KIMO INSTRUMENTS

Technical Data Sheet

Pressure • Temperature • Humidity • Air Velocity • Airflow • Sound level

With or without display

KH 200 KISTOCK

Temperature and humidity datalogger

- *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 +70°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 +70°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

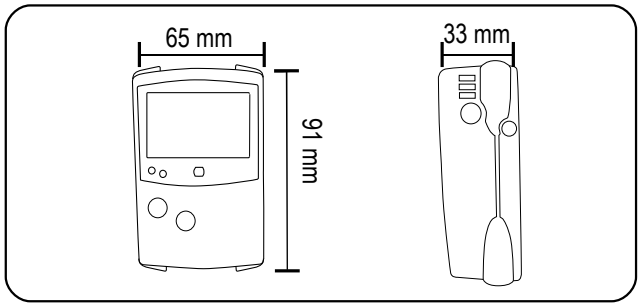
Part number	Thermo-hygrometry sensor	Display	External inputs	Protection
KH-200-AN	Internal	No	2	IP 40
KH-200-AO	Internal	2-line	2	IP 40
KH-200-DN	Remote probe	No	3	IP 67
KH-200-DO	Remote probe	2-line	3	IP 67

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

Features of housing

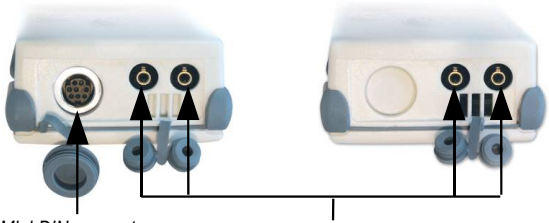
Dimensions..... 91 x 65 x 33 mm
Weight..... 85g
Display..... 2-line LCD
Dimensions of screen: 45 x 28.5 mm
Control..... 2 keys (« SELECT » and « OK »)
Material..... Compatible with food industry environment
Housing made of Polycarbonate
Sides and caps made of Elastomer
Protection..... IP 67 or IP 40
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



Connections

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

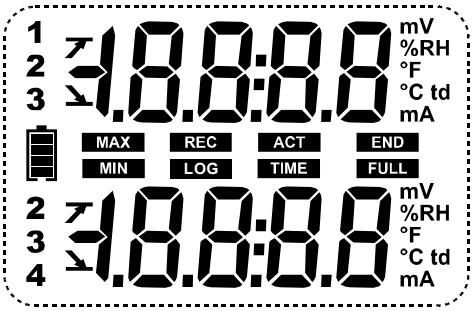


Mini-DIN connectors
Thermo-hygrometry probe input

Jack connector (2.5)
Probes inputs:
- NTC temperature
- current input cable
- voltage input cable
- ammeter clamp

Jack connector (3.5)
Input for KISTOCK-PC software

Display



°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*

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

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

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»)

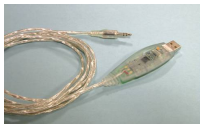
KILOG *software*

• 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.

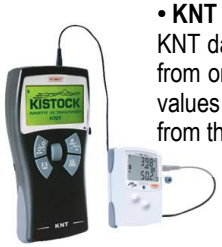
Ref. I-KIC2

• 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)

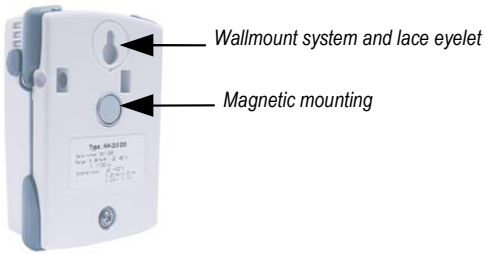
• Lace . *Ref. KDC*

• 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)



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.
- **Press « Select » key to refresh battery level**

(*) 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).

www.kimo.fr

EXPORT DEPARTMENT
Tel : + 33. 1. 60. 06. 69. 25 - Fax : + 33. 1. 60. 06. 69. 29
e-mail : export@kimo.fr

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