

# Operating Instructions AIRCOTEC ACT 5000



## Description of capabilities

### Units:

This instrument can be used internationally. Readings can easily be switched over to show either metres or feet. The QNH display can show readings in either hPa or "inches x 100".

### Altimeter:

The altimeter is set to show the altitude above sea level of the point of departure and then measures up to 8,000 metres above this height. Rate of climb or rate of sink can be measured via the additional momentary altitude reading. There is no need for the pilot to work out the difference in his head; he merely sets the altimeter to 0 while in flight.

### Altitude setting above QNH:

Altitude above QNH can be set if the current barometric pressure is known (in hPa). The setting range is from 950 to 1070 hPa.

### Barometer:

**If the ACT 5000 is to be used as a barometer, its height above sea level must first be set. The next step is to switch the display to QNH and read off the barometric pressure in hPa or inches. Regular observation will enable changes in atmospheric pressure caused by the weather to be spotted as soon as they start.**

### Variometer:

If the temperature monitor is not working, climbing and sinking can be shown both by a pointer and as a figure.

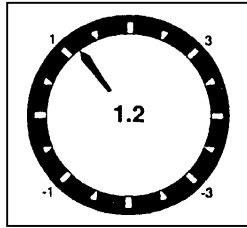
The range displayed covers  $\pm 20$  m/s, for the pointer as well.

As soon as the temperature monitor starts working, the variometer reading will change over to a temperature reading, as can be seen at once because the decimal point disappears.

Each separate indicator can cover a range of up to  $\pm 4$  m/s. An additional sector can cover readings from 5 to 20 m/s.

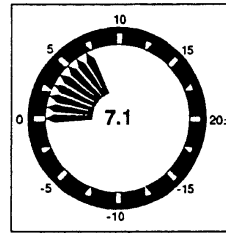
### Pointer mode

0 - 4 m/s



### Sector mode

4 - 20 m/s



### Audible variometer:

An audible warning can be provided either for rate-of-climb or for rate-of-sink.

The point at which the audible warning (CS) is set off can be adjusted.

It is set in the works for a rate-of-climb of +0.1 m/s and for a rate-of-sink of -0.1 m/s.

### Type of audible warning:

Two types of interval can be set for rate-of-climb and rate-of-sink warning:

- intervals with a fixed length of tone and variable gaps
- intervals with the tone and the gaps of equal length and both changing at the same rate.

The audible warning on the ACT 5000 is as urgent as you require it to be.

You have the choice between a quicker or a slower interval setting.

**In the works we set the audible warning at a rapid interval with a fixed length of tone and variable gaps between the tones.**

### Envelope temperature reading:

The fabric temperature is measured from the basket with a highly sensitive pyrometer directed exactly at the top. However, it is important to ensure that the measurement cone does not pass through the burner flame even if this means that the envelope surface being measured is off-set slightly from the top.

This method offers substantial advantages in comparison with others.

Experiments have shown that temperature sensors attached only a few millimetres away from the envelope wall show temperatures 10 to 20°C too high. Using the measurement method described here, the fabric temperature is taken for an area with a diameter equal to one-quarter of the measurement distance. Monitoring is continuous.

There is thus no need for cables to be laid in the envelope, or for authority approval to be obtained as in the case of short-wave transmission. Fitting the device never takes longer than one minute.

### Temperature alarm settings:

The audible warning of the ACT 5000 temperature alarm can be set at three different levels.

The first is the „early warning“.

This is the only stage at which the alarm tone can be switched off with the Enter key (Button 1).

**Stop watch:**

On conventional instruments the stop-watch has to be started manually.

The ACT 5000 is different! The stop-watch is started automatically as soon as the instrument is in monitoring mode.

The reading is not visible in the display during the flight. If several minutes elapse, the ACT 5000 can simply be switched off and on again. The time which has already elapsed is then not registered.

The duration of the flight is measured by switching the instrument Off when the balloon lands, or by selecting the flight recorder. Only those flights which include a change of altitude of at least 50 metres are filed in the flight recorder. The duration of individual flights is measured in hours and minutes, and total flying time in hours.

**Flight duration and temperature recorder:**

The duration of flights and the highest temperature reached by the envelope during the 20 most recent flights are stored in the memory, so that they can be checked again later.

The number of flights and their total duration in hours can also be called up.

**Battery:**

The ACT 5000 works with a 9-volt battery. Battery voltage is shown every time it is switched on. This is in the interests of your safety; if the voltage drops below 8 volts, the battery should be replaced before the next flight. The battery symbol which appears on the left-hand side of the altimeter will also remind you during the flight. Power consumption is about 10mA, which means that the ACT 5000 can work for more than 50 hours on one good alkali battery.

**Caution!**

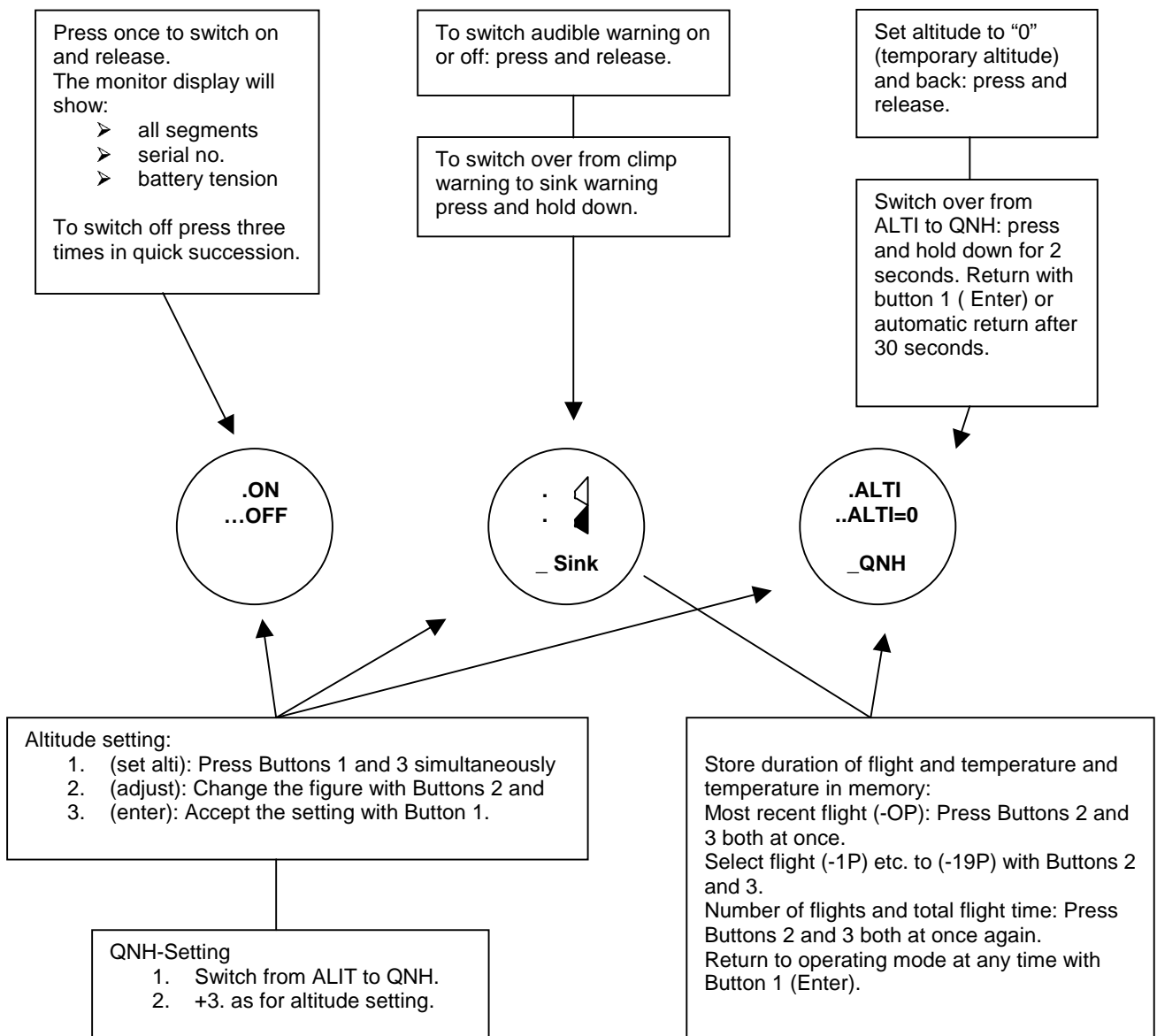
Duracell batteries should not be used because they are slightly too short and therefore do not exert enough contact pressure.

We recommend Japanese batteries or those from Varta or Philips.

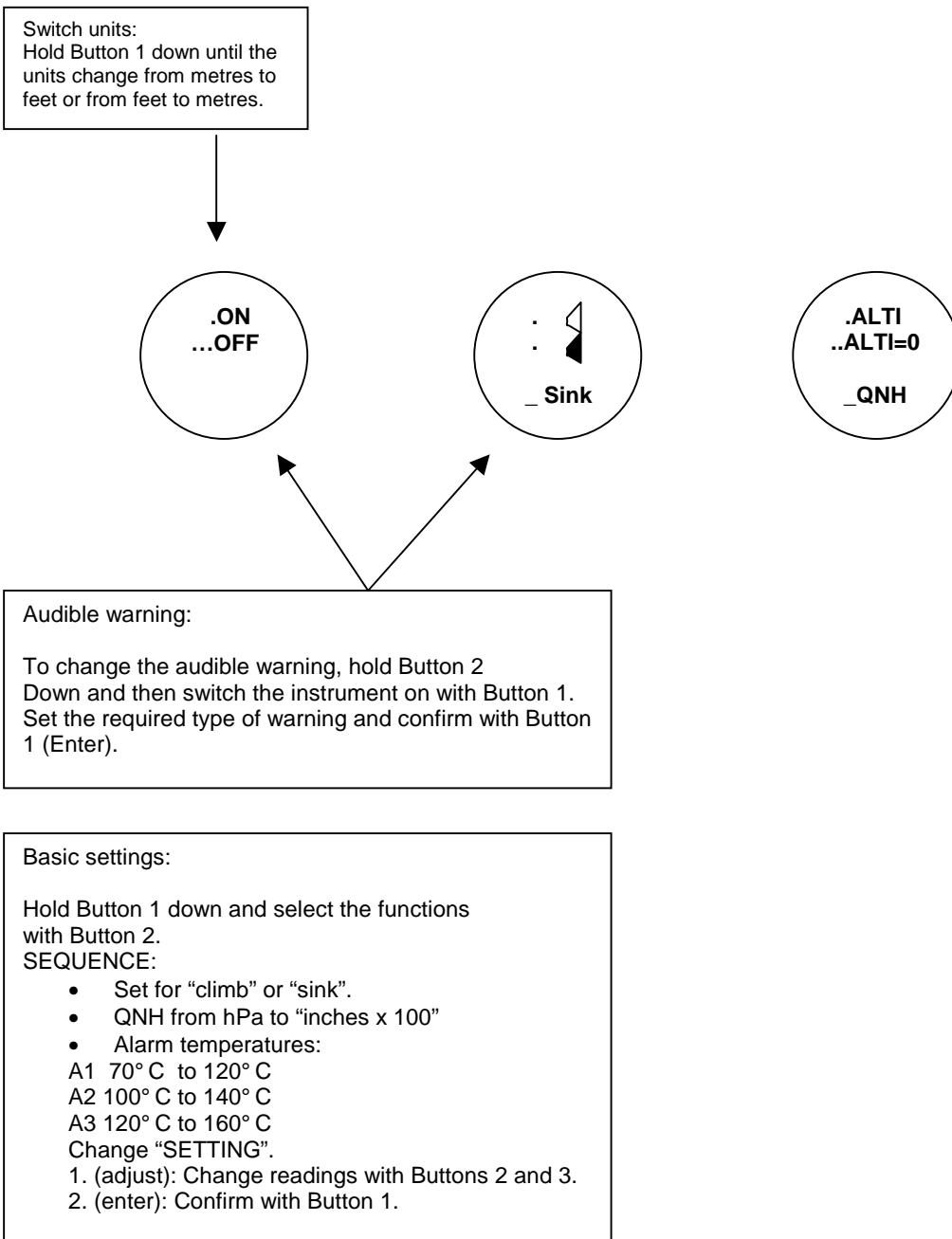
## Summary of operating instructions

**Caution! – Make absolutely sure you keep to this sequence:**

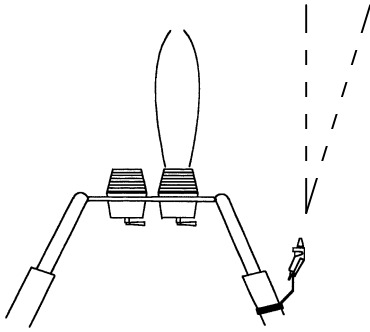
1. Altimeter and pyrometer must be switched off.
2. Fasten the instrument in position and connect the terminals.
3. Switch the altimeter on and wait for the monitor display.
4. Switch the temperature sensor (pyrometer) on.
  - Press and release
  - Press and hold down.



## BASIC SETTINGS:



### Fitting instructions:



### Measurement sensor for ACT 5000 18000

Fit the sensor, using the mounting provided, to the stiffener on the side of the basket facing away from the flame. The measuring tip must be directed upwards so that it goes past the flame. It is simple to find the best mounting angle by „trial and error“.

The indicator instrument should be mounted on the opposite side to the direction of travel, to prevent its being damaged on landing.

### Caution:

The wedge of air through which the measurement is made must not be crossed by wires, mechanical parts, or the flame.

Any sudden, major change in temperature in the area being measured can result in a „re-set“.  
The instrument will then restart automatically after about 10 seconds.

### GENERAL DATA:

#### Power supply

- 9 V battery
- approx. 10 mA power consumption
- automatic switch-off after two hours

#### Dimensions and weight

- 105 x 81 x 37 mm
- 195 grams with battery.

You found all News, Instruments, Accessories, Manuals and Software on our Website: [www.aircotec.ch](http://www.aircotec.ch)