

## C.A 812 Thermo-Anemometer



Read the instructions before using the instrument

You have just acquired a thermo-anemometer and we thank you for your confidence.

To get the best service from your instrument:

- Read carefully this User manual.
- Respect the safety precautions.



### SAFETY PRECAUTIONS



- ※ Respect the direction of the air flow through the vane (see anemometric measurements) i.e. from the back to the front.
- ※ For reliable results avoid places where obstacles could create turbulence (too close to trees, buildings,...)

## SUMMARY

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## TO ORDER

Use the designations and references below

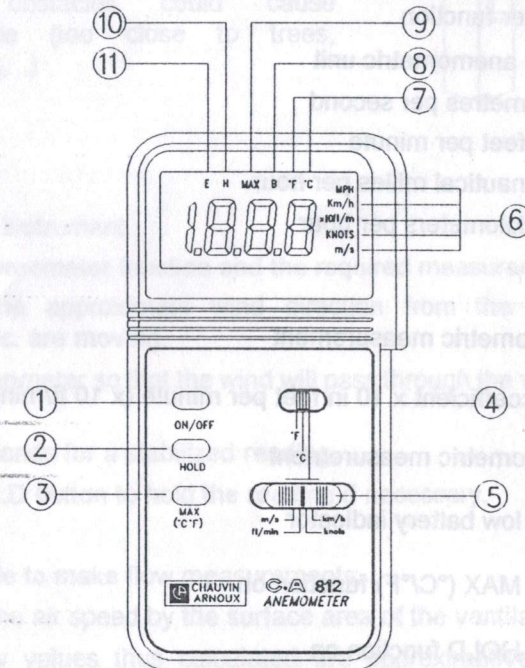
**Thermo anemometer C.A 812 ..... P01.1731.01**

Supplied in its carrying case, with 9 V battery and this User's manual.

## PRESENTATION

This 2000 count digital thermo anemometer has a very sensitive vane (ultra low friction sapphire jewel bearing).

The type K thermocouple is housed in the bearing of the vane. Light and easy to handle, it is particularly simple to use. The 2 m long cable and the threaded insert at the back of the sensor allow the use of a telescopic extension, or installation on a photographic type tripod.



## CONTROLS

- ① ON/OFF: On/Off button
- ② HOLD: HOLD display
- ③ MAX (°C/°F): max temperature
- ④ Function selector
  - °F: temperature in degrees Fahrenheit
  - °C: temperature in degrees Celsius
  - anemometer function
- ⑤ Selector of the anemometric unit
  - m/s: metres per second
  - ft/min: feet per minute
  - knot: nautical milles per hour
  - km/h: kilometers per hour

## DISPLAY

- ⑥ Units of anemometric measurement

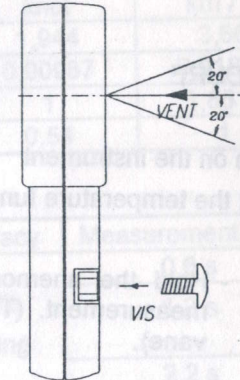
NB: Reading coefficient x 10 in feet per minute (x 10 ft/min)

- ⑦ Units of thermometric measurement
- ⑧ B: low battery indicator
- ⑨ MAX: MAX (°C/°F) function on
- ⑩ H: HOLD function on
- ⑪ E: error

## ANEMOMETRIC MEASUREMENTS



- The air must flow through the vane, from the back (where the mounting nut is) to the front. The arrow shows the air displacement.
- For more accurate results, try to keep the axis of the vane within 20° of the wind direction.
- For reliable results, avoid places where obstacles could cause turbulence (too close to trees, buildings,...)



## PROCEDURE

- Switch on the instrument
- Select the anemometer function and the required measurement unit
- Determine the approximate wind direction from the way flags, kites, windsocks etc. are moving.
- Hold the anemometer so that the wind will pass through the vane from the back to the front.
- Wait for 4 seconds for a stabilized reading.
- Press the HOLD button to hold the reading if necessary.

NB: It is possible to make flow measurements.

- Multiply the air speed by the surface area of the ventilation outlet.  
(The flow values thus calculated are approximative, because of the uncertainty of the value of the surface and the possible presence of a grill or deflector...)

## THERMOMETRIC MEASUREMENTS

### PROCEDURE

- Switch on the instrument
- Select the temperature function in °C or °F.



- Hold the anemometer in the same way as for a wind speed measurement. (The thermocouple is mounted in the axis of the vane).

- Press the HOLD button to hold the reading if necessary.
- Measure the max value (MAX): the maximum temperature measured remains displayed as long as MAX is on.

## SPECIFICATIONS

### CONVERSION FACTORS OF UNITS

Conversion	m / s	ft / min	knot	km / h
1 m / s	1	196,87	1,944	3,60
1 ft / min	0,00508	1	0,00987	0,01829
1 knot	0,5144	101,27	1	1,8519
1 km / h	0,2778	54,69	0,54	1

### ANEMOMETRIC MEASUREMENTS

Units	Range	Resolution	Accuracy	Measurement time
1 m / s	0,3...45,0	0,1	+ 3 % reading	0,6 s
1 ft / min (1)	60...8800	10		1,2 s
1 knot	0,6...88,00	0,1		2,2 s
1 km / h	1,0...140,0	0,1		

(1) Warning: reading coefficient x 10 The display has a range 6...880.

### THERMOMETRIC MEASUREMENTS

Units	Range	Resolution	Accuracy
°C	0...60,0	0,1	± 0,8 % rdg
°F	32,0...140,0	0,1	± 1,5 % rdg

### POWER SUPPLY

- 9 V battery (6F22)
- Typical consumption: 6 mA
- Average battery life: 50 hours
- Low battery indication: B is displayed

### OPERATING CONDITIONS

- Temperature of the instrument: 0°C...+50°C
- Temperature of the vane: 0°C...+60°C
- Relative humidity: ≤ 80% RH
- Pressure: 500 mbar...2 bar
- Storage: -40°C...+60°C

## DIMENSIONS AND WEIGHT

- Instrument: 168 x 88 x 26.2 mm
- Vane: 132.5 x 66 x 29.2 mm
- Lead: 2 m (extended)
- Weight (total): 350 g (including battery)

## BEAUFORT SCALE CONVERSION

Conversion of the average speed on the Beaufort scale, used in maritime navigation.

BEAUFORT	km / h	m / s	knot	ft / min
0	<1	<0,278	<0,54	<54,69
1	1...5	0,2...1,3	0,5...2,7	54,6...273,4
2	6...11	1,6...3	3,2...5,9	328,1...601,5
3	12...19	3,3...5,2	6,4...10,2	656,2...1039,1
4	20...28	5,5...7,7	10,8...15,1	1093,8...1531,3
5	29...38	8...10,5	15,6...20,5	1586...2078,2
6	39...49	10,8...13,6	21...26,4	2132,9...2679,8
7	50...61	13,8...16,9	27...32,9	2734,5...3336,1
8	62...74	17,2...20,5	33,4...39,9	3390,8...4047,1
9	75...88	20,8...24,4	40,5...47,5	4101,8...4612,7
10	89...102	24,7...28,3	48...55	4887,4...5578,4
11	103...117	28,6...32,5	55,6...63,18	5633,1...6398,7
12	>118	>32,7	>63,72	>6453,4

## CHANGING THE BATTERY



When the symbol B appears, change the battery.

- Switch OFF the instalment
- Remove the screw from the battery compartment and remove the battery compartment cover
- Change the 9 V battery (type 6F22)
- Replace the battery compartment cover and its screw

## MAINTENANCE



For maintenance, use only the specified spare parts. The manufacturer can not be held responsible for any accident occurring after a repair made other than by its after sales service or approved repairers.

## CLEANING

This instrument requires no special cleaning. Avoid shocks to the vane which has a very sensitive bearing which guarantees a very low rotation threshold.

## STORAGE

If the instrument is not operated for more than 60 days, remove the battery and store it separately.

## METROLOGICAL CHECK

It is essential that all measuring instruments are regularly calibrated.

For occasional daily use, we recommend that an annual calibration be carried out.

When the instrument is used continuously every day, we recommend that a calibration is carried out every 6 months.

For calibration and repair of your instrument, please contact our MANUMESURE accredited agencies :

- CHAUVIN ARNOUX Pont L'Evêque - France (33) 31 64 51 11
- MANUMESURE Lyon - France (33) 78 26 68 04

Or the Chauvin Arnoux subsidiary or Agent in your country.

## WARRANTY

Unless notified to the contrary, our instruments are guaranteed from any manufacturing defect or material defect. They do not bear the specification known as the safety specification. Our guarantee, which may not under any circumstances exceed the amount of the invoiced price, goes no further than the repair of our faulty equipment, carriage paid to our workshops. It is applicable for normal use of our instruments, and does not apply to damage or destruction caused, notably by error in mounting, mechanical accident, faulty maintenance, defective use, overload or excess voltage.

Our responsibility being strictly limited to the pure and simple replacement of the faulty parts of our equipment, the buyer expressly renounces any attempt to find us responsible for damages or losses caused directly or indirectly.

**Our guarantee is applicable for twelve (12) months after the date on which the equipment is made available.** The repair, modification or replacement of a part during the guarantee period will not result in this guarantee being extended.

### MAINTENANCE:

Repairs under or out of guarantee: Please return the product to your distributor :

CA UK  
853 Plymouth road  
Slough SL1 4LP  
Tel. (1753) 69 64 33  
Fax (1753) 69 61 72

UK : CA UK - 853 Plymouth road - Slough SL 4LP - Tel.(1753) 60 64 33 - Fax (1753) 69 61 72  
Deutschland : IMT CA-Honsellstrasse. 8-77694 Kehl / Rhein-Tel. (07851) 50 52-Fax (07851) 7 52 90  
España : C.A Iberica : C/Roger de Flor n° 293,4° 1°-08025 Barcelona Tel:(93)459 08 11 - Fax:(93)459 14 43  
Italia : AMRA CA - Via Toricelli. 22 - 20035 Lissone (MI) - Tel. (39) 2 45 75 45 - Fax (39) 48 15 61

190, rue Championnet - 75876 Paris Cédex 18 - FRANCE  
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