

## Vane probe thermo-anemometer LV 130

### KEY POINTS

- Airflow calculation
- Hold-min-max functions
- Automatic average
- Selection of units

### TECHNICAL FEATURES

|                                                       |                                                                                                                                         |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Measuring elements</b>                             | <b>Air velocity</b> : Hall effect sensor<br><b>Ambient temperature</b> : NTC                                                            |
| <b>Display</b>                                        | 4 lines, LCD technology. Sizes 50 x 36 mm<br>2 lines of 5 digits with 7 segments (value)<br>2 lines of 5 digits with 16 segments (unit) |
| <b>Vane probe diameter</b>                            | Ø100 mm                                                                                                                                 |
| <b>Housing</b>                                        | ABS, protection IP54                                                                                                                    |
| <b>Keypad</b>                                         | 5 keys                                                                                                                                  |
| <b>European directives</b>                            | 2014/30/EU EMC ; 2014/35/EU Low Voltage ;<br>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><br>(°C, %RH, m) | From 0 to +50°C. In non condensing conditions.<br>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>                                         | 390 g                                                                                                                                   |

### SPECIFICATIONS

| Measuring units         | Measuring range          | Accuracy <sup>1</sup>                                                                           | Resolution              |
|-------------------------|--------------------------|-------------------------------------------------------------------------------------------------|-------------------------|
| <b>Velocity</b>         |                          |                                                                                                 |                         |
| m/s, fpm, km/h          | From 0.3 to 35 m/s       | From 0.3 to 3 m/s: ±3% of reading<br>±0.1 m/s<br>From 3.1 to 35 m/s: ±1% of<br>reading ±0.3 m/s | 0.01 m/s<br><br>0.1 m/s |
| <b>Airflow</b>          |                          |                                                                                                 |                         |
| m³/h, cfm, l/s,<br>m³/s | From 0 to 99 999<br>m³/h | ±3% of reading ±0.03 * area<br>(cm²)                                                            | 1 m³/h                  |
| <b>Temperature</b>      |                          |                                                                                                 |                         |
| °C, °F                  | From 0 to +50 °C         | ±0.4 % of reading ±0.3°C                                                                        | 0.1°C                   |

<sup>1</sup>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

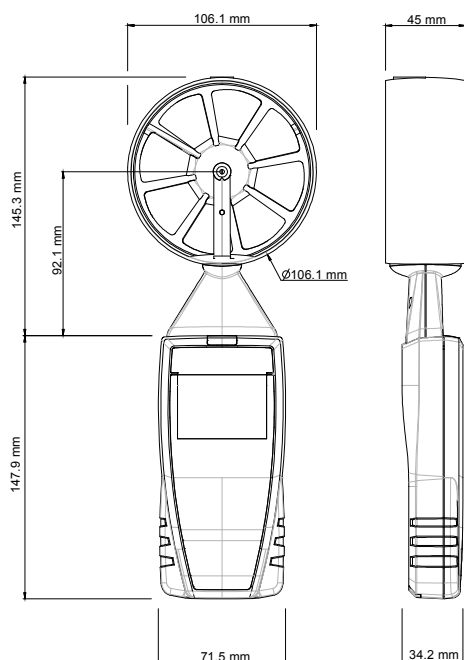
\*Except class 110 S



### FUNCTIONS

- Airflow calculation
- Airflow calculation with cone
- Automatic average
- Selection of units (air velocity, airflow and temperature)
- Hold function
- Display of minimum and maximum values
- Adjustable auto shut-off
- Backlight
- Detection of flow direction

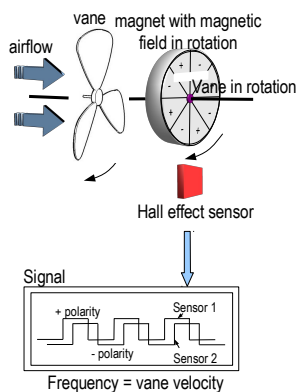
## DIMENSIONS



## OPERATING PRINCIPLES

### Air velocity : Hall effect sensor

Rotation of the shaft of the vane powers a circular magnet of 8 poles. A dual Hall effect sensor, placed next to the magnet senses the signals of magnetic field polarity transition. The sensor signal is converted to electrical frequency and is proportional to the rotation velocity of the vane probe. Signals chronology allows to determine the rotation direction.



### Thermometer : CTN probe

Negative temperature coefficient probes are thermistors with a resistance that decreases with 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 sensor value at reference temperature  $T_0$

$T$  and  $T_0$  in  $^{\circ}\text{C}$

$\alpha$  and  $T_0$  sensor specific constants

## SUPPLIED WITH

Instruments are supplied with:

- Calibration certificate\*
- Transport case(ref : ST 110)



\*Except class 110 S

## ACCESSORIES

**CQ 15** : Magnetic protective housing



**K 25 – 85** : Airflow cone for anemometer



**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).

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Tel : + 33. 1. 60. 06. 69. 25 - Fax : + 33. 1. 60. 06. 69. 29

e-mail : export@kimo.fr