

## TECHNICAL DATASHEET

### KH 100 KISTOCK Temperature and humidity datalogger



With or without display

- Measure up to 3 parameters
- LCD display
- Light sensor
- Fast data download (1,000 values/second)
- Up to 12,000 measurement points
- 2 configurable setpoint alarms
- Small dimensions
- Magnetic mounting
- IP 40 housing and Elastomer protection pads

#### Technical features

Units displayed..... °C, °F, %RH, Lux, °Ctd, °Ftd  
 Resolution..... 0.1°C, 0.1°F, 0.1%RH, 1 Lux  
 External input..... none  
 Setpoint alarm..... 2 setpoint alarms on each channel  
 Frequency of measurement..... from 1s to 24h  
 Working temperature..... from -20 to +70°C  
 Storage temperature..... from -40 to +85°C  
 Battery life..... 5 years \*  
 (\*) on the basis of 1 measurement each 15 minutes at 20°C

#### Thermo-hygrometry Probe

Type of sensor..... CMOS

##### • Hygrometry

Measuring range..... 5 to 95%RH  
 Accuracy\*(GAL)..... ± 2.95 %RH between 18°C and 28°C  
 Response time.....  $t_{0.63} = 50s$  ( $V_{air} = 2m/s$ )

##### • Temperature

Measuring range..... -20 to +70°C  
 Accuracy..... ±1% of value displayed, ±0.4°C  
 ..... (+5°C ≤ T < +70°C)  
 ..... ±2% of value displayed ±0.6°C  
 ..... (-20°C < T < +5°C)  
 Response time.....  $t_{0.63} = 25s$  ( $V_{air} = 2m/s$ )

#### \*Guaranteed Accuracy Limits (GAL)

As per NFX 15-113 standard and as per the Charter « 2000-2001 HYGROMETERS »

EMG (GAL) = ±2.95 %RH between 18 and 28°C

(normal measurement range)

Measuring range: 5 to 95%RH,

Short-term drift: 1%RH / year

$EMG = E_l + E_{nl} + k(u_{et}^2 + u_r^2 + u_g^2 + u_s^2)^{1/2}$

$E_{nl}$  : linearity and hysteresis = ±1.33%RH

$E_l$  : temperature coefficient error = ± 0.42%RH with

$u_{et}$  : uncertainty of calibration = ± 0.55%RH

$u_r$  : uncertainty of resolution = ± 0.003%RH

$u_g$  : manufacturing dispersion = ± 0.2%RH

$u_s$  : comparison repeatability = 0.13%RH

k : coverage factor value = 2

#### Light sensor

Type of sensor..... photodiode

Measuring range..... 0 to 10 000 Lux

Accuracy..... ±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.

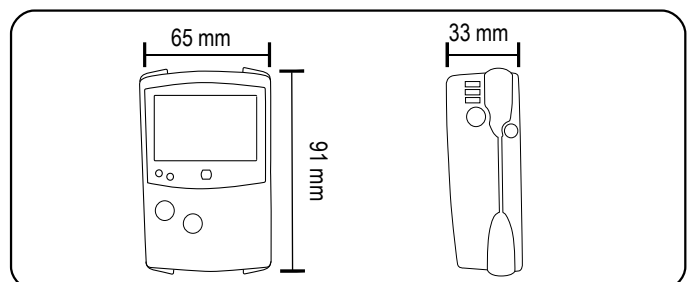
#### References

Part number	Internal sensor	Display	External inputs	Protection
KH-100-AN	Yes	No	0	IP 40
KH-100-AO	yes	1-line	0	IP 40

#### Features of housing

Dimensions..... 91 x 65 x 33 mm  
 Weight..... 85g  
 Display..... 1-line LCD display  
 Dimensions of screen: 45 x 17 mm  
 Control..... 2 keys (« SELECT » and « OK »)  
 Material..... Compatible with food industry environment  
 Housing made of Polycarbonate  
 Sides and caps made of Elastomer  
 Protection..... IP 40  
 PC communication..... 1 input for Jack connector (male 3.5)  
 Electronics..... Digital electronics  
 Lacquer protected circuit board  
 Meets RoHS standards  
 Battery power supply..... Lithium 3.6V 1/2 AA  
 Visual alarm..... 2 electroluminescent diodes (green, red)  
 Environment..... Air and neutral gases

#### Dimensions

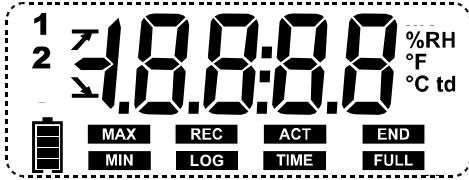


## Connections

### PC connection input



## Display



%RH..... Relative humidity  
°F..... Temperature in degrees Fahrenheit  
°C..... Temperature in degrees Celsius  
td..... Dew point temperature

1 Channel no. which is measuring  
2

Alarm action type: rising or falling action

**END** Data set is finished

**REC** One value is being recorded

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

**FULL** Slow Flashing: data set is taking 80-90% of storage capacity  
Fast Flashing: data set is taking 90-100% of storage capacity  
Constant: storage capacity filled up

**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** The values displayed correspond to maximum and minimum values of the channels  
**MAX**

## Recorder functions

### 5 recording modes

KISTOCK can record in 5 different ways:

- « Immediate » mode => to record values according to a predefined interval
- « Minimum », « Maximum » and « Average » => to record automatically the calculation of minimum, maximum or average of values measured during an interval
- « Monitoring » => 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 of data set start

Once your recording mode has been set, you can launch your data set:

- with a delayed start (with predefined date and time)
- with the software
- with push-button
- with « Online » option. In this case, your data sets are directly sent, saved and displayed on your PC in real time.

### 6 types of data set stop

You can stop your data set:

- 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.

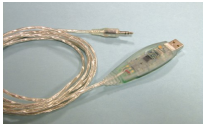
## ■ KILOG software



### • Configuration and data processing software

KILOG software enables you to configure, save and process your data in a very simple way.

- Software..... Ref. KILOG
- USB interface..... Ref. I-KIC2
- Complete set\*..... Ref. KIC2 KILOG
- \* including KILOG software + 1 USB interface



### • KISTOCK-PC interface

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

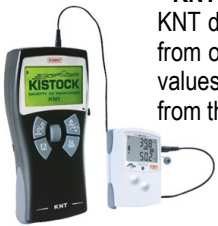
### • KILOG CFR software

KILOG CFR software is the key tool for users who require 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 CFR software + 1 interface... Ref. KIC2 CFR

## ■ Accessories



### • KNT data collector

KNT data collector allows you to collect measurements from one or several KISTOCK directly on-site (500,000 values stored). Data can then be displayed and printed from the KNT or downloaded 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 unlocked or damaged: your installation is fully secured.

Ref. KAV



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.

• 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 photo)
- Secured mounting (optional, see accessories)



Wallmount system and lace eyelet

Magnetic mounting

## ■ How to change the battery

With 5-year battery life (\*), KISTOCK guarantee long-term measurements.

To change the 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.

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

## ■ Calibration

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).

**EXPORT DEPARTMENT**

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