SHORT INSTRUCTION MANUAL

Congratulations on your purchase of the new portable humidity, temperature and CO₂ instrument. Please read these short instructions carefully before installing the device.

General description

The pSENSE II is an accurate hand-held datalogger that displays & records relative humidity, temperature, CO₂ and calculated parameters such as dew point and wet bulb. These short instructions are limited to a description of the main functions and installation of the device. The detailed instruction manual can be found on the Internet at www.senseair.se

Programming

Most of the settings, such as memory clear, CO₂ alarm, units(°C/°F), sampling rate, pressure compensation and real time clock can be changed using the function keys.

Power Supply

The pSENSE II uses four AA re-chargable batteries as power source. To insert (replace) the batteries, use the screwdriver enclosed to loose two screws and put in the batteries in correct polarity with good contact.

Please charge the batteries for eight hours on first time use. To charge the batteries, power off the meter and plug in the USBDC adapter enclosed. Wait until "End" appears on LCD to indicate the charging process is completed (approximately four hours).

Connection to PC or Laptop

Connect the pSENSE II via mini USB cable to a PC or Laptop. Recorded data can be easily downloaded with the software enclosed.

Functions Key

- Press to turn on or turn off the instrument
- In normal mode, press longer to enter setup mode
- Press with HOLD key to disable sleep mode

HOLD/UP
- Freezes the current readings
- Cancels data hold function
- Selects unit or increases value in setup

START/ESC
- Start automatic logging mode
- Exits setup/recall/logging

MODE/RECALL
- Press to switch displayed parameter
- Press longer to enter memory recall

MEM/DOWN
- Press to manually record the reading
- Selects unit or decreases value in setup

MIN/MAX/AVG/ENTER
- Activates MIN, MAX, AVG function
- Saves and finishes settings

ON/OFF/SETUP

Display

Upper LCD: Humidity/°C/°F/°C/°F
Lower LCD: Real time clock display
- CO₂: Carbon dioxide reading
- HOLD: Readings are hold unchanged
- MIN/MAX: Minimum/Maximum readings
- AVG: Average reading
- DP: Dew point temperature
- TEMP: Temperature
- %rh: Unit of relative humidity
- °C/°F: Celsius/Fahrenheit temperature
- CAL: In calibration status
- RECALL: In manual/automatic logging status

Operation

POWER ON/CHECK

Press to turn the meter on. At power up, it emits a short beep and performs a 2 sec. countdown (Fig.1) for meter warm up, then enters normal mode with real time clock displayed (Fig.2). Date and time are displayed in turns.

To power off, press again to turn off the meter.

DATE/TIME SETUP

When meter is powered on, press for more than two seconds until entering meter setup mode. Press or key to select the program P80 (rtc) and press key to enter.

First, choose the time format as 12hour or 24hour by pressing or and then press to confirm. Second, choose the date format as Mon-DAY-Year or Day-MONTH-Year by pressing or and then, press to confirm. Now, to input the real time clock value from year, month, day, hour, minute to second. Press or to select and then press to confirm. Press to return to normal.

UNIT SETUP

When meter is powered on, press for more than two seconds until entering meter setup mode. Press or key to select the program P50 (unit) and press key to enter.

Press or to select °C or °F and then press to confirm. Press to return to normal.

TAKING MEASUREMENT

The meter starts measurement when power on and update readings every second.

In the condition of operating environment change, it takes 30 seconds to respond for CO₂ sensor.

NOTE: Do not hold the meter close to faces in case exhalation affects CO₂.

HUMIDITY

Press to switch to humidity display (Fig.3). The lower display shows the real time clock.

TEMP, DP, WBT

Press to switch to temperatures display (Fig.4,5,6). The lower display shows the real time clock.

CO₂ (CARBON DIOXIDE)

Press to switch the mode to CO₂. User can get the CO₂ reading in ppm unit on main display (Fig.7). The lower display shows the real time clock.

TAKING MEASUREMENT

In normal display mode, press to freeze the readings, "HOLD" icon is flashed on the left top of LCD (Fig.8). All current readings are kept unchanged.

Press again to cancel the hold function.

NOTE: The hold function is disabled in MIN/MAX/AVG mode.

DISPLAY BACKLIGHT

The backlight will be activated for 10 seconds by pressing any key.

MIN/MAX/AVG REVIEW

This meter allows you to check the minimum, maximum, average and the current value from the moment you press the key. Under normal mode, each press of displays the MIN, the MAX, the AVG and the current value in sequence (Fig.9-11). To return to normal mode, press to escape (Fig.12).

In the MIN/MAX/AVG mode, it shows the corresponding readings on main display and the accumulated time of this mode. The maximum time interval for this function is 18h.

Press to switch the displayed parameters (Fig.13).

Distinguish the normal display and current review by checking the time display format. In normal display, date & time are displayed in turns. In current review, the lower display is the accumulated time of how long you have been in MIN/MAX/AVG mode.

NOTE: "HOLD" & "MANUALLY RECORD" & "RECALL" functions are disabled in MIN/MAX/AVG mode.

ALARM

The meter features audible alarm to give warnings when CO₂ concentration exceeds the limit. (See "Meter Setup" section for setting alarm threshold). It emits beeps (about 80dB) when CO₂ level goes over the set value and stops only when the readings fall below the set value. It beeps again when value goes over the limit.
**AUTO POWER OFF**

The meter turns off automatically after 20 minutes of inactivity. To override the function, first, the meter is in power off status. Hold down or for two seconds to turn on the meter until “n” appears (Fig.14).

**NOTE:**
Auto sleep function will be disabled during calibration & auto recording mode. Auto sleep function WILL NOT be disabled automatically via using adaptor.

**MANUAL RECORDING**

The meter features a 99 point memory. In the normal or hold mode, press key to start recording. The icon and the main display will be flashed three times. The memory sequential number will show on the main display with 99 points in maximum. The data in the memory contains all parameters information and not only the displayed parameter. When all 99 points memory are occupied, a “FULL” message will be displayed on the screen. If you think the reading is changing too fast, you can press key to freeze current reading first then manually record the data. This recording function will be disabled in the MIN/MAX/AVG mode.

**MEMORY RECALL**

In normal or hold mode, press key for more than two seconds until the icon flashes. Press or to scroll the memories. The memory sequential number displays on main LCD first and reading comes after (Fig.16 &17). Press key to switch the display parameter (Fig.18). The time displayed in memory recall mode is the recording time of this entry.

**DATA LOGGING**

The meter can automatically record HUMIDITY/TEMP/CO2 for long term environment monitoring. The memory capacity is 6000 points for each parameter. Users can set up sampling rate from one second to 4 hours, 59 minutes and 59 seconds. The factory preset rate is 30 second.

To setup the sampling rate, when meter is powered on, hold down for more than two seconds until entering meter setup mode. Press or key to select the program P60 (RATE) and press key to enter.

Press or to select the sample rate from hour, minute to second and then press to confirm. Press to return to normal.

After sampling rate is selected, press for two seconds under normal mode to start logging. The icon flashes to indicate the logging status and LCD main display shows the real time value. Lower displays are real time clock (Fig.19).

Repeat above to start another run of logging. While the logging space is full, it shows “FULL”. To terminate data logging, press key to start recording.

Press key to switch to the mode you want to see. Except the -icon shows the real time value. Lower displays are real time clock (Fig.19).

**Meter Setup**

When meter is powered on, hold down for more than two seconds until entering meter setup mode. To exit setup, press or to return to normal mode.

Press or key to select the program and press key to select. The programmable setting flashes on display, press or key to select and press key to confirm. To leave without saving, press key to return.

### Technical Data

- **Humidity/accuracy:** 0 to 99.9% ±3.0% (10~95%@25 °C), ±5% (other)
- **Temperature/accuracy:** -20 to 60°C ±0.3°C @5~40°C
- **CO2/accuracy:** 0 to 9999ppm ±30ppm+5% of reading, @0~5000ppm
- **Storage and transit:** -20 to 60°C/10 to 90%rh, non-condensing.
- **Operating limit for CO2:** 0 to 50°C, non-condensing / Electronics: -20 to 60°C
- **Memory:** 99 manual records, 18000 data logging records.
- **Dimensions (LxWxH):** 234x77x42 [mm]
- **Weight:** 200g
- **Battery type:** Four pcs AA re-chargeable batteries
- **DC power type:** 9VDC, 500mA (Standard accessory).
- **PC connection:** mini USB port

### Optional Accessory

- **Art.No:**
- **CO2 CALIBRATOR:** 00-0-0022 Zero Calibration Kit

### Trouble Shooting

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<th>Messages</th>
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<td>CO2 sensor is out of order</td>
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<td>E11</td>
<td>RH calibration error</td>
<td>Solve the original data error</td>
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<td>Temp. sensor or AD damaged</td>
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### Battery low indicator

A battery low icon “ displays when the supplied power is too low to maintain a functional operation. Please plug in the 9VDC adaptor enclosed to charge the batteries. While charging the batteries, you still can power on the device and operate as usual.

### Humidity Calibration

This meter can be calibrated either via 35% & 80% salt bottle or humidity generator. The ambient condition is recommended as stable 25°C. While the meter is powered off, plug the sensor probe into 35% salt. Press or simultaneously for three seconds to turn on the meter and enter calibration mode. Press or to select 35.0% calibration and press to start. “CAL” and calibrating value are blinking on the LCD.

**CAUTION:**
Do not calibrate the humidity without the default calibration salt. Otherwise, it will cause permanent damage. Contact SenseAir for calibration salt or services.

Single point calibration will cause error code E11 or non-accurate reading. Always do dual point calibration to complete a process. Suggest to calibrate humidity first.

### CO2 Calibration

The sensor has an automatic calibration function to secure long-term accuracy. If a calibration is desired anyway, press or simultaneously for three seconds to turn on the meter and enter calibration mode. Press or key to select 400ppm CO2 calibration (Outside Air calibration). Press or to start and see “CAL” and CO2 value blinking on LCD. Wait about 10 minutes until the blinking stops and the calibration is completed and back to normal mode. When choosing 0ppm CO2 calibration, remove the cap from meter rear side and plug the CO2 CALIBRATOR pipe into the sensor hole beneath. Wait about 10 min until the blinking stops and the calibration is completed and back to normal mode.

**CAUTION:**
Do not calibrate the meter in the air with unknown CO2 concentration. Otherwise, it leads to inaccurate measurements.

Ensure the batteries are fully charged during the calibration to prevent interruption or failed calibration. When the accuracy becomes a concern after long time usage, return to dealers for standard calibration.

### Error Messages and Solution

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### Note:

- Factory preset at 12H & dd-mm-year format.
- Always do dual point calibration to complete a process. Suggest to calibrate humidity first.
- DO not calibrate the meter in the air with unknown CO2 concentration. Otherwise, it leads to inaccurate measurements.
- Ensure the batteries are fully charged during the calibration to prevent interruption or failed calibration. When the accuracy becomes a concern after long time usage, return to dealers for standard calibration.