The Model AQH-20 Indoor Air Quality Meter reduces the number of instruments a contractor has to carry by measuring the carbon dioxide concentration, air temperature, and humidity in one device. A large backlit LCD display shows all three parameters simultaneously. The Model AQH-20 can display dew point, or wet bulb temperatures in place of the ambient temperature. Minimum, maximum, and average readings are easily accessible through the function buttons. By pressing the hold key, the current values are held so that they can be recorded. An audible alarm warns the user that the current ambient conditions are becoming hazardous. The Model AQH-20 includes a hard carrying case and four AA alkaline batteries.

OPERATING INSTRUCTIONS
Taking Measurements
Press the button to turn the meter on. The meter takes 30 seconds to warm up before displaying the current reading.

CO₂ measurement is shown in top display
Air temperature, dew point, or wet bulb temperature is shown in lower left display
Humidity measurement is shown in lower right display

When Model AQH-20 experiences a large variation in environment, the meter may take 30 seconds to respond.

Press the button for at least one second, to activate backlight. Do the same to turn off the backlight.

SPECIFICATIONS
Measurement Ranges:
CO₂: 0 to 2000 ppm.
Temperature: 14 to 140°F (-10 to 60°C).
Relative Humidity: 0.0 to 99.9% RH.

Accuracy:
CO₂: ±30 ppm ±5% of reading;
Temperature: ±0.9°F (±0.6°C);
Humidity: ±3% RH (10 to 90%), ±5% (0.0 to 9.9% or 90 to 99.9%).

Resolution:
CO₂: 1 ppm;
Temperature: 0.1°F (0.1°C);
Humidity: 0.1% RH.

Response Time:
CO₂: < 30 seconds;
Temperature: < 2 minutes;
Humidity: <10 minutes.

Display: Four digits for temperature/CO₂ and 3 digits for humidity.
CO₂ Sensor: Non-dispersive infrared.
Operating Temperature: 32 to 122°F (0 to 50°C).
Operating Humidity (Non-Condensing): 0 to 95% RH.
Power Requirements: (4) 1.5 V AA alkaline batteries, included, user replaceable.
Warm Up Time: 30 seconds.
Weight: 6.76 oz (200 g).
Agency Approval: CE.

Selection of Temperature Parameter
The Model AQH-20 can display ambient air temperature, dew point temperature, or the wet bulb temperature. Press the button to cycle between air temperature, dew point temperature, and wet bulb temperature. The temperature and measurement type will be displayed in the lower left corner of the display.

Changing the CO₂ Alarm Set Point
Hold down for more than one second during normal mode.

When “Al” and “P1.0” are displayed on the LCD, press the button to enter alarm setup mode.

The current alarm value will be blinking on the LCD. “Al” and “P1.0” will be displayed on the bottom displays. Press the button to increase the value and press the button to decrease the value.
When desired value is reached, press the `M /AV` button to save the value and return to the main menu or press `CAL` button to return to main menu without saving the changes.

If the alarm sounds, simply press any key (but power key) to silence the alarm.

**Changing Engineering Units**

Hold down `1` for more than one second during normal mode to reach the main menu.

Press the `▲` or the `▼` to toggle between alarm setup and unit setup.

When “Units” and “P3.0” are displayed on the LCD, press the `M /AV` button to enter engineering unit setup.

The current temperature unit will be blinking on the lower left of the display. Press the `▲` or the `▼` to toggle between Celsius and Fahrenheit.

When desired unit is set, press the `M /AV` button to save and return to the main menu or press `Esc` button to return to the main menu without saving the changes.

**Holding the Current Value**

Press and release the `HOLD` to freeze the primary temperature display. “HOLD” will appear at the top left of the screen.

In order to return to normal operation, press the `HOLD` button again and the “HOLD” icon disappears from the display.

**Max, Min, and Average Data Functions**

Press the `M /AV` button to cycle through the MIN, MAX, STEL, and TWA functions.

To exit, cycle through until none of the four mentioned functions appear on the screen.

MIN and MAX readings show the minimum and maximum CO₂ readings on the main display, respectively. STEL and TWA readings show the weighted average of the CO₂ readings on the main display. STEL uses all the CO₂ readings from the past 15 minutes to calculate the average. TWA uses all the readings from the past 8 hours to calculate the average. The current temperature and humidity continues to be displayed at the bottom of the LCD.

**CO₂ Calibration**

The CO₂ sensor should be calibrated in fresh outdoor air that is well ventilated and in good weather conditions. Do not calibrate in areas with high CO₂ concentrations such as crowded areas.

Procedure:
1. Place meter in the calibration site.
2. Turn the unit on and hold down `1` and `2` simultaneously to enter CO₂ calibration mode.
3. “400ppm” and “CAL” should be blinking on the display.
4. Wait 10 minutes until the blinking stops and the unit returns to normal mode.

To abort the calibration, turn the meter off at any time.

**RH Calibration**

**NOTICE** The RH calibration should be done at 25°C and humidity close to the calibration salt being used (must at least be stable).

The RH must be calibrated with the default calibration salt. If not done properly and with the correct salts, it will cause permanent damage.

33% Calibration Procedure:
1. Plug sensor probe into 33% salt bottle.
2. Hold down `1` and `2` under normal mode to enter 33% calibration.
3. “CAL” and the calibrating value should be blinking on the LCD with current temperature displayed but not blinking.
4. Wait about 60 minutes until “CAL” and the calibrating value stop blinking.

75% Calibration Procedure:
1. After 33% calibration, plug the sensor probe into 75% salt bottle.
2. Press the `M /AV` button to enter 75% calibration mode.
3. “CAL” and the calibrating value should be blinking on the LCD with current temperature displayed but not blinking.
4. Wait about 60 minutes until “CAL” and the calibrating value stop blinking and the meter returns to normal mode.

Users can also calibrate either calibration point individually. For the 33% calibration point, press the `M /AV` once the 33% calibration is complete. For the 75% calibration point, press the `M /AV` or `N` within the first five minutes while initializing the 33% calibration.

**MAINTENANCE**

A periodic check of the system calibration is recommended. Model AQH-20 is not field serviceable and should be returned if repair is needed (field repair should not be attempted and may void warranty). Be sure to include a brief description of the problem plus any relevant application notes. Contact customer service to receive a return goods authorization number before shipping.