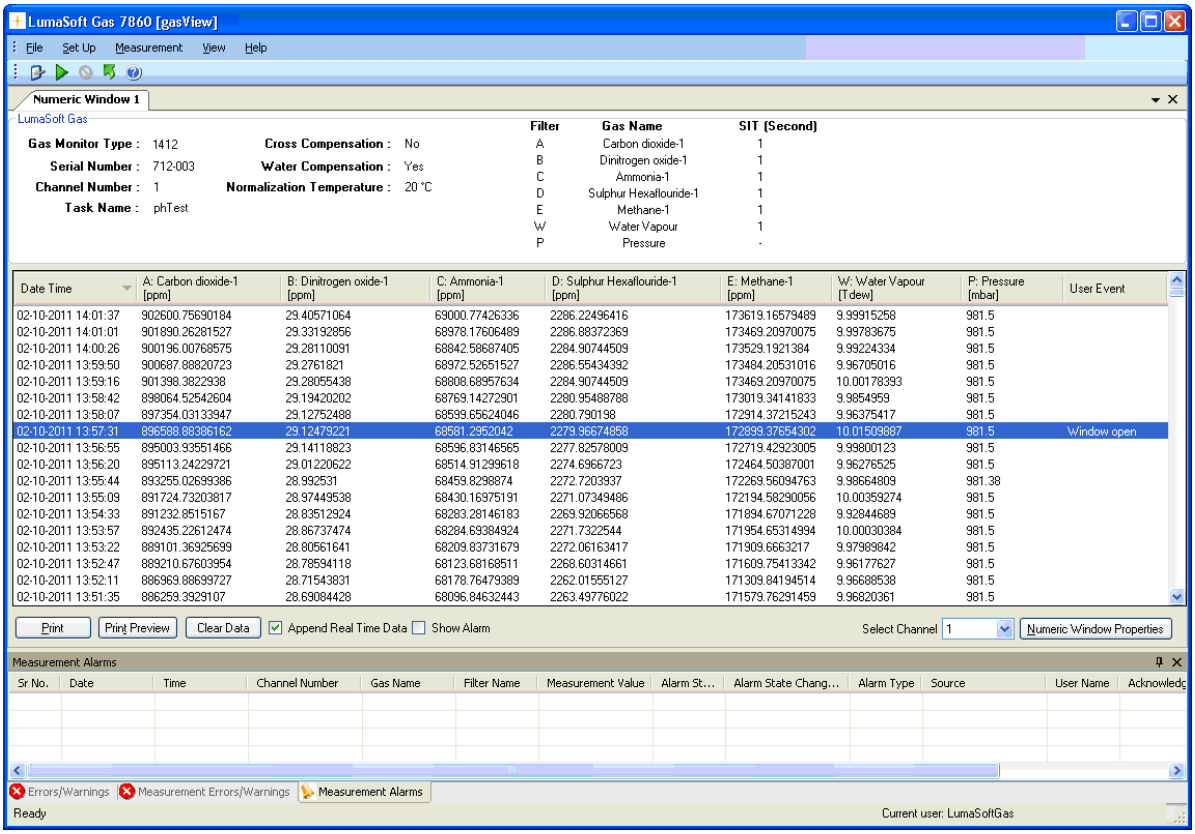


Figure 4.77 The User Event "Window open" has been added to a measurement point

An user event can be edited or deleted by pressing the right mouse button while placing the cursor on the event and selecting either **Edit User Event** or **Delete User Event**, see Figure 4.78.

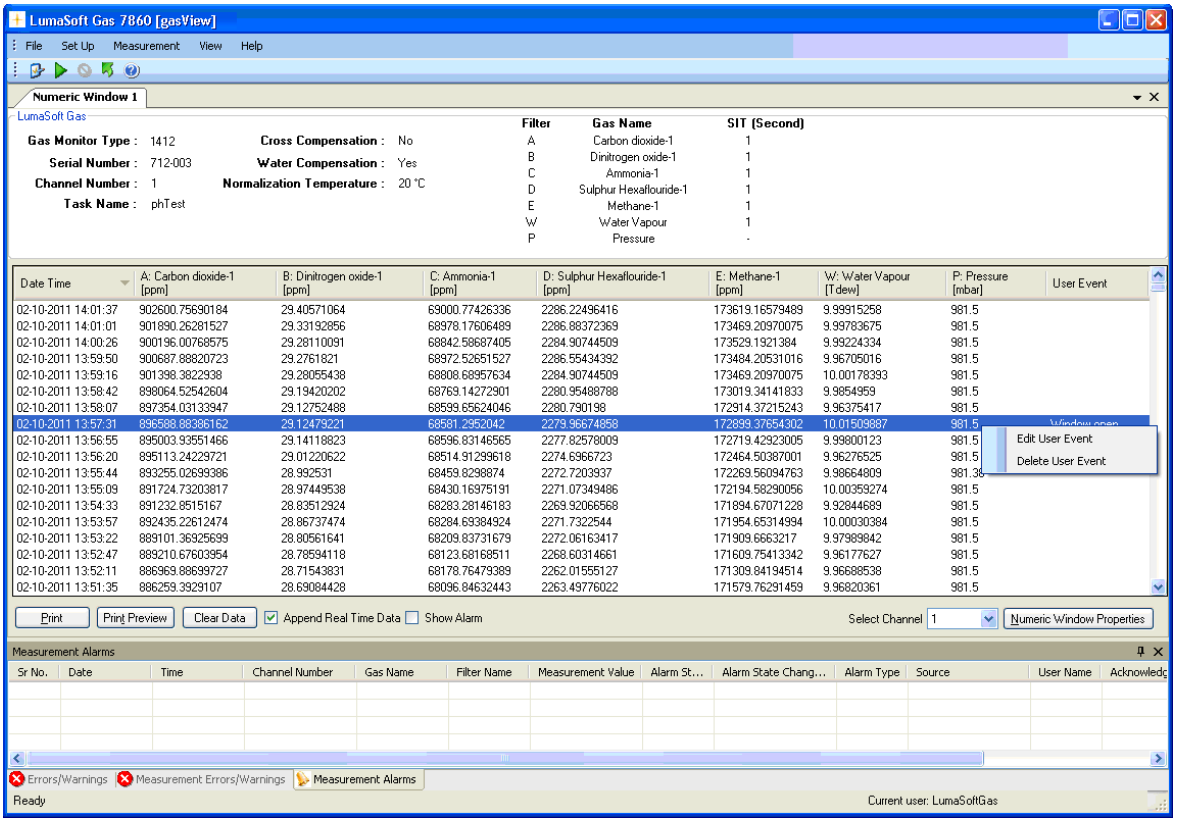


Figure 4.78 Edit or delete an User Event

4.3.4 Printing the numeric window

The numeric window can be output to a printer by selecting either the **Print** or the **Print Preview** button, see Figure 4.79.

The **Print** option will make a printer output and the **Print Preview** will make a screen view of the printout.

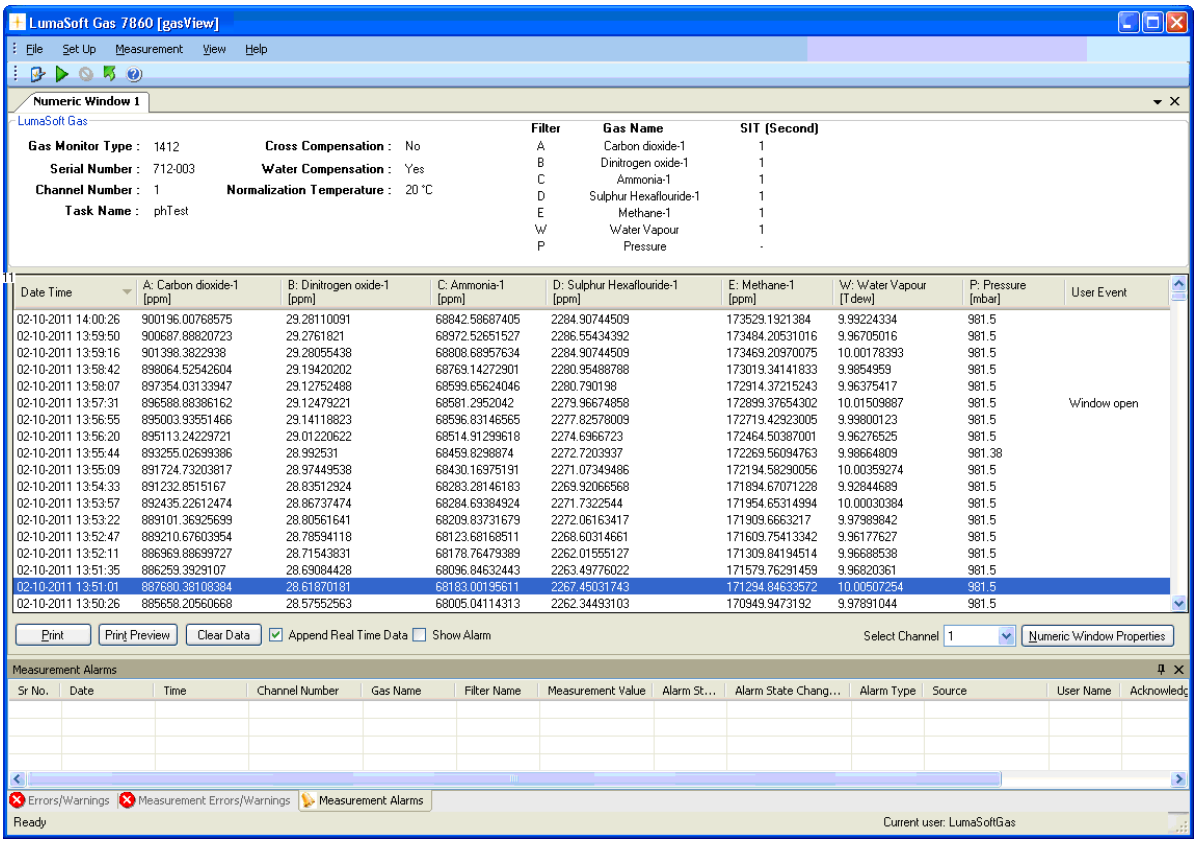
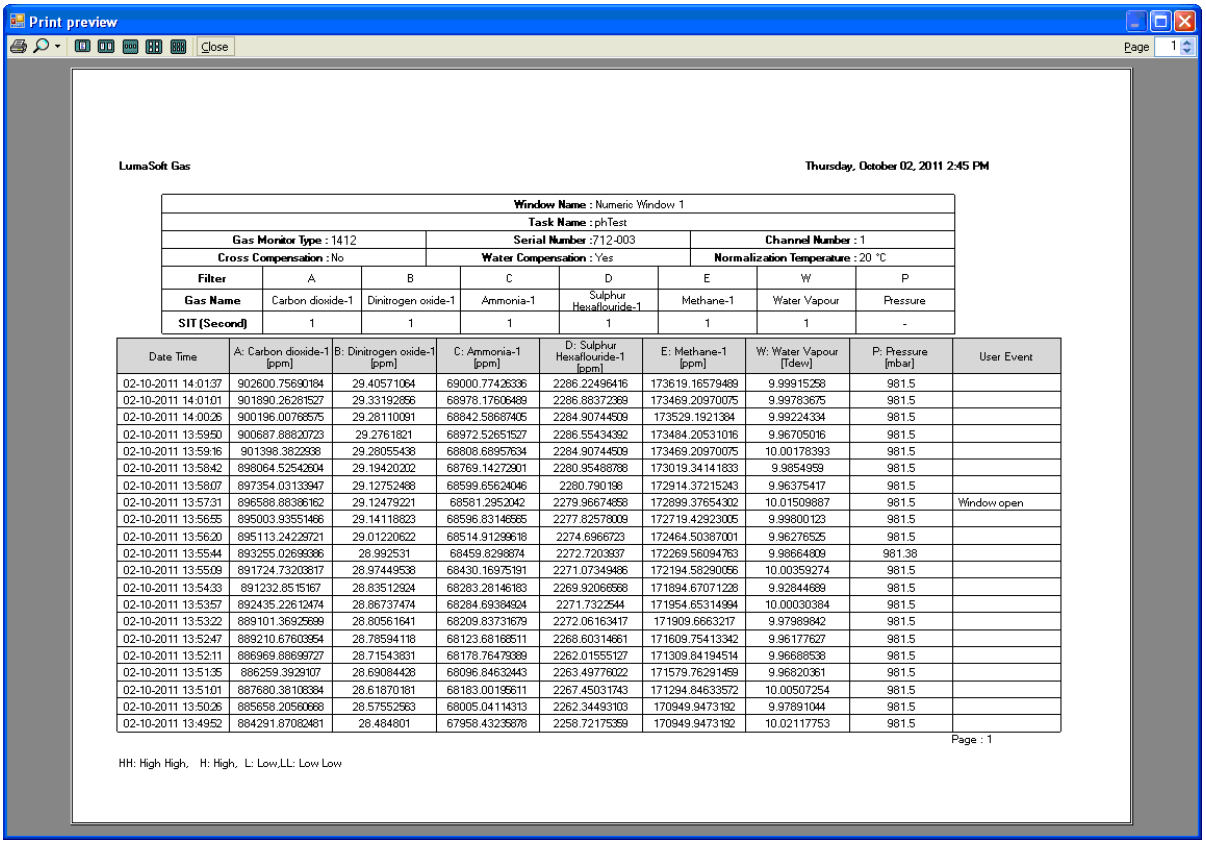


Figure 4.79 Printing the numeric window

The printout contain the numeric data and a header with task name, monitor type and serial number, channel number, information about the task setup, see Figure 4.80.

The printout can expand to more pages if the measurement data does not fit one page.



Print preview

Close

Page 1

LumaSoft Gas

Thursday, October 02, 2011 2:45 PM

Window Name : Numeric Window 1						
Task Name : phTest						
Gas Monitor Type : 1412		**Serial Number :**712-003			**Channel Number :** 1	
Cross Compensation : No		**Water Compensation :** Yes			**Normalization Temperature :** 20 °C	
Filter	A	B	C	D	E	W	P
Gas Name	Carbon dioxide-1	Dinitrogen oxide-1	Ammonia-1	Sulphur Hexaflouride-1	Methane-1	Water Vapour	Pressure
SIT (Second)	1	1	1	1	1	1	-

Date Time	A: Carbon dioxide-1 [ppm]	B: Dinitrogen oxide-1 [ppm]	C: Ammonia-1 [ppm]	D: Sulphur Hexaflouride-1 [ppm]	E: Methane-1 [ppm]	W: Water Vapour [Tdew]	P: Pressure [mbar]	User Event
02-10-2011 14:01:37	902600.75690184	29.40571064	69000.77426336	2286.22496416	173619.16579489	9.99915258	981.5	
02-10-2011 14:01:01	901890.26281527	29.33192856	68978.17606489	2286.88372369	173469.20970075	9.99783675	981.5	
02-10-2011 14:00:26	900196.00768575	29.28110091	68842.58687405	2284.90744509	173529.1921384	9.99224334	981.5	
02-10-2011 13:59:50	900687.88820723	29.2761821	68972.52651527	2286.55434392	173484.20531016	9.96705016	981.5	
02-10-2011 13:59:16	901398.3822938	29.28055438	68808.68957634	2284.90744509	173469.20970075	10.00178393	981.5	
02-10-2011 13:58:42	898064.52542604	29.19420202	68769.14272901	2280.95488788	173019.34141833	9.9854959	981.5	
02-10-2011 13:58:07	897354.03133947	29.12752488	68599.65624046	2280.790198	172914.37215243	9.96375417	981.5	
02-10-2011 13:57:31	896588.88386162	29.12479221	68581.2952042	2279.96674858	172899.37654302	10.01509887	981.5	Window open
02-10-2011 13:56:55	895003.93551466	29.14118823	68596.83146565	2277.82578009	172719.42923005	9.99800123	981.5	
02-10-2011 13:56:20	895113.24229721	29.01220622	68514.91299618	2274.6966723	172464.50387001	9.96276525	981.5	
02-10-2011 13:55:44	893255.02698386	28.992531	68459.8298874	2272.7203937	172269.56094763	9.98664809	981.38	
02-10-2011 13:55:09	891724.73203817	28.97449538	68430.16975191	2271.07349486	172194.58290056	10.00359274	981.5	
02-10-2011 13:54:33	891232.8515167	28.83512924	68283.28146183	2269.92066568	171894.67071228	9.92844689	981.5	
02-10-2011 13:53:57	892435.22612474	28.86737474	68284.69384924	2271.7322544	171954.65314994	10.00030384	981.5	
02-10-2011 13:53:22	889101.36925699	28.80561641	68209.83731679	2272.06163417	171909.6663217	9.97989842	981.5	
02-10-2011 13:52:47	889210.67603954	28.78594118	68123.68168511	2268.60314861	171609.75413342	9.96177627	981.5	
02-10-2011 13:52:11	886969.88699727	28.71543831	68178.76479389	2262.01555127	171309.84194514	9.96688538	981.5	
02-10-2011 13:51:35	886259.3929107	28.69084428	68096.84632443	2263.49776022	171579.76291459	9.96820361	981.5	
02-10-2011 13:51:01	887680.38108384	28.61870181	68183.00195611	2267.45031743	171294.84633572	10.00507254	981.5	
02-10-2011 13:50:26	885658.20580668	28.57552963	68005.04114313	2262.34493103	170949.9473192	9.97891044	981.5	
02-10-2011 13:49:52	884291.87082481	28.484801	67958.43235878	2258.72175359	170949.9473192	10.02117753	981.5	

Page : 1

HH: High High, H: High, L: Low,LL: Low Low

Figure 4.80 Print preview of the Numeric window

4.4 View Measurement alarms

A description of measurement alarms can be found in Section 3.2.4.

To show the alarms in the numeric window check the tick box **Show Alarm,** Show Alarm refer to Figure 4.81.

An extra **Alarm** column for every filter is then shown.

If an alarm occurred for a measured value it is shown as either **High**, **High High**, **Low** or **Low Low** in the Alarm column, see Figure 4.81.

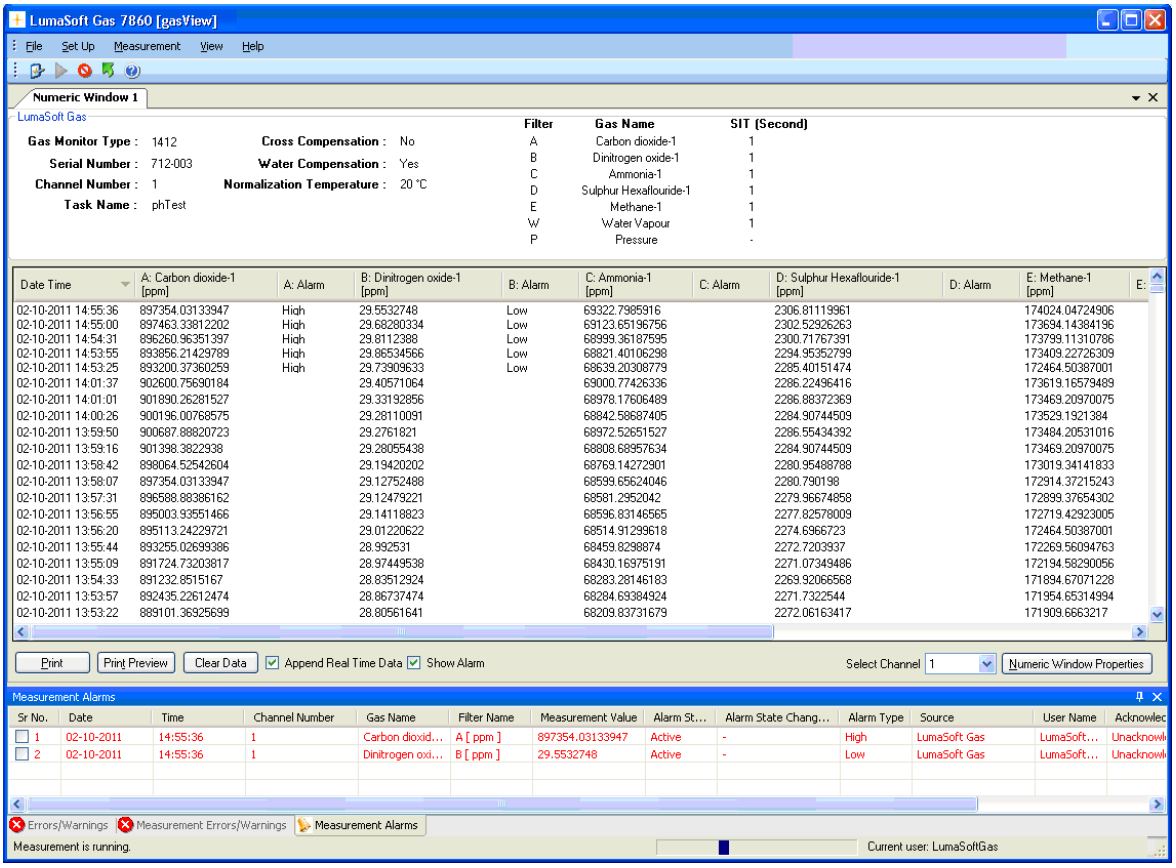


Figure 4.81 Alarms shown in numeric display

The **Measurement Alarms** view can be switched on/off by using the **View** menu pull-down **Alarms Window**, see Figure 4.82.

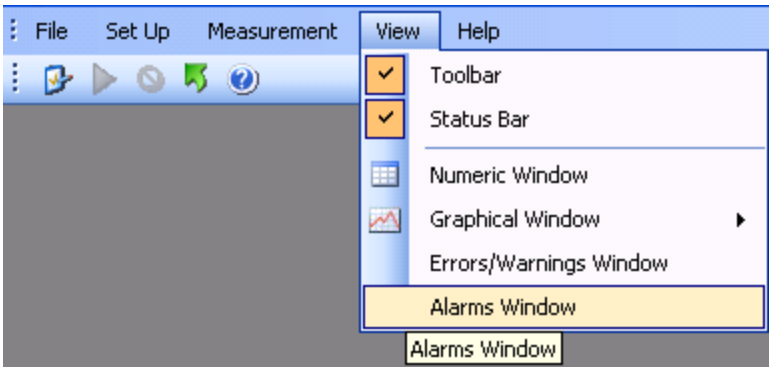
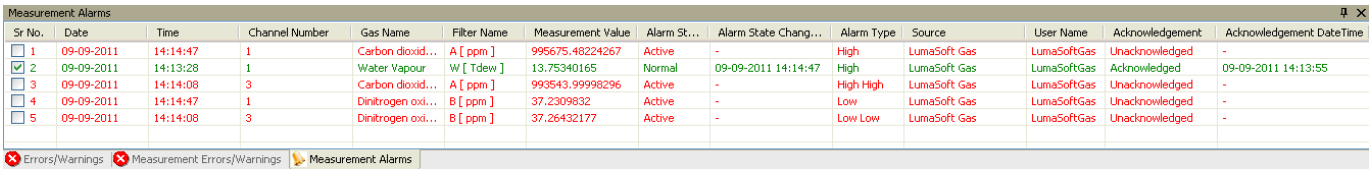


Figure 4.82 View pull-down: Alarms Window

The **Measurement Alarms** view shows the latest occurred software alarms, see Figure 4.83.



Measurement Alarms

Sr No.	Date	Time	Channel Number	Gas Name	Filter Name	Measurement Value	Alarm St...	Alarm State Chang...	Alarm Type	Source	User Name	Acknowledgement	Acknowledgement DateTime
1	09-09-2011	14:14:47	1	Carbon dioxid...	A [ppm]	995675.48224267	Active	-	High	LumaSoft Gas	LumaSoftGas	Unacknowledged	-
2	09-09-2011	14:13:28	1	Water Vapour	W [Tdew]	13.75340165	Normal	09-09-2011 14:14:47	High	LumaSoft Gas	LumaSoftGas	Acknowledged	09-09-2011 14:13:55
3	09-09-2011	14:14:08	3	Carbon dioxid...	A [ppm]	993543.99998296	Active	-	High High	LumaSoft Gas	LumaSoftGas	Unacknowledged	-
4	09-09-2011	14:14:47	1	Dinitrogen oxi...	B [ppm]	37.2309832	Active	-	Low	LumaSoft Gas	LumaSoftGas	Unacknowledged	-
5	09-09-2011	14:14:08	3	Dinitrogen oxi...	B [ppm]	37.26432177	Active	-	Low Low	LumaSoft Gas	LumaSoftGas	Unacknowledged	-

Errors/Warnings | Measurement Errors/Warnings | Measurement Alarms

Figure 4.83 The Measurement Alarms view

Each alarm is date and time stamped, with channel number, Gas and filter name, measured value and Alarm type.

The **Sr No.** check box gives the user the opportunity to acknowledge an alarm.

4.5 Export Task

During or after measurement all the current measurements can be exported to Microsoft Excel file format. This gives the opportunity to do custom data processing on the measurement data, like calculation, presentation in table or graph format.

Two types exports are available, either channel-wise (see Section 4.5.1) or gas-wise (see Section 4.5.2).

Please note that Microsoft Office must be installed for the export task functionality to work.

4.5.1 Export Task (Channel view)

The measurement data export can be initiated by using the **File** menu pull-down **Export Task>Select Gases/Channel Excel sheet,** see Figure 4.84.

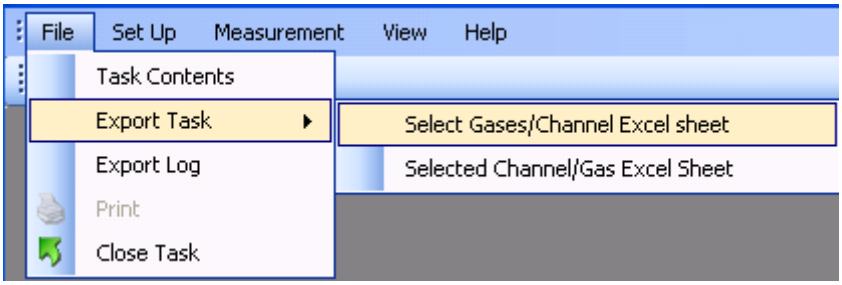


Figure 4.84 File pull-down: Export Task>Select Gases/Channel Excel sheet

Select the channels for which measurements data is to be exported, see Figure 4.85.

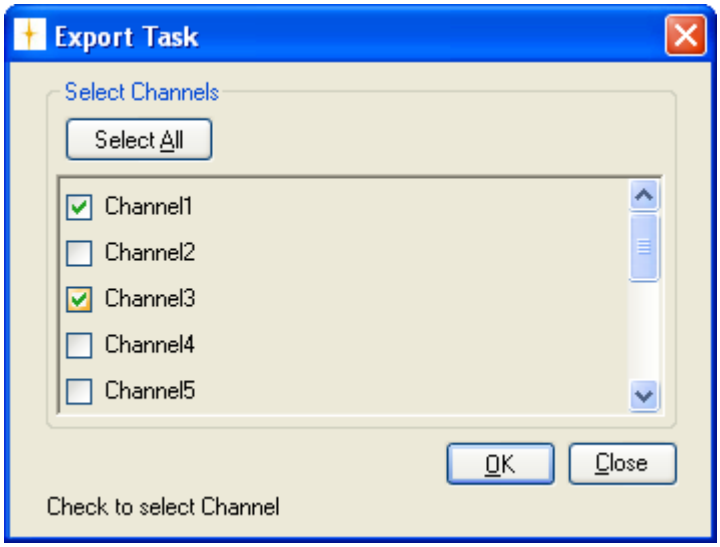


Figure 4.85 Export measurements to Excel format

Select the directory where the Excel format file should be stored, see Figure 4.86. The default Excel file name is the name of the current task, which can be altered if desired.

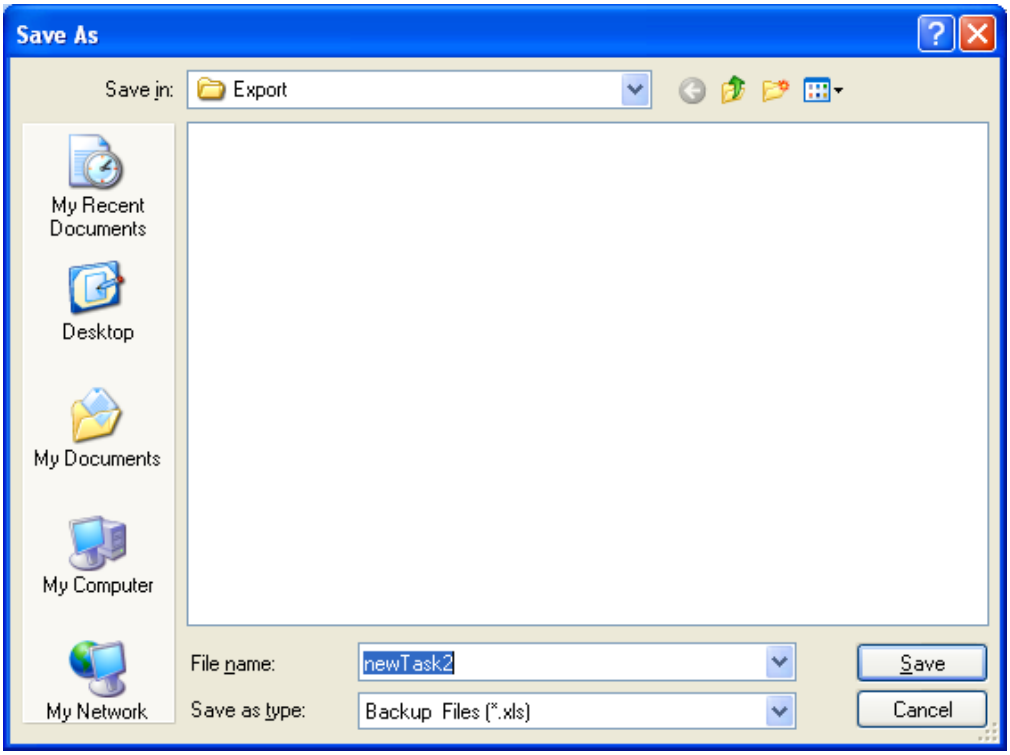
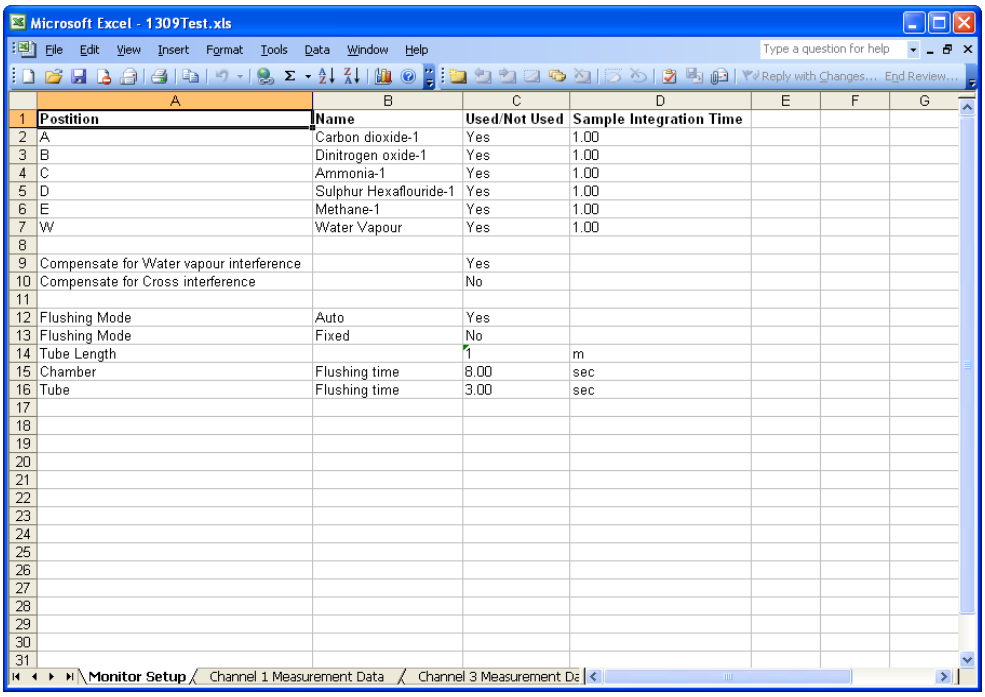


Figure 4.86 Export Excel file dialogue

When the export is finished press **Close**, see Figure 4.85.

The export Excel workbook file consists of several tabs.

The first tab shows the setup of the Monitor, see Figure 4.87.

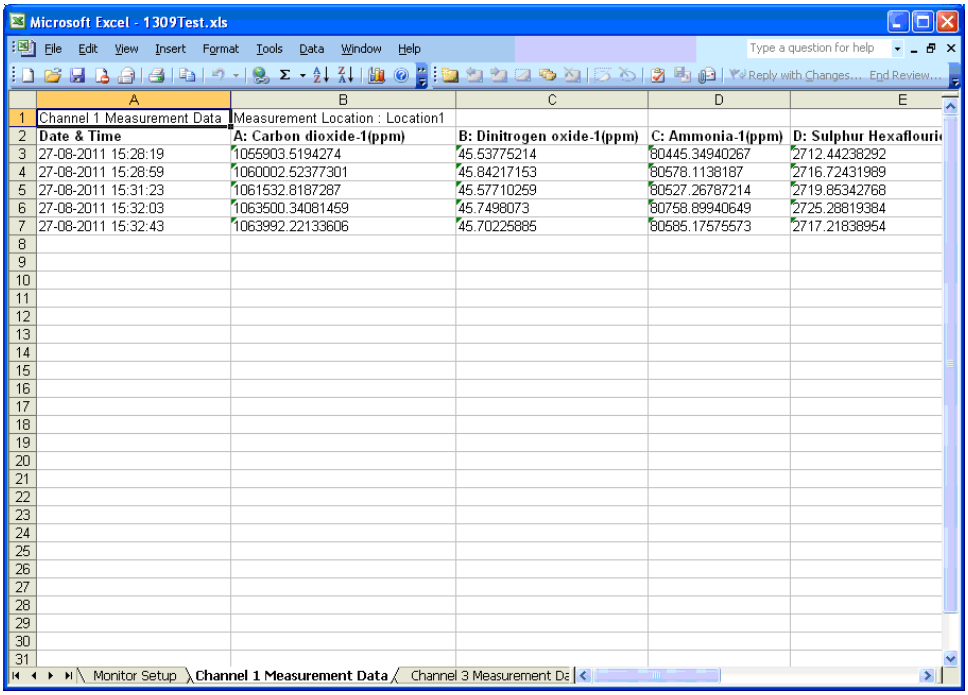


	A	B	C	D
1	Postition	Name	Used/Not Used	Sample Integration Time
2	A	Carbon dioxide-1	Yes	1.00
3	B	Dinitrogen oxide-1	Yes	1.00
4	C	Ammonia-1	Yes	1.00
5	D	Sulphur Hexaflouride-1	Yes	1.00
6	E	Methane-1	Yes	1.00
7	W	Water Vapour	Yes	1.00
8				
9	Compensate for Water vapour interference		Yes	
10	Compensate for Cross interference		No	
11				
12	Flushing Mode	Auto	Yes	
13	Flushing Mode	Fixed	No	
14	Tube Length		1	m
15	Chamber	Flushing time	8.00	sec
16	Tube	Flushing time	3.00	sec

Figure 4.87 Monitor setup

The following tabs shows the measurement data for each of the channels, see Figure 4.88.

Each measurement is time stamped.



	A	B	C	D	E
1	Channel 1 Measurement Data	Measurement Location : Location1			
2	Date & Time	A: Carbon dioxide-1(ppm)	B: Dinitrogen oxide-1(ppm)	C: Ammonia-1(ppm)	D: Sulphur Hexaflouri
3	27-08-2011 15:28:19	1055903.5194274	45.53775214	80445.34940267	2712.44238292
4	27-08-2011 15:28:59	1060002.52377301	45.84217153	80578.1138187	2716.72431989
5	27-08-2011 15:31:23	1061532.8187287	45.57710259	80527.26787214	2719.85342768
6	27-08-2011 15:32:03	1063500.34081459	45.7498073	80758.89940649	2725.28819384
7	27-08-2011 15:32:43	1063992.22133606	45.70225885	80585.17575573	2717.21838954

Figure 4.88 Channel measurement data in Excel.

The Excel Chart wizard can now be used to generate for instance a line graph as shown in Figure 4.89.

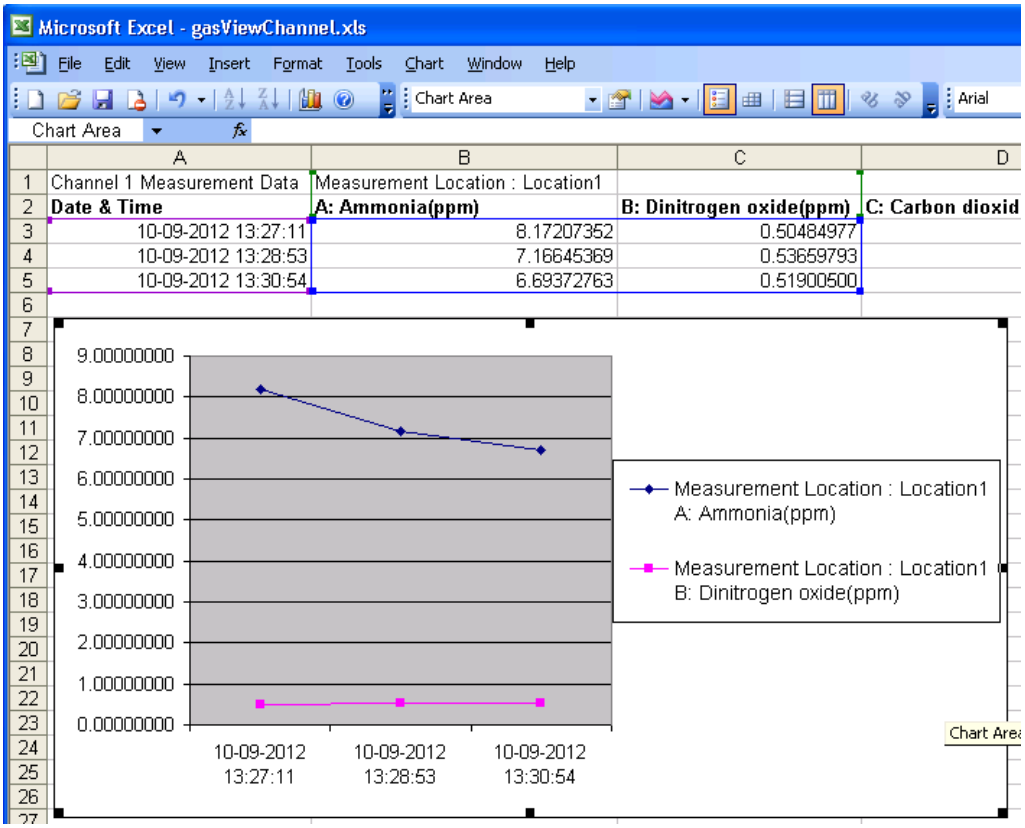


Figure 4.89 Channel measurement data in Excel with graph.

4.5.2 Export Task (Gas view)

The measurement data export can be initiated by using the **File** menu pull-down **Export Task>Select Channel/Gas Excel Sheet,** see Figure 4.90.

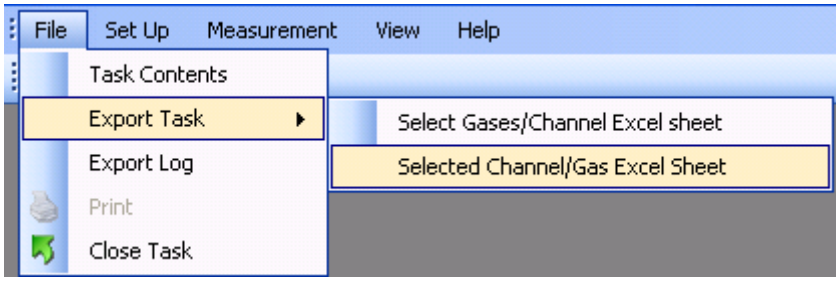


Figure 4.90 File pull-down: Export Task>Select Channel/Gas Excel Sheet

Select the gases for which measurements data is to be exported, see Figure 4.91.

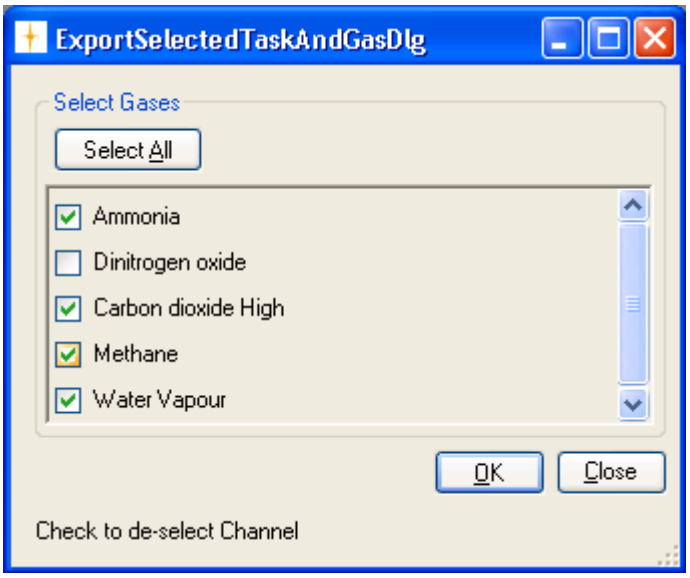


Figure 4.91 Export measurements to Excel format

Select the directory where the Excel format file should be stored, see Figure 4.92. The default Excel file name is the name of the current task, which can be altered if desired.

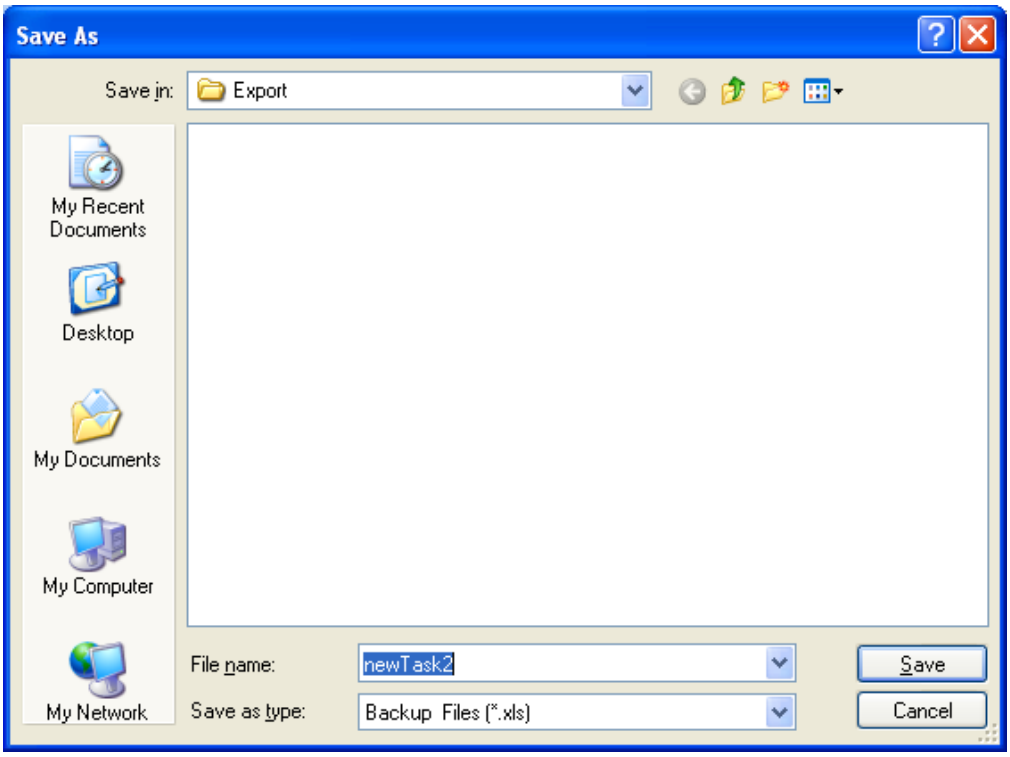
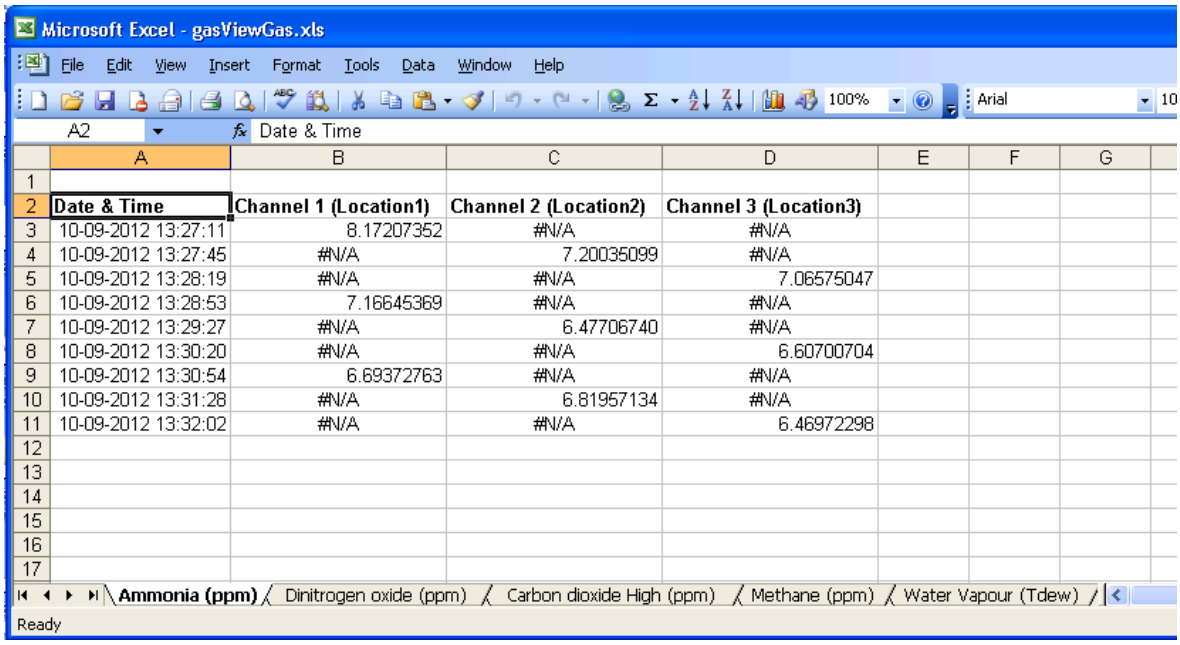


Figure 4.92 Export Excel file dialogue

When the export is finished press **Close**, see Figure 4.91.

The export Excel workbook file consists of a tab for each gas, see Figure 4.93.

Each measurement is time stamped.



	A	B	C	D
2	Date & Time	Channel 1 (Location1)	Channel 2 (Location2)	Channel 3 (Location3)
3	10-09-2012 13:27:11	8.17207352	#N/A	#N/A
4	10-09-2012 13:27:45	#N/A	7.20035099	#N/A
5	10-09-2012 13:28:19	#N/A	#N/A	7.06575047
6	10-09-2012 13:28:53	7.16645369	#N/A	#N/A
7	10-09-2012 13:29:27	#N/A	6.47706740	#N/A
8	10-09-2012 13:30:20	#N/A	#N/A	6.60700704
9	10-09-2012 13:30:54	6.69372763	#N/A	#N/A
10	10-09-2012 13:31:28	#N/A	6.81957134	#N/A
11	10-09-2012 13:32:02	#N/A	#N/A	6.46972298

Figure 4.93 Gas measurement data in Excel.

The Excel Chart wizard can now be used to generate for instance a line graph as shown in Figure 4.94.

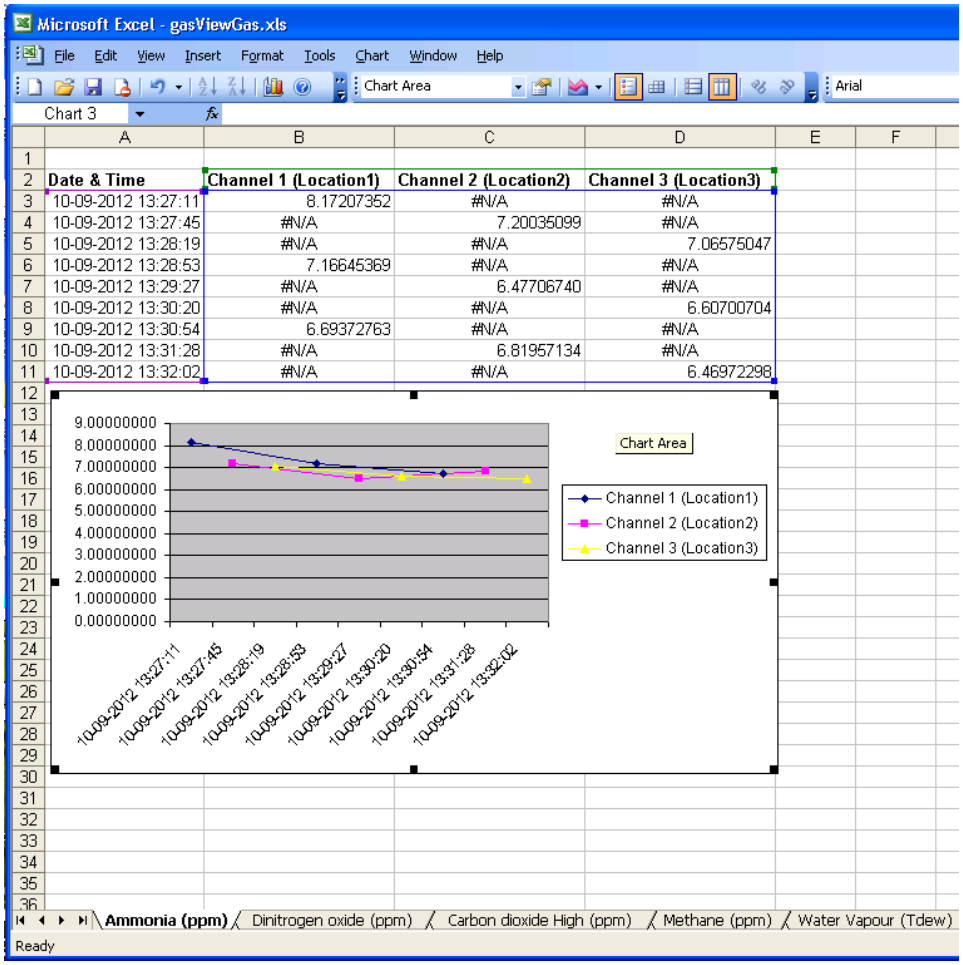


Figure 4.94 Gas measurement data in Excel with graph.

4.6 Errors / Warnings Window

The Errors/Warnings window can be switched on/off by using the **View** menu pull-down **Errors / Warnings Window**.

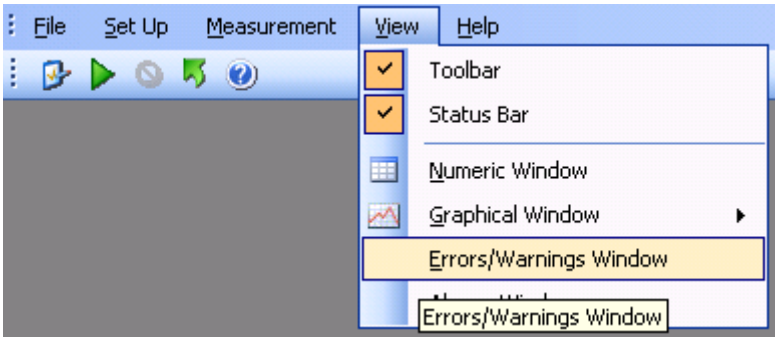


Figure 4.95 View pull-down: Errors/Warnings Window

Warnings and errors while running the LumaSoft Gas application will be shown in the **Errors / Warnings** window, see Figure 4.96, and those occurring during measurement will be shown in **Measurement Errors / Warnings** window, see Figure 4.97.

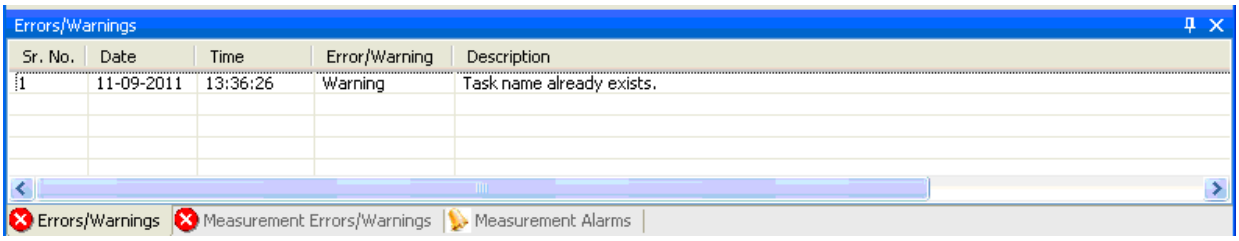


Figure 4.96 Errors/Warnings window

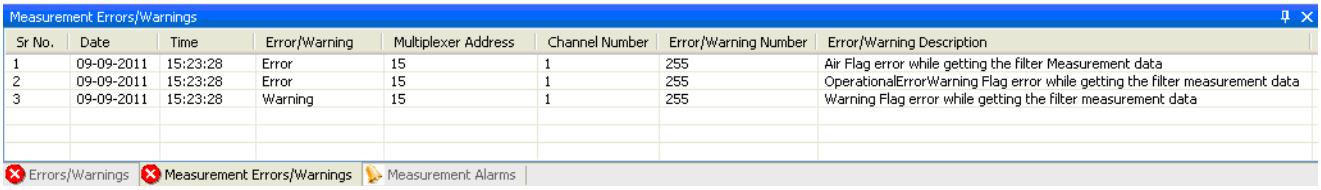


Figure 4.97 Measurement Errors/Warnings window

Measurement errors is also marked with an asterix (*) next to the **Date Time** stamp, as shown in Figure 4.98.

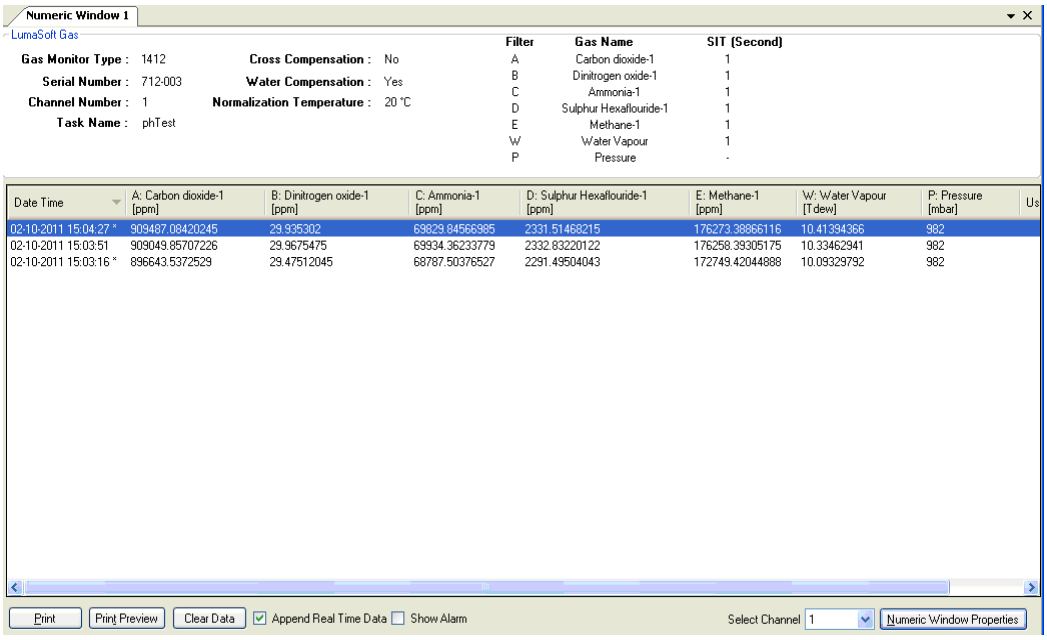


Figure 4.98 Error marking of measurements

4.7 Export log

When having a task open it is possible to export 3 types of logs into CSV (comma separated files), suitable for opening in Microsoft Excel.

The 3 types of logs, which can be exported, are:

- Measurement Errors/Warnings
- User Events
- Alarms

To perform the **Export Log** select the **File** menu pull-down **Export Log**, see Figure 4.99.

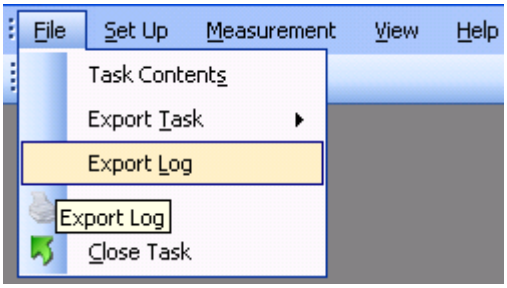


Figure 4.99 File pull-down: Export Log

Open the **Export Log** window, giving the possibility to export the 3 types of logs, see Figure 4.100. A time interval for the log can also be specified.

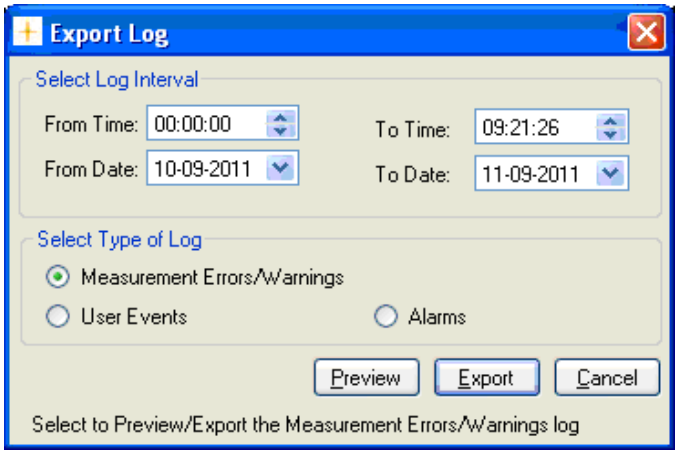


Figure 4.100 Export Log

Select one of the 3 log types in the **Select Type of Log** group box and select the **Export** soft-key to export to a CSV-file.

Select the folder where the log file should be saved, see Figure 4.101.

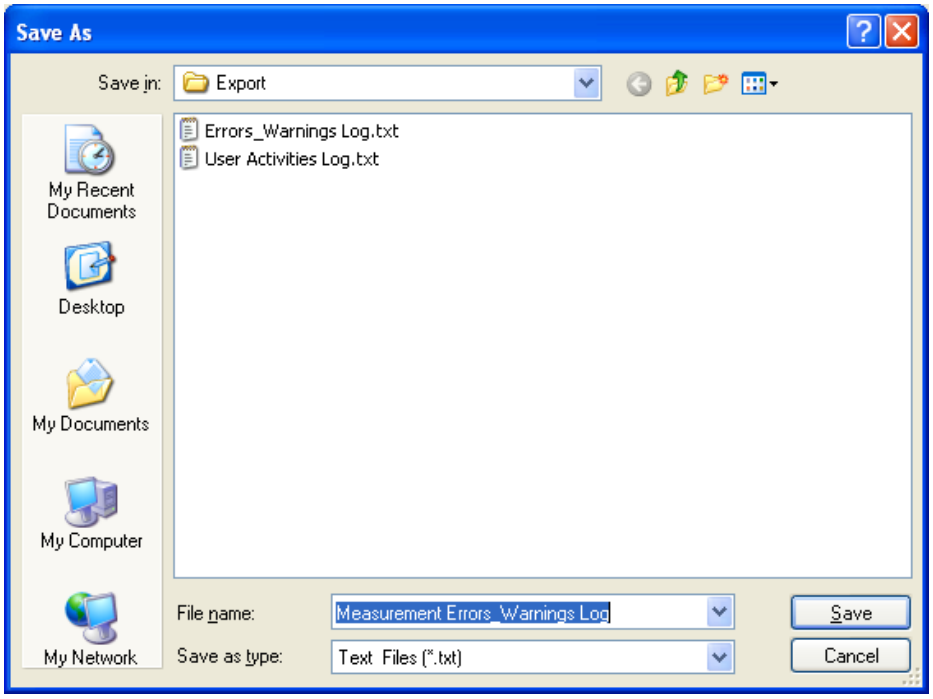


Figure 4.101 Save export log CSV file

Also a preview of the 3 log types can be made by using the **Preview** soft-key. See examples in Figure 4.102, 4.103 and 4.104.

Numeric Window 1 | **Measurement Err/Wrng Log**

Measurement Date Time	Error/Warning	Multiplexer Address	Channel Number	Error/Warning Number	Error/Warning Description
11-09-2011 09:15:07	Error	15	1	255	Air Flag error while getting the filter Measurement data
11-09-2011 09:15:07	Error	15	1	255	OperationalErrorWarning Flag error while getting the filter measurement data
11-09-2011 09:15:07	Warning	15	1	255	Warning Flag error while getting the filter measurement data

Figure 4.102 Measurement Errors/Warnings log preview

Numeric Window 1 | **User Events Log**

Measurement Date Time	Channel No.	User Event Description
11-09-2011 09:15:47	3	Start

Figure 4.103 User Events log preview

Numeric Window 1 | **Alarms Log**

Measurement Date Time	Channel No.	Gas Name	Filter Name [Unit]	Measurement Value	Alarm State	Alarm State Changed Date Time	Alarm Type	User Name	Alarm ACK Date Time	HH-Limit Value	H-Limit Value
11-09-2011 09:15:47	3	Carbon dioxide-1	A [ppm]	898228.48559986	Active		H	LumaSoftGas			800000

Figure 4.104 Alarms log preview

Chapter 5

Database Management

October 2012

- Export Task (Section 5.1)
- Export/Import Task configuration (Section 5.2)
- Backup/Restore/Delete Task (Section 5.3)
- Export Log (Section 5.4)

5.1 Export Task

To view the data in another format and do further calculations on data, it is possible to export obtained data to Microsoft Excel.

Two types exports are available, either channel-wise (see Section 5.1.1) or gas-wise (see Section 5.1.2).

Please note that Microsoft Office must be installed for the export task functionality to work.

-

5.1.1 Export Task (Channel view)

If the LumaSoft Gas application is not started start it and login with username and password.

Figure 5.1 User Login

Select **Export Task>Select Gases/Channel Excel Sheet** in the **File** pull-down menu.

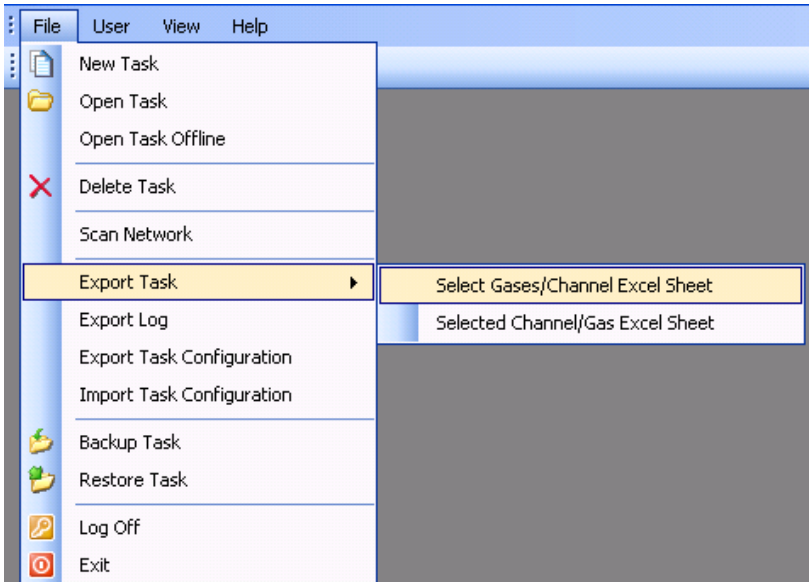


Figure 5.2 File pull-down: Export Task>Select Gases/Channel Excel Sheet

The Export Task Figure 5.3 window will appear.

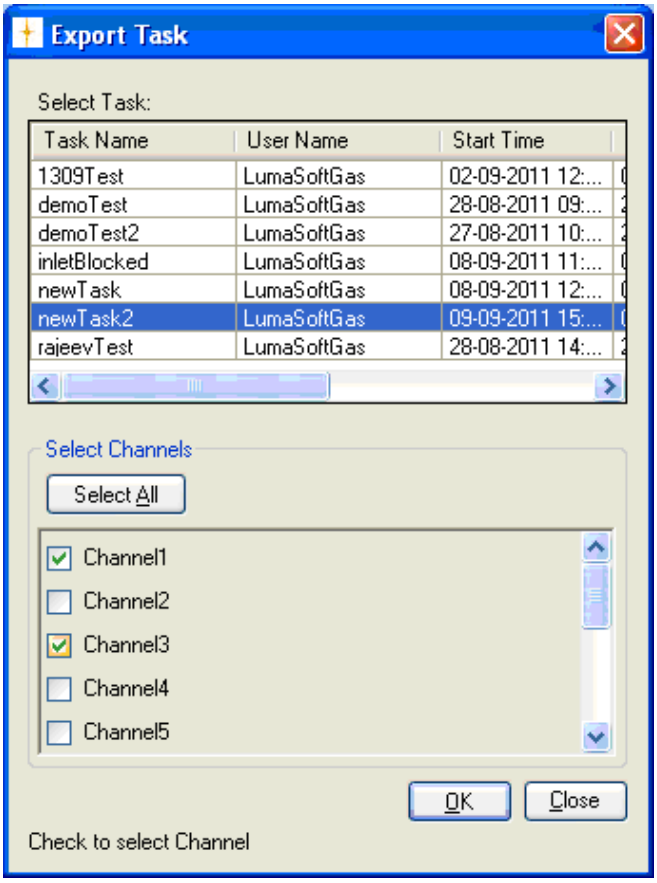


Figure 5.3 Select which task to export

Select the task to be exported to Excel and the channels from which to view the data. Press **OK** to proceed.

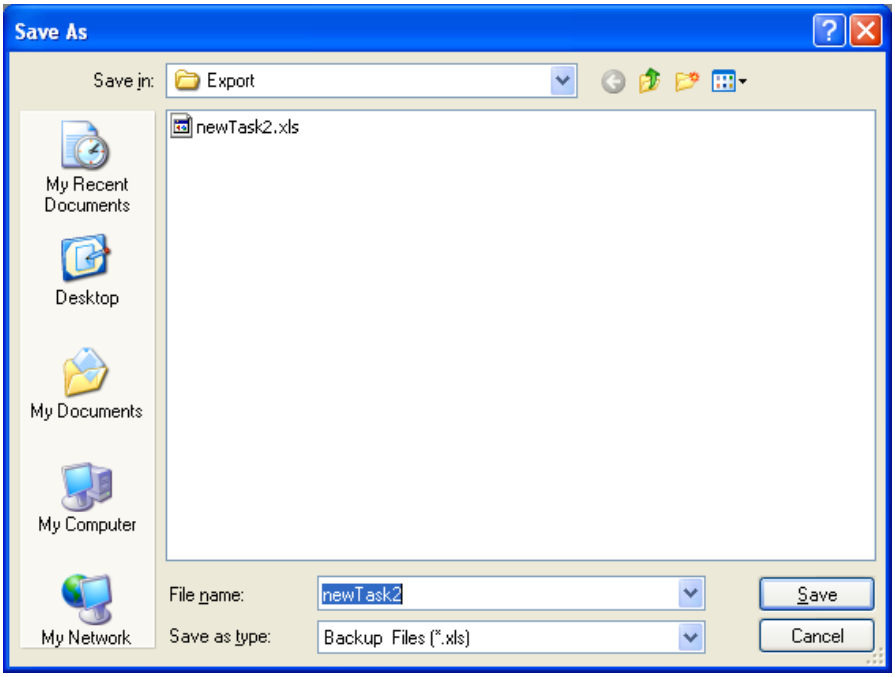


Figure 5.4 Type in a filename for the excel file

Search for a folder where the task should be stored, and type in a name for the task in the field: **File Name**, see Figure 5.4.

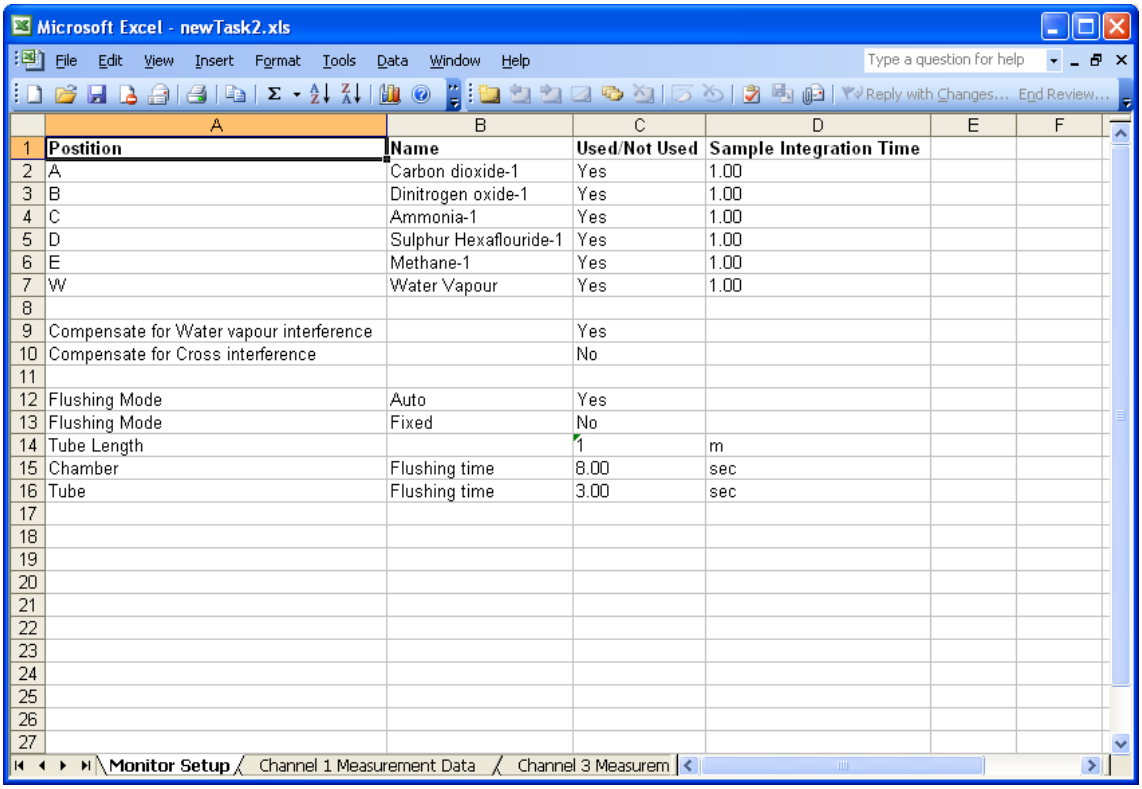
The default file name for the excel file is the name of the export task.

Press the **Save** soft-key to save the Excel file, see Figure 5.4.

Press **Close** (see Figure 5.3) when the Excel file has been exported.

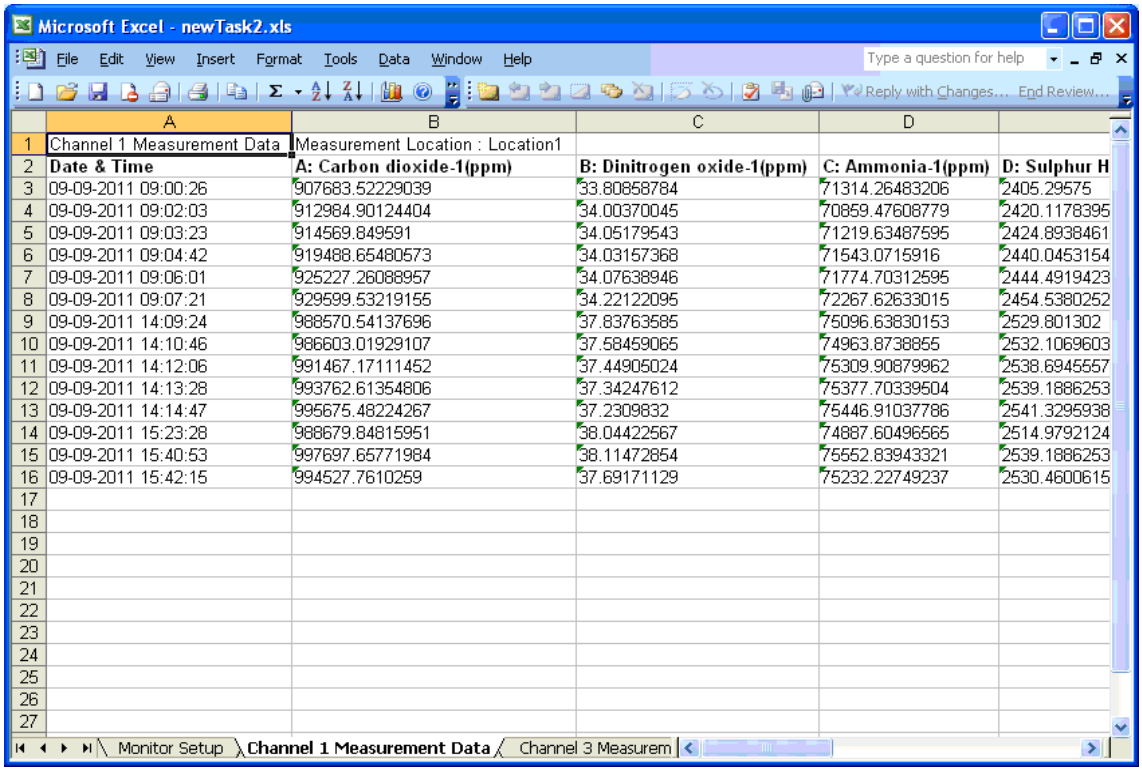
The exported task can be opened in Excel format from the above selected folder.

The Excel spread sheet contains information about the setup of the specific measurement in the first tab of the Excel file, see Figure 5.5, and the measurement data for each channel of the multiplexer in the following tab(s), se Figure 5.6.



	A	B	C	D	E	F
1	**Postition**	**Name**	**Used/Not Used**	**Sample Integration Time**		
2	A	Carbon dioxide-1	Yes	1.00		
3	B	Dinitrogen oxide-1	Yes	1.00		
4	C	Ammonia-1	Yes	1.00		
5	D	Sulphur Hexaflouride-1	Yes	1.00		
6	E	Methane-1	Yes	1.00		
7	W	Water Vapour	Yes	1.00		
8						
9	Compensate for Water vapour interference		Yes			
10	Compensate for Cross interference		No			
11						
12	Flushing Mode	Auto	Yes			
13	Flushing Mode	Fixed	No			
14	Tube Length		1	m		
15	Chamber	Flushing time	8.00	sec		
16	Tube	Flushing time	3.00	sec		

Figure 5.5 Excel file: Monitor setup tab.



	A	B	C	D	
1	Channel 1 Measurement Data	Measurement Location : Location1			
2	**Date & Time**	**A: Carbon dioxide-1(ppm)**	**B: Dinitrogen oxide-1(ppm)**	**C: Ammonia-1(ppm)**	**D: Sulphur H**
3	09-09-2011 09:00:26	907683.52229039	33.80858784	71314.26483206	2405.29575
4	09-09-2011 09:02:03	912984.90124404	34.00370045	70859.47608779	2420.1178395
5	09-09-2011 09:03:23	914569.849591	34.05179543	71219.63487595	2424.8938461
6	09-09-2011 09:04:42	919488.65480573	34.03157368	71543.0715916	2440.0453154
7	09-09-2011 09:06:01	925227.26088957	34.07638946	71774.70312595	2444.4919423
8	09-09-2011 09:07:21	929599.53219155	34.22122095	72267.62633015	2454.5380252
9	09-09-2011 14:09:24	988570.54137696	37.83763585	75096.63830153	2529.801302
10	09-09-2011 14:10:46	986603.01929107	37.58459065	74963.8738855	2532.1069603
11	09-09-2011 14:12:06	991467.17111452	37.44905024	75309.90879962	2538.6945557
12	09-09-2011 14:13:28	993762.61354806	37.34247612	75377.70339504	2539.1886253
13	09-09-2011 14:14:47	995675.48224267	37.2309832	75446.91037786	2541.3295938
14	09-09-2011 15:23:28	988679.84815951	38.04422567	74887.60496565	2514.9792124
15	09-09-2011 15:40:53	997697.65771984	38.11472854	75552.83943321	2539.1886253
16	09-09-2011 15:42:15	994527.7610259	37.69171129	75232.22749237	2530.4600615

Figure 5.6 Excel file: Measurement data tab.

5.1.2 Export Task (Gas view)

If the LumaSoft Gas application is not started start it and login with username and password.

Figure 5.7 User Login

Select **Export Task>Select Channel/Gas Excel Sheet** in the **File** pull-down menu.

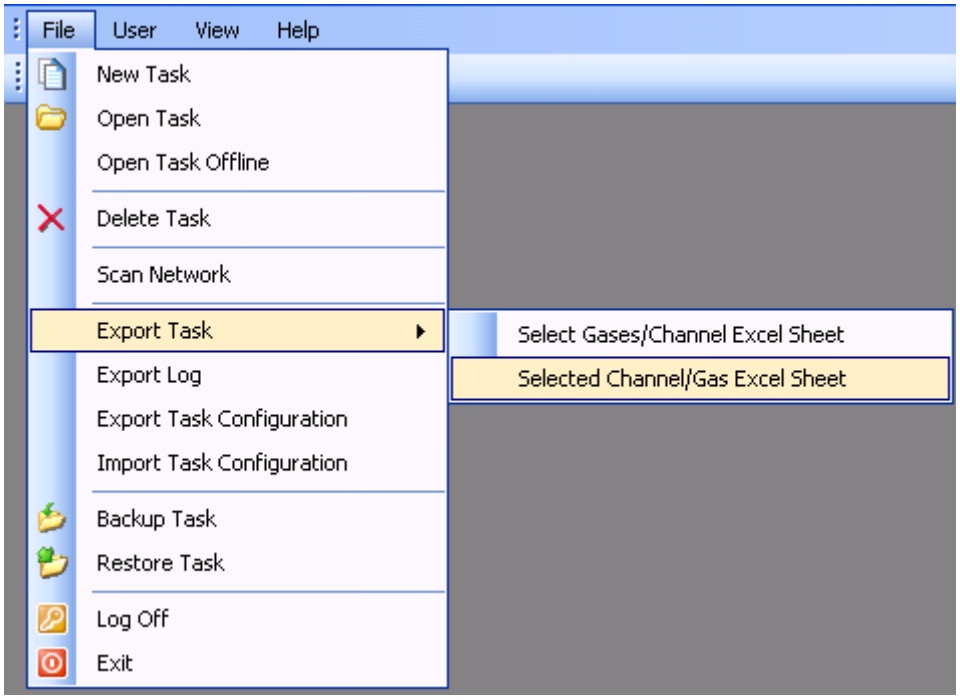


Figure 5.8 File pull-down: Export Task>Select Channel/Gas Excel Sheet

The Export Task Figure 5.9 window will appear.

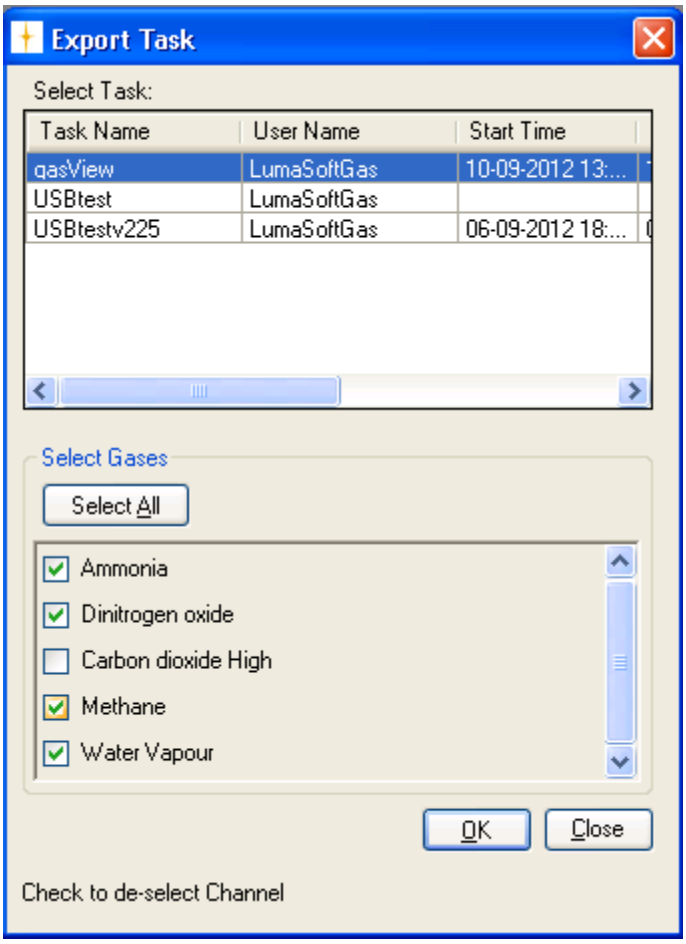


Figure 5.9 Select which task to export

Select the task to be exported to Excel and the gases from which to view the data. Press **OK** to proceed.

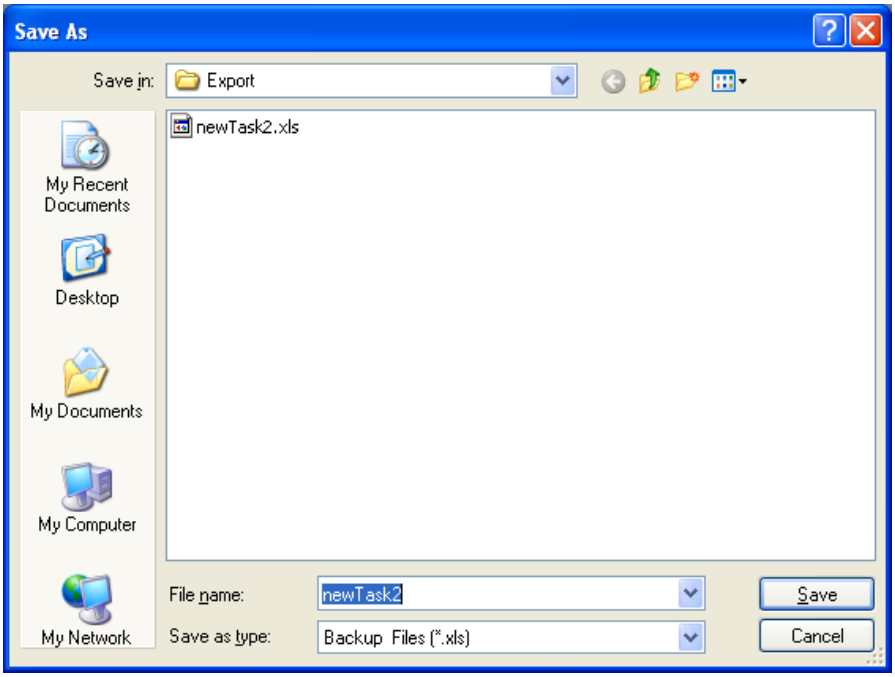


Figure 5.10 Type in a filename for the excel file

Search for a folder where the task should be stored, and type in a name for the task in the field: **File Name**, see Figure 5.10.

The default file name for the excel file is the name of the export task.

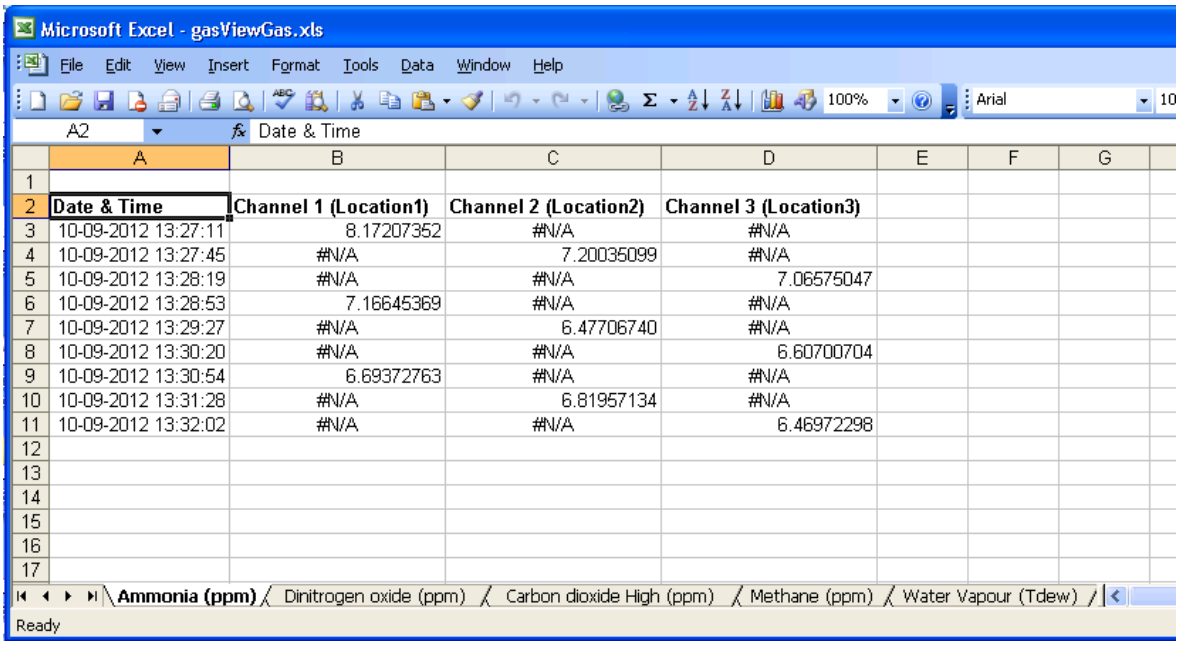
Press the **Save** soft-key to save the Excel file, see Figure 5.10.

Press **Close** (see Figure 5.9) when the Excel file has been exported.

The exported task can be opened in Excel format from the above selected folder.

The export Excel workbook file consists of a tab for each gas, see Figure 5.11.

Each measurement is time stamped.



Date & Time	Channel 1 (Location1)	Channel 2 (Location2)	Channel 3 (Location3)
10-09-2012 13:27:11	8.17207352	#N/A	#N/A
10-09-2012 13:27:45	#N/A	7.20035099	#N/A
10-09-2012 13:28:19	#N/A	#N/A	7.06575047
10-09-2012 13:28:53	7.16645369	#N/A	#N/A
10-09-2012 13:29:27	#N/A	6.47706740	#N/A
10-09-2012 13:30:20	#N/A	#N/A	6.60700704
10-09-2012 13:30:54	6.69372763	#N/A	#N/A
10-09-2012 13:31:28	#N/A	6.81957134	#N/A
10-09-2012 13:32:02	#N/A	#N/A	6.46972298

Figure 5.11 Excel file: Measurement data tab.

5.2 Export / Import Task Configuration

The task configuration export makes an export of a task setup into a file in xml format.

The advantage is that once a task has been setup and a backup has been made with the export task configuration, it can be reused by doing an import of the task configuration. This saves the work of doing the same setup again.

5.2.1 Export task configuration

If the LumaSoft Gas application is not started start it and login with username and password.

Figure 5.12 User Login

Select **Export Task Configuration** in the **File** pull-down menu.

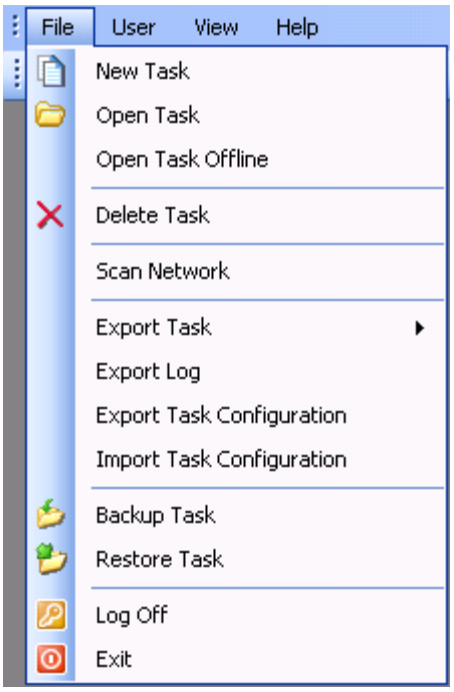


Figure 5.13 File pull-down: Export Task Configuration

The following window will appear.

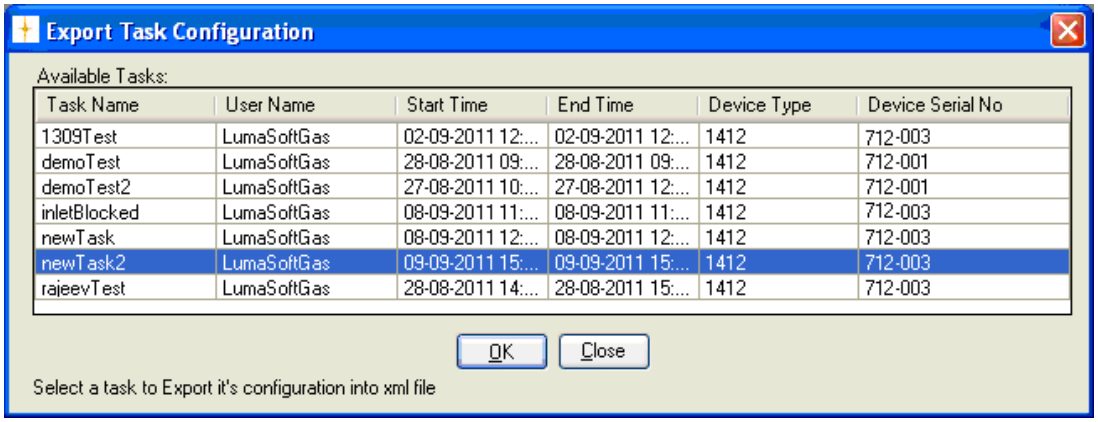


Figure 5.14 Select a task to export its configuration

Select the task for which the configuration is to be exported to a xml-file. Press **OK** to proceed. (See Figure 5.14)

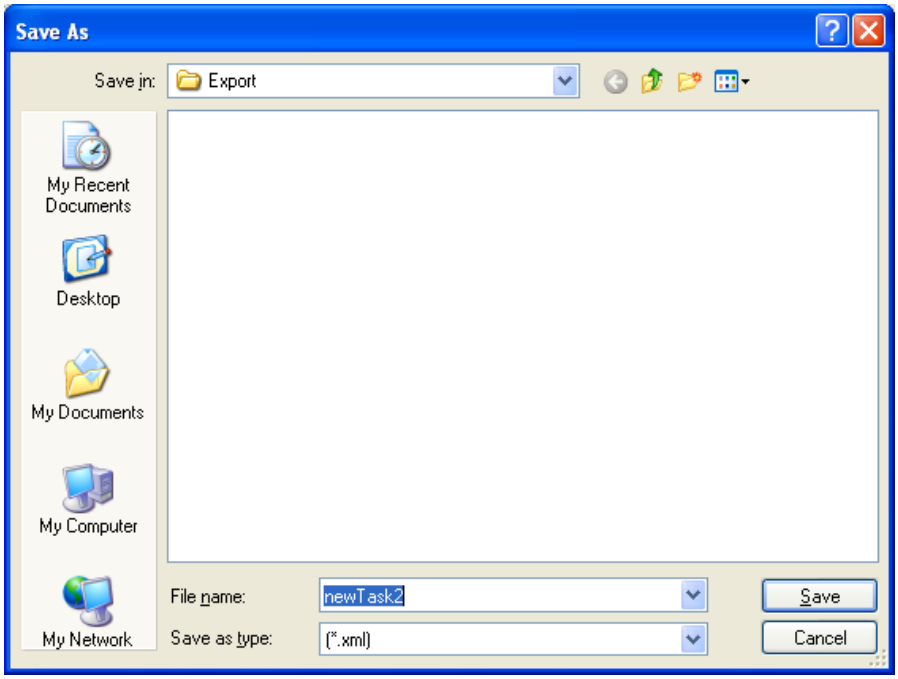


Figure 5.15 Type in a filename for the xml task configuration file

Search for a folder where the xml task configuration should be stored, and type in a name for the task configuration file in the field: **File Name**. (See Figure 5.15)

The default file name for the xml configuration file is the name of the task that is having its configuration exported.
Press the **Save** soft-key to save the xml task configuration file. (See Figure 5.15)

Press **Close** when the task configuration file has been saved. (See Figure 5.14)

5.2.2 Import Task Configuration

If the LumaSoft Gas application is not started start it and login with username and password.

Figure 5.16 User Login

Select **Import Task Configuration** in the **File** pull-down menu.

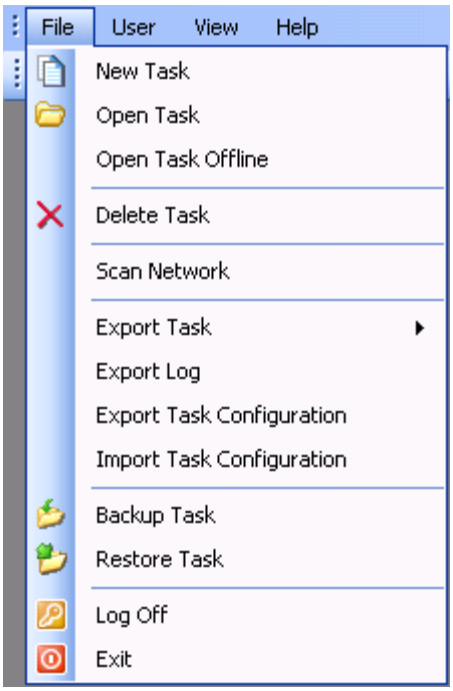


Figure 5.17 File pull-down: Import Task Configuration

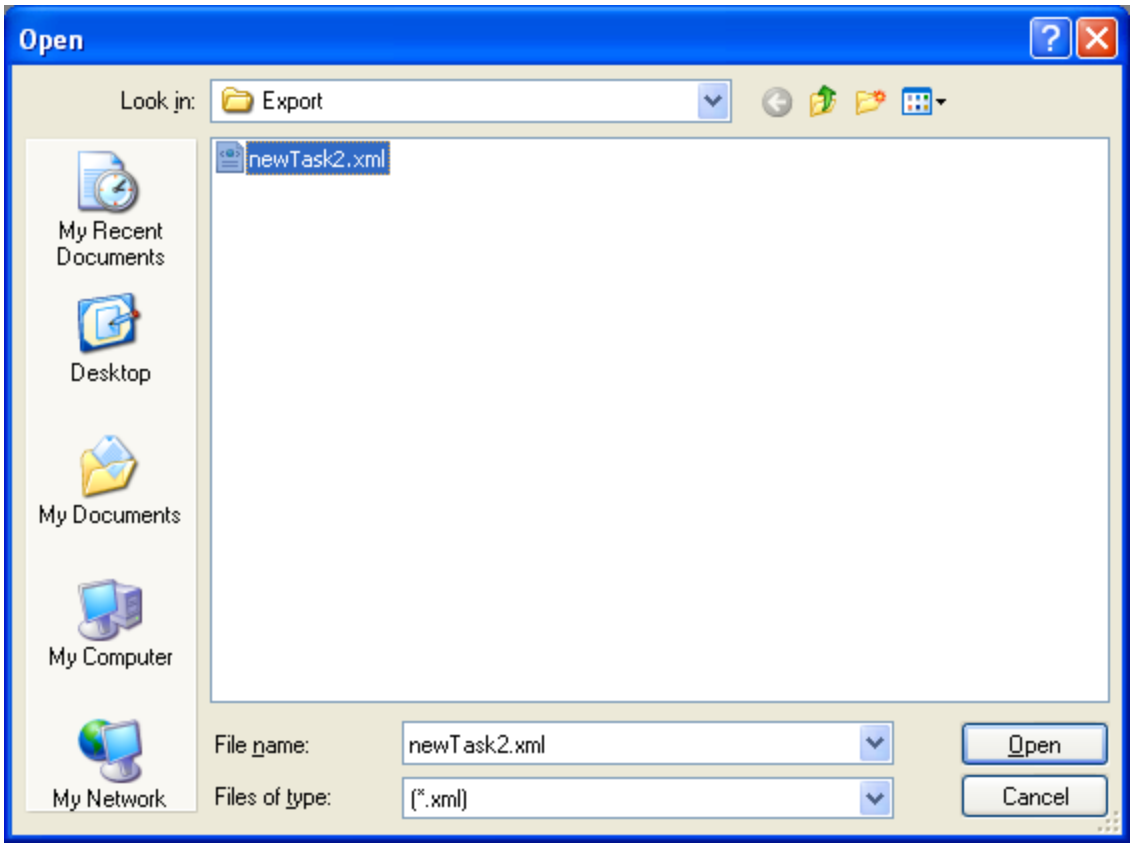


Figure 5.18 Select xml configuration file to be imported

Select the xml file to import.

After having opened the xml file the following message might appear, if the task already exist in the database.

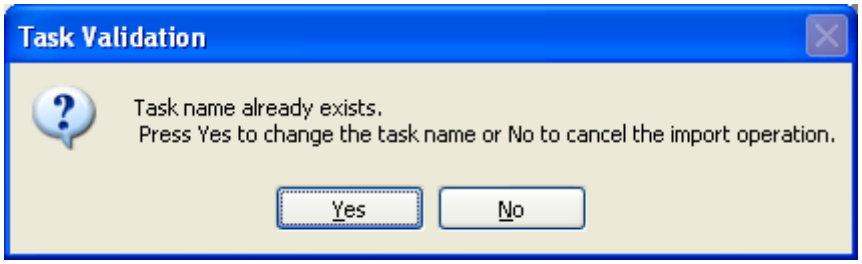


Figure 5.19 Task Validation window

After pressing the **Yes** soft-key you can define a new task name for the imported task, see Figure 5.20.

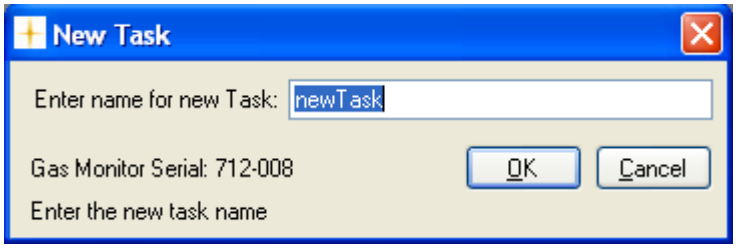


Figure 5.20 New Task name

Press the **OK** soft-key to import the task configuration.

5.3 Backup / Restore / Delete Task

This function enables to backup and restore measurement tasks stored in the SQL Server database.

The backup will contain both setup and measurement data.

Please note that users with the Operator access level cannot make a backup / restore of a task.

Also note that only users with the Super access level can delete a task.

5.3.1 Backup Task

If the LumaSoft Gas application is not started start it and login with username and password.

Figure 5.21 User Login

Select **Backup Task** in the **File** pull-down menu, see Figure 5.22.

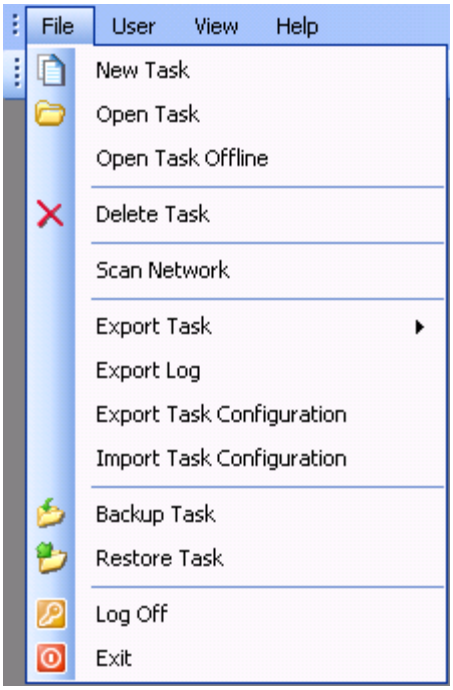
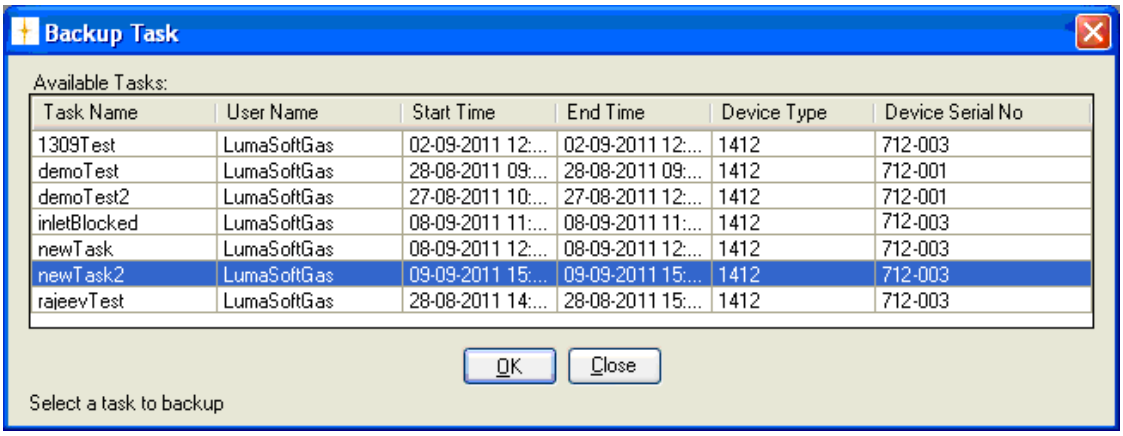


Figure 5.22 File pull-down: Backup Task

A window will appear, showing the available tasks for backup.



Task Name	User Name	Start Time	End Time	Device Type	Device Serial No
1309Test	LumaSoftGas	02-09-2011 12:...	02-09-2011 12:...	1412	712-003
demoTest	LumaSoftGas	28-08-2011 09:...	28-08-2011 09:...	1412	712-001
demoTest2	LumaSoftGas	27-08-2011 10:...	27-08-2011 12:...	1412	712-001
inletBlocked	LumaSoftGas	08-09-2011 11:...	08-09-2011 11:...	1412	712-003
newTask	LumaSoftGas	08-09-2011 12:...	08-09-2011 12:...	1412	712-003
newTask2	LumaSoftGas	09-09-2011 15:...	09-09-2011 15:...	1412	712-003
rajeevTest	LumaSoftGas	28-08-2011 14:...	28-08-2011 15:...	1412	712-003

Figure 5.23 Select task to backup

Select the task for which a backup file is to be made, and press **OK** to proceed.

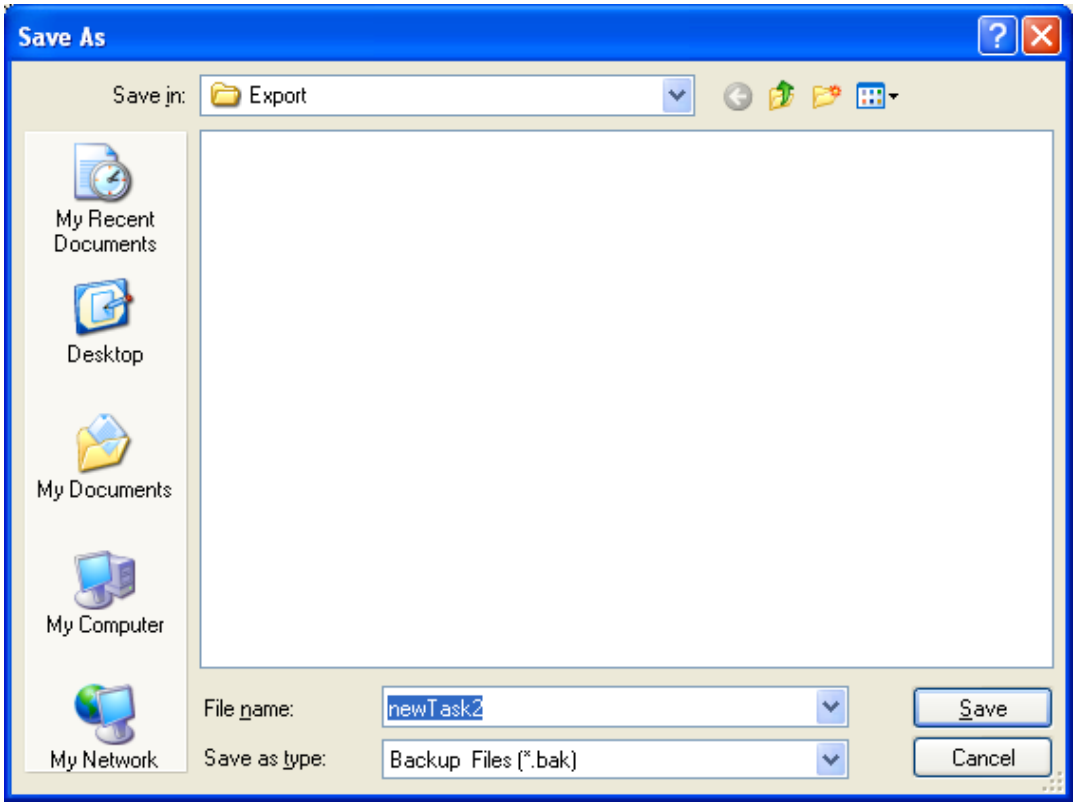


Figure 5.24 Type in a filename

Search for a folder where the task backup file should be stored and type in a file name in the window shown in Figure 5.24.

The default file name for the task backup file is the name of the task selected for backup.

Press the **Save** soft-key to save the Backup file. (See Figure 5.24)

Press the **Close** soft-key after the backup. (See Figure 5.23)

If you do not have sufficient rights to make the backup, you will get a Backup failed message, see Figure 5.25. In that case you must ensure that the group **Everyone** has the full rights for the backup folder.

Figure 5.25 Backup failed message

Check with your system administrator that the following rights for the group **Everyone** are created for the backup folder (Figure 5.26).

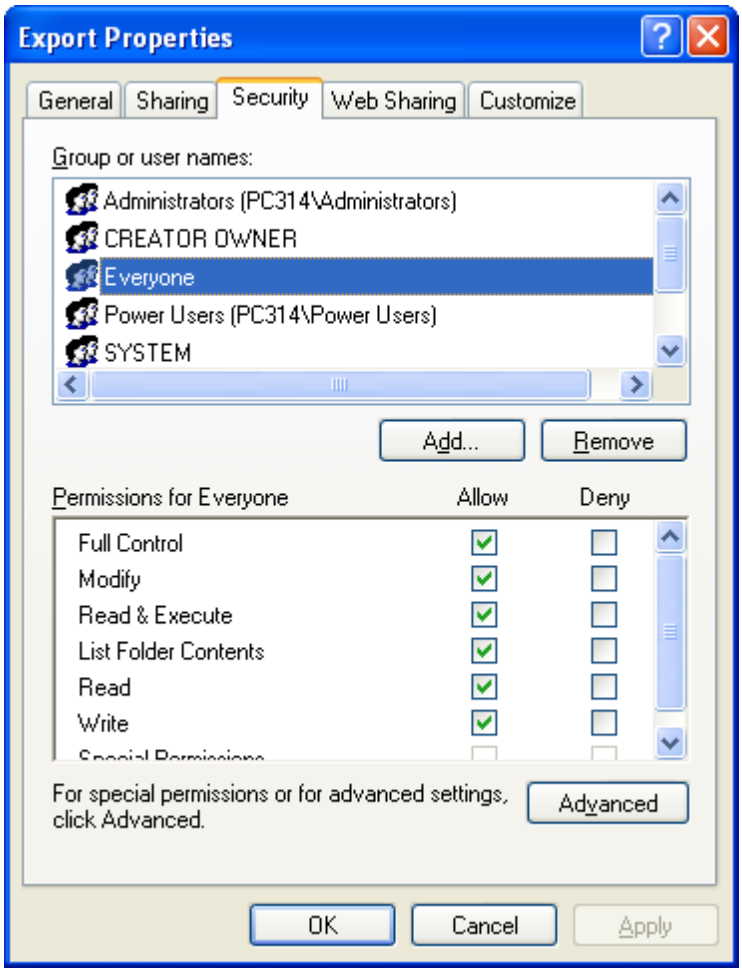


Figure 5.26 Backup folder rights for group Everyone

5.3.2 Restore Task

All backup files, made using the **Backup Task** function, can be restored.

If the LumaSoft Gas application is not started start it and login with username and password.

Figure 5.27 User Login

Select **Restore Task** in the **File** pull-down menu (Figure 5.28).

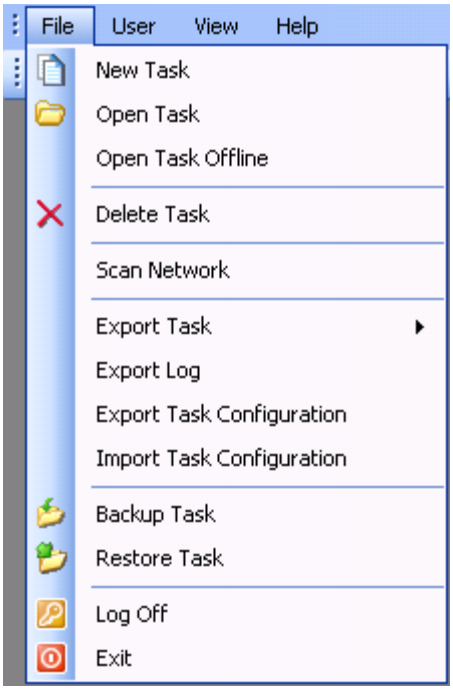


Figure 5.28 File pull-down: Restore Task Configuration

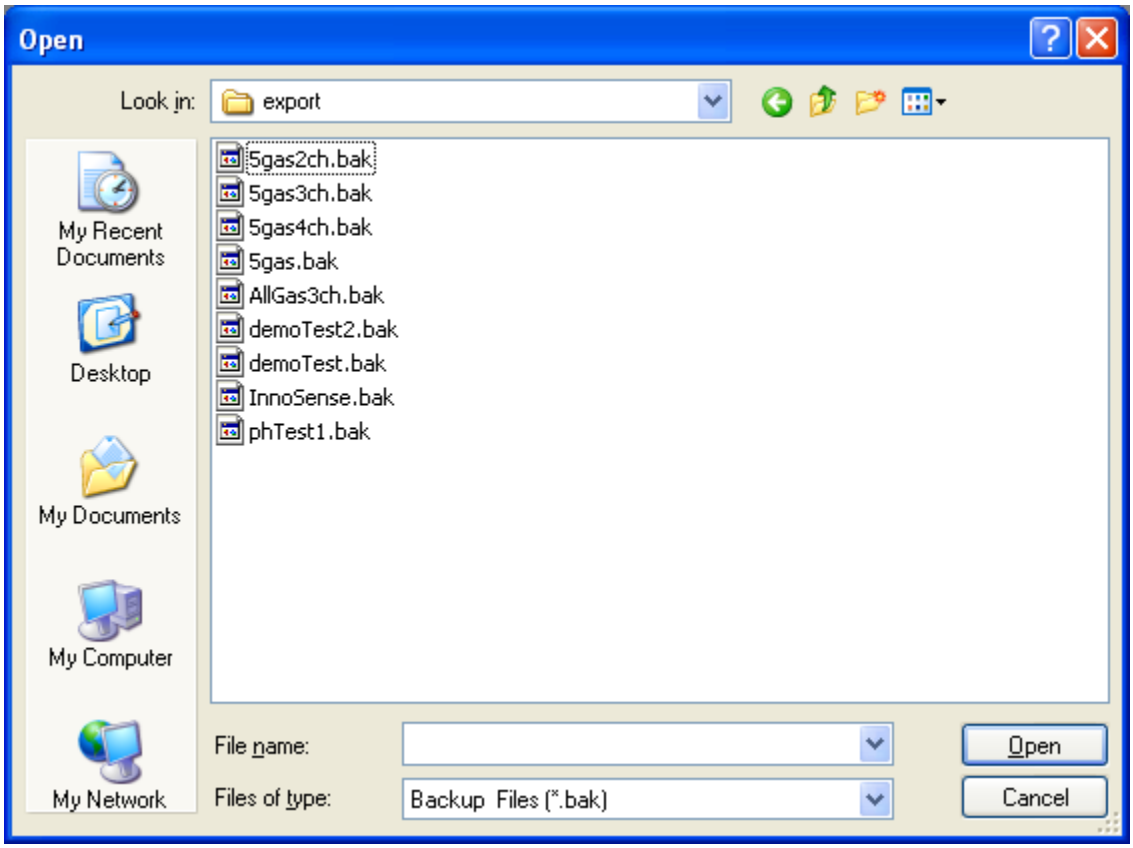


Figure 5.29 Select which task to restore

In Figure 5.29 select which of the stored tasks to restore and press **Open**.

In case that the task already exists in the SQL database the following message will appear, where it is possible if desired to confirm the overwriting of the existing task.

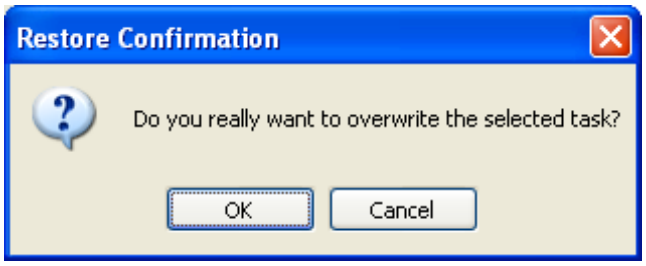


Figure 5.30 Confirm overwrite when restoring

5.3.3 Delete Task

If the LumaSoft Gas application is not started start it and login with username and password.

Figure 5.31 User Login

Select **Delete Task** in the **File** pull-down menu (Figure 5.32) or select the ✕ icon from the task bar.

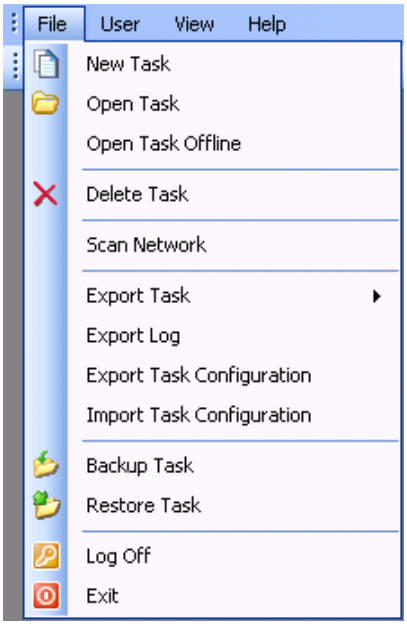


Figure 5.32 File pull-down: Delete Task

A window will appear showing all existing tasks.

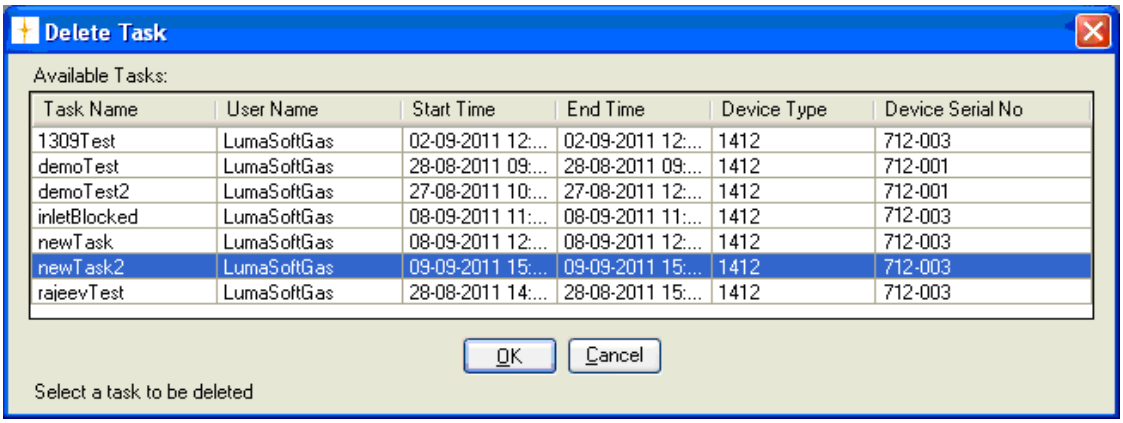


Figure 5.33 Select which task to delete

Select the task which should be deleted and press **OK** (See Figure 5.33). The following window will pop up to make sure that the user wants to delete the task.

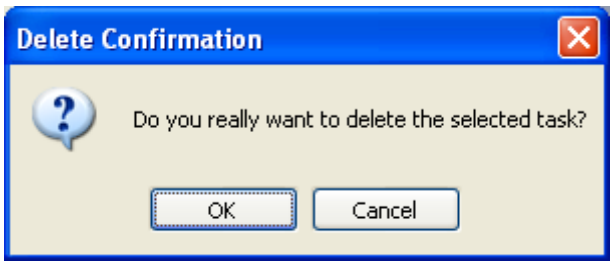


*Figure 5.34 Press **OK** if the task should be deleted*

5.4 Export Log

When not having a task open it is possible to export 2 types of logs into CSV (comma separated files), suitable for opening in Microsoft Excel.

The 2 types of logs, which can be exported, are:

- User Activities
- Errors Warnings

If the LumaSoft Gas application is not started start it and login with username and password.

Figure 5.35 User Login

Select **Export Log** in the **File** pull-down menu (Figure 5.36).

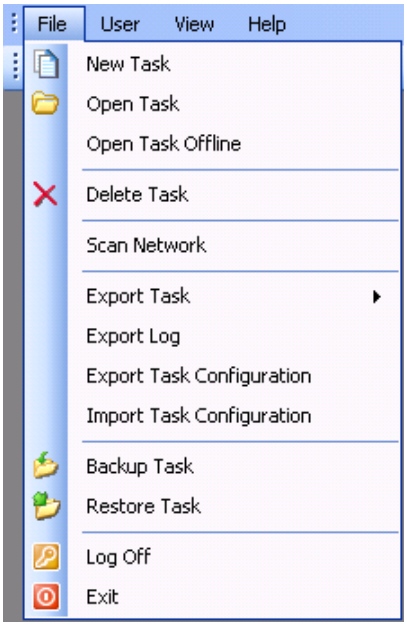


Figure 5.36 File pull-down: Export Log

The **Export Log** window opens, giving the possibility to export the 2 types of logs, see Figure 5.37. A time interval for the log can also be specified.

The **User Activities** log shows the history for user actions (Figure 5.40).

The **Errors/Warnings** log shows error and warnings messages presented for the user (Figure 5.39).

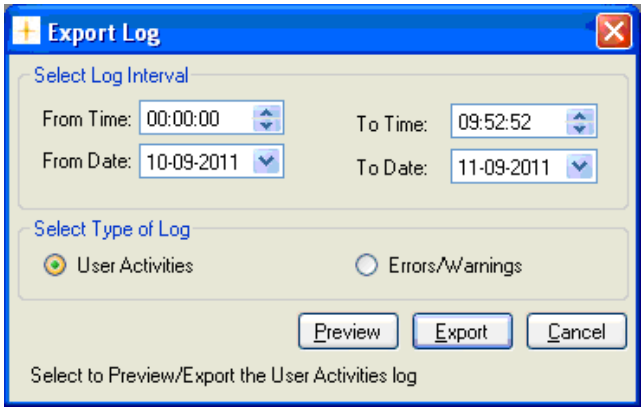


Figure 5.37 Export Log

Select one of the 2 log types in the **Select Type of Log** group box and select the **Export** soft-key to export to a CSV-file.

Select the folder where the log file should be saved, see Figure 5.38

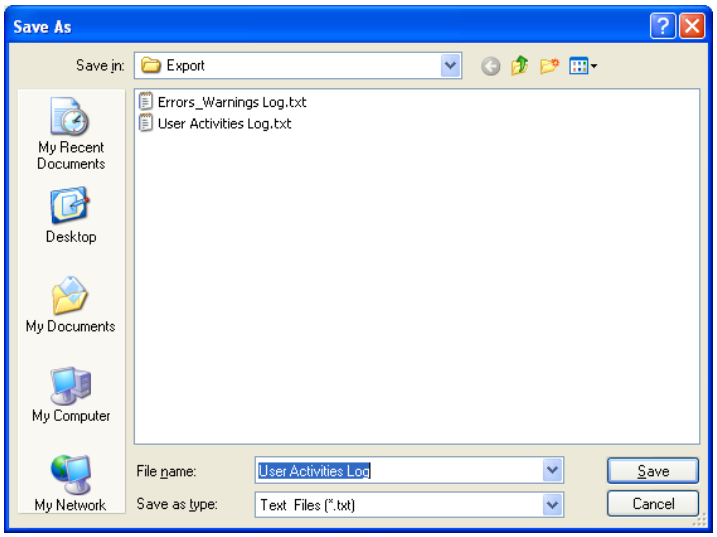


Figure 5.38 Save export log CSV file

Also a preview of the 2 log types can be made by using the **Preview** soft-key. See examples in Figure 5.39 and Figure 5.40.

Errors/Warnings Log | User Activities Log

Date Time	Error/Warning Details
10-09-2011 12:31:19	Communication has failed with device. Please check that device is connected.
10-09-2011 12:31:59	Device serial number does not match.
10-09-2011 13:23:04	Selected xml file not supported on this version.
10-09-2011 13:41:45	Either specified backup file path is invalid Selected xml file not supported on this version. cess the directory.
10-09-2011 13:42:19	Either specified backup file path is invalid or SQL Server doesn't have sufficient rights to access the directory.
10-09-2011 13:42:28	Either specified backup file path is invalid or SQL Server doesn't have sufficient rights to access the directory.
10-09-2011 13:52:00	Either specified backup file path is invalid or SQL Server doesn't have sufficient rights to access the directory.
10-09-2011 13:57:35	The selected task is not supported by this version of LumaSoft.
11-09-2011 09:04:10	No data available for given time period
11-09-2011 09:04:43	Failed to connect with LumaSoftGas Database. Please check the database connection.
11-09-2011 09:04:50	No data available for given time period
11-09-2011 09:05:50	No data available for given time period
11-09-2011 09:05:56	No data available for given time period
11-09-2011 09:05:59	No data available for given time period

Figure 5.39 Error/Warnings log preview

Errors/Warnings Log | **User Activities Log**

Date Time	User Name	User Activity Details
11-09-2011 09:03:03	LumaSoftGas	User lumasoftgas has been successfully logged in.
11-09-2011 09:03:59	LumaSoftGas	Task newTask2 has been successfully opened.
11-09-2011 09:04:58	LumaSoftGas	Task newTask2 has been successfully closed.
11-09-2011 09:05:33	LumaSoftGas	User lumasoftgas has been successfully logged in.
11-09-2011 09:05:44	LumaSoftGas	Task newTask2 has been successfully opened.
11-09-2011 09:06:33	LumaSoftGas	Task newTask2 has been successfully closed.
11-09-2011 09:07:19	LumaSoftGas	Log has been exported successfully to csv format.
11-09-2011 09:07:42	LumaSoftGas	Log has been exported successfully to csv format.
11-09-2011 09:11:22	LumaSoftGas	Task newTask2 has been successfully opened.
11-09-2011 09:11:30	LumaSoftG LumaSoftGas	window:Numeric Window 1 has been successfully opened.
11-09-2011 09:12:00	LumaSoftGas	Measurement has been successfully started.
11-09-2011 09:12:56	LumaSoftGas	Measurement has been successfully stopped.
11-09-2011 09:12:58	LumaSoftGas	Task newTask2 has been successfully closed.
11-09-2011 09:13:25	LumaSoftGas	User lumasoftgas has been successfully logged in.
11-09-2011 09:13:36	LumaSoftGas	Task newTask2 has been successfully opened.
11-09-2011 09:13:39	LumaSoftGas	Numeric window:Numeric Window 1 has been successfully opened.
11-09-2011 09:14:14	LumaSoftGas	Measurement has been successfully started.
11-09-2011 09:14:57	LumaSoftGas	Alarm setup information has been successfully updated.
11-09-2011 09:16:02	LumaSoftGas	Measurement has been successfully stopped.
11-09-2011 09:16:47	LumaSoftGas	User event has been successfully updated.
11-09-2011 09:17:18	LumaSoftGas	User event has been successfully updated.
11-09-2011 09:52:37	LumaSoftGas	Task newTask2 has been successfully closed.

Figure 5.40 User Activities log preview

Chapter 6

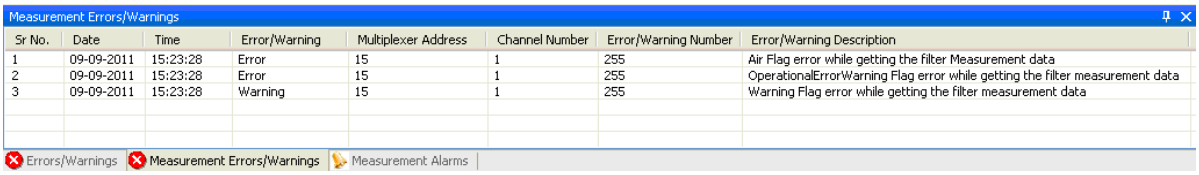
Warning and Error Messages

October 2012

Warning and Errors occurring during the operation of the LumaSoft Gas application will be shown in 2 windows at the bottom of the application.

How to enable the view of these 2 Warning and Error windows is described in Section 4.6.

The Warnings and errors occurring during measurement will appear in the **Measurement Errors / Warnings window**, see Figure 6.1.



Sr No.	Date	Time	Error/Warning	Multiplexer Address	Channel Number	Error/Warning Number	Error/Warning Description
1	09-09-2011	15:23:28	Error	15	1	255	Air Flag error while getting the filter Measurement data
2	09-09-2011	15:23:28	Error	15	1	255	OperationalErrorWarning Flag error while getting the filter measurement data
3	09-09-2011	15:23:28	Warning	15	1	255	Warning Flag error while getting the filter measurement data

Figure 6.1 Measurement Errors/Warnings window

The Warnings and Errors shown in the **Measurement Errors / Warnings window** originates either from the Monitor or the Multiplexer.

6.1 Monitor Error / Warnings

The Warnings and Errors which originates from the Gas Monitor is described in chapter 17 in the manual "**BE6025 Instruction Manual, 1412i Photoacoustic Gas Monitor**".

Warning/errors originating from the Monitor will be given the **Error / Warning Number** 255, as shown in Figure 6.1.

6.2 Multiplexer (Multipoint sampler) Error / Warnings

The warnings and errors which originates from the Multiplexer is described in Section 3.7.4 and 3.7.5 in the manual "**BE1285 User Manual for 1309 Multipoint Sampler**" and in Section 3.9.4 and 3.9.5 in the manual "**BE1085 User Manual for 1303 Multipoint Sampler and Doser**".

The **Error / Warning Number** will show the Warning flag value and Error flag value as specified in the above 1309/1303 multipoint sampler manuals.

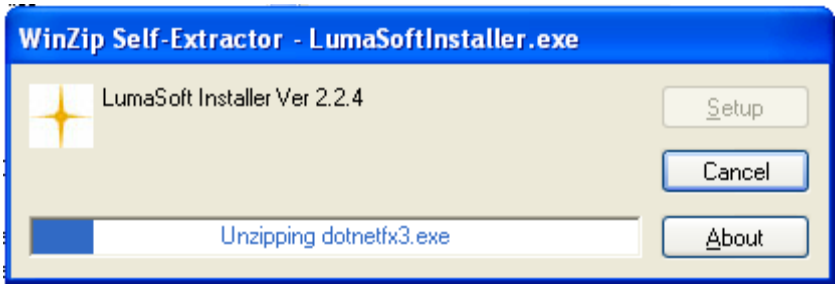
Appendix A

Installation Guide

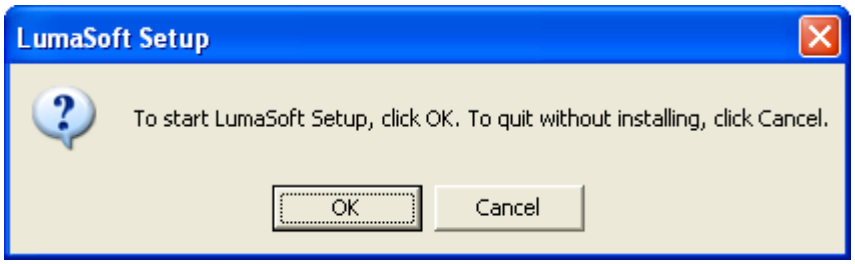
October 2012

1. When installing the LumaSoft Gas software you must be logged in as Administrator that means that you must have “administrator” rights. **Please also note that you must have Administrator rights or Power User rights to run the LumaSoft Gas application after installation.**

2. Start the installation of LumaSoft Gas. Insert the CD into the CD-drive and wait for auto-start of the CD. If auto-start is disabled run **LumaSoftinstaller.exe** self-executable file on the installation CD to start the installation. It will automatically install all the necessary packages required to run the LumaSoft Gas application. The installer will start unpacking with the following window. Please wait.

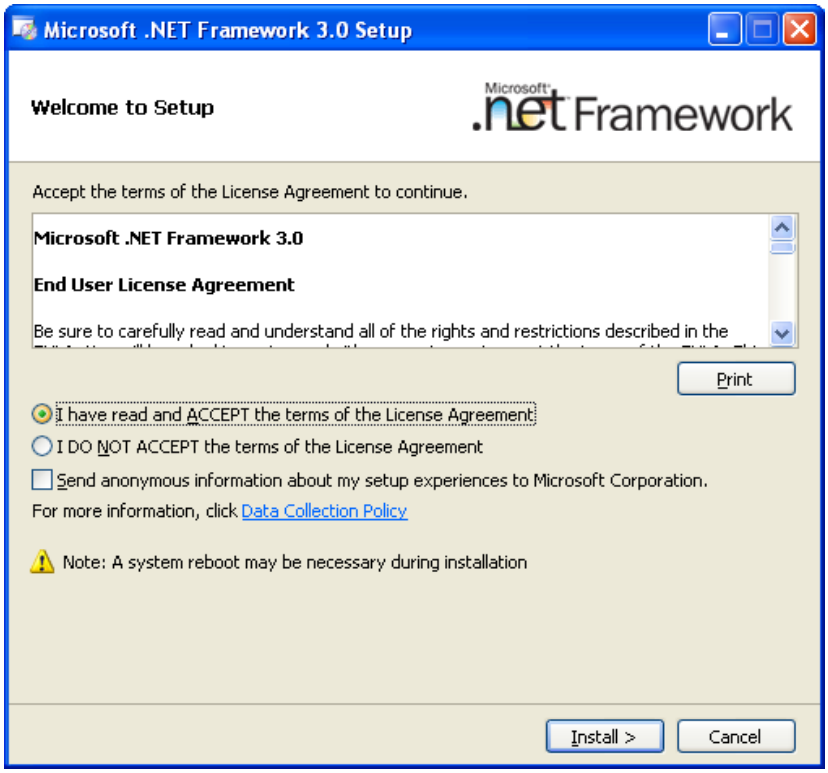


After a while the following window appears. Press the **OK** button to continue:

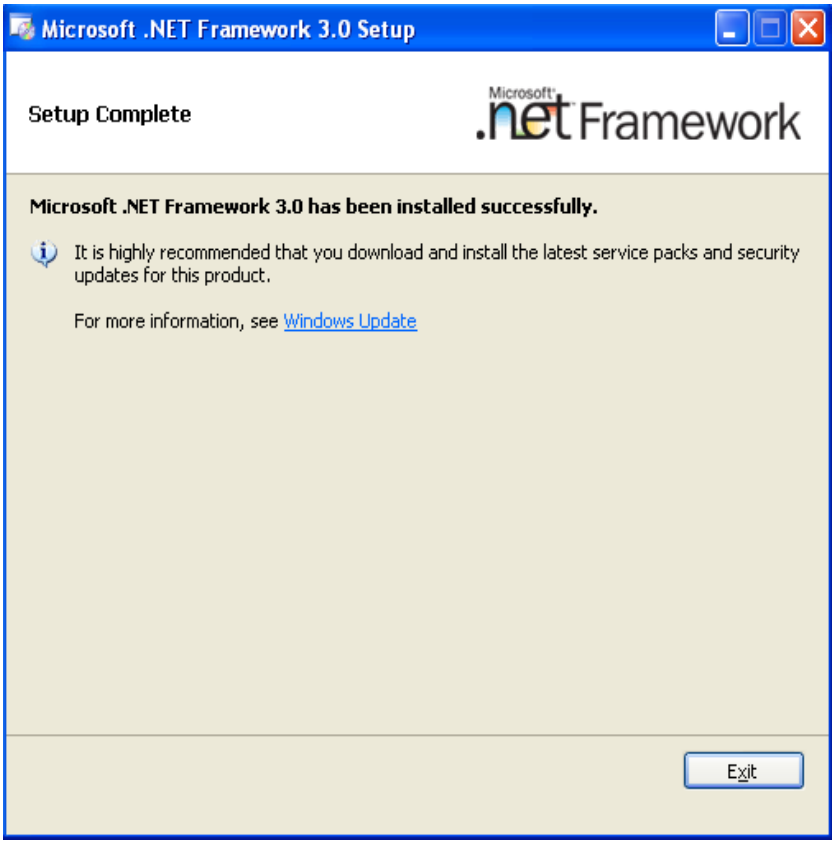


3. First installer will check for the “. NET 3.0 Framework”, whether it is already installed on the target PC. It will install the “. NET 3.0 Framework” if it is not already installed otherwise it will skip the “. NET 3.0 Framework” installations. If “. NET 3.0 Framework” is already installed please continue to step 4. in this installation guide.

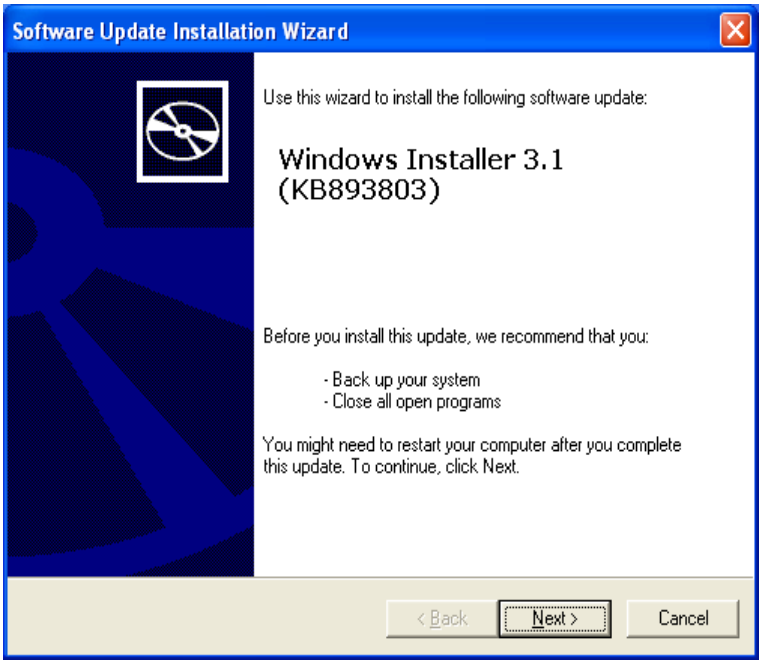
   Click the “**I have read and ACCEPT the terms…**” and press the **Install** button to continue. Wait for the .NET Framework 3.0 to install. It will install silently (progress can be checked by double-clicking the icon in the system tray in the lower right corner).



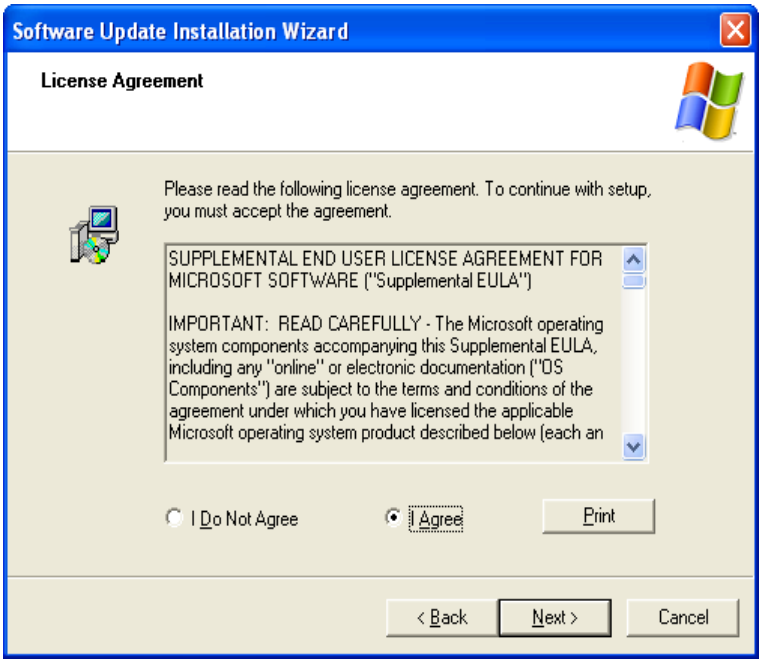
When ". NET 3.0 Framework" is installed the following window appears. Press **Exit** to continue.



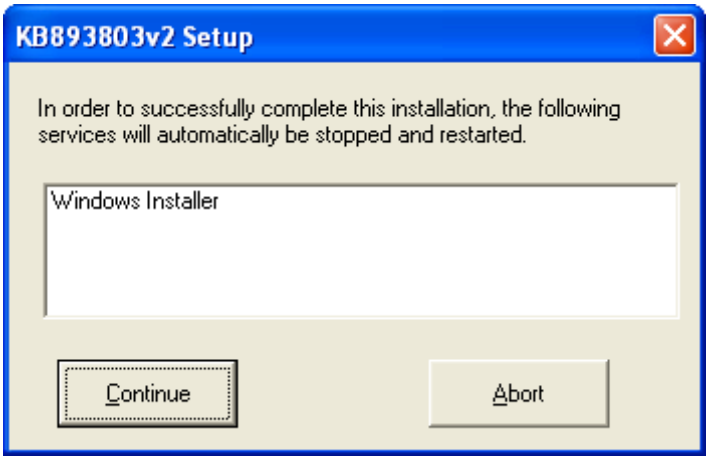
4. The installer will check for the “Windows Installer 3.1” or higher, if it is already installed on target PC or not. It will install the “Windows Installer 3.1” if it is not already installed otherwise it will skip the “Windows Installer 3.1” installations. If “Windows Installer 3.1” is already installed the following window will not appear and you can continue to step 5. in this installation guide.



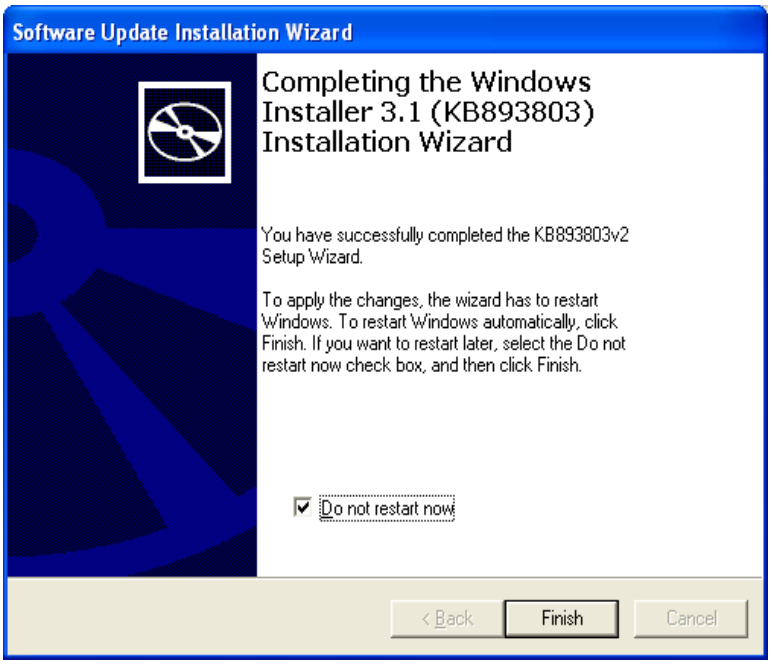
Press **Next** to continue. Select “**I Agree**” and press **Next** to continue.



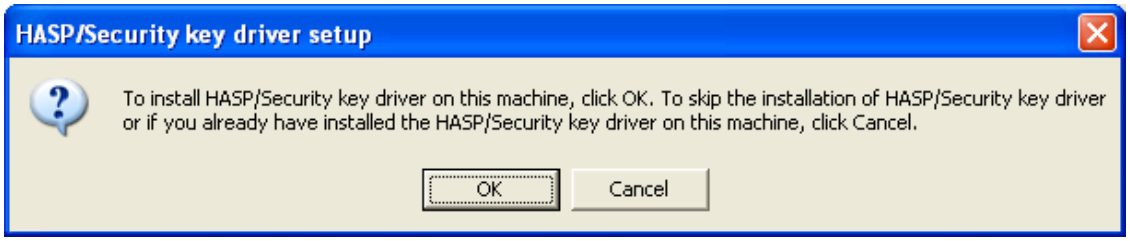
Select **Continue**.



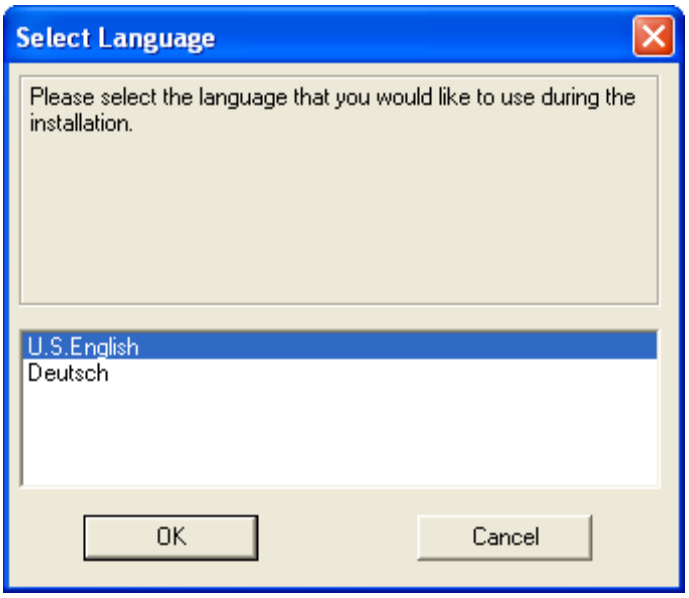
After installation of Windows Installer 3.1 tick "**Do not restart now**" and press **Finish**.



5. The installer will ask you to install “HASP security key driver”. You can skip this if you have “HASP security key driver” already installed on the local PC in a previous LumaSoft Gas. If you select **OK**, it will start the installation.



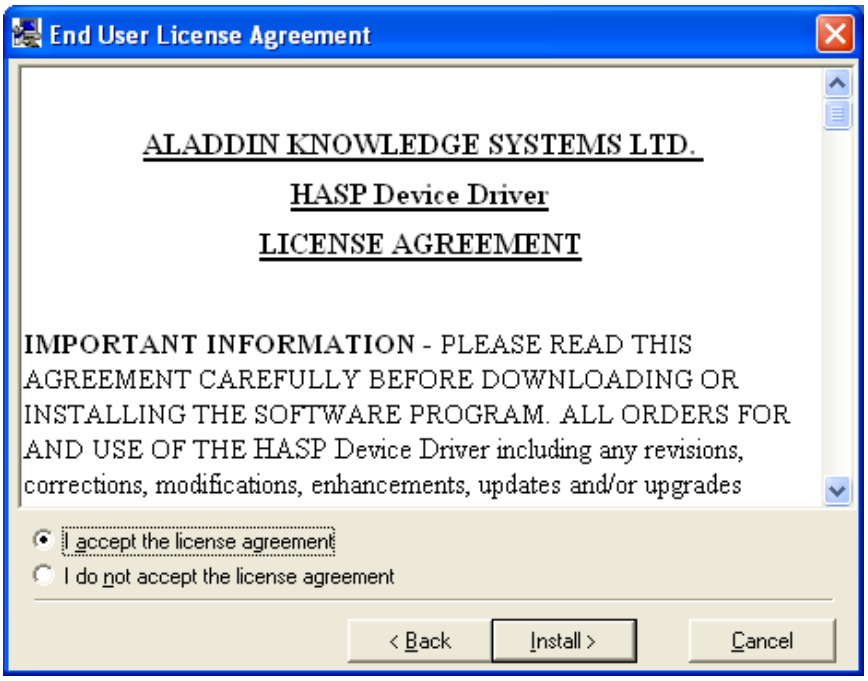
Select your preferred installation language and press **OK**.



Press **Next** to continue.

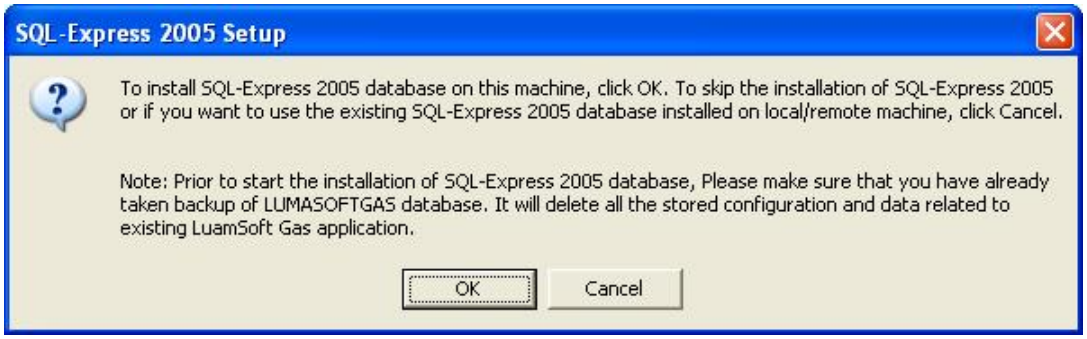
HASP Device Drivers Installation
Welcome
This program will install the HASP device drivers for:
- Windows 95/98/ME
- Windows NT/2000/XP/2003/Vista (x86/x64)
HASP HL is also supported by these drivers.
HASP Device Driver version: 5.22
In order to update the device drivers, all open processes accessing the driver have to be closed. If you have any running applications, please close them now, otherwise the installation program tries to terminate the processes by itself.
Aladdin
< Back
Next >
Cancel

Choose "**I accept the license agreement**" and press the **Install** button.

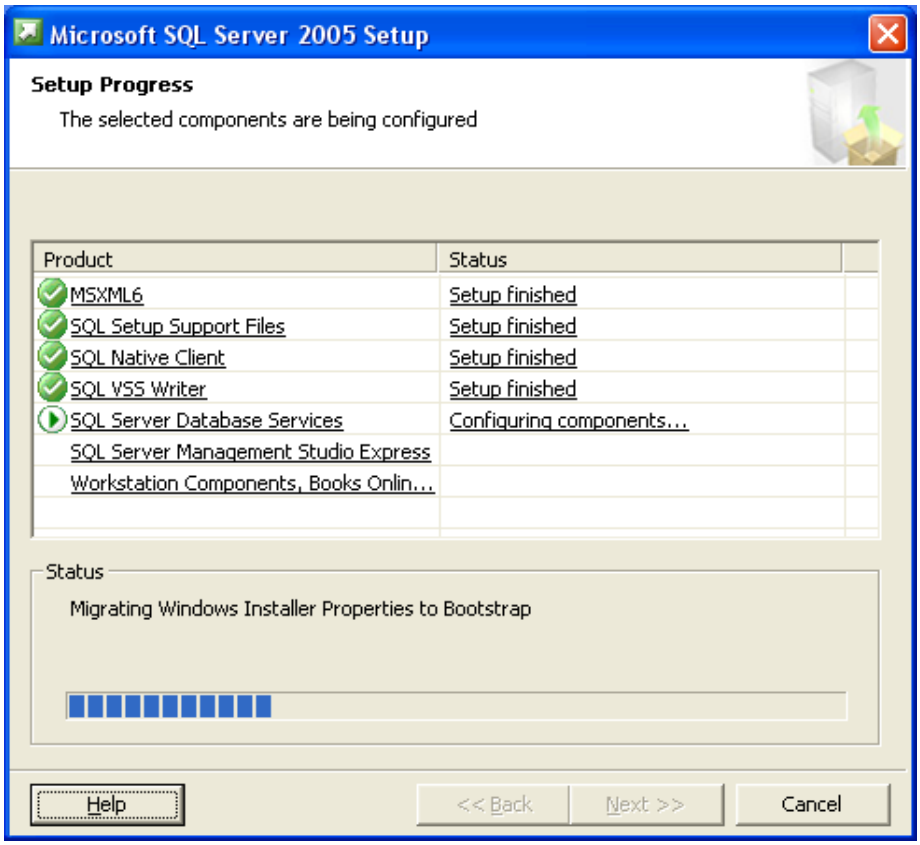


After installing the HASP key driver press **Finish**.

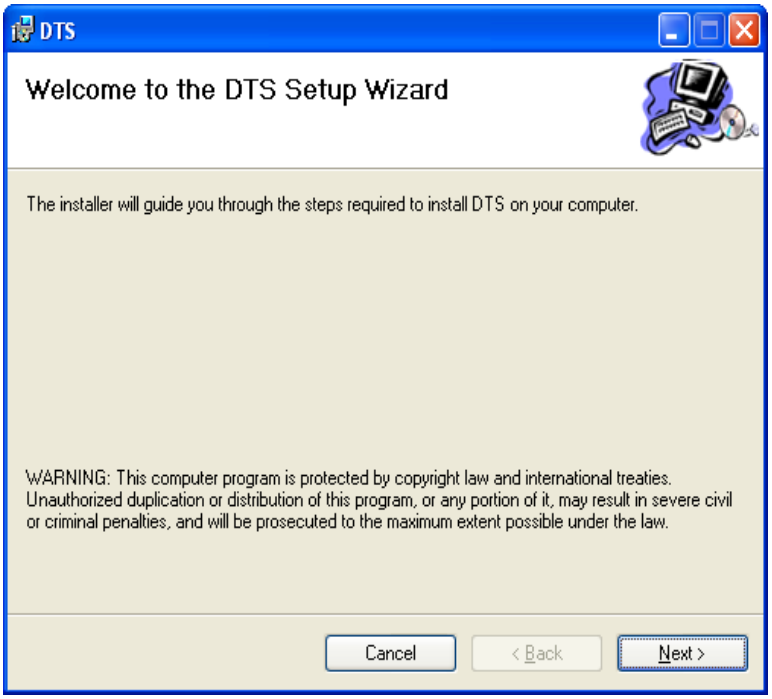
6. The following window will appear. Press the **OK** button to install the “SQL-Express 2005” database server. In case you already installed the "SQL-Express 2005" database server in a previous LumaSoft Gas installation, you can skip installing it by pressing the **Cancel** button.



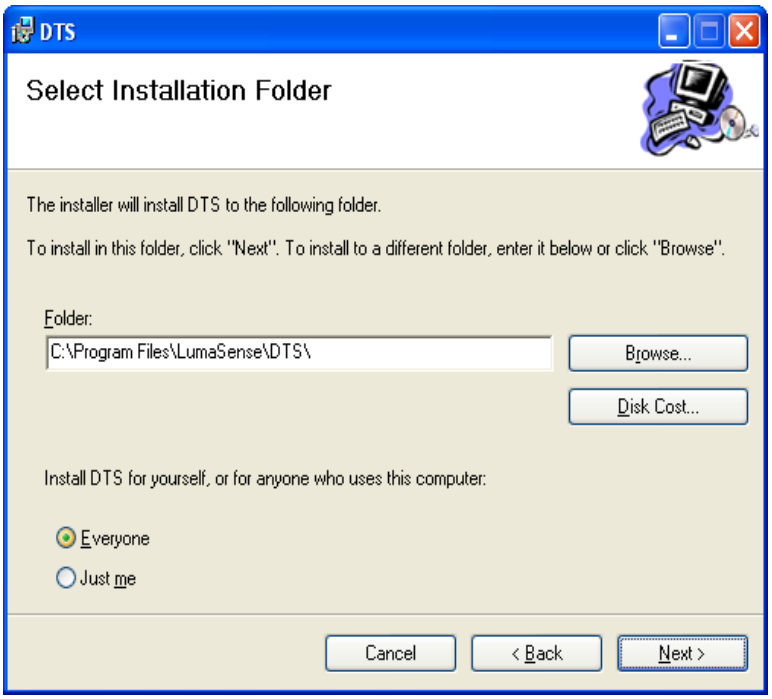
Then wait for the installation of the SQL-Express 2005 database to finish.



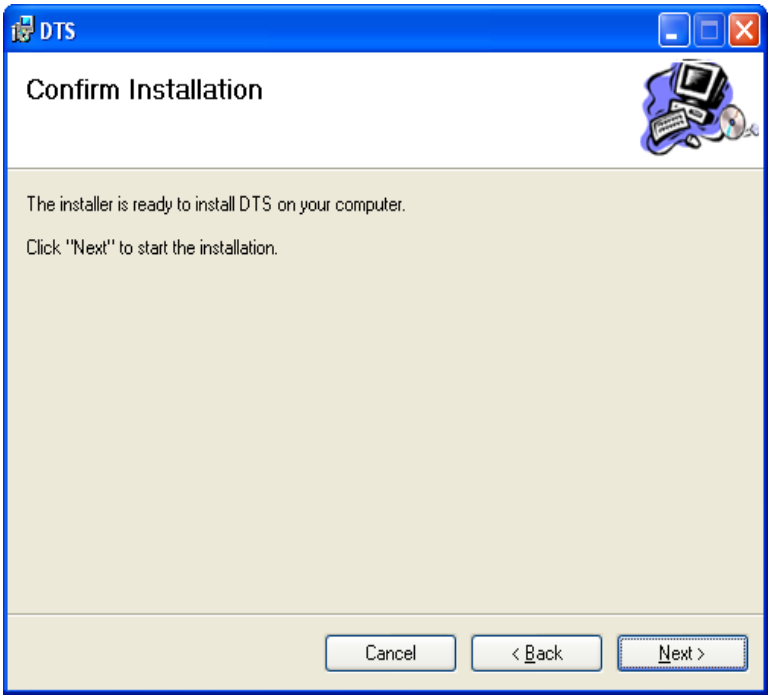
7. The installer will install the DTS server. Press **Next** to continue.



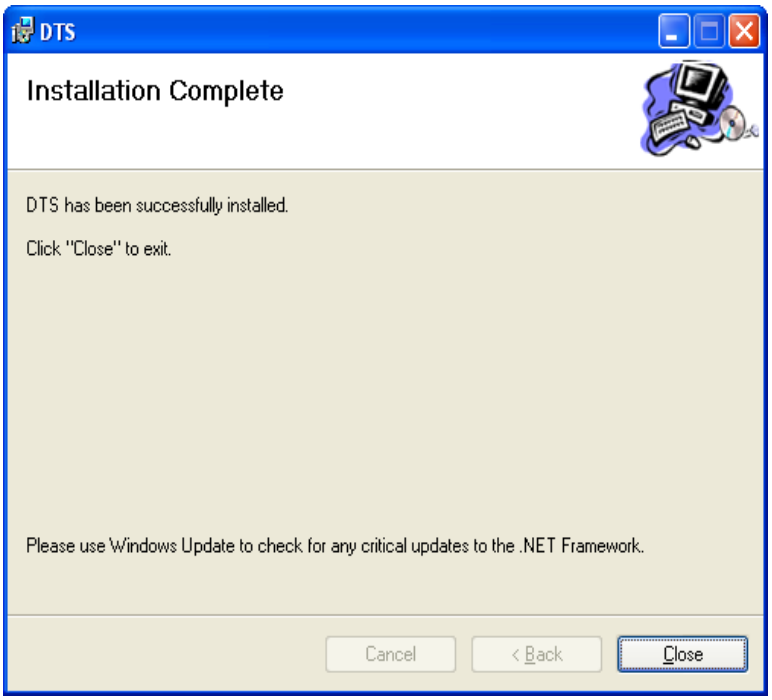
Select the radio button install for **Everyone** and press **Next**



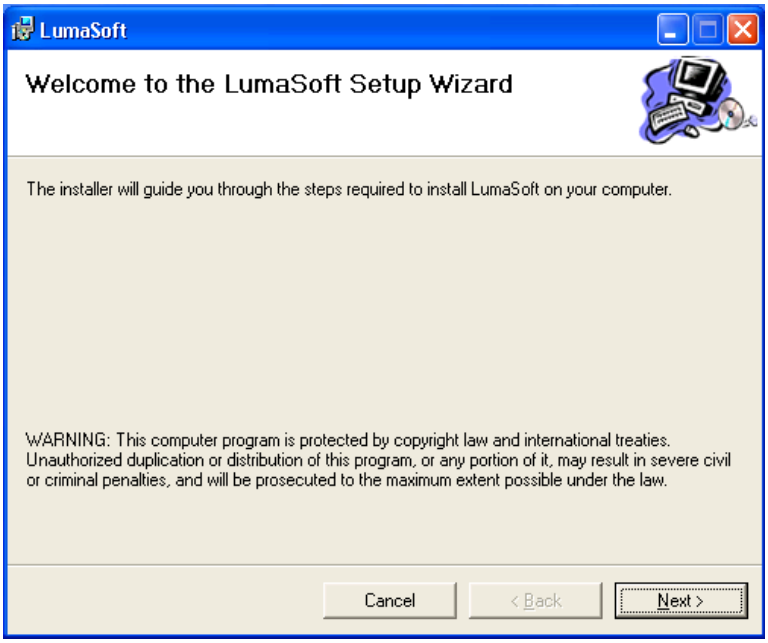
Select **Next** to confirm installation of DTS.



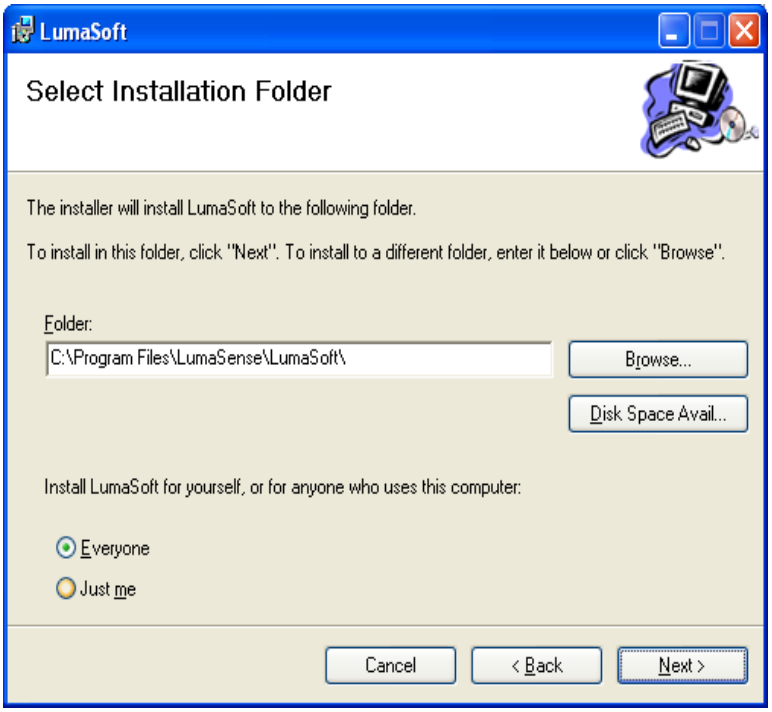
After installation of DTS press **Close.**



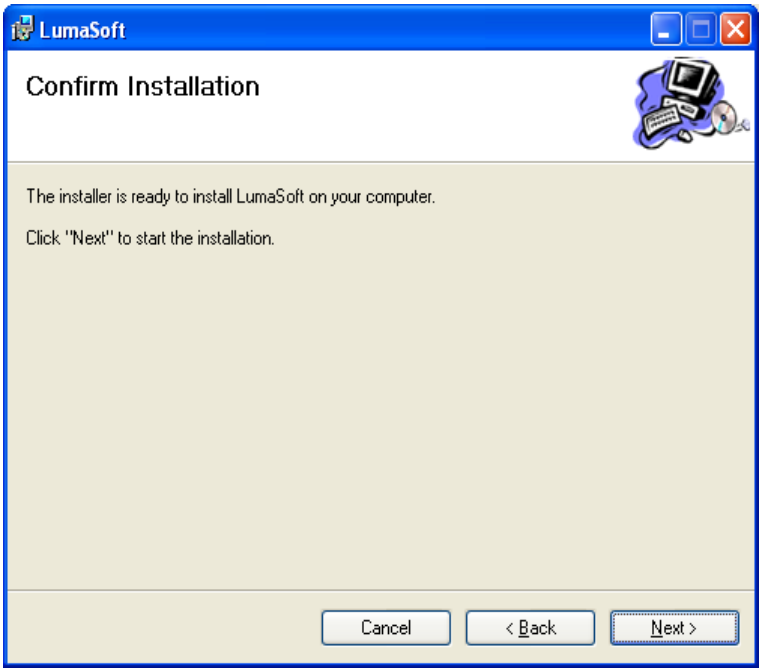
8. After successful installation of DTS server the LumaSoft Gas installation will start. Press **Next** to start installation of LumaSoft.



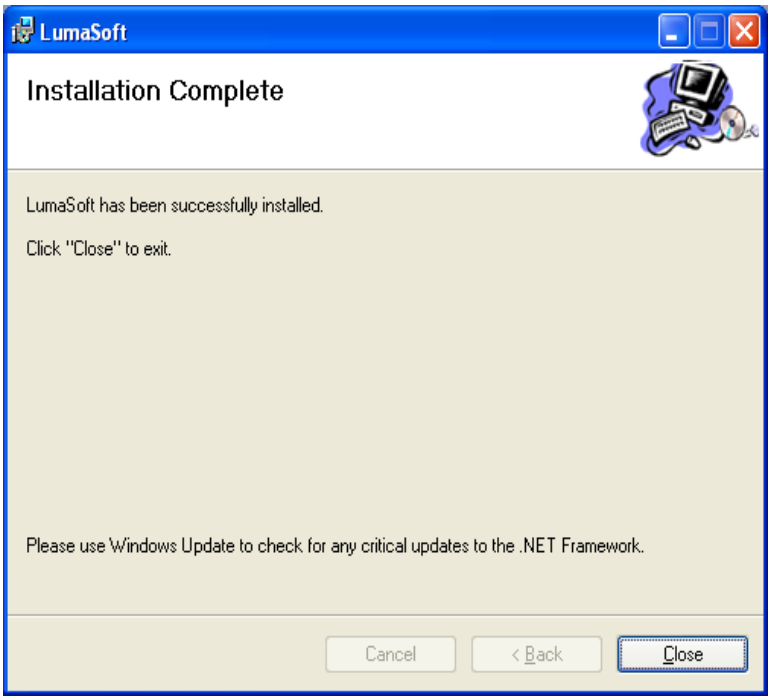
Select install for **Everyone** and press **Next**



Select **Next** to confirm installation of LumaSoft

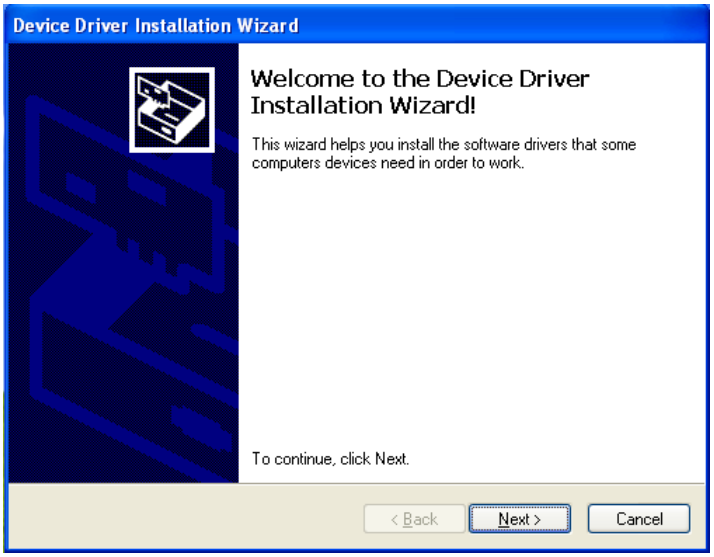


After installation of LumaSoft press **Close.**

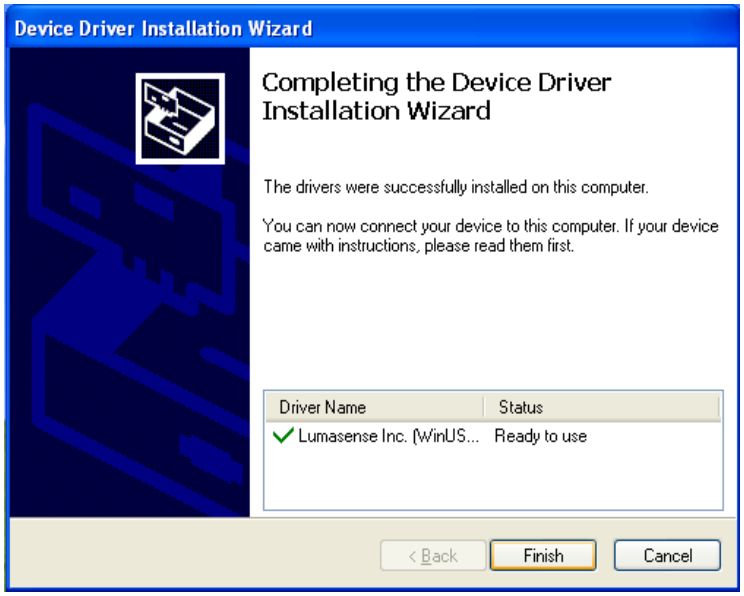


9. The installation of the USB driver for the 1412i Gas Monitor will start. The following window will appear. Press **OK** to install the USB driver. In case the USB driver has already been installed you can press **Cancel**.

Select **Next** to start the installation of the USB driver

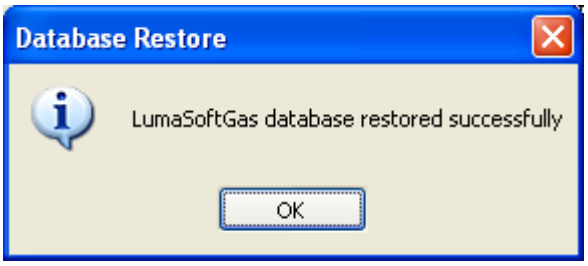


Select **Finish** to exit the installation of the USB driver

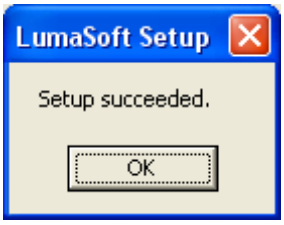


10. Now the LumaSoftGas database will be installed on your local PC. This will take a while.

11. After successful installation of the database the following message appears.



12. Press **OK** to proceed. Installation of the LumaSoft Gas software was successful if all the installation succeeded.

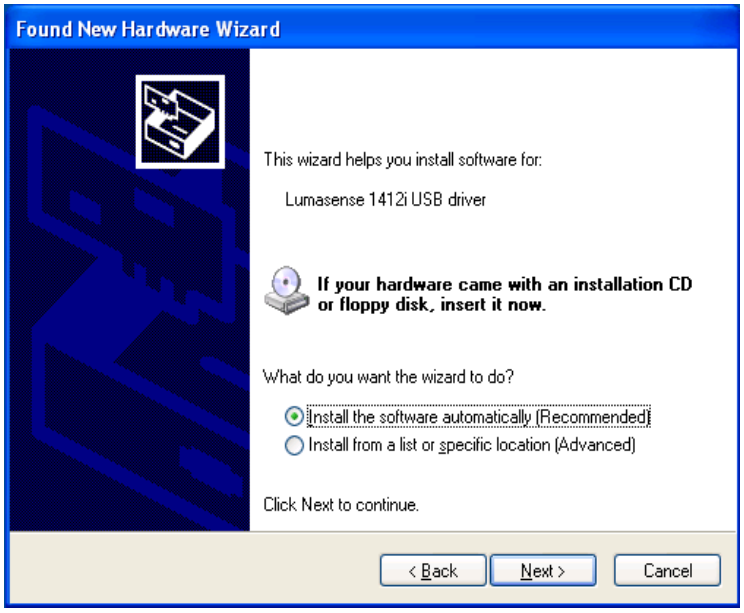


13. Press OK to finish the installation package setup.

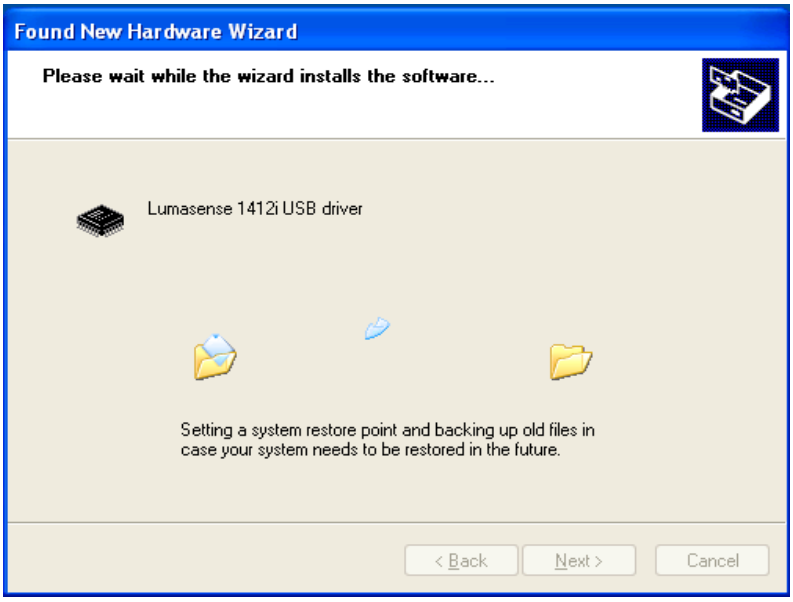
14. In case you are using the USB interface in the 1412i/1314i/3434i you can now connect the USB interface cable between your PC and the 1412i/1314i/3434i Gas Monitor. Locate the output labelled at the back of the Monitor.

15. If you are using Windows XP the following windows will appear. (If not you can proceed to step 19). Select the radio button "**No, not this time**". Press **Next** to proceed.

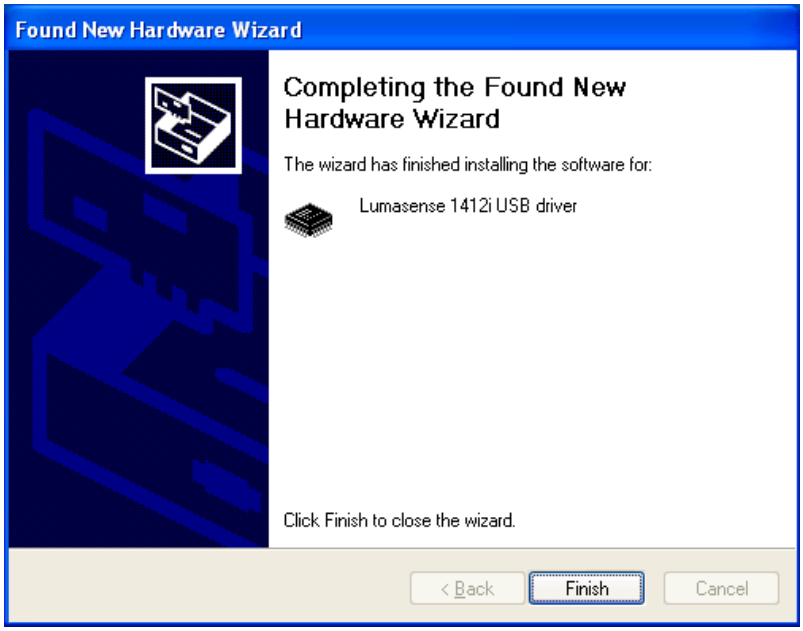
16. Press **Next** to proceed.



17. While installing the USB driver the following window is displayed.



18. When finished installing the USB driver the following window is displayed. Press Finish to leave the USB driver installation.



19. This finalises the installation of the LumaSoft Gas software.

Appendix B

Remote SQL Server database installation

October 2012

This appendix explains how to configure LumaSoft Gas to have its database on a foreign PC's SQL database server.

B.1 Remote installation of the LumaSoft Gas database

The LumaSoft Gas database, which keeps a store all the task and measurement data, is by **default** resident on the same PC as the LumaSoft Gas 7810/7860 application.

Default in the meaning that the installer package will automatically install the database on the same PC as the LumaSoft Gas 7810/7860 application.

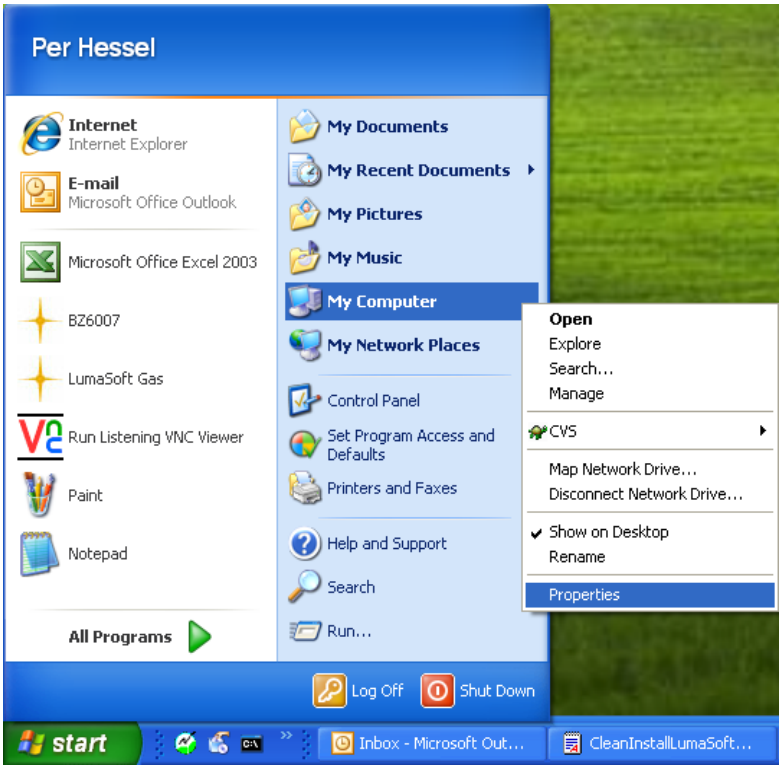
It is possible to configure the LumaSoft Gas application to have the LumaSoft Gas database on a foreign PC's **SQL Database Server** accessible through the network.

B.2 Finding the Computer name of the foreign PC

In order to configure the LumaSoft Gas application to recognize the database on the foreign PC you need to know its **Computer Name**.

On the foreign PC please do the following.

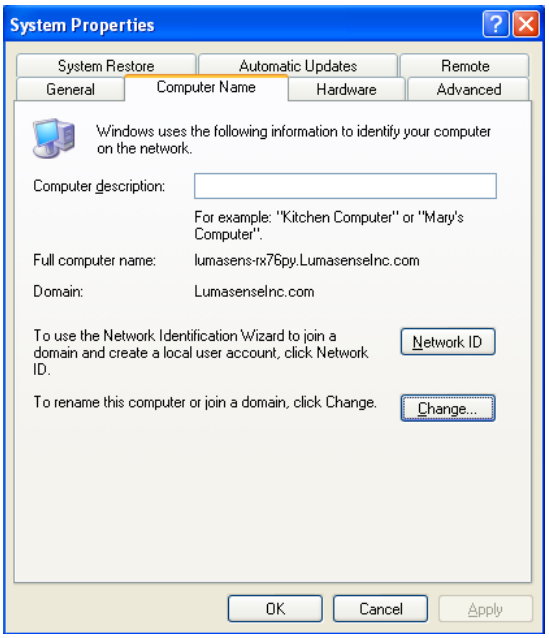
On **Windows XP**: Select **start-> My Computer-> right click-> Properties**



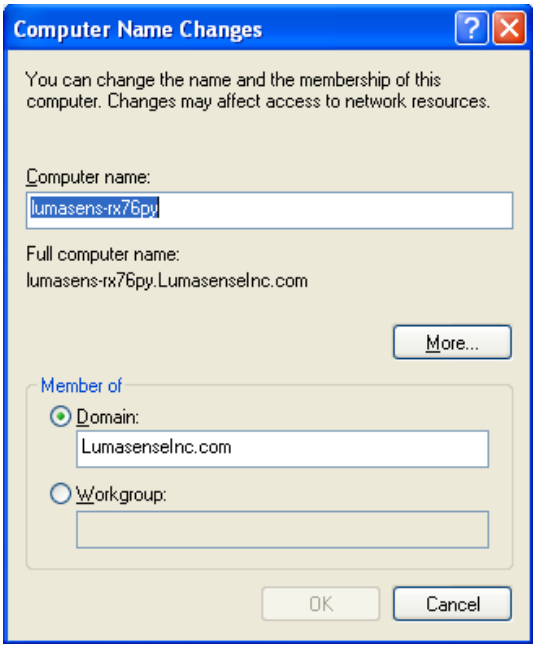
On **Windows Vista:** Select **Start-> Computer-> right click-> Properties**

Select the **Computer Name** tab.

On **Windows Vista:** Observe "**Computer name:**" and **write it down for later use**. Close the **System** window. Continue with the last line on this page.



Click the **Change** button to open the **Computer Name Changes** window



Observe the **Computer name** and **write it down for later use**.

Close the windows **Computer Name Changes** and **Computer Name**.

B.3 Restore(Store) the database onto a foreign PC's SQL Server

To install the database on the SQL Server on a foreign PC.

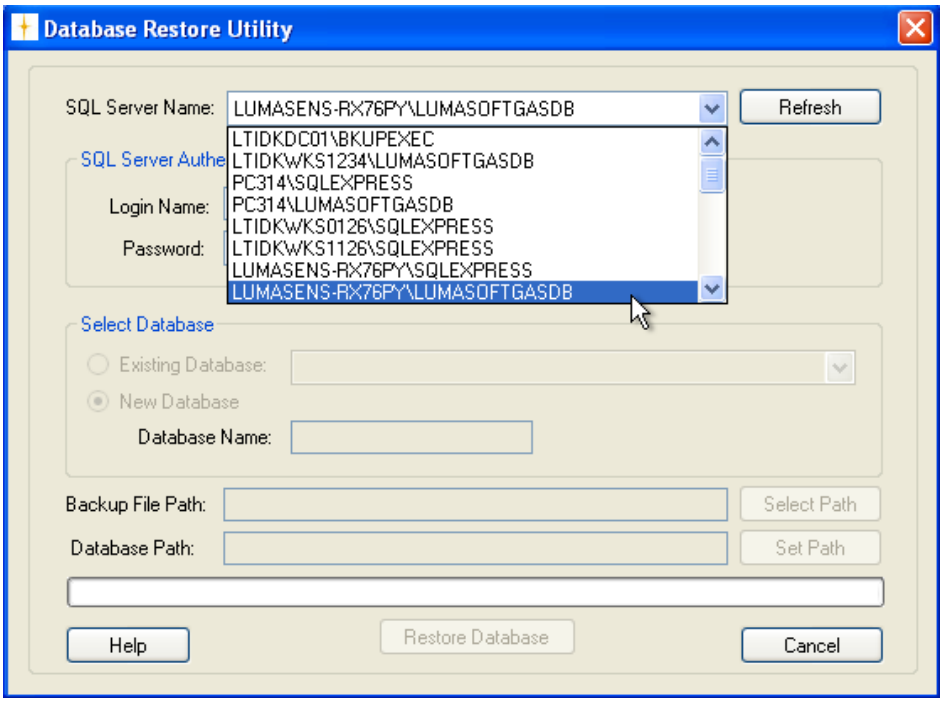
After successful installation of the LumaSoft Gas software package the LumaSoft Gas Database Restore utility will appear to restore the LumaSoftGas database. Here you need to restore the LumaSoftGas database.

Start the **Database Restore** utility using:

- Go to Start -> Program -> LumaSense -> Database Restore click LumaSoftGas Database Restore.

- LumaSoftGas Database Utility dialog will appear.

The **Database Restore Utility** window opens.

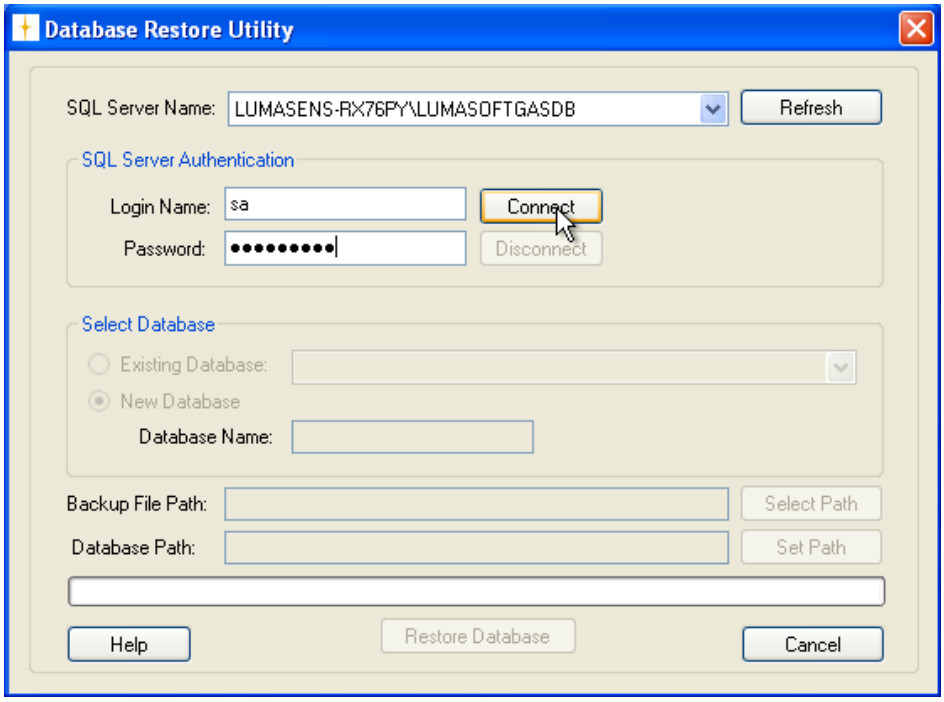


After a while the "**SQL Server Name**" presents a list of SQL Server database instances found on the local PC and on the network.

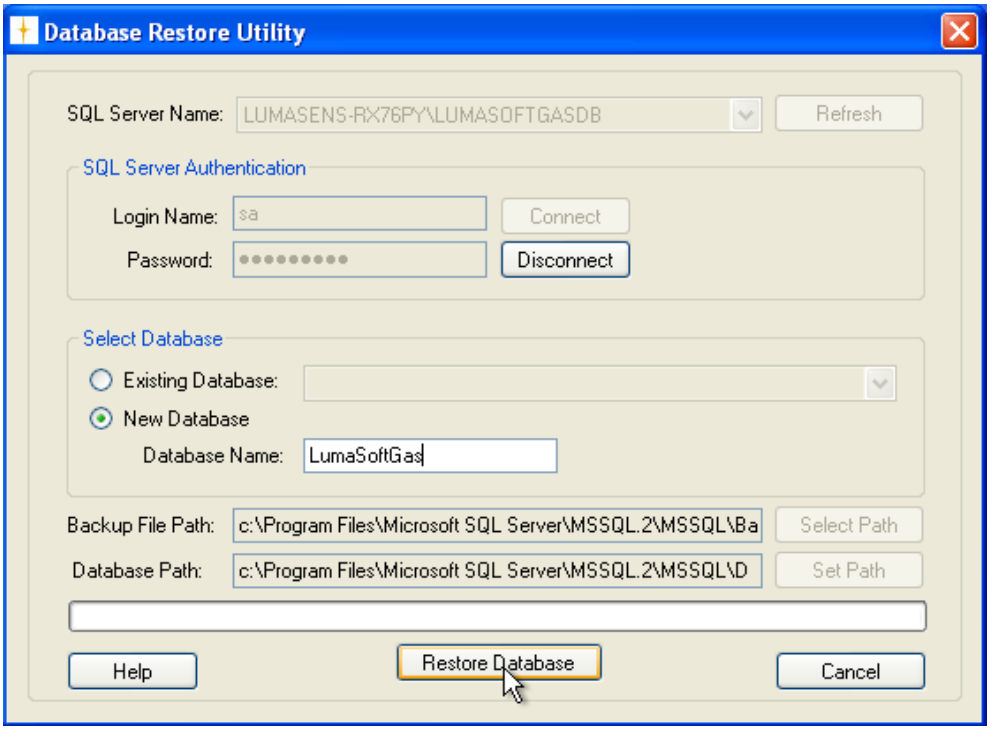
Select the **Computer Name** found on the foreign PC (that is use the Computer Name as you have written down in the last section B.2). In this example it is named "LUMASENS-RX76PY".

If no SQL server database list appears after a while you can select the “Refresh” button to again look for SQL Server database instances.

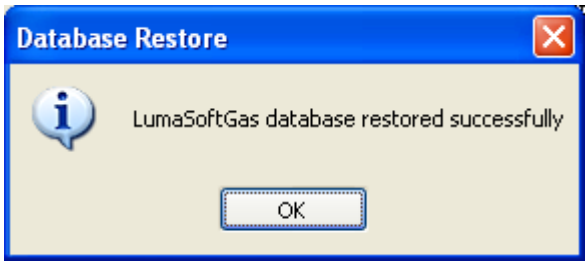
Use the Login Name: **sa** and Password: **Lumasoft1** and press the “Connect” button.



After connect you type the Database Name: **LumaSoftGas** and select the “Restore Database“ button. Please observe that upper and lower case letters in the Database Name is important.



After successful restore of the database the following message appears.



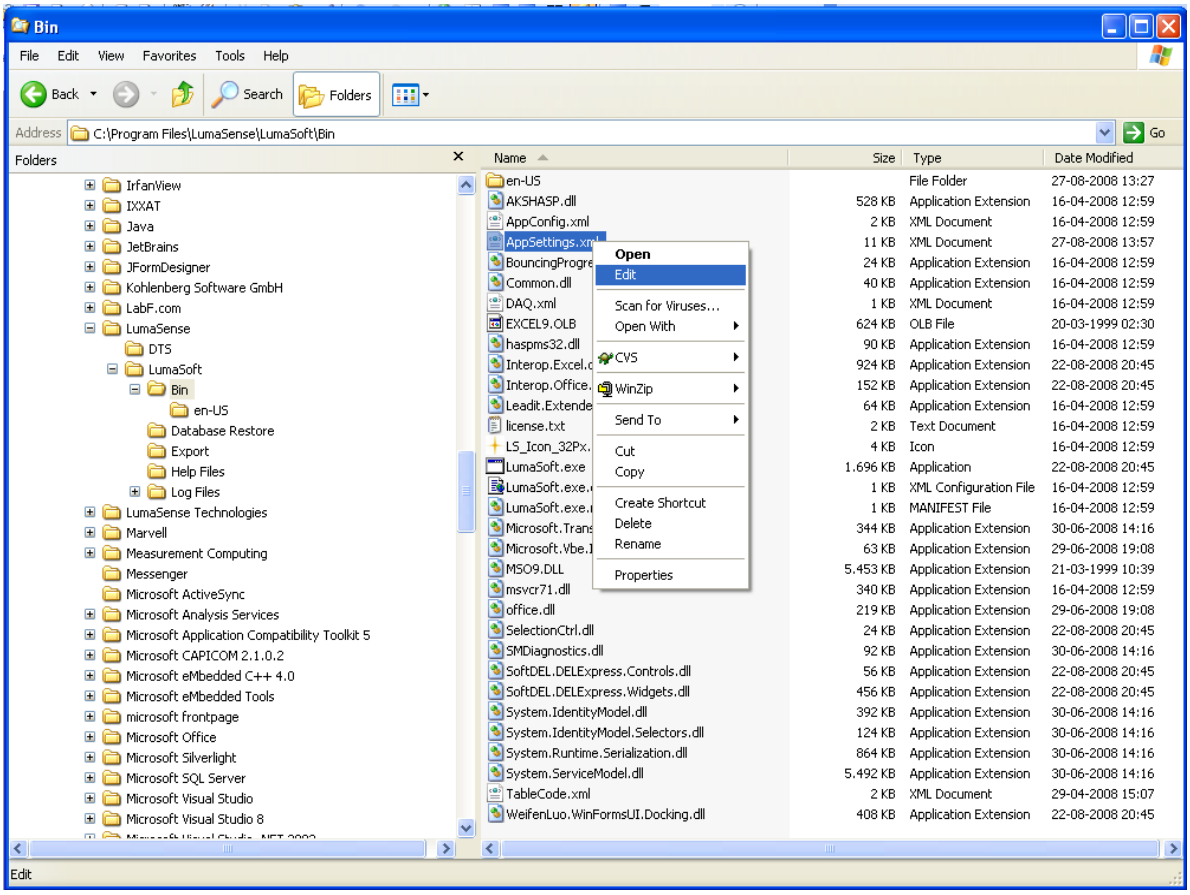
B.4 Configure LumaSoft Gas 7810/7860 to use a database on a foreign PC's SQL Server

If you have the SQL Server installed on a remote PC, the Database connection setting must be changed as per the installation of SQL-Express 2005. To do so you need to change the DataBase-Parameter in **AppSettings.xml** file.

You can find this file inside the
"*Installation Directory*\LumaSense\LumaSoft\Bin" directory.

Where "*Installation Directory*" is the installation path selected during installation procedure, normally "c:\Program Files"

Use the Windows Explorer to open and edit the "**AppSettings.xml**"



Do a file search for the <DataBase-Parameter> tag and modify the contents of <SqlServerConnectionString> tag. Here the Server= setting must be changed . Do not modify the rest of the settings of the <SqlServerConnectionString> tag.

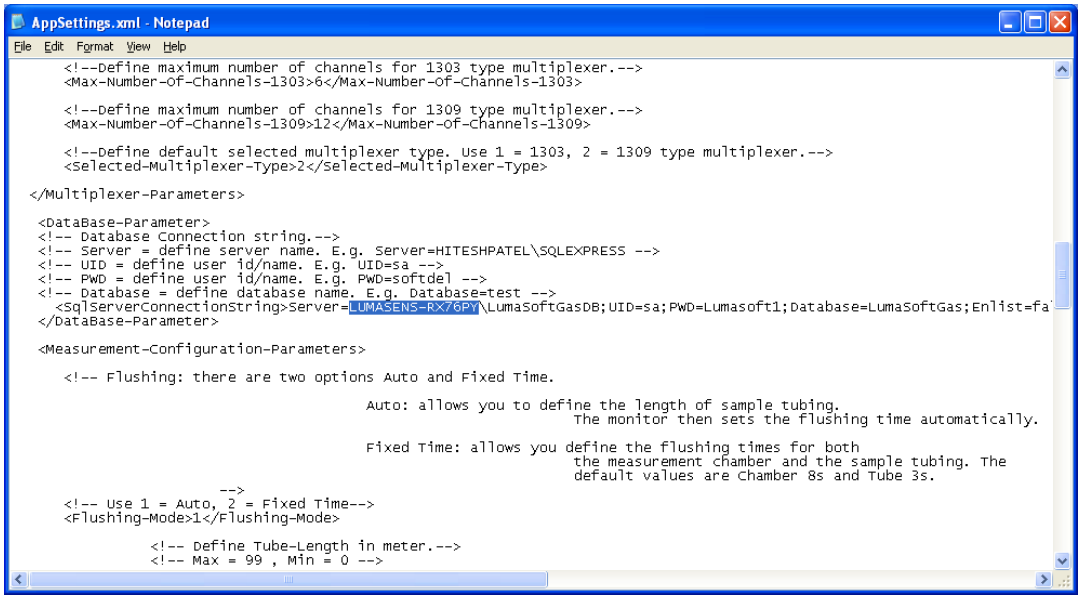
Server is the name of the PC where the SQL Express database is installed. If the SQL Express database is installed on the same PC that the LumaSoft Gas software is installed on, then "Server" should be given the name of your local PC (Computer

Name). If the SQL Express database is installed on a foreign PC than LumaSoft Gas software is installed on, then “Server” should be given the name of the foreign PC.

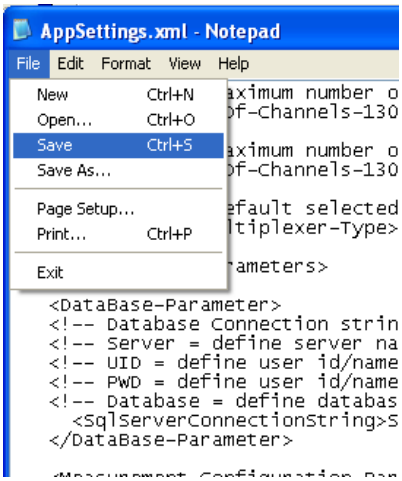
The Server name (Server) should be specified as:

<name of PC with SQL Express database>\LUMASOFTGASDB

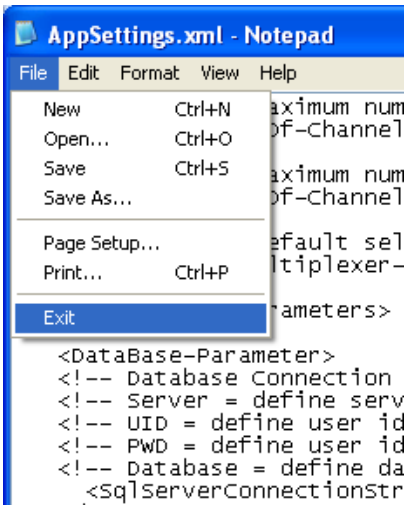
If for instance the PC (use the Computer Name you have written down) with the SQL Server is named LUMASENS-RX76PY, the Server setting should be modified like shown below in bold.



Save the change.



Exit the editor.



Appendix C

OPC Server Tags

Only applicable for 7860.

October 2012

This appendix contains a list of all the OPC Server tags offered by LumaSoft Gas 7860.

These tags will be active when a measurement is running. When running without a Multipoint Sampler the Channel 1 OPC tags will be used for the measurement results.

The 7860 OPC server conforms with the OPC DA (Data access) version 3.0 as well as the previous versions 1.0 and 2.0.

The name (Prog ID) of the 7860 OPC server is 'LumaSense.DaServer.1'.

The tags are listed in ascending order according to the numerical part of the OPC ItemID.

Please note that the OPC tags only are present in the 7860 Multipoint version and not in the 7810 Single point version of LumaSoft Gas.

OPC Server Tags		
Tag Name	**Data type**	**OPC ItemID**
Channel 1 Gas A Concentration	Float	Channel1/GasA/Concentration/1010100
Channel 1 Gas A Alarm HH occurred	Boolean	Channel1/GasA/AlarmHHOccurred/1010200
Channel 1 Gas A Alarm H occurred	Boolean	Channel1/GasA/AlarmHOccurred/1010300
Channel 1 Gas A Alarm L occurred	Boolean	Channel1/GasA/AlarmLOccurred/1010400
Channel 1 Gas A Alarm LL occurred	Boolean	Channel1/GasA/AlarmLLOccurred/1010500
Channel 1 Filter A alignment error flag	Boolean	Channel1/FilterA/AlignmentErrorFlag/1010600
Channel 1 Gas B Concentration	Float	Channel1/GasB/Concentration/1020100
Channel 1 Gas B Alarm HH occurred	Boolean	Channel1/GasB/AlarmHHOccurred/1020200
Channel 1 Gas B Alarm H occurred	Boolean	Channel1/GasB/AlarmHOccurred/1020300
Channel 1 Gas B Alarm L occurred	Boolean	Channel1/GasB/AlarmLOccurred/1020400
Channel 1 Gas B Alarm LL occurred	Boolean	Channel1/GasB/AlarmLLOccurred/1020500
Channel 1 Filter B alignment error flag	Boolean	Channel1/FilterB/AlignmentErrorFlag/1020600
Channel 1 Gas C Concentration	Float	Channel1/GasC/Concentration/1030100
Channel 1 Gas C Alarm HH occurred	Boolean	Channel1/GasC/AlarmHHOccurred/1030200
Channel 1 Gas C Alarm H occurred	Boolean	Channel1/GasC/AlarmHOccurred/1030300
Channel 1 Gas C Alarm L occurred	Boolean	Channel1/GasC/AlarmLOccurred/1030400
Channel 1 Gas C Alarm LL occurred	Boolean	Channel1/GasC/AlarmLLOccurred/1030500
Channel 1 Filter C alignment error flag	Boolean	Channel1/FilterC/AlignmentErrorFlag/1030600
Channel 1 Gas D Concentration	Float	Channel1/GasD/Concentration/1040100
Channel 1 Gas D Alarm HH occurred	Boolean	Channel1/GasD/AlarmHHOccurred/1040200
Channel 1 Gas D Alarm H occurred	Boolean	Channel1/GasD/AlarmHOccurred/1040300
Channel 1 Gas D Alarm L occurred	Boolean	Channel1/GasD/AlarmLOccurred/1040400
Channel 1 Gas D Alarm LL occurred	Boolean	Channel1/GasD/AlarmLLOccurred/1040500
Channel 1 Filter D alignment error flag	Boolean	Channel1/FilterD/AlignmentErrorFlag/1040600
Channel 1 Gas E Concentration	Float	Channel1/GasE/Concentration/1050100
Channel 1 Gas E Alarm HH occurred	Boolean	Channel1/GasE/AlarmHHOccurred/1050200
Channel 1 Gas E Alarm H occurred	Boolean	Channel1/GasE/AlarmHOccurred/1050300
Channel 1 Gas E Alarm L occurred	Boolean	Channel1/GasE/AlarmLOccurred/1050400

Channel 1 Gas E Alarm LL occurred	Boolean	Channel1/GasE/AlarmLLOccurred/1050500
Channel 1 Filter E alignment error flag	Boolean	Channel1/FilterE/AlignmentErrorFlag/1050600
Channel 1 Gas W Concentration	Float	Channel1/GasW/Concentration/1060100
Channel 1 Gas W Alarm HH occurred	Boolean	Channel1/GasW/AlarmHHOccurred/1060200
Channel 1 Gas W Alarm H occurred	Boolean	Channel1/GasW/AlarmHOccurred/1060300
Channel 1 Gas W Alarm L occurred	Boolean	Channel1/GasW/AlarmLOccurred/1060400
Channel 1 Gas W Alarm LL occurred	Boolean	Channel1/GasW/AlarmLLOccurred/1060500
Channel 1 Filter W alignment error flag	Boolean	Channel1/FilterW/AlignmentErrorFlag/1060600
Channel 1 Pressure	Float	Channel1/Pressure/1500100
Channel 1 Gas Monitor Air flag	Boolean	Channel1/GasMonitor/Airflag/1500200
Channel 1 Gas Monitor Error flag	Boolean	Channel1/GasMonitor/Errorflag/1500300
Channel 1 Gas Monitor Warning flag	Boolean	Channel1/GasMonitor/Warningflag/1500400
Channel 1 Monitor Display Error Message	String	Channel1/GasMonitor/MonitorDisplayErrorMessage/1500500
Channel 1 Monitor Display Warning Message	String	Channel1/GasMonitor/MonitorDisplayWarningMessage/1500600
Channel 1 Multiplexer error flag	Boolean	Channel1/Multiplexer/errorflag/1600100
Channel 1 Multiplexer warning flag	Boolean	Channel1/Multiplexer/warningflag/1600200
Channel 1 Multiplexer error number	Long	Channel1/Multiplexer/errornumber/1600300
Channel 1 Multiplexer warning number	Long	Channel1/Multiplexer/warningnumber/1600400
Channel 1 Multiplexer Error Description	String	Channel1/Multiplexer/ErrorDescription/1600600
Channel 1 Multiplexer Warning Description	String	Channel1/Multiplexer/WarningDescription/1600700
Channel 2 Gas A Concentration	Float	Channel2/GasA/Concentration/2010100
Channel 2 Gas A Alarm HH occurred	Boolean	Channel2/GasA/AlarmHHOccurred/2010200
Channel 2 Gas A Alarm H occurred	Boolean	Channel2/GasA/AlarmHOccurred/2010300
Channel 2 Gas A Alarm L occurred	Boolean	Channel2/GasA/AlarmLOccurred/2010400
Channel 2 Gas A Alarm LL occurred	Boolean	Channel2/GasA/AlarmLLOccurred/2010500
Channel 2 Filter A alignment error flag	Boolean	Channel2/FilterA/AlignmentErrorFlag/2010600
Channel 2 Gas B Concentration	Float	Channel2/GasB/Concentration/2020100
Channel 2 Gas B Alarm HH occurred	Boolean	Channel2/GasB/AlarmHHOccurred/2020200
Channel 2 Gas B Alarm H occurred	Boolean	Channel2/GasB/AlarmHOccurred/2020300
Channel 2 Gas B Alarm L occurred	Boolean	Channel2/GasB/AlarmLOccurred/2020400
Channel 2 Gas B Alarm LL occurred	Boolean	Channel2/GasB/AlarmLLOccurred/2020500
Channel 2 Filter B alignment error flag	Boolean	Channel2/FilterB/AlignmentErrorFlag/2020600
Channel 2 Gas C Concentration	Float	Channel2/GasC/Concentration/2030100
Channel 2 Gas C Alarm HH occurred	Boolean	Channel2/GasC/AlarmHHOccurred/2030200
Channel 2 Gas C Alarm H occurred	Boolean	Channel2/GasC/AlarmHOccurred/2030300
Channel 2 Gas C Alarm L occurred	Boolean	Channel2/GasC/AlarmLOccurred/2030400
Channel 2 Gas C Alarm LL occurred	Boolean	Channel2/GasC/AlarmLLOccurred/2030500
Channel 2 Filter C alignment error flag	Boolean	Channel2/FilterC/AlignmentErrorFlag/2030600
Channel 2 Gas D Concentration	Float	Channel2/GasD/Concentration/2040100
Channel 2 Gas D Alarm HH occurred	Boolean	Channel2/GasD/AlarmHHOccurred/2040200
Channel 2 Gas D Alarm H occurred	Boolean	Channel2/GasD/AlarmHOccurred/2040300
Channel 2 Gas D Alarm L occurred	Boolean	Channel2/GasD/AlarmLOccurred/2040400
Channel 2 Gas D Alarm LL occurred	Boolean	Channel2/GasD/AlarmLLOccurred/2040500
Channel 2 Filter D alignment error flag	Boolean	Channel2/FilterD/AlignmentErrorFlag/2040600
Channel 2 Gas E Concentration	Float	Channel2/GasE/Concentration/2050100
Channel 2 Gas E Alarm HH occurred	Boolean	Channel2/GasE/AlarmHHOccurred/2050200
Channel 2 Gas E Alarm H occurred	Boolean	Channel2/GasE/AlarmHOccurred/2050300
Channel 2 Gas E Alarm L occurred	Boolean	Channel2/GasE/AlarmLOccurred/2050400
Channel 2 Gas E Alarm LL occurred	Boolean	Channel2/GasE/AlarmLLOccurred/2050500
Channel 2 Filter E alignment error flag	Boolean	Channel2/FilterE/AlignmentErrorFlag/2050600
Channel 2 Gas W Concentration	Float	Channel2/GasW/Concentration/2060100
Channel 2 Gas W Alarm HH occurred	Boolean	Channel2/GasW/AlarmHHOccurred/2060200

Channel 2 Gas W Alarm H occurred	Boolean	Channel2/GasW/AlarmHOccurred/2060300
Channel 2 Gas W Alarm L occurred	Boolean	Channel2/GasW/AlarmLOccurred/2060400
Channel 2 Gas W Alarm LL occurred	Boolean	Channel2/GasW/AlarmLLOccurred/2060500
Channel 2 Filter W alignment error flag	Boolean	Channel2/FilterW/AlignmentErrorFlag/2060600
Channel 2 Pressure	Float	Channel2/Pressure/2500100
Channel 2 Gas Monitor Air flag	Boolean	Channel2/GasMonitor/Airflag/2500200
Channel 2 Gas Monitor Error flag	Boolean	Channel2/GasMonitor/Errorflag/2500300
Channel 2 Gas Monitor Warning flag	Boolean	Channel2/GasMonitor/Warningflag/2500400
Channel 2 Monitor Display Error Message	String	Channel2/GasMonitor/MonitorDisplayErrorMessage/2500500
Channel 2 Monitor Display Warning Message	String	Channel2/GasMonitor/MonitorDisplayWarningMessage/2500600
Channel 2 Multiplexer error flag	Boolean	Channel2/Multiplexer/errorflag/2600100
Channel 2 Multiplexer warning flag	Boolean	Channel2/Multiplexer/warningflag/2600200
Channel 2 Multiplexer error number	Long	Channel2/Multiplexer/errornumber/2600300
Channel 2 Multiplexer warning number	Long	Channel2/Multiplexer/warningnumber/2600400
Channel 2 Multiplexer Error Description	String	Channel2/Multiplexer/ErrorDescription/2600600
Channel 2 Multiplexer Warning Description	String	Channel2/Multiplexer/WarningDescription/2600700
Channel 3 Gas A Concentration	Float	Channel3/GasA/Concentration/3010100
Channel 3 Gas A Alarm HH occurred	Boolean	Channel3/GasA/AlarmHHOccurred/3010200
Channel 3 Gas A Alarm H occurred	Boolean	Channel3/GasA/AlarmHOccurred/3010300
Channel 3 Gas A Alarm L occurred	Boolean	Channel3/GasA/AlarmLOccurred/3010400
Channel 3 Gas A Alarm LL occurred	Boolean	Channel3/GasA/AlarmLLOccurred/3010500
Channel 3 Filter A alignment error flag	Boolean	Channel3/FilterA/AlignmentErrorFlag/3010600
Channel 3 Gas B Concentration	Float	Channel3/GasB/Concentration/3020100
Channel 3 Gas B Alarm HH occurred	Boolean	Channel3/GasB/AlarmHHOccurred/3020200
Channel 3 Gas B Alarm H occurred	Boolean	Channel3/GasB/AlarmHOccurred/3020300
Channel 3 Gas B Alarm L occurred	Boolean	Channel3/GasB/AlarmLOccurred/3020400
Channel 3 Gas B Alarm LL occurred	Boolean	Channel3/GasB/AlarmLLOccurred/3020500
Channel 3 Filter B alignment error flag	Boolean	Channel3/FilterB/AlignmentErrorFlag/3020600
Channel 3 Gas C Concentration	Float	Channel3/GasC/Concentration/3030100
Channel 3 Gas C Alarm HH occurred	Boolean	Channel3/GasC/AlarmHHOccurred/3030200
Channel 3 Gas C Alarm H occurred	Boolean	Channel3/GasC/AlarmHOccurred/3030300
Channel 3 Gas C Alarm L occurred	Boolean	Channel3/GasC/AlarmLOccurred/3030400
Channel 3 Gas C Alarm LL occurred	Boolean	Channel3/GasC/AlarmLLOccurred/3030500
Channel 3 Filter C alignment error flag	Boolean	Channel3/FilterC/AlignmentErrorFlag/3030600
Channel 3 Gas D Concentration	Float	Channel3/GasD/Concentration/3040100
Channel 3 Gas D Alarm HH occurred	Boolean	Channel3/GasD/AlarmHHOccurred/3040200
Channel 3 Gas D Alarm H occurred	Boolean	Channel3/GasD/AlarmHOccurred/3040300
Channel 3 Gas D Alarm L occurred	Boolean	Channel3/GasD/AlarmLOccurred/3040400
Channel 3 Gas D Alarm LL occurred	Boolean	Channel3/GasD/AlarmLLOccurred/3040500
Channel 3 Filter D alignment error flag	Boolean	Channel3/FilterD/AlignmentErrorFlag/3040600
Channel 3 Gas E Concentration	Float	Channel3/GasE/Concentration/3050100
Channel 3 Gas E Alarm HH occurred	Boolean	Channel3/GasE/AlarmHHOccurred/3050200
Channel 3 Gas E Alarm H occurred	Boolean	Channel3/GasE/AlarmHOccurred/3050300
Channel 3 Gas E Alarm L occurred	Boolean	Channel3/GasE/AlarmLOccurred/3050400
Channel 3 Gas E Alarm LL occurred	Boolean	Channel3/GasE/AlarmLLOccurred/3050500
Channel 3 Filter E alignment error flag	Boolean	Channel3/FilterE/AlignmentErrorFlag/3050600
Channel 3 Gas W Concentration	Float	Channel3/GasW/Concentration/3060100
Channel 3 Gas W Alarm HH occurred	Boolean	Channel3/GasW/AlarmHHOccurred/3060200
Channel 3 Gas W Alarm H occurred	Boolean	Channel3/GasW/AlarmHOccurred/3060300
Channel 3 Gas W Alarm L occurred	Boolean	Channel3/GasW/AlarmLOccurred/3060400
Channel 3 Gas W Alarm LL occurred	Boolean	Channel3/GasW/AlarmLLOccurred/3060500
Channel 3 Filter W alignment error flag	Boolean	Channel3/FilterW/AlignmentErrorFlag/3060600

Channel 3 Pressure	Float	Channel3/Pressure/3500100
Channel 3 Gas Monitor Air flag	Boolean	Channel3/GasMonitor/Airflag/3500200
Channel 3 Gas Monitor Error flag	Boolean	Channel3/GasMonitor/Errorflag/3500300
Channel 3 Monitor Display Error Message	Boolean	Channel3/GasMonitor/MonitorDisplayErrorMessage/3500500
Channel 3 Monitor Display Warning Message	String	Channel3/GasMonitor/MonitorDisplayWarningMessage/3500600
Channel 3 Gas Monitor Warning flag	String	Channel3/GasMonitor/Warningflag/3500400
Channel 3 Multiplexer error flag	Boolean	Channel3/Multiplexer/errorflag/3600100
Channel 3 Multiplexer warning flag	Boolean	Channel3/Multiplexer/warningflag/3600200
Channel 3 Multiplexer error number	Long	Channel3/Multiplexer/errornumber/3600300
Channel 3 Multiplexer warning number	Long	Channel3/Multiplexer/warningnumber/3600400
Channel 3 Multiplexer Error Description	String	Channel1/Multiplexer/ErrorDescription/3600600
Channel 3 Multiplexer Warning Description	String	Channel1/Multiplexer/WarningDescription/3600700
Channel 4 Gas A Concentration	Float	Channel4/GasA/Concentration/4010100
Channel 4 Gas A Alarm HH occurred	Boolean	Channel4/GasA/AlarmHHOccurred/4010200
Channel 4 Gas A Alarm H occurred	Boolean	Channel4/GasA/AlarmHOccurred/4010300
Channel 4 Gas A Alarm L occurred	Boolean	Channel4/GasA/AlarmLOccurred/4010400
Channel 4 Gas A Alarm LL occurred	Boolean	Channel4/GasA/AlarmLLOccurred/4010500
Channel 4 Filter A alignment error flag	Boolean	Channel4/FilterA/AlignmentErrorFlag/4010600
Channel 4 Gas B Concentration	Float	Channel4/GasB/Concentration/4020100
Channel 4 Gas B Alarm HH occurred	Boolean	Channel4/GasB/AlarmHHOccurred/4020200
Channel 4 Gas B Alarm H occurred	Boolean	Channel4/GasB/AlarmHOccurred/4020300
Channel 4 Gas B Alarm L occurred	Boolean	Channel4/GasB/AlarmLOccurred/4020400
Channel 4 Gas B Alarm LL occurred	Boolean	Channel4/GasB/AlarmLLOccurred/4020500
Channel 4 Filter B alignment error flag	Boolean	Channel4/FilterB/AlignmentErrorFlag/4020600
Channel 4 Gas C Concentration	Float	Channel4/GasC/Concentration/4030100
Channel 4 Gas C Alarm HH occurred	Boolean	Channel4/GasC/AlarmHHOccurred/4030200
Channel 4 Gas C Alarm H occurred	Boolean	Channel4/GasC/AlarmHOccurred/4030300
Channel 4 Gas C Alarm L occurred	Boolean	Channel4/GasC/AlarmLOccurred/4030400
Channel 4 Gas C Alarm LL occurred	Boolean	Channel4/GasC/AlarmLLOccurred/4030500
Channel 4 Filter C alignment error flag	Boolean	Channel4/FilterC/AlignmentErrorFlag/4030600
Channel 4 Gas D Concentration	Float	Channel4/GasD/Concentration/4040100
Channel 4 Gas D Alarm HH occurred	Boolean	Channel4/GasD/AlarmHHOccurred/4040200
Channel 4 Gas D Alarm H occurred	Boolean	Channel4/GasD/AlarmHOccurred/4040300
Channel 4 Gas D Alarm L occurred	Boolean	Channel4/GasD/AlarmLOccurred/4040400
Channel 4 Gas D Alarm LL occurred	Boolean	Channel4/GasD/AlarmLLOccurred/4040500
Channel 4 Filter D alignment error flag	Boolean	Channel4/FilterD/AlignmentErrorFlag/4040600
Channel 4 Gas E Concentration	Float	Channel4/GasE/Concentration/4050100
Channel 4 Gas E Alarm HH occurred	Boolean	Channel4/GasE/AlarmHHOccurred/4050200
Channel 4 Gas E Alarm H occurred	Boolean	Channel4/GasE/AlarmHOccurred/4050300
Channel 4 Gas E Alarm L occurred	Boolean	Channel4/GasE/AlarmLOccurred/4050400
Channel 4 Gas E Alarm LL occurred	Boolean	Channel4/GasE/AlarmLLOccurred/4050500
Channel 4 Filter E alignment error flag	Boolean	Channel4/FilterE/AlignmentErrorFlag/4050600
Channel 4 Gas W Concentration	Float	Channel4/GasW/Concentration/4060100
Channel 4 Gas W Alarm HH occurred	Boolean	Channel4/GasW/AlarmHHOccurred/4060200
Channel 4 Gas W Alarm H occurred	Boolean	Channel4/GasW/AlarmHOccurred/4060300
Channel 4 Gas W Alarm L occurred	Boolean	Channel4/GasW/AlarmLOccurred/4060400
Channel 4 Gas W Alarm LL occurred	Boolean	Channel4/GasW/AlarmLLOccurred/4060500
Channel 4 Filter W alignment error flag	Boolean	Channel4/FilterW/AlignmentErrorFlag/4060600
Channel 4 Pressure	Float	Channel4/Pressure/4500100
Channel 4 Gas Monitor Air flag	Boolean	Channel4/GasMonitor/Airflag/4500200
Channel 4 Gas Monitor Error flag	Boolean	Channel4/GasMonitor/Errorflag/4500300
Channel 4 Gas Monitor Warning flag	Boolean	Channel4/GasMonitor/Warningflag/4500400

Channel 4 Monitor Display Error Message	String	Channel4/GasMonitor/MonitorDisplayErrorMessage/4500500
Channel 4 Monitor Display Warning Message	String	Channel4/GasMonitor/MonitorDisplayWarningMessage/4500600
Channel 4 Multiplexer error flag	Boolean	Channel4/Multiplexer/errorflag/4600100
Channel 4 Multiplexer warning flag	Boolean	Channel4/Multiplexer/warningflag/4600200
Channel 4 Multiplexer error number	Long	Channel4/Multiplexer/errornumber/4600300
Channel 4 Multiplexer warning number	Long	Channel4/Multiplexer/warningnumber/4600400
Channel 4 Multiplexer Error Description	String	Channel4/Multiplexer/ErrorDescription/4600600
Channel 4 Multiplexer Warning Description	String	Channel4/Multiplexer/WarningDescription/4600700
Channel 5 Gas A Concentration	Float	Channel5/GasA/Concentration/5010100
Channel 5 Gas A Alarm HH occurred	Boolean	Channel5/GasA/AlarmHHOccurred/5010200
Channel 5 Gas A Alarm H occurred	Boolean	Channel5/GasA/AlarmHOccurred/5010300
Channel 5 Gas A Alarm L occurred	Boolean	Channel5/GasA/AlarmLOccurred/5010400
Channel 5 Gas A Alarm LL occurred	Boolean	Channel5/GasA/AlarmLLOccurred/5010500
Channel 5 Filter A alignment error flag	Boolean	Channel5/FilterA/AlignmentErrorFlag/5010600
Channel 5 Gas B Concentration	Float	Channel5/GasB/Concentration/5020100
Channel 5 Gas B Alarm HH occurred	Boolean	Channel5/GasB/AlarmHHOccurred/5020200
Channel 5 Gas B Alarm H occurred	Boolean	Channel5/GasB/AlarmHOccurred/5020300
Channel 5 Gas B Alarm L occurred	Boolean	Channel5/GasB/AlarmLOccurred/5020400
Channel 5 Gas B Alarm LL occurred	Boolean	Channel5/GasB/AlarmLLOccurred/5020500
Channel 5 Filter B alignment error flag	Boolean	Channel5/FilterB/AlignmentErrorFlag/5020600
Channel 5 Gas C Concentration	Float	Channel5/GasC/Concentration/5030100
Channel 5 Gas C Alarm HH occurred	Boolean	Channel5/GasC/AlarmHHOccurred/5030200
Channel 5 Gas C Alarm H occurred	Boolean	Channel5/GasC/AlarmHOccurred/5030300
Channel 5 Gas C Alarm L occurred	Boolean	Channel5/GasC/AlarmLOccurred/5030400
Channel 5 Gas C Alarm LL occurred	Boolean	Channel5/GasC/AlarmLLOccurred/5030500
Channel 5 Filter C alignment error flag	Boolean	Channel5/FilterC/AlignmentErrorFlag/5030600
Channel 5 Gas D Concentration	Float	Channel5/GasD/Concentration/5040100
Channel 5 Gas D Alarm HH occurred	Boolean	Channel5/GasD/AlarmHHOccurred/5040200
Channel 5 Gas D Alarm H occurred	Boolean	Channel5/GasD/AlarmHOccurred/5040300
Channel 5 Gas D Alarm L occurred	Boolean	Channel5/GasD/AlarmLOccurred/5040400
Channel 5 Gas D Alarm LL occurred	Boolean	Channel5/GasD/AlarmLLOccurred/5040500
Channel 5 Filter D alignment error flag	Boolean	Channel5/FilterD/AlignmentErrorFlag/5040600
Channel 5 Gas E Concentration	Float	Channel5/GasE/Concentration/5050100
Channel 5 Gas E Alarm HH occurred	Boolean	Channel5/GasE/AlarmHHOccurred/5050200
Channel 5 Gas E Alarm H occurred	Boolean	Channel5/GasE/AlarmHOccurred/5050300
Channel 5 Gas E Alarm L occurred	Boolean	Channel5/GasE/AlarmLOccurred/5050400
Channel 5 Gas E Alarm LL occurred	Boolean	Channel5/GasE/AlarmLLOccurred/5050500
Channel 5 Filter E alignment error flag	Boolean	Channel5/FilterE/AlignmentErrorFlag/5050600
Channel 5 Gas W Concentration	Float	Channel5/GasW/Concentration/5060100
Channel 5 Gas W Alarm HH occurred	Boolean	Channel5/GasW/AlarmHHOccurred/5060200
Channel 5 Gas W Alarm H occurred	Boolean	Channel5/GasW/AlarmHOccurred/5060300
Channel 5 Gas W Alarm L occurred	Boolean	Channel5/GasW/AlarmLOccurred/5060400
Channel 5 Gas W Alarm LL occurred	Boolean	Channel5/GasW/AlarmLLOccurred/5060500
Channel 5 Filter W alignment error flag	Boolean	Channel5/FilterW/AlignmentErrorFlag/5060600
Channel 5 Pressure	Float	Channel5/Pressure/5500100
Channel 5 Gas Monitor Air flag	Boolean	Channel5/GasMonitor/Airflag/5500200
Channel 5 Gas Monitor Error flag	Boolean	Channel5/GasMonitor/Errorflag/5500300
Channel 5 Gas Monitor Warning flag	Boolean	Channel5/GasMonitor/Warningflag/5500400
Channel 5 Monitor Display Error Message	String	Channel1/GasMonitor/MonitorDisplayErrorMessage/5500500
Channel 5 Monitor Display Warning Message	String	Channel1/GasMonitor/MonitorDisplayWarningMessage/5500600
Channel 5 Multiplexer error flag	Boolean	Channel5/Multiplexer/errorflag/5600100
Channel 5 Multiplexer warning flag	Boolean	Channel5/Multiplexer/warningflag/5600200

Channel 5 Multiplexer error number	Long	Channel5/Multiplexer/errornumber/5600300
Channel 5 Multiplexer warning number	Long	Channel5/Multiplexer/warningnumber/5600400
Channel 5 Multiplexer Error Description	String	Channel1/Multiplexer/ErrorDescription/5600600
Channel 5 Multiplexer Warning Description	String	Channel1/Multiplexer/WarningDescription/5600700
Channel 6 Gas A Concentration	Float	Channel6/GasA/Concentration/6010100
Channel 6 Gas A Alarm HH occurred	Boolean	Channel6/GasA/AlarmHHOccurred/6010200
Channel 6 Gas A Alarm H occurred	Boolean	Channel6/GasA/AlarmHOccurred/6010300
Channel 6 Gas A Alarm L occurred	Boolean	Channel6/GasA/AlarmLOccurred/6010400
Channel 6 Gas A Alarm LL occurred	Boolean	Channel6/GasA/AlarmLLOccurred/6010500
Channel 6 Filter A alignment error flag	Boolean	Channel6/FilterA/AlignmentErrorFlag/6010600
Channel 6 Gas B Concentration	Float	Channel6/GasB/Concentration/6020100
Channel 6 Gas B Alarm HH occurred	Boolean	Channel6/GasB/AlarmHHOccurred/6020200
Channel 6 Gas B Alarm H occurred	Boolean	Channel6/GasB/AlarmHOccurred/6020300
Channel 6 Gas B Alarm L occurred	Boolean	Channel6/GasB/AlarmLOccurred/6020400
Channel 6 Gas B Alarm LL occurred	Boolean	Channel6/GasB/AlarmLLOccurred/6020500
Channel 6 Filter B alignment error flag	Boolean	Channel6/FilterB/AlignmentErrorFlag/6020600
Channel 6 Gas C Concentration	Float	Channel6/GasC/Concentration/6030100
Channel 6 Gas C Alarm HH occurred	Boolean	Channel6/GasC/AlarmHHOccurred/6030200
Channel 6 Gas C Alarm H occurred	Boolean	Channel6/GasC/AlarmHOccurred/6030300
Channel 6 Gas C Alarm L occurred	Boolean	Channel6/GasC/AlarmLOccurred/6030400
Channel 6 Gas C Alarm LL occurred	Boolean	Channel6/GasC/AlarmLLOccurred/6030500
Channel 6 Filter C alignment error flag	Boolean	Channel6/FilterC/AlignmentErrorFlag/6030600
Channel 6 Gas D Concentration	Float	Channel6/GasD/Concentration/6040100
Channel 6 Gas D Alarm HH occurred	Boolean	Channel6/GasD/AlarmHHOccurred/6040200
Channel 6 Gas D Alarm H occurred	Boolean	Channel6/GasD/AlarmHOccurred/6040300
Channel 6 Gas D Alarm L occurred	Boolean	Channel6/GasD/AlarmLOccurred/6040400
Channel 6 Gas D Alarm LL occurred	Boolean	Channel6/GasD/AlarmLLOccurred/6040500
Channel 6 Filter D alignment error flag	Boolean	Channel6/FilterD/AlignmentErrorFlag/6040600
Channel 6 Gas E Concentration	Float	Channel6/GasE/Concentration/6050100
Channel 6 Gas E Alarm HH occurred	Boolean	Channel6/GasE/AlarmHHOccurred/6050200
Channel 6 Gas E Alarm H occurred	Boolean	Channel6/GasE/AlarmHOccurred/6050300
Channel 6 Gas E Alarm L occurred	Boolean	Channel6/GasE/AlarmLOccurred/6050400
Channel 6 Gas E Alarm LL occurred	Boolean	Channel6/GasE/AlarmLLOccurred/6050500
Channel 6 Filter E alignment error flag	Boolean	Channel6/FilterE/AlignmentErrorFlag/6050600
Channel 6 Gas W Concentration	Float	Channel6/GasW/Concentration/6060100
Channel 6 Gas W Alarm HH occurred	Boolean	Channel6/GasW/AlarmHHOccurred/6060200
Channel 6 Gas W Alarm H occurred	Boolean	Channel6/GasW/AlarmHOccurred/6060300
Channel 6 Gas W Alarm L occurred	Boolean	Channel6/GasW/AlarmLOccurred/6060400
Channel 6 Gas W Alarm LL occurred	Boolean	Channel6/GasW/AlarmLLOccurred/6060500
Channel 6 Filter W alignment error flag	Boolean	Channel6/FilterW/AlignmentErrorFlag/6060600
Channel 6 Pressure	Float	Channel6/Pressure/6500100
Channel 6 Gas Monitor Air flag	Boolean	Channel6/GasMonitor/Airflag/6500200
Channel 6 Gas Monitor Error flag	Boolean	Channel6/GasMonitor/Errorflag/6500300
Channel 6 Gas Monitor Warning flag	Boolean	Channel6/GasMonitor/Warningflag/6500400
Channel 6 Monitor Display Error Message	String	Channel6/GasMonitor/MonitorDisplayErrorMessage/6500500
Channel 6 Monitor Display Warning Message	String	Channel6/GasMonitor/MonitorDisplayWarningMessage/6500600
Channel 6 Multiplexer error flag	Boolean	Channel6/Multiplexer/errorflag/6600100
Channel 6 Multiplexer warning flag	Boolean	Channel6/Multiplexer/warningflag/6600200
Channel 6 Multiplexer error number	Long	Channel6/Multiplexer/errornumber/6600300
Channel 6 Multiplexer warning number	Long	Channel6/Multiplexer/warningnumber/65600400
Channel 6 Multiplexer Error Description	String	Channel6/Multiplexer/ErrorDescription/6600600
Channel 6 Multiplexer Warning Description	String	Channel6/Multiplexer/WarningDescription/6600700

Channel 7 Gas A Concentration	Float	Channel7/GasA/Concentration/7010100
Channel 7 Gas A Alarm HH occurred	Boolean	Channel7/GasA/AlarmHHOccurred/7010200
Channel 7 Gas A Alarm H occurred	Boolean	Channel7/GasA/AlarmHOccurred/7010300
Channel 7 Gas A Alarm L occurred	Boolean	Channel7/GasA/AlarmLOccurred/7010400
Channel 7 Gas A Alarm LL occurred	Boolean	Channel7/GasA/AlarmLLOccurred/7010500
Channel 7 Filter A alignment error flag	Boolean	Channel7/FilterA/AlignmentErrorFlag/7010600
Channel 7 Gas B Concentration	Float	Channel7/GasB/Concentration/7020100
Channel 7 Gas B Alarm HH occurred	Boolean	Channel7/GasB/AlarmHHOccurred/7020200
Channel 7 Gas B Alarm H occurred	Boolean	Channel7/GasB/AlarmHOccurred/7020300
Channel 7 Gas B Alarm L occurred	Boolean	Channel7/GasB/AlarmLOccurred/7020400
Channel 7 Gas B Alarm LL occurred	Boolean	Channel7/GasB/AlarmLLOccurred/7020500
Channel 7 Filter B alignment error flag	Boolean	Channel7/FilterB/AlignmentErrorFlag/7020600
Channel 7 Gas C Concentration	Float	Channel7/GasC/Concentration/7030100
Channel 7 Gas C Alarm HH occurred	Boolean	Channel7/GasC/AlarmHHOccurred/7030200
Channel 7 Gas C Alarm H occurred	Boolean	Channel7/GasC/AlarmHOccurred/7030300
Channel 7 Gas C Alarm L occurred	Boolean	Channel7/GasC/AlarmLOccurred/7030400
Channel 7 Gas C Alarm LL occurred	Boolean	Channel7/GasC/AlarmLLOccurred/7030500
Channel 7 Filter C alignment error flag	Boolean	Channel7/FilterC/AlignmentErrorFlag/7030600
Channel 7 Gas D Concentration	Float	Channel7/GasD/Concentration/7040100
Channel 7 Gas D Alarm HH occurred	Boolean	Channel7/GasD/AlarmHHOccurred/7040200
Channel 7 Gas D Alarm H occurred	Boolean	Channel7/GasD/AlarmHOccurred/7040300
Channel 7 Gas D Alarm L occurred	Boolean	Channel7/GasD/AlarmLOccurred/7040400
Channel 7 Gas D Alarm LL occurred	Boolean	Channel7/GasD/AlarmLLOccurred/7040500
Channel 7 Filter D alignment error flag	Boolean	Channel7/FilterD/AlignmentErrorFlag/7040600
Channel 7 Gas E Concentration	Float	Channel7/GasE/Concentration/7050100
Channel 7 Gas E Alarm HH occurred	Boolean	Channel7/GasE/AlarmHHOccurred/7050200
Channel 7 Gas E Alarm H occurred	Boolean	Channel7/GasE/AlarmHOccurred/7050300
Channel 7 Gas E Alarm L occurred	Boolean	Channel7/GasE/AlarmLOccurred/7050400
Channel 7 Gas E Alarm LL occurred	Boolean	Channel7/GasE/AlarmLLOccurred/7050500
Channel 7 Filter E alignment error flag	Boolean	Channel7/FilterE/AlignmentErrorFlag/7050600
Channel 7 Gas W Concentration	Float	Channel7/GasW/Concentration/7060100
Channel 7 Gas W Alarm HH occurred	Boolean	Channel7/GasW/AlarmHHOccurred/7060200
Channel 7 Gas W Alarm H occurred	Boolean	Channel7/GasW/AlarmHOccurred/7060300
Channel 7 Gas W Alarm L occurred	Boolean	Channel7/GasW/AlarmLOccurred/7060400
Channel 7 Gas W Alarm LL occurred	Boolean	Channel7/GasW/AlarmLLOccurred/7060500
Channel 7 Filter W alignment error flag	Boolean	Channel7/FilterW/AlignmentErrorFlag/7060600
Channel 7 Pressure	Float	Channel7/Pressure/7500100
Channel 7 Gas Monitor Air flag	Boolean	Channel7/GasMonitor/Airflag/7500200
Channel 7 Gas Monitor Error flag	Boolean	Channel7/GasMonitor/Errorflag/7500300
Channel 7 Gas Monitor Warning flag	Boolean	Channel7/GasMonitor/Warningflag/7500400
Channel 7 Monitor Display Error Message	String	Channel7/GasMonitor/MonitorDisplayErrorMessage/7500500
Channel 7 Monitor Display Warning Message	String	Channel7/GasMonitor/MonitorDisplayWarningMessage/7500600
Channel 7 Multiplexer error flag	Boolean	Channel7/Multiplexer/errorflag/7600100
Channel 7 Multiplexer warning flag	Boolean	Channel7/Multiplexer/warningflag/7600200
Channel 7 Multiplexer error number	Long	Channel7/Multiplexer/errornumber/7600300
Channel 7 Multiplexer warning number	Long	Channel7/Multiplexer/warningnumber/7600400
Channel 7 Multiplexer Error Description	String	Channel1/Multiplexer/ErrorDescription/7600600
Channel 7 Multiplexer Warning Description	String	Channel1/Multiplexer/WarningDescription/7600700
Channel 8 Gas A Concentration	Float	Channel8/GasA/Concentration/8010100
Channel 8 Gas A Alarm HH occurred	Boolean	Channel8/GasA/AlarmHHOccurred/8010200
Channel 8 Gas A Alarm H occurred	Boolean	Channel8/GasA/AlarmHOccurred/8010300
Channel 8 Gas A Alarm L occurred	Boolean	Channel8/GasA/AlarmLOccurred/8010400

Channel 8 Gas A Alarm LL occurred	Boolean	Channel8/GasA/AlarmLLOccurred/8010500
Channel 8 Filter A alignment error flag	Boolean	Channel8/FilterA/AlignmentErrorFlag/8010600
Channel 8 Gas B Concentration	Float	Channel8/GasB/Concentration/8020100
Channel 8 Gas B Alarm HH occurred	Boolean	Channel8/GasB/AlarmHHOccurred/8020200
Channel 8 Gas B Alarm H occurred	Boolean	Channel8/GasB/AlarmHOccurred/8020300
Channel 8 Gas B Alarm L occurred	Boolean	Channel8/GasB/AlarmLOccurred/8020400
Channel 8 Gas B Alarm LL occurred	Boolean	Channel8/GasB/AlarmLLOccurred/8020500
Channel 8 Filter B alignment error flag	Boolean	Channel8/FilterB/AlignmentErrorFlag/8020600
Channel 8 Gas C Concentration	Float	Channel8/GasC/Concentration/8030100
Channel 8 Gas C Alarm HH occurred	Boolean	Channel8/GasC/AlarmHHOccurred/8030200
Channel 8 Gas C Alarm H occurred	Boolean	Channel8/GasC/AlarmHOccurred/8030300
Channel 8 Gas C Alarm L occurred	Boolean	Channel8/GasC/AlarmLOccurred/8030400
Channel 8 Gas C Alarm LL occurred	Boolean	Channel8/GasC/AlarmLLOccurred/8030500
Channel 8 Filter C alignment error flag	Boolean	Channel8/FilterC/AlignmentErrorFlag/8030600
Channel 8 Gas D Concentration	Float	Channel8/GasD/Concentration/8040100
Channel 8 Gas D Alarm HH occurred	Boolean	Channel8/GasD/AlarmHHOccurred/8040200
Channel 8 Gas D Alarm H occurred	Boolean	Channel8/GasD/AlarmHOccurred/8040300
Channel 8 Gas D Alarm L occurred	Boolean	Channel8/GasD/AlarmLOccurred/8040400
Channel 8 Gas D Alarm LL occurred	Boolean	Channel8/GasD/AlarmLLOccurred/8040500
Channel 8 Filter D alignment error flag	Boolean	Channel8/FilterD/AlignmentErrorFlag/8040600
Channel 8 Gas E Concentration	Float	Channel8/GasE/Concentration/8050100
Channel 8 Gas E Alarm HH occurred	Boolean	Channel8/GasE/AlarmHHOccurred/8050200
Channel 8 Gas E Alarm H occurred	Boolean	Channel8/GasE/AlarmHOccurred/8050300
Channel 8 Gas E Alarm L occurred	Boolean	Channel8/GasE/AlarmLOccurred/8050400
Channel 8 Gas E Alarm LL occurred	Boolean	Channel8/GasE/AlarmLLOccurred/8050500
Channel 8 Filter E alignment error flag	Boolean	Channel8/FilterE/AlignmentErrorFlag/8050600
Channel 8 Gas W Concentration	Float	Channel8/GasW/Concentration/8060100
Channel 8 Gas W Alarm HH occurred	Boolean	Channel8/GasW/AlarmHHOccurred/8060200
Channel 8 Gas W Alarm H occurred	Boolean	Channel8/GasW/AlarmHOccurred/8060300
Channel 8 Gas W Alarm L occurred	Boolean	Channel8/GasW/AlarmLOccurred/8060400
Channel 8 Gas W Alarm LL occurred	Boolean	Channel8/GasW/AlarmLLOccurred/8060500
Channel 8 Filter W alignment error flag	Boolean	Channel8/FilterW/AlignmentErrorFlag/8060600
Channel 8 Pressure	Float	Channel8/Pressure/8500100
Channel 8 Gas Monitor Air flag	Boolean	Channel8/GasMonitor/Airflag/8500200
Channel 8 Gas Monitor Error flag	Boolean	Channel8/GasMonitor/Errorflag/8500300
Channel 8 Gas Monitor Warning flag	Boolean	Channel8/GasMonitor/Warningflag/8500400
Channel 8 Monitor Display Error Message	String	Channel8/GasMonitor/MonitorDisplayErrorMessage/8500500
Channel 8 Monitor Display Warning Message	String	Channel8/GasMonitor/MonitorDisplayWarningMessage/8500600
Channel 8 Multiplexer error flag	Boolean	Channel8/Multiplexer/errorflag/8600100
Channel 8 Multiplexer warning flag	Boolean	Channel8/Multiplexer/warningflag/8600200
Channel 8 Multiplexer error number	Long	Channel8/Multiplexer/errornumber/8600300
Channel 8 Multiplexer warning number	Long	Channel8/Multiplexer/warningnumber/8600400
Channel 8 Multiplexer Error Description	String	Channel8/Multiplexer/ErrorDescription/8600600
Channel 8 Multiplexer Warning Description	String	Channel8/Multiplexer/WarningDescription/8600700
Channel 9 Gas A Concentration	Float	Channel9/GasA/Concentration/9010100
Channel 9 Gas A Alarm HH occurred	Boolean	Channel9/GasA/AlarmHHOccurred/9010200
Channel 9 Gas A Alarm H occurred	Boolean	Channel9/GasA/AlarmHOccurred/9010300
Channel 9 Gas A Alarm L occurred	Boolean	Channel9/GasA/AlarmLOccurred/9010400
Channel 9 Gas A Alarm LL occurred	Boolean	Channel9/GasA/AlarmLLOccurred/9010500
Channel 9 Filter A alignment error flag	Boolean	Channel9/FilterA/AlignmentErrorFlag/9010600
Channel 9 Gas B Concentration	Float	Channel9/GasB/Concentration/9020100
Channel 9 Gas B Alarm HH occurred	Boolean	Channel9/GasB/AlarmHHOccurred/9020200

Channel 9 Gas B Alarm H occurred	Boolean	Channel9/GasB/AlarmHOccurred/9020300
Channel 9 Gas B Alarm L occurred	Boolean	Channel9/GasB/AlarmLOccurred/9020400
Channel 9 Gas B Alarm LL occurred	Boolean	Channel9/GasB/AlarmLLOccurred/9020500
Channel 9 Filter B alignment error flag	Boolean	Channel9/FilterB/AlignmentErrorFlag/9020600
Channel 9 Gas C Concentration	Float	Channel9/GasC/Concentration/9030100
Channel 9 Gas C Alarm HH occurred	Boolean	Channel9/GasC/AlarmHHOccurred/9030200
Channel 9 Gas C Alarm H occurred	Boolean	Channel9/GasC/AlarmHOccurred/9030300
Channel 9 Gas C Alarm L occurred	Boolean	Channel9/GasC/AlarmLOccurred/9030400
Channel 9 Gas C Alarm LL occurred	Boolean	Channel9/GasC/AlarmLLOccurred/9030500
Channel 9 Filter C alignment error flag	Boolean	Channel9/FilterC/AlignmentErrorFlag/9030600
Channel 9 Gas D Concentration	Float	Channel9/GasD/Concentration/9040100
Channel 9 Gas D Alarm HH occurred	Boolean	Channel9/GasD/AlarmHHOccurred/9040200
Channel 9 Gas D Alarm H occurred	Boolean	Channel9/GasD/AlarmHOccurred/9040300
Channel 9 Gas D Alarm L occurred	Boolean	Channel9/GasD/AlarmLOccurred/9040400
Channel 9 Gas D Alarm LL occurred	Boolean	Channel9/GasD/AlarmLLOccurred/9040500
Channel 9 Filter D alignment error flag	Boolean	Channel9/FilterD/AlignmentErrorFlag/9040600
Channel 9 Gas E Concentration	Float	Channel9/GasE/Concentration/9050100
Channel 9 Gas E Alarm HH occurred	Boolean	Channel9/GasE/AlarmHHOccurred/9050200
Channel 9 Gas E Alarm H occurred	Boolean	Channel9/GasE/AlarmHOccurred/9050300
Channel 9 Gas E Alarm L occurred	Boolean	Channel9/GasE/AlarmLOccurred/9050400
Channel 9 Gas E Alarm LL occurred	Boolean	Channel9/GasE/AlarmLLOccurred/9050500
Channel 9 Filter E alignment error flag	Boolean	Channel9/FilterE/AlignmentErrorFlag/9050600
Channel 9 Gas W Concentration	Float	Channel9/GasW/Concentration/9060100
Channel 9 Gas W Alarm HH occurred	Boolean	Channel9/GasW/AlarmHHOccurred/9060200
Channel 9 Gas W Alarm H occurred	Boolean	Channel9/GasW/AlarmHOccurred/9060300
Channel 9 Gas W Alarm L occurred	Boolean	Channel9/GasW/AlarmLOccurred/9060400
Channel 9 Gas W Alarm LL occurred	Boolean	Channel9/GasW/AlarmLLOccurred/9060500
Channel 9 Filter W alignment error flag	Boolean	Channel9/FilterW/AlignmentErrorFlag/9060600
Channel 9 Pressure	Float	Channel9/Pressure/9500100
Channel 9 Gas Monitor Air flag	Boolean	Channel9/GasMonitor/Airflag/9500200
Channel 9 Gas Monitor Error flag	Boolean	Channel9/GasMonitor/Errorflag/9500300
Channel 9 Gas Monitor Warning flag	Boolean	Channel9/GasMonitor/Warningflag/9500400
Channel 9 Monitor Display Error Message	String	Channel9/GasMonitor/MonitorDisplayErrorMessage/9500500
Channel 9 Monitor Display Warning Message	String	Channel9/GasMonitor/MonitorDisplayWarningMessage/9500600
Channel 9 Multiplexer error flag	Boolean	Channel9/Multiplexer/errorflag/9600100
Channel 9 Multiplexer warning flag	Boolean	Channel9/Multiplexer/warningflag/9600200
Channel 9 Multiplexer error number	Long	Channel9/Multiplexer/errornumber/9600300
Channel 9 Multiplexer warning number	Long	Channel9/Multiplexer/warning number/9600400
Channel 9 Multiplexer Error Description	String	Channel9/Multiplexer/ErrorDescription/9600600
Channel 9 Multiplexer Warning Description	String	Channel9/Multiplexer/WarningDescription/9600700
Channel 10 Gas A Concentration	Float	Channel10/GasA/Concentration/10010100
Channel 10 Gas A Alarm HH occurred	Boolean	Channel10/GasA/AlarmHHOccurred/10010200
Channel 10 Gas A Alarm H occurred	Boolean	Channel10/GasA/AlarmHOccurred/10010300
Channel 10 Gas A Alarm L occurred	Boolean	Channel10/GasA/AlarmLOccurred/10010400
Channel 10 Gas A Alarm LL occurred	Boolean	Channel10/GasA/AlarmLLOccurred/10010500
Channel 10 Filter A alignment error flag	Boolean	Channel10/FilterA/AlignmentErrorFlag/10010600
Channel 10 Gas B Concentration	Float	Channel10/GasB/Concentration/10020100
Channel 10 Gas B Alarm HH occurred	Boolean	Channel10/GasB/AlarmHHOccurred/10020200
Channel 10 Gas B Alarm H occurred	Boolean	Channel10/GasB/AlarmHOccurred/10020300
Channel 10 Gas B Alarm L occurred	Boolean	Channel10/GasB/AlarmLOccurred/10020400
Channel 10 Gas B Alarm LL occurred	Boolean	Channel10/GasB/AlarmLLOccurred/10020500
Channel 10 Filter B alignment error flag	Boolean	Channel10/FilterB/AlignmentErrorFlag/10020600

Channel 10 Gas C Concentration	Float	Channel10/GasC/Concentration/10030100
Channel 10 Gas C Alarm HH occurred	Boolean	Channel10/GasC/AlarmHHOccurred/10030200
Channel 10 Gas C Alarm H occurred	Boolean	Channel10/GasC/AlarmHOccurred/10030300
Channel 10 Gas C Alarm L occurred	Boolean	Channel10/GasC/AlarmLOccurred/10030400
Channel 10 Gas C Alarm LL occurred	Boolean	Channel10/GasC/AlarmLLOccurred/10030500
Channel 10 Filter C alignment error flag	Boolean	Channel10/FilterC/AlignmentErrorFlag/10030600
Channel 10 Gas D Concentration	Float	Channel10/GasD/Concentration/10040100
Channel 10 Gas D Alarm HH occurred	Boolean	Channel10/GasD/AlarmHHOccurred/10040200
Channel 10 Gas D Alarm H occurred	Boolean	Channel10/GasD/AlarmHOccurred/10040300
Channel 10 Gas D Alarm L occurred	Boolean	Channel10/GasD/AlarmLOccurred/10040400
Channel 10 Gas D Alarm LL occurred	Boolean	Channel10/GasD/AlarmLLOccurred/10040500
Channel 10 Filter D alignment error flag	Boolean	Channel10/FilterD/AlignmentErrorFlag/10040600
Channel 10 Gas E Concentration	Float	Channel10/GasE/Concentration/10050100
Channel 10 Gas E Alarm HH occurred	Boolean	Channel10/GasE/AlarmHHOccurred/10050200
Channel 10 Gas E Alarm H occurred	Boolean	Channel10/GasE/AlarmHOccurred/10050300
Channel 10 Gas E Alarm L occurred	Boolean	Channel10/GasE/AlarmLOccurred/10050400
Channel 10 Gas E Alarm LL occurred	Boolean	Channel10/GasE/AlarmLLOccurred/10050500
Channel 10 Filter E alignment error flag	Boolean	Channel10/FilterE/AlignmentErrorFlag/10050600
Channel 10 Gas W Concentration	Float	Channel10/GasW/Concentration/10060100
Channel 10 Gas W Alarm HH occurred	Boolean	Channel10/GasW/AlarmHHOccurred/10060200
Channel 10 Gas W Alarm H occurred	Boolean	Channel10/GasW/AlarmHOccurred/10060300
Channel 10 Gas W Alarm L occurred	Boolean	Channel10/GasW/AlarmLOccurred/10060400
Channel 10 Gas W Alarm LL occurred	Boolean	Channel10/GasW/AlarmLLOccurred/10060500
Channel 10 Filter W alignment error flag	Boolean	Channel10/FilterW/AlignmentErrorFlag/10060600
Channel 10 Pressure	Float	Channel10/Pressure/10500100
Channel 10 Gas Monitor Air flag	Boolean	Channel10/GasMonitor/Airflag/10500200
Channel 10 Gas Monitor Error flag	Boolean	Channel10/GasMonitor/Errorflag/10500300
Channel 10 Gas Monitor Warning flag	Boolean	Channel10/GasMonitor/Warningflag/10500400
Channel 10 Monitor Display Error Message	String	Channel10/GasMonitor/MonitorDisplayErrorMessage/10500500
Channel 10 Monitor Display Warning Message	String	Channel10/GasMonitor/MonitorDisplayWarningMessage/10500600
Channel 10 Multiplexer error flag	Boolean	Channel10/Multiplexer/errorflag/10600100
Channel 10 Multiplexer warning flag	Boolean	Channel10/Multiplexer/warningflag/10600200
Channel 10 Multiplexer error number	Long	Channel10/Multiplexer/errornumber/10600300
Channel 10 Multiplexer warning number	Long	Channel10/Multiplexer/warningnumber/10600400
Channel 10 Multiplexer Error Description	String	Channel10/Multiplexer/ErrorDescription/10600600
Channel 10 Multiplexer Warning Description	String	Channel10/Multiplexer/WarningDescription/10600700
Channel 11 Gas A Concentration	Float	Channel11/GasA/Concentration/11010100
Channel 11 Gas A Alarm HH occurred	Boolean	Channel11/GasA/AlarmHHOccurred/11010200
Channel 11 Gas A Alarm H occurred	Boolean	Channel11/GasA/AlarmHOccurred/11010300
Channel 11 Gas A Alarm L occurred	Boolean	Channel11/GasA/AlarmLOccurred/11010400
Channel 11 Gas A Alarm LL occurred	Boolean	Channel11/GasA/AlarmLLOccurred/11010500
Channel 11 Filter A alignment error flag	Boolean	Channel11/FilterA/AlignmentErrorFlag/11010600
Channel 11 Gas B Concentration	Float	Channel11/GasB/Concentration/11020100
Channel 11 Gas B Alarm HH occurred	Boolean	Channel11/GasB/AlarmHHOccurred/11020200
Channel 11 Gas B Alarm H occurred	Boolean	Channel11/GasB/AlarmHOccurred/11020300
Channel 11 Gas B Alarm L occurred	Boolean	Channel11/GasB/AlarmLOccurred/11020400
Channel 11 Gas B Alarm LL occurred	Boolean	Channel11/GasB/AlarmLLOccurred/11020500
Channel 11 Filter B alignment error flag	Boolean	Channel11/FilterB/AlignmentErrorFlag/11020600
Channel 11 Gas C Concentration	Float	Channel11/GasC/Concentration/11030100
Channel 11 Gas C Alarm HH occurred	Boolean	Channel11/GasC/AlarmHHOccurred/11030200
Channel 11 Gas C Alarm H occurred	Boolean	Channel11/GasC/AlarmHOccurred/11030300
Channel 11 Gas C Alarm L occurred	Boolean	Channel11/GasC/AlarmLOccurred/11030400

Channel 11 Gas C Alarm LL occurred	Boolean	Channel11/GasC/AlarmLLOccurred/11030500
Channel 11 Filter C alignment error flag	Boolean	Channel11/FilterC/AlignmentErrorFlag/11030600
Channel 11 Gas D Concentration	Float	Channel11/GasD/Concentration/11040100
Channel 11 Gas D Alarm HH occurred	Boolean	Channel11/GasD/AlarmHHOccurred/11040200
Channel 11 Gas D Alarm H occurred	Boolean	Channel11/GasD/AlarmHOccurred/11040300
Channel 11 Gas D Alarm L occurred	Boolean	Channel11/GasD/AlarmLOccurred/11040400
Channel 11 Gas D Alarm LL occurred	Boolean	Channel11/GasD/AlarmLLOccurred/11040500
Channel 11 Filter D alignment error flag	Boolean	Channel11/FilterD/AlignmentErrorFlag/11040600
Channel 11 Gas E Concentration	Float	Channel11/GasE/Concentration/11050100
Channel 11 Gas E Alarm HH occurred	Boolean	Channel11/GasE/AlarmHHOccurred/11050200
Channel 11 Gas E Alarm H occurred	Boolean	Channel11/GasE/AlarmHOccurred/11050300
Channel 11 Gas E Alarm L occurred	Boolean	Channel11/GasE/AlarmLOccurred/11050400
Channel 11 Gas E Alarm LL occurred	Boolean	Channel11/GasE/AlarmLLOccurred/11050500
Channel 11 Filter E alignment error flag	Boolean	Channel11/FilterE/AlignmentErrorFlag/11050600
Channel 11 Gas W Concentration	Float	Channel11/GasW/Concentration/11060100
Channel 11 Gas W Alarm HH occurred	Boolean	Channel11/GasW/AlarmHHOccurred/11060200
Channel 11 Gas W Alarm H occurred	Boolean	Channel11/GasW/AlarmHOccurred/11060300
Channel 11 Gas W Alarm L occurred	Boolean	Channel11/GasW/AlarmLOccurred/11060400
Channel 11 Gas W Alarm LL occurred	Boolean	Channel11/GasW/AlarmLLOccurred/11060500
Channel 11 Filter W alignment error flag	Boolean	Channel11/FilterW/AlignmentErrorFlag/11060600
Channel 11 Pressure	Float	Channel11/Pressure/11500100
Channel 11 Gas Monitor Air flag	Boolean	Channel11/GasMonitor/Airflag/11500200
Channel 11 Gas Monitor Error flag	Boolean	Channel11/GasMonitor/Errorflag/11500300
Channel 11 Gas Monitor Warning flag	Boolean	Channel11/GasMonitor/Warningflag/11500400
Channel 11 Monitor Display Error Message	String	Channel11/GasMonitor/MonitorDisplayErrorMessage/11500500
Channel 11 Monitor Display Warning Message	String	Channel11/GasMonitor/MonitorDisplayWarningMessage/11500600
Channel 11 Multiplexer error flag	Boolean	Channel11/Multiplexer/errorflag/11600100
Channel 11 Multiplexer warning flag	Boolean	Channel11/Multiplexer/warningflag/11600200
Channel 11 Multiplexer error number	Long	Channel11/Multiplexer/errornumber/11600300
Channel 11 Multiplexer warning number	Long	Channel11/Multiplexer/warningnumber/11600400
Channel 11 Multiplexer Error Description	String	Channel11/Multiplexer/ErrorDescription/11600600
Channel 11 Multiplexer Warning Description	String	Channel11/Multiplexer/WarningDescription/11600700
Channel 12 Gas A Concentration	Float	Channel12/GasA/Concentration/12010100
Channel 12 Gas A Alarm HH occurred	Boolean	Channel12/GasA/AlarmHHOccurred/12010200
Channel 12 Gas A Alarm H occurred	Boolean	Channel12/GasA/AlarmHOccurred/12010300
Channel 12 Gas A Alarm L occurred	Boolean	Channel12/GasA/AlarmLOccurred/12010400
Channel 12 Gas A Alarm LL occurred	Boolean	Channel12/GasA/AlarmLLOccurred/12010500
Channel 12 Filter A alignment error flag	Boolean	Channel12/FilterA/AlignmentErrorFlag/12010600
Channel 12 Gas B Concentration	Float	Channel12/GasB/Concentration/12020100
Channel 12 Gas B Alarm HH occurred	Boolean	Channel12/GasB/AlarmHHOccurred/12020200
Channel 12 Gas B Alarm H occurred	Boolean	Channel12/GasB/AlarmHOccurred/12020300
Channel 12 Gas B Alarm L occurred	Boolean	Channel12/GasB/AlarmLOccurred/12020400
Channel 12 Gas B Alarm LL occurred	Boolean	Channel12/GasB/AlarmLLOccurred/12020500
Channel 12 Filter B alignment error flag	Boolean	Channel12/FilterB/AlignmentErrorFlag/12020600
Channel 12 Gas C Concentration	Float	Channel12/GasC/Concentration/12030100
Channel 12 Gas C Alarm HH occurred	Boolean	Channel12/GasC/AlarmHHOccurred/12030200
Channel 12 Gas C Alarm H occurred	Boolean	Channel12/GasC/AlarmHOccurred/12030300
Channel 12 Gas C Alarm L occurred	Boolean	Channel12/GasC/AlarmLOccurred/12030400
Channel 12 Gas C Alarm LL occurred	Boolean	Channel12/GasC/AlarmLLOccurred/12030500
Channel 12 Filter C alignment error flag	Boolean	Channel12/FilterC/AlignmentErrorFlag/12030600
Channel 12 Gas D Concentration	Float	Channel12/GasD/Concentration/12040100
Channel 12 Gas D Alarm HH occurred	Boolean	Channel12/GasD/AlarmHHOccurred/12040200

Channel 12 Gas D Alarm H occurred	Boolean	Channel12/GasD/AlarmHOccurred/12040300
Channel 12 Gas D Alarm L occurred	Boolean	Channel12/GasD/AlarmLOccurred/12040400
Channel 12 Gas D Alarm LL occurred	Boolean	Channel12/GasD/AlarmLLOccurred/12040500
Channel 12 Filter D alignment error flag	Boolean	Channel12/FilterD/AlignmentErrorFlag/12040600
Channel 12 Gas E Concentration	Float	Channel12/GasE/Concentration/12050100
Channel 12 Gas E Alarm HH occurred	Boolean	Channel12/GasE/AlarmHHOccurred/12050200
Channel 12 Gas E Alarm H occurred	Boolean	Channel12/GasE/AlarmHOccurred/12050300
Channel 12 Gas E Alarm L occurred	Boolean	Channel12/GasE/AlarmLOccurred/12050400
Channel 12 Gas E Alarm LL occurred	Boolean	Channel12/GasE/AlarmLLOccurred/12050500
Channel 12 Filter E alignment error flag	Boolean	Channel12/FilterE/AlignmentErrorFlag/12050600
Channel 12 Gas W Concentration	Float	Channel12/GasW/Concentration/12060100
Channel 12 Gas W Alarm HH occurred	Boolean	Channel12/GasW/AlarmHHOccurred/12060200
Channel 12 Gas W Alarm H occurred	Boolean	Channel12/GasW/AlarmHOccurred/12060300
Channel 12 Gas W Alarm L occurred	Boolean	Channel12/GasW/AlarmLOccurred/12060400
Channel 12 Gas W Alarm LL occurred	Boolean	Channel12/GasW/AlarmLLOccurred/12060500
Channel 12 Filter W alignment error flag	Boolean	Channel12/FilterW/AlignmentErrorFlag/12060600
Channel 12 Pressure	Float	Channel12/Pressure/12500100
Channel 12 Gas Monitor Air flag	Boolean	Channel12/GasMonitor/Airflag/12500200
Channel 12 Gas Monitor Error flag	Boolean	Channel12/GasMonitor/Errorflag/12500300
Channel 12 Gas Monitor Warning flag	Boolean	Channel12/GasMonitor/Warningflag/12500400
Channel 12 Monitor Display Error Message	String	Channel12/GasMonitor/MonitorDisplayErrorMessage/12500500
Channel 12 Monitor Display Warning Message	String	Channel12/GasMonitor/MonitorDisplayWarningMessage/12500600
Channel 12 Multiplexer error flag	Boolean	Channel12/Multiplexer/errorflag/12600100
Channel 12 Multiplexer warning flag	Boolean	Channel12/Multiplexer/warningflag/12600200
Channel 12 Multiplexer error number	Long	Channel12/Multiplexer/errornumber/12600300
Channel 12 Multiplexer warning number	Long	Channel12/Multiplexer/warningnumber/12600400
Channel 12 Multiplexer Error Description	String	Channel12/Multiplexer/ErrorDescription/12600600
Channel 12 Multiplexer Warning Description	String	Channel12/Multiplexer/WarningDescription/12600700
Channel 13 Gas A Concentration	Float	Channel13/GasA/Concentration/13010100
Channel 13 Gas A Alarm HH occurred	Boolean	Channel13/GasA/AlarmHHOccurred/13010200
Channel 13 Gas A Alarm H occurred	Boolean	Channel13/GasA/AlarmHOccurred/13010300
Channel 13 Gas A Alarm L occurred	Boolean	Channel13/GasA/AlarmLOccurred/13010400
Channel 13 Gas A Alarm LL occurred	Boolean	Channel13/GasA/AlarmLLOccurred/13010500
Channel 13 Filter A alignment error flag	Boolean	Channel13/FilterA/AlignmentErrorFlag/13010600
Channel 13 Gas B Concentration	Float	Channel13/GasB/Concentration/13020100
Channel 13 Gas B Alarm HH occurred	Boolean	Channel13/GasB/AlarmHHOccurred/13020200
Channel 13 Gas B Alarm H occurred	Boolean	Channel13/GasB/AlarmHOccurred/13020300
Channel 13 Gas B Alarm L occurred	Boolean	Channel13/GasB/AlarmLOccurred/13020400
Channel 13 Gas B Alarm LL occurred	Boolean	Channel13/GasB/AlarmLLOccurred/13020500
Channel 13 Filter B alignment error flag	Boolean	Channel13/FilterB/AlignmentErrorFlag/13020600
Channel 13 Gas C Concentration	Float	Channel13/GasC/Concentration/13030100
Channel 13 Gas C Alarm HH occurred	Boolean	Channel13/GasC/AlarmHHOccurred/13030200
Channel 13 Gas C Alarm H occurred	Boolean	Channel13/GasC/AlarmHOccurred/13030300
Channel 13 Gas C Alarm L occurred	Boolean	Channel13/GasC/AlarmLOccurred/13030400
Channel 13 Gas C Alarm LL occurred	Boolean	Channel13/GasC/AlarmLLOccurred/13030500
Channel 13 Filter C alignment error flag	Boolean	Channel13/FilterC/AlignmentErrorFlag/13030600
Channel 13 Gas D Concentration	Float	Channel13/GasD/Concentration/13040100
Channel 13 Gas D Alarm HH occurred	Boolean	Channel13/GasD/AlarmHHOccurred/13040200
Channel 13 Gas D Alarm H occurred	Boolean	Channel13/GasD/AlarmHOccurred/13040300
Channel 13 Gas D Alarm L occurred	Boolean	Channel13/GasD/AlarmLOccurred/13040400
Channel 13 Gas D Alarm LL occurred	Boolean	Channel13/GasD/AlarmLLOccurred/13040500
Channel 13 Filter D alignment error flag	Boolean	Channel13/FilterD/AlignmentErrorFlag/13040600

Channel 13 Gas E Concentration	Float	Channel13/GasE/Concentration/13050100
Channel 13 Gas E Alarm HH occurred	Boolean	Channel13/GasE/AlarmHHOccurred/13050200
Channel 13 Gas E Alarm H occurred	Boolean	Channel13/GasE/AlarmHOccurred/13050300
Channel 13 Gas E Alarm L occurred	Boolean	Channel13/GasE/AlarmLOccurred/13050400
Channel 13 Gas E Alarm LL occurred	Boolean	Channel13/GasE/AlarmLLOccurred/13050500
Channel 13 Filter E alignment error flag	Boolean	Channel13/FilterE/AlignmentErrorFlag/13050600
Channel 13 Gas W Concentration	Float	Channel13/GasW/Concentration/13060100
Channel 13 Gas W Alarm HH occurred	Boolean	Channel13/GasW/AlarmHHOccurred/13060200
Channel 13 Gas W Alarm H occurred	Boolean	Channel13/GasW/AlarmHOccurred/13060300
Channel 13 Gas W Alarm L occurred	Boolean	Channel13/GasW/AlarmLOccurred/13060400
Channel 13 Gas W Alarm LL occurred	Boolean	Channel13/GasW/AlarmLLOccurred/13060500
Channel 13 Filter W alignment error flag	Boolean	Channel13/FilterW/AlignmentErrorFlag/13060600
Channel 13 Pressure	Float	Channel13/Pressure/13500100
Channel 13 Gas Monitor Air flag	Boolean	Channel13/GasMonitor/Airflag/13500200
Channel 13 Gas Monitor Error flag	Boolean	Channel13/GasMonitor/Errorflag/13500300
Channel 13 Gas Monitor Warning flag	Boolean	Channel13/GasMonitor/Warningflag/13500400
Channel 13 Monitor Display Error Message	String	Channel13/GasMonitor/MonitorDisplayErrorMessage/13500500
Channel 13 Monitor Display Warning Message	String	Channel13/GasMonitor/MonitorDisplayWarningMessage/13500600
Channel 13 Multiplexer error flag	Boolean	Channel13/Multiplexer/errorflag/13600100
Channel 13 Multiplexer warning flag	Boolean	Channel13/Multiplexer/warningflag/13600200
Channel 13 Multiplexer error number	Long	Channel13/Multiplexer/errornumber/13600300
Channel 13 Multiplexer warning number	Long	Channel13/Multiplexer/warningnumber/13600400
Channel 13 Multiplexer Error Description	String	Channel13/Multiplexer/ErrorDescription/13600600
Channel 13 Multiplexer Warning Description	String	Channel13/Multiplexer/WarningDescription/13600700
Channel 14 Gas A Concentration	Float	Channel14/GasA/Concentration/14010100
Channel 14 Gas A Alarm HH occurred	Boolean	Channel14/GasA/AlarmHHOccurred/14010200
Channel 14 Gas A Alarm H occurred	Boolean	Channel14/GasA/AlarmHOccurred/14010300
Channel 14 Gas A Alarm L occurred	Boolean	Channel14/GasA/AlarmLOccurred/14010400
Channel 14 Gas A Alarm LL occurred	Boolean	Channel14/GasA/AlarmLLOccurred/14010500
Channel 14 Filter A alignment error flag	Boolean	Channel14/FilterA/AlignmentErrorFlag/14010600
Channel 14 Gas B Concentration	Float	Channel14/GasB/Concentration/14020100
Channel 14 Gas B Alarm HH occurred	Boolean	Channel14/GasB/AlarmHHOccurred/14020200
Channel 14 Gas B Alarm H occurred	Boolean	Channel14/GasB/AlarmHOccurred/14020300
Channel 14 Gas B Alarm L occurred	Boolean	Channel14/GasB/AlarmLOccurred/14020400
Channel 14 Gas B Alarm LL occurred	Boolean	Channel14/GasB/AlarmLLOccurred/14020500
Channel 14 Filter B alignment error flag	Boolean	Channel14/FilterB/AlignmentErrorFlag/14020600
Channel 14 Gas C Concentration	Float	Channel14/GasC/Concentration/14030100
Channel 14 Gas C Alarm HH occurred	Boolean	Channel14/GasC/AlarmHHOccurred/14030200
Channel 14 Gas C Alarm H occurred	Boolean	Channel14/GasC/AlarmHOccurred/14030300
Channel 14 Gas C Alarm L occurred	Boolean	Channel14/GasC/AlarmLOccurred/14030400
Channel 14 Gas C Alarm LL occurred	Boolean	Channel14/GasC/AlarmLLOccurred/14030500
Channel 14 Filter C alignment error flag	Boolean	Channel14/FilterC/AlignmentErrorFlag/14030600
Channel 14 Gas D Concentration	Float	Channel14/GasD/Concentration/14040100
Channel 14 Gas D Alarm HH occurred	Boolean	Channel14/GasD/AlarmHHOccurred/14040200
Channel 14 Gas D Alarm H occurred	Boolean	Channel14/GasD/AlarmHOccurred/14040300
Channel 14 Gas D Alarm L occurred	Boolean	Channel14/GasD/AlarmLOccurred/14040400
Channel 14 Gas D Alarm LL occurred	Boolean	Channel14/GasD/AlarmLLOccurred/14040500
Channel 14 Filter D alignment error flag	Boolean	Channel14/FilterD/AlignmentErrorFlag/14040600
Channel 14 Gas E Concentration	Float	Channel14/GasE/Concentration/14050100
Channel 14 Gas E Alarm HH occurred	Boolean	Channel14/GasE/AlarmHHOccurred/14050200
Channel 14 Gas E Alarm H occurred	Boolean	Channel14/GasE/AlarmHOccurred/14050300
Channel 14 Gas E Alarm L occurred	Boolean	Channel14/GasE/AlarmLOccurred/14050400

Channel 14 Gas E Alarm LL occurred	Boolean	Channel14/GasE/AlarmLLOccurred/14050500
Channel 14 Filter E alignment error flag	Boolean	Channel14/FilterE/AlignmentErrorFlag/14050600
Channel 14 Gas W Concentration	Float	Channel14/GasW/Concentration/14060100
Channel 14 Gas W Alarm HH occurred	Boolean	Channel14/GasW/AlarmHHOccurred/14060200
Channel 14 Gas W Alarm H occurred	Boolean	Channel14/GasW/AlarmHOccurred/14060300
Channel 14 Gas W Alarm L occurred	Boolean	Channel14/GasW/AlarmLOccurred/14060400
Channel 14 Gas W Alarm LL occurred	Boolean	Channel14/GasW/AlarmLLOccurred/14060500
Channel 14 Filter W alignment error flag	Boolean	Channel14/FilterW/AlignmentErrorFlag/14060600
Channel 14 Pressure	Float	Channel14/Pressure/14500100
Channel 14 Gas Monitor Air flag	Boolean	Channel14/GasMonitor/Airflag/14500200
Channel 14 Gas Monitor Error flag	Boolean	Channel14/GasMonitor/Errorflag/14500300
Channel 14 Gas Monitor Warning flag	Boolean	Channel14/GasMonitor/Warningflag/14500400
Channel 14 Monitor Display Error Message	String	Channel14/GasMonitor/MonitorDisplayErrorMessage/14500500
Channel 14 Monitor Display Warning Message	String	Channel14/GasMonitor/MonitorDisplayWarningMessage/14500600
Channel 14 Multiplexer error flag	Boolean	Channel14/Multiplexer/errorflag/14600100
Channel 14 Multiplexer warning flag	Boolean	Channel14/Multiplexer/warningflag/14600200
Channel 14 Multiplexer error number	Long	Channel14/Multiplexer/errornumber/14600300
Channel 14 Multiplexer warning number	Long	Channel14/Multiplexer/warningnumber/14600400
Channel 14 Multiplexer Error Description	String	Channel14/Multiplexer/ErrorDescription/14600600
Channel 14 Multiplexer Warning Description	String	Channel14/Multiplexer/WarningDescription/14600700
Channel 15 Gas A Concentration	Float	Channel15/GasA/Concentration/15010100
Channel 15 Gas A Alarm HH occurred	Boolean	Channel15/GasA/AlarmHHOccurred/15010200
Channel 15 Gas A Alarm H occurred	Boolean	Channel15/GasA/AlarmHOccurred/15010300
Channel 15 Gas A Alarm L occurred	Boolean	Channel15/GasA/AlarmLOccurred/15010400
Channel 15 Gas A Alarm LL occurred	Boolean	Channel15/GasA/AlarmLLOccurred/15010500
Channel 15 Filter A alignment error flag	Boolean	Channel15/FilterA/AlignmentErrorFlag/15010600
Channel 15 Gas B Concentration	Float	Channel15/GasB/Concentration/15020100
Channel 15 Gas B Alarm HH occurred	Boolean	Channel15/GasB/AlarmHHOccurred/15020200
Channel 15 Gas B Alarm H occurred	Boolean	Channel15/GasB/AlarmHOccurred/15020300
Channel 15 Gas B Alarm L occurred	Boolean	Channel15/GasB/AlarmLOccurred/15020400
Channel 15 Gas B Alarm LL occurred	Boolean	Channel15/GasB/AlarmLLOccurred/15020500
Channel 15 Filter B alignment error flag	Boolean	Channel15/FilterB/AlignmentErrorFlag/15020600
Channel 15 Gas C Concentration	Float	Channel15/GasC/Concentration/15030100
Channel 15 Gas C Alarm HH occurred	Boolean	Channel15/GasC/AlarmHHOccurred/15030200
Channel 15 Gas C Alarm H occurred	Boolean	Channel15/GasC/AlarmHOccurred/15030300
Channel 15 Gas C Alarm L occurred	Boolean	Channel15/GasC/AlarmLOccurred/15030400
Channel 15 Gas C Alarm LL occurred	Boolean	Channel15/GasC/AlarmLLOccurred/15030500
Channel 15 Filter C alignment error flag	Boolean	Channel15/FilterC/AlignmentErrorFlag/15030600
Channel 15 Gas D Concentration	Float	Channel15/GasD/Concentration/15040100
Channel 15 Gas D Alarm HH occurred	Boolean	Channel15/GasD/AlarmHHOccurred/15040200
Channel 15 Gas D Alarm H occurred	Boolean	Channel15/GasD/AlarmHOccurred/15040300
Channel 15 Gas D Alarm L occurred	Boolean	Channel15/GasD/AlarmLOccurred/15040400
Channel 15 Gas D Alarm LL occurred	Boolean	Channel15/GasD/AlarmLLOccurred/15040500
Channel 15 Filter D alignment error flag	Boolean	Channel15/FilterD/AlignmentErrorFlag/15040600
Channel 15 Gas E Concentration	Float	Channel15/GasE/Concentration/15050100
Channel 15 Gas E Alarm HH occurred	Boolean	Channel15/GasE/AlarmHHOccurred/15050200
Channel 15 Gas E Alarm H occurred	Boolean	Channel15/GasE/AlarmHOccurred/15050300
Channel 15 Gas E Alarm L occurred	Boolean	Channel15/GasE/AlarmLOccurred/15050400
Channel 15 Gas E Alarm LL occurred	Boolean	Channel15/GasE/AlarmLLOccurred/15050500
Channel 15 Filter E alignment error flag	Boolean	Channel15/FilterE/AlignmentErrorFlag/15050600
Channel 15 Gas W Concentration	Float	Channel15/GasW/Concentration/15060100
Channel 15 Gas W Alarm HH occurred	Boolean	Channel15/GasW/AlarmHHOccurred/15060200

Channel 15 Gas W Alarm H occurred	Boolean	Channel15/GasW/AlarmHOccurred/15060300
Channel 15 Gas W Alarm L occurred	Boolean	Channel15/GasW/AlarmLOccurred/15060400
Channel 15 Gas W Alarm LL occurred	Boolean	Channel15/GasW/AlarmLLOccurred/15060500
Channel 15 Filter W alignment error flag	Boolean	Channel15/FilterW/AlignmentErrorFlag/15060600
Channel 15 Pressure	Float	Channel15/Pressure/15500100
Channel 15 Gas Monitor Air flag	Boolean	Channel15/GasMonitor/Airflag/15500200
Channel 15 Gas Monitor Error flag	Boolean	Channel15/GasMonitor/Errorflag/15500300
Channel 15 Gas Monitor Warning flag	Boolean	Channel15/GasMonitor/Warningflag/15500400
Channel 15 Monitor Display Error Message	String	Channel15/GasMonitor/MonitorDisplayErrorMessage/15500500
Channel 15 Monitor Display Warning Message	String	Channel15/GasMonitor/MonitorDisplayWarningMessage/15500600
Channel 15 Multiplexer error flag	Boolean	Channel15/Multiplexer/errorflag/15600100
Channel 15 Multiplexer warning flag	Boolean	Channel15/Multiplexer/warningflag/15600200
Channel 15 Multiplexer error number	Long	Channel15/Multiplexer/errornumber/15600300
Channel 15 Multiplexer warning number	Long	Channel15/Multiplexer/warningnumber/15600400
Channel 15 Multiplexer Error Description	String	Channel15/Multiplexer/ErrorDescription/15600600
Channel 15 Multiplexer Warning Description	String	Channel15/Multiplexer/WarningDescription/15600700
Channel 16 Gas A Concentration	Float	Channel16/GasA/Concentration/16010100
Channel 16 Gas A Alarm HH occurred	Boolean	Channel16/GasA/AlarmHHOccurred/16010200
Channel 16 Gas A Alarm H occurred	Boolean	Channel16/GasA/AlarmHOccurred/16010300
Channel 16 Gas A Alarm L occurred	Boolean	Channel16/GasA/AlarmLOccurred/16010400
Channel 16 Gas A Alarm LL occurred	Boolean	Channel16/GasA/AlarmLLOccurred/16010500
Channel 16 Filter A alignment error flag	Boolean	Channel16/FilterA/AlignmentErrorFlag/16010600
Channel 16 Gas B Concentration	Float	Channel16/GasB/Concentration/16020100
Channel 16 Gas B Alarm HH occurred	Boolean	Channel16/GasB/AlarmHHOccurred/16020200
Channel 16 Gas B Alarm H occurred	Boolean	Channel16/GasB/AlarmHOccurred/16020300
Channel 16 Gas B Alarm L occurred	Boolean	Channel16/GasB/AlarmLOccurred/16020400
Channel 16 Gas B Alarm LL occurred	Boolean	Channel16/GasB/AlarmLLOccurred/16020500
Channel 16 Filter B alignment error flag	Boolean	Channel16/FilterB/AlignmentErrorFlag/16020600
Channel 16 Gas C Concentration	Float	Channel16/GasC/Concentration/16030100
Channel 16 Gas C Alarm HH occurred	Boolean	Channel16/GasC/AlarmHHOccurred/16030200
Channel 16 Gas C Alarm H occurred	Boolean	Channel16/GasC/AlarmHOccurred/16030300
Channel 16 Gas C Alarm L occurred	Boolean	Channel16/GasC/AlarmLOccurred/16030400
Channel 16 Gas C Alarm LL occurred	Boolean	Channel16/GasC/AlarmLLOccurred/16030500
Channel 16 Filter C alignment error flag	Boolean	Channel16/FilterC/AlignmentErrorFlag/16030600
Channel 16 Gas D Concentration	Float	Channel16/GasD/Concentration/16040100
Channel 16 Gas D Alarm HH occurred	Boolean	Channel16/GasD/AlarmHHOccurred/16040200
Channel 16 Gas D Alarm H occurred	Boolean	Channel16/GasD/AlarmHOccurred/16040300
Channel 16 Gas D Alarm L occurred	Boolean	Channel16/GasD/AlarmLOccurred/16040400
Channel 16 Gas D Alarm LL occurred	Boolean	Channel16/GasD/AlarmLLOccurred/16040500
Channel 16 Filter D alignment error flag	Boolean	Channel16/FilterD/AlignmentErrorFlag/16040600
Channel 16 Gas E Concentration	Float	Channel16/GasE/Concentration/16050100
Channel 16 Gas E Alarm HH occurred	Boolean	Channel16/GasE/AlarmHHOccurred/16050200
Channel 16 Gas E Alarm H occurred	Boolean	Channel16/GasE/AlarmHOccurred/16050300
Channel 16 Gas E Alarm L occurred	Boolean	Channel16/GasE/AlarmLOccurred/16050400
Channel 16 Gas E Alarm LL occurred	Boolean	Channel16/GasE/AlarmLLOccurred/16050500
Channel 16 Filter E alignment error flag	Boolean	Channel16/FilterE/AlignmentErrorFlag/16050600
Channel 16 Gas W Concentration	Float	Channel16/GasW/Concentration/16060100
Channel 16 Gas W Alarm HH occurred	Boolean	Channel16/GasW/AlarmHHOccurred/16060200
Channel 16 Gas W Alarm H occurred	Boolean	Channel16/GasW/AlarmHOccurred/16060300
Channel 16 Gas W Alarm L occurred	Boolean	Channel16/GasW/AlarmLOccurred/16060400
Channel 16 Gas W Alarm LL occurred	Boolean	Channel16/GasW/AlarmLLOccurred/16060500
Channel 16 Filter W alignment error flag	Boolean	Channel16/FilterW/AlignmentErrorFlag/16060600

Channel 16 Pressure	Float	Channel16/Pressure/16500100
Channel 16 Gas Monitor Air flag	Boolean	Channel16/GasMonitor/Airflag/16500200
Channel 16 Gas Monitor Error flag	Boolean	Channel16/GasMonitor/Errorflag/16500300
Channel 16 Gas Monitor Warning flag	Boolean	Channel16/GasMonitor/Warningflag/16500400
Channel 16 Monitor Display Error Message	String	Channel16/GasMonitor/MonitorDisplayErrorMessage/16500500
Channel 16 Monitor Display Warning Message	String	Channel16/GasMonitor/MonitorDisplayWarningMessage/16500600
Channel 16 Multiplexer error flag	Boolean	Channel16/Multiplexer/errorflag/16600100
Channel 16 Multiplexer warning flag	Boolean	Channel16/Multiplexer/warningflag/16600200
Channel 16 Multiplexer error number	Long	Channel16/Multiplexer/errornumber/16600300
Channel 16 Multiplexer warning number	Long	Channel16/Multiplexer/warningnumber/16600400
Channel 16 Multiplexer Error Description	String	Channel16/Multiplexer/ErrorDescription/16600600
Channel 16 Multiplexer Warning Description	String	Channel16/Multiplexer/WarningDescription/16600700
Channel 17 Gas A Concentration	Float	Channel17/GasA/Concentration/17010100
Channel 17 Gas A Alarm HH occurred	Boolean	Channel17/GasA/AlarmHHOccurred/17010200
Channel 17 Gas A Alarm H occurred	Boolean	Channel17/GasA/AlarmHOccurred/17010300
Channel 17 Gas A Alarm L occurred	Boolean	Channel17/GasA/AlarmLOccurred/17010400
Channel 17 Gas A Alarm LL occurred	Boolean	Channel17/GasA/AlarmLLOccurred/17010500
Channel 17 Filter A alignment error flag	Boolean	Channel17/FilterA/AlignmentErrorFlag/17010600
Channel 17 Gas B Concentration	Float	Channel17/GasB/Concentration/17020100
Channel 17 Gas B Alarm HH occurred	Boolean	Channel17/GasB/AlarmHHOccurred/17020200
Channel 17 Gas B Alarm H occurred	Boolean	Channel17/GasB/AlarmHOccurred/17020300
Channel 17 Gas B Alarm L occurred	Boolean	Channel17/GasB/AlarmLOccurred/17020400
Channel 17 Gas B Alarm LL occurred	Boolean	Channel17/GasB/AlarmLLOccurred/17020500
Channel 17 Filter B alignment error flag	Boolean	Channel17/FilterB/AlignmentErrorFlag/17020600
Channel 17 Gas C Concentration	Float	Channel17/GasC/Concentration/17030100
Channel 17 Gas C Alarm HH occurred	Boolean	Channel17/GasC/AlarmHHOccurred/17030200
Channel 17 Gas C Alarm H occurred	Boolean	Channel17/GasC/AlarmHOccurred/17030300
Channel 17 Gas C Alarm L occurred	Boolean	Channel17/GasC/AlarmLOccurred/17030400
Channel 17 Gas C Alarm LL occurred	Boolean	Channel17/GasC/AlarmLLOccurred/17030500
Channel 17 Filter C alignment error flag	Boolean	Channel17/FilterC/AlignmentErrorFlag/17030600
Channel 17 Gas D Concentration	Float	Channel17/GasD/Concentration/17040100
Channel 17 Gas D Alarm HH occurred	Boolean	Channel17/GasD/AlarmHHOccurred/17040200
Channel 17 Gas D Alarm H occurred	Boolean	Channel17/GasD/AlarmHOccurred/17040300
Channel 17 Gas D Alarm L occurred	Boolean	Channel17/GasD/AlarmLOccurred/17040400
Channel 17 Gas D Alarm LL occurred	Boolean	Channel17/GasD/AlarmLLOccurred/17040500
Channel 17 Filter D alignment error flag	Boolean	Channel17/FilterD/AlignmentErrorFlag/17040600
Channel 17 Gas E Concentration	Float	Channel17/GasE/Concentration/17050100
Channel 17 Gas E Alarm HH occurred	Boolean	Channel17/GasE/AlarmHHOccurred/17050200
Channel 17 Gas E Alarm H occurred	Boolean	Channel17/GasE/AlarmHOccurred/17050300
Channel 17 Gas E Alarm L occurred	Boolean	Channel17/GasE/AlarmLOccurred/17050400
Channel 17 Gas E Alarm LL occurred	Boolean	Channel17/GasE/AlarmLLOccurred/17050500
Channel 17 Filter E alignment error flag	Boolean	Channel17/FilterE/AlignmentErrorFlag/17050600
Channel 17 Gas W Concentration	Float	Channel17/GasW/Concentration/17060100
Channel 17 Gas W Alarm HH occurred	Boolean	Channel17/GasW/AlarmHHOccurred/17060200
Channel 17 Gas W Alarm H occurred	Boolean	Channel17/GasW/AlarmHOccurred/17060300
Channel 17 Gas W Alarm L occurred	Boolean	Channel17/GasW/AlarmLOccurred/17060400
Channel 17 Gas W Alarm LL occurred	Boolean	Channel17/GasW/AlarmLLOccurred/17060500
Channel 17 Filter W alignment error flag	Boolean	Channel17/FilterW/AlignmentErrorFlag/17060600
Channel 17 Pressure	Float	Channel17/Pressure/17500100
Channel 17 Gas Monitor Air flag	Boolean	Channel17/GasMonitor/Airflag/17500200
Channel 17 Gas Monitor Error flag	Boolean	Channel17/GasMonitor/Errorflag/17500300
Channel 17 Gas Monitor Warning flag	Boolean	Channel17/GasMonitor/Warningflag/17500400

Channel 17 Monitor Display Error Message	String	Channel17/GasMonitor/MonitorDisplayErrorMessage/17500500
Channel 17 Monitor Display Warning Message	String	Channel17/GasMonitor/MonitorDisplayWarningMessage/17500600
Channel 17 Multiplexer error flag	Boolean	Channel17/Multiplexer/errorflag/17600100
Channel 17 Multiplexer warning flag	Boolean	Channel17/Multiplexer/warningflag/17600200
Channel 17 Multiplexer error number	Long	Channel17/Multiplexer/errornumber/17600300
Channel 17 Multiplexer warning number	Long	Channel17/Multiplexer/warningnumber/17600400
Channel 17 Multiplexer Error Description	String	Channel17/Multiplexer/ErrorDescription/17600600
Channel 17 Multiplexer Warning Description	String	Channel17/Multiplexer/WarningDescription/17600700
Channel 18 Gas A Concentration	Float	Channel18/GasA/Concentration/18010100
Channel 18 Gas A Alarm HH occurred	Boolean	Channel18/GasA/AlarmHHOccurred/18010200
Channel 18 Gas A Alarm H occurred	Boolean	Channel18/GasA/AlarmHOccurred/18010300
Channel 18 Gas A Alarm L occurred	Boolean	Channel18/GasA/AlarmLOccurred/18010400
Channel 18 Gas A Alarm LL occurred	Boolean	Channel18/GasA/AlarmLLOccurred/18010500
Channel 18 Filter A alignment error flag	Boolean	Channel18/FilterA/AlignmentErrorFlag/18010600
Channel 18 Gas B Concentration	Float	Channel18/GasB/Concentration/18020100
Channel 18 Gas B Alarm HH occurred	Boolean	Channel18/GasB/AlarmHHOccurred/18020200
Channel 18 Gas B Alarm H occurred	Boolean	Channel18/GasB/AlarmHOccurred/18020300
Channel 18 Gas B Alarm L occurred	Boolean	Channel18/GasB/AlarmLOccurred/18020400
Channel 18 Gas B Alarm LL occurred	Boolean	Channel18/GasB/AlarmLLOccurred/18020500
Channel 18 Filter B alignment error flag	Boolean	Channel18/FilterB/AlignmentErrorFlag/18020600
Channel 18 Gas C Concentration	Float	Channel18/GasC/Concentration/18030100
Channel 18 Gas C Alarm HH occurred	Boolean	Channel18/GasC/AlarmHHOccurred/18030200
Channel 18 Gas C Alarm H occurred	Boolean	Channel18/GasC/AlarmHOccurred/18030300
Channel 18 Gas C Alarm L occurred	Boolean	Channel18/GasC/AlarmLOccurred/18030400
Channel 18 Gas C Alarm LL occurred	Boolean	Channel18/GasC/AlarmLLOccurred/18030500
Channel 18 Filter C alignment error flag	Boolean	Channel18/FilterC/AlignmentErrorFlag/18030600
Channel 18 Gas D Concentration	Float	Channel18/GasD/Concentration/18040100
Channel 18 Gas D Alarm HH occurred	Boolean	Channel18/GasD/AlarmHHOccurred/18040200
Channel 18 Gas D Alarm H occurred	Boolean	Channel18/GasD/AlarmHOccurred/18040300
Channel 18 Gas D Alarm L occurred	Boolean	Channel18/GasD/AlarmLOccurred/18040400
Channel 18 Gas D Alarm LL occurred	Boolean	Channel18/GasD/AlarmLLOccurred/18040500
Channel 18 Filter D alignment error flag	Boolean	Channel18/FilterD/AlignmentErrorFlag/18040600
Channel 18 Gas E Concentration	Float	Channel18/GasE/Concentration/18050100
Channel 18 Gas E Alarm HH occurred	Boolean	Channel18/GasE/AlarmHHOccurred/18050200
Channel 18 Gas E Alarm H occurred	Boolean	Channel18/GasE/AlarmHOccurred/18050300
Channel 18 Gas E Alarm L occurred	Boolean	Channel18/GasE/AlarmLOccurred/18050400
Channel 18 Gas E Alarm LL occurred	Boolean	Channel18/GasE/AlarmLLOccurred/18050500
Channel 18 Filter E alignment error flag	Boolean	Channel18/FilterE/AlignmentErrorFlag/18050600
Channel 18 Gas W Concentration	Float	Channel18/GasW/Concentration/18060100
Channel 18 Gas W Alarm HH occurred	Boolean	Channel18/GasW/AlarmHHOccurred/18060200
Channel 18 Gas W Alarm H occurred	Boolean	Channel18/GasW/AlarmHOccurred/18060300
Channel 18 Gas W Alarm L occurred	Boolean	Channel18/GasW/AlarmLOccurred/18060400
Channel 18 Gas W Alarm LL occurred	Boolean	Channel18/GasW/AlarmLLOccurred/18060500
Channel 18 Filter W alignment error flag	Boolean	Channel18/FilterW/AlignmentErrorFlag/18060600
Channel 18 Pressure	Float	Channel18/Pressure/18500100
Channel 18 Gas Monitor Air flag	Boolean	Channel18/GasMonitor/Airflag/18500200
Channel 18 Gas Monitor Error flag	Boolean	Channel18/GasMonitor/Errorflag/18500300
Channel 18 Gas Monitor Warning flag	Boolean	Channel18/GasMonitor/Warningflag/18500400
Channel 18 Monitor Display Error Message	String	Channel18/GasMonitor/MonitorDisplayErrorMessage/18500500
Channel 18 Monitor Display Warning Message	String	Channel18/GasMonitor/MonitorDisplayWarningMessage/18500600
Channel 18 Multiplexer error flag	Boolean	Channel18/Multiplexer/errorflag/18600100
Channel 18 Multiplexer warning flag	Boolean	Channel18/Multiplexer/warningflag/18600200

Channel 18 Multiplexer error number	Long	Channel18/Multiplexer/errornumber/18600300
Channel 18 Multiplexer warning number	Long	Channel18/Multiplexer/warningnumber/18600400
Channel 18 Multiplexer Error Description	String	Channel18/Multiplexer/ErrorDescription/18600600
Channel 18 Multiplexer Warning Description	String	Channel18/Multiplexer/WarningDescription/18600700
Channel 19 Gas A Concentration	Float	Channel19/GasA/Concentration/19010100
Channel 19 Gas A Alarm HH occurred	Boolean	Channel19/GasA/AlarmHHOccurred/19010200
Channel 19 Gas A Alarm H occurred	Boolean	Channel19/GasA/AlarmHOccurred/19010300
Channel 19 Gas A Alarm L occurred	Boolean	Channel19/GasA/AlarmLOccurred/19010400
Channel 19 Gas A Alarm LL occurred	Boolean	Channel19/GasA/AlarmLLOccurred/19010500
Channel 19 Filter A alignment error flag	Boolean	Channel19/FilterA/AlignmentErrorFlag/19010600
Channel 19 Gas B Concentration	Float	Channel19/GasB/Concentration/19020100
Channel 19 Gas B Alarm HH occurred	Boolean	Channel19/GasB/AlarmHHOccurred/19020200
Channel 19 Gas B Alarm H occurred	Boolean	Channel19/GasB/AlarmHOccurred/19020300
Channel 19 Gas B Alarm L occurred	Boolean	Channel19/GasB/AlarmLOccurred/19020400
Channel 19 Gas B Alarm LL occurred	Boolean	Channel19/GasB/AlarmLLOccurred/19020500
Channel 19 Filter B alignment error flag	Boolean	Channel19/FilterB/AlignmentErrorFlag/19020600
Channel 19 Gas C Concentration	Float	Channel19/GasC/Concentration/19030100
Channel 19 Gas C Alarm HH occurred	Boolean	Channel19/GasC/AlarmHHOccurred/19030200
Channel 19 Gas C Alarm H occurred	Boolean	Channel19/GasC/AlarmHOccurred/19030300
Channel 19 Gas C Alarm L occurred	Boolean	Channel19/GasC/AlarmLOccurred/19030400
Channel 19 Gas C Alarm LL occurred	Boolean	Channel19/GasC/AlarmLLOccurred/19030500
Channel 19 Filter C alignment error flag	Boolean	Channel19/FilterC/AlignmentErrorFlag/19030600
Channel 19 Gas D Concentration	Float	Channel19/GasD/Concentration/19040100
Channel 19 Gas D Alarm HH occurred	Boolean	Channel19/GasD/AlarmHHOccurred/19040200
Channel 19 Gas D Alarm H occurred	Boolean	Channel19/GasD/AlarmHOccurred/19040300
Channel 19 Gas D Alarm L occurred	Boolean	Channel19/GasD/AlarmLOccurred/19040400
Channel 19 Gas D Alarm LL occurred	Boolean	Channel19/GasD/AlarmLLOccurred/19040500
Channel 19 Filter D alignment error flag	Boolean	Channel19/FilterD/AlignmentErrorFlag/19040600
Channel 19 Gas E Concentration	Float	Channel19/GasE/Concentration/19050100
Channel 19 Gas E Alarm HH occurred	Boolean	Channel19/GasE/AlarmHHOccurred/19050200
Channel 19 Gas E Alarm H occurred	Boolean	Channel19/GasE/AlarmHOccurred/19050300
Channel 19 Gas E Alarm L occurred	Boolean	Channel19/GasE/AlarmLOccurred/19050400
Channel 19 Gas E Alarm LL occurred	Boolean	Channel19/GasE/AlarmLLOccurred/19050500
Channel 19 Filter E alignment error flag	Boolean	Channel19/FilterE/AlignmentErrorFlag/19050600
Channel 19 Gas W Concentration	Float	Channel19/GasW/Concentration/19060100
Channel 19 Gas W Alarm HH occurred	Boolean	Channel19/GasW/AlarmHHOccurred/19060200
Channel 19 Gas W Alarm H occurred	Boolean	Channel19/GasW/AlarmHOccurred/19060300
Channel 19 Gas W Alarm L occurred	Boolean	Channel19/GasW/AlarmLOccurred/19060400
Channel 19 Gas W Alarm LL occurred	Boolean	Channel19/GasW/AlarmLLOccurred/19060500
Channel 19 Filter W alignment error flag	Boolean	Channel19/FilterW/AlignmentErrorFlag/19060600
Channel 19 Pressure	Float	Channel19/Pressure/19500100
Channel 19 Gas Monitor Air flag	Boolean	Channel19/GasMonitor/Airflag/19500200
Channel 19 Gas Monitor Error flag	Boolean	Channel19/GasMonitor/Errorflag/19500300
Channel 19 Gas Monitor Warning flag	Boolean	Channel19/GasMonitor/Warningflag/19500400
Channel 19 Monitor Display Error Message	String	Channel19/GasMonitor/MonitorDisplayErrorMessage/19500500
Channel 19 Monitor Display Warning Message	String	Channel19/GasMonitor/MonitorDisplayWarningMessage/19500600
Channel 19 Multiplexer error flag	Boolean	Channel19/Multiplexer/errorflag/19600100
Channel 19 Multiplexer warning flag	Boolean	Channel19/Multiplexer/warningflag/19600200
Channel 19 Multiplexer error number	Long	Channel19/Multiplexer/errornumber/19600300
Channel 19 Multiplexer warning number	Long	Channel19/Multiplexer/warningnumber/19600400
Channel 19 Multiplexer Error Description	String	Channel19/Multiplexer/ErrorDescription/19600600
Channel 19 Multiplexer Warning Description	String	Channel19/Multiplexer/WarningDescription/19600700

Channel 20 Gas A Concentration	Float	Channel20/GasA/Concentration/20010100
Channel 20 Gas A Alarm HH occurred	Boolean	Channel20/GasA/AlarmHHOccurred/20010200
Channel 20 Gas A Alarm H occurred	Boolean	Channel20/GasA/AlarmHOccurred/20010300
Channel 20 Gas A Alarm L occurred	Boolean	Channel20/GasA/AlarmLOccurred/20010400
Channel 20 Gas A Alarm LL occurred	Boolean	Channel20/GasA/AlarmLLOccurred/20010500
Channel 20 Filter A alignment error flag	Boolean	Channel20/FilterA/AlignmentErrorFlag/20010600
Channel 20 Gas B Concentration	Float	Channel20/GasB/Concentration/20020100
Channel 20 Gas B Alarm HH occurred	Boolean	Channel20/GasB/AlarmHHOccurred/20020200
Channel 20 Gas B Alarm H occurred	Boolean	Channel20/GasB/AlarmHOccurred/20020300
Channel 20 Gas B Alarm L occurred	Boolean	Channel20/GasB/AlarmLOccurred/20020400
Channel 20 Gas B Alarm LL occurred	Boolean	Channel20/GasB/AlarmLLOccurred/20020500
Channel 20 Filter B alignment error flag	Boolean	Channel20/FilterB/AlignmentErrorFlag/20020600
Channel 20 Gas C Concentration	Float	Channel20/GasC/Concentration/20030100
Channel 20 Gas C Alarm HH occurred	Boolean	Channel20/GasC/AlarmHHOccurred/20030200
Channel 20 Gas C Alarm H occurred	Boolean	Channel20/GasC/AlarmHOccurred/20030300
Channel 20 Gas C Alarm L occurred	Boolean	Channel20/GasC/AlarmLOccurred/20030400
Channel 20 Gas C Alarm LL occurred	Boolean	Channel20/GasC/AlarmLLOccurred/20030500
Channel 20 Filter C alignment error flag	Boolean	Channel20/FilterC/AlignmentErrorFlag/20030600
Channel 20 Gas D Concentration	Float	Channel20/GasD/Concentration/20040100
Channel 20 Gas D Alarm HH occurred	Boolean	Channel20/GasD/AlarmHHOccurred/20040200
Channel 20 Gas D Alarm H occurred	Boolean	Channel20/GasD/AlarmHOccurred/20040300
Channel 20 Gas D Alarm L occurred	Boolean	Channel20/GasD/AlarmLOccurred/20040400
Channel 20 Gas D Alarm LL occurred	Boolean	Channel20/GasD/AlarmLLOccurred/20040500
Channel 20 Filter D alignment error flag	Boolean	Channel20/FilterD/AlignmentErrorFlag/20040600
Channel 20 Gas E Concentration	Float	Channel20/GasE/Concentration/20050100
Channel 20 Gas E Alarm HH occurred	Boolean	Channel20/GasE/AlarmHHOccurred/20050200
Channel 20 Gas E Alarm H occurred	Boolean	Channel20/GasE/AlarmHOccurred/20050300
Channel 20 Gas E Alarm L occurred	Boolean	Channel20/GasE/AlarmLOccurred/20050400
Channel 20 Gas E Alarm LL occurred	Boolean	Channel20/GasE/AlarmLLOccurred/20050500
Channel 20 Filter E alignment error flag	Boolean	Channel20/FilterE/AlignmentErrorFlag/20050600
Channel 20 Gas W Concentration	Float	Channel20/GasW/Concentration/20060100
Channel 20 Gas W Alarm HH occurred	Boolean	Channel20/GasW/AlarmHHOccurred/20060200
Channel 20 Gas W Alarm H occurred	Boolean	Channel20/GasW/AlarmHOccurred/20060300
Channel 20 Gas W Alarm L occurred	Boolean	Channel20/GasW/AlarmLOccurred/20060400
Channel 20 Gas W Alarm LL occurred	Boolean	Channel20/GasW/AlarmLLOccurred/20060500
Channel 20 Filter W alignment error flag	Boolean	Channel20/FilterW/AlignmentErrorFlag/20060600
Channel 20 Pressure	Float	Channel20/Pressure/20500100
Channel 20 Gas Monitor Air flag	Boolean	Channel20/GasMonitor/Airflag/20500200
Channel 20 Gas Monitor Error flag	Boolean	Channel20/GasMonitor/Errorflag/20500300
Channel 20 Gas Monitor Warning flag	Boolean	Channel20/GasMonitor/Warningflag/20500400
Channel 20 Monitor Display Error Message	String	Channel20/GasMonitor/MonitorDisplayErrorMessage/20500500
Channel 20 Monitor Display Warning Message	String	Channel20/GasMonitor/MonitorDisplayWarningMessage/20500600
Channel 20 Multiplexer error flag	Boolean	Channel20/Multiplexer/errorflag/20600100
Channel 20 Multiplexer warning flag	Boolean	Channel20/Multiplexer/warningflag/20600200
Channel 20 Multiplexer error number	Long	Channel20/Multiplexer/errornumber/20600300
Channel 20 Multiplexer warning number	Long	Channel20/Multiplexer/warningnumber/20600400
Channel 20 Multiplexer Error Description	String	Channel20/Multiplexer/ErrorDescription/20600600
Channel 20 Multiplexer Warning Description	String	Channel20/Multiplexer/WarningDescription/20600700
Channel 21 Gas A Concentration	Float	Channel21/GasA/Concentration/21010100
Channel 21 Gas A Alarm HH occurred	Boolean	Channel21/GasA/AlarmHHOccurred/21010200
Channel 21 Gas A Alarm H occurred	Boolean	Channel21/GasA/AlarmHOccurred/21010300
Channel 21 Gas A Alarm L occurred	Boolean	Channel21/GasA/AlarmLOccurred/21010400

Channel 21 Gas A Alarm LL occurred	Boolean	Channel21/GasA/AlarmLLOccurred/21010500
Channel 21 Filter A alignment error flag	Boolean	Channel21/FilterA/AlignmentErrorFlag/21010600
Channel 21 Gas B Concentration	Float	Channel21/GasB/Concentration/21020100
Channel 21 Gas B Alarm HH occurred	Boolean	Channel21/GasB/AlarmHHOccurred/21020200
Channel 21 Gas B Alarm H occurred	Boolean	Channel21/GasB/AlarmHOccurred/21020300
Channel 21 Gas B Alarm L occurred	Boolean	Channel21/GasB/AlarmLOccurred/21020400
Channel 21 Gas B Alarm LL occurred	Boolean	Channel21/GasB/AlarmLLOccurred/21020500
Channel 21 Filter B alignment error flag	Boolean	Channel21/FilterB/AlignmentErrorFlag/21020600
Channel 21 Gas C Concentration	Float	Channel21/GasC/Concentration/21030100
Channel 21 Gas C Alarm HH occurred	Boolean	Channel21/GasC/AlarmHHOccurred/21030200
Channel 21 Gas C Alarm H occurred	Boolean	Channel21/GasC/AlarmHOccurred/21030300
Channel 21 Gas C Alarm L occurred	Boolean	Channel21/GasC/AlarmLOccurred/21030400
Channel 21 Gas C Alarm LL occurred	Boolean	Channel21/GasC/AlarmLLOccurred/21030500
Channel 21 Filter C alignment error flag	Boolean	Channel21/FilterC/AlignmentErrorFlag/21030600
Channel 21 Gas D Concentration	Float	Channel21/GasD/Concentration/21040100
Channel 21 Gas D Alarm HH occurred	Boolean	Channel21/GasD/AlarmHHOccurred/21040200
Channel 21 Gas D Alarm H occurred	Boolean	Channel21/GasD/AlarmHOccurred/21040300
Channel 21 Gas D Alarm L occurred	Boolean	Channel21/GasD/AlarmLOccurred/21040400
Channel 21 Gas D Alarm LL occurred	Boolean	Channel21/GasD/AlarmLLOccurred/21040500
Channel 21 Filter D alignment error flag	Boolean	Channel21/FilterD/AlignmentErrorFlag/21040600
Channel 21 Gas E Concentration	Float	Channel21/GasE/Concentration/21050100
Channel 21 Gas E Alarm HH occurred	Boolean	Channel21/GasE/AlarmHHOccurred/21050200
Channel 21 Gas E Alarm H occurred	Boolean	Channel21/GasE/AlarmHOccurred/21050300
Channel 21 Gas E Alarm L occurred	Boolean	Channel21/GasE/AlarmLOccurred/21050400
Channel 21 Gas E Alarm LL occurred	Boolean	Channel21/GasE/AlarmLLOccurred/21050500
Channel 21 Filter E alignment error flag	Boolean	Channel21/FilterE/AlignmentErrorFlag/21050600
Channel 21 Gas W Concentration	Float	Channel21/GasW/Concentration/21060100
Channel 21 Gas W Alarm HH occurred	Boolean	Channel21/GasW/AlarmHHOccurred/21060200
Channel 21 Gas W Alarm H occurred	Boolean	Channel21/GasW/AlarmHOccurred/21060300
Channel 21 Gas W Alarm L occurred	Boolean	Channel21/GasW/AlarmLOccurred/21060400
Channel 21 Gas W Alarm LL occurred	Boolean	Channel21/GasW/AlarmLLOccurred/21060500
Channel 21 Filter W alignment error flag	Boolean	Channel21/FilterW/AlignmentErrorFlag/21060600
Channel 21 Pressure	Float	Channel21/Pressure/21500100
Channel 21 Gas Monitor Air flag	Boolean	Channel21/GasMonitor/Airflag/21500200
Channel 21 Gas Monitor Error flag	Boolean	Channel21/GasMonitor/Errorflag/21500300
Channel 21 Gas Monitor Warning flag	Boolean	Channel21/GasMonitor/Warningflag/21500400
Channel 21 Monitor Display Error Message	String	Channel21/GasMonitor/MonitorDisplayErrorMessage/21500500
Channel 21 Monitor Display Warning Message	String	Channel21/GasMonitor/MonitorDisplayWarningMessage/21500600
Channel 21 Multiplexer error flag	Boolean	Channel21/Multiplexer/errorflag/21600100
Channel 21 Multiplexer warning flag	Boolean	Channel21/Multiplexer/warningflag/21600200
Channel 21 Multiplexer error number	Long	Channel21/Multiplexer/errornumber/21600300
Channel 21 Multiplexer warning number	Long	Channel21/Multiplexer/warningnumber/21600400
Channel 21 Multiplexer Error Description	String	Channel21/Multiplexer/ErrorDescription/21600600
Channel 21 Multiplexer Warning Description	String	Channel21/Multiplexer/WarningDescription/21600700
Channel 22 Gas A Concentration	Float	Channel22/GasA/Concentration/22010100
Channel 22 Gas A Alarm HH occurred	Boolean	Channel22/GasA/AlarmHHOccurred/22010200
Channel 22 Gas A Alarm H occurred	Boolean	Channel22/GasA/AlarmHOccurred/22010300
Channel 22 Gas A Alarm L occurred	Boolean	Channel22/GasA/AlarmLOccurred/22010400
Channel 22 Gas A Alarm LL occurred	Boolean	Channel22/GasA/AlarmLLOccurred/22010500
Channel 22 Filter A alignment error flag	Boolean	Channel22/FilterA/AlignmentErrorFlag/22010600
Channel 22 Gas B Concentration	Float	Channel22/GasB/Concentration/22020100
Channel 22 Gas B Alarm HH occurred	Boolean	Channel22/GasB/AlarmHHOccurred/22020200

Channel 22 Gas B Alarm H occurred	Boolean	Channel22/GasB/AlarmHOccurred/22020300
Channel 22 Gas B Alarm L occurred	Boolean	Channel22/GasB/AlarmLOccurred/22020400
Channel 22 Gas B Alarm LL occurred	Boolean	Channel22/GasB/AlarmLLOccurred/22020500
Channel 22 Filter B alignment error flag	Boolean	Channel22/FilterB/AlignmentErrorFlag/22020600
Channel 22 Gas C Concentration	Float	Channel22/GasC/Concentration/22030100
Channel 22 Gas C Alarm HH occurred	Boolean	Channel22/GasC/AlarmHHOccurred/22030200
Channel 22 Gas C Alarm H occurred	Boolean	Channel22/GasC/AlarmHOccurred/22030300
Channel 22 Gas C Alarm L occurred	Boolean	Channel22/GasC/AlarmLOccurred/22030400
Channel 22 Gas C Alarm LL occurred	Boolean	Channel22/GasC/AlarmLLOccurred/22030500
Channel 22 Filter C alignment error flag	Boolean	Channel22/FilterC/AlignmentErrorFlag/22030600
Channel 22 Gas D Concentration	Float	Channel22/GasD/Concentration/22040100
Channel 22 Gas D Alarm HH occurred	Boolean	Channel22/GasD/AlarmHHOccurred/22040200
Channel 22 Gas D Alarm H occurred	Boolean	Channel22/GasD/AlarmHOccurred/22040300
Channel 22 Gas D Alarm L occurred	Boolean	Channel22/GasD/AlarmLOccurred/22040400
Channel 22 Gas D Alarm LL occurred	Boolean	Channel22/GasD/AlarmLLOccurred/22040500
Channel 22 Filter D alignment error flag	Boolean	Channel22/FilterD/AlignmentErrorFlag/22040600
Channel 22 Gas E Concentration	Float	Channel22/GasE/Concentration/22050100
Channel 22 Gas E Alarm HH occurred	Boolean	Channel22/GasE/AlarmHHOccurred/22050200
Channel 22 Gas E Alarm H occurred	Boolean	Channel22/GasE/AlarmHOccurred/22050300
Channel 22 Gas E Alarm L occurred	Boolean	Channel22/GasE/AlarmLOccurred/22050400
Channel 22 Gas E Alarm LL occurred	Boolean	Channel22/GasE/AlarmLLOccurred/22050500
Channel 22 Filter E alignment error flag	Boolean	Channel22/FilterE/AlignmentErrorFlag/22050600
Channel 22 Gas W Concentration	Float	Channel22/GasW/Concentration/22060100
Channel 22 Gas W Alarm HH occurred	Boolean	Channel22/GasW/AlarmHHOccurred/22060200
Channel 22 Gas W Alarm H occurred	Boolean	Channel22/GasW/AlarmHOccurred/22060300
Channel 22 Gas W Alarm L occurred	Boolean	Channel22/GasW/AlarmLOccurred/22060400
Channel 22 Gas W Alarm LL occurred	Boolean	Channel22/GasW/AlarmLLOccurred/22060500
Channel 22 Filter W alignment error flag	Boolean	Channel22/FilterW/AlignmentErrorFlag/22060600
Channel 22 Pressure	Float	Channel22/Pressure/22500100
Channel 22 Gas Monitor Air flag	Boolean	Channel22/GasMonitor/Airflag/22500200
Channel 22 Gas Monitor Error flag	Boolean	Channel22/GasMonitor/Errorflag/22500300
Channel 22 Gas Monitor Warning flag	Boolean	Channel22/GasMonitor/Warningflag/22500400
Channel 22 Monitor Display Error Message	String	Channel22/GasMonitor/MonitorDisplayErrorMessage/22500500
Channel 22 Monitor Display Warning Message	String	Channel22/GasMonitor/MonitorDisplayWarningMessage/22500600
Channel 22 Multiplexer error flag	Boolean	Channel22/Multiplexer/errorflag/22600100
Channel 22 Multiplexer warning flag	Boolean	Channel22/Multiplexer/warningflag/22600200
Channel 22 Multiplexer error number	Long	Channel22/Multiplexer/errornumber/22600300
Channel 22 Multiplexer warning number	Long	Channel22/Multiplexer/warningnumber/22600400
Channel 22 Multiplexer Error Description	String	Channel22/Multiplexer/ErrorDescription/22600600
Channel 22 Multiplexer Warning Description	String	Channel22/Multiplexer/WarningDescription/22600700
Channel 23 Gas A Concentration	Float	Channel23/GasA/Concentration/23010100
Channel 23 Gas A Alarm HH occurred	Boolean	Channel23/GasA/AlarmHHOccurred/23010200
Channel 23 Gas A Alarm H occurred	Boolean	Channel23/GasA/AlarmHOccurred/23010300
Channel 23 Gas A Alarm L occurred	Boolean	Channel23/GasA/AlarmLOccurred/23010400
Channel 23 Gas A Alarm LL occurred	Boolean	Channel23/GasA/AlarmLLOccurred/23010500
Channel 23 Filter A alignment error flag	Boolean	Channel23/FilterA/AlignmentErrorFlag/23010600
Channel 23 Gas B Concentration	Float	Channel23/GasB/Concentration/23020100
Channel 23 Gas B Alarm HH occurred	Boolean	Channel23/GasB/AlarmHHOccurred/23020200
Channel 23 Gas B Alarm H occurred	Boolean	Channel23/GasB/AlarmHOccurred/23020300
Channel 23 Gas B Alarm L occurred	Boolean	Channel23/GasB/AlarmLOccurred/23020400
Channel 23 Gas B Alarm LL occurred	Boolean	Channel23/GasB/AlarmLLOccurred/23020500
Channel 23 Filter B alignment error flag	Boolean	Channel23/FilterB/AlignmentErrorFlag/23020600

Channel 23 Gas C Concentration	Float	Channel23/GasC/Concentration/23030100
Channel 23 Gas C Alarm HH occurred	Boolean	Channel23/GasC/AlarmHHOccurred/23030200
Channel 23 Gas C Alarm H occurred	Boolean	Channel23/GasC/AlarmHOccurred/23030300
Channel 23 Gas C Alarm L occurred	Boolean	Channel23/GasC/AlarmLOccurred/23030400
Channel 23 Gas C Alarm LL occurred	Boolean	Channel23/GasC/AlarmLLOccurred/23030500
Channel 23 Filter C alignment error flag	Boolean	Channel23/FilterC/AlignmentErrorFlag/23030600
Channel 23 Gas D Concentration	Float	Channel23/GasD/Concentration/23040100
Channel 23 Gas D Alarm HH occurred	Boolean	Channel23/GasD/AlarmHHOccurred/23040200
Channel 23 Gas D Alarm H occurred	Boolean	Channel23/GasD/AlarmHOccurred/23040300
Channel 23 Gas D Alarm L occurred	Boolean	Channel23/GasD/AlarmLOccurred/23040400
Channel 23 Gas D Alarm LL occurred	Boolean	Channel23/GasD/AlarmLLOccurred/23040500
Channel 23 Filter D alignment error flag	Boolean	Channel23/FilterD/AlignmentErrorFlag/23040600
Channel 23 Gas E Concentration	Float	Channel23/GasE/Concentration/23050100
Channel 23 Gas E Alarm HH occurred	Boolean	Channel23/GasE/AlarmHHOccurred/23050200
Channel 23 Gas E Alarm H occurred	Boolean	Channel23/GasE/AlarmHOccurred/23050300
Channel 23 Gas E Alarm L occurred	Boolean	Channel23/GasE/AlarmLOccurred/23050400
Channel 23 Gas E Alarm LL occurred	Boolean	Channel23/GasE/AlarmLLOccurred/23050500
Channel 23 Filter E alignment error flag	Boolean	Channel23/FilterE/AlignmentErrorFlag/23050600
Channel 23 Gas W Concentration	Float	Channel23/GasW/Concentration/23060100
Channel 23 Gas W Alarm HH occurred	Boolean	Channel23/GasW/AlarmHHOccurred/23060200
Channel 23 Gas W Alarm H occurred	Boolean	Channel23/GasW/AlarmHOccurred/23060300
Channel 23 Gas W Alarm L occurred	Boolean	Channel23/GasW/AlarmLOccurred/23060400
Channel 23 Gas W Alarm LL occurred	Boolean	Channel23/GasW/AlarmLLOccurred/23060500
Channel 23 Filter W alignment error flag	Boolean	Channel23/FilterW/AlignmentErrorFlag/23060600
Channel 23 Pressure	Float	Channel23/Pressure/23500100
Channel 23 Gas Monitor Air flag	Boolean	Channel23/GasMonitor/Airflag/23500200
Channel 23 Gas Monitor Error flag	Boolean	Channel23/GasMonitor/Errorflag/23500300
Channel 23 Gas Monitor Warning flag	Boolean	Channel23/GasMonitor/Warningflag/23500400
Channel 23 Monitor Display Error Message	String	Channel23/GasMonitor/MonitorDisplayErrorMessage/23500500
Channel 23 Monitor Display Warning Message	String	Channel23/GasMonitor/MonitorDisplayWarningMessage/23500600
Channel 23 Multiplexer error flag	Boolean	Channel23/Multiplexer/errorflag/23600100
Channel 23 Multiplexer warning flag	Boolean	Channel23/Multiplexer/warningflag/23600200
Channel 23 Multiplexer error number	Long	Channel23/Multiplexer/errornumber/23600300
Channel 23 Multiplexer warning number	Long	Channel23/Multiplexer/warningnumber/23600400
Channel 23 Multiplexer Error Description	String	Channel23/Multiplexer/ErrorDescription/23600600
Channel 23 Multiplexer Warning Description	String	Channel23/Multiplexer/WarningDescription/23600700
Channel 24 Gas A Concentration	Float	Channel24/GasA/Concentration/24010100
Channel 24 Gas A Alarm HH occurred	Boolean	Channel24/GasA/AlarmHHOccurred/24010200
Channel 24 Gas A Alarm H occurred	Boolean	Channel24/GasA/AlarmHOccurred/24010300
Channel 24 Gas A Alarm L occurred	Boolean	Channel24/GasA/AlarmLOccurred/24010400
Channel 24 Gas A Alarm LL occurred	Boolean	Channel24/GasA/AlarmLLOccurred/24010500
Channel 24 Filter A alignment error flag	Boolean	Channel24/FilterA/AlignmentErrorFlag/24010600
Channel 24 Gas B Concentration	Float	Channel24/GasB/Concentration/24020100
Channel 24 Gas B Alarm HH occurred	Boolean	Channel24/GasB/AlarmHHOccurred/24020200
Channel 24 Gas B Alarm H occurred	Boolean	Channel24/GasB/AlarmHOccurred/24020300
Channel 24 Gas B Alarm L occurred	Boolean	Channel24/GasB/AlarmLOccurred/24020400
Channel 24 Gas B Alarm LL occurred	Boolean	Channel24/GasB/AlarmLLOccurred/24020500
Channel 24 Filter B alignment error flag	Boolean	Channel24/FilterB/AlignmentErrorFlag/24020600
Channel 24 Gas C Concentration	Float	Channel24/GasC/Concentration/24030100
Channel 24 Gas C Alarm HH occurred	Boolean	Channel24/GasC/AlarmHHOccurred/24030200
Channel 24 Gas C Alarm H occurred	Boolean	Channel24/GasC/AlarmHOccurred/24030300
Channel 24 Gas C Alarm L occurred	Boolean	Channel24/GasC/AlarmLOccurred/24030400

Channel 24 Gas C Alarm LL occurred	Boolean	Channel24/GasC/AlarmLLOccurred/24030500
Channel 24 Filter C alignment error flag	Boolean	Channel24/FilterC/AlignmentErrorFlag/24030600
Channel 24 Gas D Concentration	Float	Channel24/GasD/Concentration/24040100
Channel 24 Gas D Alarm HH occurred	Boolean	Channel24/GasD/AlarmHHOccurred/24040200
Channel 24 Gas D Alarm H occurred	Boolean	Channel24/GasD/AlarmHOccurred/24040300
Channel 24 Gas D Alarm L occurred	Boolean	Channel24/GasD/AlarmLOccurred/24040400
Channel 24 Gas D Alarm LL occurred	Boolean	Channel24/GasD/AlarmLLOccurred/24040500
Channel 24 Filter D alignment error flag	Boolean	Channel24/FilterD/AlignmentErrorFlag/24040600
Channel 24 Gas E Concentration	Float	Channel24/GasE/Concentration/24050100
Channel 24 Gas E Alarm HH occurred	Boolean	Channel24/GasE/AlarmHHOccurred/24050200
Channel 24 Gas E Alarm H occurred	Boolean	Channel24/GasE/AlarmHOccurred/24050300
Channel 24 Gas E Alarm L occurred	Boolean	Channel24/GasE/AlarmLOccurred/24050400
Channel 24 Gas E Alarm LL occurred	Boolean	Channel24/GasE/AlarmLLOccurred/24050500
Channel 24 Filter E alignment error flag	Boolean	Channel24/FilterE/AlignmentErrorFlag/24050600
Channel 24 Gas W Concentration	Float	Channel24/GasW/Concentration/24060100
Channel 24 Gas W Alarm HH occurred	Boolean	Channel24/GasW/AlarmHHOccurred/24060200
Channel 24 Gas W Alarm H occurred	Boolean	Channel24/GasW/AlarmHOccurred/24060300
Channel 24 Gas W Alarm L occurred	Boolean	Channel24/GasW/AlarmLOccurred/24060400
Channel 24 Gas W Alarm LL occurred	Boolean	Channel24/GasW/AlarmLLOccurred/24060500
Channel 24 Filter W alignment error flag	Boolean	Channel24/FilterW/AlignmentErrorFlag/24060600
Channel 24 Pressure	Float	Channel24/Pressure/24500100
Channel 24 Gas Monitor Air flag	Boolean	Channel24/GasMonitor/Airflag/24500200
Channel 24 Gas Monitor Error flag	Boolean	Channel24/GasMonitor/Errorflag/24500300
Channel 24 Gas Monitor Warning flag	Boolean	Channel24/GasMonitor/Warningflag/24500400
Channel 24 Monitor Display Error Message	String	Channel24/GasMonitor/MonitorDisplayErrorMessage/24500500
Channel 24 Monitor Display Warning Message	String	Channel24/GasMonitor/MonitorDisplayWarningMessage/24500600
Channel 24 Multiplexer error flag	Boolean	Channel24/Multiplexer/errorflag/24600100
Channel 24 Multiplexer warning flag	Boolean	Channel24/Multiplexer/warningflag/24600200
Channel 24 Multiplexer error number	Long	Channel24/Multiplexer/errornumber/24600300
Channel 24 Multiplexer warning number	Long	Channel24/Multiplexer/warningnumber/24600400
Channel 24 Multiplexer Error Description	String	Channel24/Multiplexer/ErrorDescription/24600600
Channel 24 Multiplexer Warning Description	String	Channel24/Multiplexer/WarningDescription/24600700
Set-up Parameters		
Unit gas concentration	String	Setup/Unit/GasConcentration/50010100
Unit Water vapour	String	Setup/Unit/WaterVapour/50010200
Unit pressure	String	Setup/Unit/Pressure/50010300
Unit Temp	String	Setup/Unit/Temp/50010400
Unit length	String	Setup/Unit/Length/50010500
Unit time	String	Setup/Unit/Time/50010600
Gas A name	String	Setup/Name/GasA/50020100
Gas B name	String	Setup/Name/GasB/50020200
Gas C name	String	Setup/Name/GasC/50020300
Gas D name	String	Setup/Name/GasD/50020400
Gas E name	String	Setup/Name/GasE/50020500
Gas A Molecular weight	Float	Setup/MolecularWeight/GasA/50030100
Gas B Molecular weight	Float	Setup/MolecularWeight/GasB/50030200
Gas C Molecular weight	Float	Setup/MolecularWeight/GasC/50030300
Gas D Molecular weight	Float	Setup/MolecularWeight/GasD/50030400
Gas E Molecular weight	Float	Setup/MolecularWeight/GasE/50030500
Gas A SIT	Float	Setup/SIT/GasA/50040100
Gas B SIT	Float	Setup/SIT/GasB/50040200
Gas C SIT	Float	Setup/SIT/GasC/50040300

Gas D SIT	Float	Setup/SIT/GasD/50040400
Gas E SIT	Float	Setup/SIT/GasE/50040500
Gas W SIT	Float	Setup/SIT/GasW/50040600
Normalisation temperature	Float	Setup/Temperature/Normalisation/50050100
Humidity interference compensation	Boolean	Setup/Compensation/HumidityInterference/50060100
Cross compensation	Boolean	Setup/Compensation/Cross/50060200
Flushing mode	String	Setup/Flushing/Mode/50070100
Tube length	Float	Setup/Flushing/TubeLength/50070200
Chamber Flushing Time	Long	Setup/Flushing/ChamberFlushTime/50070300
Tube Flushing Time	Long	Setup/Flushing/TubeFlushTime/50070400
NumberOfConnected 1309 multiplexers	Long	Setup/NumberOfConnectedMultiplexers/1309/50090100
NumberOfConnected 1303 multiplexers	Long	Setup/NumberOfConnectedMultiplexers/1303/50090200
Tags for reading last measurement in Gas Monitor		
LastMeasuredSampleChannel	Long	General/LastMeasuredSampleChannel/600500

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