

# SAUERMANN DATA LOGGERS

## KT 320 / KTT 320

Temperature / Humidity / Voltage / Current / Pulse

### KEY FEATURES

- Bluetooth® communication for smartphones and tablets (Android and IOS)
- Record up to 5 parameters simultaneously
- Monitoring mode for detailed reporting outside of set points
- Large storage capacity of 2,000,000 points
- Fast data downloading (18,000 points/second)
- Supplied with an anti-theft wall mount with lock
- Automatic recognition of probes (smart plug\* technology)
- Magnetic back for fast & simple mounting
- Large 2-line LCD screen
- 2 configurable alarm set points per channel
- Free, downloadable basic software



### SELECTION

Part No.	Display	Internal sensor		External sensor		Parameters	Number of record points
		Number	Type	Number	Type		
KT 320	✓	1	Temperature	2	Input for smart plug* probes	Temperature, humidity, current, voltage & pulse	2,000,000
KTT 320		N/A		4	Input for thermocouple probes	Temperature	

### HOUSING

#### Dimensions

KT320: 4.34" x 3.11" x 1.39"  
(110.2 x 79 x 35.4 mm)

KTT320: 4.5" x 3.11" x 1.39"  
(113.2 x 79 x 35.4 mm)

#### Weight

KT 320: 7.27 oz (206g)  
KTT 320: 7.05 oz (200g)

#### Display

2-line LCD screen  
Screen: 1.94" x 1.77" (49.5 x 45 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

2 lithium double AA 3.6 V batteries

#### Protection

IP 65: KT 320  
IP 54: KTT 320\*\*

#### PC communication

1 micro-USB input

#### Environmental conditions of use

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

\* Input allows compatibility with multiple probes with automatic recognition and the adjustment parameters storage which make them 100% interchangeable. Reference page 3 for further information.

\*\* With all thermocouple probes connected.

# TECHNICAL FEATURES

	KT 320	KTT 320
<b>Parameter</b>	Temperature, humidity, current, voltage, pulse	Temperature
<b>Units displayed</b>	°F, °C, °F <sub>td</sub> , °C <sub>td</sub> , %RH, mV, V, mA, A <sup>1</sup> Programmed units: please see the <b>class 320 data loggers user manual</b> . Free units: for the free units creation, please see the <b>KILOG</b> software user manual.	°F, °C The KTT 320 data loggers require optional thermocouple probes, reference below for further information.
<b>Resolution</b>	0.1°F, 0.1°C, 0.1%RH, 1 mV, 0.001 V, 0.001 mA, 0.1 A	0.1°F, 0.1°C
<b>External input</b>	Micro-USB female connector	Micro-USB female connector
<b>Input for probe</b>	2 smart plug <sup>2</sup> inputs	4 inputs for thermocouple probes (K, J, T, N, S)
<b>Internal sensor</b>	Temperature	N/A
<b>Type of sensor</b>	Thermistor (NTC)	Thermocouple
<b>Measuring range</b>	Internal sensor <sup>3</sup> : -40 to 158°F (-40 to 70°C)	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)
<b>Accuracies<sup>4</sup></b>	±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)	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)
<b>Alarm set points</b>	2 alarm set points per channel	2 alarm set points per channel
<b>Frequency of measurement</b>	1 s to 24 h	1 s to 24 h
<b>Operating temperature</b>	-40 to +158°F (-40 to 70°C)	-4 to 158°F (-40 to 70°C)
<b>Storage temperature</b>	-40 to +185°F (-40 to 85°C)	-40 to 185°F (-40 to 85°C)
<b>Battery life</b>	7 years <sup>5</sup>	7 years <sup>5</sup>
<b>Warranty</b>	1 year	1 year
<b>Directives</b>	2011/65EU RoHS II; 2012/19/EU WEEE; FCC part 15; UL 61010	

<sup>1</sup> Some units are available only with optional probes.







<sup>2</sup> Input allows compatibility with multiple probes. Reference page 3 for further information.

<sup>3</sup> Other measuring ranges are available according to the connected probe ; see optional probes and cables on page 3.

<sup>4</sup> 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.

<sup>5</sup> On the basis of 1 measurement each 15 minutes at 77°F (25°C).

## KTT 320 OPTIONAL THERMOCOUPLE PROBES<sup>1</sup>

Part No.	Description	Measuring ranges	Accuracies <sup>2</sup>	T <sub>99</sub> <sup>3</sup>	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 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", Ø0.06" (300 mm, Ø1.5 mm)

<sup>1</sup> All 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.



<sup>2</sup> 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.

<sup>3</sup> Response time. Under application condition

## KT 320 OPTIONAL PROBES AND CABLES









All the probes for the **KT 320** data loggers have the **smart plug** technology. An automatic recognition and the adjustment parameters storage make them 100% interchangeable.

Part No.	Description	Measuring ranges	Accuracies*	Image & dimensions
<i>External or ambient thermo-hygrometric probes</i>				
KITHA	RH / temp. stub probe	0 to 100%RH -4 to 158°F (-20 to 70°C)	Humidity** : $\pm 2\%$ RH from 5 to 95%RH @ 59°F to 77°F (15 to 25°C)  Temp: $\pm 0.8^\circ\text{F}$ from 32 to 122°F ( $\pm 0.4^\circ\text{C}$ from 0 to 50°C) $\pm 1.5^\circ\text{F}$ below 32°F or above 122°F ( $\pm 0.8^\circ\text{C}$ below 0°C or above 50°C)	 3.7" (94.5 mm)
KITHP-130	RH / temp. remote probe	0 to 100%RH -4 to 158°F (-20 to 70°C)	Humidity** : $\pm 2\%$ RH from 5 to 95%RH @ 59°F to 77°F (15 to 25°C)  Temp: $\pm 0.8^\circ\text{F}$ from 32 to 122°F ( $\pm 0.4^\circ\text{C}$ from 0 to 50°C) $\pm 1.5^\circ\text{F}$ below 32°F or above 122°F ( $\pm 0.8^\circ\text{C}$ below 0°C or above 50°C)	 5.12" (130 mm)
KITHI-150	Interchangeable RH / temp. remote probe	0 to 100% RH -40 to 356°F (-40 to 180°C)	Humidity** : $\pm 1.5\%$ RH from 5 to 95%RH @ 59 to 77°F (15 to 25°C)  $\pm 0.6^\circ\text{F}$ from -40 to 32°F $\pm (0.2\%$ of reading $+0.6^\circ\text{F})$ from 32 to 356°F ( $\pm 0.3\%$ of reading $\pm 0.25^\circ\text{C}$ )	 5.9" (150 mm)
<i>RTD (Pt100) probes</i>				
KIRGA-50	2" Immersion probe (IP 65)	-40 to 248°F (-40 to 120°C)	$\pm 0.6^\circ\text{F}$ from -40 to 32°F $\pm (0.3\%$ of reading $+0.5^\circ\text{F})$ from 32 to 248°F ( $\pm 0.4\%$ of the reading $+0.3^\circ\text{C}$ ) from -40 to 120°C)	 Ø0.24" x 1.97" (Ø6 x 50 mm)
KIRGA-150	6" Immersion probe (IP 65)	-40 to 248°F (-40 to 120°C)	$\pm 0.6^\circ\text{F}$ from -40 to 32°F $\pm (0.3\%$ of reading $+0.5^\circ\text{F})$ from 32 to 248°F ( $\pm 0.4\%$ of the reading $+0.3^\circ\text{C}$ ) from -40 to 120°C)	 Ø0.24 x 5.9" (Ø6 x 150 mm)
KIRAM-150	Ambient air probe	-40 to 248°F (-40 to 120°C)	$\pm 0.6^\circ\text{F}$ from -40 to 32°F $\pm (0.3\%$ of reading $+0.5^\circ\text{F})$ from 32 to 248°F ( $\pm 0.4\%$ of the reading $+0.3^\circ\text{C}$ ) from -40 to 120°C)	 Ø0.24 x 5.9" (Ø6 x 150 mm)
KIRPA-150	Penetration probe (IP 65)	-58 to 482°F (-50 to 250°C)	$\pm 0.6^\circ\text{F}$ from -58 to 32°F $\pm (0.3\%$ of reading $+0.5^\circ\text{F})$ from 32 to 482°F ( $\pm 0.4\%$ of the reading $+0.3^\circ\text{C}$ ) from -50 to 250°C)	 Ø0.24 x 5.9" (Ø6 x 150 mm)
KIPI3-150-E	Waterproof, penetration probe with handle (IP 68)	-58 to 482°F (-50 to 250°C)	$\pm 0.6^\circ\text{F}$ from -58 to 32°F $\pm (0.3\%$ of reading $+0.5^\circ\text{F})$ from 32 to 482°F ( $\pm 0.4\%$ of the reading $+0.3^\circ\text{C}$ ) from -50 to 250°C)	 Ø0.12" x 5.9" (Ø3 x 150 mm)
KICA-320	Smart adapter	-328 to 1112°F (-200 to 600°C) <i>dependant on the probe</i>	N/A	 Ø0.12" x 5.9" (Ø3 x 150 mm)
<i>Input current, voltage and pulse cables</i>				
KICT	Voltage input cable	0 to 5V or 0 to 10V	$\pm 0.2\%$ of the measurement $\pm 1\text{mV}$	
KICC	Current input cable	0 to 20mA or 4 to 20mA	$\pm 0.2\%$ of the measurement $\pm 1\mu\text{A}$	
KICI	Pulse input cable		Maximal voltage: 5V Type of input: TTL frequency counting Maximal frequency: 10KHz	

\*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:  $\pm 0.04 \times [(T^\circ\text{F} - 32) \times 5/9] - 20\%$  %RH (if  $T \leq 59^\circ\text{F}$  or  $T \geq 77^\circ\text{F}$ ) /  $\pm 0.04 \times (T - 20)\%$  %RH (if  $T \leq 15^\circ\text{C}$  or  $T \geq 25^\circ\text{C}$ )

## ACCESSORIES

Part No.	Description	Image
KILOG-LITE	Free basic software for configuration, and data download (tabular & graphical). Available for download at <a href="http://www.sauer mann.us/data-logger">www.sauer mann.us/data-logger</a>	
KILOG-3-N	Premium software for configuration, data download, and fast and easy data saving, processing, and calculations. Available for download at <a href="http://www.sauer mann.us/data-logger">www.sauer mann.us/data-logger</a>	
KBL-AA	(1) AA lithium 3.6 V battery (2 batteries are required for class 320 data loggers)	
KAV-320	Anti-theft wall mount with lock	
KRB-320	Wired extension for class 320 data loggers probes In polyurethane, 16' (5 m) length with male and 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.

50 series



Mini Loggers

120 series



USB Loggers

220 series



Multi-function Loggers

320 series



Bluetooth Loggers