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DATA SHEET

KISTOCK DATALOGGER KT220 / KH 220 / KTT 220

Temperature / Humidity / Light / Current Voltage / Impulsion / Water pressure

Features

- Available with or without display
- Software for configuration and data visualisation freely downloadable
- Software for configuration and data processing available as option
- Storage capacity of 1 000 000 points
- Fast data downloading (18 000 points/s)
- Up to 5 recordable parameters simultaneously
- 2 configurable setpoint alarms for each channel
- 2 lines LCD screen
- F Magnetic mounting

References

Reference	Display	Internal sensor	External sensor	Parameters
KT 220-O	Yes	1: Temperature	1 input for universal probe(1)	Temperature, humidity, current, voltage, impulsion, water pressure
KT 220-N	No	1: Temperature	1 input for universal probe(1)	Temperature, humidity, current, voltage, impulsion, water pressure
KH 220-O	Yes	3: Temperature, humidity & light	1 input for universal probe(1)	Temperature, humidity, current, voltage, impulsion, water pressure, light
KH 220-N	No	3: Temperature, humidity & light	1 input for universal probe(1)	Temperature, humidity, current, voltage, impulsion, water pressure, light
KTT 220-O	Yes	N/A	2 inputs for thermocouple probes(2)	Temperature
KTT 220-N	No	N/A	2 inputs for thermocouple probes(2)	Temperature

For a fast measurement of temperature and humidity variations, it is better to use a remote probe (KTHA or KTHD probe, see page 3).

Gereral features

Display (for models with display)	2 lines LCD screen Dimensions: 39 x 34 mm 2 indication LEDs (red and green)
PC communication	1 micro-USB input
Power supply	1x AA lithium 3.6 V battery
Protection	KT 220 : IP65 KH 220 : IP20 KTT 220(3) : IP54
Material	Compatible with food industry environment ABS housing
Dimensions	KT220/KH220: 96 x 65.2 x 30.5 mm KTT220: 93.2 x 65.2 x 30.5 mm
Weight (with battery)	115 g
Environmental conditions of use	Air and neutral gases Hygrometry: in non condensing condition Maximum altitude: 2000 m
Warranty	1 year

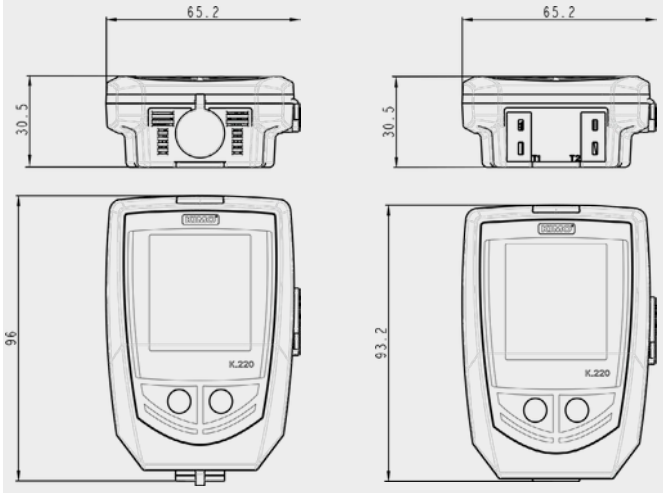
(1) Input which allows to plug different compatible probes, see the optional probes and cables page 3.
(2) For more details about the available thermocouple probes, please see the "Thermocouple probes" datasheet.
(3) With all the thermocouple probes connected.

Technical specifications

	KT 220	KH 220	KTT 220
Units displayed	°C, °F, °Ctd, °Ftd, %HR, mV, V, mA, A, bar[1]	°C, °F, °Ctd, °Ftd, %HR, lux, fc, mV, V, mA, A, bar[1]	°C, °F
Resolution	0.1 °C, 0.1 °F, 0.1 %HR, 1 mV, 0.001 V, 0.001 mA, 0.1 A, 0.1 bar	0.1 °C, 0.1 °F, 0.1% HR, 1 lux, 0.1 fc, 1 mV, 0.001 V, 0.001 mA, 0.1 A, 0.1 bar	0.1 °C, 0.1 °F
External input	Female micro-USB connector		
Input for probe	1 universal input[2]		2 inputs for thermocouple probes (K, J, T, N, S)
Internal sensor	Temperature	Temperature, humidity, light	-
Type of sensor	NTC	Temperature: NTC Humidity: capacitif Light: photodiode	Thermocouple
Measuring range	Measuring range of the internal sensor[3] : From -40 to +70 °C	Measuring range of the internal sensor[3] : Temperature: from -20 to +70 °C Humidity: from 0 to 100% HR Light: from 0 to +10 000 lux	K: From -200 to +1300 °C J: From -100 to +750 °C T: From -200 to +400 °C N: From -200 to +1300 °C S: From 0 to 1760 °C
Accuracies[4]	±0.4 °C from -20 to 70 °C ±0.8 °C below -20 °C	Temperature : ±0.4 °C from 0 to 50 °C ±0.8 °C below 0°C or above 50 °C Humidity[5] : ±2% RH from 5 to 95% RH from 15 °C to 25 °C Light: ±10% of reading +10 lux	K, J, T, N: ±0.4 °C from 0 to 1300 °C ±(0.3% of reading +0.4 °C) below 0 °C S : ±0.6 °C
Setpoints alarm	2 setpoint alarms on each channel		
Frequency of measurement	From 1 second to 24 hours		
Operating temperature*	From -40 to +70 °C	From -20 to +70 °C	From -20 to +70 °C
Storage temperature	From -40 to +85 °C		
Battery life	4 years[6]		
European directives	2011/65/EU RoHS II; 2012/19/EU WEEE; 2014/30/EU EMC; 2014/35/UE		

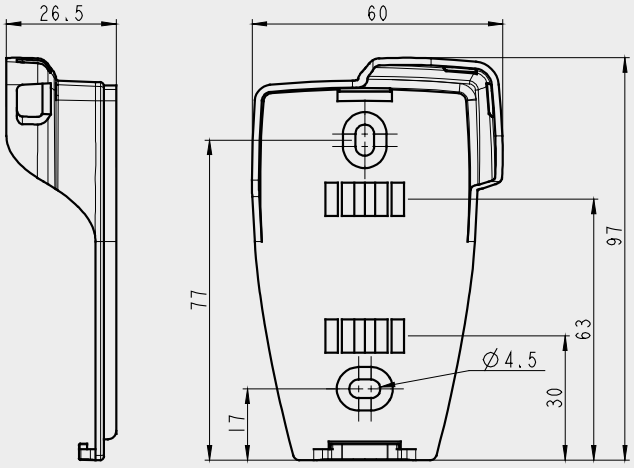
1 Some units are available only with optional probes.
2 Input which allows to plug different compatible probes: see optional probes and cables page 3.
3 Other measuring ranges are available according to the connected probe: see optional probes and cables page 3.
4 All accuracies indicated in this document were stated in laboratory conditions and can be guaranteed for measurement carried out in the same conditions, or carried out with calibration compensation.
5 Factory calibration uncertainty: ±0.88 %RH. Temperature dependence: ±0.04 x (T-20) %RH (if T<15°C or T>25°C)
6 On the basis of 1 measurement each 15 minutes at 25°C
*For data loggers with display, the screen can be hard to read, and its display speed often slows down at temperatures lower than 0°C. This has no effect on the accuracy of measurements.

Dimensions (mm)

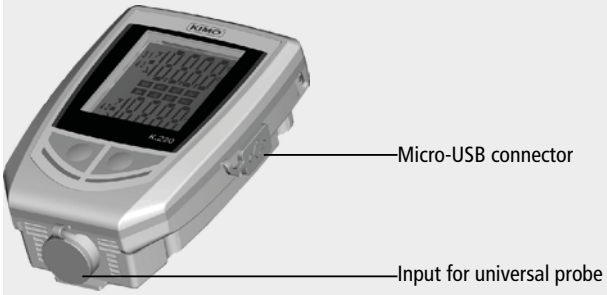


KT/KH 220 KTT 220

Dimensions of the safety lock wall mount (mm)



Connections



KT / KH 220



KTT 220

Optional probes and cable

References	Description	Measuring ranges
Temperature and humidity probe		
KTHA	Interchangeable hygrometry and ambient temperature probe	Hygrometry: from 0 to 100% HR Temperature : from -20 to +70 °C
KTHD	Remote interchangeable hygrometry and temperature probe	
NTC Temperature probe		
KSI-50 / KSI-150	IP65 immersion probe	From -40 to +120 °C
KSA-150	Ambient use probe	From -40 to +120 °C
KSF-2	Wire probe	From -20 to +100 °C
KSPP-150	IP68 penetration probe	From -40 to +120 °C
KSP-150	IP65 penetration probe	From -40 to +120 °C
KCV-220	Probe with velcro	From -20 to +90 °C
Current and voltage input cables and pulse input cable		
KCTD-10-B	Voltage input cable	0-5 V or 0-10 V
KCCD-02-B	Current input cable	0-20 mA or 4-20 mA
KCTD-I-B	Pulse input cable	Maximal voltage: 5 V Type of input: TTL frequency counting Maximal frequency: 10 kHz Maximum number of recordable points: 20 000 points
Ammeter clamps		
KPID-50-BRF	Ammeter clamp from 0 to 50 A, frequency range from 40 to 5000 Hz	From 0 to 50 AAC
KPID-100-BRF	Ammeter clamp from 0 to 100 A, frequency range from 40 to 5000 Hz	From 1 to 100 AAC
KPID-200-BRF	Ammeter clamp from 0 to 200 A, frequency range from 40 to 5000 Hz	From 1 to 200 AAC
KPID-600-BRF	Ammeter clamp from 0 to 600 A, frequency range from 40 to 5000 Hz	From 1 to 600 AAC
Relative pressure probe (water probe)		
KSPE	Relative pressure probe for liquids and gases (corrosive)	From 0 to 10 bars
KSPE-2	Relative pressure probe for liquids and gases (corrosive)	From 0 to 20 bars
Thermocouple probes		
For more details about the available thermocouple probes, please see the ''Thermocouple probes" datasheet.		

Recorder function

Five recording modes

KISTOCK can record in 5 different ways:

- **"Immediate"** mode records values according to a predefined interval.
- **"Minimum"**, **"Maximum"** and **"Average"** record automatically the calculation of minimum, maximum or average of measured values during an interval of 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 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).

Four types of dataset start:

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

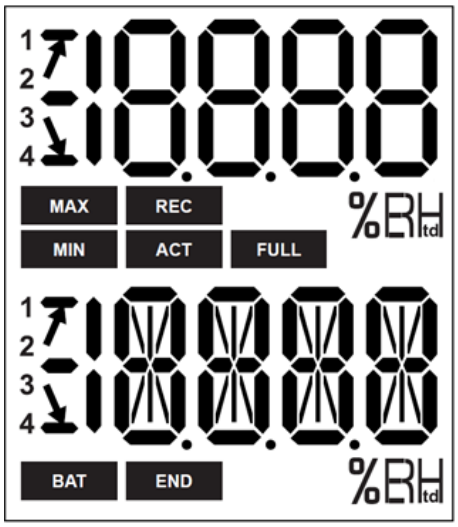
- With a delayed start (with predefined date and time)
- With the software
- With push-button
- With **"Online"** option. In this case, your datasets are directly sent, saved and displayed on your PC in real time.

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 during 5 seconds, if this function has been previously activated by the software

Display



END DATASET is finished.

REC Indicates that one value is being recorded.
It flashes: the DATASET did not start already.

FULL Flashing slowly: DATASET is between 80 and 90 % of the storage capacity.
Flashing quickly: DATASET is between 90 and 100 % of the storage capacity.
Constant: storage capacity full.

BAT Constant: indicates that the batteries have to be replaced.

1 2 3 4 Indicates the channel number which is measuring.

ACT Screen actualisation of measured values.

MIN MAX The displayed values are the maximum/minimum values recorded for the channels displayed.

Indication of the direction of exceeding the threshold in the recorded measurement

°C: Temperature in °Celsius.
°F: Temperature in °Fahrenheit
%HR: Relative humidity (KH 220)

Mounting

The KT 220, KH 220 and KTT 220 KISTOCK have a magnetic mounting, so you can fix it easily.

Magnetic mounting



Replace the battery

With 4 years* of battery life, the KISTOCK devices guarantee long-term measurements.

To replace the battery:
- Unscrew the 4 screws on the back side of the device with a screwdriver.
- Remove the back side and the old batteries.
- Insert the new battery and respect the polarity.
- Replace the back side and the 4 screws

* On the basis of 1 measurement each 15 minutes at 25°C.

Sofwtare

Kilog Lite: free software to download on sauermanngroup.com
Allows the data download (graphics and points statement) and the datalogger configuration.



Configuration and data processing software
KILOG software allows to configure, save and process your data in a very simple way.
- **Software only:** Ref. KILOG-3-N
- **Complete set:** software + 1 USB cable, Ref. KIC-3-N

Accessories

Accessories	Reference
1 AA lithium battery	KBL-AA
Safety lock wall mount with padlock	KAV-220
Wired extension for class 220 KISTOCK probes In polyurethane, 5 m length with male and female mini-DIN connectors Note: several extensions can be wired in order to obtain up to 25 m cable length	KRB-220
Data collector Collects up to 20 000 000 points from one or several KISTOCK directly on-site. Results restitution on PC of realised datasets	KNT-320
USB micro-USB cable which allows to plug your KISTOCK datalogger to your PC	CK-50

Only the accessories supplied with the device must be used.

Maintenance

Please avoid any aggressive solvent.
Please protect the device and probes from any cleaning produce containing formalin, that may be used for cleaning rooms and ducts.

Calibration

A calibration certificate is available as option in paper format.
We recommend to carry out a yearly checking.

Guarantee period

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

Precautions for use

Please always use the device in accordance with its intended use and within parameters described in the technical features in order not to compromise the protection ensured by the device.

BE CAREFUL! Material damages can happen, so please apply the precautionary measures indicated.

Once returned toSauermann, required waste collection will be assured in the respect of the environment in accordance to guidelines relating to WEEE.

FT – kistock_classe220_EN_06/10/20 - Non-contractual document – We reserve the right to modify the characteristics of our products without prior notice.