KIMO INSTRUMENTS

Technical Data Sheet

Pressure / Temperature / Humidity / Air Velocity / Airflow / Sound level

Vane probe thermo-anemometer

LV 110 – LV 111 – LV 117

KEY POINTS

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

TECHNICAL FEATURES

Measuring elements	**Air velocity:** Hall effect sensor **Ambient temperature:** NTC sensor
Display	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)
Vane probe diameter	**LV111:** Ø14 mm / **LV117:** Ø70 mm / **LV110:** Ø100 mm
Cable	Coiled, 0.45 m length, extension: 2.4 m
Housing	ABS, IP54 protection
Keypad	5 keys
European directives	2014/30/EU EMC; 2014/35/EU Low Voltage; 2011/65/EU RoHS II; 2012/19/EU WEEE
Power supply	4 batteries AAA LR03 1.5 V
Battery life	120 hours
Ambience	Neutral gas
Conditions of use (instrument) (°C, %RH, m)	From 0 to +50°C. In non condensing conditions. From 0 to 2000 m.
Operating temperature (probe)	From 0 to +50°C
Storage temperature	From -20 to +80°C
Auto shut-off	Adjustable from 0 to 120 min
Weight	390 g

SPECIFICATIONS

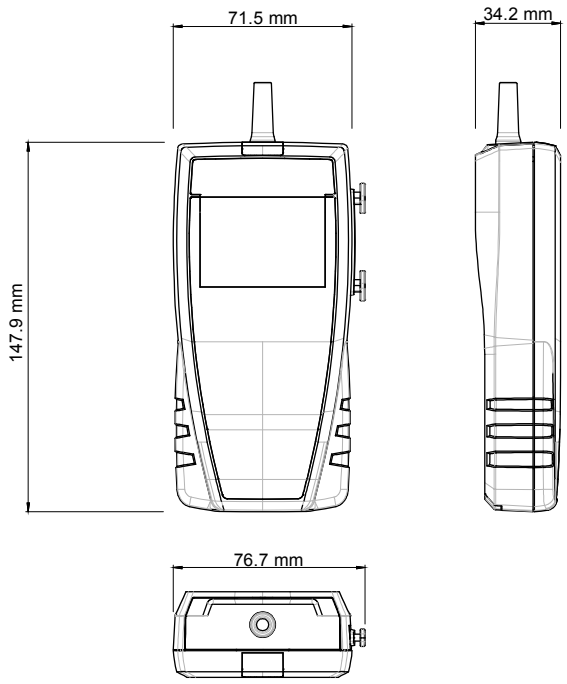
Models	Measuring units	Measuring range	Accuracy**	Resolution
Air velocity				
LV111: Ø14 mm	m/s, fpm, km/h	From 0.8 to 25 m/s	From 0.8 to 3 m/s: ±3% of reading ±0.1 m/s From 3.1 to 25 m/s: ±1% of reading ±0.3 m/s	0.1 m/s
LV110: Ø100 mm	m/s, fpm, km/h	From 0.3 to 35 m/s	From 0.3 to 3 m/s: ±3% of reading ±0.1 m/s From 3.1 to 35 m/s: ±1% of reading ±0.3 m/s	0.01 m/s 0.1 m/s
LV117: Ø70 mm	m/s, fpm, km/h	From 0.4 0 to 35 m/s	From 0.4 to 3 m/s: ±3% of reading ±0.1 m/s From 3.1 to 35 m/s: ±1% of reading ±0.3 m/s	0.1 m/s
Airflow				
All models	m³/h, cfm, l/s, m³/s	From 0 to 99 999 m³/h	±3% of reading ±0.03 * area (cm²)	1 m³/h
Temperature				
All models	°C, °F	From -20 to +80°C	±0.4% of reading ±0.3°C	0.1°C

** Except class 110 S*
*** 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*

FUNCTIONS

- Airflow calculation
- Airflow calculation with cone (LV110/117)
- Automatic average
- Selection of units (air velocity, airflow and temperature)
- Hold function
- Display of minimum and maximum values
- Configurable auto shut-off
- Backlight
- Detection of flow direction (LV110/117)
- Selection of the type of cone
- Dimensions of rectangular and circular duct

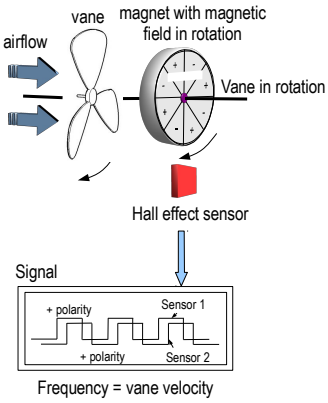
DIMENSIONS



OPERATING PRINCIPLES

Air velocity: Hall effect sensor

Rotation of the vane probe leads to a circular magnet of 8 poles. A dual Hall effect sensor, placed next to the magnet captures 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. Signal chronology allows to determine the rotation direction.



Thermometer: NTC probe

Negative temperature coefficient probes are thermistors with a resistance that decreases with 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(T0) = resistance sensor value at reference temperature T_0

T and T_0 in °C

α and T_0 sensor specific constants

SUPPLIED WITH

Instruments are supplied with:

- LV 111: vane probe Ø14 mm
- LV 117: vane probe Ø70 mm
- LV 110: vane probe Ø100 mm
- Calibration certificate*
- Transport case (ref.: ST 110)

** Except class 110 S*

ACCESSORIES

CQ 15: Magnetic protective housing

RTE: Telescopic extension, length 1m, with index at ±90°

K 25 – 85: Airflow cones for anemometer LV 110

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.

WARRANTY

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

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