# PUR900 Operational Manual

# Contents

# Introduction

This manual gives a step by step procedure on how to set up and use the PUR900 with its application software. For any additional information on the functions or workings of the PUR900 application, please use the help file.

# Requirements for PUR900



The combination cable is for downloading logs, calibrating the probes and charging the unit.

The PUR900 Recorder with frame.

The P90 Probe

# 1. Installing the Software

1.1. Insert USB stick with the application setup file installed.

1.2. Make sure that all previous versions of the software is not running on the system.

1.3. Run the latest "PUR900_PC_Software_Setup_V?.?.exe" setup file and click Next.
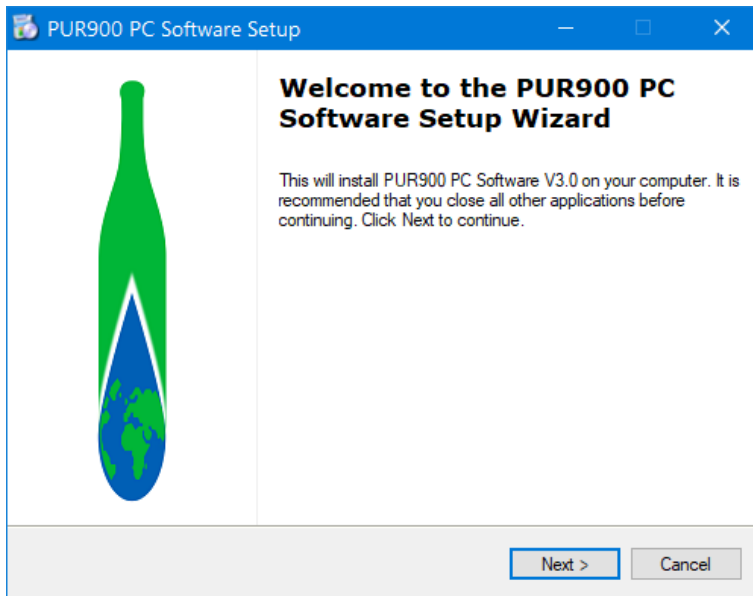


1.4. Select the install location.
- You can leave this setting as is, if the known user will always be an Administrator user.
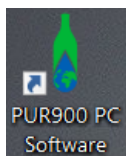- Change this setting to "C:\Interpast\PUR900 PC Software\" if you are not sure and click next.
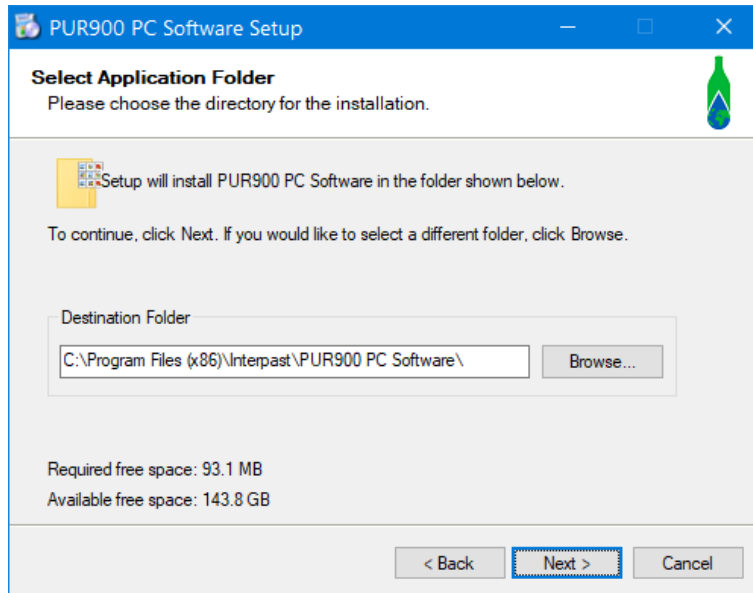


1.5. Select the box to Create a desktop shortcut.
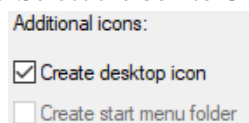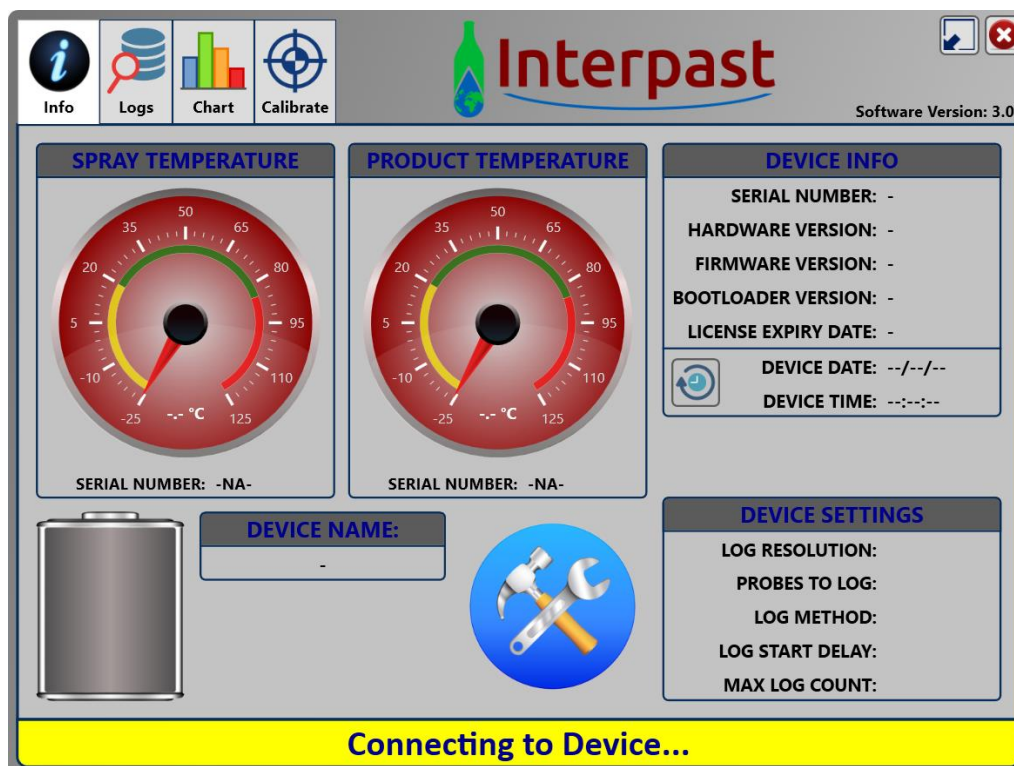


1.6. Continue with the installation process.
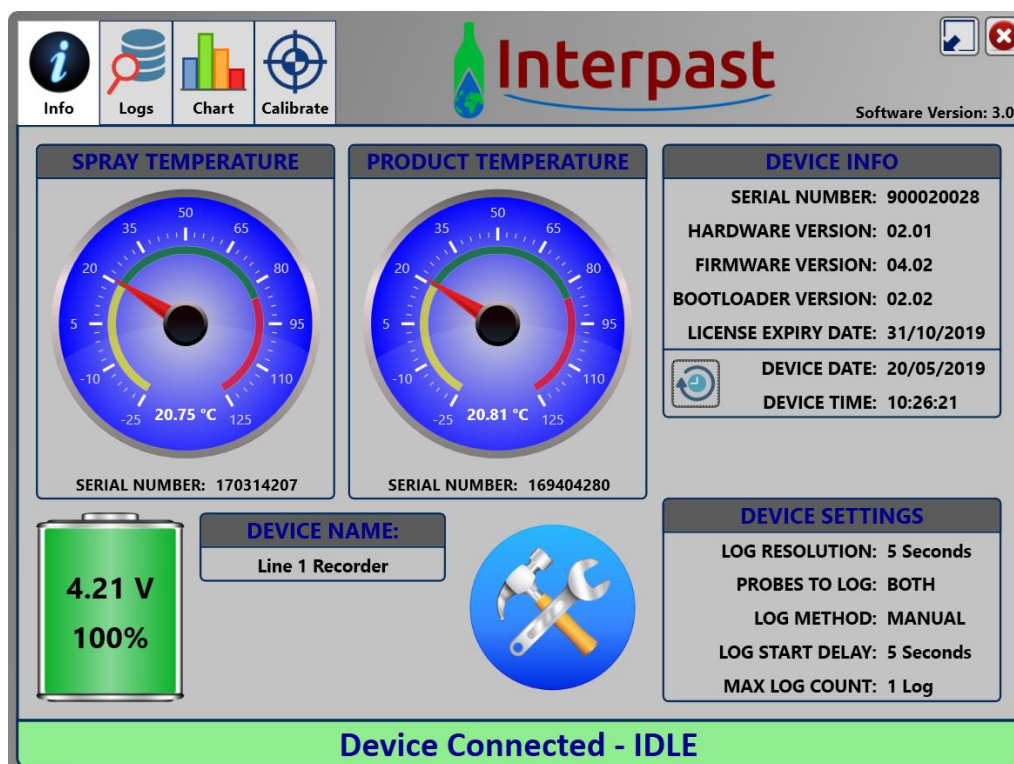
## 2. Running PUR900 application

2.1. Run the PUR900 Software from the shortcut created on your Desktop.



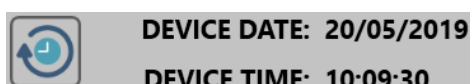2.2. When the application starts to run the following screen will be displayed:



2.1. When the device has been connected the screen will update as indicated below. All device information can be viewed from the "Info" tab.

2.2. Device Info can be viewed from the below section. Please note the "License Expiry Date", when the device expiry date expires, you will not be able to download logs from the connected device.



2.3. Left click on the clock icon to update device time with system time.
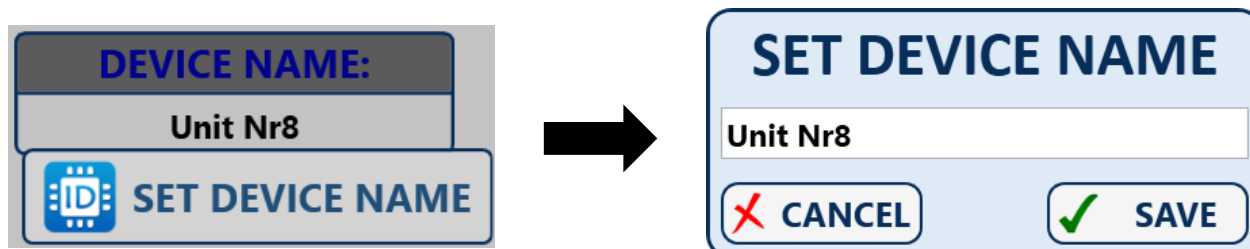


2.4. Once the device has been connected you will also be able to see the battery percentage as well as the voltage.
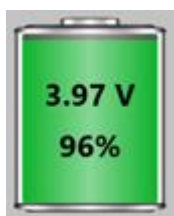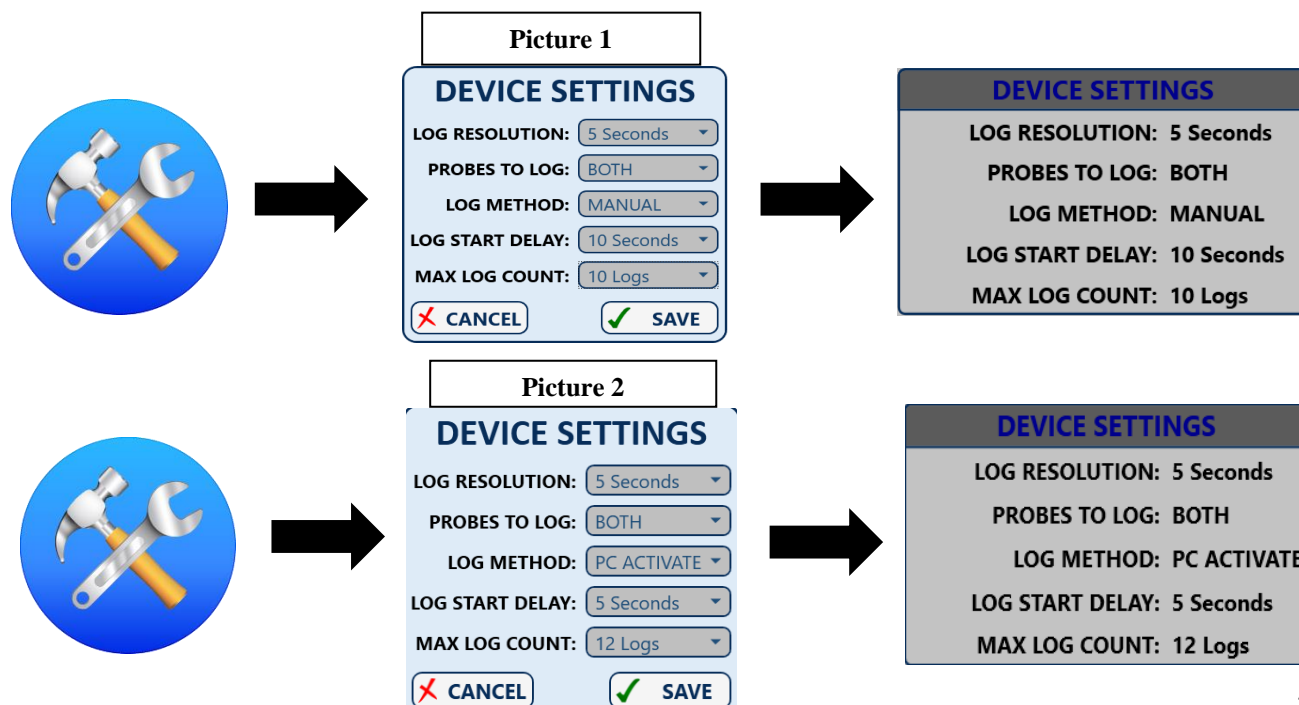


- The battery has a nominal voltage of 3.7 V and is fully charged when Voltage >= 4.09 V.
- The battery is empty when the Voltage <= 3.6 V.

2.5. You are also able to name your device. The serial number is fixed and cannot be changed. Right click on "Device name", and select SET DEVICE NAME. The following window will appear, click Save when done.



2.6. The device settings can be set by clicking the settings button.

Picture 1



Picture 2

| | |
|---|---|
| LOG RESOLUTION: | The period at which a reading is taken and saved by the device |
| PROBES TO LOG: | You can choose to only log either the spray or the product or both probes |
| LOG METHOD:<br>USING THE BUTTON | This can stay at MANUAL.<br>The unit can be activated using the button. (See Picture 1) |
| LOG METHOD:<br>USING PC ACTIVATE | This can stay at PC ACTIVATE, in the dropdown menu choose<br>PC ACTIVATE and save. The unit is activated via the software. (See Picture 2) |
| LOG START DELAY: | This is the amount of time it will take before the device will start recording once it has been activated. This should be longer when working with PC ACTIVATE. |
| MAX LOG COUNT: | You can choose to do more than one log after each other |

2.7. By right clicking anywhere on the Device Info section the following menu will appear.
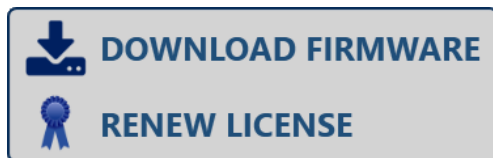


2.7.1. Use the "Download Firmware" function to update the device firmware with the latest release. The software is released with the current latest firmware release and is located under the "Firmware" folder in the software root directory. Select the firmware version you want to load and click Open.
**Always update the device with the latest firmware version.**
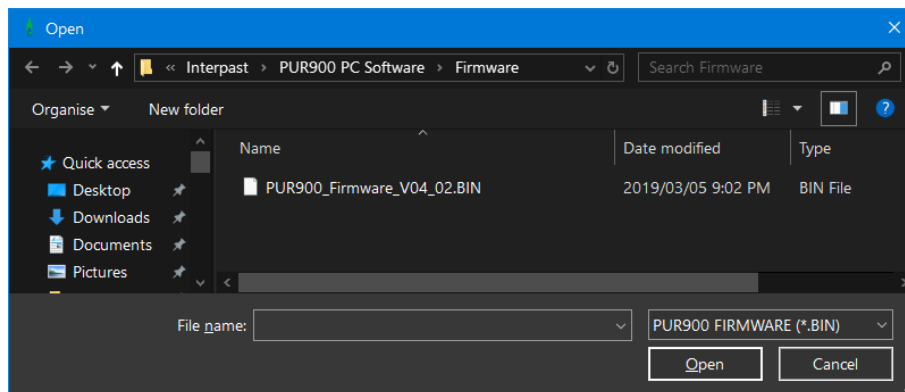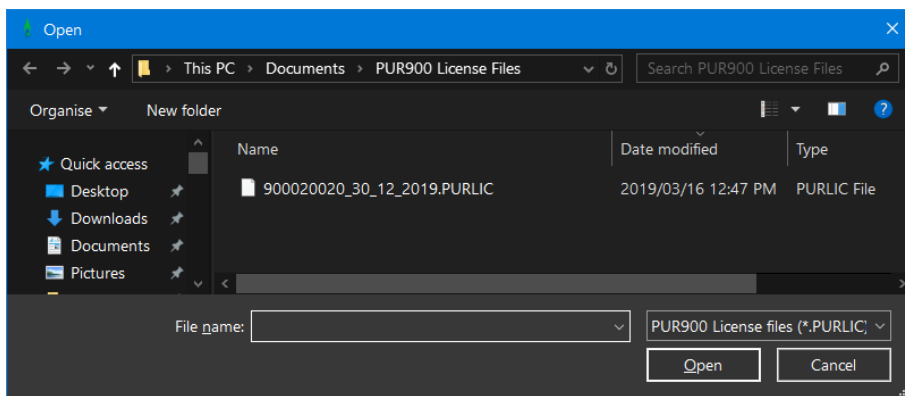


2.7.2. Confirm the download by clicking YES and wait for the process to finish.
**DO NOT UNPLUG DEVICE WHILE DOWNLOADING NEW FIRMWARE!!**



2.7.3. Use the "Renew License" function to load a new license file to extend the expiry date of the device.

2.7.4. You should receive a message indicating that the device expiry date was extended by a number of days.



## 3. Downloading Logs

3.1. Under the logs tab you will find the following window listing, Available Logs to download as well as Available Line Configurations to choose from.



3.2. By default, the latest log will be selected. You will also notice that NEW logs text colour will be blue and logs that were downloaded before text colour will be green in the dropdown list.
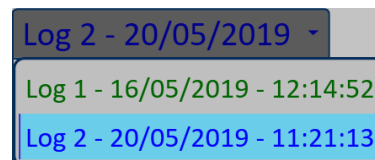


3.3. After selecting the Log to download, select the correct Line Configuration for the available configurations. The Line Configuration should be set up by the line manager.



3.4. The Line configuration stays at Default, before downloading a log, the information can be entered accordingly and saved. This information will appear next time and must again be completed before downloading.

3.5. Input the Technician name  **TECHNICIAN:** [          ]  and click  [⬇ DOWNLOAD LOG]  the button to start the download process.

3.6. Wait for download progress to complete. The window will automatically navigate to the Graph tab when download is completed.



3.7. By right clicking anywhere on the Log Information section the following menu will appear.



- Refresh Info, will refresh the log information gathered from the unit.
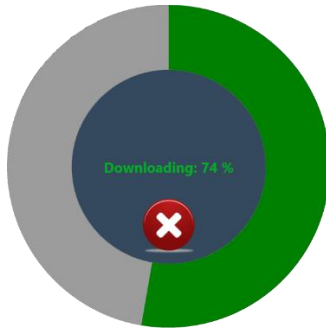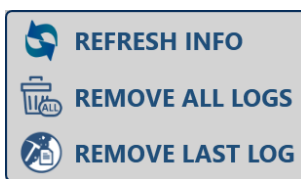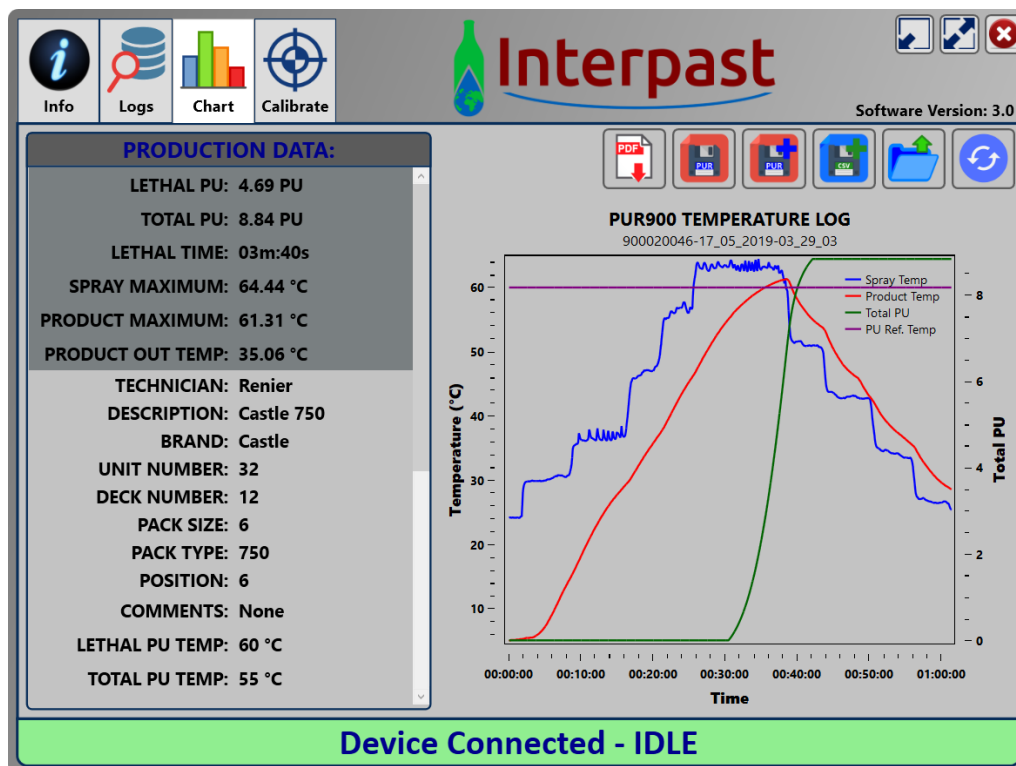- Remove All Logs, will clear all the logs on the unit.
- Remove Last Log, will only clear the last log from the unit.

## 4. Graph & Log Results

4.1. Once a log has been downloaded, you will be able to view the graph and production data under the Chart tab.



**PRODUCTION DATA:**

- LETHAL PU: 4.69 PU
- TOTAL PU: 8.84 PU
- LETHAL TIME: 03m:40s
- SPRAY MAXIMUM: 64.44 °C
- PRODUCT MAXIMUM: 61.31 °C
- PRODUCT OUT TEMP: 35.06 °C
- TECHNICIAN: Renier
- DESCRIPTION: Castle 750
- BRAND: Castle
- UNIT NUMBER: 32
- DECK NUMBER: 12
- PACK SIZE: 6
- PACK TYPE: 750
- POSITION: 6
- COMMENTS: None
- LETHAL PU TEMP: 60 °C
- TOTAL PU TEMP: 55 °C

**PUR900 TEMPERATURE LOG**
900020046-17_05_2019-03_29_03

**Device Connected - IDLE**

Note that once the log is downloaded and you are automatically navigated to the Chart tab, the log was NOT SAVED to file but remains in program memory until the "Save As" button is pressed. This state will also be indicated where the graph will indicate that no file is loaded.  **PUR900 TEMPERATURE LOG** No File Loaded

4.2. The  "Refresh" button, refreshes/recalculates the graph using the selected Line Configuration on the "Logs" tab.

4.3. The  "Load" button lets you open previously saved .PUR900 logs.

4.4. The  "Save As" button lets you save a new .PUR900 log to the configured "PUR900 Runs" folder. The old graph will not be replaced.

4.5. The  "Save As CSV" button lets you save the log to a .CSV file to the configured "PUR900 Runs" folder. The existing file will be replaced.
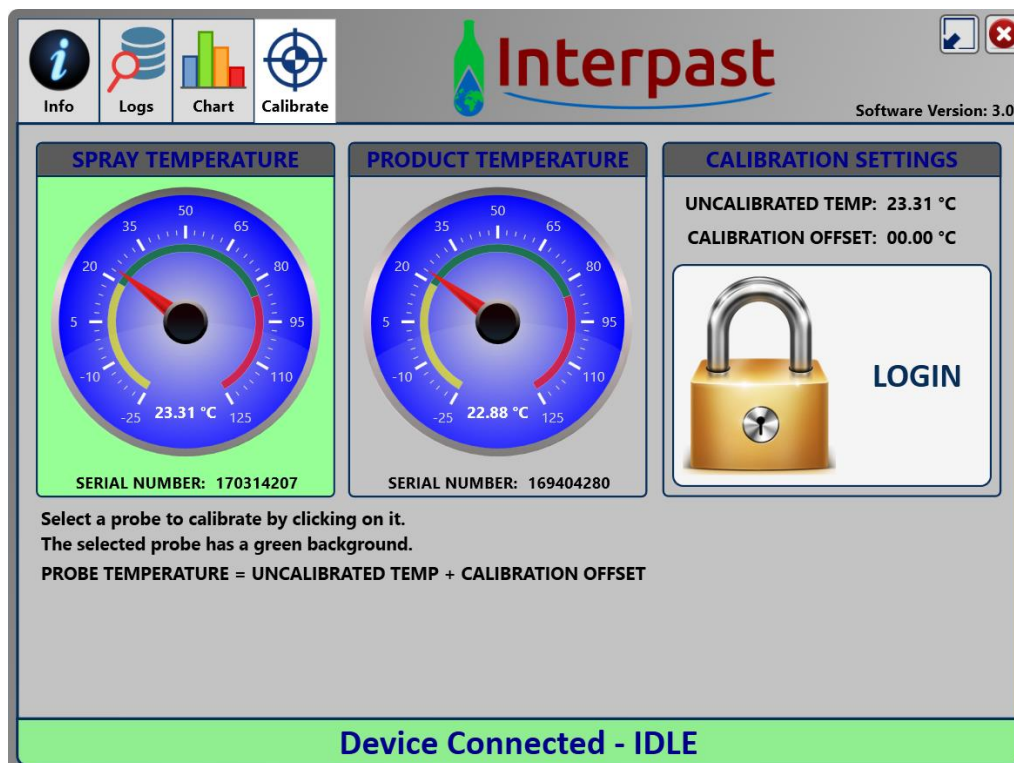
4.6. The  "Save" button lets you save the log to the existing open .PUR900 log file, replacing the log.

4.7. The  "Print To PDF" button lets you save the log data and graph to a .PDF file. The existing .PDF file will be replaced.

## 5. Calibrating Sensors

5.1. Select the "Calibrate" tab to open the calibration window.



Note that only authorised users may calibrate sensors.

5.2. To be able to do the calibration you will need to login with a password. The password will only be provided by Interpast to the Line Manager, who will be responsible for the calibration.

5.3. Once you have logged in, the calibration screen will be visible.



5.4. The selected sensor being calibrated is highlighted with a green background. Under Calibration Settings you will find the Uncalibrated temperature of the sensor as well as the Calibration offset temperature. Adjust the Calibration offset temperature until the temperature reading of the selected sensor gives the correct value.
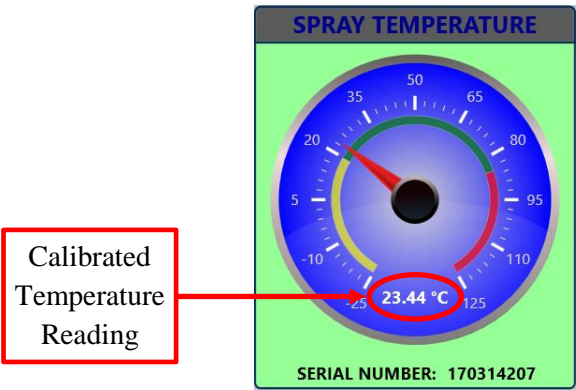


## 6. Line Configurations

6.1. Line Configurations can be edited by unlocking the config section.
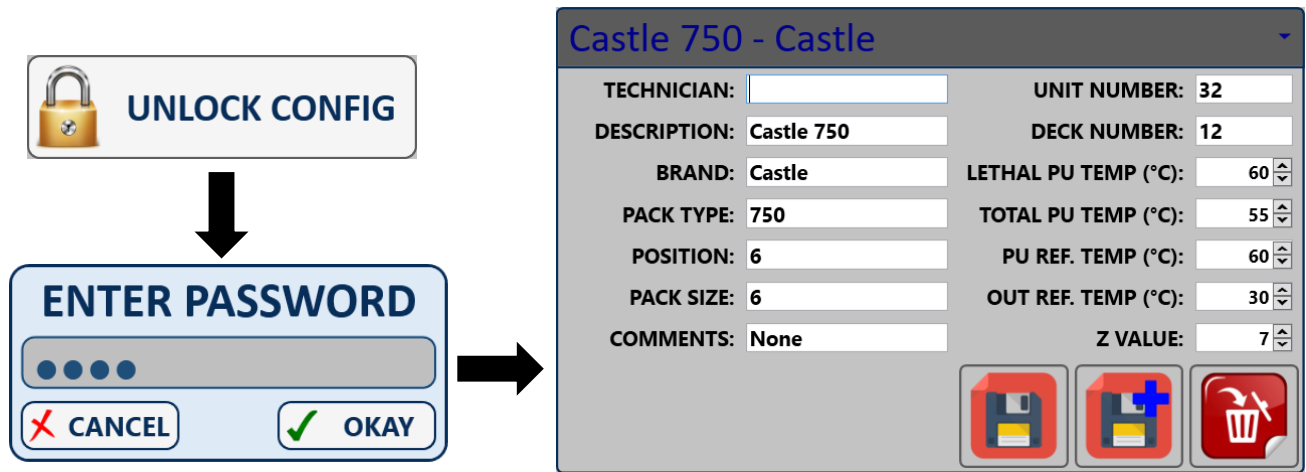


Note that only authorised users may make changes to Line Configurations.

6.2. The  "Delete" button lets you remove the selected configuration item. A confirmation for removing the selected item will be displayed before removing the item permanently.

6.3. The  "Save As" button lets you create a new Configuration Item from the data that was supplied. A new dropdown item will appear in the dropdown list.

6.4. The  "Save" button lets you save the supplied information to the selected Configuration Item, replacing the existing data.

6.5. When creating a NEW Configuration Item, the user can supply a Long Name as well as a Short Name. The Long Name is displayed in the dropdown list and the Short Name is displayed when the Item is selected. The user may choose the same name for both entries. The user can also select the dropdown colour of the specific item from the colour chart.



## 7. Cables & Connections

7.1. The combination cable is for downloading logs, calibrating the probes and charging the unit.



7.2. Push the Male connector of the Combination cable into the Female socket on the PUR900 recorder.  Ensure that the keys are aligned. Once in place turn the connector to the right until you hear a CLICK sound this will indicate that the connectors are connected *(See picture below)*
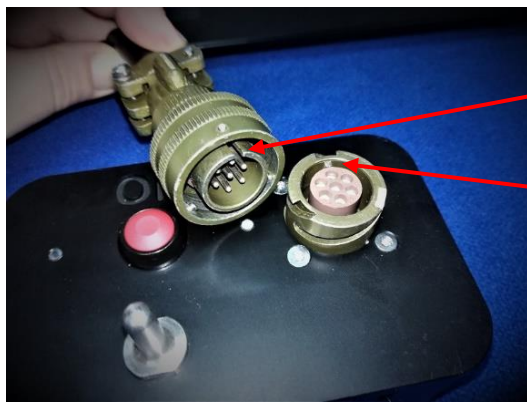
The key on the Combination cable Male connector

The key on the PUR900 Female Connector

7.3. Connect the product probe to the Combination cable.



7.4. Connect the Type A Male USB connector to the computer USB port. Once the probe is connected, both lights should go blue.





## 8. Making a Recording

The unit does not need to be connected to the computer or the combination cable to start recording.  Just follow the steps below to prepare the unit for a run.

8.1. Connect your product probe to the PUR900.
8.2. Ensure the unit is on by pressing the Red Button ONCE and release (While holding the button you will notice both LED's are bright Light Blue, this means the unit is in Bootloader Mode). Make sure both LED's are steady green after releasing the Red Button (Steady green indicates the unit is in Idle Mode).
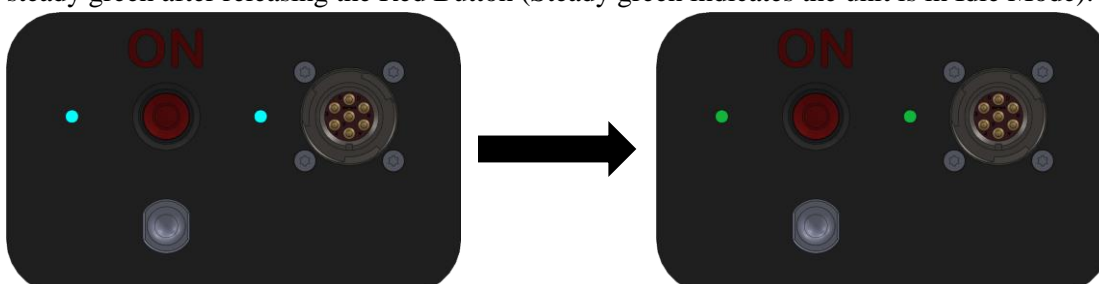
8.3. To start the recording, hold down the Red Button for 5 seconds until the LED's start flashing purple at the same time.
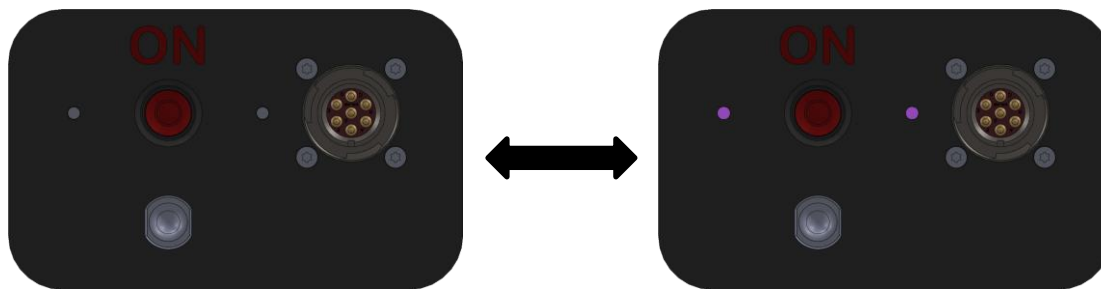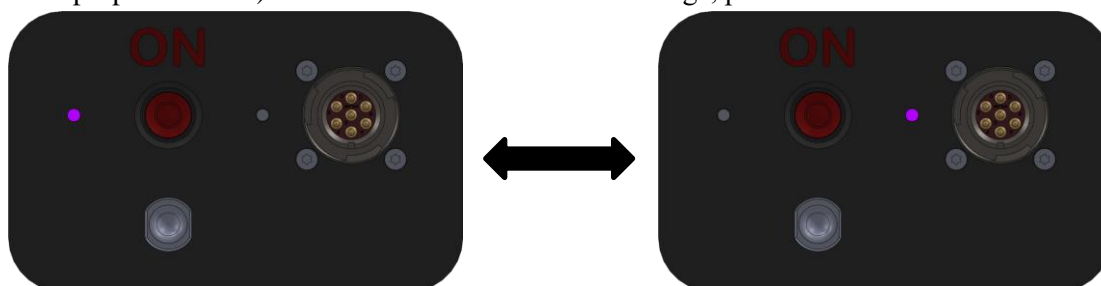


8.4. Now release the button.

8.5. If the previous step was done correctly the LED's should start flashing alternating purple (One LED will flash purple at a time). If both LED's flash Red at this stage, please view the ERROR section.



8.6. The LED's will alternate purple for the period "LOG START DELAY" that was selected in settings 2.6.

8.7. After "LOG START DELAY" period has passed, the LED's should start flashing Green at the same time every 2 seconds (1 second OFF and 1 second ON), indicating the unit is in Logging Mode.
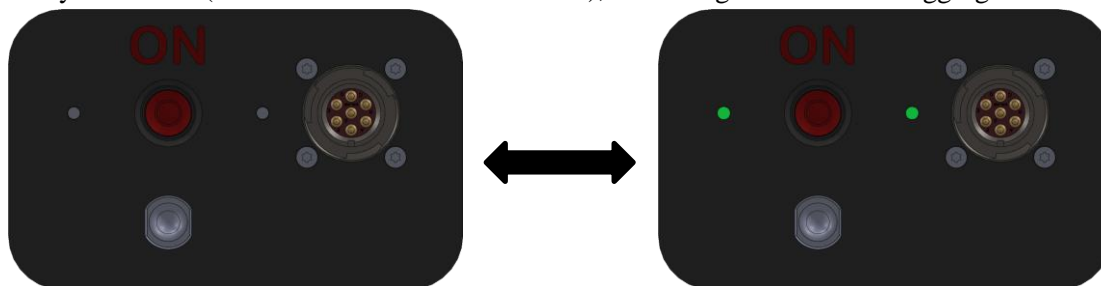


8.8. To Stop the recording, hold the Red Button for 5 seconds. Both LED's will flash purple at the same time in quick succession for 3 seconds, indicating the Log data is being saved.

8.9. When the unit is complete saving the data, the unit will return to Idle Mode as indicated in 8.2 and will turn off after 30 seconds of no activity.

NB!! At any stage if one of the LED's go red, either the probe or the spray sensor is faulty.

# 9. Error Indicator

9.1. If the unit is ON and in Idle Mode and one or both the LED's are RED, the sensor(s) is damaged. The Left LED indicates the Spray Sensor Sate and the Right LED indicates the Product Sensor Sate.

9.2. If a recording was started in 8.3 and 8.4 and both LED's flash Red at the same time after the Red Button was released it means there was an error and the unit cannot start the Logging process.
   9.2.1. Please ensure the settings of the device was set up correctly as indicated in section 2.6.
   9.2.2. Log count was reached as set up in settings section 2.6.



9.3. To clear all logs manually, hold down the Red Button for 15 seconds until the LED's start flashing purple at the same time after 5 seconds and then flashing faster after an additional 10 seconds. At this stage release the Red Button. Both LED's will go Yellow for 3 seconds, indicating that the logs were cleared. The unit will then return to Idle Mode after the 3 seconds have passed.
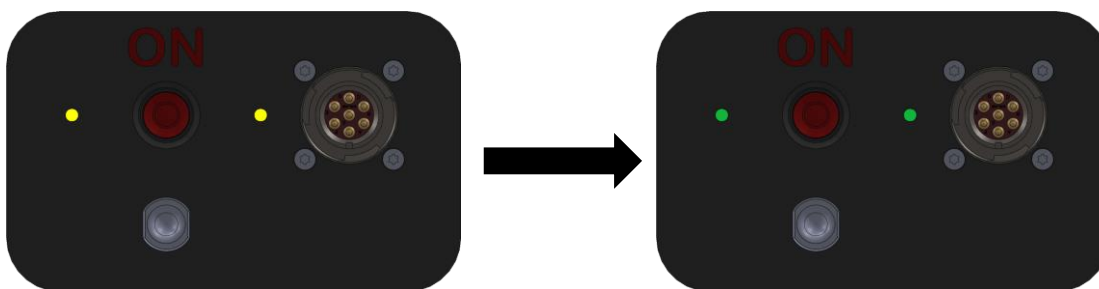


9.4. To clear logs using the application, see section 3.7.

## 10. LED Colours

10.1.        (Both LED's flashing Red & Product Sensor Connected) – Error, see section 9.
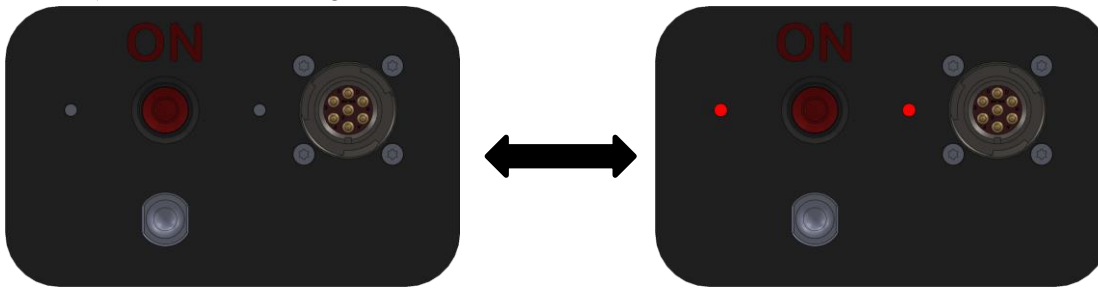


10.2.        (Both LED's Steady Red & Product Sensor Connected) – Spray & Product sensor faulty.
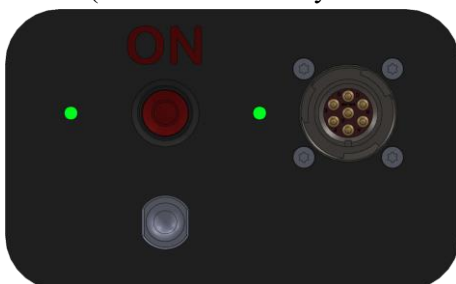


10.3.        (Steady Left LED Green & Right LED Red) – Product sensor not connected or faulty.
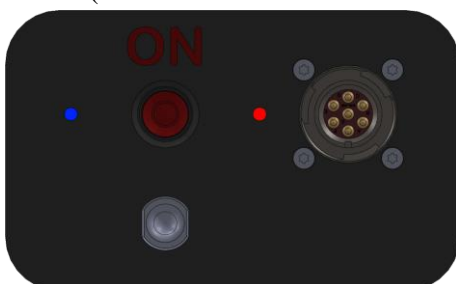


10.4.        (Steady Left LED Red & Right LED Green) – Spray sensor faulty & Product Sensor Connected.



10.5.        (Both LED's Steady Green & Product Sensor Connected) – Unit functional and in Idle Mode.



10.6.        (Left LED Blue & Product Sensor Not Connected) – Connected to PC & charging.
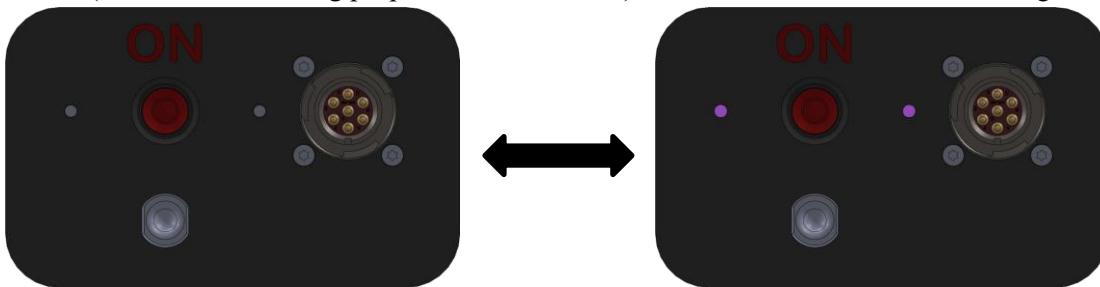
10.7.      (Both LED's Blue & Product Sensor Connected) – Connected to PC & charging.
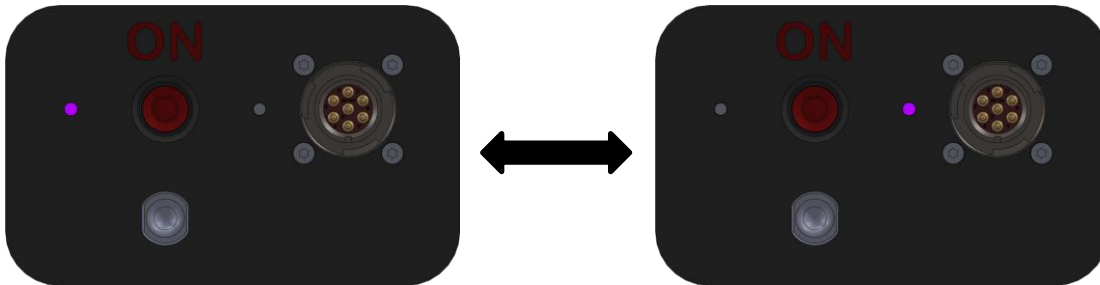


10.8.      (Both LED's Yellow) – Logs Cleared.



10.9.      (Both LED's flashing purple at the same time) – Unit functional and Button being held or Stop Mode.



10.10.     (LED's flashing alternating purple) – Unit functional and in Start Delay Mode.



10.11.     (LED's flashing Green at the same time every 2 seconds) – Unit Functional and in Logging Mode.
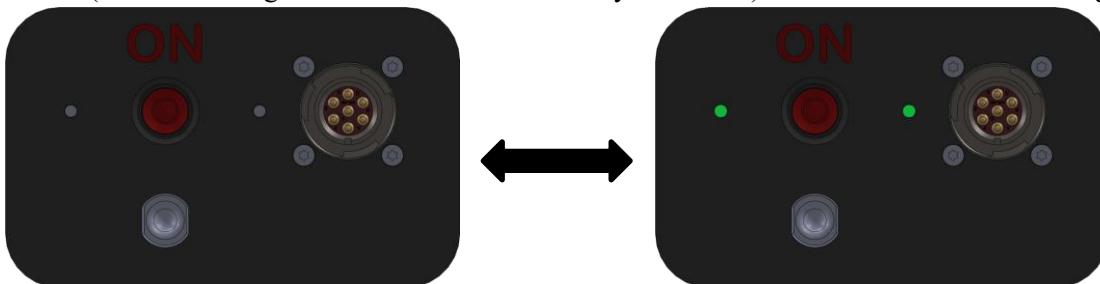


10.12.     (Both LED's steady Light Blue) – Unit in Bootloader Mode
           Battery voltage is too low. Connect unit to the software and reload firmware and fully charge unit.

## 11. Known Problems and Solutions



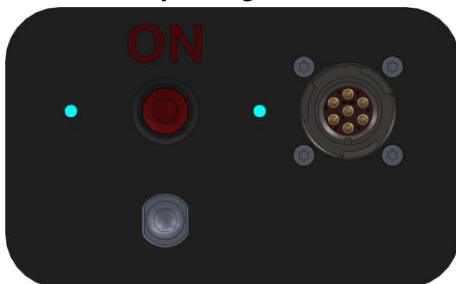If you receive License Expired message, it means that the recorder License needs to be renewed by either getting a new license from your sales representative or sending the unit for a service.



If you receive License Expiring message, it means that the recorder License needs to be renewed by the date indicated either getting a new license from your sales representative or sending the unit for a service.



If you receive Serial Mismatch message when loading a new License file, it means the connected device and loaded .PURLIC file serials do not match and the device expiry date could not be extended with the selected file. Contact your local sales representative if you believe the file is correct.
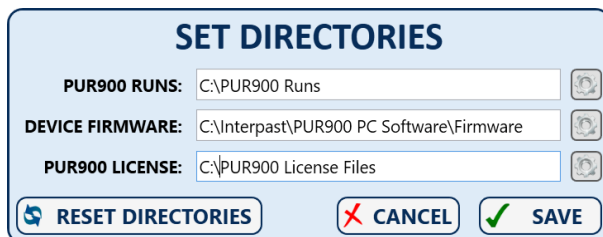


If you are getting error messages saving logs or configurations, press F1 on the keyboard and the "Set Directories" window will appear. Here you can update the software directories, where the runs are saved and where to get essential files.
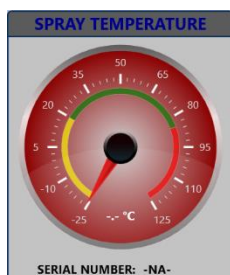


Spray Temperature indicator stays Red when device is connected.
- Spray sensor is faulty, contact your sales representative to arrange a repair.
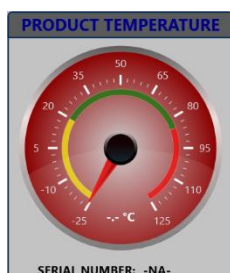


Product Temperature indicator stays Red when device is connected.
 **Possible Causes:**
- Product sensor is faulty, contact your sales representative to arrange a repair.
- Product sensor not connected, connect the Product sensor to the combination cable.

Most of the error messages are self-explanatory and need not be explained in this document, if you however encounter a problem that was not covered by this section and could not solve the problem by other means, please email Interpast at workshop@interpast.com a description of the problem with attached screenshots or photos of the problem. Interpast will attempt to resolve the problem as soon as possible.

## 12. Do's and Don'ts PUR900

12.1. **NB!!!! Do not turn the body of the connector**.
Only turn the top of the connector into position. Turning the body of the connector will damage it. Do not pull on the wire part to remove it, this will damage the wires inside and give irregular readings *(See picture below)*

TOP of Connector ✔          BODY of connector ✘



12.2. Use silicon spray to keep connectors on the probes and units smooth and rust free. This should be used at least once a month. Do not use any other silicon spray or lubricant. The correct Silicon spray is available from Interpast.

12.3. Use silicon spray to keep connectors on the probes and units smooth and rust free. This should be used at least once a month. Do not use any other silicon spray or lubricant. The correct Silicon spray is available from Interpast.

12.4. Do not open the unit. Once it has been opened by anyone but Interpast, the warranty is void.

12.5. Keep the unit charged, when battery voltage is to low, it may damage the electronics inside.

12.6. Do not immediately put the Recorder on charge when it comes out of the Pasteuriser. Leave the recorder to cool down completely before you put it on charge otherwise it may damage the battery.

12.7. Ensure the connector are kept dry at all times. Dry it before removing the probe and connecting the power cable. Water inside the connector will cause an electrical short and damage the pc board.