

USER MANUAL

Si-VH3

HOTWIRE THERMO-ANEMOMETER

1 - Instrument description

The Sauermann Si-VH3 is a hotwire thermo-anemometer measuring instrument.

In addition to the measurement of air velocity and temperature, the airflow is also calculated.

- (A)** Graduated telescopic hotwire probe (with double graduation in cm and inch)
- (B)** LCD screen
- (C)** On/Off & backlight button
- (D)** Hold/Min/Max/Live value button

Probe description

- (E)** Air velocity sensitive element
- (F)** Temperature sensitive element
- (G)** Arrow for air flow direction



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 air velocity and 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 the maintenance and repair work that is described in the documentation. Follow the detailed 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).

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 Saueremann 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.

4 - Technical specifications

Parameters	Measuring units	Accuracy*	Measuring range	Resolution
Air velocity	m/s, km/h, fpm, mph	±(3% of value +0.1 m/s) from 0 to 3 m/s	From 0 to 30 m/s	0.01 m/s from 0 to 5 m/s
		±(3% of value +0.3 m/s) from 3 to 30 m/s		0.1 m/s from 5 to 30 m/s
		±(3% of value +19.7 fpm) from 0 to 590.6 fpm	From 0 to 5905 fpm	0.1 fpm from 0 to 984.2 fpm 1 fpm from 984.2 to 5905 fpm
Airflow**	m³/h, m³/min, m³/s, cfm	-	From 0 to 9999 m³/h From 0 to 9999 m³/min From 0 to 9999 m³/s From 0 to 9999 cfm	1 m³/h 0.01 m³/min 0.001 m³/s 0.1 cfm
		±0.5°C ±0.9°F	From -10 to +60°C From 14 to 140°F	0.1°C 0.1°F

*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.

**Calculated value, only available on the app. Air flow is calculated with the surface given by the user. Accuracy of the result will depend on surface accuracy given by the user.

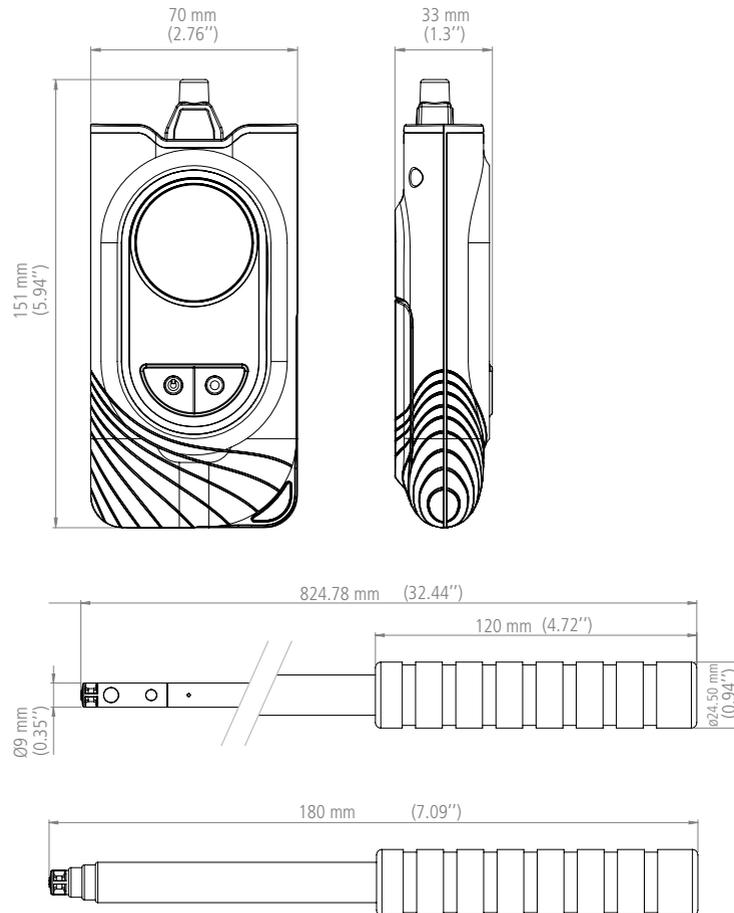
5 - General features

Measuring element	Hotwire air velocity: heated NTC sensor Ambient temperature: NTC sensor
Display	Integrated 2-line LCD 7 segment monochrome display with backlight
Housing	ABS-PC and TPE, IP54
Hotwire probe material	Stainless steel
Keypad	1 ON/OFF & Backlight button 1 Hold/Min/Max/Live & Unit button
Standards & Directives	RoHS II 2011/65/EU (EU)2015/863; 2012/19/EU WEEE; 2014/53/EU RED
Power supply	3 alkaline batteries LR03 AAA 1.5V
Voltage supply	4.5 V
Consumption	450 mW
Battery life	20 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 gases
Operating conditions	From 0 to 50°C (+32 to 122°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)	454 g (16 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



i The telescopic probe is graduated from 0 to 70 cm (0 to 27 in). The starting point of the graduation is located at the air velocity sensitive element.

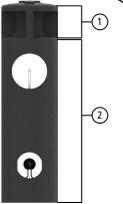
7 - Operating instructions

Probe precautions for use



- To unfold it: gently pull the probe tip (1) then unfold it completely.
- To fold it up: gently push on the top of the probe (1) with the palm of your hand.

Never touch the sensitive element (2).



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 the ON/OFF key.
- Place the hotwire probe in the correct location to carry out the air velocity & temperature measurements.

i The probe must be placed with the arrow in the direction of the air flow.

- The device displays the air velocity and the temperature measurements.

Select the unit

- With the device turned on.
- Press & hold the HOLD key to switch to the required air velocity measurement unit: m/s, km/h, fpm, mph.
- Press simultaneously ON/OFF & HOLD keys to switch to the required temperature measurement unit : °C, °F.

Activate/deactivate the wireless communication

- With the device turned on.

Key operation

KEY	SHORT PRESS	LONG PRESS (3 seconds)
ON/OFF	Backlight ON/OFF	Device ON/OFF
HOLD	Hold / Min / Max / Live value	m/s / km/h / fpm / mph
ON/OFF and HOLD	Wireless communication ON/OFF	°C / °F

- Press simultaneously ON/OFF & HOLD keys to activate or deactivate the wireless communication.
- When activated, the wireless communication 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

8 - 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.

9 - Mobile App

The **Si-HVACR Measurement MobileApp** 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, CSV or XML format) and add up to four (4) photos

Download the **Si-HVACR Measurement MobileApp**



Download the **MobileApp user manual**



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