

# C.A 1052 : Multifunction Physics Measurement



# Check all the performances of your HVAC system

#### **FUNCTIONS**

- Air speed measurement (rotating vane and hot wire) and ambient temperature
- Relative humidity measurement
- Pressure measurement
- Contact temperature measurement
- Units choice
- HOLD function
- Display of the maximum and minimum values

- Automatic average measurement for all kind of measurement
- Airflow measurement with or without cone
- Record up to 8 000 datas
- Data analysis software delivered in standard
- Setting of the automatic stop
- Setting of the retro-lighting



# **SPECIFICATIONS**

#### Metrological specifications

	Measurement	Resolution	Accuracy	Units
	range			
Air speed	0,25 to 3 m/s	0,01 m/s	$\pm$ 3% R + 0,1 m/s	m/s , fpm, km/h
(Rotating vane)	3,1 to 35 m/s	0,1 m/s	$\pm 1\%$ R + 0,3 m/s	
Ambient	-20 to +80°C	0,1°C	± 0,4% R + 0,3 °C	°C, °F
temperature				
Airflow	0 to 99 999 m3/h	1 m3/h	$\pm$ 3% R $\pm$ 0,03 * Surf.	m3/h, m3/s, L/s,
			Gaine(cm <sup>2</sup> )	cfm

	Measurement	Resolution	Accuracy	Units
	range			
Air speed (Hot	0,15 to 3 m/s	0,01 m/s	± 3% R + 0,03 m/s	m/s , fpm, km/h
wire)	3,1 to 30 m/s	0,1 m/s	$\pm$ 3% R + 0,1 m/s	
Ambient	-20 to +80°C	0,1°C	± 0,3% R + 0,25 °C	°C, °F
temperature				
Airflow	0 to 99 999 m3/h	1 m3/h	$\pm$ 3% R $\pm$ 0,03 * Surf.	m3/h, m3/s, L/s,
			Gaine(cm <sup>2</sup> )	cfm

	Measurement	Resolution	Accuracy	Units
	range			
Relative	3 to 98 %RH	0,1 %RH	± 1% R ± 1,5 % RH	%RH
Humidity	5 10 98 %KII	0,1 %KII	$\pm$ 170 K $\pm$ 1,3 70 K11	70 K11
Ambient	-50 to +80 °C	0,1 °C	± 0,6% R + 0,5 °C	°C, °F
temperature	-3010+80 C	0,1 C	$\pm$ 0,0% K + 0,5 C	С, Г
Dewpoint	$-20 \text{ to } +70 ^{\circ}\text{C}_{\text{td}}$	$0.1 \ ^{\circ}C_{td}$	± 0,8% R + 0,6 °C <sub>td</sub>	°C °E
temperature	$-20 t0 + 70 C_{td}$	$0,1$ $C_{td}$	$\pm$ 0,070 K + 0,0 C <sub>td</sub>	$^{\circ}C_{td}, ^{\circ}F_{td}$

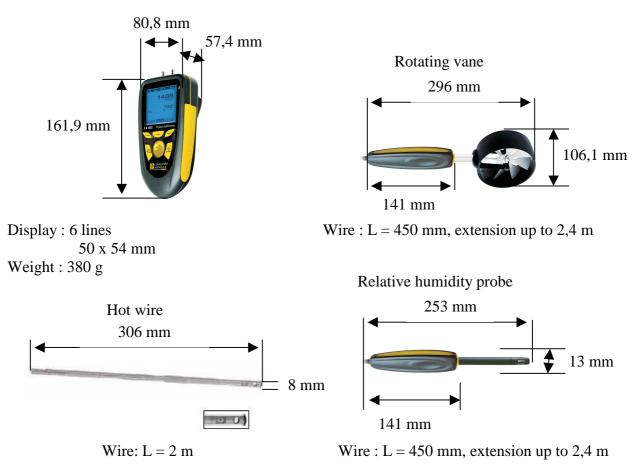
Pressure	$0 \text{ to } \pm 1000 \text{ mmH}^2\text{O}$	0,1 mm h²O	± 0,2% R ± 1 mmH <sup>2</sup> O	MmH <sup>2</sup> O, mbar, hpa, Pa, In Wg, mmHG, DataPa
Thermocouple temperature	-200 to +1300°C -100 to +750°C -200 to +400°C	0,1°C 0,1°C 0,1°C	$\begin{array}{c} \pm \ 0,4\% \ R \ or \ 1,1^{\circ}C \\ \pm \ 0,4\% \ R \ or \ 0,8^{\circ}C \\ \pm \ 0,4\% \ R \ or \ 0,5^{\circ}C \end{array}$	°C, °F

## Technical specifications

Work conditions: 0 to 50°C ; < 85 % HR Use environment : gaz neutre Storage conditions : -20°C to 80°C ; 15 to 85 % HR Power supply :4 batteries 1,5V LR6 Auto-switch off of the product adjustable from 0 to 120 min.



Dimensions et weight



#### **Conformity**

Electromagnetic Compatibility : complies with NF EN 61326-1.

## **PRINCIPLE OF OPERATION**

#### Rotating vane air speed

The air rotates the propeller and rotations are converted into electrical signal. Detector induction account rotations and produced a series of pulses that are converted into voltages by the instrument, and are displayed.

These devices are robust and adapted to harsh operating conditions. They are sensitive to the direction of air flow but not sensitive to turbulence.

#### Hot wire air speed

The principle of this sensor is based on the temperature of an element. It is cooled by the airflow. Regulation of the element is performed so that the temperature returns to its initial level.

Energy for this regulation is the image of the airflow.

#### Relative humidity

The relative humidity is the ratio between vapor pressure in the air and satured vapor pressure generated by the water. It indicates the air humidity in percentage.



#### Dewpoint temperature

The dewpoint temperature is the temperature it needs to obtain to have the first point of condensation.

Pressure

We speak about differential pressure between two points (pressure of the air).

## PHYSICS-LOG SOFTWARE

Physics-log software, delivered in standard, allows to transfert the datas recorded in the product to analysis them and to save them.

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It is possible to associate to the transfered campaign the details about the operator and the customer for the inspection report creation.

## **TO ORDER**

C.A 1052......P01.1750.20 Delivered in a transportable case with a air speed / airflow rotating vane and hot wire probe, relative humidity probe, pressure ans thermocouple temperature modular, four batteries 1,5V, one Physics-Log software, one user's manual.

Accessories

Telescopic extension 1m	P01.1020.12
Air flow measurement cone C.A 825	P01.1731.05
Straight extension	P01.1020.10
Right angle extension	P01.1020.11
Air flow measurement cone C.A 828	P01.1731.07
Pitot tube	P01.1020.48

