



# DATA LOGGERS

The most reliable solution for monitoring your processes



#### PROCESS MONITORING

# Data loggers

### **Kistock**

### Temperature / Humidity / Pressure / Air quality / Light Current / Voltage / Pulse / Water pressure









#### COMPACT

Class 20 / 50

Temperature and Humidity

#### Class 20

Temperature

- Without display
- Up to 8,192 points

#### Class 50

- 1-line display
- 16,000 points



USB Class 120

Temperature and Humidity

- 1-line display
- 50,000 points
- Integrated USB connector





#### Content

Softwares	04	Class 320	14
Key benefits	06	Probes and Accessories	18
Class 20 and 50	80	Wireless dataloggers	20
Class 120	10	Metrology	26
Class 220	12	Application example	27



Find out about our wireless solutions







# MULTI-FUNCTION Class 220

Temperature, Humidity, Water pressure, Light, Current, Voltage, Pulse

- 2-line display or no display
- Interchangeable probes
- 1,000,000 points
- KILOG software





Class 320

Temperature, Humidity, Pressure, Air quality Atmospheric pressure, Current, Voltage, Pulse

- 2-lines display
- Smart interchangeable probes
- KILOG software
- 2,000,000 points



2 programmable alarm thresholds



Mobile application

# Operating software

#### Kilog / Kilog-Lite / Kistock mobile





Kilog-Lite is compatible with the entire Kistock range with the exception of class 120. Simply configure and visualise the data from the loggers.

Download the software from our website:





Free application developed for smartphones and tablets\*. Allows configuration of data loggers, data visualisation and exportation.





\*Compatible with class 320



#### **Data processing**

The comprehensive Kilog data processing software helps configure, download and process data from your Kistocks.

- Data printing and export
- Graphic tools
- Calculated channels
- Management of Customers & Operators



Compatible with all classes





# Deckarger les campagnes de l'appareil Deckarger les campagnes de l'appareil Des resultant de l'appare

KIMO'

KILOG

# A STATE OF THE STA

8 8 2 8 4 **3** 8 8

#### Configuration

3-stage configuration of:

- Your device
- Your channels
- Your thresholds and alarms
- Your recording

#### **Downloading**

In 1 click, quickly download data from the Kistock or station.

- Automatic backup
- Campaign archiving

#### **Processing**

- Creation of tables and graphics
- Automatic calculations
- Addition of advanced calculation features
- Data export to a spreadsheet

#### **KILOG CFR: Data security**

The KILOG CFR software is the indispensable user application, with traceability subject to the strict requirements of the 21 CFR part11 regulation. The security and integrity of your data are protected against any manipulation or falsification.



# Key benefits

#### of the Kistock range



Temperature °C/°F



Humidity



Differential pressure



Air quality ppm



Light lux



Current/voltage mA/V



Water pressure



Atmospheric pressure













With the new range of Kistock stand-alone dataloggers and KILOG software, you can collect and analyse all the metrics of industrial climate control engineering processes, monitor the climatic environment of a chamber and respond to the traceability requirements of agri-food and pharmaceutical industries during transport.

To respond to this broad application scope, the range comes in 4 device classes, from the most compact to the most advanced, the objective being to provide a specific, reliable and effective solution to the constraints of every business.



#### **Smart Plug technology**

In addition to the measuring element, the new measuring sensors for class 320 (see page 14) are equipped with an electronic card so they can be identified by the datalogger as soon as they are connected, with no need for prior intervention or configuration.

This card also includes calibration data, which avoids having to return your entire configuration (sensor + logger) to the Sauermann laboratories for recalibration or sensor replacement: your process remains under 24/7 surveillance.





#### **Interface USB**

The new class 120 Kistock devices provide data logging, on-board configuration and measurement reports.

Equipped with a USB connector, these portable dataloggers are quickly connected to a computer to directly download the data and publish it in a graphic report in PDF format. The integrated interface, exclusively available in this class, also enables the rapid and simple configuration of your devices.

#### **Mobile application**





Available for iOS or Android smartphones and tablets, the mobile Kistock helps configure, generate the measurement report and visualise data from the logger in real time (class 320 only, see page 14).

With a range of 10m via wireless connection, access to data is facilitated and avoids any breakdown in process control.





MINI

# Compact

Class 20 and 50

**Temperature / Humidity** 



With its compactness and 500-day battery life\*, class 50 fits perfectly into chambers, cold storage rooms or refrigerated trucks for temperature and/or humidity measurement controls.

The casings are equipped with a large LCD display and a unique function button for intuitive use. The campaigns are conducted via the Kilog-Lite software which can be downloaded from kimo.fr.



Mini size



16,000 measurement points



Standard interchangeable batteries



Magnetised casing



A place for an anti-theft device



**USB** connection



Ambient checkpoint



Kilog operating software (option)



Kilog-lite configuration software

#### Mini temperature data loggers





KT 20 G

• -40 to +85°C

2048 points

KT 20 L

- -40 to +85°C
- 8192 points

#### **KT 20 T**

- 0 to +125°C
- 8192 points



#### **Temperature / Humidity**



#### **KH 50**

- 1-line display
- Internal sensor
- Battery life: 365 days\*

Measuring range

**⊌** -20 to +70°C

5 to 95 %RH





#### **KT 50**

- 1-line display
- Internal sensor
- Battery life: 500 days\*

Measuring range

-40 to +70°C





A 50% level of relative humidity preserves works of art, archives



IP65 casing, compliant with the standard required by the agri-food industry







- 1. A place for an anti-theft collar or lanyard
- 2. Battery compartment
- 3. Battery compartment locking indicator Invisible magnetic fastening
- 4. Invisible magnetic fastening
- 5. PC connection via 1-metre long USB cable (optional)

**USB** 

### Portable

#### Class 120

#### **Temperature / Humidity**

Dedicated to transport, class 120 helps control the measurements inherent in the health regulations applicable to fresh produce and foodstuff (hot and cold) retail, warehousing and transport activities to preserve the quality of the products and guarantee safety for consumers.

The integrated software helps configure the devices and extract data directly in pdf format.





Integrated PDF software



2 programmable alarm thresholds



Magnetic fastening



50,000 measurement points



Integrated USB connector



Integrated adjusting certificate







The stakeholders of the different food chains must comply with the manufacturing, storage, transport and distribution temperatures determined by regulations or, in the absence of any regulation, with those determined by the packager, under their responsibility, specified during production, storage, transport and distribution. The use-by date of a product, determined by the manufacturer, takes these temperatures into account.

#### **Temperature / Humidity**



#### **KH 120**

- 1-line display
- USB connector
- Internal sensor
- Battery life: 500 days\*

Measuring range

-20 to +70°C

5 to 95 %RH





#### **KT 120**

- 1-line display
- USB connector
- Internal sensor
- Battery life: 3 years\*

Measuring range

-40 to +70°C







### Integrated PDF software

Exclusive to class 120, the integrated software automatically creates a PDF report.

- Configuration
- Download
- PDF report: statistics, configuration and alarms reminders, graphic display...



#### **FIELD**

### Multi-function

#### Class 220

Temperature / Humidity / Water pressure / Light **Current / Voltage / Pulse** 

The versatility of class 220 comes from the extension of the measurement parameters offering a broad range of applications. Thanks to the additional input for the connection of interchangeable sensors, the devices can simultaneously record up to 5 measuring channels.

Functional and adapted to the assessment of goods control and operating systems in warehouses, the range is easily mounted onto a wall and secured with a padlock or directly magnetically attached onto rack frames and other metal storage mounts. Once in place, the dataloggers can monitor the process for 4 years\* without interruption or a battery change.



A place for an anti-theft device

Kilog operating

software (option)



1,000,000 measurement points



Kilog-lite configuration software



2m long cable





Magnetised KH 220 in the air conditioning room of an industrial facility



Relative humidity and temperature control in a maturing cellar using a KH 220 mounted onto a plate and secured with a padlock as part of a mapping process

#### Temperature / Humidity / Water pressure / Light Current / Voltage / Pulse



#### **KH 220**

- 2-line display or no display
- Impermeability: IP65

#### Internal

- Temperature -20 to +70°C
- Humidity
  5 to 95 %RH
- Light 0 to 10 000 lux 0 to 929 fc

#### External

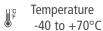
- Water pressure 0 to 20 bar
- Current : 0/4 to 20 mA Voltage : 0 to 10 V Pulse : max 5 V



#### KT 220

- 2-line display or no display
- Impermeability: IP65

#### Internal



#### External

- Water pressure 0 to 20 bar
- Humidity
  5 to 95 %RH
  - Current : 0/4 to 20 mA Voltage : 0 to 10 V Pulse : max 5 V

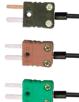


#### **KTT 220**

- 2-line display or no display
- 2 K, J, T, N and S thermocouple inputs

#### External

- Thermocouple temperature
- K -200 to +1300°C
- J -100 to +750°C
- T -200 to +400°C
- N -200 to +1300°C
- S 0 to +1760°C







<sup>\*</sup> For a recording rate of one point every 15 minutes at 25°C

BLUETOOTH

### Expert

#### Class 320

### Temperature / Humidity / Pressure / Air quality / Atmospheric pressure Current / Voltage / Pulse



Sauermann has developed a new range of dataloggers specifically adapted to the needs of the industry and laboratories. Class 320 stands out with its connected object. Two features make your life easier: the smart-plug technology of the sensors and the mobile application.

The multi-parameter class 320 seamlessly fits into any process which requires the collection of several types of data on the same device. For example, the KCC 320 can record up to 4 parameters simultaneously: temperature, moisture level, CO<sub>2</sub> level and atmospheric pressure.

Made to last, class 320 has a battery life of up to 7 years and has a memory of 2,000,000 points.



All sensors for the KISTOCK KT 320 devices are equipped with the SMART PLUG technology.

Automatic recognition and storage of adjustment parameters means that they are 100% interchangeable.





A place for an anti-theft device



2,000,000 measurement points



Wireless connection



Kilog operating software (option)



Kilog-lite configuration software



Mobile application



#### **Accessories**

ABS wall socket + padlock: the easiest, most effective solution for securing your campaigns



## Expert

#### Class 320



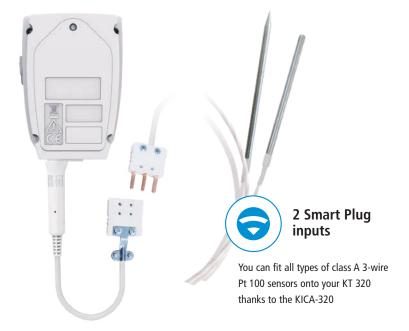


#### **KTT 320**

- 2-line display
- 4 K, J, T, N and S thermocouple inputs
- Impermeability: IP54
- Battery life: 7 years\*

#### External

- Thermocouple temperature
- K -200 to +1300°C
- J -100 to +750°C
- T -200 to +400°C
- N -200 to +1300°C
- S 0 to +1760°C





The KT 320 helps control the contamination of clean rooms

#### Temperature / Humidity / Pressure / Air quality / Atmospheric pressure Current / Voltage / Pulse







#### **KCC 320**

- 2-line display
- Impermeability: IP40
- Battery life: 3 years\*
- Confinement index in accordance with decree 2012-14

#### Internal

- Temperature -20 to +70°C
- Humidity
  0 to 100 %RH
- Atmospheric pressure 800 to 1100 hPa
- Air quality
  0 to 5000 ppm

#### **KPA 320**

- 2-line display
- Impermeability: IP40
- Battery life: 7 years\*

#### Internal

- Temperature -20 to +70°C
- Humidity
  0 to 100 %RH
- Atmospheric pressure 800 to 1100 hPa

#### **KP 320/321**

- 2-line display
- Impermeability: IP65
- Battery life: 7 years\*

#### Internal

-8-

Pressure

KP 320 : ±1000 Pa KP 321 : ±10 000 Pa



Control of climatic data from a data centre using the smartphone application



Industrial furnace temperature control

<sup>\*</sup> For a recording rate of one point every 15 minutes at 25°C

### Probes

#### and accessories



#### **Temperature probes**

- NTC / Pt 100 and K, J, T, N and S Thermocouple
- General use / Environment
- Contact / Strip
- Pricking / Corkscrew
- Velcro / Piping



**KICA 320** 

The KICA 320 is a Smart-Plug adapter for connecting any type of class A 3-wire Pt 100 sensor onto your KT 320.



#### **Electricity / Water measurement**

• Clamp-on ammeter: 0 to 600 A

Voltage: 0-10 VCurrent: 0-20 mA

• Water pressure: 0 to 20 bar





#### **Hygrometry probes**

- 0 to 100 %RH
- Smart Plug technology
- ABS or Stainless steel sensor
- With or without the connection cable
- Cable length 2m

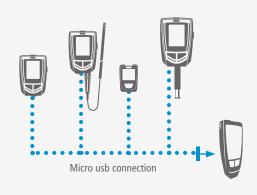
#### KNT 320 recovery and transport station

Compatible with the entire new Kistock range (with the exception of class 120), the KNT 320 station helps record measurements without having to move the instruments

Data can be processed via the Kilog software.

Memory: 20,000,000 points





#### **COMPARISON**



DEVICES / CHARACTERISTICS	KT50	KH50	KT120	KH120	KT220	KH220	KTT220	KT320	KP320/321	KCC320	KPA320	KTT320	
Storage capacity number of points	16,000 50,000				1,000,000			2,000,000					
Internal	1	2	1	2	1	3	-	1	1	4	3	-	
External input	-	-	-	-	1	1	2	2	-	-	-	4	
Impermeability	IP65	IP40	IP65	IP40	IP65	IP40	IP54	IP65 IP40			IP54		
Internal sensor			У	es	no				yes			no	
Max no. of channels	1	2	1	2	3	5	2	5	1	4	3	4	
Temperature	J.C.	,C,F	,C F	,C F	J.C.	J.C.	J.C.	₽°E F		F F	₽°E F	,C F	
Humidity		<b>₽</b>		<u>.</u>	<u></u>	<u>.</u>		<u>ئ</u>		<u>ئ</u>	<u>ئ</u>		
Air quality							2 inputs					4 inputs	
Pressure							K					K	
Light						<b>⊹</b> Ö∴	J					J	
Current / Voltage Pulse					<b>&gt;</b>	<b>&gt;</b>	T N	<b>&gt;</b>				T N	
Water pressure					Lin	Lin	S					S	
Atmospheric pressure										<u>Ø</u>	<u>Ø</u>		
Remote probes	no				C Int	Interchangeable probes			Smart plug   smart probes				
Battery life	500 d*	365 d*	3 years*	500 d*		4 years*		7 years*		3 years*	3 years* 7 ye		
Anti-theft device	a	<b>a</b>	-	-	a	<b>a</b>	a	a	A	<b>a</b>	a	a	
Magnetic fastening							yes						
C Kilog-lite							free						
Kilog-PDF	no yes				no								
Kilog	Comprehensive Kilog data processing software (Optional)												
Data Logger app	no							yes					
Station Compatibility	yes no							yes					



Class 120 adjustment certificate integrated into the data logger's memory in pdf format

Calibration certificate available for the entire range upon request

 $<sup>^{\</sup>star}$  For a recording rate of one point every 15 minutes at 25°C

#### **WIRELESS**

### Kistock RF

#### Radio data loggers

Temperature / Humidity / Pressure / Current
Voltage / Pulse

The advantage of the range of wireless data loggers is the remote and real-time control of your process or storage area and guaranteed traceability via the KILOG RF software

Capable of storing 12,000 to 20,000 temperature, humidity, pressure, current, voltage and pulse measurement points, the KISTOCK-RF devices

guarantee precise monitoring of the process for the users, over a predefined or continuous period.

Supplied as a standard feature, the KILOG-RF software facilitates the configuration of the data loggers (thresholds, alarms, smoothing, interval, periodicity, etc.) and the processing of the data collected in graphic or table mode.



#### **Monitoring your process**



### Communication base

**BK-RF** 

Communicate with your KISTOCK dataloggers over the airwaves



#### Temperature data logger

KH 210-RF

Control the temperature and humidity of your storage areas



#### Range extender

KPR / KPE

Extend the scope of your network with radio and Ethernet extenders



### Alarm module with relay

KAL

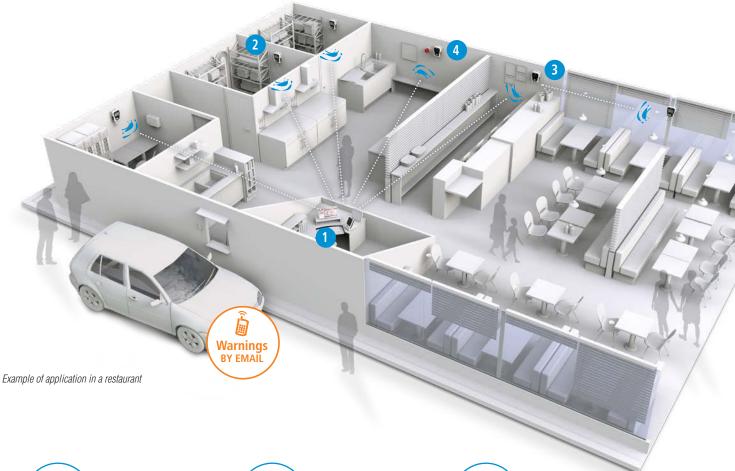
Be alerted every time a threshold is exceeded













Network up to 100 devices



Battery life up to 3 years



Online configuration





Real-time monitoring mode



Up to 20,000 measurement points

# Kistock RF

#### Radio data loggers







#### **KT 110-RF**

- 2-line display or no display
- Impermeability: IP65
- Memory 16,000 points
- Battery life 3 years\*

#### Internal



Temperature

-40 to +70°C

#### External



Temperature -40 to +120°C

**>** 

Current : 0/4 to 20 mA Voltage : 0 to 10 V Pulse : max 5 V

#### **KT 150-RF**

- 1-line display or no display
- Impermeability: IP65
- Memory 12,000 points
- Battery life 3 years\*

#### Internal



Temperature -40 to +70°C



#### **KP 110-RF**

- 1-line display or no display
- Impermeability: IP65
- Memory 12,000 points
- Battery life 3 years\*

#### Internal



Pressure

KP 110 : ±1,000 Pa KP 111 : ±10,000 Pa





#### Temperature / Humidity / Pressure / Current / Voltage / Pulse





#### **KTU 210-RF**

- 2-line display or no display
- Impermeability: IP65
- Memory 20,000 points
- Battery life 3 years\*

#### External

Current : 0/4 to 20 mA Voltage : 0 to 10 V Pulse : max 5 V

#### **KH 210-RF**

- 2-line display or no display
- Impermeability: IP65
- Memory 20,000 points
- · Battery life 3 years\*

#### Internal

Temperature -20 to +70°C

Humidity
5 to 95 %RH

#### External

Temperature -40 to +120°C

Current : 0/4 to 20 mA Voltage : 0 to 10 V Pulse : max 5 V







# Kistock RF

#### **Radio data loggers**





#### **KTR 310-RF**

- 2-line display
- Impermeability: IP65
- Memory 20,000 points
- Battery life 3 years\*

#### External



Temperature

-100 to +400°C

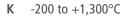
#### **KTT 310-RF**

- 2-line display
- 2 K, J, T and S thermocouple inputs
- Impermeability: IP54

#### External



Thermocouple temperature



J -100 to +750°C

T -200 to +400°C

**S** 0 to +1,760°C







 $<sup>^{\</sup>ast}$  For a recording rate of one point every 15 minutes at 20°C

### Kistock RF

#### **Software and accessories**



The KILOG-RF data processing software is specifically designed for the KISTOCK wireless range. It enables the implementation of a network of wireless KISTOCK devices (up to 100) for real-time monitoring mode.

- Measurement correction
- Data printing and export
- Graphic tools
- Calculated channels
- Management of Customers & Operators





# Communication base radiofrequency BK-RF-2



**Wall mounting** with an anti-theft system KAV-RF







**Data recovery** and transfer station KNT 310



Alarm module with relay KAL-RF



**Network extender** radio and Ethernet KPE-RF and KPR-RF



**Communication** tester KTC-RF

### Services

#### **Calibration / Hotline / Maintenance**



#### **Customer service portal**

For any repair, calibration or device feedback requests, log in to our Customer Service Portal.



Accessible 24/7



Fast and easy-to-use



Follow-up in real time

sauermann-en.custhelp.com







To complement our range of measuring instruments, a team of more than 40 people offers a wide range of services, such as calibration and adjustments, after-sales support, hotline, on-site services and training.

Our team of experts will accompany you throughout your project and will adapt to your needs thanks to more than 40 years of experience and our sophisticated laboratory equipment.



Calibration and adjustments



After-sales services



Hotline



On-site services



**Training** 

Our laboratories, spanning over 1,500 m<sup>2</sup>, allow us to offer you all kinds of metrological services related to:

- Temperature
- Humidity
- Air velocity
- Air flow
- Pressure
- Combustion

- Weighing
- Radiometry
- Tachometry
- Light measurement
- Electrical current





#### TEMPERATURE MAPPING



Pharmaceutical warehouse



Climatic conditions +20°C ±5°C



100,000 m<sup>3</sup> characterisation volume



#### **Equipment**

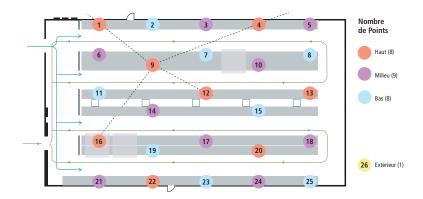
26 KT 320 data loggers , including 1 installed outside. KILOG software to configure and process data.

# Warehouse / Laboratory Pharmacy / Chamber / Transport

The NF EN 60068-3 standard\* ensure the sustainability of products sensitive to temperature and relative humidity.

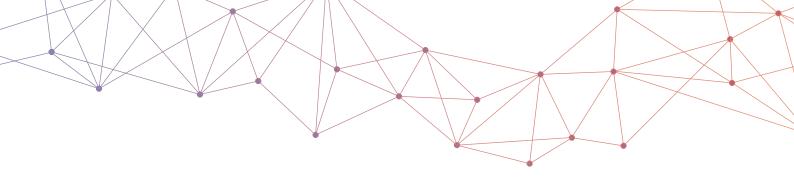
- \*NF EN 60068-3 standard
- Measurement of the temperature and relative humidity of the air
- Climatic and thermostatic chambers
- Characterisation and deviation from target

Mapping a drug warehouse in accordance with the NF EN 60068-3 standard under temperature and relative humidity conditions of 20°  $\pm$  5°C.



#### **Report**

A report should be issued featuring the gross values, calculated parameters (deviation from target, stability, homogeneity) and compliance of the chamber or building with the specified tolerances.



Manufacturer of innovative solutions for the measurement and control of indoor air quality.







to contact us.

### Accredited temperature laboratory as per ISO 17025 standard

Sauermann can perform COFRAC calibrations on any type of thermometer (measuring chain, Pt100, thermocouple, etc.) within a range from -70 to +200°C in thermostatic chambers and in baths.



### Accredited hygrometry laboratory as per ISO 17025 standard

Sauermann can perform COFRAC calibrations on any type of hygrometer within a range from 10 to 95 %RH, for a dry temperature from +10 to +50°C.



More information www.sauermanngroup.com







