





USER MANUAL

OPERATING SOFTWARE FOR KISTOCK DATA LOGGERS

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1 INTRODUCTION

KILOG-2015 software allows the user to set their KISTOCK and to save and use data with great simplicity. Available as option, with the autonomous classes 20, 50, 120, 220 and 320 KISTOCK data loggers, KILOG software allows the viewing and use of measurement datasets.

Its main functions:

- Viewing the results of the measurement datasets
- Zoom function for more detailed study of a period
- Setting up the data loggers
- Management of the instruments database
- Data recovery and creation of files as image or tables files

2 SOFTWARE INSTALLATION

2.1 Protection

It is possible to copy the USB key for back-up and the installation on several workstations.

2.2 Minimum configuration required

- Windows XP SP3, Windows Vista, Windows 7 or Windows 8
- USB port for communication with KISTOCK
- Internet connection to update the instruments
- RAM 1024 MB

2.3 Installation

Necessary rights are compulsory. If not, contact your administrator.

- ➢ Insert the USB key into the USB port.
- > Open the folder of the key.
- > Open the folder with the name of the software.
- Double click on the .exe file.
- > The installation auto runs.
- > Follow the instructions on the screen.



According to the software installed or not on the computer, (mainly NET Framework), waiting time can be long – Please wait.

The software is now installed, **KILOG** icon is on the desktop.



3 CONNECT THE DATA LOGGER TO THE COMPUTER

Class 50 KISTOCK

KISTOCK of the class 50 are equipped with a micro-USB connector. Thanks to the USB – micro-USB cable, you can connect your data logger to the computer.

- 1. Connect the male USB connector to the computer USB port.
- 2. Open the USB cap on the bottom of the data logger.
- 3. Connect the male micro-USB connector to the female micro-USB connector of the data logger.







Class 120 KISTOCK

KISTOCK of the class 120 are equipped with an integrated male USB connection. You can connect it directly to the computer.



Class 220 KISTOCK

KISTOCK of the class 220 are equipped with a micro-USB connector. Thanks to the USB – micro-USB cable, you can connect your data logger to the computer.

- 1. Connect the male USB connector to the computer USB port.
- 2. Open the USB cap on the bottom of the data logger.
- 3. Connect the male micro-USB connector to the female micro-USB connector of the data logger.







Class 320 KISTOCK

KISTOCK of the class 320 are equipped with a micro-USB connector. Thanks to the USB – micro-USB cable, you can connect your data logger to the computer.

Perform the same procedure as for class 220 KISTOCK.

4 SOFTWARE PRESENTATION

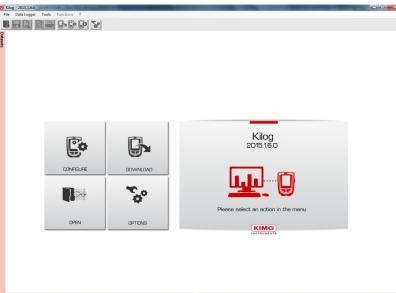
4.1 Launch the application

 Double-click the desktop icon. or



Go to "Start", then "KILOG 2015".

The following homepage opens:



4.2 Main menu buttons



Data logger settings: displays the devices state and a configuration menu (channels, instrument and a configuration summary).



Download datasets saved in the data logger: global view, legend and statistics, graphs and table of data.



Application parameters: location of the data files, MKT value, printing options, graph properties.



Open files: recent files and measurement datasets.

4.3 Menu bar

File menu

- **Open:** opens recent files or datasets. For each selected file, details of the document are displayed (type of recording, interval, preview etc.)
- **Close:** closes the current file
- **Save:** saves the current file
- **Save as:** saves the modifications on the document, generates the modifications on a new document and allows to rename the document
- **Save period:** creates a new file containing only the points of the period displayed on the graph
- Export: exports the table of measured values in CSV (spreadsheet), the graph in image or the report in PDF
- Add file: imports points of another file into the current file
- Reset file: restores the original file cancelling all the modifications
- **Properties:** displays information about the dataset
- Print preview: view the document before printing it
- **Print:** launches the current file printing
- Exit: closes the software

Data logger menu

- **Configuration:** data logger state and configuration menu (channels, data logger and summary)
- **Downloading:** download the datasets saved in the data logger and save them in the computer.
- Measurement correction: correct the measurement (coefficient, offset).
- **Products database:** manage the database of data loggers that have been connected to the computer

Functions menu

- Add a function: the user can add additional channels, calculated from channels already saved
- **Modify a function:** if a channel added through a function is selected on the graph or on the table, edit it and modify it from this menu
- **Delete a function:** if a channel added through a function is selected on the graph or on the table, this channel and all channels calculated later will be deleted

<u>Tools menu</u>

- Language: select the required language
- Management of customers and operators forms: manage your lists of contacts, customers and operators and integrate them in dataset files. Customers and operators are listed on the left menu. Click a name on the list to get contact details: company, address, phone number, email, etc.
- Management of time slots templates: access the time slots templates management window
- Select the time slots: access the time slots window
- **Options:** application parameters: data files location, MKT value, printing options, graph properties

<u>"?" menu</u>

- **About:** displays the software version, the users base, the global base and the language
- Help: link to the software user manual



4.4 Toolbar

The toolbar has shortcuts to get to the functions menu quickly.



Open a dataset



Save the current dataset



Export data



Printing **preview**



Print the dataset



Download the connected data logger



Configure the connected data logger

Start a measurement dataset in "ONLINE" mode, direct recording



Options to set parameters of the application

4.5 Side tab: "Datasets"

At any time, a quick access to recent opened files and to measurement datasets is possible thanks to the side tab located on the left-hand corner:

Datasets	 Click this tab to display the following menu: Double-click a file to open it. 	Campagne C://Jeers/Public/Documents/KIMO Instruments/KIMO 2 C://Jeers/Public/Documents/KIMO Instruments/KIMO 2 C://Jeers/Public/Documents/KIMO Instruments/KIMO 2 C://Jeers/Public/Documents/KIMO Instruments/KIMO 2 C://Jeers/Public/Documents/KIMO Instruments/KIMO 2
		Datasets
	The opened files are organised in tabs for a quick and simple navigation: (9) test (9) test mercredi soir (9) Campagne Lundi (9) c	ampagne 5
* Ava	ailable only for classes 220 and 320 KISTOCK.	

SOFTWARE PRESENTATION

5 TOOLS: APPLICATION PARAMETERS

5.1 Application options

There are several options to navigate to the application options:

50

- From the homepage, click or
- From the toolbar, click
- > From the menu bar, select "Tools" then "Options"

Application	options
	Dataset location
General Printing	Darkuk location Cilleen Public/Documents/VIMO Indouments/VIGg 2015/Campagnes Darkuk Micro MKT Dapkay MKT value (Mean Kretic Temperature)
Graph	History Clear history Cancel Confirm

5.1.1 General options

- Set the recording location of data files: select the default location or click to customise it.
- Tick or untick the "Display MKT value" box (Mean Kinetic Temperature) to activate or deactivate the displaying of this value: the MKT temperature is a simplified way to express the overall effect of temperature fluctuations during storage or transit perishable goods
- > Delete the recent history files by clicking Clear history

5.1.2 Printing options

The following windo

	Click	Printing	to set the printing parameters.
--	-------	----------	---------------------------------

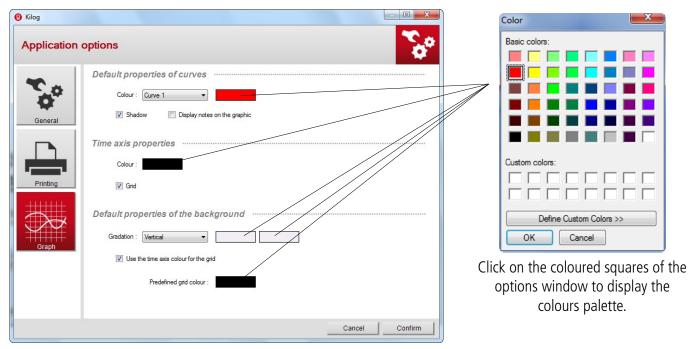
opens:	Application options	
	Control Notice Import Control Notice Import Control Notice Clear	
	Cancel Confirm	

- Define a printing logo. Default logo is the KIMO logo. To modify it, click Browse and select an image file.
- Set the printing options of the graph: print or not the graph background, frame or not notes and set the opacity of the graph notes.
- Click Clear to restore KIMO logo.

5.1.3 Graph options

> Click to set the graph parameters.

The following window opens:



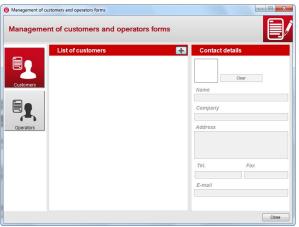
- Define the colour of the different curves, to display or not the shadow of the curves and to display or not notes on the graph.
- > Define the time axis colour and to activate or deactivate the grid.
- Define the colours for a gradation on the background, activate or deactivate the use of time axis colour for the grid or customise it.

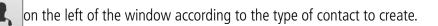
5.2 Manage customers and operators

It is possible to create a base with customers whose datasets are intended for and operators who have performed the datasets.

5.2.1 Create a customer or an operator

In the menu bar, click "Tools" then "Management of customers and operators forms". The following window opens:





Click ➡

Click

A customer or an operator appears on the list:



- Click the line of this customer or operator. Contact details become accessible.
- Enter contact details: name, company, address, phone number, fax and e-mail. Name of the customer or operator and its company appear in the list.
- \succ Click **|** to customise the contact picture selecting an image file on the computer.
- Click "Close" to exit and back to home page. Customer or operator is saved.

5.2.2 Delete a customer or an operator

In the menu bar, click "Tools" then on "Management of customers and operators forms". The following window opens:



- > Select the customer or operator to delete.
- > Click 📃

A message is displayed to confirm the deletion.

- Click "Yes" to delete the customer or operator or click "No" to cancel.
- Click Close the window.

5.2.3 Modify a customer or an operator

> In the menu bar, click "Tools" then on "Management of customers and operators forms".

From the "Management of customers and operators forms" window:

- > Select the customer or operator to modify.
- Modify the required information in "Contact details" part. Modifications are automatically took into account.
- > Click <u>Close</u> to close the window. Modifications are saved.

5.3 Select the language

- > From the menu bar, click **"Tools"** then go to **"Language"**.
- > Select the desired language.

6 MANAGE THE PRODUCT DATABASE

To go to this function, click "Data loggers" in the menu bar then select "Products database".

The following window opens:

Device mai	nagement	
# Name 1 KT 120	Serial n* 1K 15.05,99999	Additional Information
2 KH 50	0K 14.07.99999	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

The software displays the list of data loggers that have been connected to the computer with their serial number.

- > Click **"Additional information"** field in front of the required element to add information.
- ➤ Click close to close the window

6.1 Delete a data logger saved in the database

- > Select the line of the data logger to delete.
- > Click 📃
 - The software displays a confirmation message.
- > Click **"Yes"** to confirm the deletion of the data logger or on **"No"** to cancel.
- \succ Click **Close** to close the window

7 CONFIGURE A KISTOCK

There are several options to navigate to the KISTOCK configuration menu:

- ➢ From the homepage, click
- From the toolbar, click or
- > From the menu bar, click **"Data logger"** then on **"Configuration"**.

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7.1 Display the device state

Once in the "Configuration" menu, the software displays a summary of the device state:

Datalogger Tor	og] ols Functions ?									
Datalogger Tor										
	- 6.00	60 KT20								
1220-0	Device state									
n l		Device	state							
	El ano	Name	Serial n°	Version	Battery					
STATE	 C E 	KH220-O	2K 15.09.99999	1.00 (4000)						
SIALE					100 %					G
ER I										E
ĽO										
U.	Dataset summar	v								
FIGURATION	Dataset name :		Campagne	Туре	of start :		Button			
-	Comments :				of stop :		Loop			
↓ ₩					t date :			2015 16:17:32		
•					date : by button :		10/12/ Enable	2015 16:28:20		
PDATING	Recording mode :		Instant		ording inter		1 seco			
IPDATING	State :		Finished Start	Rec	ording inter surement in	val : iterval :	1 seco 1 seco	nd(s)		
IPDATING				Rec	ording inter	val : iterval :	1 seco	nd(s)		
IPDATING	State :		Finished Start	Rec	ording inter surement in	val : iterval :	1 seco 1 seco	nd(s)		
IPDATING	State : Records count :		Finished Start 11 Points	Rec	ording inter surement in	val : iterval :	1 seco 1 seco	nd(s)		
PDATING	State : Records count :		Finished Start 11 Points	Rec	ording inter surement in	val : iterval :	1 seco 1 seco 10 s.	nd(s) nd(s)	MEASURE	
PDATING	State : Records count : Chani CHANNEL	nels summar	Finished Start I1 Points	Rec	ording inter surement in ording time :	val : iterval : :	1 seco 1 seco 10 s.	nd(s)	MEASURE	
IPDATING	State : Records count : Channel Vin1 Vin2	nels summar	Finished Start 11 Points	Rec Mea Rec	ording inter surement in ording time :	val : iterval : : RANGE	1 seco 1 seco 10 s.	nd(s) nd(s)	MEASURE	
PDATING	State : Records count : Chann CHANNEL Viral Viral	nels summar	Finished Start 11 Points y y PROBE Internal Teerro hype probe Internal Teerro hype probe	Rec UNIT TC	ording inter surement in ording time :	RANGE	1 seco 1 seco 10 s.	nd(s) nd(s)	MEASURE	
JPDATING	State : Records count : Chann CHANNEL Vine1 Vine2 Vine2	nels summar	Finished Start 11 Points y PROBE taternal teerno hype probe taterna teerno hype probe teerno hype probe taterna teerno hype probe teerno hype pr	Rec UNIT TC	ording inter surement in ording time :	RANGE	1 seco 1 seco 10 s.	nd(s) nd(s)	MEASURE	
JPDATING	State : Records count : Chann CHANNEL Vine1 Vine2 Vine2	nels summar	Finished Start 11 Points y PROBE taternal teerno hype probe taterna teerno hype probe teerno hype probe taterna teerno hype probe teerno hype pr	Rec UNIT TC	ording inter surement in ording time :	RANGE	1 seco 1 seco 10 s.	nd(s) nd(s)	MEASURE	
PDATING	State : Records count : Chann CHANNEL Viral Viral	nels summar	Finished Start 11 Points y y PROBE Internal Teerro hype probe Internal Teerro hype probe	Rec UNIT	ording inter surement in ording time :	RANGE	1 seco 1 seco 10 s.	nd(s) nd(s)	MEASURE	
PDATING	State : Records count : Chann CHANNEL Vine1 Vine2 Vine2	nels summar	Finished Start 11 Points y PROBE taternal teerno hype probe taterna teerno hype probe teerno hype probe taterna teerno hype probe teerno hype pr	Rec UNIT	ording inter surement in ording time :	RANGE	1 seco 1 seco 10 s.	nd(s) nd(s)	MEASURE	
PDATING	State : Records count : Chann CHANNEL Vine1 Vine2 Vine2	nels summar	Fielded 2000 IT Points Y PROBE Iternal themo hype pole Iternal themo hype po	UNIT	ording inter surement in ording time :	RANGE	1 seco 1 seco 10 s.	nd(s) nd(s)	MEASURE	
IPDATING	State : Records count : Chann CHANNEL Virel Virel Virel Virel	nels summar NAME	Fielded 2000 IT Points Y PROBE Iternal themo hype pole Iternal themo hype po	UNIT	ording inter surement in ording time :	RANGE	1 seco 1 seco 10 s.	nd(s) nd(s)	MEASURE	
PEDATING	State : Records count : Chann CHANNEL Virel Virel Virel Virel	nels summar NAME	Fielded 2000 IT Points Y PROBE Iternal themo hype pole Iternal themo hype po	UNIT	ording inter surement in ording time :	RANGE	1 seco 1 seco 10 s.	nd(s) nd(s)	MEASURE The second seco	
(PDATING	State : Records count : Chann CHANNEL Virel Virel Virel Virel	nels summar NAME	Fielded 2000 IT Points Y PROBE Iternal themo hype pole Iternal themo hype po	UNIT	ording inter surement in ording time :	RANGE	1 seco 1 seco 10 s.	nd(s) nd(s)	MEASURE	
UPDATING	State : Records count : Chann CHANNEL Virel Virel Virel Virel	nels summar NAME	Fielded 2000 IT Points Y PROBE Iternal themo hype pole Iternal themo hype po	UNIT	ording inter surement in ording time :	RANGE	1 seco 1 seco 10 s.	nd(s) nd(s)	MEASURE To To T	

In the upper part of the screen, the software displays:

- Name
- Serial number
- Firmware version
- Battery state

In "Dataset summary", the following information is displayed:

- Dataset name and the potential comments that have been recorded
- Type of start and stop
- Number of recording points
- Interval of recording and measurement
- Mode and recording duration
- Dataset state (in progress or finished)

Finally, a summary table of channels is displayed with:

- Channel name
- Measurement unit
- Measurement ranges
- High and low thresholds
- Channel number
- Converted channel (if configured, please see page 21)
- Type of probe*

* Only for classes 220 and 320 KISTOCK

7.2 Configure the device and the recording mode

There are several options to navigate to the KISTOCK recording configuration:

 From the homepage, click or



select

In the menu bar, click "Data logger" then "Configuration" and or

Ľ¢

From the "Device state" window, click "New configuration". To load a configuration previously saved, click Load configuration (see page 22 to save a configuration)

The following window opens:

Kilog - 2015.1.6.0 - [Kilo						- 0 -
File Data Logger To	ols Functions ?	-				
	- 6- 6- (°	5°0				
KP321	Recording settin	gs				
	KMC	Device en	Gaussakian			
31	3848	Device con				
\sim	Pc	Name KP321	Serial n° 3K 16.01.00003	Version Battery 1.08 (7251)		
RECORDING SETTINGS		10 02 1	31 10.01.00000	100 %		•
	0.					
1. A.Z.						
	Display	O LEDs	Bluetooth	Mobile applicat points	tion : a sampling will be performed if the dataset has more than 20.000	
CHANNELS	Enabled : ON		ON Enables			
6						
	Dataset			Configuration		
	Dataset name :	test TRET		Recording mode :	instant 🔹 🚺	
SUMMARY	Comments :		(44/63)	Type of start :	Button 👻 🕤	
	pour comparaison ave	c echantilonnage rapide		Type of stop :	Loop	
				Stop by button :	☑ 0	
				Daylight savings time :	- i	
	Intervals			Recording time		
	Recording interv	ral :	1 second(s) •	Recording time :	day(s) hour(s) minute(s) second(s)	
	Measurement in	terval :	1 崇 second(s) 💌	Battery capacity :	43 day(s)	
	Return	Load configu	iration		+ Next	

At any time, it is possible to navigate to the state summary of the device clicking

🛃 Return

7.2.1 Set the display and the LEDs

From the "Recording" window:

> Set the display of the KISTOCK* "ON" or "OFF" by clicking





ON OFF

Set the protected mode of the KISTOCK* "ON" or "OFF" by clicking ON_OFF If the protected mode is activated, the measured values will not be displayed on the data logger. To deactivate the protected mode, set it "OFF" or hold the "Selection" key of the data logger for 3 seconds.

- > Set the alarm by LEDs** "ON" or "OFF" by clicking
- Set the operating LEDs** "ON" or "OFF" by clicking

* Only for models with display

^{**} Only for classes 220 and 320 KISTOCK

7.2.2 Activate the wireless connection (Class 320 Kistock)

Activate or deactivate the wireless connection function of class 320 Kistock and define or not a protection code which will be asked by Kistock Mobile application.

- Activate or deactivate the wireless connection by clicking ON /OFF
- Activate or deactivate the protection code by clicking ON/OFF
- Then define the protection code if it has been activated.



7.2.3 Name and comment a dataset

From "Device configuration" window:

> Name the dataset in the "Dataset name" field and write a comment in the "Comment" field.

7.2.4 Change daylight time

From the "Recording" window:

> Activate or deactivate the automatic setting of daylight time ticking or unticking the box.

Daylight	savings	time	:
----------	---------	------	---

> Click **"Information"** to display the time changes.

7.2.5 Set the date and time format

From the **"Recording"** window: ▶ Set the date and time format*. Date and time format :

7.2.6 Activate or deactivate the automatic generation of the PDF report (Class 120 Kistock)

Tick or untick the "Automatic generation of the PDF report" box to activate or deactivate the automatic generation of the PDF report when connecting your data logger to the computer*.

Automatic generation of the PDF report :

7.2.7 Set the recording mode

From the "Recording" window:

- Select the required recording mode:
 - Instantaneous: values are recorded at defined recording interval
 - **Minimum****: configuration of this mode requires 2 intervals: one measurement interval and one recording interval. The recorded value will be the minimum measured by the data logger according to the defined intervals.

6

Example: recording interval = 10 minutes

measurement interval = 1 minute

The KISTOCK performs a measurement every minute but only records the minimum value found over the period of 10 minutes.

1 min.	2 min.	3 min.	4 min.	5 min.	6 min.	7 min.	8 min.	9 min.	10 min.
26.5°C	26.5°C	26.4°C	26.5°C	26.5°C	26.6°C	26.7°C	26.7°C	26.5°C	26.6°C

10 measurements

Recording of the minimum measured: 26.4°C

* Only for class 120 KISTOCK ** Only for classes 220 and 320 KISTOCK

- **Maximum****: same principle as minimum mode but the maximum value is recorded.
- **Average****: same principle as minimum and maximum modes but the recorded value is the average of all the measurements during the recording interval defined.
- **Monitoring***: this recording mode requires two intervals:
 - one "classic" recording interval
 - one "in alarm" recording mode

The data logger performs a measurement every second and stores values at "classic" interval when the measurements are between two defined thresholds, or at "in alarm" interval when measurements are out of thresholds.

7.2.8 Set the recording intervals

Intervals

From the "Recording" window:

Set the recording interval and potentially a second one* whose role is variable according to the type of operation selected:

 Recording interval :
 10 minute(s)

 Measurement interval :
 1 minute(s)

- **Instantaneous mode:** the 1st interval is the recording interval of values, the 2nd one allows to define a reloading interval of the displayed value on the screen (for classes 50 and 120, this interval is by default 1 minute).
- Minimum, Maximum, Average modes*: both intervals are compulsory, one recording interval and one measurement interval.
- **Monitoring mode*:** both intervals are compulsory, one "normal" recording interval and one "in alarm" recording interval.

7.2.9 Types of dataset start and stop

From the **"Recording"** window:

Configuration		Type of start :	Button 👻
Recording mode :	Instant	~	Button Date / Time PC
Type of stop :	Records count		Online Total memory
Stop by button : Records count :		Type of stop :	Date / Time Duration
Activate summer / winter Date and time format :	□ <u>i</u> ji-mm-aaaa ▼ 24h ▼		Records count Total memory Loop

- Select a type of start:
 - "Button": set a start by a long press on the "OK" button of the data logger
 - "Date/Time": set a start according to a defined date and time. Set the required date and time: modify the date and time in the field with the numeric keypad or click □, icon to display the calendar and select the required date.

Type of start :	Date / Time 👻	0	14/12/	2015 1	0:56:5	0			
			•		déce	mbre	2015		
			lun.	mar.	mer.	jeu.	ven.	sam.	dim.
			30	1	2	3	4	5	6
			7	8	9	10	11	12	13
			14	15	16	17	18	19	20
			21	22	23	24	25	26	27
			28	29	30	31	1	2	3
			4	5	6	7	8	9	10
] Aujo	ourd'h	ui : 14	/12/20)15

• **"PC":** triggers a measurement start directly from the KILOG software. For that, once the configuration of the data logger is completed, the software will ask to start the dataset immediately: click **"Yes"** to start the

* Only for classes 220 and 320 KISTOCK

** The "seconds" unit is available only for classes 220 and 320 KISTOCK

dataset or "No" to start it later from the "Device state" menu clicking "Start".

- **Online*:** the "**Online**" start corresponds to a specific functioning of the KISTOCK because the measured values by the data logger are not stored in its memory but directly sent to the computer. "**Online**" datasets can only be launched and stopped by the software.
- Select a type of stop:
 - "Date / time": set a stop according to a defined date and a time, only if the "Date and time" start has been selected before. Set the required date and time.

Type of stop : Date / Time

14/12/2015 11:01:18

• "Records count": stop measurements from a number of recordings. Set the required number of recordings.

4500

*

cords count :

- "Total memory": stop measurements when the memory of the data logger is full.
- **"Loop":** set a continuous recording. When the memory is full, the first recorded values are overwritten by the new ones.
- Tick the **"Stop by button"** box to allow to stop the measurement at anytime thanks to the **"OK"** button of the data logger.
- "Online" is available only with an "Online" * start.
- **Recording time:** the **"Recording time"** is calculated according to the recording interval and the recording number that have been set. For example, if a 1-minute recording interval and a recording number of two have been set, the recording time will be two minutes:

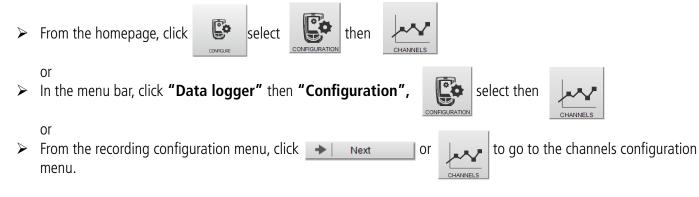
Recording time									
		day(s)	hour((s)	minute	e(s)	secor	ıd(s)	
Recording time	:	0	0	*	2	*	0	*	

Change this duration selecting a type of stop by **"Duration"**. Set the required recording duration: days, hours, minutes and seconds**. According to the set duration and measurement interval, the number of recording points are automatically calculated.

*Date/time" and "Recording time" types of stop and "Loop" storage mode are not available with the "Monitoring" mode.

Once the configuration is completed, click
 Next to go to the "Channel configuration" menu or
 Return to back to the "Device state".

7.3 Configure the channels



^{*} Only for classes 220 and 320 KISTOCK

At any time, to back to the previous configuration menu, click 💽 Previous

The software displays the channels summary:

Channe	eis summary						
CHANNEL	NAME	PROBE	UNIT	CONV.	RANGE	LOW THRESHOLD	HIGH THRESHOLD
Vint1		Internal thermo-hygro probe	°C		-20/70		
Vint2		Internal thermo-hygro probe	%RH		0/100		
Vint3		None					
V1		None					
V2		None					

Select the line of the channel to be configured

- Select the line of the channel to configure.
- > Tick or untick **"Save"** box to activate or deactivate the recording of measured values.
- > Tick or untick **"Display"** box to activate or deactivate the displaying of the channel*.
- > Name the channel in the **"Name"** field.
- > Select the probe to link to this channel.
- Select the required unit.

Channels aumanaur

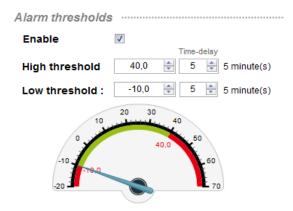
Channel			
Save :			
Display	:		
Channe	el name :		
Probe	Interna	al thermo-hygro probe 🔹	
Unit :	°C	·	>

When the recording option on the selected channel is active, the 🖌 icon appears on the line of the concerned channel.

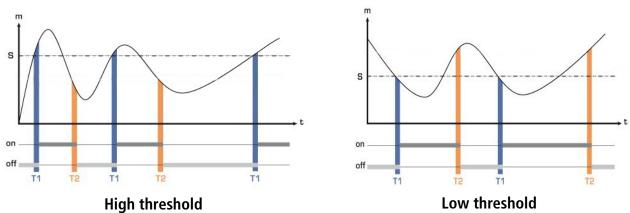
7.3.1 Set the alarm thresholds

From the "Channels configuration" window:

- > Select the channel to set in the channel summary table by clicking on the line of the concerned channel.
- > Tick the **"Enable"** box in the **"Alarm thresholds"** part.
- Set the high and low thresholds. If the measured value exceeds the defined value for the high threshold, or if it is below the defined value for the low threshold, the alarm will go off.
- Set the time-delay. The time-delay corresponds to the period of time that passes before the alarm goes off when the threshold has been reached. If 0 minute is selected, the alarm will go off immediately after a threshold exceeded or when the measured value is lower than the defined low threshold.



- <u>High threshold:</u> the alarm goes off when the measurement **exceeds** the threshold and stops when it is **below** the threshold.
- <u>Low threshold</u>: the alarm goes off when the measurement is **below** the threshold and stops when it **exceeds** the threshold



7.3.2 Conversion

From the "Channel conversion" window, it is possible to:

- **"Convert"** an analogue input*:
- Write the minimum and maximum values of the corresponding range and the conversion is automatically carried out during the KISTOCK downloading.
- > Set the accuracy corresponding to the number of required digits.

Conversion			
Convert :			
Unit :	None -	None	
Maximum :	5 V	0,0	* *
Minimum :	0 V	0,0	* *
Accuracy :	0.0 🔻		

- Choose a "Free" unit:
- > Select **"Free"** at the bottom of the units scrolling list.
- > Name it in the associated field.
- Click the required digits to set its display.

Conversion		
Convert :		
Unit :	Free 🔻	A
Maximum :	5 V	0,0 🚔
Minimum :	0 V	0,0
Accuracy :	0.0 -	
X.	X .	

* Only for the class 220 and 320 KISTOCK.

7.4 Summary

From the home me	าน, click	CONFIGURE	ch			hen	SUMM	ARY		
or										
On the menu bar, c	ick "Data	logge	er" th	en "Con	figure'	, choo			and	SUMMAR
or							\square			
From the channel se	etting men	u, click	+	Next		or				
A.L					• • • • • • •		SUMMARY	_	1	
At any time, to n	avigate t	o the	previ	ous sett	ing me	enu, c	IICK	-	Previou	s
Summary window:										
	File Datalogger Tools Fund		NT20							×
		nmary	KT20							
	atanta 🖉	xino S	ummary							
	31	-C3 /	lame	Serial n°		Battery				
	RECORDING		T220-O	X00000000X		99 %				
	CHANNELS Dat	taset summary								
	Dat	taset name : mments :	Dataset			of start : of stop :	Button	on		
						ds count : by button :	3 Poin Enable			
	SUMMARY				Measu	ding interval : arement interva		nd(s)		
	Red	cording mode :	Instant			ding time : er/winter time :	3 m. 1 Disab			
		Channel	s summary							
		CHANNEL	NAME	PROBE	UNIT	CONV. RA	NGE LOW	HIGH THRESHOLD		
		✓ Vint1 ✓ V1		Internal temperature probe Thermo-hygro probe	'C	40/7				
		✔ V2		Thermo-hygro probe	%RH	0/10				
	s	ave configuration	ī.				+ Previo	is 🔶	Validate	

Summary of previous settings: the dataset name and possible notes, the recording mode and recording settings, the summary table of channels.

To modify the device configuration, click

7.4.1 Save the settings

From the **"Summary"** window:

To save the settings immediately, click Save configuration
The following window is displayed:

oq		
Please enter the name o	of the configuration.	
Test 22-01-2		

Write the configuration name and click "Confirm".A window is displayed to confirm the configuration is saved.

7.4.2 Load an existing configuration

From the "Summary" window:

It is possible to load an existing configuration to set another device. To load an existing configuration, click
Load configuration

The following window is displayed with the list of previous saved configuration:

10/6/2015 9:36:34 AM

- From this window, select the required configuration and click "OK" to use it with your device or click "Delete" to delete this configuration.
- > To confirm the device configuration, click **"Confirm"**.

A message is displayed to confirm that the device has been successfully set. Then a second message is displayed asking to configure another device of the same type.

To set another device of the same type, click YES and the software stays on the configuration screen, or click NO and the software backs to homepage.

8 DATA PROCESSING

8.1 Download the KISTOCK

There are several options to download the data from the device:

- From the home menu, click "Download" or
- From the toolbar, click the "Downloading" icon. \geq
- From the menu bar, go to "Data logger" and click "Downloading". \triangleright

6

From the **"Device state"** configuration window, click \triangleright

The screen displays the following progress bar: Please wait a few seconds...

A saving window opens.

Campage

Name and save the dataset on the computer. \geq The following screen is displayed:

Display options

[°C] 21,1 vint1

28,0

27,0

[%RH] Min : ---Max : 46,7 Avg : ---Sd : ---MKT : ---

24

27,5 27,5 27,4 27,0 26,9 26,8 09/12/2015 17:14:09 09/12/2015 17:15:09 31,8 31,9 8.2 Global view In the upper left-hand corner, the global view of the measurement data graph is displayed:

09/12/2015 17:05:09

09/12/2015 17:06:09

09/12/2015 17:07:09

09/12/2015 17:08:09

09/12/2015 17:09:09 09/12/2015 17:09:09 09/12/2015 17:10:09 09/12/2015 17:11:09

09/12/2015 17:12:09

09/12/2015 17:13:09

28,0

28,0

28,0

27.9

27.8

27,8 27,7

27,6

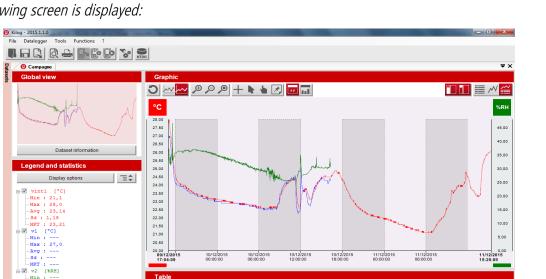
27,0

26,9 26,9 26,9

26,9 27,0 27,0

27,0

Global view Dataset information



33,1 37,3

33,9

34.1

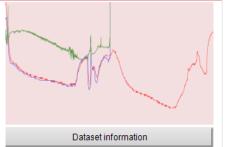
33,4 33,7

32,2

32,1

32,4

Download





Click "Dataset Information" to display the summary of the recording configuration, an overview of the global view and information about the device and the active channels:

ataset Dataset : Dataset				Edit name	
Type of dataset	Interval		Preview	2777 Points	
Instant Start date	1 minute(s) End date				
09/12/2015 17:04:09 Comments	11/12/2015 1	5:20:09	K AN	N	
			- M		
Device : KT220-0					
	Serial n°				
KIMO	2K 15.09.9		Software version 0.99		
			0.99	°C	
KIMO	2K 15.09.9	99999	0.99 Prature probe	°C °C	
KIMO	2K 15.09.9	Internal tempe	0.99 rature probe	-	ļ
-	2K 15.09.9 Vint1 V1	Internal tempe Thermo-hygro	0.99 rature probe	°C	
KT 200	2K 15.09.9 Vint1 V1	Internal tempe Thermo-hygro	0.99 rature probe	°C	

From this window:

≻	Modify the dataset name by clicking on "Edit name":					
	Dataset parameters		Edit name			

The following window opens:

New dataset name :	
ataset	

Enter the required name and click **"Confirm"**. The new dataset name is displayed on the top of the information window.

> Write a comment about the dataset in **"Comments"** field:

Comments	
Monday morning test	
Link a "Customer" or "Operator" to this measurement dataset:	
Select form Select form	
Click "Select form" then the required contact and confirm by clicking "Select form" . The chosen contact displayed in the information window.	is

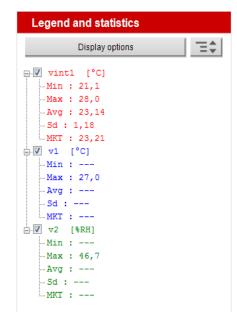
8.3 Legend and statistics

In the lower left-hand corner are "Legend and Statistics":

Details concerning each channel are displayed: for example for temperature measurements, the minimum and maximum values, average, standard deviation and MKT temperature are displayed.

The measurement units are between [] square brackets: [°C], [%RH], [lux], [A]...

- Tick or untick the box corresponding to the concerned channel to display it or not on the graph.
- Click = to develop or hide channels details.



- > Click the "Display options" to select the statistics display:
 - on whole graph
 - only on the visible area
 - on both
- Tick the corresponding box.

The visible area is between < > square brackets:

Display options	=‡
Statistics on the whole graphic	
 Statistics on the visible area (identified in squa Statistics on the whole graphic and on the visible area (identified in square braining) 	ŗ
	,

Legend and statistics		
Display options	=‡	
⊡.V vint1 [°C]		
Min : 21,1		
Max : 28,0		
-Avg : 23,14		
-Sd : 1,18		
MKT : 23,21		

Display options: statistics only on visible area

Legend and statistics		
Display options		
<pre></pre>		

Display options:	statistics on	whole	graph	AND
	visible area			

8.4 Graph

In the upper right-hand corner, the measured values are displayed as a graph:



8.4.1 Graph toolbar

Cancels all display modifications carried out on the graph and restores to the initial display

Displays the points corresponding to the measurements on the graph



Displays the graph as a curve



Performs a zoom in, zoom out or a dynamic zoom. For the dynamic zoom, slide the mouse cursor from the left to the right to zoom in, and from the right to left to zoom out. Use the zoom in or out directly on the abscissas or ordinates to zoom in or out only the concerned curve.



Puts a mark on the graph in abscissa or ordinate. It allows a simplified reading of the values corresponding to the points on the graph.



Restores initial cursor.



Moves on the graph: slide the mouse from left to right or reverse to move on the graph.



Adds notes on the graph: click this button then on the graph area where a note is required.

The following window is displayed:

Add your note and click **OK**.
 A mark appears on the graph to remind there is a note:

ch2 [%RH] 10/12/2015 08:10:09	ОК
(max. 30 characters) :	Cancel
[

> Put your mouse cursor on this mark to display the comment, and the date and time of the recorded point.

ху

Displays the detailed table of measured values on the bottom of the screen:

Tal	ble			
Index	Date	vint1 [°C]	v1 [°C]	v2 [%RH]
	10/12/2015 06:57:09			
835	10/12/2015 06:58:09	22,6	22,5	28,8
836	10/12/2015 06:59:09	22,6	22,5	29,2
837	10/12/2015 07:00:09	22,6	22,5	29,0
838	10/12/2015 07:01:09	22,6	22,5	29,1
839	10/12/2015 07:02:09	22,6	22,5	28,8
840	10/12/2015 07:03:09	22,6	22,5	28,7
841	10/12/2015 07:04:09	22,6	22,5	28,8
842	10/12/2015 07:05:09	22,6	22,5	29,2
843	10/12/2015 07:06:09	22,6	22,5	29,3
844	10/12/2015 07:07:09	22,6	22,5	29,2

> Click the column title to display the values in increasing or decreasing order.

Displays, instead of the measured values table, the statistics table with the following values on the whole dataset and on the highlighted area of the dataset:

- maximum values
- minimum values
- averages
- standard deviations
- MKT temperature (only for temperature measurements)
- high limits
- low limits
- number of points in the thresholds
- number of points higher than the high threshold
- number of points lower than the low threshold.

Displays details of the alarm in a table with the upper and lower limit, the total, on the whole dataset or on the highlighted area only, with:

- the configured threshold
- the number of exceeding thresholds
- the duration of the exceeding thresholds
- the longest exceeding threshold



Activates/Deactivates the legends and statistics display.



Activates/Deactivates the global view display.



Displays only the measured values table or statistics.



Displays the graph only.



Displays the graph and the measured values table.

8.4.2 Graph menu

- Right click the graph for a quick access to the graph properties menu:
 - "Tools" takes over the main functions which allow to

Table		
		Ch-1 [°C]
	Minimum	30.6
	Maximum	30.6
On the whole dataset	Average	30.60
	Standard deviation	0.00
	MKT	30.60
	Minimum	30.6
	Maximum	30.6
On your highlighted area	Average	30.60
	Standard deviation	0.00
	MKT	30.60

			Ch-1 [°C]
		Values	185.0
	Upper limit	Exceeding limit	0 Points (0.0 %)
	Upper limit	Overall duration	00:00:00
		Single longest duration	00:00:00
		Values	18.0
On the whole dataset	Lower limit	Exceeding limit	0 Points (0.0 %)
	Lower limit	Overall duration	00:00:00
		Single longest duration	00:00:00
		Exceeding limit	0 Points (0.0 %)
	Total	Overall duration	00:00:00
		Single longest duration	00:00:00
		Values	185.0
	Upper limit	Exceeding limit	0 Points (0.0 %)
		Overall duration	00:00:00
		Single longest duration	00:00:00
		Values	18.0
On your highlighted	Lower limit	Exceeding limit	0 Points (0.0 %)
	Lower limit	Overall duration	00:00:00
		Single longest duration	00:00:00
		Exceeding limit	0 Points (0.0 %)
	Total	Overall duration	00:00:00
	1	Single longest duration	00:00:00

×	Tools		•	Selection arrow
\approx	Channels properties	Þ		Scroll cursor
1	Scales properties	×		Zoom in
12	Time axis properties			Zoom out
	Background properties			Dynamic zoom
U	Insert a note			Moving hand
	Insert a note		-	Moving hand

move on the graph: selection arrow, scroll cursor, zoom, moving hand.

- "Channels properties": see page 29
- "Scales properties": see page 29
- "Time axis properties": see page 29
- "Background properties": see page 30
- "Insert a note": see page 27

8.4.3 Channels properties

- To set the channels display: double-click the channel line in the "Legend and statistics" list, or double-click the graph curve, or right click the graph then choose "Channels properties".
- Set the channel display which appears in "Legend and statistics", on the graph and in the values tables (name, colour, point and line style...).
- > "Unit": define the unit.
- "Scale part": select a common or unique scale for the measured values displayed on the graph. This concerns the channels which have the same measured parameter.
- "Limits": activate or deactivate the upper and lower limits of the measured values, define the value and display parameters on the graph (colour, hatches).

8.4.4 Scales properties

- Double-click the ordinates to display the scales properties or right click the graph then choose "Scales properties". The following window is displayed:
- For temperature measurements, for example, set the minimum and maximum values of the measuring range or click "Auto max" or "Auto min" to activate the automatic configuration of values.
- Set the "Marking" in "Automatic" or "Defined" mode. This allows to modify the values on ordinate axis. For example, if a marking of "10" is defined, the values in ordinate will be displayed by steps of 10 (10, 20, 30, etc.).
- In "Display", click the coloured square in front of "Axis colour" to define its colour. To display the grid pattern, tick the corresponding box.

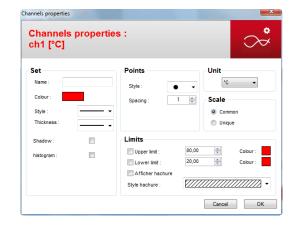
8.4.5 Time axis properties

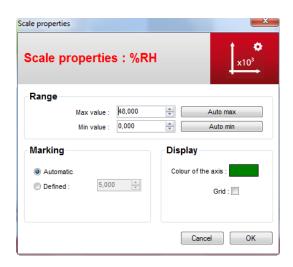
- Double-click the abscissas to display the time axis properties or right click the graph then choose "Time axis properties". The following window is displayed:
- In "Displayed period", choose "Absolute" to display the graph on the dataset period. Select "Relative" and modify the starting and ending date to display on the graph the previous or following period of the dataset.

Click First point Or Last point

to restore the absolute dates (first and last recorded points).

- Set the "Marking" in "Automatic" or "Defined" mode. This allows to modify the values on abscissa axis.
- In "Display", click the coloured square in front of "Axis colour" to define its colour. To display the grid pattern, tick the corresponding box.







8.4.6 Background properties

- Double-click the graph background then choose "Background properties". The following window opens:
- Set the background colour, the colour gradation and the grid pattern.

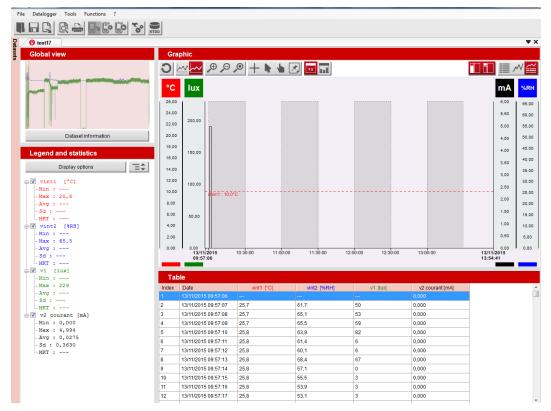
Background prope	rties		
Background colour		Grid	
Background colour of the	gradation :	Use colour axis : O Define colour :	
Orientation of the gradation :	Diagonal Vertical Horizontal Diagonal	Can	cel OK

8.5 Add a dataset

It is possible to import the points of another dataset in the current file, for example to add a channel to a dataset.

To add a dataset:

Open the file on which it is required to add the points of another file. For example:



- ▶ In the menu bar, click "File" then "Add dataset".
- > In the **"Datasets"** folder, select the file to add to the current file and confirm by clicking **"Open"**.
- Select the file to add.

- > Tick the boxes corresponding to the required channels to import.
- > Confirm by clicking **"Confirm"**.

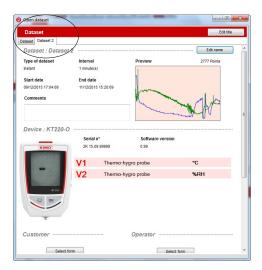


The selected channels are added to to the previous channels of the initial file as the points of the graph and table values:

File Datalogger Tools Functions ?			
			₹×
Global view			•*
Global view	Graphic		
) 🗠 🖊 🔍 🤍 🥄 🔜 🖸	xy	
	°C lux		mA %RH
	70.00 65.00		6.00 100.00 5.8%
	60.00 200.00		5,00 90,00
Dataset information	55,00		88,00
Dataset mormation	50.00 chint1 : 50.0°C		4,50 70,00
Legend and statistics	45.00 150.00		4.00
Display options	40,00		3.50 60.00
	35.00		3,00 50,00
vintl [°C]	30.00 100.00		2,50 40.00
Min : Max : 25,8	26.00		2,00 40,00
-Avg :	20.08		30.00
	15,00 50.00		1.50 20.00
Vint2 [%RH]	10.00		100 20.00
-Min :	10.00 5.00		0.50 10.00
Max : 65,5	0.00 0.00		0.00 0.00
	11/06/2015 26/06/2015 11/07/2045 26/07/2015 13:45:00	10/08/2015 25/08/2015 09/09/2015 24/09/2015 09	10/2015 24/10/2015 13/11/2015 13:54:41
MKT :	13.43.00		13.54.41
	Table		
-Max : 229		Camp1.vint2 Compd.vint Kind C	amp1.v2 courant Camp2.v1 Voie 1
-Avg :	Index Date Camp1.vint1 [*C]	[%RH] Camp1.v1 [lux]	[mA] [°C]
	1 11/06/2015 13:45:00		24,9 6
	2 11/06/2015 13:46:00		25,5 6
Min : 0,000	3 11/06/2015 13:47:00		25,6 5
Max : 4,994 Avg : 0,0275	4 11/06/2015 13:48:00 5 11/06/2015 13:49:00		25,5 5
Sd : 0,3630	6 11/06/2015 13:49:00 6 11/06/2015 13:50:00		25,4 5
-MKT :	7 11/06/2015 13:51:00		25,3 5
→ V Voie 1 [°C]	B 11/06/2015 13:52:00		25,3 5
Max : 70,0	9 11/06/2015 13:53:00		25,1 5
-Avg : 10,92	10 11/06/2015 13:54:00		24,8 5
Sd : 23,14	11 11/06/2015 13:55:00		24,6 5-

> A tab indicates the channel of the imported file "Dataset information": click Dataset information

The following window is displayed with the additional tabs corresponding to the added channels:



8.6 Download data collector (optional)

8.6.1 Download data collector on PC

- > Plug the data collector on the computer USB port.
- \succ Launch the **Kilog 2015** software by double clicking \bigcirc icon.
- Click "Download" or go to "Data logger" menu and select "Downloading".

The following window opens.

- > Tick the boxes of datasets to transfer.
- If necessary, define the files saving location by clicking "Modify". (1)
- Select the required option about "Management of existing files" (2).
- To delete automatically the datasets which are transferred from the data collector to the computer, tick the corresponding box in "Options" (3).
- > Click "Confirm".

The measurement datasets are displayed and automatically saved in the defined location.

List of dataset	Destination of files
2K 15.09.99999	C:USers'PubliciDocuments'KIMO Instruments'Killog (1) 2015;Campagnes Modify
Campagne(1) Campagne(2) Campagne(3)	(2) Management of existing files
Campagne(4) Campagne(5)	P C Replace the existing file without requesting confirmation
0K 14.12.00031	A $_$ $④$ Automatically rename the file if it already exists
	Rename file
	(3) Options
	(3) _{Options}

8.6.2 Display data collector state, delete memory and set date and time

icon

- > Plug the data collector on the computer USB port.
- Launch the Kilog 2015 software by double clicking
- Click "Configure", or go to "Data logger" menu and select "Configuration"

The "Device state" (1) window opens.

The device name, serial number and version number are indicated on the top of the window.

The number of recorded datasets and the used storage capacity are displayed.

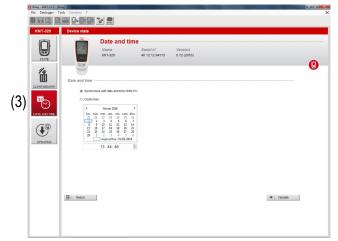
	cole Functions ?				
KNT-320	Device state	2			
	Devi	ce state			
(1) 민	Name KNT-32		Version 15 0.72 (2053)		
14	28				e
	Datasets				
	Number of dataset : Used space :	8 1%			
DATE AND TWE					
(I)					
UPDATING					
	E. Return				
Kilog - 2015.1.1.5 - File Datalogger	Cela Functions ?				
KNT-320	Device state	20			
Ē	Clea	ar Memory			
Ų	Name KNT-3	e Serial nº	Version 315 0.72 (2053)		
STATE	10/17-3	20 4K 12:12:94	115 0.72 (2053)		C
	Col ex				
2) 🏦					
2) 🚺	Memory				
CLEAR MEMORY	Memory Used memory : 93%		Free space Used space Space to delete		
	Memory Used memory : 93 %		Used space		
	Used memory : 99%	Vos.	Used space		
DATE AND TIME	Used memory : 99%	\o x Size	Used space		
	Used memory : 93%	ба т. Size 120.37 Ко 17.48 Ко	Used space		
	Used memory : Datasets	0 %	Used space		
	Datasets Datasets Datasets Trze Company Compan	0 15 Size 170.37 Ko 17,44 Ko 17,44 Ko 17,64 Ko	Used space		
	Datasets Datasets Nare X130000 Compare	50x 50x 130.37 Ko 17.41 Ko 17.41 Ko 17.65 Ko 17.65 Ko	Used space		
	Datasets Datasets Rev Component Comp	5226 132.37 Ko 17.44 Ko 17.44 Ko 17.65 Ko 17.65 Ko 17.67 Ko	exert parts	• vaa	
	Datasets Datasets ATT20 Compare Comp	5226 132.37 Ko 17.44 Ko 17.44 Ko 17.65 Ko 17.65 Ko 17.67 Ko	exert parts	* vice	

Click "Clear memory" (2)

A diagram summarises the memory state and a list of the recorded datasets is displayed.

Select the datasets to delete by ticking the corresponding box then click "Confirm" A confirmation message is displayed: click **Yes** to confirm or **No** to cancel.

- Click "Date and time" (3)
- Set a date and time synchronisation with PC or customise them, then click "Confirm".



8.6.3 Update the data collector

It is possible to update the **KNT 320** data collector by connecting it on the **Kilog 2015** software: the procedure is the same as for Kistock devices, see page 42.

8.7 KCC 320: containment rating

8.7.1 Indoor air containment

As part of indoor air quality monitoring in public establishments, a measurement protocol of the air quality must be applied integrating an air containment calculation.

A good containment indicator is the measurement of carbon dioxide (CO_2). CO_2 is emitted by the breathing of people in the room. So, the more CO_2 concentration is higher, the more the air is stuffy.

KILOG software allows to calculate the level of air containment from a recording of CO_2 measurements performed with a KCC 320 data logger.

8.7.2 Calculation detail of the air containment rating

This calculation requires the recording of CO_2 concentrations values and the attendance time in the room (during a normal occupancy) for a week.

Carbon dioxide values for the selected periods are then divided into 3 classes according to their level:

- number of values lower than or equal to 1000 ppm
- number of values between 1000 and 1700 ppm included
- number of values higher than 1700 ppm

The final containment rating is calculated and expressed with an accuracy equal to 1 (it means rounds up or down with no digit after the decimal point) according to the following rule:

Gross value of the containment rating	Value applied for the containment rating
ICONE < 0.5	0
0.5 ≤ ICONE < 1.5	1
1.5 ≤ ICONE < 2.5	2
2.5 ≤ ICONE < 3.5	3
3.5 ≤ ICONE < 4.5	4
ICONE ≥ 4.5	5

8.7.3 Exploitation of a CO₂ file

If an opened file has one or more CO_2 channels, some new functionalities are accessible. These functionalities allow to calculate and display the containment rating regarding the CO_2 concentration measured during the dataset.



to display the CO₂ statistics and calculations:



There are 2 calculations:

- On the entire recording: all the measurements are integrated in the calculations of statistics and containment rating
- On the attendance time: only the recorded measurements during the attendance time are taken into account in the calculations

It is possible to give information and modify the attendance times:



A window opens allowing to select different periods in order to limit the calculations on the attendance times, for each day of the recording:

Time slots			x
		Select all Clear	r
0h 1h 2h 3h 4h 5h 6h 7h 8 Fri	h 9h 10h 11h 12h 13h 14h 15h 16h	17h 18h 19h 20h 21h 22h 23h 24h	
28/07/2017			×
Sat 29/07/2017		Сору	×
Sun 30/07/2017		Сору	X
Mon 31/07/2017		Сору	X
Comments			
Ch-int3 [ppm]			
Crimo Bbud			_
			_
Load template Template management		Cancel	m
			_

Attendance times are indicated in blue:

> Click/drag on the calendar in order to activate or deactivate the operating time.

Each time represents 10 minutes. **"Copy"** buttons allow to copy the planning of the previous day on the processed line. The cross erases the planning of the concerned day.

- > It is possible to apply a template: click **"Template management"** (see page 35).
- > Add a comment if required. It will appear on the dataset report.

8.7.4 Representation of the time slots

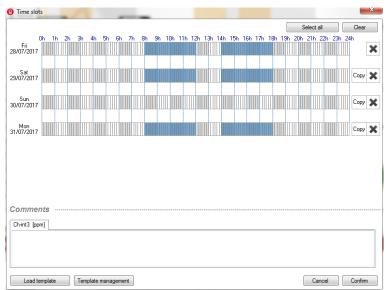
Time slots are displayed with coloured areas on the graph and on the table of values.



8.7.5 Management of the time slots templates

There are two ways to set the management of the attendance times templates:

- Click "Tools" menu then "Management of time slots templates" Or
- > Click **"Template management"** from the window of attendance times selection.



- Click/drag the operating time to activate.
- > Click "Copy" to copy the planning of the previous day on the processed line.
- > Click "Load template" to open a template previously saved.
- > Click **"Confirm"** to save the attendance time template.

8.8 Export data under CSV, JPEG or PDF format

It is possible to export the measurement values table under CSV (table) format, the graph in JPEG picture format or the whole dataset as a measurement report as a PDF file.

This function allows to integrate easily pictures or tables to documents and edit customised dataset reports which summarise all information about measurements.

Several possibilities:

> Click directly on "Export" in the toolbar

or

- > In the menu bar, go to "File" then "Export"
- > Select the required action:
- "Table to CSV file"
- "Graph to picture"
- "Dataset report to PDF"

2	
	Table to CSV file
	Graphic to image file
	Report to PDF file
-	

During the dataset export to a PDF format file, the following window is displayed:

	Dataset report
	Graph
	Table
	Alarm details
ſ	Cancel Confirm

- Select the elements to display on the PDF report: dataset report, alarm details (exceeding thresholds), graph and/or values table.
- > Confirm by clicking **"Confirm"**.
- Select the location to save this file on the computer.
- > Confirm to save the document.

A message confirms the report has been successfully exported.

		Datase 14/12/2015 09:21:4							14/12/2015 06
Device			vint1 Min Max	Avg Sd	мкт	°C			
Type of device KT220-O	Serial n° 2K 15.09.99999	Software version 0,99	21,1 28,1	c]		28.00			
Dataset parameters			- 27,			26.00	_		1
Dataset name Dataset	Type of Instantar	dataset ne	v2 [9 Min Maa	Avg Sd	MKT	25,00	Alter	And	A (
Number of points 2777	Interval 1 minute	e(S)	- 40,			23,00	- /		Um
Start date 09/12/2015 17:04:09	End date 11/12/20	15 15:20:09				22,00		V .	- /
Comments						21,00 20,00 09/12/2015 10/12 17:04:09 00:00	2015 10/12/2015	10/12/2015 10/12/2015 12:00:00 18:00:00	11/12/2015 11/12/2015 11/12/2 00:00:00 06:00:00 15:20:1
Channels			C:\Users\Publi	c\Documents\KIMO	Instruments\Kilog 2015\		agne.kfk		
Channel /int1 [°C]	Measure Temperature	Probe Internal temperature probe							
Low threshold	High threshold	4							
Minimum Maximum 21,1 28,0	Average 23,14	Standard MKT 1,18 23,21							
Channel /1 [°C]	Measure Temperature	Probe Thermo-hygro probe		K	(IMO)				Dataset
Low threshold	High threshold			INS	TRUMENTS				14/12/2015 09:21:43
Minimum Maximum 27,0	Average	Standard MKT		Statistic Minimum Maximum		vint1 [*C]	v1 [*C] 	v2 [%RH]	
				Average Ecart typ		-			
				MKT		-	-		
				Index 1	Date 09/12/2015 17:04:09	vint1 ["C] 27,8	v1 [°C] 27,0	v2 (%/RH) 37,4	
C:\Users\Public\Documents\KIN	10 lastrumenta Wilson 2015)			2	09/12/2015 17:05:09 09/12/2015 17:08:09	28,0 28,0	27,0 28,9	33,1 37,3	
2.10sers/Fublic/Documents/k/ik	NO Instruments kilog 2015/0	ampagnesicampagne.kik 1/7		4	09/12/2015 17:07:09	28,0	26,9	33,9	
				5	09/12/2015 17:08:09	27,9 27.8	28,9	34,1 33.4	
				7	09/12/2015 17:10:09	27,8	27,0	33,7	
				8	09/12/2015 17:11:09	27,7 27.8	27,0 27.0	32,2 32.1	
				10	09/12/2015 17:13:09	27,5	27,0	32,4	
				11	09/12/2015 17:14:09 09/12/2015 17:15:09	27,5 27,4	28,9 28,8	31,8 31,9	
				12	09/12/2015 17:16:09	27,3	26,8 28,7	31,9 32,3	
				14	09/12/2015 17:17:09	27,2	28,7	33,2	
				15	09/12/2015 17:18:09 09/12/2015 17:19:09	27,2 27,2	28,7 28.6	35,2 33,1	
				17	09/12/2015 17:20:09	27,2	28,5	31,2	
			I					34,2	
				18	09/12/2015 17:21:09	27,1	28,4	91.4	
Check tl	he numher	of names accou	ding to the		09/12/2015 17:21:09 09/12/2015 17:22:09 09/12/2015 17:23:09	27,1 27,1 27,0	28,4 28,3 28,1	31,4 31,8	
		of pages acco	ding to the	18 19 20 21	09/12/2015 17:22:09 09/12/2015 17:23:09 09/12/2015 17:24:09	27,1 27,0 28,9	26,3 26,1 25,9	31,8 31,9	
		of pages acco	ding to the	18 19 20 21 22	08/12/2015 17:22:09 09/12/2015 17:23:09 09/12/2015 17:24:09 09/12/2015 17:25:09	27,1 27,0 28,9 28,8	28,3 28,1 25,9 25,8	31,8 31,9 32,2	
	he number of points!	of pages acco	ding to the	18 19 20 21 22 23 24	09/12/2015 17:22:09 09/12/2015 17:23:09 09/12/2015 17:24:09 09/12/2015 17:25:09 09/12/2015 17:26:09 09/12/2015 17:27:09	27,1 27,0 28,9 28,8 28,7 28,7 28,7	28,3 28,1 25,9 25,8 25,8 25,8 25,7	31,8 31,9 32,2 32,2 32,3	
		of pages acco	ding to the	18 19 20 21 22 23 24 24 25	00/12/2015 17:22:00 00/12/2015 17:23:00 00/12/2015 17:23:00 00/12/2015 17:25:00 00/12/2015 17:25:00 00/12/2015 17:25:00 00/12/2015 17:25:00	27,1 27,0 28,9 28,8 28,7 28,7 28,7 28,5	26,3 26,1 25,9 25,8 25,8 25,8 25,7 25,7	31,8 31,9 32,2 32,2 32,3 32,3	
		of pages acco	ding to the	18 19 20 21 22 23 24 25 26	00/12/2015 17:22:00 00/12/2015 17:23:00 00/12/2015 17:24:09 00/12/2015 17:26:00 00/12/2015 17:26:00 00/12/2015 17:27:00 00/12/2015 17:26:00 00/12/2015 17:26:00	27,1 27,0 28,9 28,8 28,7 28,7 28,7 28,5 28,5	28,3 28,1 25,9 25,8 25,8 25,7 25,7 25,7	31,8 31,9 32,2 32,2 32,3 32,3 32,4	
		of pages acco	ding to the	18 19 20 21 22 23 24 25 28 28 27 28	00/12/2015 17:22:00 00/12/2015 17:23:00 00/12/2015 17:24:00 00/12/2015 17:26:00 00/12/2015 17:26:00 00/12/2015 17:28:00 00/12/2015 17:20:00 00/12/2015 17:30:00 00/12/2015 17:31:00	27,1 27,0 28,9 28,8 28,7 28,7 28,5 28,5 28,5 28,4 28,3	26,3 26,1 25,9 25,8 25,8 25,7 25,7 25,7 25,7 25,8 25,7	31.8 31.9 32.2 32.3 32.3 32.4 32.4 32.5 33.8	
		of pages acco	ding to the	18 19 20 21 22 23 24 25 28 27 28 27 28 29	00/12/2015 17:22:00 00/12/2015 17:23:00 00/12/2015 17:24:00 00/12/2015 17:25:00 00/12/2015 17:25:00 00/12/2015 17:28:00 00/12/2015 17:29:00 00/12/2015 17:30:00 00/12/2015 17:31:00 00/12/2015 17:32:00	27,1 27,0 28,9 28,8 28,7 28,7 28,5 28,5 28,5 28,4 28,3 28,3	28,3 28,1 25,9 25,8 25,8 25,7 25,7 25,7 25,7 25,7 25,7 25,7	31,8 31,9 32,2 32,3 32,3 32,4 32,4 32,5 33,6 37,7	
		of pages acco	ding to the	18 19 20 21 22 23 24 25 28 28 27 28	00/12/2015 17:22:00 00/12/2015 17:23:00 00/12/2015 17:24:00 00/12/2015 17:26:00 00/12/2015 17:26:00 00/12/2015 17:28:00 00/12/2015 17:20:00 00/12/2015 17:30:00 00/12/2015 17:31:00	27,1 27,0 28,9 28,8 28,7 28,7 28,5 28,5 28,5 28,4 28,3	26,3 26,1 25,9 25,8 25,8 25,7 25,7 25,7 25,7 25,8 25,7	31.8 31.9 32.2 32.3 32.3 32.4 32.4 32.5 33.8	
		of pages acco	ding to the	18 19 20 21 23 24 25 26 27 28 26 27 28 30 30 31 31	00120015 1722:00 00120015 1724:00 00120015 1724:00 00120015 1724:00 00120015 1726:00 00120015 1727:00 00120015 1727:00 00120015 1728:00 00120015 1730:00 00120015 1730:00 00120015 1730:00 00120015 1735:00	27,1 27,0 26,9 26,8 26,7 26,7 26,7 26,5 26,5 26,5 26,4 26,3 26,3 26,3 26,2 26,2 26,2	28,3 28,1 25,9 25,8 25,7 25,7 25,7 25,7 25,7 25,7 25,7 25,7	31,8 31,9 32,2 32,2 32,3 32,4 32,6 33,6 33,7 37,7 54,2 33,4 33,0	
		of pages acco	ding to the	18 19 20 21 22 23 24 25 28 26 28 28 28 28 28 30 31 30 31 32 33	001202151722:00 001202151723:00 001202151723:00 001202151723:00 001202151728:00 001202151728:00 001202151729:00 001202151729:00 001202151729:00 00120215173:00 001202151732:00 001202151733:00 001202151734:00	27,1 27,0 28,8 28,8 28,7 28,7 28,7 28,5 28,5 28,5 28,4 28,3 28,3 28,3 28,2 28,2 28,2 28,2 28,2	28,3 28,1 25,9 25,8 25,8 25,7 25,7 25,7 25,7 25,7 25,7 25,7 25,7	31,8 31,9 30,2 30,2 30,3 30,4 30,4 30,4 30,6 31,7 34,2 33,4 33,0 33,6 33,6	
		of pages acco	ding to the	18 19 20 21 23 24 25 26 27 28 26 27 28 30 30 31 31	00120015 1722:00 00120015 1724:00 00120015 1724:00 00120015 1724:00 00120015 1726:00 00120015 1727:00 00120015 1727:00 00120015 1728:00 00120015 1730:00 00120015 1730:00 00120015 1730:00 00120015 1735:00	27,1 27,0 26,9 26,8 26,7 26,7 26,7 26,5 26,5 26,5 26,4 26,3 26,3 26,3 26,2 26,2 26,2	28,3 28,1 25,9 25,8 25,7 25,7 25,7 25,7 25,7 25,7 25,7 25,7	31,8 31,9 32,2 32,2 32,3 32,4 32,6 33,6 33,7 37,7 54,2 33,4 33,0	

Check the number of pages according to the number of points!

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9 MEASUREMENT CORRECTION

If a device is connected and is not currently recording, it is possible to adjust the measurement channels in one or two points (offset and/or coefficient).

From the menu bar, click "Data logger" then "Correction". The following window is displayed:

Kilog	x
Installation code	
XXXXXXXXXXXXXXXX	
Access code	
Remember password	
Cancel Cont	îm

The access to the measurement correction is protected by a password associated to the installation key. To obtain this code, please contact Sauermann.

Enter this access code and confirm. The following window is displayed:

Kilog	×
Measureme	ent correction
Measurement	
	perature (Internal)
	1.00 Offset : 0.00
Correction me	thod
	1 point O 2 points
Values	
Offset :	0.00 × °C
	Confirm
	Close

- > In the **"Measurement"** part, choose the channel to modify.
- > In the **"Correction method"** part, tick the corresponding box:
- 1 point correction:

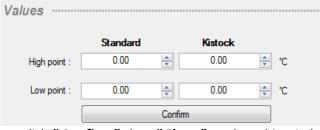
All the corrections in 1 point are carried out by offset, except brightness for which a multiplier coefficient must be applied.

> In **"Values"** part, set the required offset value:

/alues			
Offset :	0.00	°	
	Confirm		

• 2 points correction:

Enter a high and a low point with the benchmark value and the effective values measured by the device. Then, a slope and a corrective offset are automatically calculated to correct the selected channel:



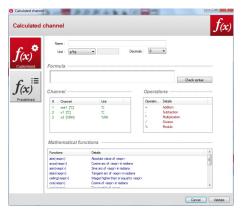
> To apply these modifications, click **"Confirm"** then **"Close"** to close this window.

10MANAGE THE CALCULATED FUNCTIONS

The operator may add additional channels, calculated from existing channels.

10.1 Add a function

To add a calculated function, click "Functions" in the menu bar, then "Add a function". The following window is displayed:



It is possible to add a customised or a predefined function. In both cases, indicate the channel properties:

- > Name the function in the "Name" field
- Select the required measurement units in the scrolling list. For free units, choose "Free" (bottom of the list) and fill in the right field to name the unit (maximum 10 characters).
- Select the required decimals in the scrolling list: 0, 1, 2, 3 or 4.

Name :			
Unit :	g∕kg ▼	Decimals :	0 🔻
			0
			1
			2
			3
			4

10.1.1 Add a customised function: operations

> Click "Customised functions" $f_{(x)}$

> Create the formula: double click the concerned channel(s) and double-click the operator (see the table below).

+, -, *, /	Addition, subtraction, multiplication and division.
%	Modulo (remainder of division of integers). Example: $13 \% 3 = 1$

Ex: #001 - #008.

- > Verify the syntax.
- If the syntax is correct, take the next step, or correct the formula.
- Click "Confirm".

10.1.2 Add a customised function: mathematical functions

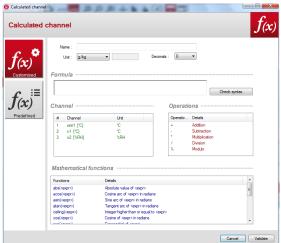
- Create the formula: double click the mathematical function (see on the following page the table of mathematical functions) then double click the concerned way(s) or insert the appropriate number.
- Verify the syntax.
 If the syntax is correct, take the next step, or correct the formula.
- Set the channel properties (name, units, decimals: see page 39).
- > Click "Confirm".

abs (<expr>)</expr>	Gives the absolute value of the expression. ABSV(<i>Way1Name</i>) gives the value of the way Way1Name if it is positive, or its opposite value. ABS(V(<i>Way1Name</i>)*10.3+V(<i>Way2Name</i>)) evaluates the expression V(Way1Name)*10.3+V(Way2Name) and gives its absolute value.					
acos (<expr>)</expr>	Arc cosine of the expression in radians acos (0) gives 1.5708 acos (-1) gives 3.1416					
Asin (<expr>)</expr>	Arc sine of the expression in radians asin (1) gives 1.5708 asin (0) gives 3.1416					
Atan (<expr>)</expr>	Tangent arc of the expression in radians atan (1) gives 0.7854 atan (0) gives 0					
Ceiling (<expr>)</expr>	Integer number above or equal to the expression CEIL (2.9) gives 3 CEIL (-2.9) gives -2					
Cosinus (<expr>)</expr>	Cosinus of the expression in radians cos (1.5708) gives 0 cos (3.1416) gives -1					
Exp (<expr>)</expr>	Exponential of the expression					
Floor (<expr>)</expr>	Integer number below or equal to the expression Floor (2.9) gives 2 Floor (-2.9) gives -3					
Ln (<expr>)</expr>	Neperian logarithm of the expression (The expression must be positive)					
Log10 (<expr>)</expr>	Decimal logarithm of the expression Log 100 gives 2. Log(V(Way1Name)*10.3+V(Way2Name)) evaluates the expression V(Way1Name)*10.3+V(Way2Name) and gives its decimal logarithm. The expression must be positive.					
Pow (<expr> ; <pw>)</pw></expr>	Raising to a power: <expr> raised to a power <pw>. Ex: pow (5;3) = 125</pw></expr>					
Round (<expr>)</expr>	Round the operator value to the closer integer. Round (2.4) gives 2 Round (2.6) gives 3					
Sin (<expr>)</expr>	Sine of the expression in radians Sin (1.5708) gives 1 Sin (3.1416) gives 0					
Sqrt (<expr>)</expr>	Square root of the expression					
Tangent (<expr>)Tangent of the expression in radians Tan (0.7854) gives 1 Tan (3.1416) gives 0</expr>						

10.1.3 Add a predefined function

From the "Calculated functions" window, click "Predefined functions" The following window opens:





- > Set the channel properties (name, units, decimals: see page 29).
- Humid air calculation parameters:
- > Select the function (for more details, see the table below)
- Conversion parameters:
- > Select the corresponding channels to the involved parameters in the calculation.
- Click "Confirm".

Combination ratio	The combination ratio of an air volume appoints to the ratio of the water vapour mass it contains to the dry air mass. g/kg.			
Absolute humidity	Mass of water vapour in a unitary humid air volume on a temperature and pressure given. g/m ³ .			
Dew-point	The air dew-point is the temperature in which, all in keeping unchanged the current barometric conditions, the air becomes saturated in water vapour. °C td.			
Wet temperature	Value which puts through the dry air temperature and the relative humidity percentage contained in the air. °C tw.			
Enthalpy	State function of thermodynamics which variation enables to express the amount of the heat involved during a system transformation when it receives or provides a mechanical work. kJ/kg.			
Indoor WBGT	Wet Bulb Globe Temperature (black ball). Globe temperature and in humid et au thermometer.			
Outdoor WBGT	Calculates the WBGT index indoor and outdoor. °C.			

10.2 Modify a calculated function

- > Click "Dataset" menu then go to "Calculated function".
- Click "Modify function".
 The window of calculated functions list is displayed.
- > Select the function to modify then click "Confirm".
- ➢ Modify the function.
- Click "Confirm".

10.3 Delete a calculated function

- > Click "Dataset" menu then go to "Calculated functions".
- Click "Delete function". The window of calculated functions list is displayed.
- > Select the function to delete then click "Confirm".

11 UPDATE THE DEVICE

Update the device by connecting it to the KILOG software:

- ➢ From the home menu, click
- CONFIGURATIO
- From the toolbar, click or
- > From the menu bar, click "Data logger" then "Configuration".

Once in "Configuration" menu, the software displays a summary of the device state.

> Click



The following window is displayed:

Kilog - 2015.1.1.0 - [Kilo File Datalogger Too					- 6
KH220-0	Device state				
STATE	Name KH220-O	Serial n° 2K 15.09.99999	<i>Version</i> 1.00 (4000)	Battery	
CONFIGURATION	Méthode de mise à jour	🔵 Man			
UPDATING	 Use a proxy server Default proxy Customised proxy Proxy address 	File	selection		
	192.168.12.1 8080 S User name Utiliasteur Password			Browse	
	Updating Start update				
	E Return				



Please check that no dataset is currently recorded before carrying out an update.

11.1 Automatic update

The automatic updating needs an internet connection. It can be protected by a proxy server. In this case:

- ➢ Tick the "Automatic" box.
- > Tick the **"Use a proxy server"** box.
- Select "Default proxy": the KILOG software uses the proxy parameters of the computer internet connection. Or
- Select **"Customised proxy"**: indicate the Proxy address then the user name and password.

Then:

Click Start update to start the device updating.

The progress of the updating displays in the progression bar.

11.2Manual update

- > Tick the **"Manual updating"** box.
- > Click Browse and take the updating file given by the after-sales service of the company (.zip file type).
- Click Start update to start the device update.

The progress of the updating displays in the progression bar. A message indicating the updating is finished displays at the end.

11.3 Verify the effective updating

To verify the effective updating, check the version number indicated in the device references of the device state window:



12UNINSTALL THE SOFTWARE

To uninstall the KILOG software, suitable rights are needed. Use the Windows tool provided for that purpose:

- So to "Start" menu, "Parameters", "Control panel", then "Add/Remove programs".
- > In the index "Install/Uninstall", click the "KILOG" line and follow Windows indications.