sauermann®

KNT 320 data collector

Data storage and recovery
for KISTOCK 2015 data loggers

Table of contents

1 Safety

1.1 Precautions for use

Please always use the device in accordance with its intended use and within parameters described in the technical features in order not to compromise the protection ensured by the device.

1.2 Symbols used

For your safety and in order to avoid any damage of the device, please follow the procedure described in this user manual and read carefully the notes preceded by the following symbol:

The following symbol will also be used in this user manual:
Please read carefully the information notes indicated after this symbol.

2 Device presentation

2.1 Use

The **KNT 320** data collector allows to download and store the recorded data from **Kistock 2015** devices in order to download them on a computer. The **KNT 320** also allows to send a new configuration and start an other measurement dataset without using the **Kilog 2015** software.

- Compatible with **Kistock 2015 range devices** (except class 120)
- Up to **20 000 000 points** stored
- Possibility to **send a new configuration** and **start an other measurement dataset**
- **Integrated male USB connector**
- **Fast data transfer** (1 minute maximum)
- **Rechargeable battery** by USB connection on PC

2.2 Device description

Display

"ON/OFF – Selection" key

"OK" key

Unlosabe PC USB connection cap

2.3 Description of keys

OK key: allows to validate functions.

ON/OFF – Selection key: press once to start the device / press for 5 seconds to switch it off. Press successively to scroll functions.

2.4 Connections

Data collector – Kistock connection

Female USB / male micro-USB adapter, supplied with device
(reference: KNT-A)

Data collector – PC connection


Male USB connector   Unlosable cap

3 Technical features

3.1 Data collector

Storage capacity	Up to 20 000 000 points
Speed of data transfer	From the Kistock to the data collector: 400 values/second From the data collector to the PC: 1000 values/second
Operating temperature	From 0 to +50°C
Storage temperature	From -20 to +70°C
Charging temperature	From 0 to +45°C
Autonomy	According to downloading frequency
Compatible software	Kilog 2015

3.2 Housing

Dimensions	100 x 42.5 x 15.9 mm
Weight	53 g
Display	1 line LCD screen, 128 x 128 pixels Dimensions: 32 x 25.5 mm
Control	1 OK key 1 ON/OFF – Selection key
Material	Compatible with food industry environment ABS housing
Protection	IP65
Communication	Data collector – PC: integrated A male USB connector Data collector – Kistock: female USB / male micro-USB adapter (supplied with the device, reference: KNT-A)
Battery power supply	1 lithium polymer battery Charging time from about 7 minutes (50%) to 2 hours (100%)
Environment	Air and neural gases

Dimensions

Top view
42.5

Front view
42.5

100

Side view
18
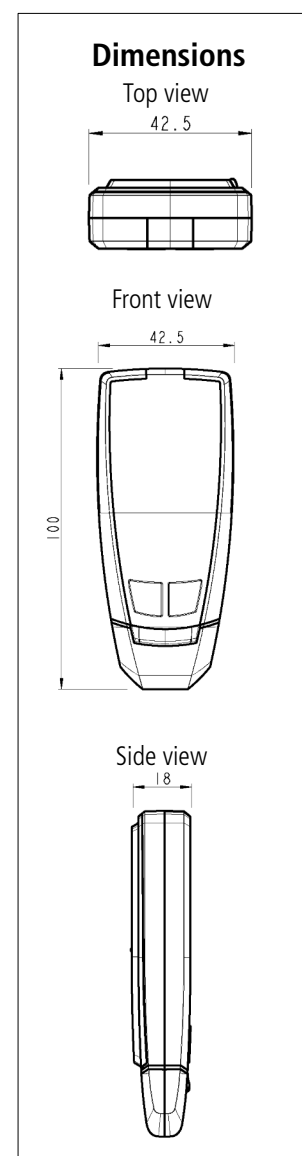
3.3 Guarantee

KNT 320 data collector have 1-year guarantee for any manufacturing defect (return to our After-sales service required).

4.1 Functioning principle

Store the Kistock datasets
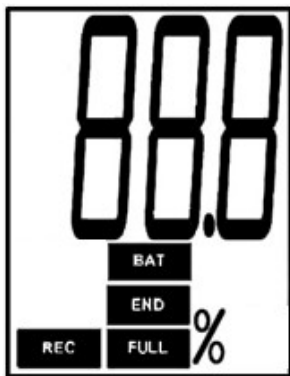
on the data collector

Transfer datasets stored on
the data collector

to the PC

Send a new configuration on the Kistock devices
and start an other dataset
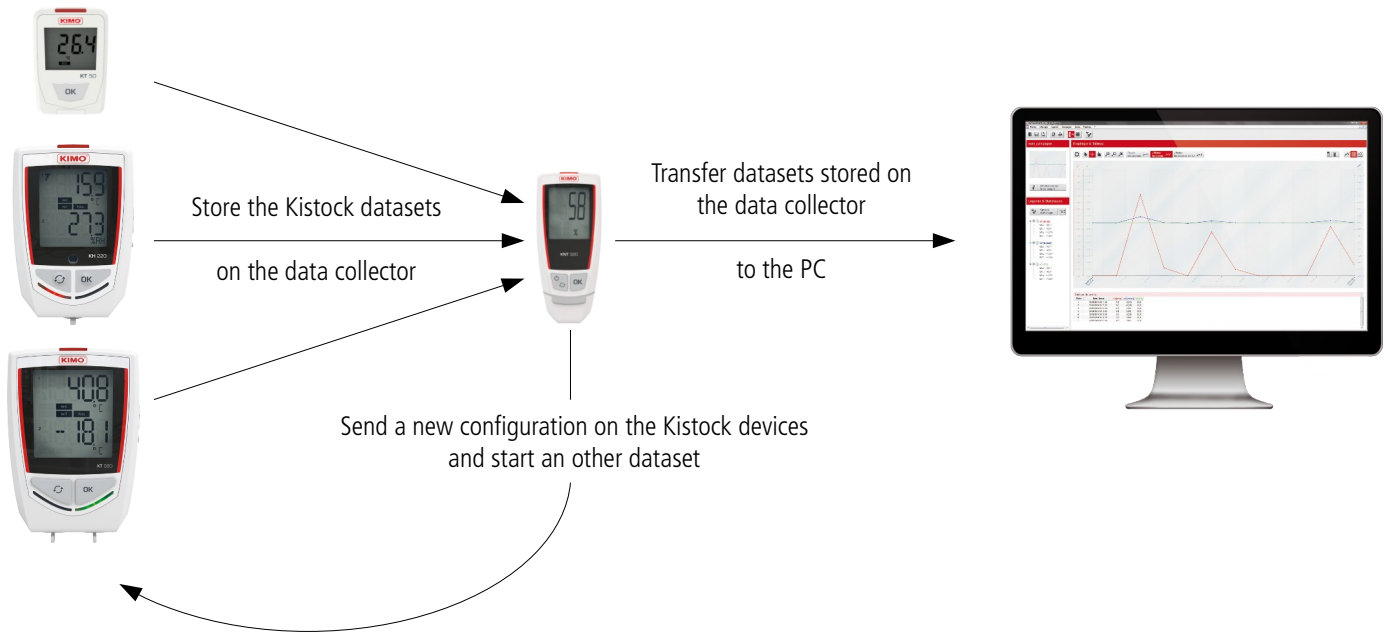
4.2 Display

REC *When the icon appears: data transfer is in progress*

END *Indicates that the data transfer is done*

FULL *Flashing slowly: data collector reached between 70 and 80% of its storage capacity*
Flashing quickly: data collector reached between 80 and 90% of its storage capacity
Constant: data collector reached between 90 and 100% of its storage capacity

BAT *Constant: indicates that the battery has to be recharged*
Flashing: charging battery
Disappears when the battery is charged

4.3 Switch on/off the data collector

➢ To switch on the data collector, press ⏻ key

The data collector switches on: it displays all the digits, then the home screen which indicates **"on".**

➢ To switch off the data collector, press ⏻ key for 5 seconds

The data collector displays **"off"** *and switches off.*

4.4 Auto-off

To save battery power, after 5 minutes without activity, the data collector automatically switches off.

4.5 Display used storage capacity

1- Switch on the data collector. "On" is displayed.

2- Display used storage capacity

Or wait 5 seconds

3- "On" Back to home screen.
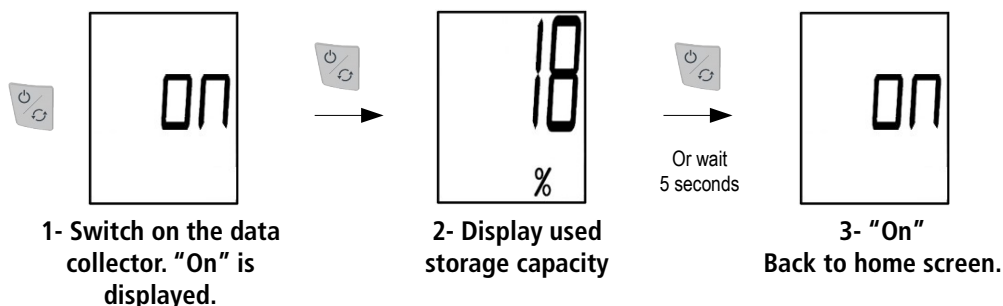
4.6 Kistock – data collector interface

4.6.1 Download the Kistock data on the data collector

Procedure to download data:

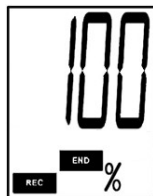**1- Plug the data collector on the Kistock**
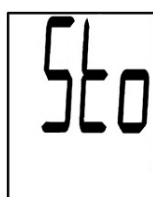
2- Switch on the data collector. "On" displays.

3-a. Store the dataset on the data collector

If the dataset is finished:
The Kistock displays **END** ***
The data collector displays the data transfer progression: 0-100%
The dataset recorded by the Kistock is stored on the data collector.

3-b. "Stop YES" Stop or continue the dataset

If the dataset is in progress:
The Kistock displays **REC** ***
The data collector displays **"Stop YES"**.
Confirm dataset stop by pressing **OK** key (to cancel, press **Select.**, **"Stop NO"** is displayed then press **OK**).
The data collector displays the data transfer progression: 0-100%.
The dataset recorded by the Kistock is stored on the data collector.

3-c. "No Pts" No points detected

If the data collector does not detect any point to download:
The data collector displays **"No Pts"** *error message.*
This message indicates that the dataset did not start already or that the first point is not recorded yet.
Check that the dataset started:
If the Kistock is still waiting for dataset to start, it displays **REC** *flashing icon*.*
Press the data collector **OK** key to start the dataset.
The data collector displays **"Start Yes"**.
Press **OK** to confirm (to cancel, press **Select**., **"Stop no"** displays then press **OK**)**.**

When data are transferred from the Kistock to the data collector, these measurement data are copied. Only the sending of a new configuration with the data collector or the Kilog 2015 software allows to start an other dataset (see procedure described page 9).

4.6.2 Reconfigure the Kistock and start an other measurement dataset

Once the measurement dataset is transferred to the data collector (see the downloading procedure page 7), it is possible to start an other dataset directly from the data collector.

Two recording configurations can be sent:

- **"Loop":** values are recorded continuously and when the storage capacity is full, the first recorded values are overwritten by the new ones.

    OR

- **"Total memory":** values are recorded until the storage capacity of the device is reached.

(i) **The configuration which is sent depends on the Kistock last configuration**

Initial configuration: Stop type		Configuration sent by the data collector: Stop type
Date/time	→	Total memory
Duration	→	
Records count	→	
Total memory	→	
Loop	→	Loop
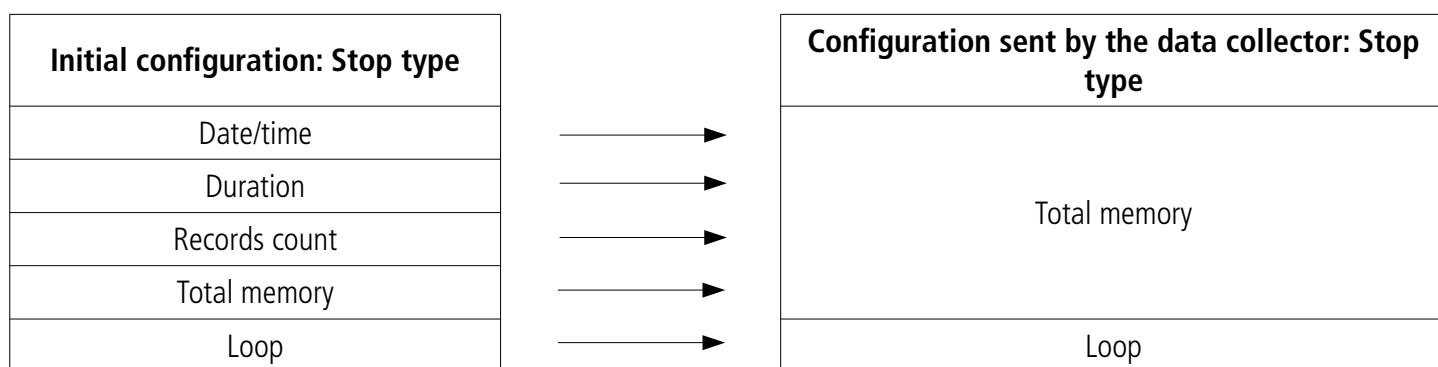
Other configuration parameters (recording intervals, stop by button, etc.) remain unchanged.

(i) If a configuration different from **"Loop"** or **"Total memory"** recording mode is required, please use the **Kilog 2015** software: for more details about device configuration via software, please see the **Kilog 2015** software user manual.

Procedure to send a new configuration:

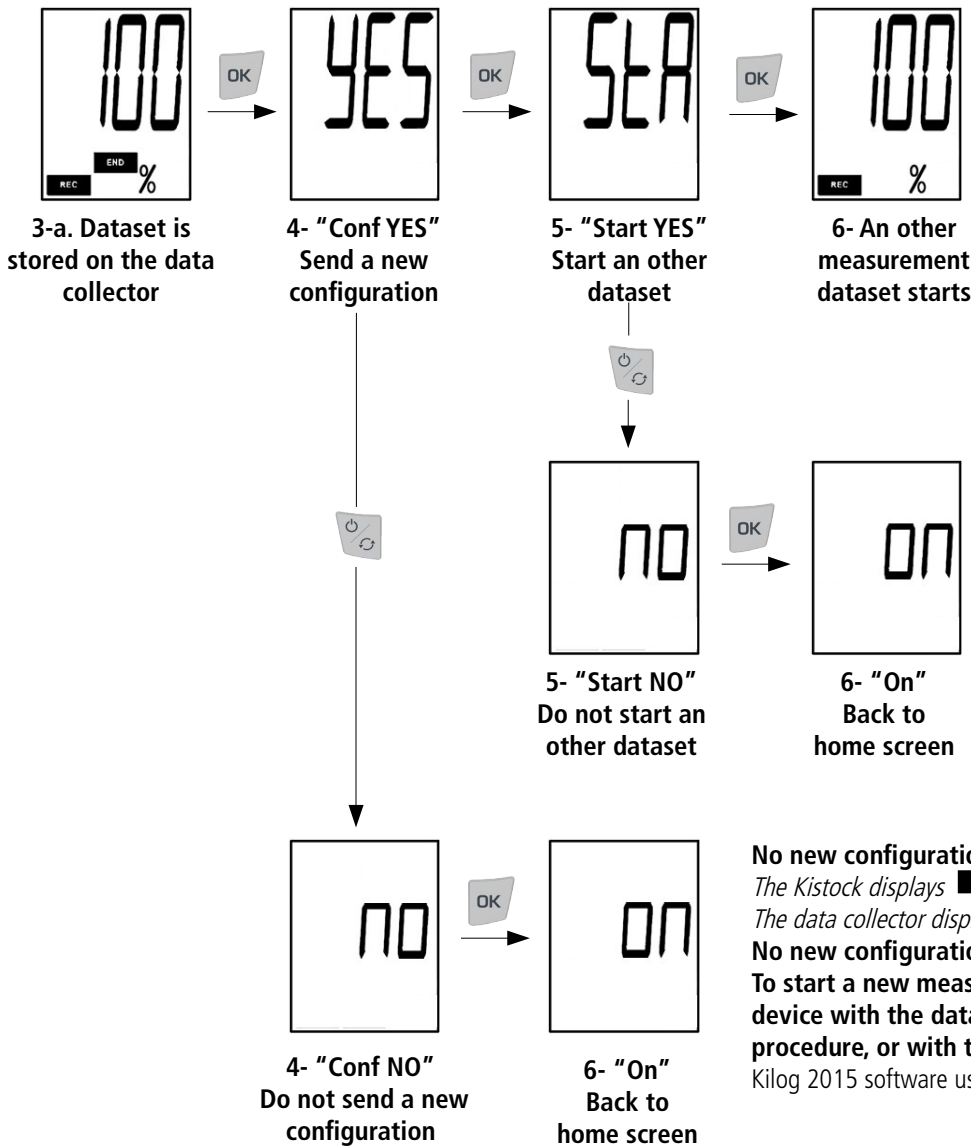Once the dataset is transferred to the data collector (see downloading procedure described page 7, screens 1 to 3):

3-a. Dataset is stored on the data collector

4- "Conf YES" Send a new configuration

5- "Start YES" Start an other dataset

6- An other measurement dataset starts

5- "Start NO" Do not start an other dataset

6- "On" Back to home screen

4- "Conf NO" Do not send a new configuration

6- "On" Back to home screen

An other measurement dataset starts:
The data collector displays the new configuration transfer progression: 0-100% then displays **"On".**
The Kistock displays REC *

A new configuration has been sent and an other measurement dataset starts.
The Kistock is automatically configured with type of start by PC.

A new configuration is sent:
The Kistock displays REC *flashing icon*.*
Device is waiting for start.
The data collector displays **"On".**
A new configuration has been sent but the dataset did not start.
The Kistock is automatically configured with a type of start by button: the new dataset can be started by pressing the **OK** key of the Kistock.

No new configuration is sent:
The Kistock displays END *.*
The data collector displays **"On".**
No new configuration has been sent on the Kistock.
To start a new measurement dataset, reconfigure the device with the data collector, following the opposite procedure, or with the Kilog 2015 software (please see the Kilog 2015 software user manual).

ⓘ When a new configuration is sent on the Kistock with the data collector, two types of start can be sent: **start by PC** or **start by button**. The type of start which is sent depends on an immediate start or not of the dataset with the data collector.

* only for models with display

4.6.3 Summary of functions

```
                        ┌──────────────────────┐
                        │   Plug the data      │
                        │   collector on the   │
                        │      Kistock         │
                        └──────────────────────┘
                                  │ [⏻/↻]
                                  ▼
                        ┌──────────────────────┐
                        │  Switch on the data  │
                        │      collector.      │
                        │  "On" is displayed.  │
                        └──────────────────────┘
                                  │ [OK]
              ┌───────────────────┼───────────────────┐
              ▼                   ▼                   ▼
```

Dataset is finished
Transfer progression is displayed: 0-100 % .
Dataset is stored on the data collector.

  ← [OK] —

Dataset is in progress
"Stop YES" is displayed.
Allows to stop the dataset.

The data collector does not detect any point to download. *The error message **"No Pts"** is displayed.* The dataset did not start already or the first point has not been recorded yet.

[OK] ▼ (Dataset is finished)

"Conf YES" is displayed.
Allows to send a new configuration on the Kistock.

[⏻/↻] ▼ (Dataset is in progress)

"Stop NO" is displayed.
Allows not to stop the dataset.

[OK] ▼ (No point)

"Start YES" is displayed.
Allows to start the measurement dataset.

[OK] / [⏻/↻] ▼ (Conf YES)

"Start YES" is displayed.
Allows to start the measurement dataset.

"Conf NO" is displayed.
Allows not to send a new configuration.

[OK] ▼ (Stop NO)

[OK] / [⏻/↻] ▼ (Start YES right)

The measurement dataset starts.

" Start NO" is displayed
Allows not to start the measurement dataset.

[OK]

[OK] / [⏻/↻] ▼ (Start YES left)

An other measurement dataset starts. *0-100 % is displayed.*

" Start NO" is displayed
Allows not to start the measurement dataset.

[OK]

4.7 Data collector – PC interface with Kilog 2015 software
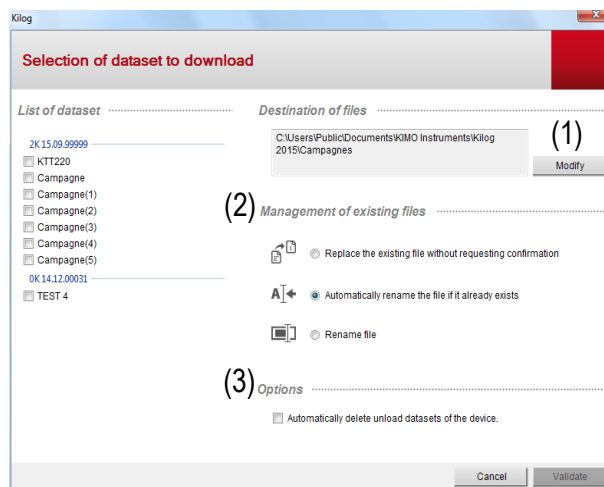
4.7.1 Download data collector on PC

➢ Plug the data collector on a USB port of the computer.

➢ Launch the **Kilog 2015** software by double clicking on the ⬛ icon.

➢ Click on **"Download"** button, or go to **"Datalogger"** menu and select **"Downloading".**

The following window opens.

➢ Tick the boxes of datasets to transfer.

➢ If necessary, define the files saving location by clicking on **"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 on **"Validate"**.

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


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

➢ Plug the data collector on a USB port of the computer

➢ Launch the **Kilog 2015** software by double clicking on ⬛ the icon.

➢ Click on **"Configure"** button, or go to **"Datalogger"** 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.

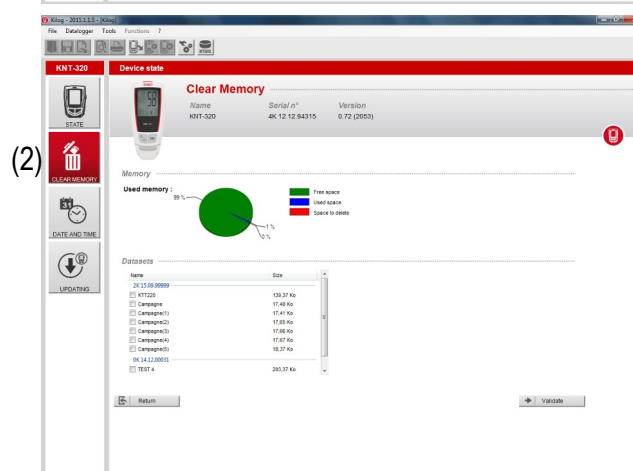*The number of recorded datasets and the used storage capacity are displayed.*
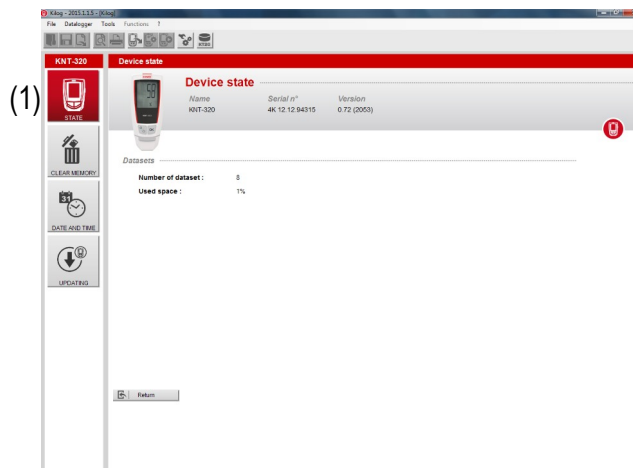
➢ Click on **"Clear memory"** (2)

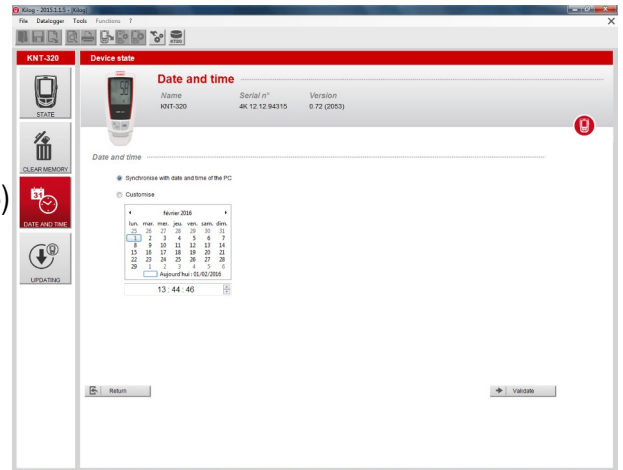*A diagram summarises the memory state and a list of the recorded datasets is displayed.*

➢ Select the datasets to delete by ticking the corresponding box then click on **"Validate"**

*A confirmation message is displayed: select **Yes** to confirm or **No** to cancel.*

➢ Click on **"Date and time"** (3)

➢ Set a date and time synchronisation with PC or customise them, then click on **"Validate".**

(3)

4.7.3 Update the data collector

It is possible to update the **KNT 320** data collector by connecting it on the **Kilog 2015** software:

➢ Click on **"Update"** (4).

• **Carry out an automatic update**

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

(4)

➢ Tick the **"Automatic"** box.

➢ Tick the **"Use a proxy server"** box.

➢ Choose **"Default proxy"**: the KILOG software uses the proxy parameters of the computer internet connection.
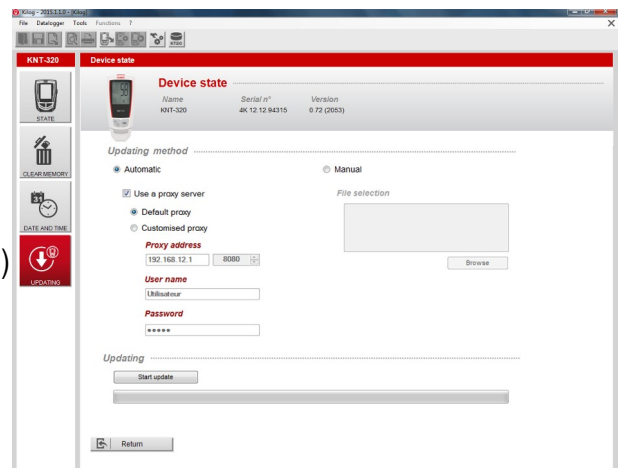
    Or

➢ Choose **"Customised proxy"**: indicate the Proxy address then the user name and password.

➢ Click on **"Start update"** to start the device updating.

    The progress of the updating displays in the progression bar.

    A message indicating the updating is finished displays at the end.

• **Carry out a manual update**

➢ Tick the **"Manual updating"** box.

➢ Click on **"Browse"** and take the updating file given by the KIMO after-sales service (.zip file type).

➢ Click on **"Start update"** to start the device updating.

    The progress of the updating displays in the progression bar.

    A message indicating the updating is finished is displayed at the end.

• **Check the effective updating**

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

4.8 Data collector – PC interface without Kilog 2015 software

It is also possible to manage the files of the data collector without using the **Kilog 2015** software.

In this case, the **KNT 320** data collector works as a USB flash drive. It is recognised by the computer as a removable disk with the name **"KNT-320".**

➢ Plug the data collector on a USB port of the computer.

The following auto-play window opens:

➢ Click on **"Open folder to view files".**

The folders are organised according to the serial number of the devices used. The sub-folders are settled by dates of the measurement datasets. In these sub-folders are stored the measurement datasets files: they are named as the dataset has been defined.

➢ Follow the same procedure as with a USB key to rename, copy, transfer or delete files.

➢ For a data processing, the **Kilog 2015** software is necessary. If the software is installed on your computer, double-click on the required dataset file to open it.

5.1 Recharge the battery

The **KNT 320** data collector power supply is ensured by a rechargeable lithium polymer battery.

When the battery is low, **BAT** icon is displayed.

> ➢ To recharge the battery, plug the data collector on a USB port of your PC.
>
> *During the charging time on PC,* **BAT** *icon is displayed and the data collector displays* **"USB".**
>
> *When the battery is totally recharged,* **BAT** *icon disappears.*

Charging time is about 7 minutes to charge 50% of the battery, about 2 hours to recharge it completely.

5.2 Device cleaning

Please avoid any aggressive solvent.

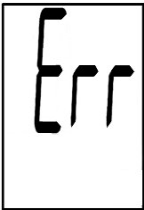Please protect the device form any cleaning produce containing formalin.

6 Accessories

Accessories	References	Illustrations
1 female USB / male micro-USB adapter *Supplied with the device*	KNT-A	
KILOG 2015 Software The Kilog 2015 configuration and data processing software allows to configure, save and process your data in a very simple way.	<u>Software only:</u> *Ref. KILOG-3-N* <u>Complete set:</u> software + 1 USB cable, *Ref. KIC-3-N*	

ⓘ **Only the accessories supplied with the device must be used.**
Only the KILOG 2015 software is compatible with the KNT 320 data collector

7 Troubleshooting

Problem	Probable cause and possible solution
"Err" error message is displayed	**The data collector can not communicate with the Kistock:** Check that the USB connector is correctly plugged. Once the connection established, press **OK** to go back to home screen: *the data collector displays* **"On".**
The data collector does not switch on	**The battery must be recharged:** Plug the data collector on a USB port to recharge it (see § 5.1).

BE CAREFUL! Material damages can happen, so please apply the precautionary measures indicated.

Once returned, required waste collection will be assured in the respect of the environment in accordance to guidelines relating to WEEE.

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