

**KIMO**<sup>®</sup>  
INSTRUMENTS



KIMO  
**KILOG**

Logiciel d'exploitation des KISTOCK  
*Operating system for KISTOCK instrument*



[www.kimo.fr](http://www.kimo.fr)



# Table of contents

|   |           |
|---|-----------|
| <b>I. Installation procedure.....</b>                     | <b>3</b>  |
| <i>A Minimum required configuration.....</i>              | 3         |
| <i>B Software installation.....</i>                       | 3         |
| <i>C Launching application.....</i>                       | 8         |
| <i>D Software Un-installation.....</i>                    | 8         |
| <b>II. General overview.....</b>                          | <b>9</b>  |
| <i>A Instrument overview.....</i>                         | 9         |
| 1. Case.....  | 9         |
| 2. Display.....   | 9         |
| <i>B Software presentation.....</i>                       | 10        |
| 1. Menus.....   | 10        |
| 2. Tools bar.....   | 12        |
| 3. Database.....  | 13        |
| 4. Display window of the campaigns.....                   | 13        |
| <b>III. KISTOCK configuration.....</b>                    | <b>16</b> |
| <i>A Classes 110/210/310 and 150/250/350 KISTOCK.....</i> | 16        |
| 1. Thermometer mode (Classes 310 and 350 only).....       | 17        |
| 2. Thermo-Hygrometer (Classes 310 and 350 only).....      | 17        |
| <i>B KISTOCK calibration.....</i>                         | 21        |
| <b>IV. Recording campaign launching.....</b>              | <b>24</b> |
| <i>A LEDs assignment.....</i>                             | 24        |
| <i>B Keys function.....</i>                               | 24        |
| <b>V. Download and display recordings.....</b>            | <b>25</b> |
| <i>A Download KISTOCK.....</i>                            | 25        |
| <i>B Download Shuttle (optional).....</i>                 | 25        |
| <i>C Displayed channels selection.....</i>                | 26        |
| <i>D Graph.....</i>                                       | 26        |
| <i>E Chart display.....</i>                               | 28        |
| <i>F Campaign information.....</i>                        | 29        |
| <i>G Other functionalities.....</i>                       | 29        |
| <i>H Print and logo customisation.....</i>                | 30        |

# I. Installation procedure

## A. Minimum configuration required

|                     |                        |
|---------------------|------------------------|
| OS Configuration    | Windows 98, 2000 or XP |
| Communication port  | USB 2.0                |
| CD-ROM drive        |                        |
| Internet Explorer 6 |                        |
| RAM                 | 128 MO                 |
| Free disk space     | 125 MO                 |

## B. Software installation



### WARNING

Before starting installation process, make sure the USB cable is **unplugged**.

**Insert CD into CD-ROM drive.** The installation auto runs. If not, use your browser to launch the « SetupKILOG » file from the installation CD. After having selected setup language, you must follow instructions.



### **C. Launching application**

The KILOG application can be launched by :

- Using the appropriate « KILOG » icon created on your desktop.
- Or using « Start », « Programs », « KIMO Instruments ».

### **D. Software Un-installation**

Using « Start », « Parameters », « Configuration panel », « Add/Delete program », select « KILOG » and follow Windows recommendations to uninstall the application. « FTDI USB serial converter drivers » can be removed using the same procedure.

## II. General overview

### A. Instrument overview

#### 1. Case



#### 2. Display



**V ou mV**....Voltage in V ou mV  
**%RH**.....Relative Humidity  
**°F**.....Temperature in Fahrenheit  
**°C**.....Temperature in Celsius  
**td**.....Dew point temperature  
**A ou mA**....Current in A or mA

**END** Indicates that the campaign is finished

**REC** Indicated that the value is recorded

**LOG** Flashing : Waiting for start command (button or date)  
 Fixed : campaign in progress

**FULL** Slow flashing : 80-90% memory used  
 Fast flashing : 90-100% memory used  
 Constant : memory full

**12**  
**23**  
**34** Number of displayed channels

**INT** Internal channel measurement

**0** Thermocouple K type

**1** Thermocouple T type

**2** Thermocouple J type

**ACT** Actual mesured values

**TIME** Interval times

Battery level : 5 states  
 Flashing from last bloc level  
 Press « Select » key to refresh battery level

**MIN** Displayed values are min and max of correspondant channel  
**MAX**

**DT** Measurement made by internal sensor

**7**  
 Alarm action type : rising or falling action

**UNIT** Display of selected unit

**OFF** Auto Offtime delay (30secondes)

**bAt** flashing on the screen + flashing of LEDs : mean that battery must be changed

**Err**+ flashing of the green LED : detection of communication error

**Err**+ flashing of the red LED : detection measurement error

→ Press « Select » and « OK » keys to reset the instrument when **Err** is displaying.

## B. Software presentation

The KILOG software is a MDI (*Multiple Document Interface*) that allows you to open several files simultaneously.

The main window features the elements below :

- A main menu bar
- A tool bar with different icons
- A list of files from the shared « database »
- A visualization window of the campaigns



### 1. Menus

#### File menu

- **Open** : browses all disks the user can access from a standard Windows opening file session.
- **Open with preview** : allows opening of a file located on the available disks with a preview of the graph and a summary of the campaign.
- **Close**
- **Saver / Save as** : allows to save modifications brought to current file. Concerned modifications :
  - Colour and style of curve
  - Points style
  - Added curves
  - Name and comments of campaign
  - Channel names
  - Units of channels
  - Zooms and gridlines
- **Save period** : create new file using the points of the period from the displayed graph.
- **Export** : this functions allows to export graph as an image file (BMP, JPG...) and chart as a text file (Excel®. file format)
- **File reset** : Deletes all added modifications to a file (Returns to original file format)
- **Properties** : Displays a summary of the campaign and allows to modify the name and the comments of a campaign. It is also possible to add, modify or delete information on the customer and/or the operator of the campaign.
- **Page set-up / print preview / print : Standard edit / preview / print Windows® interface.**
- **Exit.**

#### Edition Menu

- **Copy** : Copy view in the clipboard. The copy is done according to the selected view :
  - If the graph is selected, the image of the graph will be pasted into the clipboard.
  - If the chart is selected, the selected lines will be pasted into the clipboard (only the first 1000 values will be copied) – Use Export function from file menu to export complete chart to Excel®.
- **Select all** : This function is only available when graph is selected, it allows the selection of all the lines in the chart array.

## Data logger menu

The data logger menu allows to configure the KISTOCK instruments.

- **Configuration** : If a KISTOCK is detected, a campaign configuration window is displayed.
- **Downloading** : If a KISTOCK is detected, the application will automatically propose to save the recorded campaign using the campaign name as file name.
- **Saved configurations** : Configuration database access. Saved configurations can be accessed and loaded into KISTOCK loggers.
- **KISTOCK calibration** : If a KISTOCK is detected with no recording campaign in progress, this menu will allow you to adjust the measurement of the different channels using one or two points method (offset and/or offset + slope adjustment)

## View menu

This menu is also available from the graph window and details of this menu are detailed further in this manual.

## Functions menu

- **Add function** : The user can add several channels – those channels can be calculated from existing channels.
  - **Modify function** : If a channel has been added using the “Add function” menu, this new channel can be edited and modified.
  - **Delete function(s)** : Allows to delete one or several added calculated channels.
- This menu is only available for single recording campaigns.

## Tools Menu

- **Language** : Select software language.
- **Customer Database** : Add, modify and/or delete Customer files in the Customer database.
- **Operator Database** : Add, modify and/or delete Operator files in the Operator database.
- **Options** : Define graphical properties (colours, curves type etc.) of the graph view. It is also possible to define the default graphic properties for the curve color, background color, grid color...

## Windows menu

Organise opened windows (Cascade / tile windows etc..). The opened windows are listed in this menu for a quick access.

## « ? » menu

Access information concerning the software version and the “Help” function.

## 2. Tool bars

Three different tool bars are available : **File, Logger and Graph.**

| Group                         | Icon  | Function                             |
|-------------------------------|---|--------------------------------------|
| «FILE»<br>Menu<br>shortcuts   |    | Open file                            |
|                               |    | Preview of recordings                |
|                               |    | Save                                 |
|                               |    | Export Graph                         |
|                               |    | Export Chart                         |
|                               |    | Preview before printing              |
|                               |    | Print                                |
| «LOGGER»<br>Menu<br>shortcuts |    | Display KISTOCK configuration window |
|                               |    | Download KISTOCK                     |
|                               |    | ONLINE mode                          |
| «GRAPH»<br>menu<br>shortcuts  |    | Connect points                       |
|                               |    | Mark points                          |
|                               |    | Initialisation                       |
|                               |    | Selection pointer                    |
|                               |    | Browse cursor                        |
|                               |   | Zoom in                              |
|                               |  | Zoom out                             |
|                               |  | Forward Zoom                         |
|                               |  | Move point                           |
|                               |  | Add/remove channels                  |
|                               |  | Apply default settings               |
|                               |  | Campaign data                        |

### 3. Database

The left part of the main window allows you to quickly access the saved files located in the shared folder of the users.

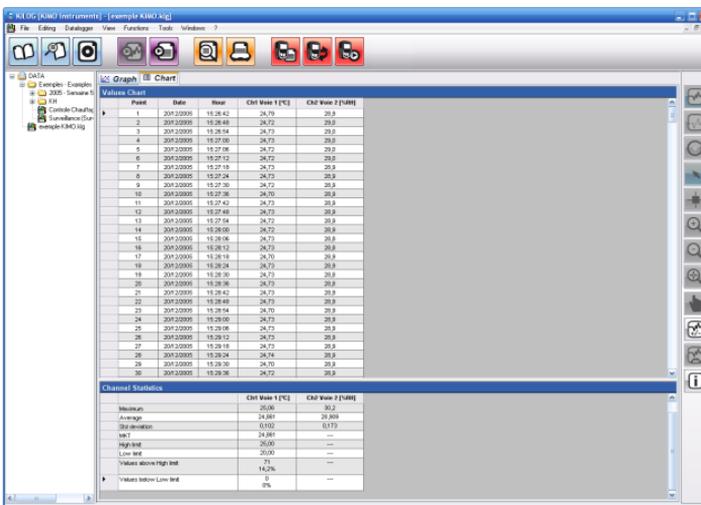
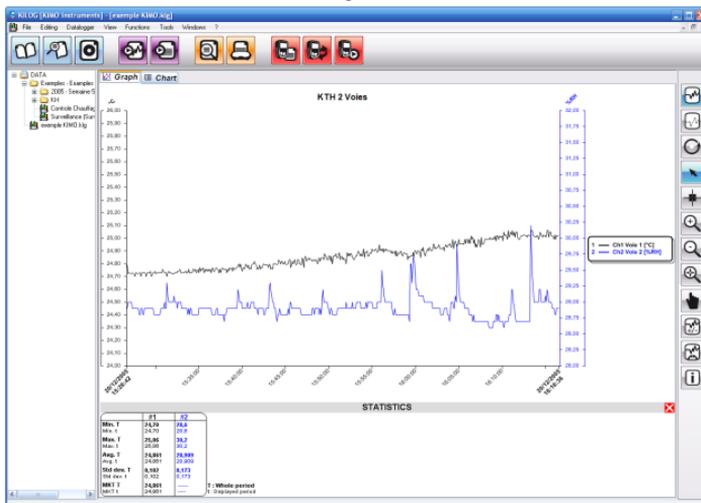
Those files represent a common AMKO database for the users with access to the DATA directory.

The files can be opened simply by double-clicking on them or from the sub-menu you may access using the right-click function of your wheel-mouse when you are on the selected file.

### 4. Display window of the campaigns

This window proposes two main tabs :

- « Graph » tab : displays the curves and/or points from the selected campaign.
- « Chart » tab : displays the chart of the recorded values and a statistic summary of minimum, maximum, average etc. values.



### III. KISTOCK configuration

#### A. Class 110/210/310 and 150/250/350 KISTOCK

If a KISTOCK logger is connected, its current configuration is displayed and a summary of the campaign in progress is displayed in the first window. It is then possible to download the recorded values of the campaign in progress or to access the configuration window of the KISTOCK.

#### Summary of the last configuration used

This window features 3 main fields :

- Device : Name, type, Serial number and firmware version of the KISTOCK.
- Device state : Current recording mode (logger, thermometer, thermo-hygrometer), LEDs and display activation, battery level.
- Data set : Summary of the last/current campaign, summary of the recorded channels.

The screenshot shows a software window titled "KTH-350 P/I" with a blue title bar and standard window controls. The interface is divided into several sections:

- Device:** Kistock type: **KTH-350 P I**, Serial number: **10.09.0002**, Software version: **1.0**
- Device state:** Current mode: **Datalogger**. LEDs: **OH** (green indicator), **OH** (red indicator with "Alarm" label). Display: **OH**. Battery: **100 %** (full battery icon).
- Data set:** Data set name: **KTH350PI\_2**, Comments: (empty). Data set state: **Completed**. Start date: **15/09/2010 10:24:25**, Stop date: **15/09/2010 10:30:23**. Logging mode: **Instantaneous**. Recording interval: **00:00:02**. Start type: **Date**. Measure interval: **00:00:01**. Stop condition: **180 pts**. Nb of records: **180**. Stop with button: **OH**. There are "Start" and "Stop" buttons.
- Channels recap:** A table with 9 columns: Ch..., Name, Sensor, unit, Conv., Range, Low limit, High limit, Measure.

| Ch... | Name | Sensor                | unit | Conv. | Range   | Low limit | High limit | Measure  |
|-------|------|-----------------------|------|-------|---------|-----------|------------|----------|
| Ch1   |      | Standard thermo/hy... | °C   | ---   | -20/120 | 22,0      | 30,0       | 22,0 °C  |
| Ch2   |      | Standard thermo/hy... | %RH  | ---   | 0/100   | 50,0      | 80,0       | 37,6 %RH |
|       |      |                       |      |       |         |           |            |          |
|       |      |                       |      |       |         |           |            |          |

At the bottom, there are three buttons: "Download", "New configuration", and "Close".

## The KISTOCK configuration is achieved in 4 steps :

- Device configuration
- Channel(s) configuration
- Record configuration
- Recap of the configuration

The last KISTOCK configuration is always proposed by default, however, it is also possible to load a saved one from the configuration database.

Use the  icon to obtain some help on the configuration options.

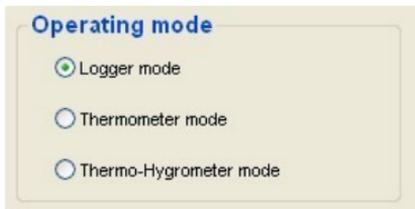
## **STEP 1 : Device configuration**

The first step of the configuration consists in selecting the measuring mode and the display options.

All the devices have a recording mode. The Classes 310 and 350 devices also have a **thermometer** mode (KTT 310, KTR 350 et KTH350) and/or **thermo-hygrometer** mode (KTH 350)

If the thermometer or thermo-hygrometer mode is selected, the other steps of the configuration are not necessary.

The operator simply select the auto-extinguishing time and the thermocouple type for a KTT 310. Use the "Confirm" button to send the configuration to the instrument.



**Both alarm and status LEDs are disabled in those two modes.**

### **1. Thermometer mode (classe 310 and 350 only)**

A short press on the OK key activates the thermometer mode, the devices will automatically switch off after auto extinguishing time. Both temperature channels are displayed.

In the thermometer mode, use the « SELECT » key to display and access temperature measurement sub-functions :

- **1 : HOLD** : Freezes the displayed values – units are flashing.
- **2 : Min/Max** : displays mini and max for each channel.
- **3 : Delta T** : displays « dt » and the temperature difference between the two channels.
- **4 : Exit** : Back to normal temperature measurement.

The « OK » key allows you to exit from any sub-function.

In the thermometer mode, use the « OK » key to enter its configuration sub-menu :

- KTH 350 and  
KTR 350  
models
- **1 : Units** : « Unit » on first row, °C or °F on second row. Swap from °C to °F using "SELECT" key and confirm with "OK" key.
  - **2 : Auto-extinguishing** : « OFF » on first row, 1 to 30 min on second row. Change time using "SELECT" key and confirm with "OK" key.
  - **3 : Exit** : Back to normal temperature measurement.

- KT 310  
models
- **1 : Units** : « Unit » on first row, °C or °F on second row. Swap from °C to °F using "SELECT" key and confirm with "OK" key.
  - **2 : Thermocouple type** : Select K (0), J (1) or T (2) thermocouple type and confirm with "OK" key
  - **3 : Auto-extinguishing** : « OFF » on first row, 1 to 30 min on second row. Change time using "SELECT" key and confirm with "OK" key.
  - **4 : Exit** : Back to normal temperature measurement.

A long press (5s) on "OK" key switches off the thermometer.

## 2. Thermo-Hygrometer (Class 350 KTH model only)

A short press on the OK key activates the thermo-Hygrometer mode, the devices will switch off automatically after auto extinguishing time. By pressing the "SELECT" key for 2 seconds, the instrument will display temperature and hygrometry, then hygrometry and dew point and finally temperature and dew point.

In the thermometer mode, use the « SELECT » key to display and access measurements sub-functions

- **1 : HOLD** : Freezes the displayed values – units are flashing.
- **2 : Min/Max** : displays mini and max for each channel.
- **3 : Exit** : Back to normal temperature measurement.

The « OK » key allows you to exit from any sub-function.

In the thermo-hygrometer mode, use the « OK » key to enter its configuration sub-menu :

- **1 : Units** : « Unit » on first row, °C or °F on second row. Swap from °C to °F using "SELECT" key and confirm with "OK" key.
- **2 : Auto-extinguishing** : « OFF » on first row, 1 to 30 min on second row. Change time using "SELECT" key and confirm with "OK" key.
- **3 : Exit** : Back to normal temperature measurement.

A long press (5 s) on « OK » key switches off the thermometer.

### • Display options

On instruments with a display unit, the display function can be enabled, disabled or key protected (activation by pressing the "SELECT" key for 3 s)

The operator can enable/disable the status/alarm LEDs separately.

If the logger mode is selected, use "Next" button to go to the channel configuration stage:



## STEP 2 : Channel configuration

The channel configuration window presents as many tabs as available channels on the logger. The operator can select/unselect the different available channels.

If the "Record channel" is selected, some other parameters are available.

A selected channel can be displayed or not by the logger (if the logger has an activated display unit) but it is not possible to display a channel which is not recorded.

A **Measure** section allows you to select the appropriate probe type and its associated units or eventually to define a measuring range for the conversion of a current/voltage input.

| Cha...                              | Name | Sensor                      | unit | Conv. | Range     | Low limit | High limit |
|-------------------------------------|------|-----------------------------|------|-------|-----------|-----------|------------|
| <input checked="" type="checkbox"/> | Ch1  | Standard thermo/hygro re... | °C   | ---   | -20 / 120 | 22,0      | 30,0       |
| <input checked="" type="checkbox"/> | Ch2  | Standard thermo/hygro re... | %RH  | ---   | 0 / 100   | 50,0      | 80,0       |
| <input type="checkbox"/>            | Ch3  |                             |      |       |           |           |            |

*In order to record dew point values with the appropriate loggers (KH and KTH), simply select °C td or °F td on channel 1/2..*

If the operator wants to convert a signal coming from an analog input, simply enter the minimum and maximum values of the range, the conversion will automatically be done when downloading the logger.

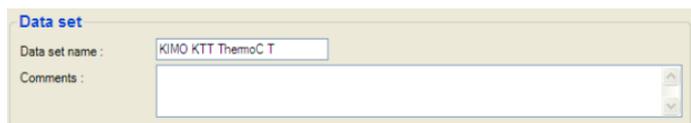
An **Alarm limit** panel offers the possibility to configure an upper and lower limit for each channel. The limits can be typed in and correspond to the measuring range or to the data conversion of current/voltage if this option is selected.

A recap chart is located at the bottom of the window. This summary of the recorded channels cannot be edited.

### STEP 3 : Record configuration

Now the channel inputs have been defined, the operator has to define the way the values will be recorded. A third tab gives you access to the record settings.

A first bloc "**Data set**" allows you to input the campaign name (max : 20 characters) and a comment (max : 50 characters) for the record.



The second bloc "**Configuration**" allows you to define the recording, start and stop modes.

- 5 recording modes are available :



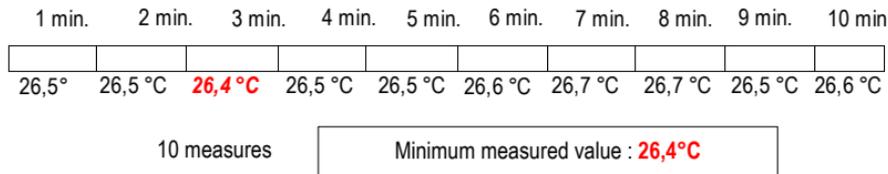
- **Instantaneous** : values are logged at defined recording interval.

- **Minimum** : the logged value is the minimum of all the measurement carried out during the defined recording interval.

**Ex** : Recording interval = 10 minutes

Measuring interval = 1 minute

The logger carries out a measurement every minute but only records the minimum value found over the period of 10 minutes.



- **Maximum** : Same principle as minimum value but the maximum value is recorded.

- **Average** : Same principle as maximum and minimum but the average value is recorded.

- **Survey** : This mode requires alarm limit configuration and 2 recording intervals : "Normal" interval and "Alarm" interval.

The logger measures values every second and records those values at the "Normal" interval time if no alarm is detected or at "Alarm" interval time if an alarm condition is detected.

• 4 start conditions are available :

- **By date / Hour :** The operator defines the time/date of start of the campaign

|              |               |              |                     |
|--------------|---------------|--------------|---------------------|
| Start type : | Date / Hour   | Start date : | 20/06/2006 10:50:46 |
| Stop type :  | Nb of records | Stop date :  | 11/07/2006 06:20:46 |

- **By button :** The campaign will start by pressing « OK » button for 5 seconds.

- **By PC :** The campaign can be started by using the « START » button of the KILOG interface.

- **« Online » :** The « Online » start corresponds to a special KISTOCK feature, the measured values are not recorded in the KISTOCK but directly sent to the PC. The “Online” campaigns can only be started or stopped using the KILOG software.

• Seven stop conditions are available :

- **By button :** in this mode, the campaign can be stopped by pressing the “OK” key for 5 seconds (the alarm LED (red) will then flash 5 times). Warning : the stop condition « By button » is the upper stop level condition.

- **By date/hour :** Only available when a start by date/hour has been selected.

- **Number of records :** the operator simply enters the number of values that the KISTOCK will record. This number depends on the available memory of the KISTOCK.

KTH-350 P/I : 10.09.0002

Device Channel(s) Record Recap

**Data set**  
Data set name : KTH350PI\_2  
Comments :

**Configuration**  
Logging mode : Instantaneous  
Start type : Date / Hour Start date : 28/09/2010 11:13:31  
Stop type : Nb of records Stop date : 28/09/2010 11:19:29  
Nb of records : 180  
Stop with button :

**Intervals**  
Recording interval : 2 Sec  
Measure interval : 1 Sec

**Recording duration**  
Data set duration : 0 : 00 : 05 : 58  
Battery capacity : 52 Day(s)

Load existing configuration ... Cancel < Previous Next >

Stop type :  ▼

Nb of records :

- **Whole memory** : The recording is stopped when the capacity of the memory is full.
- **Recording duration** : The operator defines the length of the recording in days, hours, minutes and seconds.

Stop type :  ▼

Nb of records :

Recording duration :

| Day(s)                         | Hour(s)                         | Minute(s)                      | Second(s)                      |
|--------------------------------|---------------------------------|--------------------------------|--------------------------------|
| <input type="text" value="0"/> | <input type="text" value="12"/> | <input type="text" value="0"/> | <input type="text" value="0"/> |

Stop with button :

- **Rollover** : In this particular case, there is not any stop condition, the new values are recorded on the latest ones.

- **Online** : only available with the « Online » start condition.

The « Date / hour », « length duration » and « Rollover » stop modes are available with the survey mode

A third bloc “**Interval**” allows to define the recording interval and a second interval (measure interval or alarm interval) according to the selected recording mode.

### Intervals

Recording interval :   ▼

Measure interval :   ▼

- **Instantaneous** : The first interval is the recording interval, the second one is only available with logger with a display unit and correspond to the display interval time.
- **Minimum, Maximum, Average mode** : The two intervals are necessary, a recording interval and a measure interval.
- **Survey mode** : The two intervals are necessary -« Normal » interval time and « Alarm » interval time.

The last bloc “**Recording duration**” summarizes the length of the campaign and the battery capacity with the actual configuration.

### Recording duration

|                     | Day(s)     | Hour(s) | Min | Sec |
|---------------------|------------|---------|-----|-----|
| Data set duration : | 0          | 12      | 00  | 00  |
| Battery capacity :  | 656 Day(s) |         |     |     |

?

Using the “**Next**” button, you will access a recap window in which the whole campaign data will be displayed (name, comments, intervals etc.)

## STEP 4 : Recap of configuration

The last window summarizes the different selected options (campaign name, start and stop type, etc.) before sending this configuration to the logger.

The logger programming will start by using the “Confirm” button of this last window.

**Recap**

Data set name : **KTH350PI\_2** Save configuration

Logging mode : **Instantaneous**

Start type : **Date / Hour** Start date : **28/09/2010 11:13:31**

Stop type : **Nb of records** Stop date : **28/09/2010 11:19:27**

Nb of records : **179**

Stop with button : **OH**

Recording interval : **2 Sec** Recording duration : **0** Day(s) **00** Hour(s) **05** Mn **56** Sec

Measure interval : **1 Sec**

**Channels recap**

| Cha...                              | D... | Name | Sensor                      | unit | Conv. | Range     | Low limit | High limit |
|-------------------------------------|------|------|-----------------------------|------|-------|-----------|-----------|------------|
| <input checked="" type="checkbox"/> | Yes  |      | Standard thermo/hygro re... | *C   | ---   | -20 / 120 | 22,0      | 30,0       |
| <input checked="" type="checkbox"/> | Yes  |      | Standard thermo/hygro re... | %RH  | ---   | 0 / 100   | 50,0      | 80,0       |
| <input type="checkbox"/>            |      |      |                             |      |       |           |           |            |

Load existing configuration ... Cancel < Previous Confirm

### Display of recap

During recording, it is also possible to get some campaign data on the display unit of the logger. Use the “SELECT” key to access the required information :

- 1 : Number of points above and/or below alarm level.
- 2 : Minimum and maximum value for each channel.
- 3 : Display alarm values (high and low) for each channel
- 4 : Display recording interval for survey mode  
Display recording interval and measuring interval for the other mode
- 5 : Return to recording mode

A brief press on the “OK” key allows to go back to recording mode.

## B. KISTOCK calibration

### Calibration menu access

The calibration of the KISTOCK instrument is only possible when a recording is not in progress. Stop the campaign in progress to access the adjustment menu...

### Channel calibration

According to the KISTOCK type, you can adjust the following parameters :

| KISTOCK type | Parameters  |
|--------------|---|
| KH           | Temperature ch 1 / Hygrometry ch 2 / NTC Temperature ch 3 / NTC Temperature ch 4 / Light ch 5                                     |
| KT           | Internal temperature / NTC Temperature ch 1 / NTC Temperature ch 2 / NTC Temperature ch 3 / NTC Temperature ch 4                  |
| KTT          | Thermocouple K ch 1 / Thermocouple K ch 2 / Thermocouple T ch 1 / Thermocouple T ch 2 / Thermocouple J ch 1 / Thermocouple J ch 2 |
| KTH          | Temperature ch 1 / Hygrometry ch 2 / Temperature ch 3 / Voltage 0-10V ch 3 / Current ch 3 / Voltage 0-2.5V ch 3                   |
| KTR          | Temperature ch 1 / Temperature ch 3 / Voltage 0-10V ch 3 / Current ch 3 voltage 0-2.5V ch 3                                       |

For each measured parameter, calibration can be done using a single point reference method (slope or offset correction) or using a 2 point adjustment method (slope and offset corrections).

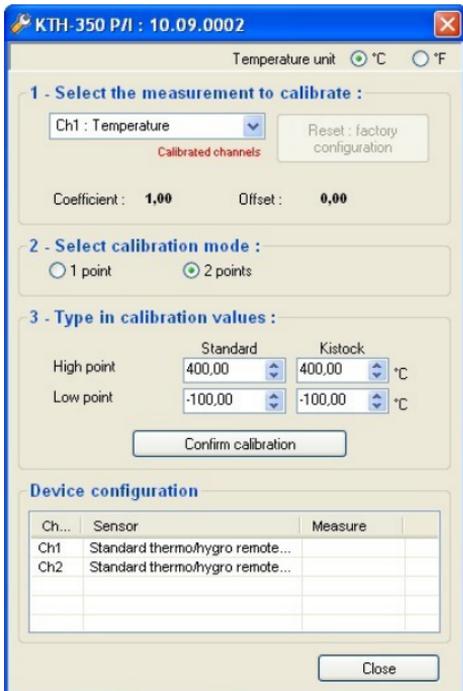
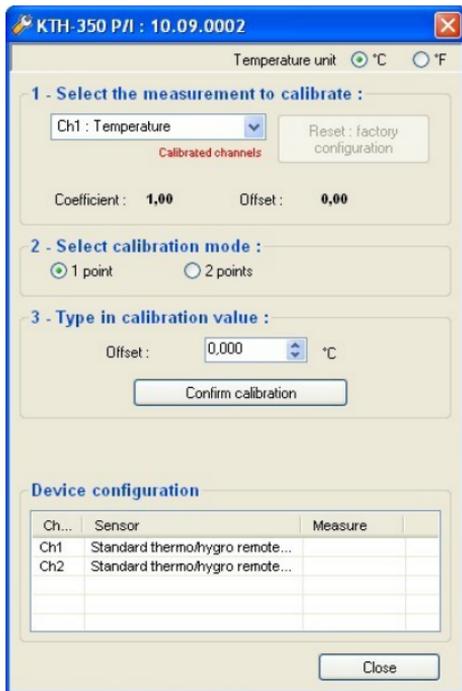
The modified channels (with slope and/or offset corrections) are indicated in red. For each channel it is also possible to return to the factory values by clicking on the "RESET : Factory configuration" button.

### Single point calibration :

Only the offset value is changed when the adjustment is done using the single point method except for the light measurement for which a coefficient is applied.

### Two points calibration :

Input high and low calibration values and the measured values by the KISTOCK, a new slope and an new offset will be automatically calculated. Press the "Confirm calibration" button to send the new parameters to the logger.



The "Device configuration" displays the measured values (every 5 seconds) – the displayed values are the ones selected in the previous configuration of the instrument.

## IV. Recording campaign launching

When a KISTOCK logger is configured and is waiting for its start condition, the "LOG" segment flashes on its display unit. In this configuration, a short press on the "SELECT" key allows you to display the values of the channels which will be recorded.

A long press (5 seconds) on the "OK" key starts the recording (only if a button start has been configured), the green LED flashes 5 times to indicate the start of the recording.

### A. LEDs assignment

- If the green "ON" LED is enabled, the LED will flash every 15 seconds over the whole recording period.
- If the red « Alarm » LED is enabled, three different states are possible :
  - Off : no alarm condition raised
  - Fast flashing (5 seconds) : actually measuring an alarm condition on at least 1 channel.
  - Slow flashing (15 seconds) : at least one alarm condition has been encountered but now recording normal condition values.

## B. Keys function

If the display function is into the protected mode, a long press on the "SELECT" key allows you to visualise the measured values (3 seconds/channel) of the logged channels.



### 1. «SELECT» key

Allows you to display, **through successive presses**, data of the campaign :

**1** : Number of points above and/or below alarm level.

**2** : Minimum and maximum value for each channel.

**5** : Returns to recording mode.

**3** : Alarm values (high and low) for each channel.

**4** : Recording interval for survey mode and measuring interval for the other mode.



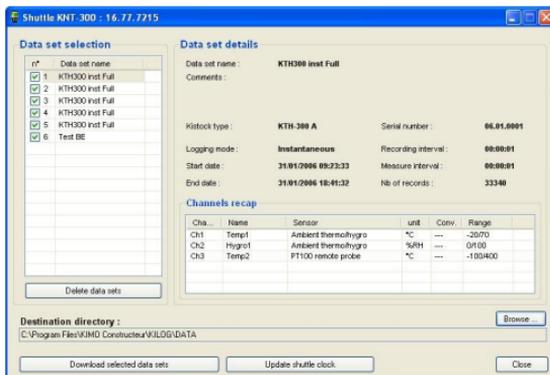
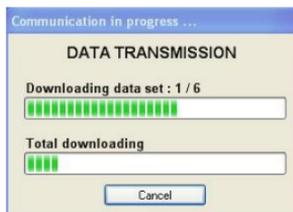
### 2. «OK» key

A brief press on the « OK » key allows you to go back to recording mode. For other functions of « OK » key, see chapter III "KISTOCK configuration" p.12-13.

## V. Download and display recordings

### A. Download KISTOCK

To download a KISTOCK logger, the operator must first specify a file name and a directory for the recorded campaign. After validation of the transfer, a status bar of the download in progress will be displayed, an indication of the duration of the transfer is also displayed below the progress bar.



At the end of the transfer, the application proposes to input information regarding the Customer or the Operator of the recorded campaign.

The Customer and Operator windows contain a list of already saved files. It is then possible to add, delete or modify existing files using the buttons located on the right part of the window. Use the "Add to the data set" button to add information on the Customer or Operator of the recording.

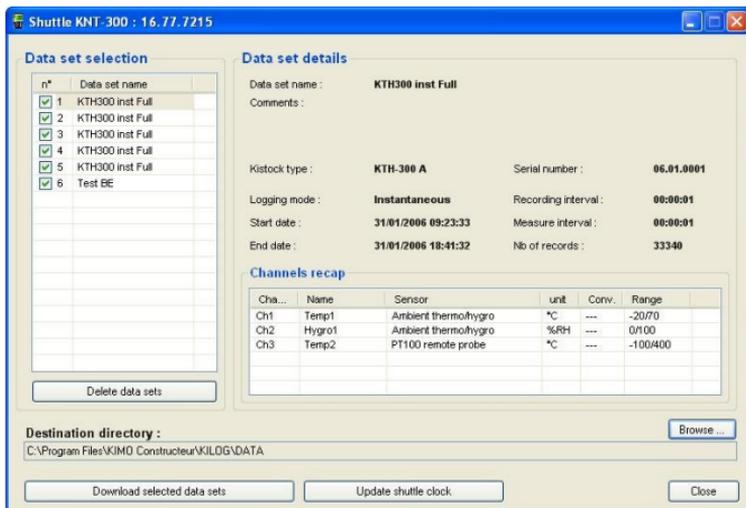
## B. Download Shuttle (optional)

The download function is also available for the KNT-300 shuttle.

If a shuttle is connected to the PC, a download window will be displayed. This interface allows you to select the recorded campaigns in the shuttle and the directory in which the files will be transferred. A summary of the recorded campaigns can be obtained by selecting the appropriate campaign.

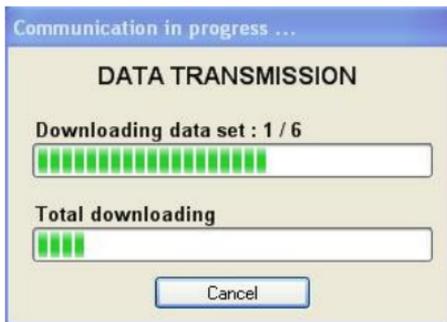
After selecting or unselecting (all the campaigns are selected by default) the campaigns and defining a target directory (default name : date of the day), simply click on the "Download selected campaigns" button.

A progress bar of the download is then displayed.



The "Delete campaigns" button will delete all the campaigns in the KNT-300 shuttle.

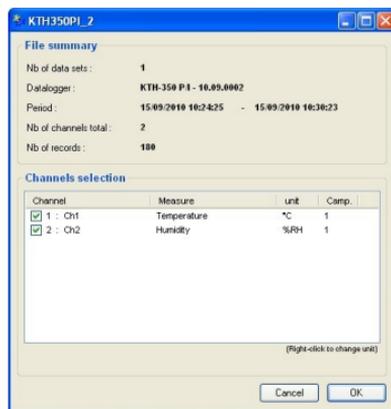
The « Update shuttle clock" allows you to synchronise the shuttle and the PC time.



## C. Displayed channels selection

After selecting the file or the campaign to be opened, the user can select the channels to be displayed from the "Channels selection" window.

It is then possible to change the temperature unit for each recorded channel. Simply right-click on the channel and select the desired unit.



## D. Graph

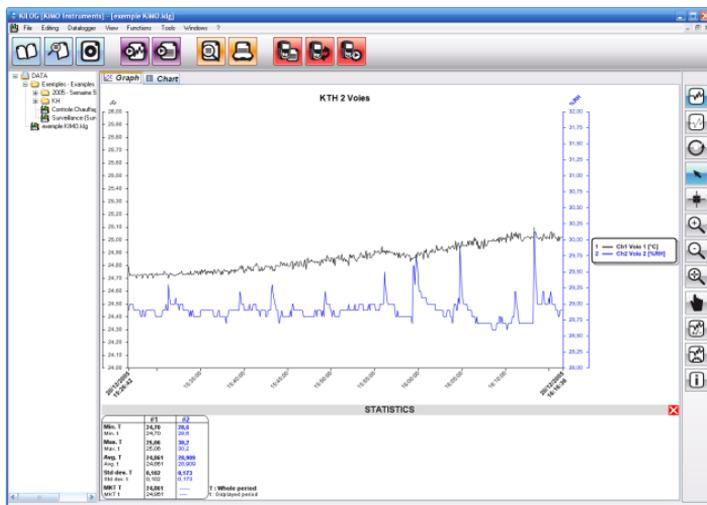
The display window features 6 different items :

- Campaign title
- Legend
- Right scale(s)
- Left scale(s)
- Time axis
- Curves drawing

Theoretically, an infinite number of curves can be displayed, only the performances of the PC will limit the number of displayable curves.

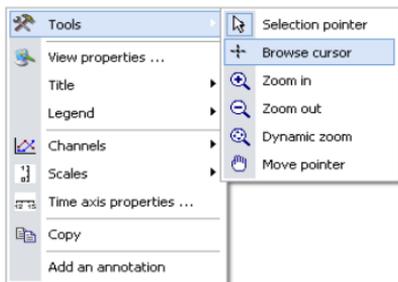
The left/right scales and the time axis are reactive zones, i.e. dedicated menus/tools boxes will appear using the right-click function of your wheel mouse.

The « STATISTICS » panel displays the minimum, maximum, average, standard deviation and MKT temperature (the MKT temperature is a simplified way of expressing the overall effect of temperature fluctuations during storage or transit perishable goods). It can be hidden/displayed by clicking on the Statistics bar.



## Curves options and Tools

The available menus / functions may vary according to the selected part of the displayed graph.

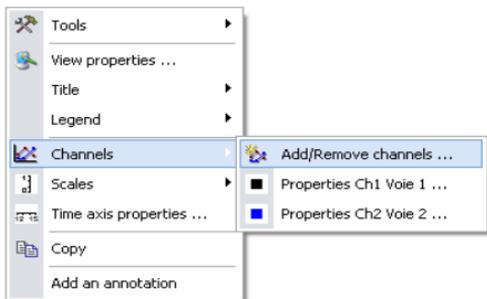


## Graphical Contextual menu

The graphical contextual menu can be accessed by clicking on the right button of your wheel mouse from the display window.

The menu features the following items :

- **Tools** : selection of tools (also available in the tool bar).
- **View properties** : open the view properties window.
- **Title** : Display or hide the campaign title.
- **legend** : Display or hide the campaign legend.
- **Channels** : open the view properties window of the displayed channels or the properties of the selected channel
- **Scales** : opens the property windows of the scale.
- **Time axis properties** : opens the time axis properties window.
- **Cut** : cuts and pastes the graph image in the clip-board – this image can be then inserted in other Windows applications (Spreadsheets, documents)



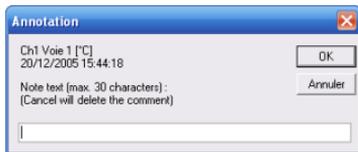
### « View properties » window

This window allows to : select background color, select grid color, change campaign name (graphic title), hide/display title, change title font, hide/display legend and change font legend.

### « Add an annotation » window

A cursor appears  and allows you to add :

- a general comment by clicking on the background of the graph
- a specific comment to a channel by clicking on a point on the corresponding curve



Annotations are marked by a pointer on the graph and chart : they can be modified or deleted by clicking on the marker.

The text of the annotation is not displayed permanently on the graph, place your mouse over the marker to show the comment.

When printed, the pointer and the text of the annotation are added to the graph. For the table, a reference number is inserted into the corresponding box and referenced comments are listed at the end of the chart.

### « View properties » window

The operator may access to the view properties by :

Selecting this sub-menu in the graph menu or by double-clicking on a plotted channel.

#### • **Curve panel :**

- Colour, style et width of the curve
- Smoothing

#### • **Limits panel :**

- High and low limit values and percentage of values above and below those limits.
  - Limits colour if displayed on the graph.
  - Hide/display limits on the graph.
- This panel and its function are disabled if no limits are configured.

#### • **Points panel :**

- Select point type
- Spacing between plotted points  
(Ex : spacing = 5, one every five points will be plotted).

#### • **Scale panel :**

Common scale or single scale for each channel. (Common : the different channels will use the same scale / Single : each channel will have its corresponding scale on both sides of the graph).

### « Scale properties » window :

The operator may access the scale properties by :  
Selecting this sub-menu in the graph menu or by double-clicking on a scale on the graph.

#### • **Range panel :**

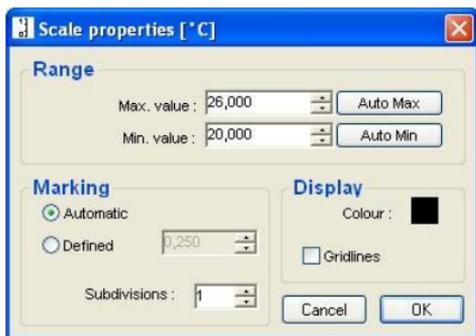
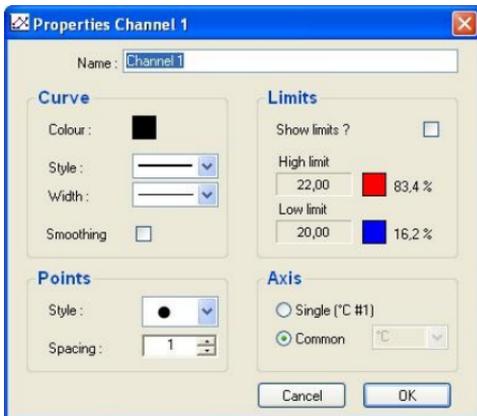
- Input min and max values of scale (the default values correspond to the calculated min and max values for the current graph).
- Reset min and max values – automatic calculation according to chart values.

#### • **Marking panel :**

- Select between automatic and defined scale.
- The subdivision value indicates the number of markings (no value) between the 2 main markings (with displayed values).  
Ex : 0.5 steps with 5 subdivisions.

#### • **Display Panel :**

- Select axis colour.
- Enable/disable gridlines display.



## « Time axis properties » window

The operator may access to the view properties by :  
Selecting this sub-menu in the graph menu  
or by double-clicking on a the time axis on the graph.

### • **Period panel :**

- Select between an absolute time representation (date and hour) or a relative representation of the time axis (starts at 0). If the second option is selected the relative period corresponding to the absolute period is displayed.

### • **Interval panel :**

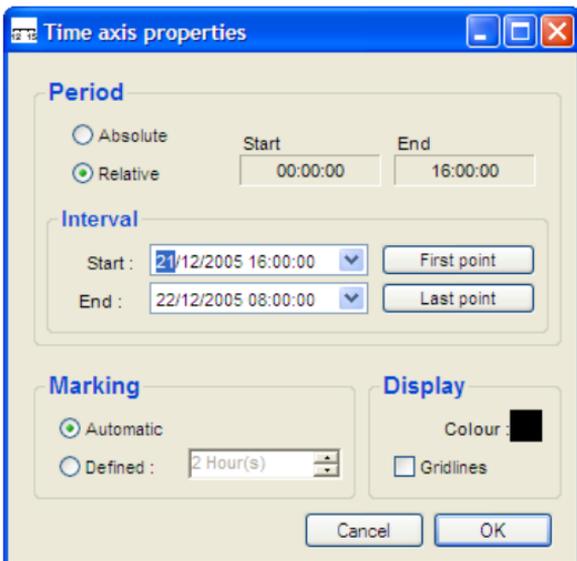
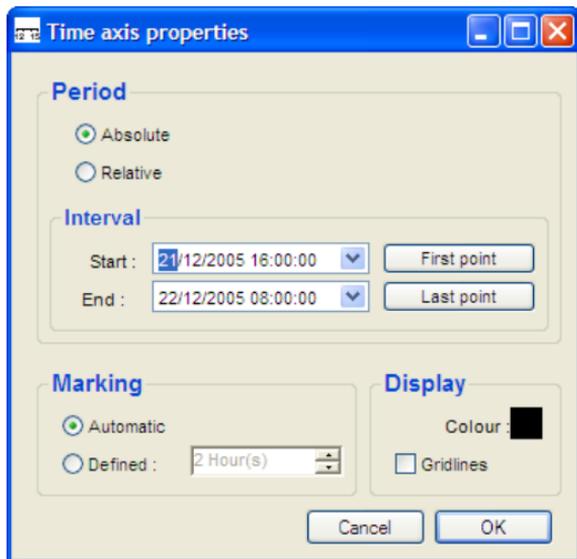
- Select start and end date for the time axis.  
- Reset time axis start and stop date. ("First point" and "Last point" buttons).

### • **Marking panel :**

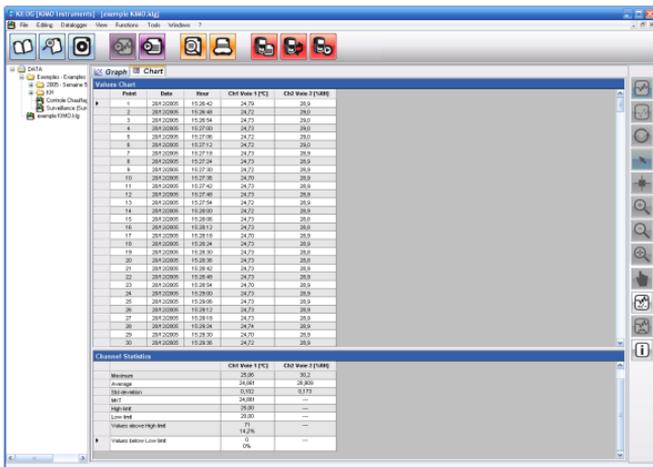
Select between an automatically calculated marking or a user defined one.

### • **Display panel :**

Select axis colour.  
Enable/disable gridlines display.



## E. Chart display



### Chart array

The chart array respectively features (in rows) :  
point number, date, time of the recording and value of each channel.

The values above the upper alarm limit are listed in red, the values below the lower alarm limit are listed in blue.

### Statistics chart

The statistic chart features (for each channel) :

- min. value
- max. value
- average value
- standard deviation
- MKT temperature
- alarm values, number of points (and its corresponding percentage) of points above or below those limits.

Simply click on min or max value from the statistics chart to highlight the corresponding lines in the chart array.

## F. Campaign information

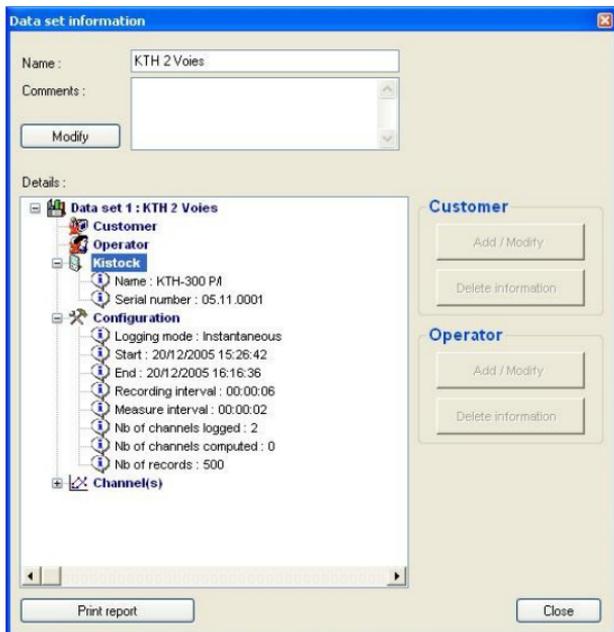
When a file is open, campaign details can be accessed using the <File> <Properties> menu or the icon from the tool bar.



This windows allows you to modify the campaign name and the associated comments.

It is also possible to change the Customer and/or Operator data from this window. Select the data you want to modify (Operator or Customer), the button on the left part of this window will be then accessible.

The Operator and Customer windows have already been detailed in the "KISTOCK interface : Downloading a KISTOCK" section.



## G. Other fonctionnalities

### Add channel by functions

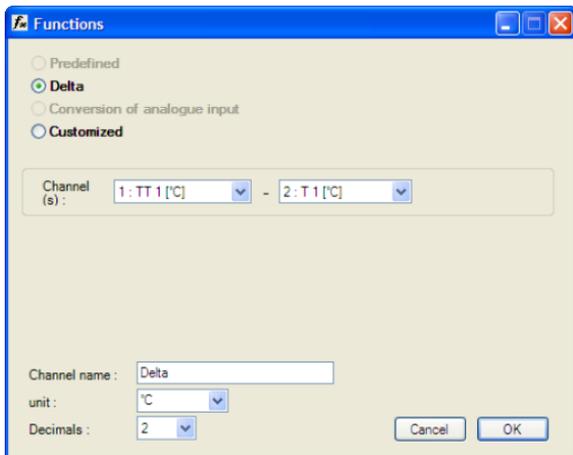
The operator may add additional channels, calculated from existing channels. The operator may select functions from an appropriate "Functions" window.

#### • Predefined :

Those functions are only available if at least one temperature channel and an hygrometry channel have been recorded. The operator may select among several functions (Absolute humidity, dew point, wet temperature or enthalpy) and the channels to be used for the calculations.

#### • Delta :

This function is available when at least two channels with the same unit have been recorded. This function simply returns the difference of the two selected channels.



### • Analog conversion :

This function allows the operator to convert values from a current or voltage input (mA , mV or V) to a specific range. The operator may select among several available units or input a user defined unit (max 5 characters).

### • Customised :

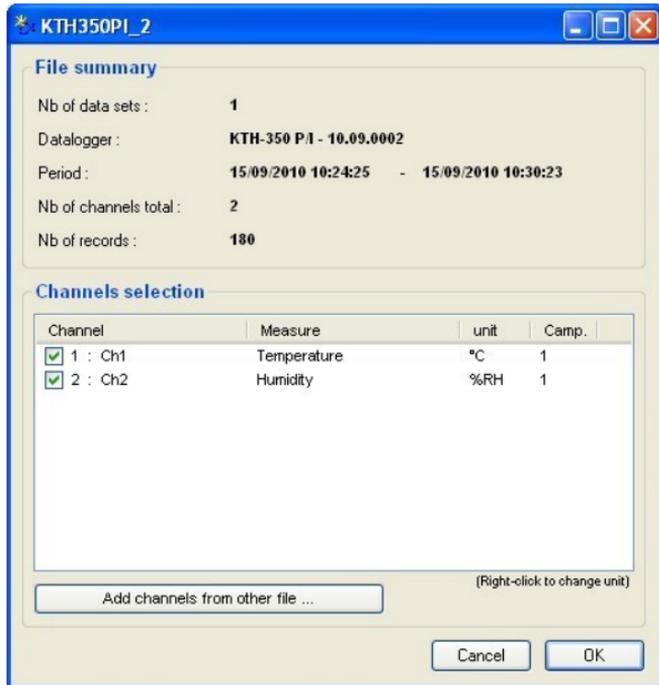
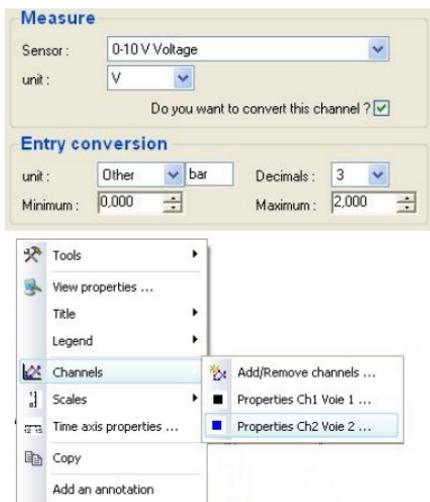
This function allows the operator to input its own formula using predefined mathematical functions and selecting the available channels.

### • Delete channel :

Deleting a special function will delete all the channels associated to this function.

### • Merging files

The KILOG application allows you to display several recorded campaigns on a single visualisation window. The operator first opens a file then uses the “Add channels from other file” button from the <View><Channels><Add/remove channels...> menu to select other campaigns to be added.



The time axis may be automatically extended if necessary.

The new chart array integrates the new channels/values but may be discontinued because the different campaigns may not have the same recording dates/intervals. Channels with no recording at a particular date will be quoted "---".

| Values Chart |            |          |            |            |
|--------------|------------|----------|------------|------------|
| Point        | Date       | Heure    | File1 [°C] | File2 [°C] |
| 417          | 10/01/2006 | 00:00:00 | 5,13       | ---        |
| 418          | 10/01/2006 | 00:10:55 | ---        | 4,78       |
| 419          | 10/01/2006 | 00:15:00 | 5,12       | ---        |
| 420          | 10/01/2006 | 00:20:55 | ---        | 4,73       |
| 421          | 10/01/2006 | 00:30:00 | 5,13       | ---        |
| 422          | 10/01/2006 | 00:40:55 | ---        | 4,73       |
| 423          | 10/01/2006 | 00:45:00 | 5,12       | ---        |
| 424          | 10/01/2006 | 00:55:55 | ---        | 4,73       |
| 425          | 10/01/2006 | 01:00:00 | 5,11       | ---        |
| 426          | 10/01/2006 | 01:10:55 | ---        | 4,73       |
| 427          | 10/01/2006 | 01:15:00 | 5,10       | ---        |
| 428          | 10/01/2006 | 01:25:55 | ---        | 4,72       |
| 429          | 10/01/2006 | 01:30:00 | 5,09       | ---        |
| 430          | 10/01/2006 | 01:40:55 | ---        | 4,72       |
| 431          | 10/01/2006 | 01:40:00 | 5,08       | ---        |
| 432          | 10/01/2006 | 01:55:55 | ---        | 4,71       |
| 433          | 10/01/2006 | 02:00:00 | 5,09       | ---        |
| 434          | 10/01/2006 | 02:10:55 | ---        | 4,71       |
| 435          | 10/01/2006 | 02:15:00 | 5,08       | ---        |
| 436          | 10/01/2006 | 02:25:55 | ---        | 4,71       |
| 437          | 10/01/2006 | 02:30:00 | 5,07       | ---        |
| 438          | 10/01/2006 | 02:40:55 | ---        | 4,71       |
| 439          | 10/01/2006 | 02:45:00 | 5,07       | ---        |
| 440          | 10/01/2006 | 02:55:55 | ---        | 4,70       |
| 441          | 10/01/2006 | 03:00:00 | 5,06       | ---        |
| 442          | 10/01/2006 | 03:10:55 | ---        | 4,70       |
| 443          | 10/01/2006 | 03:15:00 | 5,06       | ---        |
| 444          | 10/01/2006 | 03:25:55 | ---        | 4,70       |
| 445          | 10/01/2006 | 03:30:00 | 5,05       | ---        |
| 446          | 10/01/2006 | 03:40:55 | ---        | 4,69       |
| 447          | 10/01/2006 | 03:45:00 | 5,05       | ---        |
| 448          | 10/01/2006 | 03:55:55 | ---        | 4,68       |
| 449          | 10/01/2006 | 04:00:00 | 5,05       | ---        |
| 450          | 10/01/2006 | 04:10:55 | ---        | 4,68       |
| 451          | 10/01/2006 | 04:15:00 | 5,04       | ---        |
| 452          | 10/01/2006 | 04:25:55 | ---        | 4,68       |
| 453          | 10/01/2006 | 04:30:00 | 5,04       | ---        |
| 454          | 10/01/2006 | 04:40:55 | ---        | 4,69       |
| 455          | 10/01/2006 | 04:45:00 | 5,03       | ---        |

This function can slow down the whole application performances because of the large amount of points to process and display.

After a file importation, some functions will be no longer available. Adding or deleting channels will no longer be possible. Furthermore, as time intervals from the different added campaign may vary, some display functions will no longer be accessible.

## H. Print and logo customisation

In order to print, click on



icon and choose the selection required :



The user can insert its own logo on the printed reports of the campaigns. Simply :

- Go to the directory where KILOG software has been installed.
- Select « LOGOS » directory.
- Add your logo using « logo.bmp » name (.bmp. Format only !!).

Warning : The customer logo file must be named logo and its format must be a bitmap file to be inserted in the printed reports.



**[www.kimo.fr](http://www.kimo.fr)**

**EXPORT DEPARTMENT**  
Boulevard de Beaubourg - Emerainville - BP 48  
77312 MARNE LA VALLEE CEDEX 2  
Tel : + 33.1.60.06.69.25 - Fax : + 33.1.60.06.69.29

