

# KISTOCK DATALOGGER

## HVAC range : KT110 / KH110

Temperature / Humidity / Light



### KEY POINTS

- Up to 16 000 measurement points
- Measure up to 3 parameters
- With or without external input
- 2 configurable setpoint alarms
- Fast data download (1000 values/second)
- Magnetic mounting
- IP40 housing

### REFERENCES

Part number	Internal sensor	Display	External input number	Nb of recording points	Parameters
KT-110-IN	Yes	No	0	12 000	Temperature and Current/voltage
KT-110-IO	Yes	1 line	0	12 000	
KT-110-AN	Yes	No	1	16 000	
KT-110-AO	Yes	1 line	1	16 000	
KH-110-AN	Yes	No	0	16 000	Humidity, temperature and light
KH-110-AO	Yes	1 line	0	16 000	

### TECHNICAL FEATURES

	KT110	KH110
Units displayed	°C, °F, mV, V, mA, A	°C, °F, %RH, °Ctd, Lux*, °Ftd
Resolution	0.1 °C, 0.1 °F, 0.001 V, 0.001 mA, 0.1 A	0.1 °C, 0.1 °F, 0.1%RH, 1 Lux*
External inputs	1 Jack connector 2.5 stereo	
Internal sensor	Temperature	Humidity, temperature, light
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**	5 years	

### FEATURES OF HOUSING

#### Dimensions

98.7 x 67.8 x 34.7 mm

#### Weight

113 g

#### Display

1 line LCD screen

Dimension of screen : 45 x 17 mm

#### Control

2 keys : Select and OK

#### Material

Compatible with food industry environment

ABS housing

Sides and caps made of Elastomer

#### Protection

IP 40

#### PC communication

1 digital input

#### 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.

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

## TECHNICAL FEATURES PROBES, INTERNAL SENSOR AND CABLES

KT110

### • TEMPERATURE PROBE (OPTIONAL)

Type of sensor	NTC
Measuring range	From -40 to +120 °C (remote probe)
Accuracy*	$\pm 0.3$ °C (-25 °C < T < +70 °C) $\pm 0.5$ °C (beyond)

### • INTERNAL SENSOR

Type of sensor	NTC
Measuring range	From -40 to +70 °C
Accuracy*	$\pm 0.4$ °C (-20 °C < T < +70 °C) $\pm 0.8$ °C (beyond)

### • CURRENT INPUT CABLE (OPTIONAL)

Measuring range	0/4-20 mA
Accuracy*	$\pm 0.2$ % of the measurement $\pm 1$ $\mu$ A

### • VOLTAGE INPUT CABLE (OPTIONAL)

Measuring range	0-10 V
Accuracy*	$\pm 0.2$ % of the measurement $\pm 1$ mV

### • AMMETER CLAMP (OPTIONAL)

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

See technical datasheet "Measuring probe and cable for class 110/210 kistock dataloggers"

## TECHNICAL FEATURES FOR INTERNAL SENSOR

KH110

### • THERMO-HYGROMETRY

	Hygrometry	Temperature
Type of sensor	CMOS	
Measuring range	From 5 to 95 %RH	From -20 to +70 °C
Accuracy*	<b>Accuracy** (Repeatability, linearity, hysteresis) :</b> $\pm 2\%$ RH (from 15 °C to 25 °C) <b>Factory calibration . uncertainty :</b> $\pm 0.88$ %RH <b>Temperature dependence :</b> $\pm 0.04 \times (T-20)$ %RH (if T < 15 °C or T > 25 °C)	<b>From -20 to 0 °C :</b> 2% of displayed value $\pm 0.6$ °C <b>From 0 to 30 °C :</b> 0.5 °C <b>From 30 to 70 °C :</b> 1.5% of displayed value
Response time ( $t_{0.63}$ )	50 s (Vair = 2 m/s)	25 s (V = 2 m/s)

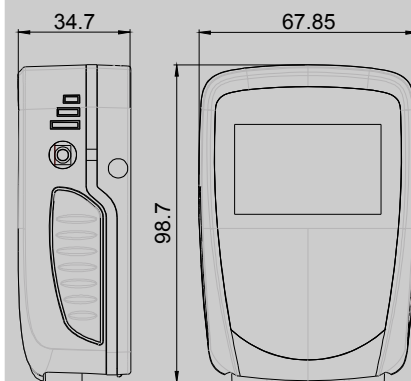
### • LIGHT SENSOR

Type of sensor	Photodiode
Measuring range	From 0 to 10 000 Lux
Accuracy*	$\pm 10$ %

\*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.

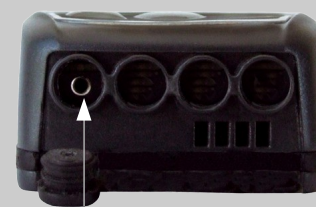
\*\*As per NFX 15-113 standard and the charter 2000/2001 Hygrometers, GAL (Guaranteed Accuracy Limit) which has been calculated with a coverage factor value of 2 is  $\pm 2.88\%$  RH between 18 and 28 °C on the measuring range from 5 to 95%RH. Sensor drift is less than 1%RH/year.

## DIMENSIONS (mm)



## CONNECTIONS

### External input (KT 110-A)



Jack connectors (2.5)

Probes inputs for :

- NTC temperature
- Current input cable
- Voltage input cable
- Ammeter clamp

### PC connection input



Jack connector (3.5)

Input for Kistock-PC software

## 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.

## SCREEN

 <p>1 2 3.8.8.8.8 mV %RH °F °Ctd mA</p> <p>MAX REC ACT END MIN LOG TIME FULL</p> <p>°C.. Temperature in degrees Celsius °F.. Temperature in degrees Fahrenheit %RH..... Relative humidity (KH 110) td.. Dew point temperature (KH 110) V or mV Voltage expressed in V or mV (KT 110) A or mA Current expressed in A or mA (KT 110)</p>	<b>END</b>	DATASET is finished	<b>ACT</b>	Refresh of displayed measurements
	<b>REC</b>	One value is being recorded	<b>TIME</b>	Display of measurement and recording intervals
	<b>LOG</b>	Flashing : dataset has not started yet Constant : data set is in progress		Status of battery life : 5 levels (4 blocks + empty battery) Flashes when only one block is remaining
	<b>FULL</b>	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	<b>MIN</b> <b>MAX</b>	Displayed values correspond to maximum and minimum values of the channels
	<b>12</b>	Channel No, which is measuring		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



### • 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.



### • KISTOCK-PC interface K

This USB cable enables you to connect your KISTOCK to your PC.  
Ref. I-KIC2

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



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



### • 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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