

SAUERMANN DATA LOGGERS

KT 220 / KH 220 / KTT 220

Temperature / Humidity / Light / Current / Voltage / Pulse / Water Pressure

KEY FEATURES

- Record up to 5 parameters simultaneously
- Monitoring mode for detailed reporting outside of set points
- Large storage capacity of 1 million points
- Fast data downloading (18,000 points/second)
- Magnetic back for fast & simple mounting
- Large easy to read 2-line display
- 2 configurable set point alarms for each channel
- Free, downloadable basic software



SELECTION

Part No.	Display	Internal sensor		External sensor		Parameters	Number of record points
		Number	Type	Number	Type		
KT 220 - O	✓	1	Temperature	1	Input for universal probe ¹	Temperature, humidity, current, voltage, pulse & water pressure	1,000,000
KT 220 - N							
KH 220 - O	✓	3	Temperature, humidity & light				
KH 220 - N							
KTT 220 - O	✓	N/A		2	Inputs for thermocouple probes ²	Temperature	
KTT 220 - N							

HOUSING

Dimensions

3.78" x 2.57" x 1.2"
(93.2 x 65.2 x 30.5 mm)

Weight

4 oz (115g)

Display (for models w/ display)

2 lines of LCD screen
Screen: 1.53" x 1.33" (39 x 34 mm)
2 indication LEDs (red and green)

Control

1 OK button
1 Selection button

Material

Compatible with food industry environment
ABS housing

Battery power supply

1 AA lithium 3.6 V battery

Protection

IP 65: KT 220
IP 54: KTT 220³
IP 40: KH 220

PC communication

1 micro USB input

Environmental conditions of use

Non-corrosive or combustible gases
Hygrometry: in non-condensing condition
Maximum altitude: 6561' (2000 m)

¹ Universal input allows compatibility with multiple probes. Reference page 3 for further information.

² More details about thermocouple probes on page 2.

³ With all the thermocouple probes connected.

TECHNICAL FEATURES

	KT 220	KH 220	KTT 220
Units displayed	°F, °C, °Ctd, °Ftd, %RH, mV, V, mA, A, bar ¹	°F, °C, °Ctd, °Ftd, %RH, lux, fc, mV, V, mA, A, bar ¹	°F, °C
Resolution	0.1°F, 0.1°C, 0.1%RH, 1 mV, 0.00 V, 0.001mA, 0.1 A, 0.1 bar	0.1°F, 0.1°C, 0.1%RH, 1 lux, 0.1 fc, 1 mV, 0.001 V, 0.001 mA, 0.1 A, 0.1 bar	0.1°F, 0.1°C
External input	Female micro-USB connector	Female micro-USB connector	Female micro-USB connector
Input for probe	1 universal input ²	1 universal input ²	2 inputs for thermocouple probes (K, J, T, N, S)
Internal sensor	Temperature	Temperature, humidity, light	Temperature
Type of sensor	Thermistor (NTC)	Thermistor (NTC), capacitive, photodiode	Thermocouple
Measuring range	Internal sensor ³ : -40 to 158°F (-40 to 70°C)	Internal sensor ³ : Temp.: -4 to 158°F (-20 to 70°C) Humidity: 0 to 100%RH Light: 0 to 10,000 lux	K: -328 to 2372°F (-200 to 1300°C) J: -148 to 1382°F (-100 to 750°C) T: -328 to 752°F (-200 to 400°C) N: -328 to 2372°F (-200 to 1300°C) S: 32 to 3200°F (0 to 1760°C)
Accuracies⁴	±0.8°F from -4 to 158°F (±0.4°C from -20 to 70°C) ±1.5°F below -4°F (±0.8°C below -20°C)	Temp: ±0.8°F from 32 to 122°F (±0.4°C from 0 to 50°C) ±1.5°F below 32°F or above 122°F (±0.8°C below 0°C or above 50°C) Humidity ⁵ : ±2%RH from 5 to 95%RH @ 59 to 77°F (15°C to 25°C) Light: ±10% of reading 10 lux	K, J, T, N: ±0.8°F from 32 to 2372°F (±0.4°C from 0 to 1300°C) ±(0.3% of the reading 0.8°F) below 32°F (±0.3% of the reading 0.4°C) below 0°C S: ±1.1°F (±0.6°C)
Operating temperature	-40 to 158°F (-40 to 70°C)	-4 to 158°F (-20 to 70°C)	-4 to 158°F (-20 to 70°C)
Storage temperature	-40 to 185°F (-40 to 85°C)	-40 to 185°F (-40 to 85°C)	-40 to 185°F (-40 to 85°C)
Alarm set points	2 alarm set points per channel	2 alarm set points per channel	2 alarm set points per channel
Frequency of measurement	1 s to 24 h	1 s to 24 h	1 s to 24 h
Battery life	4 years ⁶	4 years ⁶	4 years ⁶
Warranty	1 year	1 year	1 year
Directives	2011/65/EU RoHS II; 2012/19/EU WEEE; FCC part 15; UL 61010		

¹ Some units are available only with optional probes.

² Input allows to utilizing different compatible probes; see optional probes and cables on page 3.







³ Other measuring ranges are available according to the connected probe; see optional probes on page 3.

⁴ All accuracies specified in this document were conducted under laboratory conditions and can be guaranteed for measurement carried out in the same conditions, or carried out with calibration compensation.

⁵ Factory calibration tolerance: ±0.88%RH; Temperature dependence: ±0.04 x [(T °F - 32) x 5/9] - 20] %RH (if T ≤ 59°F or T ≥ 77°F) / ±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 77°F (25°C).

KTT 220 OPTIONAL THERMOCOUPLE PROBES¹








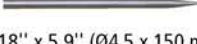
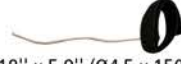











Part No.	Description	Measuring ranges	Accuracies ²	T ₉₉ ³	Image & dimensions
<i>Pipes</i>					
SKV 150	Velcro probe for up to 4" pipes (Type K)	-4 to 194°F (-20 to 90°C)	±2.7°F (±1.5°C)	50 s	
SKCT	Pipe clamp probe for up to 2" pipes (Type K)	-40 to 302°F (-40 to 150°C)	±2.7°F (±1.5°C)	15 s	
<i>Contact</i>					
SCLK 150	Surface probe with handle and coiled cable (Type K)	-40 to 482°F (-40 to 250°C)	±2.7°F (±1.5°C)	5 s	 5.9" (150 mm) Ø0.59" (Ø15 mm)
SCLCK 150	90° Surface probe with handle and coiled cable (Type K)	-40 to 482°F (-40 to 250°C)	±2.7°F (±1.5°C)	5 s	 5.9" (150 mm) Ø0.59" (Ø15 mm)
<i>Penetration</i>					
SPK 150	S.S. Penetration probe with coiled cable (Type K)	-40 to 482°F (-40 to 250°C)	±2.7°F (±1.5°C)	30 s	 5.9" (150 mm) Ø0.12" (Ø3 mm)
<i>Immersion</i>					
SIT 300 BT	Very low temperature immersion probe with coiled cable (Type T)	-328 to 122°F (-200 to 50°C)	±(-1.5% of reading +0.5°F) from -328 to -88.6°F (±1.5% of reading from -200 to -67°C) ±1.8°F from -88.6 to -40°F (±1°C from -67 to -40°C) ±0.9°F from -40 to 122°F (±0.5°C from -40 to 50°C)	2 s	 11.81", Ø 0.06" (300 mm, Ø1.5 mm)

¹ All of the thermocouple temperature probes for the KTT 320 data loggers have a class 1 sensitive element as per IEC 584-1, 2 and 3 standards.

² All accuracies specified in this document were conducted under laboratory conditions and can be guaranteed for measurement carried out in the same conditions, or carried out with calibration compensation.







³ Response time. Under application condition

KT 220 AND KH 220 OPTIONAL PROBES, CABLES AND AMMETER CLAMPS

Part No.	Description	Measuring ranges	Accuracies*	Image & dimensions
<i>Temperature and humidity probe</i>				
KTHA	RH / temp. stub probe	0 to 100%RH	Humidity** : $\pm 2\%RH$ from 5 to 95%RH @ 59°F to 77°F (15 to 25°C) Temp: $\pm 0.8^\circ F$ from 32 to 122°F ($\pm 0.4^\circ C$ from 0 to 50°C) $\pm 1.5^\circ F$ below 32°F or above 122°F ($\pm 0.8^\circ C$ below 0°C or above 50°C)	 2.56" (65 mm)
KTHD	RH / temp. remote probe	-4°F to 158°F (-20°C to 70°C)		 5.12" (130 mm)
<i>NTC Thermistor temperature probe</i>				
KSI-50	2" immersion probe IP 65	-40 to 248°F (-40 to 120°C)	$\pm 0.8^\circ F$ from -4 to 158°F ($\pm 0.4^\circ C$ from 20 to 70°C) $\pm 1.5^\circ F$ ($\pm 0.8^\circ C$) beyond	 Ø0.24" x 1.97" (Ø6 x 50 mm)
KSI-150	6" immersion probe IP 65	-40 to 248°F (-40 to 120°C)	$\pm 0.8^\circ F$ from -4 to 158°F ($\pm 0.4^\circ C$ from 20 to 70°C) $\pm 1.5^\circ F$ ($\pm 0.8^\circ C$) beyond	 Ø0.24" x 5.9" (Ø6 x 150 mm)
KSA-150	Ambient air probe	-40 to 248°F (-40 to 120°C)	$\pm 0.8^\circ F$ from -4 to 158°F ($\pm 0.4^\circ C$ from 20 to 70°C) $\pm 1.5^\circ F$ ($\pm 0.8^\circ C$) beyond	 Ø0.24" x 5.9" (Ø6 x 150 mm)
KSF-2	Wire probe	-4 to 212°F (-20 to 100°C)	$\pm 0.8^\circ F$ from -4 to 158°F ($\pm 0.4^\circ C$ from 20 to 70°C) $\pm 1.5^\circ F$ ($\pm 0.8^\circ C$) beyond	 Ø0.12" (Ø3 mm)
KSP-150	Penetration probe IP 68	-40 to 248°F (-40 to 120°C)	$\pm 0.8^\circ F$ from -4 to 158°F ($\pm 0.4^\circ C$ from 20 to 70°C) $\pm 1.5^\circ F$ ($\pm 0.8^\circ C$) beyond	 Ø0.12" x 5.9" (Ø3 x 150 mm)
KSP-150	Penetration probe IP 65	-40 to 248°F (-40 to 120°C)	$\pm 0.8^\circ F$ from -4 to 158°F ($\pm 0.4^\circ C$ from 20 to 70°C) $\pm 1.5^\circ F$ ($\pm 0.8^\circ C$) beyond	 Ø0.18" x 5.9" (Ø4.5 x 150 mm)
KCV-220	Velcro probe	-4 to 194°F (-20 to 90°C)	$\pm 0.8^\circ F$ from -4 to 158°F ($\pm 0.4^\circ C$ from 20 to 70°C) $\pm 1.5^\circ F$ ($\pm 0.8^\circ C$) beyond	 Ø0.18" x 5.9" (Ø4.5 x 150 mm)
<i>Relative pressure probe (water probes)</i>				
KSPE	Pressure probe	0 to 150 psi (0 to 10 bar)	± 2.9 psi (± 0.2 bar)	 3.66" (93 mm)
KSPE-2	High pressure probe	0 to 300 psi (0 to 20 bar)	± 2.9 psi (± 0.2 bar)	 3.66" (93 mm)
<i>Current / voltage / pulse input cables</i>				
KCTD-10-B	Voltage input cable for 220 Series	0 to 5V or 0 to 10V	$\pm 0.2\%$ of the measurement $\pm 1mV$	
KCCD-02-B	Current input cable for 220 Series	0 to 20mA or 4 to 20mA	$\pm 0.2\%$ of the measurement $\pm 1mA$	
KCTD-I-B	Pulse input cable for 220 Series		Max. voltage: 5V Input: TTL frequency counting Max. frequency: 10KHz	
<i>Ammeter clamps</i>				
KPID-100-BRF	Low current ammeter clamp probe	1 to 100A _{AC} Frequency range: 40Hz to 5000Hz	$\pm 1\%$ of reading $\pm 0.1A$	 
KPID-200-BRF	Current ammeter clamp probe	1 to 200A _{AC} Frequency range: 40Hz to 5000Hz	$\pm 1\%$ of reading $\pm 0.2A$	 
KPID-600-BRF	High current ammeter clamp probe	1 to 600A _{AC} Frequency range: 40Hz to 5000Hz	$\pm 2.5\%$ of reading $\pm 0.6A$	 

*All accuracies specified in this document were conducted under laboratory conditions and can be guaranteed for measurement carried out in the same conditions, or carried out with calibration compensation.
** Factory calibration tolerance: $\pm 0.88\%RH$; Temperature dependence: $\pm 0.04 \times ((T - 32) \times 5/9 - 20)\%RH$ (if $T \leq 59^\circ F$ or $T \geq 77^\circ F$) / $\pm 0.04 \times (T - 20)\%RH$ (if $T \leq 15^\circ C$ or $T \geq 25^\circ C$)

ACCESSORIES

Part No.	Description	Image
KILOG-LITE	Free basic software for configuration, and data download (tabular & graphical). Available for download at www.sauermann.us/data-logger	
KILOG-3-N	Premium software for configuration, data download, and fast and easy data saving, processing and calculations. Available for download at www.sauermann.us/data-logger	
KBL-AA	1 AA lithium battery	
KAV-220	Wall bracket and lock for 220 loggers	
KRB-220	Wired extension for class 220 data logger probes 16' (5 m) length with male & female mini-DIN connectors (up to 5 extensions can be wired together for greater length requirements)	
CK-50	USB / micro USB cable (connects the data logger to a PC)	



Recommended accessories to be used with data loggers

