# Cirrus Pro Locator Operating Manual

**ProSeries detectors can tell you which room,
but only the ProLocator can tell you where in the room.**

## 1.0 General Safety Rules

⚠ **CAUTION: Carefully read through this entire manual before using your new Cirrus Pro Locator.**

⚠ **Personal Safety: Stay alert, watch what you are doing and use common sense when operating the fire detector.**

⚠ **Do not operate the unit in areas with heavy smoke concentrations.**

⚠ **Do not operate the unit while standing in water.**

⚠ **Servicing must be performed only by Protec Fire Detection plc.**

⚠ **Charge the battery only with the specified charger for the battery.**

⚠ **Do not overreach when operating the Pro Locator's handheld probe.**

⚠ **Keep correct footing and balance.**

⚠ **Use only accessories that are recommended by the manufacturer.**

⚠ **Do not enter or sample in an area if either flames or smoke are present.**

## 2.0 Cirrus Pro Locator

The Cirrus Pro Locator is the next generation of portable air sampling detector. Belonging to the Pro Series family, the Fire detector uses *Cloud Chamber Detection* technology for very early warning fire detection. The unit can identify the source and take you within one foot of an invisible and odourless fire in a 20,000 sq. ft room. The fire locator features adjustable sensitivity levels that can guide you in the right direction. Because it uses *Cloud Chamber Detection* you don't have to worry about the device giving you false information; it is immune to dust, heat, cold, humidity and other factors that could deter it from leading you to the right location.

**1 – Power Switch & Power LED**

**2 – Charging/Fault LEDs**

**3 – LCD Display**

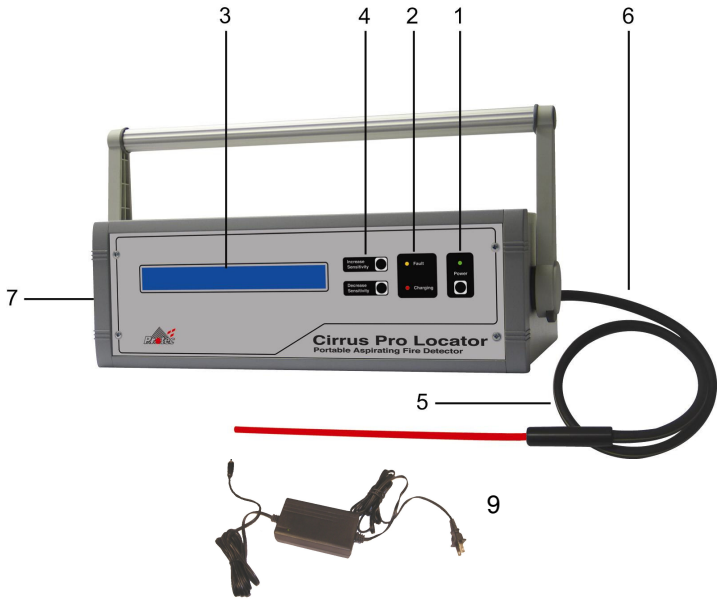
**4 – Sensitivity Adjustment Buttons**

**5 – Handheld Sampling Probe**

**6 – Pipe Inlet/Pipe Guard-Side Mount**

**7 – DC Charger**

**8 – Battery Charger (Included)**



## 3.0 Setting up Your Cirrus Pro Locator

1. Remove cover plate by removing the 5 screws. (Fig. 1)

2. Remove the internal water bottle and fill with The distilled water supplied. Refit water bottle. (Fig. 2)

3. Connect the positive battery lead to the positive terminal on the batteries. (Fig. 3)

4. Replace Cover.

5. Connect the sampling hose to the pipe inlet (See Section 2.0, Item Number 7).

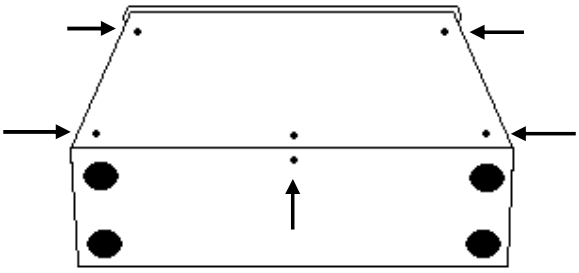


**Fig. 1**

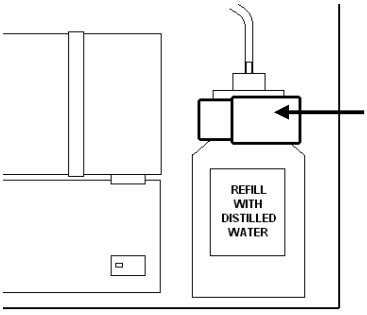



**Fig. 2**

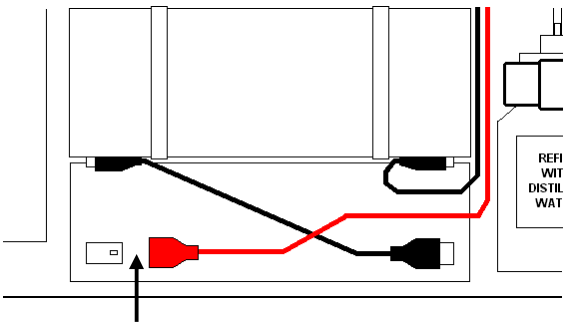


**Fig. 3**

*Charging the Cirrus PRO Locator*

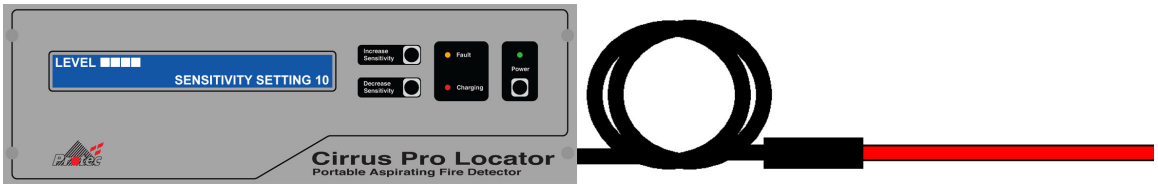
- The unit may be left on while charging (however, charge time will increase).
- This unit may not have been shipped in a full charge condition. Fully charge the internal batteries prior to initial use.
- Connect battery charger to Pro Locator on the side panel, then connect battery charger to an AC wall outlet. Full charge should be attained after a 2 Hour charge period, after which the unit should be disconnected.
- NOTE: Acceptable voltage range is 100V – 240V AC 50/60Hz.
- Only use approved charger.

*Preparing your Cirrus PRO Locator*

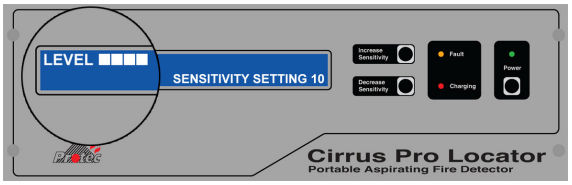
- Press the Power Button to turn unit on.
- The power light will illuminate green.
- The unit will initialise, if the FAULT LIGHT does not illuminate, the Pro Locator is ready for use.
- If the FAULT LIGHT illuminates and remains illuminated for more than two minutes, or no text is displayed on the LCD display, contact technical assistance at Protec Fire Detection plc (01282) 717171

## 4.0 How to use the Cirrus Pro Locator

ProSeries detectors can tell you which room, but only the Pro Locator can tell you where in the room. The sampling probe may be used for sampling above drop ceilings, in equipment cabinets or in hard to reach places. Operating the procedures are outlined in the steps below.



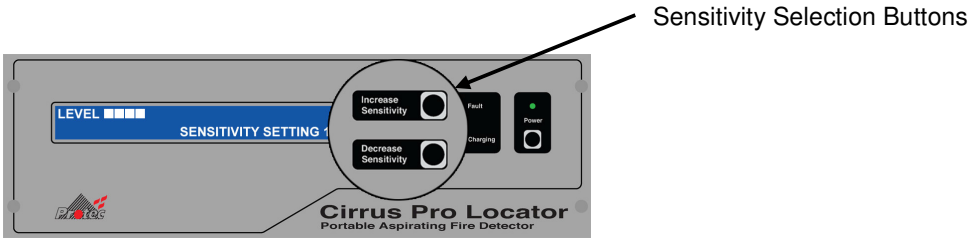

To help you locate a fire threat, the Pro Locator uses the percentage bar graph on the display and four audible indicator tone speeds in conjunction with 10 selectable sensitivity settings. As you get closer to the fire threat, the percentage will increase and the audible indicator will begin to beep faster..




**Four Audible Tones**

Slow, Medium, Fast, and Very Fast

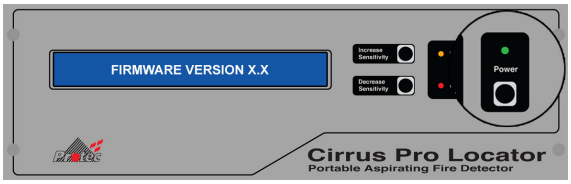
The highest sensitivity setting of 10 is used when beginning to sample in an area, down to a sensitivity setting of 1, the least sensitive to help localize the fire threat. The 10 selectable sensitivity settings allow you to get closer to the fire threat by pressing the “Increase Sensitivity” or “Decrease Sensitivity” buttons as necessary.



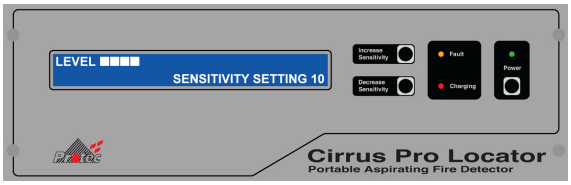
## 5.0 Operating Procedure

1. Turn the Pro Locator ON using the power button.

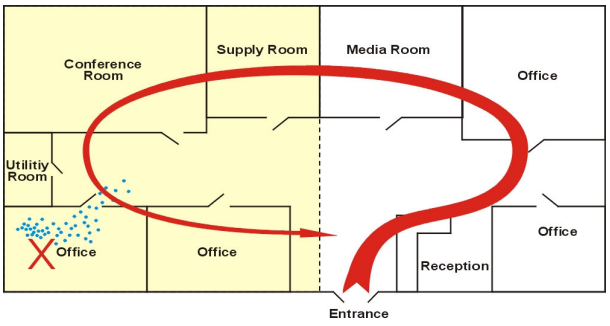
   **NOTE:**
   **Be sure to always keep the unit in an upright position during storage and operation.**



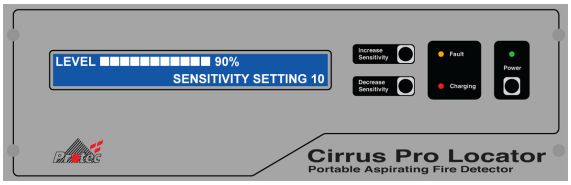

2. The Pro Locator will then perform a short calibration and automatically be set to the highest sensitivity setting, 10. Now you can begin sampling the area.




3. When entering the hazard, slowly sample the area to determine which half of the area has a greater concentration of combustion.

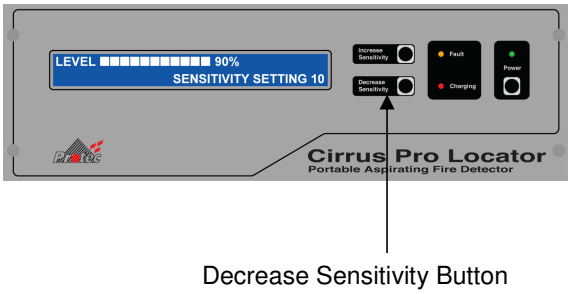



4. While slowly walking through the area, watch bar graph level and audible indicator will increase or decrease according to how close you are to the fire threat.

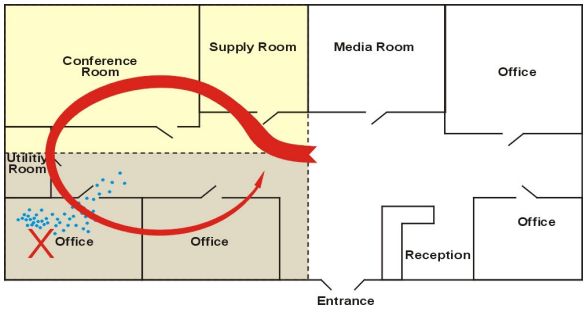



5. If the percentage level has risen above 90% at fire level 4 stop and press the “Decrease Sensitivity” button to lower the sensitivity to 9. A ten second recalibration will take place, the percentage value may reduce and the tone will be silenced or slowed.

   **NOTE:**
   **It may be necessary to decrease the sensitivity more than one setting to decrease the levels enough to search further for the fire threat.**

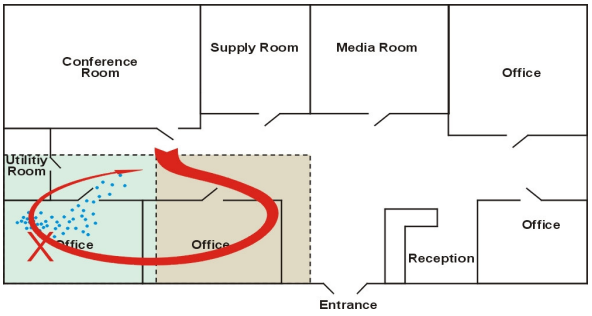


6. Slowly sample the half of the area, which had a higher reactivity on the initial sampling, then divide it in half again. If percentage level is above 90% at fire level 4, stop, press the “Decrease Sensitivity” button to lower the sensitivity and then continue.

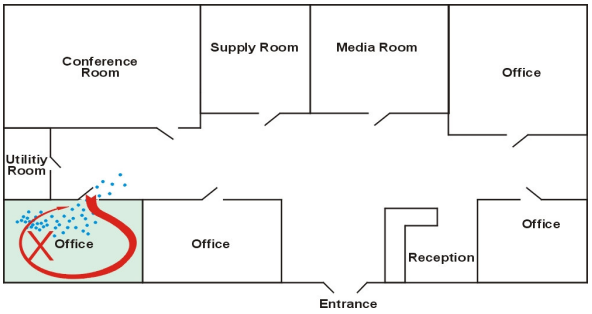



**NOTE:**
**It may be necessary to decrease the sensitivity more than one setting to decrease the levels enough to search further for the fire threat.**

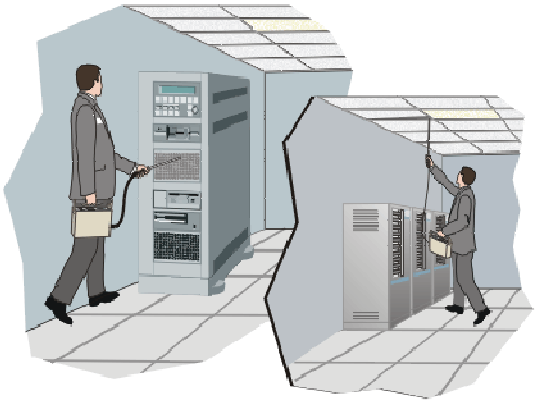
7. Slowly continue with this divide and sample approach until you isolate the area down to a single room.




8. When sampling in smaller areas, there will be a higher concentration of combustion. You may need to greatly decrease the sensitivity, perhaps several settings, before the percentage level and audible tones are reset.

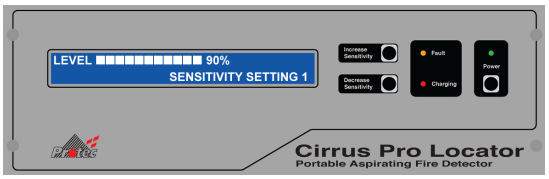



9. Once you have determined in which room the fire threat is occurring, use the probe to sample above drop ceilings, in equipment cabinets, return air ducts, and other hard to reach areas. All equipment in the area must be thoroughly examined including outlets, power strips, light fixtures and switches.



**NOTE:**
**Keep probe away from machinery or equipment with moving parts or high voltage.**

10. When you have reached Sensitivity Level 1 and the percentage level is above 90% at fire level 4. You will be as close to the fire threat as the Pro Locator can take you.




## 5.1 After Localizing the Fire Threat

- Do not enter the area if there is smoke or flames.
- If you see smoke or flames, make sure everyone leaves the area and call the fire department.
- Be sure only trained personnel who are prepared for the situation react.
- Do not attempt to resolve the problem yourself without the appropriate personnel present.
- Contact the appropriate personnel prior to powering down any equipment to prevent loss of data or business interruption.
- Keep a fire extinguisher near the area in question in the event of a fire.
- Never leave the area in question unattended.

**Never leave the area in question unattended.**

## 6.0 Testing and Demonstrating the Pro Locator

The Pro Locator can be easily tested, and demonstrated for training, by using the steps outlined below. To perform a test or demonstration, a combustion source such as a heat gun and bundle of wire works well, is easily done, and is safer than using an open flame. Simply apply heat to the bundle of wire to simulate the overheating condition of a fire threat.

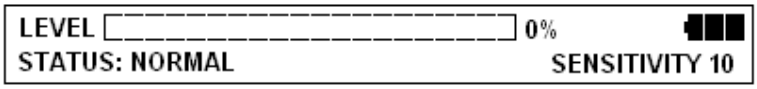
1. Be sure you fully understand How to Use the Pro Locator (Section 4.0) and the Operating Procedures (Section 5.0) prior to any testing or demonstrations.
2. Select a room in an area to be used for the location of the fire threat.
3. Have personnel overheat the bundle of wire with the heat gun. To prevent damage or the possibility of a fire, NEVER leave the overheating source unattended.
4. Follow the steps outlined in section 5.0 to locate the fire threat.

**CAUTION:**
Please use caution when overheating or igniting materials for any testing and have a fire extinguisher on hand. Always use every safety procedure. Be sure suppression systems have been deactivated prior to any testing and all safety precautions have been taken. Inform personnel and alarm company prior to any testing. After completing testing, be sure to notify personnel and alarm company, reactivate suppression systems, and bring all

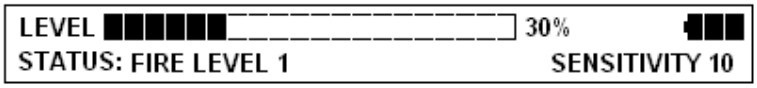
# 7.0 LCD MONITORING AND CONTROL

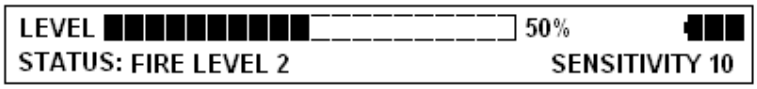
## 7.1 STANDARD OPERATION

- The Pro Locator displays the sampled air particles with in percentage of bar graph in segments of 5%.



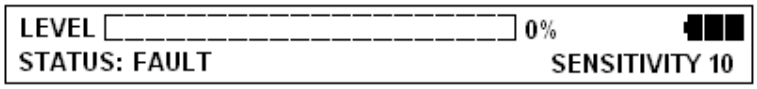

- The fire levels are shown below:



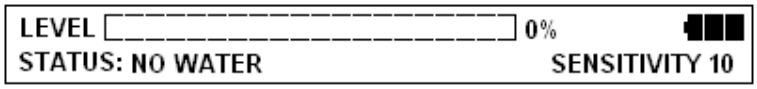



- At an unfortunate event of the unit developing a fault the LCD will display the following:




To analyse the fault, it may be possible for the unit to describe the actual fault. This is achieved by entering the engineer menu; please refer to section 7.5.

In the event of the water running out the LCD will display and the fault LED will illuminate:




*NOTE: Please refill the bottle with distilled water only.

## 7.2 CONNECTING TO A COMPUTER

- The unit can be connect to a computer via the RS232 either by removing the top lid or connecting to the RS232 port on the side of the unit (optional).

- Once the unit its connected and communication is establish the Pro Locater will **STOP** all activity, until the connection has been terminated.

## 7.3 POSITION OF THE UNIT

- The PRO Locator monitors the position of the unit to ensure it is kept in the upright position. If the unit for any reason is not in an upright position the LCD will display the following:

| PLEASE STAND THE UNIT<br>VERTICALLY |
|---|

- The fault LED will illuminate and the buzzer will sound until the unit is put back in an upright position.

## 7.4 BATTERY MONITOR

- The battery is monitored to ensure the user know when the battery requires charging. The LCD will show the battery symbol  this indicates the battery life depending on the how many cells are full.
The following is an estimate of the time remaining until the batteries are low, the estimates were calibrated when the batteries were FULLY charged:

 2hours 30mins
 1hours 30mins
 30min
(5min)  Count down from 5minutes

NOTE: if the batteries have NOT been FULLY charged these do NOT use the estimates.

Once all the battery cells are empty a 5 minutes count down will start and the battery symbol will flash, it is recommended that you CHARGE the unit at this stage.
After the 5 minutes the unit the will automatically TURN OFF.

- If at any point while charging the charge voltage increase above the acceptable limits the LCD will display the following:

| CHARGE VOLTAGE TOO HIGH<br>REMOVE CHARGER |
|---|

## 7.5 ENGINEER MENU

- Within the engineer menu the user can monitor fire level percentage, the status of any fault/s that may be on the system, also the vacuum pressure and the LED current readings.

| LEVEL : 0% | LED CURRENT:0.92mA |
|---|---|
| STATUS: NORMAL | PRESSURE:7.39PSI |

- Accessing the Engineer menu:
Press the increase and decrease sensitively buttons together at the same time.

- Exit the Engineer menu:
Press the increase and decrease sensitively buttons together at the same time.

### 7.6 BUZZER ENABLE OR DISABLE

- Enter the 'Engineer menu'. (Section 7.5)
- Press the 'increase sensitively' button to enter menu.
  The LCD will show:

| | |
|---|---|
| | Select |
| FIRE BUZZER : ON | Store |

- **SELECT** either buzzer **ON** or **OFF** by toggling the 'increase sensitively' button.
- **STORE** the chosen option be pressing 'decrease sensitively' button that in turn exits back to the 'Engineer menu'.

## 8.0 Faults

- **System Corrupt**
  The system corrupt fault can be a list of faults generated by the main cirrus processor board. Connect the main board via RS232 to a computer running the commissioning software. The fault diagnostic can be checked in the Cirrus Pro Engineer manual.

- **No Water**
  The unit is out of water.
  Check water supply and refill. Force a fill by pressing the hardware reset button. A fill will occur within 2 minutes. Water should seen to be taken from the bottle.

  If water is not taken then the water fill path could be blocked or the valve has failed, in which case replace the cloud chamber.

- **EEPROM Corrupt**
  The internal program memory (eeprom) does internal tests. This could be due to an error during saving data. Re commissioning the unit and saving the settings should clear this error. If the error persists then replace the geartray assembly.

- **Processor Fault**
  This is indicated if a problem has been detected with micro controller or the Read Only Memory (ROM). This is a serious failure and usually requires a replacement geartray assembly.

- **Seal Fault**
  The chamber is tested for 'leaks' during the power up tests. This fault does not necessarily stop the unit functioning, but it must be attended to before complete failure occurs.
  Check LED/Photodiode screws/seal. Tighten the six chamber screws slightly and check the thermistor seal.
  If fault persists, replace cloud chamber.

- **Vacuum Fault**
  The unit has detected that the vacuum is insufficient to form a cloud (<5.7psi). Check connections to the pump, the pump operation and the pipe to sensor on the PCB and from the pump to the cloud chamber.
  If the fault remains, check that pump armature is parallel with the pump body, if not, adjust it down. Change the pump if required.

- **Serial Fault**
  Check the connection between the processor board (WEFA321) and the display control board (WEFA390). If the fault still occurs, replace either of the boards to determine which one has the fault.

## 9.0 Maintenance and Care

- Always store and use the Pro Locator in an upright position.
- Keep the batteries charged.
- When operating or testing the unit, If the FAULT LIGHT illuminates and remains illuminated for more than two minutes, or no text is displayed on the LCD display, contact Protec Fire Detection plc for technical assistance.
- Store the unit in a cool, dry place.
- Keep the unit out of the reach of children and other untrained personnel.
- Protec Fire Detection recommends that you test the unit weekly.

## 10.0 Technical Specifications

| | |
|---|---|
| **Dimensions WxHxD:** | 13.75” x 10.25” x 4.75” (350 x 260 x 120mm) |
| **Weight:-** | |
| **Standard:** | 13.2 lbs. (6 kg.) |
| **Extended battery life:** | 15.4 lbs. (7 kg.) |
| **Power:** | 24v. DC (Two 12V 2.2 or 3.3 Ah SLA batteries) |
| **Charger:** | **INPUT:** 100V – 240V AC 50/60Hz, **OUTPUT:** 27.6v 1.8A (max.) |
| **Battery life:-** | |
| **Standard:** | Powers instrument for 2 hours 30 minutes before recharging required. |
| **Extended battery life:** | Powers instrument for 3 hours before recharging required. |
| **Operating Temperature:** | 32° - 130°F (0 - 54°C) |
| **Humidity:** | 0 - 95% RH, non-condensing |
| **Location Indicator:** | LCD monitoring and audible |
| **Other Indicators:** | Power, Fault and Charging |

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