sauermann®

VT 110 - VT 115

Hotwire thermo-anemometer

Supplied with CALIBRATION certificate

Easy to use

Hold-min-max functions

Selection of units

Adjustable blacklight

Features

- Airflow calculation
- Airflow calculation with cone
- Selection of units (air velocity, airflow and temperature)
- Display of minimum and maximum values
- Adjustable auto shut-off
- Selection of cone
- Dimensions of rectangular and circular duct
- Automatic average
- Air velocity compensation in atmospheric pressure

Technical specifications

Parameters	Accuracy[1]	Measuring range	Resolution
Velocity (hotwire)	From 0.15 to 3 m/s: ±3% of reading ±0.05 m/s From 3.1 to 30 m/s: ±3% of reading ± 0.2 m/s	From 0.15 to 30 m/s	0.01 m/s 0.1 m/s
Airflow	±3% of reading ±0.03 x surface (cm²)	From 0 to 99 999 m³/h	1 m³/h
Temperature	±0.3% of reading ± 0.25 °C	From -20 to +80 °C	0.1 °C

*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.
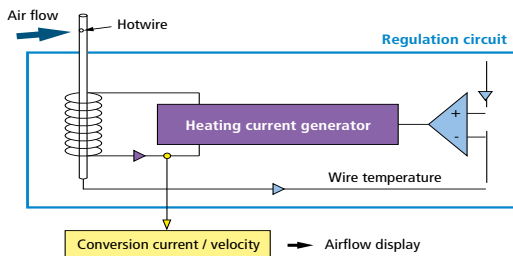
General features

Measuring units	**Velocity (hotwire):** m/s, fpm, km/h **Airflow:** m³/h, cfm, l/s, m³/s **Temperature:** °C, °F
Measuring elements	Hotwire air velocity: thermistance with a negative temperature coefficient. Ambient temperature: NTC sensor
Display	4 lines, LCD technology. Dimensions 50 x 36 mm. 2 lines of 5 digits with 7 segments (value) 2 lines de 5 digits with 16 segments (unit)
Type of probe	VT 110: Stainless hotwire probe VT 115: Telescopic hotwire probe bent at 90°
Cable	Straight, 2 m length
Housing	ABS, protection IP54
Keypad	5 keys
European directives	Directives EMC 2014/30/EU and EN 61010-1
Power supply	4 batteries AAA LR03 1.5 V
Battery life	180 hours
Ambience	Neutral gas
Conditions of use (°C,% RH, m)	From 0 to +50 °C. In non-condensing conditions. From 0 to 2000 m.
Oprating temperature (probe)	From 0 to +50 °C
Storage temperature	From -20 to +80 °C
Auto shut-off	Adjustable from 0 to 120 min
Weight	250 g

Dimensions (in mm)

71.5 mm   34.2 mm

147.9 mm

76.7 mm

Kit content

- **VT 110:** straight hotwire probe
- **VT 115:** telescopic hotwire probe bent at 90°
- Calibration certificate
- Transport case(ref.: ST110)

Accessories

Name	Reference
Magnetic protective housing	CQ 15
Airflow cones	K35, K75, K120, K150
ABS transport case	MT 51

Operating principle

Hotwire anemometer
A wire is continuously heated at a superior temperature than ambient and continuously cooled by airflow. Constant temperature is maintained by a regulation circuit. The heating current is proportional to the airflow velocity.

Thermometer: NTC probe
Probes with a negative temperature coefficient are thermistors with a resistance that decreases with the temperature, according to the equation below:

$$R_{(T)} = R_{(T0)} e^{\left(\frac{\alpha}{100} \times (T_0 + 273.15)^2 \times \left(\frac{1}{T + 273.5} - \frac{1}{T_0 + 273.5}\right)\right)}$$

RT= resistance sensor value at temperature T
$R(T_0)$ = resistance value of the temperature sensor at reference T_0
T and T_0 in °C
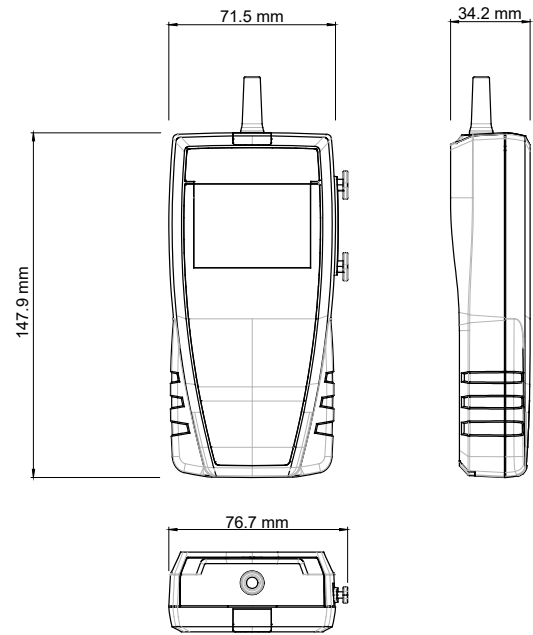α and T_0 sensor specific constants

Maintenance

We carry out calibration, adjustment and maintenance of your instruments to guarantee a constant level of quality of your measurements. As part of Quality Assurance Standards, we recommend you to carry out a yearly checking.

Warranty

Instruments have 1-year guarantee for any manufacturing defect (return to our After-Sales Service required for appraisal).

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