



“No bullshit” - instructions for the Vion A4000.2 electronic barometer/barograph

Power

There are 3 ways to power the A4000.2.

- Batteries. 4 pieces AA alkaline batteries. The batteries will last around 5 months. If you use the backlight 2.900 times for 20 seconds the battery life is reduced to 4 months.
- USB. The USB connector is located on the left hand side.
- 12 Volt can be applied through the dedicated 12 Volt connector on the left hand side. A 12 Volt connector with cable is included with the unit. The cord with the white stripe is to be connected to the positive (+) on your power supply. The unit will function if you supply as little as approximately 6 Volt on the 12 Volt input.

When supplying power using the USB or the 12 Volt connector you may leave the batteries inside as backup. If the remaining power in the batteries is low the BATTERY LOW icon will switch on, even if USB or 12 Volt power supply is present.

Switch the A4000.2 barometer on using the on/off switch on the left side.
If you switch it off all data in the memory is lost - don't worry - it's not your life's history that's lost.

Initial setup

Switching A4000.2 on displays shortly the instructing text “Please proceed with initialization”.

Then “SET” is displayed and you can choose:

Langue (**language**), heure (hour, time), unités (units), altitude, pression (pressure) and OK.

Select “langue” press the OK button and if you want English then select “anglais” using the + button and press OK.

If you already now are quite annoyed over the buzzer sound go directly to the OK using the + or - buttons and press the OK button. Now press the orange MODE button for a while and select “buzzer”.
Adjust volume to zero “0”. What a relief!

Warning: This also disables the audio signal for alarms!

Getting back to the SET menu hold down the MODE button for a while and select “set”.

Now you can continue the initialization; set the time and date, the units for pressure, altitude and temperature. Press the return button (MEM.) to get back to the SET menu.

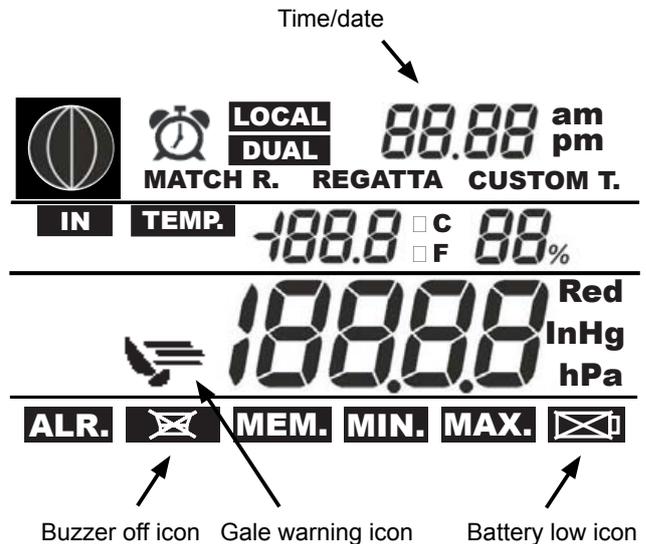
Now choose altitude and pressure or get back to this later...

Upper screen

MOON PHASE icon shows the current moon phase* for approx. 3 seconds, then the symbol “circles” for 5 seconds to show you the direction of changes in the moon phase.
*) *Please see below regarding the moon phase issue!*

ALARM CLOCK icon is shown, if you have set the alarm clock.

Either **LOCAL icon** or **DUAL icon** will be shown.
LOCAL: A4000.2 shifts between showing **time** (approx. 6 seconds) and **date** (approx. 3 seconds).
DUAL: A4000.2 shifts between showing local time (approx. 6 seconds) and dual time (approx. 3 seconds).



MATCH R., REGATTA and CUSTOM T. These icons are used when you start one of the 3 timers.

IN icon and TEMP icon. To tell you that the temperature shown is indoor temperature. Not very relevant (any more) as an outer temperature sensor cannot be connected.

Relative humidity shown in percent.

GALE WARNING icon appears when a drop in air pressure of 3 hPa (millibars) or greater over a period of 3 hours or less is detected. This alarm is always set. It cannot be switched off.
An audio alarm will sound (unless the buzzer is switched off).
The alarm will be present at the electronic alarm output connector (but only if the buzzer is switched on).

Air **pressure** in **hPa** (millibars). Or if you change settings InHg icon.

Sea level pressure: “Red” is shown. Actual pressure: “Red” is not shown.

ALR. icon is shown if a pressure alarm has been set.

“**X**” **icon** is shown if the buzzer is switched off. In this case all alarms are “sound-free” and will only be indicated by text in the chart display (lower display).

MEM. icon is shown if a pressure value has been saved in memory.

MIN. icon is shown when using the HISTORY function, if a pressure is the minimum value during the period.

MAX. icon is shown when using the HISTORY function, if a pressure is the maximum value during the period.

BATTERY LOW icon is shown when the remaining energy in the batteries is low. Replace batteries within a few days to prevent data loss, and prevent leaking batteries. This icon will switch on when batteries are low, even if USB or 12 Volt power supply is present.

Note: When you take out the old batteries you only have 10 seconds to insert the new ones, or the data will be lost. So be well prepared.

*) The moon phase display doesn't work from 1/1-2018 because the program apparently was made to run in a ten year period from 2008 to 2017. However if you choose a month in this period with the same moon phase rhythm as the present month's moon phase rhythm you will achieve a correct moon phase display. The date will of course not be correct.

March 2018 corresponds to August 2012, April 2018 corresponds to September 2012

May 2018 corresponds to October 2012, June 2018 corresponds to November 2012

July 2018 corresponds to December 2012, August 2018 corresponds to January 2013

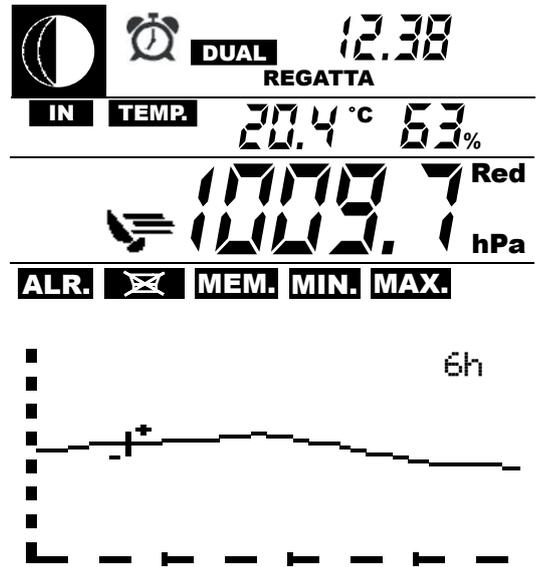
September 2018 corresponds to February 2013, then it jumps

October 2018 will correspond to June 2013, November 2018 will correspond to July 2013

and so on...

Chart display (lower screen)

A barograph showing the latest 2, 4, 6, 12, 24 or 48 hours of the air pressure. Use the ZOOM/- and the the ZOOM/- and HIST./+ buttons to adjust the chart scale (see below).



Navigation buttons overview

- Orange **“MODE”** button

Press it shortly and you can adjust the display back light level using the buttons + and -.

Press it for a while and choose between following possibilities:

hour for adjusting time +1 hour, -1 hour or activate dual time

alarm set the time you want an alarm - doesn't work when buzzer is turned off (not so clever ☹).

timer for racing

buzzer audible alarms won't work when buzzer is turned of!

sensor forget this, no external sensor

temp forget this, no external sensor

set altitude, pressure settings etc... FAQ regarding the pressure readout - see below!

synchro forget this, no external sensor

- Combined **“ALR.”** (alarm) and **“OK”** (enter) button

You can set an alarm for sudden air pressure variations (presets between 0,5 and 10 hPa with 0,5 hPa steps), increasing or decreasing within a given period between 1 hour and 6 hours with 1 hour steps - or for a target air pressure value between 850 hPa and 1.100 hPa.

Audible alarm won't work when buzzer is turned off, but the chart display will show: ALARM - Press a key to stop the alarm! To stop the alarm you can press one of the 4 grey buttons (the orange MODE button doesn't count here). The alarm will be present at the electronic alarm output connector (but only if the buzzer is switched on).

- Combined **“ZOOM”** and **“-“** button

Press this button to changes the resolution of the chart display, use + and - to zoom in and out of the barograph. On the horizontal time axis one dash or one space corresponds to 1 hour (except in the 48 hour zoom it's 2 hours). On the vertical air pressure axis one dash or one space corresponds to 1 hPa (1 millibar).

- Combined **“HIST.”** (history) and **“+”** button

When this button is pressed a cursor marks the time position on the pressure curve in the chart display and the corresponding time and pressure is logged on the upper screen. Press + and - buttons to move the cursor backwards and forward in time and read the corresponding air pressure.

- Combined **“MEM.”** (memory) and **“return”** (step backwards) button

By pressing the memory button and choosing OK you memorise the weather data at the time you press the button and **“MEM.”** is indicated in the upper screen. Pres the memory button again and the OK button recalls the data from the memory. Only one single set of data can be memorised and I don't understand what it's useful for? The HIST. (history) button gives you access to all data from the last 48 hours! It's stated in the original set of instructions that this feature is particularly practical for watch changes. I don't know?

Generally if no button is pressed within 20 seconds the display returns to the barograph display, except in the SET menu.

Connector for alarm output

Alarms can be transferred to external equipment through the alarm output connector on the left hand side.

The alarm will only be present at the electronic alarm output connector if the buzzer is switched on!.

This output is an electronic switch (“open drain”). So if you want to connect directly to a siren or a lamp you have to supply the power.

The maximum ratings are indicated on the A4000.2 to be 12-24 Volts and 0,5 Amps. However we recommend you keep the current below 0,25 Amps. - Connector type: 3.5 mm mini jack mono or stereo. - Your external power supply's ground (-) shall be connected to the shield/outer part of the connector.

Technical specifications

Absolute air pressure accuracy:

$\pm 1,5 \text{ hPa}$ @ $0-50^\circ\text{C}$, resolution $0,1 \text{ hPa}$ within the working range. Working range is 900 to 1.100 hPa.

Temperature accuracy:

$\pm 0,5^\circ\text{C}$ @ 25°C , resolution $0,1^\circ\text{C}$ within the working range. Working range: 0 to 50°C (32 to 122°F).

Accuracy falls linearly from 25°C to the range boundaries: From $\pm 0,5^\circ\text{C}$ to $\pm 1,25^\circ\text{C}$.

Humidity accuracy:

$\pm 4,5\%$, resolution 1% within the operating range 0 to 100% .

Clock: Accuracy within $\pm 30\text{s}$ per month.

FAQ

I am at sea level and my pressure readout is too low compared to the actual pressure. How do I adjust to correct readout?

First try using the MODE-SET-PRESSURE-ADJUSTMENT menu to make the necessary adjustment. Here a maximum of $\pm 15 \text{ hPa}$ can be introduced.

However in some units this adjustment is not enough. Here the trick is to introduce an "artificial" Altitude. Go to the menu MODE-SET-ALTITUDE. Now increase the altitude until the barometer pressure readout is correct.

This process is a "trial and error" process until you have reached the correct value. You can get very close to the correct value. The altitude-increment value is 5m and this corresponds to $0,625\text{hPa}$.

So, as an example, if your barometer shows 950hPa - and the altitude is set to 0m - but should readout 1.010hPa you can increase your altitude to approx. 480m . Press "OK" and check the pressure readout. At this point you are still in the "SET" menu so just select "altitude" again and repeat your adjustment until you are satisfied with the pressure readout. After pressing the "OK" finally press "MEM." twice.

What is hecto-Pascal, hPa?

hPa is equal to millibar.

Normal pressure at sea level is $1.013,25 \text{ hPa} = 1.013,25 \text{ millibar} = 760 \text{ mm Hg} = 29.92 \text{ In Hg}$

Pressure alarm in the mountains is less sensitive

I have noticed that when I set my pressure alarm to a 3 hPa change it requires almost a 4 hPa change before it activates.

The alarm is measured from actual changes in pressure and not the (calculated) pressure at sea level. As the pressure in the mountains is lower than at sea level it requires a larger relative change to activate the alarm.

Therefore the alarm is less sensitive in the mountains.

Sometimes my unit freezes to a complete stop

This is a known error in the current version. The History menu seems to be most sensitive to this error.

The error is corrected by switching the unit off and then on again.

We are naturally working to find the cause for this error.

Måløv 9/3-2018

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