



# INSTRUCTION MANUAL

## 750w<sup>2</sup> Monitor



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## 1 Introduction

### 1.1 General

The 750w<sup>2</sup> Monitor is designed to work with Partech's WaterWatch<sup>2</sup> (w<sup>2</sup>) sensors. It combines a clear display of the measured parameter, a simple user interface, with good flexibility to enable configuration to satisfy the users needs.

### 1.2 Display

The 750w<sup>2</sup> display indicates the measured value with large numerals with an additional status line that shows the current settings, battery status and any faults that are present. The display has a backlight to enable use of the monitor in low light conditions and also has adjustable contrast.

The measurement title and units can all be user set to suit the sensor being used and the application being monitored.



Figure 1

### 1.3 Keypad

The 7 key tactile membrane keypad is used for all configuration and operation of the 750w<sup>2</sup> Monitor.

### 1.4 Sensors

The 750w<sup>2</sup> Monitor can currently be used with the SoliTechw<sup>2</sup> IR sensor range.

### 1.5 Manual Conventions

This instruction manual describes the configuration and operation of the 750w<sup>2</sup> Monitor and where required includes some information regarding sensors. It is therefore very important that it is used in conjunction with the relevant sensor instruction manual.

The manual has been written on the basis that the user has a basic knowledge of instrumentation and an understanding of the type of measurement being made. Training in the use of the 750w<sup>2</sup> Monitor can be provided by Partech, please contact Partech for further information

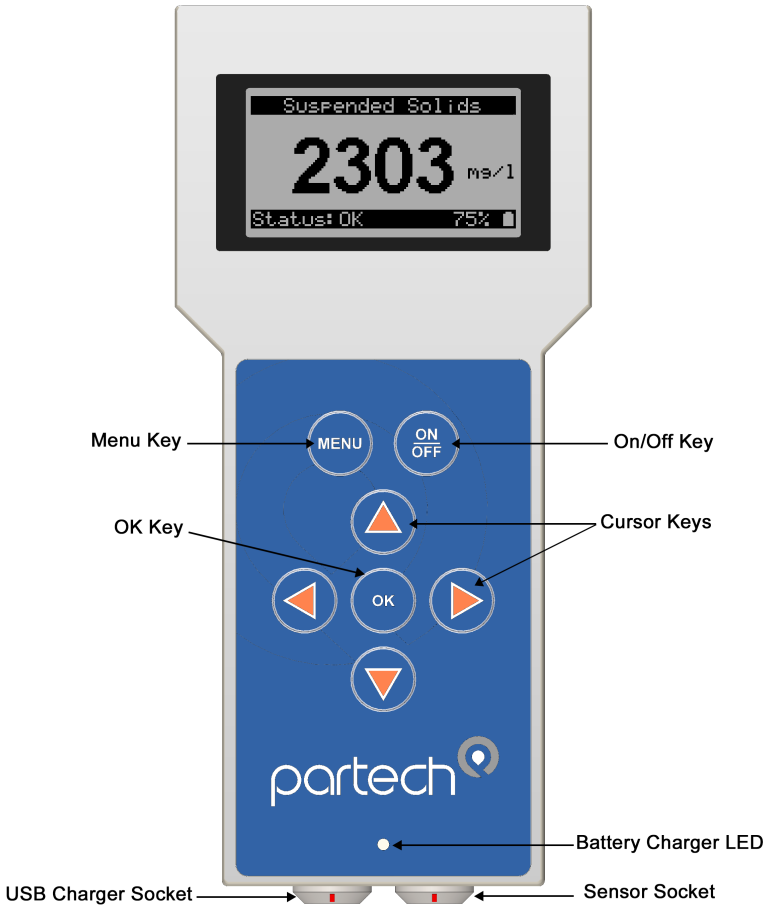


Figure 2: 750w<sup>2</sup> Monitor

## 2 Basic Operation

### 2.1 Power On/Off

The 750w<sup>2</sup> Monitor can be turned on and off using the **ON/OFF** key. When the monitor is turned on it enters the Measure Mode; (Figure 3). The instrument can be switched off at any time by pressing the **ON/OFF** key.

With no sensor plugged in, the status bar will display 'NO SENSOR' (Figure 7).



Figure 3

### 2.2 Measure Mode

The normal operating mode for the 750w<sup>2</sup> Monitor is measure mode when this is active the measured value is displayed in large numbers.

The display in measure mode also includes a status bar that displays the status of the battery, and details of the instrument settings.

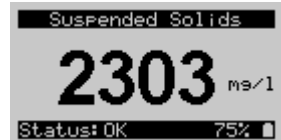


Figure 4

Pressing the **OK** key in 'Measure Mode' will save the current sensor reading, time and date stamped. The status bar will briefly display "Saving" (Figure 5).

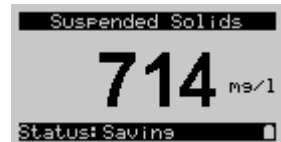


Figure 5

Any sensor readings saved using this method will be accessible either as a file upload using the USB lead, or viewed on the display within "Recorded Data" Menu.

### 3 Configuration Structure

#### 3.1 Menu Mode

To access the main menu, press the **MENU** key when the monitor is in measure mode (Figure 6).

Pressing the **MENU** key when the main menu is displayed will return the monitor to the measure mode.

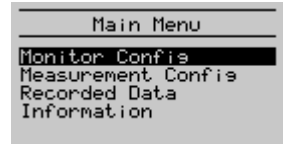


Figure 6

When the main menu is displayed, the **↓↑** keys can be used to move the selection bar.

Pressing the **OK** key will activate the selected item.

If the monitor is left in any display other than measure mode, it will automatically return to measure mode after 1 minute has passed with no key presses.

When a sub menu is displayed, pressing the **MENU** key will exit the current menu and return to the previous menu.

If a menu consists of more than five lines a scroll bar will appear, items “off-screen” can be accessed using the **UP** and **DOWN** arrows.

#### 3.2 Configuration – Use of Keys

The 750w<sup>2</sup> uses three methods of data entry for the setting of user configurable parameters:

##### 3.2.1 User List Selection (Figure 7)

Used to select from a list of options such as sensor type, display range and backlight mode.

The list of possible selections will be displayed and a small asterisk will identify the current setting.

To make a selection, the selector bar can be moved using the **↓↑** keys, to select the required item.

Pressing the **OK** key will select the highlighted item.

Pressing the **MENU** key will exit the list selection menu.

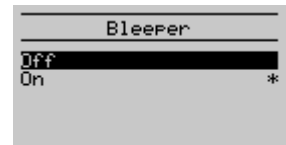


Figure 7: List Selection



### 3.2.2 User Value Entry (Figure 8)

When a numerical value is to be set, the current value will be displayed with a flashing cursor. The range of adjustment of the value is predefined and therefore only values within this range can be entered.

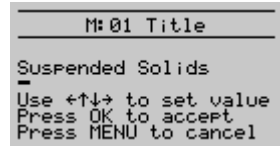


Figure 8: Text Entry

To adjust a value, the  $\leftarrow\rightarrow$  keys are used to select a digit and the  $\downarrow\uparrow$  keys are used to increase/decrease the digit.

When the new value has been set pressing the **OK** key will store it and exit from the value adjustment display.

To exit without saving changes press the **MENU** key.

### 3.2.3 User Text Entry (Figure 9)

Using this method of data entry, the user is able to enter or edit text and is used for user defined measurement title and units.

The text string is displayed with a flashing cursor indicating the selected character.

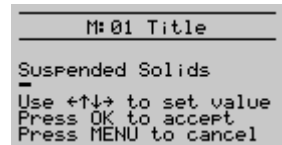


Figure 9

The  $\leftarrow\rightarrow$  keys are used to select a character, and the  $\downarrow\uparrow$  keys to change the selected character.

When all changes are complete press the **OK** key to store the text.

To exit without saving changes press the **MENU** key.

## 4 Monitor Configuration

This section explains the options available under the Monitor Configuration menu (Figure 10 and 11).

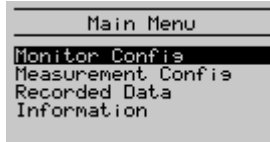


Figure 10

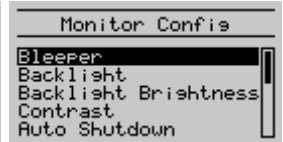


Figure 11

Press the **OK** key to select

### 4.1 Bleeper

The Bleeper can be switched off if required (Figure 12).

Press **OK** to enter Bleeper setup.



Figure 12

### 4.2 Backlight

The backlight can be set to:

“Always Off”

“Always On”

“On After Keypress” (Figure 13).

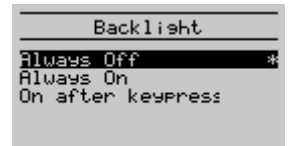


Figure 13

### 4.3 Backlight Brightness

The Backlight Brightness option determines the intensity of the display backlight (when enabled). The current brightness value will be displayed on the screen (Figure 14).

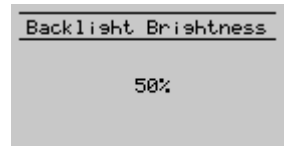


Figure 14

### 4.4 Contrast

The Contrast Option determines the effective intensity of the displayed.

The current contrast value will be displayed on the screen (Figure 15).

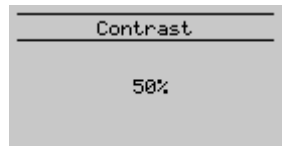


Figure 15

### 4.5 Auto Shutdown

The monitor will switch off the monitor 60 seconds after the last key press.

This can be inhibited by selecting ‘Off’ (Figure 16)

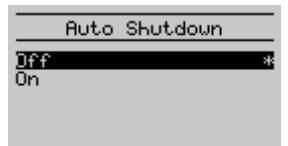


Figure 16

#### 4.6 Set Date & Time

The Set Date & Time option allows the user to edit the date/time stamp within the monitor (Figure 17).



Figure 17

#### 4.7 Enable Service mode

The 750w<sup>2</sup> Monitor has a set of hidden menus that provide access to diagnostic information. (Figure 18).

These menus are intended for use by Partech engineers.



Figure 18

## 5 Measurement Configuration

Measurement Config (Figure 19 and 20) provides access to sensor calibration and other settings relating to the measurement.

All these settings are stored within the sensor allowing sensor swapping without reconfiguration.

All sensor specific configuration including calibration is explained in the sensor manual.

Press **OK** to continue.

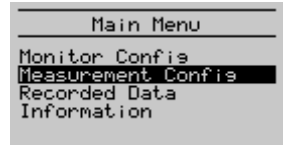


Figure 19

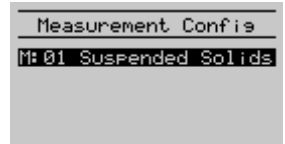


Figure 20

### 5.1 Title

This allows the title of the measurement to be changed from its default.

A selection of standard measurements (Figure 21 and 22) are available along with a 'User Defined' that can be adjusted to suit your requirements.

For example this could be changed to 'Suspended Solids Line 1'.

The maximum number of characters is 20.

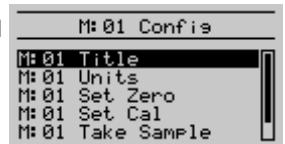


Figure 21

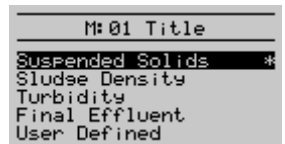


Figure 22

### 5.2 Units

This allows the units of the measurement to be changed from its default, the measurement units are used in measurement mode.

A selection of standard terms are available (Figure 23 and 24) along with a 'User Defined' option that can be adjusted to suit your requirements.

The maximum number of characters is 4.



Figure 23

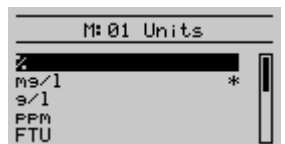


Figure 24

## 6 Recorded Data

The recorded data function allows 750w<sup>2</sup> monitor display access to the saved snapshot sensor readings recorded by pressing the **OK** key in 'Measure Mode'. (Figure 25)

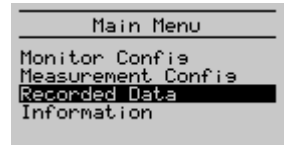


Figure 25

Each individual record consists of (Figure 26):

DATE / TIME  
MEASUREMENT TITLE  
VALUE / UNITS .

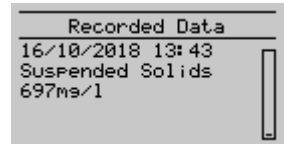


Figure 26

The records are displayed with the newest first (at the bottom of the display). Using the **↓↑** keys will scroll through the records.

### 6.1 Data via USB

When the 750w<sup>2</sup> Monitor is plugged into a PC it will appear like a USB memory drive named "750w2" with a folder "DataRecordings".

Inside this folder will be a CSV file named "DataRecordings", this is a file that combines all the recorded data and is used for data display on the monitor. Editing this file may corrupt your data.

The folder will also have files that are specific to each sensor that is used, it is advisable to copy this file to your desktop before using it to import that data into a spreadsheet for analysis.

## 7 Battery Charging

### 7.1 Battery

The monitor contains a Nickel Metal Hydride (NiMH) battery pack that supplies the power for operation. This type of battery does not have to be fully discharged prior to charging, although this is a preferred option. It is therefore possible to "top up" the battery charge as and when required, this is particularly useful prior to the instrument being used for a long period.

Battery life is sufficient for 1 week normal use between charges

- When normal use is defined as 30 measurements per day
- Under normal operating conditions. e.g. normal contrast and brightness settings, Auto shutdown enabled meaning 750w<sup>2</sup> on for only one minute at a time.

### 7.2 Charger

The 750w<sup>2</sup> Monitor is supplied with a USB power adapter and cable. This is plugged into the socket on the bottom left of the 750w<sup>2</sup> monitor (Figure 27). This device is specifically designed to provide the optimum conditions for the 750w<sup>2</sup> battery. However, a variety of USB charge sources can be used as long as they meet the minimum 500mA charging current.

When connected to the monitor, the charging LED gives a visual indication of charging status (Figure 27).

LED key:

**Unlit** – not connected or charger off

**Red** – Charging

**Green** – Fully charged

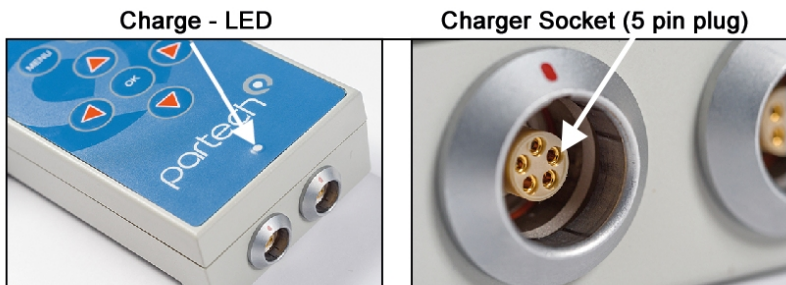


Figure 27

## 8 Firmware Updates

### 8.1 Introduction

The firmware on the 750w<sup>2</sup> can be easily be updated. If advised to do so, follow these steps to put the latest firmware on your 750w<sup>2</sup>.

### 8.2 Updating Firmware

Ensure the monitor is fully charged.

With the Monitor Config menu select Update Monitor Firmware (Figure 28 & 29)



Figure 28

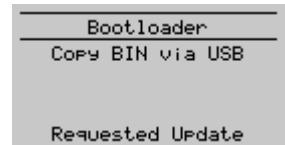


Figure 29

Now plug the USB cable into the PC and copy the supplied BIN file to the 750w<sup>2</sup>. Ensure there is only one BIN file in the root of the 750w<sup>2</sup> (Figure 30).

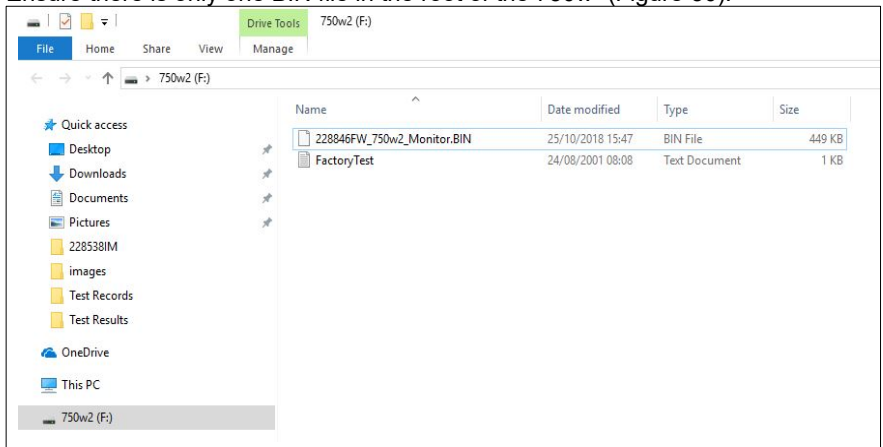


Figure 30

Click **OK** on the 750w<sup>2</sup>.

The 750w<sup>2</sup> will display the 'Loading' screen (Figure 31) The 750w<sup>2</sup> will now take a few seconds to update then restart as normal. The update is complete.

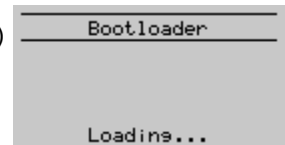


Figure 31

## 9 Technical Support

Technical Support is available by phone, fax, or email, the details of which are shown below.

- Phone: +44 (0) 1726 879800
- Fax: +44 (0) 1726 879801
- Email: techsupport@partech.co.uk
- Website: www.partech.co.uk

To enable us to provide quick and accurate technical support please have the following information ready when you contact us:

- Serial Number or original purchase details
- Sensor Type, and Serial Number
- Application details
- Description of fault

### 9.1 Returning Equipment for Repair

If equipment needs to be returned to Partech for repair or service the following address should be used:

SERVICE DEPARTMENT  
PARTECH INSTRUMENTS  
ROCKHILL BUSINESS PARK, HIGHER BUGLE  
ST AUSTELL, CORNWALL, PL26 8RA  
UNITED KINGDOM

Please include the following information with the returned equipment. Also ensure that products are adequately protected for transportation (Advice on packing can be provided by our service department).

- Contact name and phone number
- Return address for equipment
- Description of fault or service required
- Any special safety precautions because of nature of application

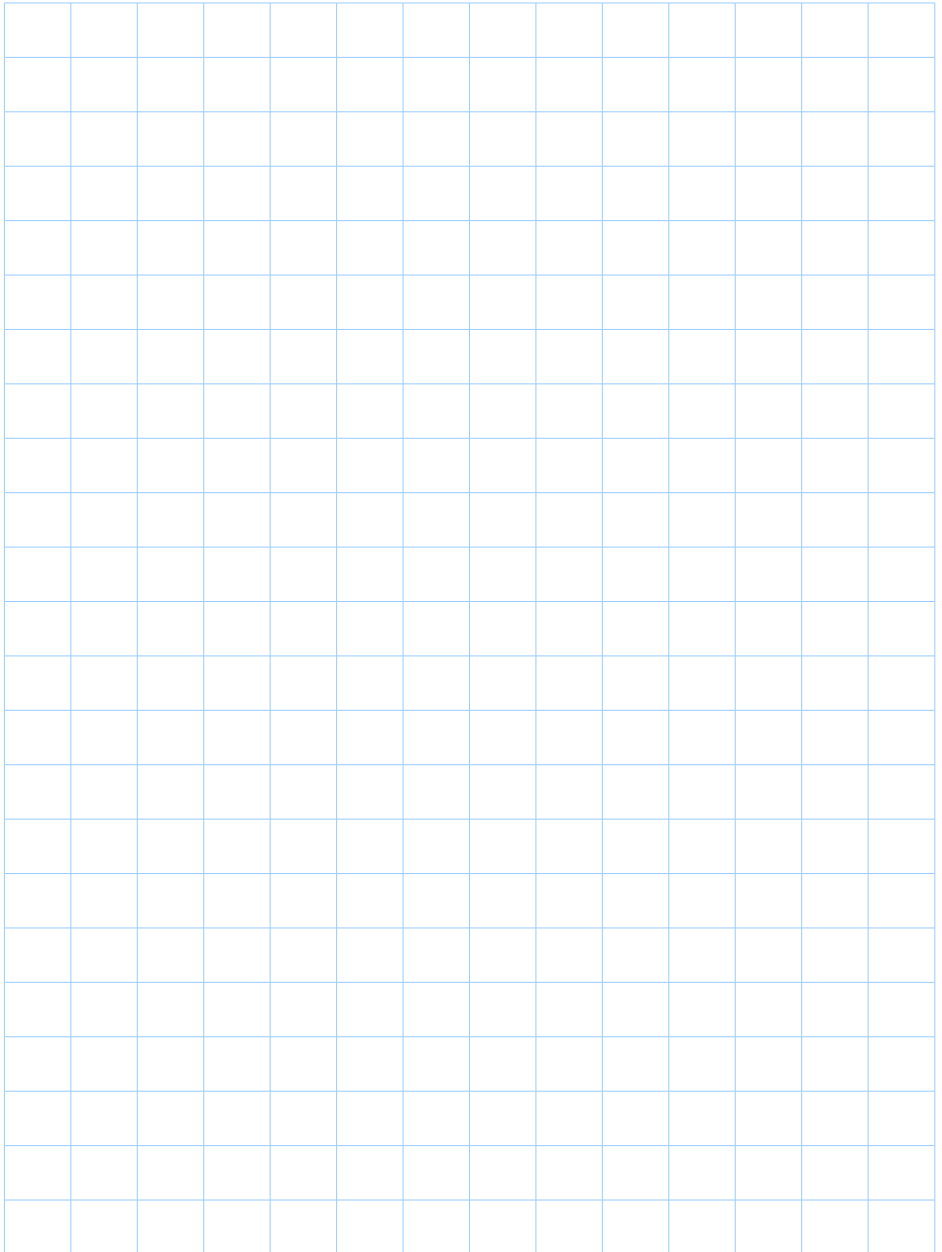


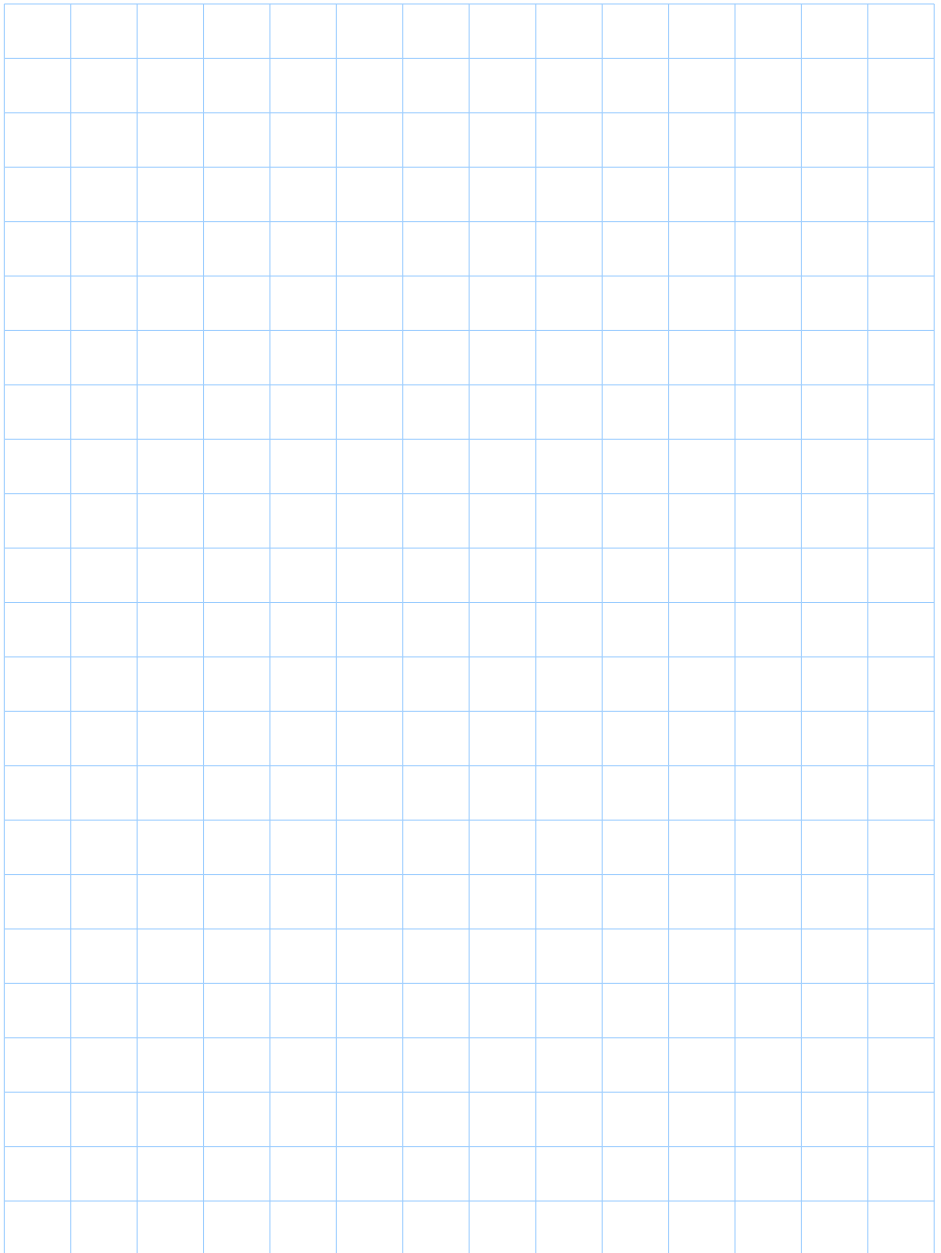
## 10 Technical Specification

Power Supply.....	Internal Rechargeable Battery Pack NiMH
Charge Input.....	5 VDC (min 500mA)
Partech Charger.....	USB Power Adaptor, 100 to 240VAC Input, 5VDC 2.1A Output, 10 Watt.
Battery Life.....	Sufficient for 1 week normal use (30 measurements per day)
EMC Conformity.....	EN 50081, EN 50082
Adjustment.....	via Membrane Keypad
Operating Temperature.....	0 to +60°C
Display.....	4 ½ Digit, Graphical LCD
Interface to PC.....	USB cable for data download
Data Recorder.....	Minimum 500 points per sensor, actual capacity will depend on configuration
Enclosure Material.....	ABS
Enclosure Dimensions.....	224 × 106 × 39 mm (h × w × d)
Weatherproof Rating.....	IP65
Weight.....	0.75 kg

### 10.1 Spare Parts

Part Number	Description
229340	USB Power Adaptor: Plug Type UK
229341	USB Power Adaptor: Plug Type EU
229342	USB Power Adaptor: Plug Type US
229443	USB Power Adaptor: Plug Type AUS
229385	USB Power Adaptor: Car Charger
228774	750w <sup>2</sup> Monitor - USB Cable







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