

## Hotwire thermo-anemometer VT 110 – VT 115



### KEY POINTS

- Easy to use
- Adjustable backlight
- Automatic average
- Hold-min-max functions
- Selection of units
- Debit calculation

### TECHNICALS FEATURES

<b>Measuring element</b>	<b>Hotwire air velocity</b> : thermistance with a negative temperature coefficient. <b>Ambient temperature</b> : NTC sensor
<b>Display</b>	4 lines, LCD technology. Sizes 50 x 36 mm. 2 lines of 5 digits with 7 segments (value) 2 lines de 5 digits with 16 segments (unit)
<b>Probes</b>	<b>VT 110</b> : Stainless hotwire probe <b>VT 115</b> : Telescopic hotwire probe bent at 90°
<b>Cable</b>	Straight, lenght : 2 m
<b>Housing</b>	ABS, protection IP54
<b>Keypad</b>	5 keys
<b>European directives</b>	2004/108/EC EMC ; 2006/95/EC Low Voltage ; 2011/65/EU RoHS II ; 2012/19/EU WEEE
<b>Power supply</b>	4 batteries AAA LR03 1.5 V
<b>Battery life</b>	180 hours
<b>Ambience</b>	Neutral gas
<b>Conditions of use (instrument)</b> (°C, %RH, m)	From 0 to +50 °C. In non condensing conditions. From 0 to 2000 m.
<b>Operating temperature (probe)</b>	From 0 to +50 °C
<b>Storage temperature</b>	From -20 to +80 °C
<b>Auto shut-off</b>	Adjustable from 0 to 120 min
<b>Weight</b>	250 g

### SPECIFICATIONS

Measuring units	Measuring range	Accuracy <sup>1</sup>	Resolution
<b>Velocity (hotwire)</b>			
m/s, fpm, km/h	From 0.15 to 30 m/s	From 0.15 to 3 m/s : ± 3% of reading ± 0.05 m/s	0.01 m/s
		From 3.1 to 30 m/s : ± 3% of reading ± 0.2 m/s	0.1 m/s
<b>Airflow</b>			
m³/h, cfm, l/s, m³/s	From 0 to 99 999 m³/h	±3% of reading ±0.03 x area (cm²)	1 m³/h
<b>Temperature</b>			
°C, °F	From -20 to +80 °C	± 0.3% of reading ± 0.25 °C	0.1 °C

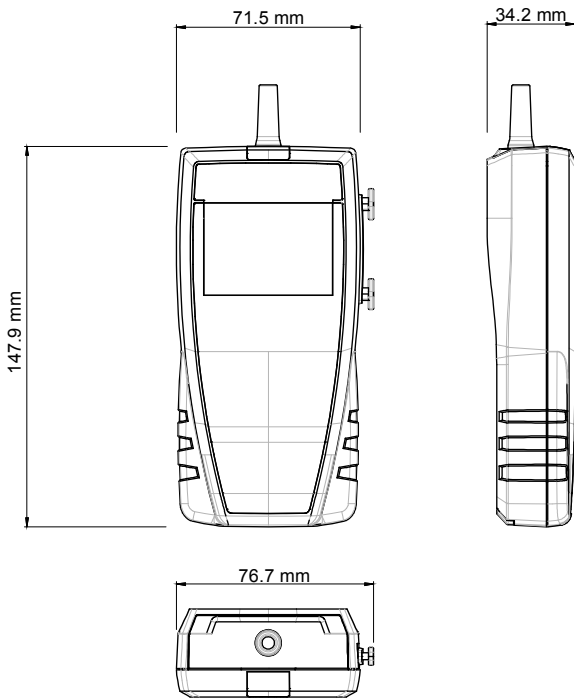


### FUNCTIONS

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

\*Except class 110 S

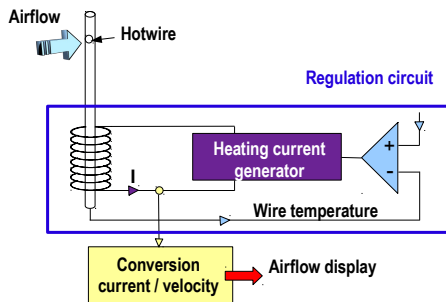
## DIMENSIONS



## OPERATING PRINCIPLES

### 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 : CTN probe

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

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

$R_T$  = 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

$\alpha$  and  $T_0$  sensor specific constants

## SUPPLIED WITH

Instruments are supplied with :

- VT 110 : Straight hotwire probe
- VT 115 : Telescopic hotwire probe bent at 90°
- Calibration certificate\*
- Transport case (ref : ST 110)



\*Except class 110 S

## ACCESSORIES

**CQ 15** : Magnetic protective housing



**K 35 - 75 - 120 - 150** : Airflow cone



**MT 51** : ABS transport case



## 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.

## GUARANTEE

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

[www.kimo.fr](http://www.kimo.fr)



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