CE

KISTOCK DATALOGGER
HVAC range : KT210 / KH210

Temperature / Humidity / Light

KEY POINTS

- 20,000 measurement points
- Up to 4 external inputs
- Up to 5 recordable parameters
- 2 configurable setpoint alarms

- Fast data download
  (1000 values per seconds)
- Magnetic mounting
- IP40 housing

PART NUMBERS

Par number	Internal sensor	Display	External input number	Parameters
KT-210-AN	yes	no	4	Temperature Current/voltage
KT-210-AO	yes	1 line	4	
KH-210-AN	yes	no	2	Humidity, temperature and light Current/voltage
KH-210-AO	yes	2 lines	2	
KH-210-DO	yes	2 lines	2	

TECHNICAL FEATURES

	KT210	KH210
Units displayed	°C, °F, mV, V, mA, A	°C, °F, %RH, Lux*, °Ctd, °Ftd
Accuracy	0.1 °C, 0.1 °F, 0.001 V, 0.001 mA, 0.1 A	0.1 °C, 0.1 °F, 0.1%HR, 1 Lux*
External inputs	4 Jack connectors 2.5 Stereo	2 Jack connectors 2.5 stereo 1 Mini-DIN connector**
Internal sensor	**Temperature sensor** NTC type : **Measuring range :** from -40 to +70 °C **Accuracy :** from - 20 to +70 °C : ±0.4°C from -40 to -20 °C : ±0.8 °C	**Light sensor** photodiode type : **Measuring range :** from 0 to 10000 lux **Accuracy :** ±10 %
Setpoint alarms	2 setpoint alarms on each channel	
Frequency of measurement	From 1 s to 24 h	
Working temperature	From -40 to +70 °C	From -20 to +70 °C
Storage temperature	From -40 to +85 °C	
Battery life[1]	5 years	

FEATURES OF HOUSING

Dimensions
98.7 x 67.8 x 34.7 mm

Weight
113 g

Display
2 lines LCD screen
Dimension of screen : 45 x 28.5 mm

Control
2 buttons : Select and OK

Material
Compatible with food industry environment
ABS housing
Slides and caps made of Elastomer

Protection
IP 40

PC communication
1 digital input for male Jack connector 3.5

Digital electronics
Lacquer protected circuit board
Meets RoHS standards

Battery power supply
Type lithium 3.6 V ½ AA

Visual alarm
2 electroluminescent diodes (green and red)

Environment
Air and neutral gases

Brightness data are recorded, the screen does not display them.

***only for KH-210-DO KISTOCK**

[1]*on the basis of 1 measurement each 15 minutes at 20°C*

TECHNICAL FEATURES FOR PROBE   KH210

• THERMO-HYGROMETRY PROBE[1]

	Hygrometry	Temperature
Sensor type	CMOS	
Measuring range	From 5 to 95 %HR	From -20 to +70 °C
Accuracy*	**Accuracy** (Repeatability, linearity, hysteresis)** : ±2%RH (from 15°C to 25°C) **Factory calibration . uncertainty :** ±0,88 %RH **Temperature dependence :** ±0.04 x (T-20) %RH (if T<15°C or T>25°C)	**From -20 to 0°C :** 2% of displayed value ±0,6 °C **From 0 to 30 °C :** ±0,5 °C **From 30 to 70 °C :** 1.5% of displayed value
Response time (t$_{0.63}$)	50 s (Vair = 2 m/s)	25 s (V = 2 m/s)

[1] Internal thermo-hygrometry probe for KH-210-A and external thermo-hygrometry probe for KH-210-DO.

*All accuracies indicated in this document were stated in laboratory conditions and can be guaranteed for measurements carried out in the same conditions, or carried out with calibration compensation.
**As per NFX 15-113 standard and the charter 2000/2001 Hygrometers, GAL (Guaranteed Accuracy Limit) which has been calculated with a coverage factor value of 2 is ±2,88%RH between 18 and 28°C on the measuring range from 5 to 95%RH. Sensor drift is less than 1%RH/year.*

• TEMPERATURE PROBES (OPTIONAL)

Sensor type	NTC
Measuring range	From -40 to +120 °C (remote probe)
Accuracy*	Remote probe : ±0.3 °C (-25 °C<T<+70 °C) ±0.5 °C (beyond)

TECHNICAL FEATURES FOR PROBE   KT210

• TEMPERATURE PROBES (OPTIONAL)

Sensor type	NTC
Measuring range	From -40 to +120 °C (remote probe)
Accuracy	Remote probe : ±0.3 °C (-25 °C<T<+70 °C) ±0.5 °C (beyond)

TECHNICAL FEATURES FOR CABLES   KT210 and KH210

• CURRENT INPUT CABLE (OPTIONAL)

Measuring range	0/4-20 mA
Accuracy*	±0.2 % of the measurement ±1 µA

• VOLTAGE CABLE (OPTIONAL)

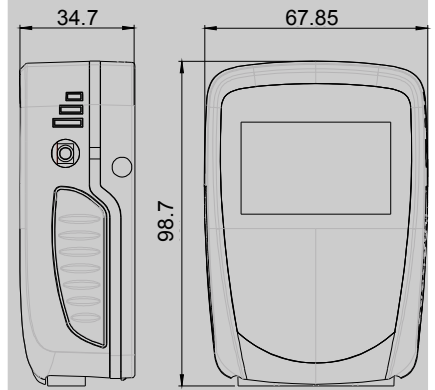|	
Measuring range	0-10 V
Accuracy*	±0.2 % of the measurement ±1 mV

• AMMETER CLAMP (OPTIONAL)

Measuring range	0-50 A / 0-100 A / 0-200 A / 0-600 A
Accuracy*	±1 to 2.5 % of the value displayed (according to measuring range)

*All accuracies indicated in this document were stated in laboratory conditions and can be guaranteed for measurements carried out in the same conditions, or carried out with calibration compensation.
See technical datasheet "Measuring probe and cable for class 110/210 kistock dataloggers"*
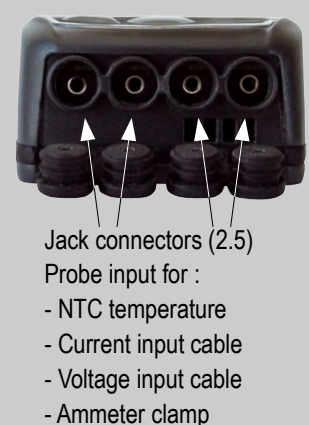
DIMENSIONS (mm)

34.7   67.85   98.7

CONNECTIONS

External input (KH-210-DO)

Mini-Din connector   Jack connectors (2.5)
Probe input for :
- NTC temperature
- Current input cable
- Voltage input cable
- Ammeter clamp

External input (KH-210-A)

Jack connectors (2.5)
Probe input for :
- NTC temperature
- Current input cable
- Voltage input cable
- Ammeter clamp

External input (KT-210)

Jack connectors (2.5)
Probe input for :
- NTC temperature
- Current input cable
- Voltage input cable
- Ammeter clamp

RECORDER FUNCTIONS

5 recording modes

KISTOCK can record in 5 different ways :
• **"Immediate"** mode records values according a predefined interval.
• **"Minimum"**, **"Maximum"** and **"Average"** record automatically the calculation of minimum, maximum or average of measured values during an interval of recording.
• **"Monitoring"** mode allows to get an accurate history report during error events to help troubleshooting, without stopping the measurement logging. To proceed this way, you just have to define :
  - a record interval to be used whilst the readings are beyond the setpoints.
  - a record interval for the values measured during each reading beyond the setpoints..
Furthermore, you can also let your KISTOCK record non-stop (**"loop"** recording option).

4 types dataset start

Once your recording mode has been set, you can launch your dataset :
• With a delayed start (with predefined date and time)
• With the software
• With push-button
• With **"Online"** option. In this case, your datasets are directly sent, saved and displayed on your PC in real time.

6 types of dataset stop

You can stop your dataset :
• According to a date and time (if it was started the same way)
• According to a period
• According to a predefined number of recording points
• Once the storage capacity is full
• With **"Stop"** option of the software
• By holding **"OK"** key for at least 5s, if this function has been previously activated by the software.
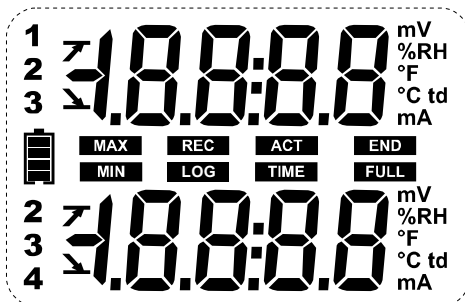
PC CONNECTION INPUT

Input for PC connection

Jack connector (3.5)
Input for Kistock-PC software

SCREEN

°C…Temperature in degrees Celsius
°F...Temperature in degrees Fahrenheit
%RH..........Relative humidity (KH 210)
td...Dew point temperature (KH 210)
V or mV Voltage expressed in V or mV
A or mA Current expressed in A or mA

END *DATASET is finished*

REC *One value is being recorded*

LOG *Flashing : dataset has not started yet*
Constant : data set is in progress

FULL *Slow flashing : dataset is taking 80-90% of storage capacity*
Fast flashing : dataset is taking 90-100% of storage capacity
Constant : storage capacity filled up

1 2
2 3
3 4
Channel No. which is measuring

ACT *Refresh of displayed measurements*

TIME *Display of measurement and recording intervals*

Status of battery life : 5 levels (4 blocks + empty battery)
Flashes when only one block is remaining

MIN
MAX *Displayed values correspond to maximum and minimum values of the channels*

Alarm action type : rising or falling action

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

*Err + flashing of the green LED : detection of communication error ⟶ Press **"Select"** and **"OK"** keys to reset the instrument*

*Err + flashing of the red LED : detection of measurement error ⟶ Press **"Select"** and **"OK"** keys to reset the instrument*

SOFTWARE

• **Configuration and data processing software**
KILOG software enables you to configure, save and process your data in a very simple way.
Software..*Ref. KILOG-N*
USB interface...*Ref. I-KIC2*
Complete set : soft + 1 interface.................*Ref. KIC2 KILOG*

• **KISTOCK-PC interface K**
This USB cable enables you to connect your KISTOCK to your PC.
Ref. I-KIC2

• **KILOG CFR** software
KILOG CFR software is the key tool for users who requires traceability, in accordance with 21CFR-Part11 standards. Security and integrity of data are guaranteed : it is not possible to modify or tamper with the data.

Interface..*Ref. I-KIC2*
Complete set : KILOG 1CFR software + 1 interface…*Ref. KIC2-CFR-N*

NOTE   Software is compatible with the former range of Kistock.

ACCESSORIES

• **KNT data collector.**
KNT data collector allows you to collect measurements from one or several KISTOCK directly on-site (up to 500,000 values stored). Data can be displayed and printed from the KNT or download to your PC.
Ref. KNT 300

• **Printer for KNT 300 data collector**
Ref. ITP

• **Secured wall-mounting bracket**
KIMO has designed a new proprietary anti-theft system with no padlock. Your system cannot be unlock or damaged : your installation is fully secured.
Ref. KAV-N

Once your KISTOCK is set on the mounting plate, insert the key to lock the mounting system.

To unlock : insert the key inside the metallic axis, and make ¼ turn.

Remove the key to release the metallic axis. Your KISTOCK is now unlocked.

• **Wire extensions for NTC temperature probe.**
Made of PVC HT, 5m long, with Jack connectors (male and female)
Ref. KRC 5
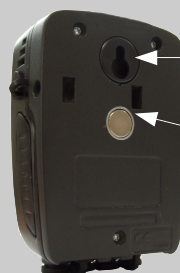*Note : you can connect several extensions together (maximum length 25m)*

• **Lace**. *Ref. KDC*

• **Lithium ½ AA battery.** *Ref. KBL*

MOUNTING

KISTOCK can be mounted in different ways ; you can also move it or install it very easily.
• Magnetic mounting or wallmounting (see photos)
• Secured mounting (optional, see accessories)

Wallmount and lace eyelet

Magnetic mounting

HOW TO CHANGE THE BATTERY

With 5-year battery life*, KISTOCK guarantee long-term measurements.
To change battery :
• Remove the screw located at the back, with a screw driver
• Remove the front part, along with the old battery.
• Insert the new battery observing the proper polarity
• Replace the front.
• Tighten the screw
• **Press "SELECT" and "OK" keys for 2 seconds to refresh battery level.**
* on the basis of 1 measurement each 15 minutes at 20°C

CALIBRATION (Optional)

KISTOCK dataloggers can be supplied with calibration certificate as an option.

WARRANTY PERIOD

KISTOCK dataloggers have 1-year guarantee for any manufacturing defect (return to our After-Sales Service required).

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