sauermann®



°C
°F

USER MANUAL

Si-TT3

DUAL INPUT THERMOMETER

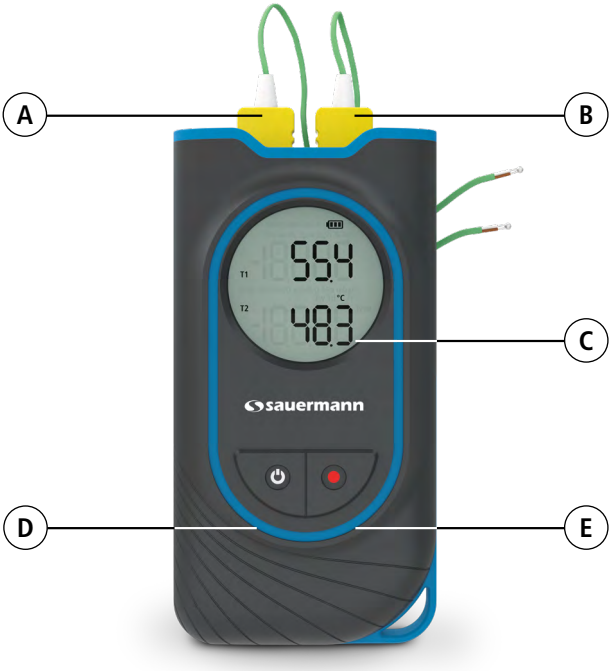
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1 - Instrument description

The Sauermann Si-TT3 is a dual input thermometer measuring instrument.

In addition to the measurement of T1 & T2 thermocouple temperature, the delta temperature is also calculated.

- **A** **T1 K thermocouple connection**
- **B** **T2 K thermocouple connection**
- **C** **LCD screen**
- **D** **On/Off & backlight button**
- **E** **Hold/Min/Max/Live value button**



2 - Safety and environment

About this document
Please read this document and familiarize yourself with the product before putting it to use. Keep this document on hand so that you can refer to it when necessary.
Pass this documentation on to any subsequent users of the product.

Avoid personal injury/damage to equipment

- This device has been developed for thermocouple temperature measurement and for an indoor 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.
- Only the accessories provided with the device or available as an option must be used.
- Never store the product together with solvents, acids or other aggressive substances.
- Only carry out maintenance and repair work that is described in the documentation. Follow the prescribed steps when doing so. Use only original spare parts from Sauermann.
- If the device falls or in case of similar inconveniences, or if an irregular malfunction appears, please do not use the device and bring it back to your distributor to ensure your own safety.
- The device must not be used in ATEX zones according to applicable standards.
- Do not use the device next to explosive gases, vapor or dust.
- The device does not contain any internal part repairable by the user. Do not open the instrument.
- This device can pose a risk for wearers of pacemakers. Respect a distance of at least 10 cm (4") between the device and the wearer.
- Observe safety distances to products that can be damaged by the magnetic field (e.g. monitors, computers, credit cards).

In order to avoid any risk of a voltage on the surface of the element on which we want to perform a temperature measurement, the thermocouple(s) MUST NOT be under a voltage higher than 30 V alternating or 60 V direct voltage relating to earth.

In order to avoid any damage on the device, the voltage between the two thermocouples MUST NOT be higher than 0.5 V.

Important information about the included probes

- Do not apply temperature higher than 300°C, otherwise it may damage the probe.
- Do not apply on abrasive liquid and gelatin type measurement.
- Do not over bending the probe during measurement to avoid damage.
- The included probe are not suitable for liquid measurements.

Exclusions and restrictions of liability

The application operation is under the exclusive customer or user entity responsibility, who acknowledges using this system at his/her own risks. The customer or user entity explicitly exclude Sauermann, and every other company through which the it could have been sold of any kind of responsibility or warranty regarding any direct, indirect, accidental, consecutive or non-consecutive damage that could have been subjected, for some or all, by partial or total non-respect, voluntary or involuntary, of recommendations, conditions and prerequisites indicated hereafter.

Symbols used

For your safety and in order to avoid any damage of the device, please follow the procedure described in this user manual and read carefully the notes preceded by the following symbol:



The following symbol will also be used in this user manual, please read carefully the information notes indicated after this symbol:



Warning: possibility of electric shock



3 - Standard

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by Sauermann could voice the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

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4 - Technical specifications

Parameter	Measuring units	Accuracy[1]	Measuring range	Resolution
Temperature	°C, °F	±0.4°C from 0 to 1300°C ±(0.3 % value +0.4°C) from -200 to 0°C	-200 to +1300°C	0.1°C
		±0.8°F value from 32 to 2372°F ±(-0.3% value +0.8°F) from -328°F to 32°F	-328 to 2372°F	0.1°F (1°F from 2000 to 2372°F)

Accuracy of full measurement depends on accuracy of instrument and also on accuracy of probe used. Typically a thermocouple type K probe has the following accuracy: Class 1: ±1.5 °C / 2.7 °F or ±0.4% of reading. Class 2: ±2.5 °C / 4.5 °F or ±0.75% of reading. Class 3: ±2.5 °C / 4.5 °F or ±1.5% of reading.
Si-TT3 is supplied with 2x K thermocouple probes, accuracy class 2 and measuring range -40 to 260°C/-40 to 500°F.

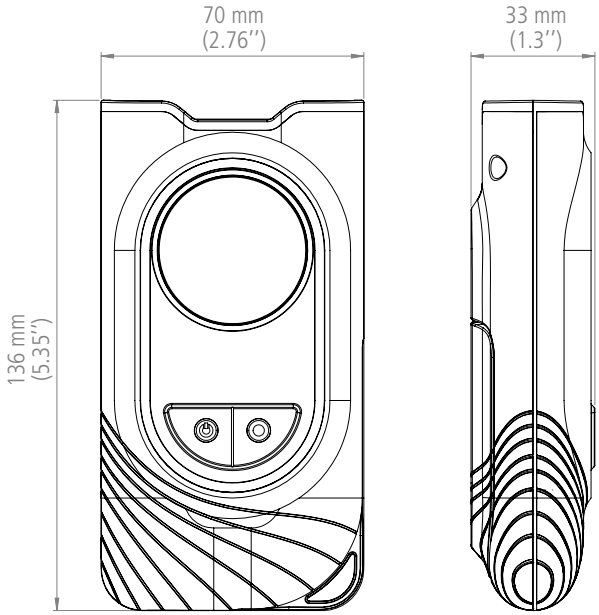
[1]All the accuracies indicated in this technical datasheet were stated in laboratory conditions, and can be guaranteed for measurements carried out in the same conditions, or carried out with calibration compensation.

5 - General features

Measuring element	2 x K Thermocouple wire probes, class 2 Visible welding, isolated PFA, 1 m (39.37") cable length Output on miniature male compensated connector
Connector	2 inputs on miniature female compensated connector
Display	Integrated 2-line LCD 7 segment monochrome display with backlight
Housing	ABS-PC and TPE. IP54
Keypad	1 ON/OFF & Backlight button 1 Hold/Min/Max/Live & Differential temp/ T1&T2 button
Standards & Directives	2011/65/EU RoHS II (EU)2015/863; 2012/19/EU WEEE; 2014/53/EU RED
Power supply	3 alkaline batteries LR03 AAA 1.5 V
Supply voltage	4.5 V ⎓
Consumption	135 mW
Battery life	400 hours* (without backlight and without wireless communication)
Wireless communication	Range frequency from 2402 MHz to 2480 MHz with a transmit power of 0 dBm. Range up to 15 m (98 ft), depending on smartphone radio strength. Minimum required versions: Android 5.0, iOS 12.4, BLE 4.0
Ambiance	Air and neutral gas
Operating conditions	From -10 to +60°C (14 to 140°F) In non condensing conditions Altitude: from 0 to 2000 m (6561')
Storage temperature	From -20 to +70°C (-4 to 158°F)*
Auto shut-off	10 minutes (can be deactivated)
Weight (with batteries) **Weight** (with batteries and 2 probes)	210 g (7.4 oz) 224 g (8 oz)

*Battery life given at 20°C (68°F) with alkaline batteries
**If the instrument is stored outside the operating temperature (for example in a van, a warehouse, etc.), please wait for 10 minutes in its operating temperature before starting and using it.

6 - Dimensions



7 - Accessories

Name	Reference
K Thermocouple wire probe class 2 Visible welding, isolated PFA, 1 m (39.37") cable length. Output on miniature male compensated connector	SIACCTC



8 - Probes connection

Probes have a connection direction: when you face the instrument (as shown on the opposite picture), the largest pin is on the left and the finest one is on the right of the connector.



9 - Operating instructions

Insert the batteries

- Unscrew the batteries compartment cover at the back of the device and remove the cover.
- Put the 3 alkaline AAA LR03 1.5V batteries supplied with the instrument.
- Carefully respect the polarity.
- To close the batteries compartment, push the batteries cover back on, starting with the upper part.
- Screw the batteries compartment cover.

Turn on the instrument

- Press & hold ON/OFF key.
- Connect the two thermocouple temperature probes to the T1 & T2 inputs on top of the device (pay attention to the connection direction, see previous chapter).
- Put the thermocouple probes to the required location to measure temperature.
- The device displays the temperature measurements.

Select the unit

- With the device turned on.
- Press & hold simultaneously ON/OFF & HOLD keys to switch to the required measurement unit : °C, °F.

Activate/deactivate the wireless communication

- With the device turned on.
- Press simultaneously ON/OFF & HOLD keys to activate or deactivate the wireless communicaiton.
- When activated, the wireless communicaion icon flashes on the instrument screen.
- The icon becomes fixed when the instrument is paired to a tablet or smartphone.

Activate/deactivate the Backlight

- With the device turned on.
- Press ON/OFF key to activate or deactivate the backlight.

Activate/deactivate the Auto shut-off

- The device has an automatic shut-off set to 10 minutes.
- When the device starts, all the segments are displayed. During this time, press & hold the ON/OFF key to enter in "Power down menu".
- Press HOLD to activate/deactivate the auto shut-off.
- Press & hold the ON/OFF key to exit the "Power down menu".

Display Hold/Min/Max/Live values

- With the device turned on and measured values are displayed.
- Press HOLD key to successively:
  - Freeze the display of measurement values
  - Display the minimum measured values
  - Display the maximum measured values
  - Restore the live display

Switch between measurements

- With the device turned on and measured values are displayed.
- Press & hold the HOLD key to successively display the delta temperature and the T1 & T2 temperature measurement values.

Key operation

KEY	SHORT PRESS	LONG PRESS (3 seconds)
ON/OFF	Backlight ON/OFF	Device ON/OFF
HOLD	Hold / Min / Max /Live value	Delta Temperature / T1 & T2
ON/OFF and HOLD	Wireless communication ON/OFF	°C / °F

10 - Maintenance

Change batteries

- With the device turned off.
- Unscrew the battery compartment at the back of the device and remove the cover.
- Remove used batteries and insert new batteries (3 alkaline batteries AAA LR03 1.5 V) respecting the polarity.
- To close the battery compartment, push the battery cover back on starting with the upper part.
- Screw the battery compartment cover.

Clean the instrument

- Clean the housing with a damp cloth (soap suds) if it gets dirty.
- Do not use aggressive cleaning agents or solvents.

11 - Mobile App

The **Sauermann Pilot App** allows to view and record measurements in real-time.

Main features:

- Easily view different parameters
- Browse saved measurements history and data graphs (average, min & max values, etc.)
- Create reports (PDF or CSV format) and add up to height (8) photos

Download the **Sauermann Pilot App**

Download the MobileApp **user manual**

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