



### Measurement 9: IAQ: VOCOOsx

Position the sensor in the room so (at a free area; do not cover the sensor) that changes in the gas concentration can be measured.



### Measurement 10: Globe Temperature

The globe thermometer represents the human body and therefore should be positioned at the work place accordingly.

Depending on the ambient temperature, the globe should be positioned for about 20 to 30 minutes. When the measurement value has stopped changing, the measurement value can be accepted.

The mean radiant temperature will be ascertained through integrating both the air temperature and air velocity measurements.



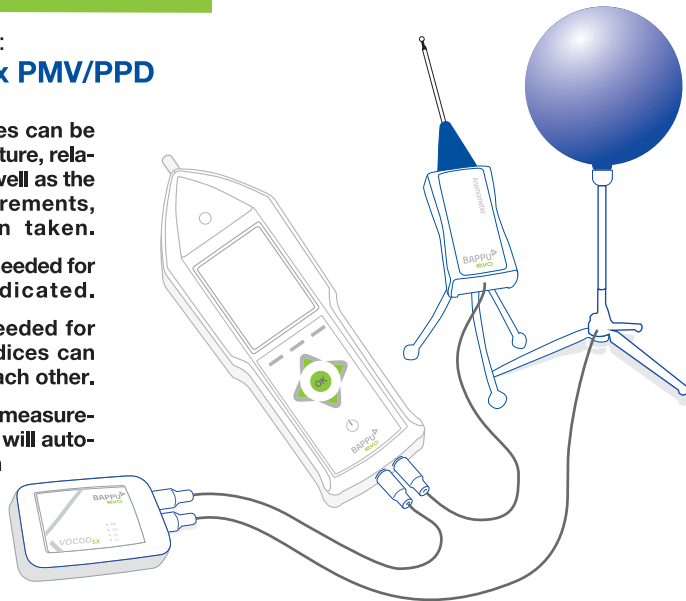
### Measurement 11: Climate index PMV/PPD

The PMV/PPD climate indices can be calculated using the temperature, relative humidity, air velocity as well as the globe temperature measurements, which have already been taken.

Any missing measurements needed for this calculation are indicated.

All of the measurements needed for ascertaining the climate indices can be recorded regardless of each other.

As soon as all of the needed measurements are complete, BAPPU will automatically calculate the mean radiant temperature and the climate index.



BAPPU-evo pictured here with all external measurement components

## Quick Start

### Key functions

BAPPU-evo can be switched on by briefly pressing the button. To switch off the BAPPU-evo hold down the button for two seconds.

When in operation, the display can be switched on or off by pressing the button.

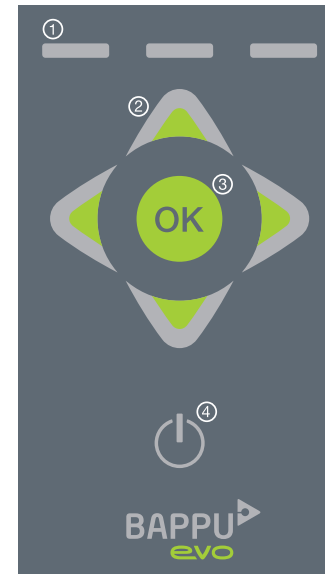
All functions can be operated alternatively by using the keyboard or the touch screen.

The button is used for navigating the cursor.

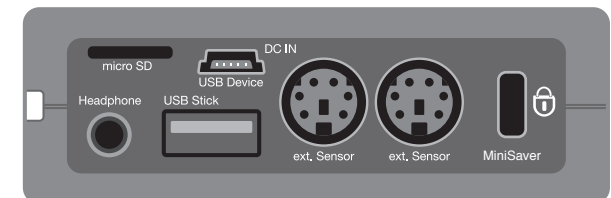
A selection can be made using the button. Additional functions of the navigation buttons can be found in the help bar at the top of the screen.

Pressing the button for a longer time will return you to the main menu.

Directly beneath the display are the function buttons, **F1, F2, F3**, which can be used dependently from the display to perform additional functions.



- ① Function buttons
- ② Navigation buttons
- ③ Confirm the selection/measurement
- ④ On and off button with status indicator



### Connections from version 4000/11

**USB device:** connector for the power supply or PC (for data transfer)

**USB flash drive:** for updates and copy functions

**Ext. Sensor:** VOCOOsx, Globe Thermometer, Anemometer

**MiniSaver:** Kensington compatible



### Measurement 1: Temperature

Detach the cable from the rear side of the device and, at a height of 80cm within the seating area, make the cable spin around in a circle.

Confirm by pressing the **OK** button.

The same procedure is necessary when carrying out the humidity measurement.

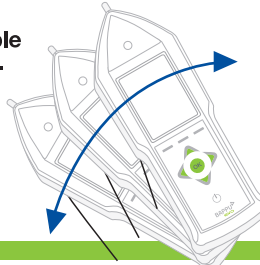


### Measurement 2: Relative humidity

Move the BAPPU in an up and down motion in order for the sensor in the acrylic cover to be well aired when measuring the seating area of the work place.

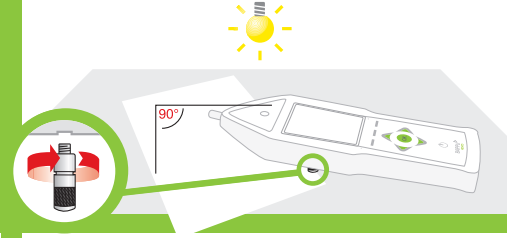
The temperature measurement cable must freely swing.

Confirm the measurement by pressing **OK**.



### Measurement 5: Illuminance

Either hold the illuminance sensor horizontally at the height of the work place or position it on the writing desk using the table-mounting pin. **Make sure the sensor is not in the shadow of the person carrying out the measurement.**

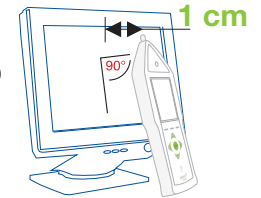


### Measurement 6: Max. Screen Brightness

Set the monitor to white. Set the monitor to maximum brightness and maximum contrast.

Carry out the measurement from a distance of about 1 cm and at a right angle to the screen.

Try to avoid any ambient light (darken the room)



### Measurement 3.1 / 3.2: Current air velocity

The optional Anemometer module must be connected to BAPPU.

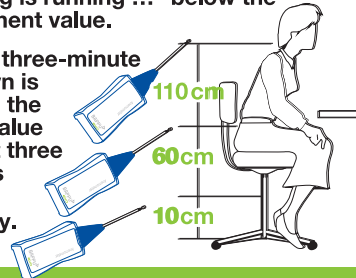
When possible place the Anemometer at an angle of 45° in the air stream. The air velocity and the temperature of the air stream are indicated on the display.



### Average air velocity (3 min.) at different heights

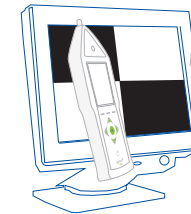
When the measurement commences, the internal stopwatch will start the three-minute countdown. The display will indicate: "Averaging is running ..." below the measurement value.

When the three-minute countdown is complete, the average value of the last three minutes is refreshed continually.



### Measurement 7.1 / 7.2: Luminance contrast B/W

Set the monitor screen to black. Measure the black screen in accordance with the line of sight of the employee who sits at the work place. The reflections under normal lighting conditions have to be captured, too!



Set the monitor screen to white and carry out the measurement as has already been described.

The ratio of the measured values is displayed in the screen.



### Measurement 4: Noise level

Take the measurement from the workplace (this should be done at ear height of the employee) into the middle of the room in order to record the noise level of the whole environment.

The current noise and simultaneous the average value of the last minute is shown.

During the noise level measurement additional functions can be called up:

Pressing **▲** takes you to the calibration and adjustment functions by means of the sound calibrator (optional)

Pressing **▼** takes you to the noise level average that was recorded at freely definable time intervals.



### Measurement 8.1 / 8.2: Luminance contrast of the monitor / area around the monitor

Call up a commonly used program on the monitor screen and carry out the measurement at a distance of roughly 1 cm. Do not shade the monitor screen in order to be able to measure reflections during normal lighting conditions.



Carry out a measurement of the area around the monitor where the eye would normally have to adjust to (such as paper documents or a window).

The ratio of the measured values is displayed in the screen.

