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## Skywatch Atmos Anemometer



## Operating Instructions

# Skywatch Atmos Anemometer

You have just acquired a piece of high precision equipment which has been created using the most modern technology. It has been designed to stand up to intensive use. However, in order to maintain its appearance and precision, we recommend that you treat it with care and read this manual carefully.

## Function of the buttons

- ON: Press 1 second
- ☼ OFF: Press 2 seconds (non-auto off)
- LIGHT: Press on and off briefly
- △ UP: Setting mode
- START/STOP: Chronometer mode
- ▽ DOWN: Setting mode
- LAP/RESET: Chronometer mode
- ✱ SET/CAL: Setting mode
- ✱▽ RESET MEMORY: Press 3 seconds

## Configuration

To access the configuration mode of your instrument, just press on the ✱ button. Pressing the ✱ button once again causes the system to confirm the setting if there has been a change. If not then it goes to the next setting. To modify the settings, the △ and ▽ buttons have to be used. Here is how to proceed with the different instrument settings.

### Wind Measuring Units

The units to be selected are: mph, knots, km/h, m/s, fps and Beaufort.

Once the unit is chosen, it remains displayed in the top right. If no unit is displayed, the instrument is set to Beaufort.

### Temperature Measurement Units

The units to be selected are: °F, °C, °F<sup>ℱ</sup>, °C<sup>ℱ</sup>, °F<sup>ℳ</sup> and °C<sup>ℳ</sup>.

### Humidity Measurement Units

Humidity is displayed in a single unit: %RH.

### Setting the Time of the Average

The times to be selected are: --- (weighting), 3", 6", 12", 30", 1', 6', 30', 1:00', 6:00', 12:00', 24:00' or timer ☺.

The timer mode is used to measure the average, min. and max. over a defined period of time between a start (press △) and stop (press ▽). This time is displayed on the bottom line. This timer allows the use of the LapTime function (press ▽, the symbol ☺ flashes). The ▽ button also allows the timer to be reset to zero. This works in the same way as a standard chronometer.

### Setting the Display of Wind, Temperature and Humidity

The displays to be selected are: ---, MIN, AV and MAX.

When MIN is selected, only the temperature and humidity are concerned, the wind continues to display the instantaneous value (---).

When the selected unit is °F<sup>ℱ</sup> or °C<sup>ℱ</sup>, the display setting is limited to --- or MIN.

## Wind Measurement (Upper Display)

Important: the protective cap has to be removed from the instrument in order to rotate the impeller. The impeller has a maximum sensitivity in the vertical position (due to its magnetic levitation), and an optimised precision when its axis of rotation is perpendicular to the wind direction.

The average or maximum wind speed is calculated based on the time of the average. These values are reset to zero during a RESET of the memory.

## Temperature Measurement (Bottom Display)

### Instantaneous Temperature

Important: Thermal inertia of the instrument directly affects the stabilisation time of the measurement. The greater the temperature difference is, the longer this time will be. This time will be shorter if the wind speed is higher.

### Windchill Temperature

As you know, exposure to low temperatures is potentially dangerous to the human body. But, did you know that wind

plays a significant part in how your body actually feels temperatures? For example, an ambient temperature of 0°C and a 30km/h wind have same effect on you as a temperature of -13°C! The result of the calculation of the effect of wind on the temperature is called the "windchill temperature". By the sea, in the mountains, hiking or cycling, the Skywatch Atmos shows immediately the temperature felt by the body and warns of risks of chilblains and hypothermia.

### Min. and Max. Temperature

These two modes show the minimum or maximum values measured over the time of the average. The value is reset to zero during a RESET of the memory.

### Dew Point

The dew point (°F<sup>ℳ</sup> and °C<sup>ℳ</sup>) is calculated taking into account the humidity and the ambient temperature. It gives the temperature at which the water vapour contained in the air has reached saturation point (formation of clouds, fog, dew, condensation on objects, etc.).

Example: At an ambient temperature of 23°C and a humidity of 39.5%RH, the dew point is 12°C.

## Humidity Measurement (Middle Display)

### Instantaneous Humidity

Ambient humidity depends on the temperature. When moving the instrument from a warm environment to a cold environment, the values measured will vary. In the atmosphere, humidity is not uniform and two locations that are close to each other may give different results. A person perspiring and/or breathing very near the instrument may impact on the measurement.

### Minimum Humidity, Maximum Humidity

These two modes show the minimum and maximum values measured over the time of the average. The value is reset to zero during a RESET of the memory.

## Technical Data

- Backlight
- Sealed and weatherproof instrument
- Thread on the bottom of the instrument for fixing to a tripod (¼")
- Anemometer precision: ±3% (10 to 150km/h), depending on its orientation to the wind
- Anemometer resolution: 0.1 to 99.9, then 1 unit
- Anemometer measuring range: 2 to 150km/h
- Thermometer precision: ±1°F (at 77°F)
- Thermometer resolution: 0.1 unit
- Thermometer measuring range: -4 to +158°F
- Hygrometer precision: ±3% (20 to 80%RH)
- Hygrometer resolution: 0.1
- Hygrometer measuring range: 2 to 100%RH
- Power supply: 2x 1.5V AA batteries
- Battery lifetime is at least 3 years with occasional use of the display backlight. Low battery indicator. To replace, loosen the three screws on the metal plate
- Weight: 235g (insubmersible)
- Dimensions: Ø 65 x 155mm
- Warranty: 1 year

## Warranty

Your instrument has a one year warranty against material or manufacturing defects from JDC ELECTRONIC SA starting from the date of purchase. The warranty does not cover damage caused by incorrect use.

The wind measuring principle of the Skywatch Atmos is based on the detection of a rotating magnetic field produced by an impeller. If the device is subject to a strong magnetic field produced by a transformer or motor it may happen that the instrument shows undesirable values, without any rotation of the impeller.