KIMO INSTRUMENTS

Technical Data Sheet

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

KISTOCK DATALOGGER
HVAC range : KTH-CO_2

Temperature / Humidity / CO_2

KEY POINTS

- 20 000 measurement points
- 2 configurable setpoint alarms
- Possibility to perform an autozero
- Fast data download (1000 values per seconds)
- IP40 housing
- Supplied with 1 m of silicone tube

TECHNICAL FEATURES

Displayed units	°C, °F, %RH, °Ctd, °Ftd, ppm
Resolution	0.1°C, 0.1°F, 0.1%RH, 1 ppm
Setpoint alarm	2 setpoint alarms on each channel
Frequency of measurement	From 5 s to 24 h
Working temperature	From -20 to +70 °C
Storage temperature	From -40 to +85 °C
Battery life	3 years *(on the basis of 1 measurement each 15 minutes at 20°C)*

TECHNICAL FEATURE OF THE INTERNAL SENSOR

	Hygrometry	Temperature	CO_2
Type of sensor	CMOS		NDIR
Measuring range	From 5 to 95 %RH	From -20 to +70 °C	From 0 to 5000 ppm
Accuracy	**Accuracy** (Repetability, linearity, hysteresis)** : ±2%RH (from 15°C to 25°C) **Factory calibration uncertainty :** ±0.88 %HR **Temperature dependence :** ±0.04 x (T-20) %RH (if T<15°C or T>25°C)	**From-20 to 0°C :** 2% of reading value ±0.6 °C **From 0 to 30 °C :** ±0.5 °C **From 30 to 70 °C :** 1.5% of reading value	±50 ppm +3% of reading value
Response time (t_{63})	50 s (Vair = 2 m/s)	25 s (V = 2 m/s)	➢ 120 seconds (ambient use) ➢ 20 s in forced gas generation[1]

**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 ±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.*
[1] Please, refer to "Calibrate the datalogger" part

FEATURES OF HOUSING

Size
120 x 80 x 55 mm

Weight
250 g

Display
2 lines LCD screen
Size : 45 x 28.5 mm

Control
2 buttons : Select and OK

Material
ABS housing

Protection
IP 40

PC communication
1 input for male Jack connector 3.5

Digital electronics
Lacquer protected circuit board
Meets RoHS standards

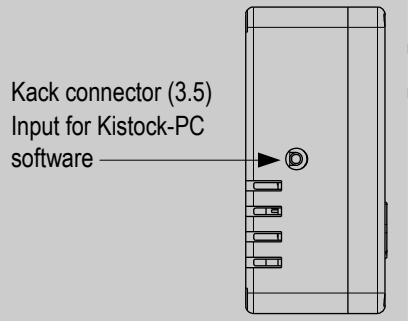
Battery power supply
Type lithium 3.6 V

Visual alarm
2 electroluminescent diodes (green and red)

Environment
Air and neutral gases

PC CONNECTION

Input for PC connection



RECORDER FUNCTIONS

Five recording modes

KISTOCK can record in five different ways :
• **"Immediate"** mode records values according a predefined interval.
• **"Minimum"**, **"Maximum"** and **"Average"** record automatically the calculation of minimum, maximum and average of measured values during an interval 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 reading 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).

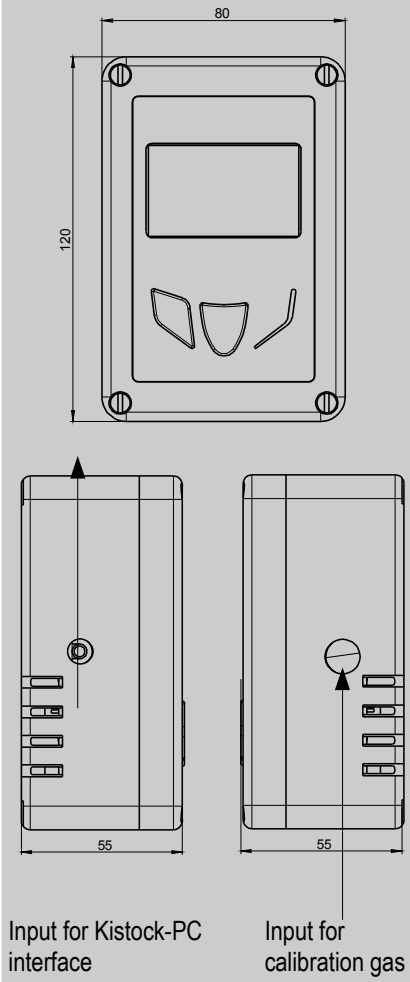
Four types of dataset start

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.

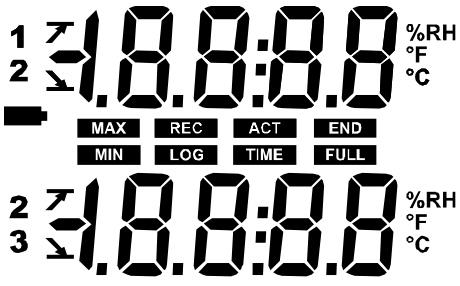
Six types of dataset stop

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 if this function has been previously activated by the software.

SIZE (in mm)



DISPLAY



°C *Temperature in degree Celsius*
°F *Temperature in degree Fahrenheit*
%RH*...Relative Humidity*
ppm : *concentration of CO_2 in ppm*

END *Dataset is finished*

REC *One value is being recording*

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

FULL *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

12
23 *Channel No. which is measuring*

ACT *Refresh of displayed measurement*

TIME *Display of measurement and recording intervals*

Low battery indicator

MIN
MAX *Displayed values correspond to maximum and minimum values of the channels*

Alarm action type : rising or falling action

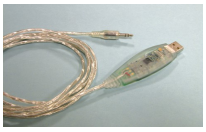
SOFTWARE

• 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 : software + 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.

- Interface — *Ref. I-KIC2*
- Complete kit : KILOG 1CFR software + 1 interface — *Ref. KIC2-CFR-N*



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

NOTE 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 310

CALIBRATION

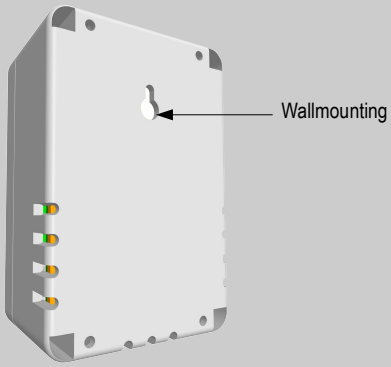
KISTOCK dataloggers can be supplied with calibration certificate as an option.

WARRANTY PERIOD

KISTOCK dataloggers have 1-year guarantee for any manufacturing defect (return to our After-Sales Service required).

FIXATION

With its fixing system by wallmounting,, it is possible to transport or fix the Kistock KTH-CO2 easily.



PERFORM AN AUTOZERO

It is recommended to perform an autozero of the instrument regularly in order to avoid potential drifts and to extend the lifetime of the sensor of the instrument.

Follow this procedure to perform an autozero :

- **Stop the ongoing measurements.**
- Press the two buttons at the same time for 5 s.
  "Cal" *is displayed.*
- Press "Select" button to select the point to perform for the autozero : 0,1700 or 3000 ppm.

NOTE **The 3000 ppm value can be modified with the Kilog software. This modified value will appear during the next autozero.**

- Press OK to validate.
- Unscrew the screw on the right side of the datalogger.
- Connect a bottle of CO_2 standard gas on the pressure connection of the KTH-CO2 with the supplied silicone tube.
- Generate a gas flow of 30l/h until the stability of the measurement.
- Wait for the stabilization of the measurement (around 3 minutes).
- Press OK to validate.
  The screen displays ***"OK"*** *on the top line and the value of the selected point to perform for the autozero on the bottom line and "End" is displayed on the screen.*
- *Set the current atmospheric pressure and the atmospheric pressure at which the autozero has been performed by configuring a new dataset* (see the Kilog user manual).
- Check the values measured by the KTH-CO2.

NOTE **Autozero is performed by injecting some standard gas directly in the measuring chamber at the desired concentration. This system is economical and allows to reduce the consumption of standard gas lower then 1.5 l (for the required measurement).**

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