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

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

| | Measurement range | Resolution | Accuracy | Units |
|---|---|---|---|---|
| Relative Humidity | 3 to 98 %RH | 0,1 %RH | ± 1% R ± 1,5 %RH | %RH |
| Ambient temperature | -50 to +80 °C | 0,1 °C | ± 0,6% R + 0,5 °C | °C, °F |
| Dewpoint temperature | -20 to +70 $°C_{td}$ | 0,1 $°C_{td}$ | ± 0,8% R + 0,6 $°C_{td}$ | $°C_{td}$, $°F_{td}$ |

| | | | | |
|---|---|---|---|---|
| Pressure | 0 to ± 1000 $mmH^2O$ | 0,1 mm $h^2O$ | ± 0,2% R ± 1 $mmH^2O$ | $MmH^2O$, mbar, hpa, Pa, In Wg, mmHG, DataPa |

| | | | | |
|---|---|---|---|---|
| Thermocouple temperature | -200 to +1300°C<br>-100 to +750°C<br>-200 to +400°C | 0,1°C<br>0,1°C<br>0,1°C | ± 0,4% R or 1,1°C<br>± 0,4% R or 0,8°C<br>± 0,4% R or 0,5°C | °C, °F |

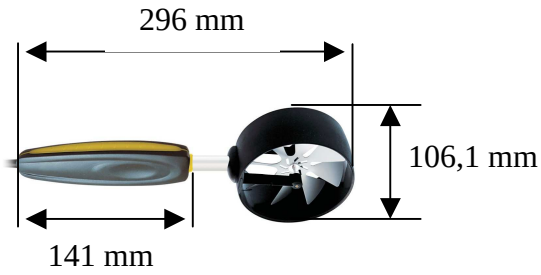
*Technical specifications*

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*


Display : 6 lines
50 x 54 mm
Weight : 380 g

Rotating vane

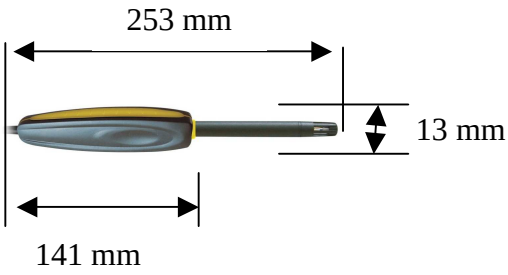



Wire : L = 450 mm, extension up to 2,4 m

Hot wire


Wire: L = 2 m

Relative humidity probe




Wire : L = 450 mm, extension up to 2,4 m

*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.


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