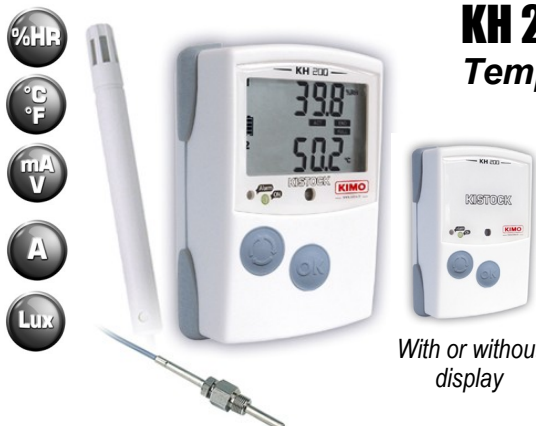


TECHNICAL DATASHEET

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, %HR, 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

$EMG = E_t + E_n + k(u_{at}^2 + u_{ir}^2 + u_d^2 + u_s^2)^{1/2}$

E_t : linearity and hysteresis = ±1.33%RH

E_n : temperature coefficient error = ± 0.42%RH with

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

u_{ir} : uncertainty of resolution = ± 0.003%RH

u_d : manufacturing dispersion = ± 0.2%RH

u_s : comparison repeatability = 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

*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.

Voltage cables (optional)

• Measuring range..... 0-2.5V
 Accuracy..... ±0.002V
 • Measuring range..... 0-10V
 Accuracy..... ±0.02V

References

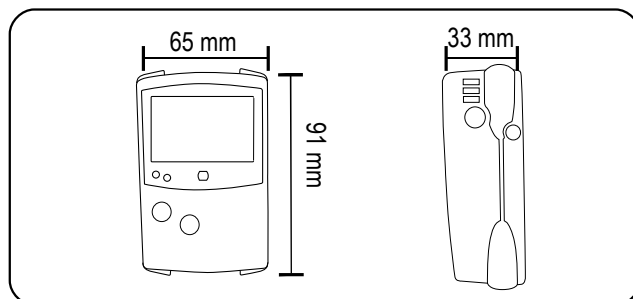
Part number	Thermo-hygrometry sensor	Display	External inputs	Protection
KH-200-AN	Internal	No	2	IP 40
KH-200-AO	Internal	2-line	2	IP 40
KH-200-DN	Remote probe	No	3	IP 67
KH-200-DO	Remote probe	2-line	3	IP 67

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

Features of housing

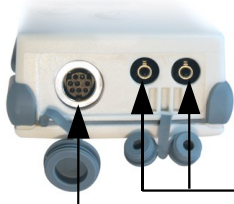
Dimensions..... 91 x 65 x 33 mm
 Weight..... 85g
 Display..... 2-line LCD
 Dimensions of screen: 45 x 28.5 mm
 Control..... 2 keys (« SELECT » and « OK »)
 Material..... Compatible with food industry environment
 Housing made of Polycarbonate
 Sides and caps made of Elastomer
 Protection..... IP 67 or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



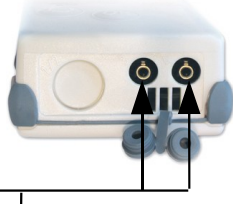
Connections

KH-200-D external inputs



Mini-DIN connectors
Thermo-hygrometry probe input

KH-200-A external inputs



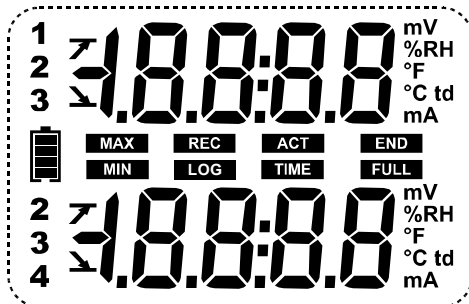
Jack connector (2.5)
Probes inputs:
- NTC temperature
- current input cable
- voltage input cable
- ammeter clamp

PC connection input



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


12
23
34 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»)

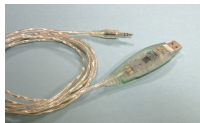
KILOG software



• 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

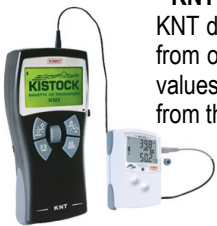
• KILOG CFR software

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)

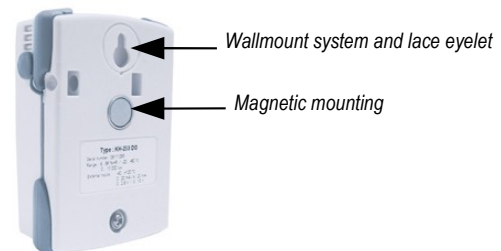
• **Lace** . Ref. KDC

• **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)



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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