TECHNICAL DATASHEET

KH 200 KISTOCK
Temperature and humidity datalogger

%HR
°C
°F
mA V
A
Lux

With or without display

- *Measure from 1 to 5 parameters*
- *Large LCD display*
- *2 external inputs*
- *Light sensor*
- *Fast data download (1,000 values/second)*
- *Up to 16,000 measurement points*
- *2 configurable setpoint alarms*
- *Small dimensions*
- *Magnetic mounting*
- *IP 67 or IP 40 housing and Elastomer protection pads*

◼ Technical features

Units displayed.................................°C, °F, %RH, mV, V, mA, A, Lux,°Ctd,°Ftd
Resolution.......................................0.1°C, 0.1°F, 0.1%RH,
1mV, 0.001V, 0.001mA, 0.1A, 1 Lux
External inputs.................................2 Jack connectors (2.5 stereo)
1 Mini-DIN connector Mini-DIN (KH-200-D)
Setpoint alarms................................2 setpoint alarms on each channel
Frequency of measurement.............from 1s to 24h
Working temperature.......................from –20 to +70°C (KH-200-A)
from –20 to +80°C (KH-200-D)
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 (KH-200-A)
-20 to +80°C (KH-200-D)
Accuracy..............................±1% of value displayed, ±0.4°C (+5°C≤T<+80°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_t + E_{hl} + k (u_{et}^2+u_r^2+u_d^2+u_s^2)$^{1/2}$
E_{hl} : linearity and hysteresis = ±1.33%RH
E_t : temperature coefficient error = ± 0.42%RH with

u_{et} : uncertainty of calibration = ± 0.55%RH
u_r : uncertainty of resolution = ± 0.003%RH
u_d : manufacturing dispersion = ± 0.2%RH
u_s : comparison repeatibility = 0.13%RH
k : coverage factor value = 2

Temperature probes (optional)
Type of sensor...................................NTC
Measuring range..............................-40 to +120°C
Accuracy..±0.3°C (-25°C<T<+70°C)
±0.5°C beyond
See technical datasheet « Measuring probes and cables for Class 100/200 KISTOCK dataloggers ».

Light sensor
Type of sensor.......... photodiode
Measuring range....... 0 to 10 000 Lux
Accuracy................... ±10 %

Current input cables (optional)
Measuring range.......0/4-20mA
Accuracy...................±0.05mA

Ammeter clamps (optional)
Measuring range.......0-600A
Accuracy...........±1 to 2.5% of the value displayed according to measuring range

Voltage cables (optional)
- Measuring range..... 0-2.5V
Accuracy................... ±0.002V
- Measuring range..... 0-10V
Accuracy................... ±0.02V

*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	Thermo-hygrometry sensor	Display	External inputs	Protection
KH-200-AN	Internal	No	2	IP 40
KH-200-AO	Internal	2-line	2	IP 40
KH-200-DN	Remote probe	No	3	IP 67
KH-200-DO	Remote probe	2-line	3	IP 67

KH 200 D is supplied with a thermo-hygrometry remote probe
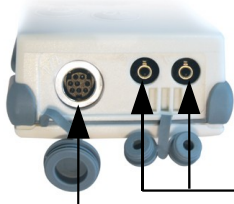(Ref. KTHP 130)

◼ Features of housing

Dimensions................... 91 x 65 x 33 mm
Weight.......................... 85g
Display.......................... 2-line LCD
Dimensions of screen: 45 x 28.5 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 67 or 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

65 mm   33 mm   91 mm
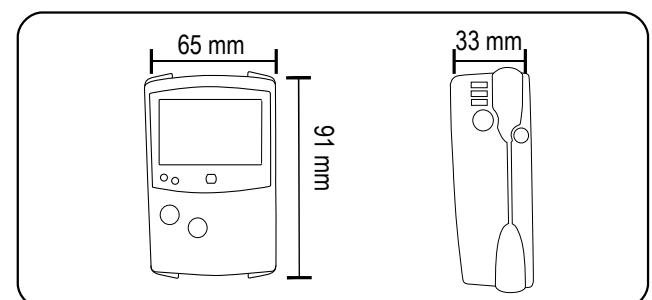
■ *Connections*

KH-200-D external inputs   **KH-200-A external inputs**   **PC connection input**

Jack connector (3.5)
Input for KISTOCK-PC software

Mini-DIN connectors
Thermo-hygrometry probe
input
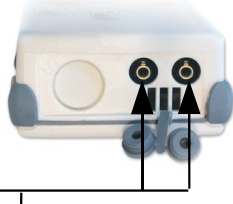
Jack connector (2.5)
Probes inputs:
- NTC temperature
- current input cable
- voltage input cable
- ammeter clamp

■ *Display*

```
1  7                    mV
2  |1.8.8:8.8|          %RH
3  \                    °F
                        °C td
   [MAX] [REC] [ACT] [END]   mA
   [MIN] [LOG] [TIME] [FULL]
2  7                    mV
3  |1.8.8:8.8|          %RH
4  \                    °F
                        °C td
                        mA
```

| **END** | *Data set is finished* | **ACT** | *Refresh of displayed measurements* |

| **REC** | *One value is being recorded* | **TIME** | *Display of measurement and recording intervals* |

| **LOG** | *Flashing: data set 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* |

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

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

1 2
2 3   *Channel no. which is measuring*
3 4

Alarm action type: rising or falling action

■ *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.

Measuring probes and cables

Large choice of NTC temperature probes: general use, penetration, ambient, wire, Velcro, with handle...
- Current and voltage input cables
- Ammeter clamps

See technical datasheet « Measuring probes and cables for Class 100/200 KISTOCK dataloggers»)

KILOG *software*

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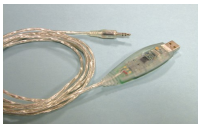KILOG software enables you to configure, save and process your data in a very simple way.
- Software.. *Ref. KILOG*
- USB interface.. *Ref. I-KIC2*
- Complete set*:.................... ....*Ref. KIC2 KILOG*
– *including KILOG software + 1 USB interface*

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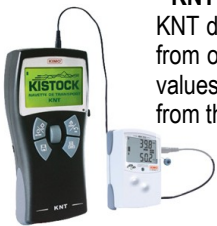
- Interface.. *Ref. I-KIC2*
- Complete set: KILOG CFR software+ 1 interface..... *Ref. KIC2 CFR*

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.

- **Wire extension for thermo-hygrometry probe**
  Made of PVC, 5m long, with mini-DIN connectors (male and female)
Ref. KRH 5

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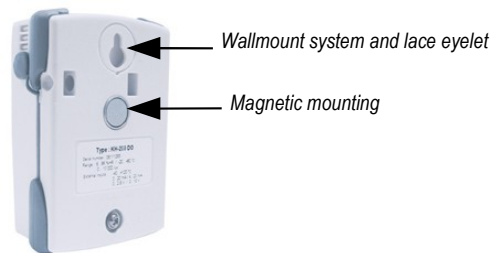- *Note: you can connect several extensions together (maximum length 25m)*
- **Lace** . *Ref. KDC*

- **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 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).

AF
AQ
ISO 9001
VERSION 2000

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FT ang – KH 200 – 04/06 A – Sous réserve de modifications techniques des appareils.