



User Manual,
Set Up & Installation Guide
Covering
D3LITE, D3 & D3MEDICAL
Monitoring System Base Stations



Klipspringer

Compliance with confidence

1. SAFETY INFORMATION

Read all the instructions carefully before using the base station and keep a copy of all documents for future review.



1.1. Electrical Safety

Before mounting/dismounting the base station and/or connecting the power supply ensure the units is powered down and switched off at the mains. Any connected peripheral, hard wired devices with live feeds should also be powered down before mounting/dismounting the base station.

Before opening the base station casing to change the battery back-up battery, isolate the electrical supply and also the live feed to any hard wired peripheral connected equipment.

Before connecting peripheral, hard wired devices with live feeds, power down and disconnect the base station from the main supply.

Caution, live feeds may derive from more than one source.

If the power supply or supply cable is damaged then it must be replaced, switch off the unit at the mains and contact the system supplier.



1.2. Battery Back-Up² Battery

The battery in the battery back-up² must be disposed of in accordance with your local laws & regulations, or ship to the supplier in the new battery packaging.



Replace the battery with the same part number as the type originally installed. Replacement instructions are contained with the new battery shipped.

Do not dispose of the battery in a fire, the battery may explode.

Do not open or mutilate the battery. They contain an electrolyte which is toxic and harmful to the environment and to the skin and eyes.



1.3. Damage

Inspect the base station & power supply for damage after unpacking.

If the base station is damaged during normal operation and you are unsure of its operational performance, switch-off at the mains & unplug. Contact the system supplier for assistance.

The unit contains no user serviceable parts, the battery back-up² battery should only be replaced by suitable trained personnel. Do not attempt to disassemble the unit or attempt repair.

1.4. Location of the unit

The base station should be located on a flat, even wall on the mounting plate supplied. The unit slides from right to left onto the mounting plate, at least 30cms needs to be free of obstacles to the right of the unit for future mounting/dismounting.

Avoid mounting the unit next too or directly beneath electrical conduit, this may impact the wireless range of the unit

Ensure the mains socket and network port are near to the mounting point and are easily accessible



1.5. Temperature & Moisture

The base station should be mounted in a dry environment with an operational temperature range of between 5°C to 55°C.

To reduce the risk of damaging the unit, causing a fire or personal electrical injury, do not expose the base station to rain, moisture, dripping or splashing.

Note - ² Battery back-up not available on LITE versions



1.6. Loss of Life & Personal Harm Applications

The D3 family of monitoring systems must not be used in life support, critical care, medical, safety equipment, or similar applications where product failure could result in loss of life or personal or physical harm.. The systems can be used for environment monitoring to gain performance data but must not be used as a primary alarm system.

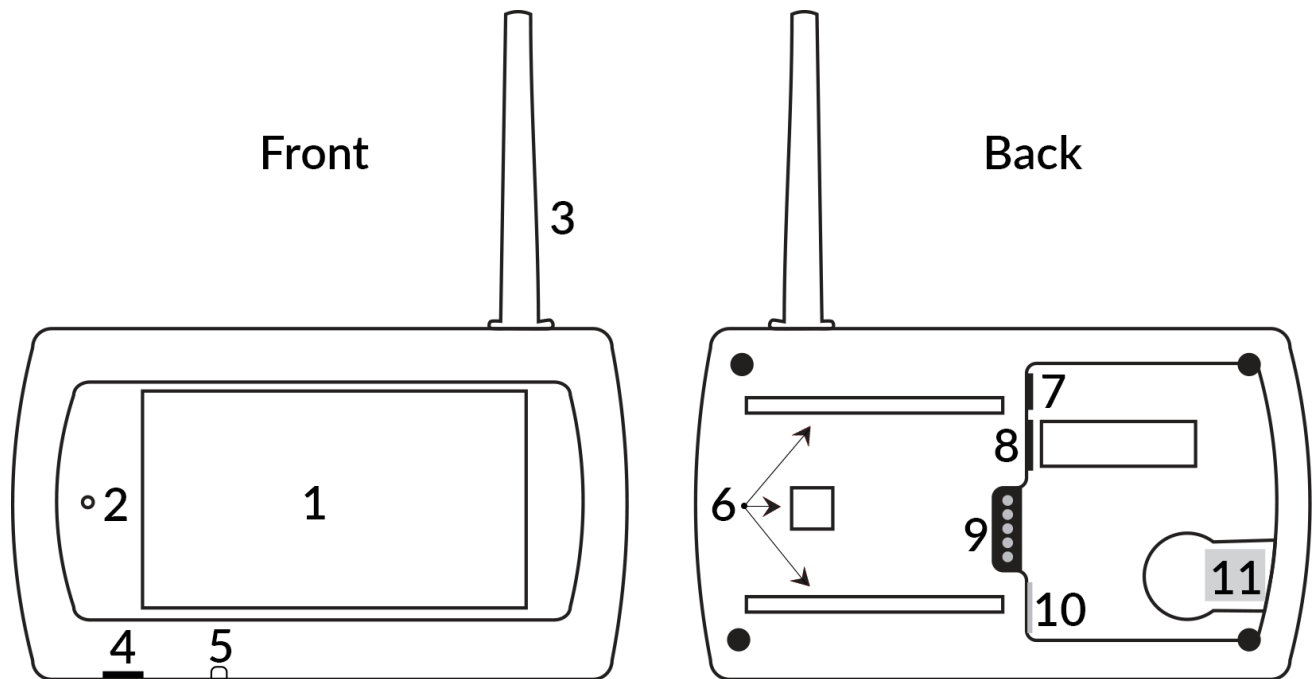
System Overview

The D3 family of monitoring system base stations are designed to communicate with the D3 range of environment probes. Probes communicate with their assigned base station each minute, the probes recorded data is; automatically reviewed, assigned alarm actions (if necessary) and stored within the base station for later access.

Functionality across the D3 family of base stations varies, this manual covers all base station systems. Differences in functionality will be noted against each section within the document as necessary.

Refer to the Set-up & Installation Guide section of this document for powering up, power connection, networking, mounting of the base station & Administrator level access actions.

D3 Base Station Assembly



Front

- 1 - Colour Touch Screen
- 2 - Indication LED (Green & Red)
- 3 - Aerial Enclosure
- 4 - Micro USB Port
- 5 - On/Off Switch

Back

- 6 - Wall Plate Fixing Points
- 7 - Power Connector
- 8 - Mini Din Connector
- 9 - Duel Relay Output
- 10 - Ethernet Connector
- 11 - Micro MMC Slot¹

Notes

¹ - Not activated with D3-LITE Software Configuration

Table of Content

1.	SAFETY INFORMATION	2
1.1.	Electrical Safety	2
1.2.	Battery Back-Up ² Battery	2
1.3.	Damage	2
1.4.	Location of the unit	2
1.5.	Temperature & Moisture	2
1.6.	Safety Critical Applications	2
D3 Base Station Assembly		3
2.	Base Station	7
2.1.	Indicator LED	7
2.2.	Base Station Touch Screen	7
2.3.	Status	7
2.4.	List	7
2.5.	Alarms	7
2.6.	Alarm Acknowledgement via Base Station	8
2.7.	Set-Up	8
2.8.	Edit IP Configuration (at Base Station)	8
2.9.	Re-Calibrating the Touch Screen	9
2.10.	Drive Maintenance	9
2.11.	Information	9
3.	Networked Interface	10
3.1.	Accessing the D3 Base Station	10
4.	Site (Default Screen on Login)	10
4.1.	Sensor Readings & Meaning of Status Messages	11
4.1.1.	Sensor Readings	11
4.1.2.	Status Messages	11
4.2.	Sensor Details	11
4.2.1.	Edit Alarm Set Points	12
4.2.2.	Warning level alarm set points (single points)	12
4.2.3.	Warning & Critical level alarm set points	12
4.3.	Sensor Inhibit/Clear Inhibit	12
5.	GRAPHS	12
5.1.	Graphing Tool	12
5.2.	Graph View	13
6.	ALARMS	13
6.1.	Alarm Details	14
6.1.1.	Adding an Alarm Note	14
6.2.	Unacknowledged Alarms	14
6.2.1.	Acknowledging an Alarm	14
6.3.	Historical Alarms	14
6.4.	Audit Information	15
7.	REPORTS	15
7.4.1.	Select Date	15
7.4.2.	Daily Overview Report	15
7.4.3.	Daily Sensor Report	15
8.	Users Login Details	15
8.1.	Updating/Changing User Login Details	15
8.2.	Forgot Login Details	15

Set-Up Guide	16
9. Powering the D3 Base Station	16
9.1. Powering Up	16
9.2. Powering Down	16
10. Networking the Base Station - IP Connectivity	16
10.1. IP Setup via the Base Station	17
10.1.1. DHCP Client Mode	17
10.1.2. DHCP Server Mode	17
10.1.3. Static Mode	17
10.2. IP Setup via the Network Interface	17
10.2.1. DHCP Client Mode	17
10.2.2. DHCP Server Mode	17
10.2.3. Static Mode	17
SETTINGS	17
11. Sensor Administration	18
11.1. Manage Devices	18
11.2. Add a Device/Sensor	18
11.2.1. Adding the Device/Sensor	18
11.2.2. Linking a Device	19
11.3. Adding a Device Group	19
11.4. Deleting, Disabling & Decommissioning Devices & Groups	20
11.4.1. Changing the Device's State	20
11.4.2. Deleting a Device	20
11.4.3. Disabling a Device	20
11.4.4. Decommission a Device	20
11.4.5. Deleting a Group	20
11.5. Editing a Device/Group	20
11.5.1. Changing a Device Reference and Name	20
11.5.2. Adding or removing a Device from a Device Group	20
11.5.3. Changing the Device Type	20
11.5.4. Changing the Device Display Resolution	20
11.6. Custom Sensor Database	20
11.7. Adding a Custom Sensor Type	21
11.7.1. Creating Pulse Kwh Sensor Type	21
11.7.2. Creating a Pulse Flow Sensor Type	21
11.7.3. Creating a Digital Sensor Type	21
11.7.4. Creating a Voltage, Current & Resistance Sensor Type	21
12. User Settings	22
12.1. My Details	22
12.2. Setting Password Expiry	22
12.3. User Management	22
12.3.1. Default Administrator Passwords/Login Details	22
12.3.2. Adding Users	23
12.3.3. Editing an Existing User	23
12.3.4. Enable/Disable Users	23
12.3.5. Resetting a User Passwords	23
12.3.6. Deleting a User	23

13.	Alarms	24
13.1.	General Alarm Settings	24
13.2.	Alarm Profiles	24
13.2.1.	Creating an Alarm Profile	25
13.2.2.	Editing an Alarm Profile	25
13.2.3.	Adding/Editing a Sensor/Devices Alarm Profile	25
14.	Site Settings	26
14.1.	System Setup	26
14.1.1.	Adding A Site Name	26
14.1.2.	Dimming/Brightening & Display Sleep Mode	26
14.1.3.	Daylight Saving	26
14.1.4.	Change Displayed Temperature (°C or °F)	26
14.1.5.	Change the Default Displayed Resolution	26
14.2.	Scheduler	26
14.2.1.	Setting/Editing a Schedule	26
14.2.2.	Example - Activate Inside Set Hours Schedule	27
14.2.3.	Example - Activate Outside Set Hours Schedule	27
14.2.4.	Adding a Auto Inhibit Schedule to a Sensor/Device	27
14.3.	Setting/Editing Time & Date	27
15.	Networking	27
15.1.	Email Setup/Editing	27
15.2.	Bureau Access Setup	28
15.3.	IP Dial Out Setup	28
16.	Administrator	28
16.1.	Software Update	28
16.2.	Backup Configuration	28
16.3.	Restore Configuration	28
16.4.	Maintenance	28
16.4.1.	Cancel all queued alarms	28
16.4.2.	Re-index archive files	28
Installing the Base Station		29
17.	What's in the Box	29
18.	Mounting the Base Station	29
18.1.	Power Supply & Ethernet Connection	29
18.1.1.	Power Supply	29
18.1.2.	Ethernet Connection	29
18.2.	Mounting Wall Plate	29
18.3.	Mounting/Dismounting the Base Station	30
18.3.1.	Mounting the Base on Wall Plate	30
18.3.2.	Dismounting the Base from Wall Plate	30
19.	Connecting to the Internal Relays	30
19.1.	Relay 1 - Digital Relay Output	30
19.2.	Relay 2 - Solid State Relay Output	30
20.	Changing the Micro MMC Card	30
21.	Changing the Internal Back-up Battery	31
Annex 1 - Technical Specification		32

User Manual

2. Base Station

2.1. Indicator LED

During normal operation the Indicator LED will show a constant Green, indicating power is on and no alarms are currently active. Should an alarm occur then the LED flashes Red until the alarm is acknowledged. Once acknowledged the LED will be a constant Red until the alarm status has cleared.

Should a new alarm occur the LED will return to flashing Red until acknowledgement is completed.

2.2. Base Station Touch Screen

The touch screen allows for selection of various parameters by firmly pressing on the icon/option required.

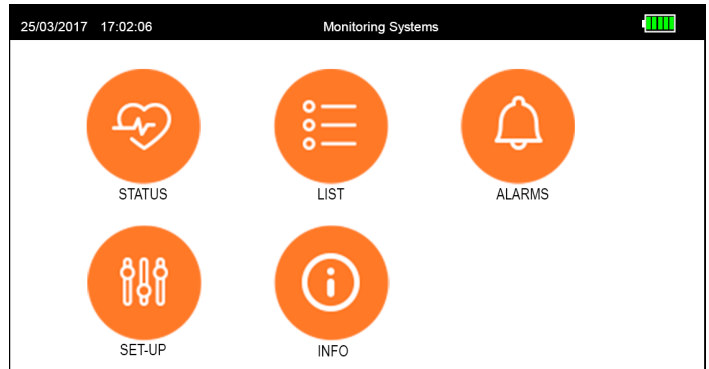
The system date and time are shown on all system versions. The battery charge indicator shows the current charge level on the internal battery back-up².

The home screen (seen above) allows access to all grouped areas on the system. The Icons displayed on the home screen are defined below.

Note -

Do not use sharp or pointed object as a selection tool as these may damage the screen surface.

Within each screen there are action icons and/or text boxes which allow actions to be completed.



2.3. Status

HOME => STATUS

The default screen for viewing each sensors live data individually, the Status screen shows the sensors; ID, Name, Current Reading, Current Status with colour notification;

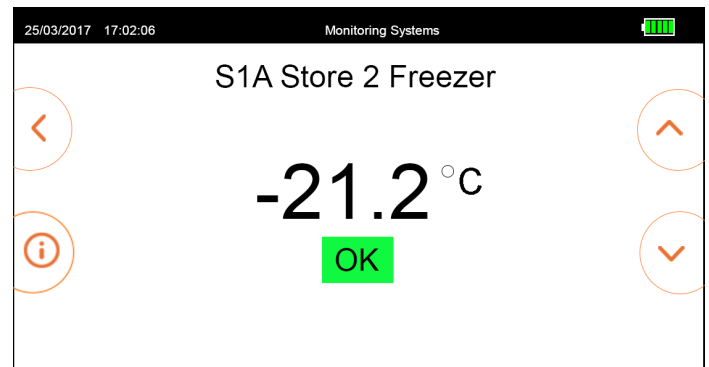
Green - OK

Amber - alarm delay count down

Red - sensor in alarm

By pressing the Info icon on the sensor status screen further information (set points & alarm delays) can be viewed.

Each sensors status screen will scroll automatically after 7 seconds, this allows for a continuous view of the current sensor readings to be displayed. Sensor readings can be scrolled through using the up & down icons, when scrolling ends the current sensors readings will be displayed for 30 seconds before the auto scrolling recommences.



2.4. List

HOME => LIST

An overview list of all of the paired sensors sorted by their ID reference (lowest to highest). Shown are the sensor ID, Name, Current Reading (with status denoted by colour) and the sensor reading type - e.g. °C or %RH.

The list can be scrolled using the up & down action icons.

2.5. Alarms

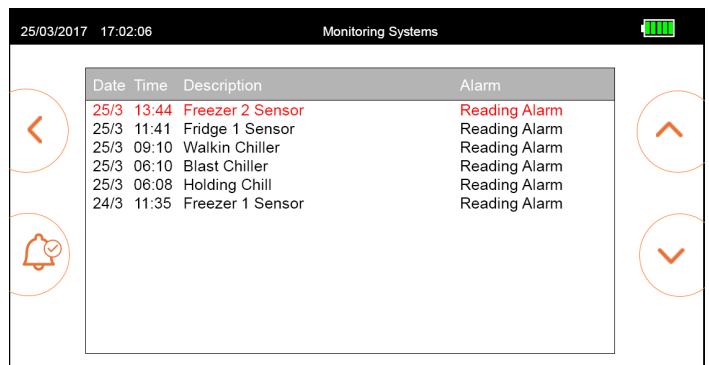
HOME => ALARMS

An overview list of all unacknowledged and current alarms. The list can be scrolled using the up & down action icons.

Unacknowledged alarms are shown in Red, newly acknowledged (via the base station) & current alarms are Black.

NOTE -Alarms can be acknowledged by a user with the appropriate access level on the base station, however alarms acknowledgement on the base station is completed on each individual alarm in turn.

Acknowledgement via the networked access allows for a user to choose multiple alarms and single click acknowledgement - see section 6.2 Unacknowledged Alarms



2.6. Alarm Acknowledgement via Base Station

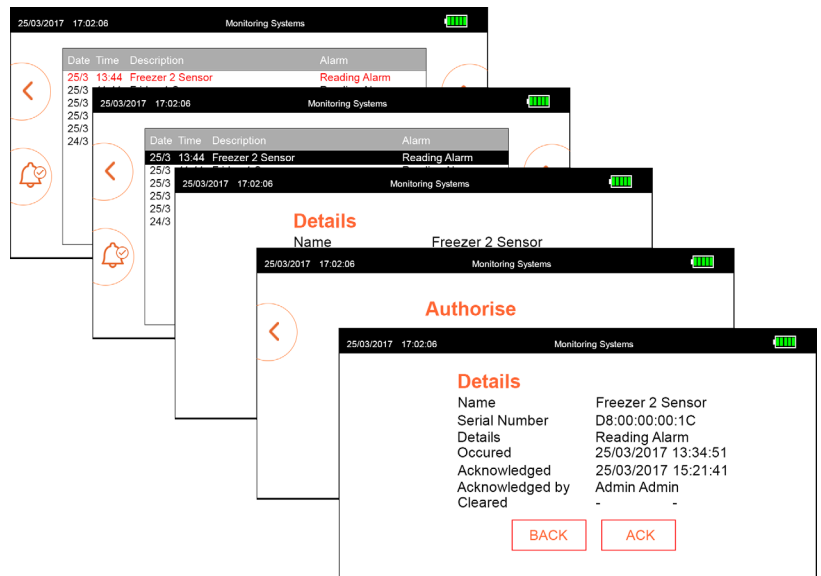
HOME => ALARMS => SELECT => ACKNOWLEDGE ALARM =>ACK

From the alarm list select the alarm to be acknowledged using the up & down action icons.

Once selected (highlighted with the black selection bar) press the alarm acknowledge action icon. The alarm details will be displayed, select ACK (acknowledge alarm) and the Authorise screen will appear.

Press within the Username box, the list of system users will be displayed. Press or select the relevant USER ID then press the Enter icon. Now press within the Passcode box, the Passcode numeric keypad will display, enter passcode then press the keypad enter key. On the Authorise screen press the CONFIRM button.

The alarm details screen will now show the alarm as acknowledged. Press the back icon to return to the alarm list.

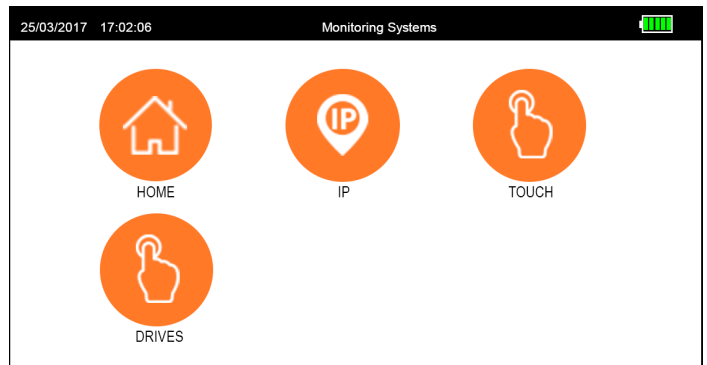


Note - The above steps need to be repeated for each alarm that requires acknowledgement.

Set-Up HOME => SET UP

These screens are passcode protected, only system Administrator access level users have access to the Set-up menus.

- **Home**
Pressing home icon returns the screen to the home screen
- **IP**
Opens the IP configuration menu where the IP settings for the system can be set (from new DHCP Client & DHCP Sever ONLY)
- **Touch**
Allows the touch screen to be recalibrated
- **Drives**
Allows for configuration of the system drives



2.7. Edit IP Configuration (at Base Station)

HOME => SET UP => IP => CHANGE

From manufacture the base station is shipped in DHCP Client configuration, this allows the network to assign the IP settings for the system automatically. The IP configuration at the base station only needs to be enacted if the unit is to be set up via a PC/Laptop prior to network installation.

Pressing the change button will open the network mode configuration

- **Static**
The Static IP configuration can only be entered/updated via the systems network interface. Once set the base station retains the Static IP information allowing the unit to be switched to Client or Server mode during maintenance (if required) and back to Static via this menu.

- **DHCP Client**

Default - allows the network to assign all required IP information for instant access via networked PC's/Laptops or mobile devices.

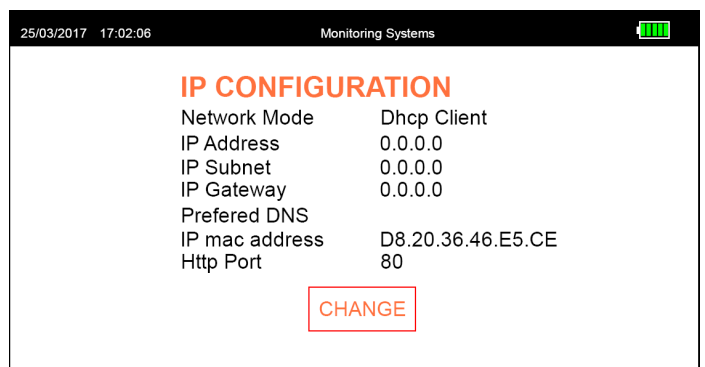
- **DHCP Server**

Allows the base station to be directly connected to a PC or Laptop, the IP is set at 192.168.100.100 and does not change. Opening a web browser will allow access to the base station log-in screen when this IP is entered in the address bar.

Select the relevant IP mode required and Accept.

The base station will now be operating in the selected mode.

See section 10. Networking the Base Station for more information on IP configuration.



2.8. Re-Calibrating the Touch Screen

HOME => SET UP => TOUCH => START

The touch screen is calibrated at manufacture, should re-calibration be required this can be done via the touch menu.

Within the touch menu simply press Start icon and follow the on-screen instruction.

2.9. Drive Maintenance

HOME => SET UP => DRIVES

The drives menu contains access to high level maintenance functions completed by system engineers, contact you system supplier for more information.

2.10. Information

HOME => INFO

This screen gives an at a glance overview of key factors on the system set-up. It shows;

Network mode - shows the current selected network connection mode of the system

IP address - shows the assigned IP to be used in an internet browser for networked access to the system

IP Subnet, Gateway & Preferred DNS - IP settings assigned (preferred DNS will be blank in DHCP server mode)

IP Mac Address - the base stations unique mac address

Http Port - the IP connection port assigned

Battery - shows if a battery back-up is installed on the system

3. Networked Interface

The D3 family of base stations are all designed to be accessed over a networked interface, the interface used is a standard internet browser on a PC/Laptop or mobile device with access to the same network as the base station. For the purpose of this manual Google Chrome has been used.

3.1. Accessing the D3 Base Station

INTERNET BROWSER => LOGIN SCREEN => SITE PAGE

Each user will be assigned access privileges by the systems Administrator(s). When accessing the D3 base station a user's access privileges will determine what is seen on each screen. When creating users the Administrator can; manually create or enact an email for the users to create their username and passwords.

To access the D3 Base Station open any standard internet browser on PC/Laptop or mobile device.

Within the browsers address bar type the base stations assigned IP address – e.g. 192.168.100.100 and press enter. The browser will connect to the base station and open the Login Screen. Enter the Username and Password provided by the Administrator and select the Sign In button.

The Main Site Page will open.

Note - Before accessing the system for the first time or after having a password reset, a user will be directed to a web login screen where they must change and set their own secure login details. New users will also need to set their Base Station password, see section 12.1. My Details for more information.

Hint - Save the IP address to the browser favourites to make future access simpler.

4. Site (Default Screen on Login)

1. Main menu bar giving access to all system menu pages

SITE (default page) – overview of sensor details

ALARMS – Overview & Access to current, unacknowledged and historical alarms and audited system events

REPORTS – User generated reports

SETTINGS – The user privilege level will determine the settings page display

2. Current date and time

3. User Status Indicator – Click to log out of the system, inactivity on the system for more than 5 minutes will change the log in status of the user from Green (logged in) to Grey (guest). As a guest the user can view data but an attempt to access any restricted part of the system will require a re-login

4. View Bar

All – shows the readings and status of all sensor, with numerous sensors this page can be scrolled to view all

In Alarm – shows only those sensors currently in an alarm status, this is a view only screen, alarms can only be acknowledged from the ALARMS menu – see section 6. ALARMS

In Warning – shows only those sensors that are currently in a warning status and on alarm delay countdown, if the warning status remains beyond the alarm delay period then these sensors will alarm.

5. Export Buttons - allows the current screen data to be exported in various output types

6. Sensor Type – this can be expanded and individual or multiple sensor types can be chosen to be viewed by clicking and selecting them

7. Expand all - when sensors are grouped this allows the group to be expanded to show all sensors – see section 11.3 Adding a Device Group for more information on sensor grouping

8. Search - allows a search of the current viewed data by a user defined parameter

9. Sensor Detail & Details Bar

Details Bar – allows for the sensors to be quickly sorted by ID and current status by clicking on the sort button next to the various headed elements.

Sensor Details - sensor details are shown for each sensor on the system, it includes (from left to right)

Graphing Button – clicking the icon opens the Graphing Tool for data review, for more information on the graphing see section 5. Graphs

Sensor Description – clicking the underlined sensor description opens a Sensor Details page, see section 4.2 Sensor Details for more information

High/Low Alarm 1 – the warning alarm set points for the sensor (or sensor group if set)

High/Low Alarm 2 – the critical alarm set points for the sensor (or sensor group) if set

Current Reading – the most recent reading from the sensors

Status – the current status of the sensor

The Site page is the default system landing page on login, it shows all paired sensors, their current readings and their status. Both the current

Ref	Description	Hi / Lo Alarm 1	Hi / Lo Alarm 2	Current Reading	STATUS
S1	- Store 1	25.0 / 5.0		20.8 °C	OK
1A	Store 1 Front	20.0 / 5.0		S/C	Alarm Pending - 10m
1B	Store 1 Middle	10.0 / 5.0		20.9 °C	Alarm
1C	Store 1 Back	25.0 / 5.0		20.8 °C	OK
S2	- Store 2	25.0 / 5.0		26.3 °C	Alarm Pending - 15m
2A	Store 2 Front	25.0 / 5.0		36.6 °C	Alarm Pending - 15m
2B	Store 2 Middle	25.0 / 5.0		20.7 °C	OK
2C	Store 2 Back	25.0 / 5.0		21.7 °C	OK
S3	- Store 3				
3A	Store 3 Middle	25.0 / 5.0		20.7 °C	OK

readings and status are colour coded to show those sensors that are OK, in Alarm or Warning.

Hint - No system changes can be administered on the SITE page itself, users should familiarise themselves with this page by clicking on the various elements.

Re-entering or refreshing the page will reset its default settings.

4.1. Sensor Readings & Meaning of Status Messages

4.1.1. Sensor Readings

Power Up – shown on base station at power up and will display until a reading is received from the connected sensor, if no reading is received the base station will trigger a communications alarm

Current Reading – shows the last current reading of the sensor received by the base station, the decimal placing of the reading will be as defined by the system Administrator when setting the system up

Sensor Fault – shows that a paired sensor is faulty or not connected correctly to its wireless sensor or input module

Inhibit – The alarm status of the sensor has been inhibited, the current reading will show but no alarms will occur for this sensor while in an inhibited status

4.1.2. Status Messages

OK – The sensors reading is within its defined high & low set points

Alarm Pending – The reading is outside of the defined set points and the set alarm delay period has been actioned, the remaining time until the status changes to alarm is also shown

Alarm – The reading is outside of the defined set points, the alarm delay has been exhausted and the sensor has alarmed

No Communications – The base station has not received a reading from the sensor and an alarm has been triggered

4.2. Sensor Details

SITE => SELECT SENSOR

The sensor detail page gives a view of the full current information for the sensor selected.

1. Current Sensors Name and Reference ID – clicking on the 3 bar menu before the ref and ID opens the sensor list where other sensor can be selected. Sensors can be scrolled in the ID order (low to high) by pressing the back and forward arrow icons at each end of the name tab.

2. Graphing Tool, Signal Strengths and Battery Level Icons –

Graphing Tool - selecting this icon will open the graphing tool – see section 5. Graphs

Wireless Signal Strength Indicator – this is a simple display for the wireless signal strength. Four bars is full strength and no bars/red is low strength. A detailed view of the signal strength and quality are available to the system Administrator privilege level, see section 11.1 Manage Devices

Battery Wear Level Indicator - when red the sensor battery needs to be replaced.

3. The current live reading

4. The current sensor status

5. Alarm 1 & 2 Set Points & Delays – individual high and low set points and alarm delays can be set, this allows for a warning alarm set point and a critical alarm set point to be created. See section 4.2.1 Edit Alarm Set Points

If Alarm 2 is shaded then a 2nd alarm set point has not been set and the sensor will only alarm based on Alarm 1

6. Alarm Edit Button – allows alarm set points to be amended, also allows Alarm 2 to be activated.

Note - Only users with the correct access privileges can see the edit and amend alarm set points. All changes made are recorded into the base station audit history

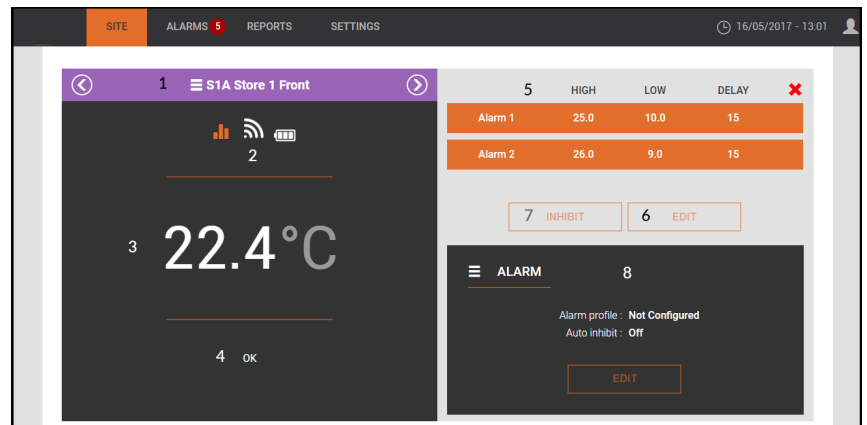
7. Inhibit/Clear Inhibit Button – allows for the sensors alarms to be inhibited and re-activated. In an inhibited status the base station will not alarm. See section 4.3 Sensor Inhibit/Clear Inhibit

Note - Only users with the correct access privileges can see, inhibit and clear inhibited sensors. All changes made are recorded into the base station audit history

8. Alarm Profile & Auto Inhibit – configures what actions the base station will take in the event of an alarm.

Note - these functions can only be set by the System Administrator privilege access level, see Sections 13.2 Alarm Profiles & 14.2 Scheduler for more information.

Clicking the red cross in the left hand score of the detail screen returns the view to the default Status menu.



4.2.1. Edit Alarm Set Points

SITE => SELECT SENSOR => ALARM SET POINTS => EDIT

Note - Only Users with the correct access privileges can see the edit alarm set points button, access levels are set by the System Administrator/s.

- **High Alarm** – the maximum point the sensor reading should achieve before the alarm pending countdown initiates
- **Low Alarm** – the minimum point the sensor reading should achieve before the alarm pending countdown initiates
- **Delay** – the amount of time of the alarm pending countdown

	HIGH	LOW	DELAY	
Alarm 1	10.0	5.0	5	
Alarm 2	30.0	-5.0	15	■

CANCEL SUBMIT

4.2.2. Warning level alarm set points (single points)

Set the required high, low and delay in Alarm 1, click the Submit button to set alarm set points, the screen returns to the Sensor Detail page

4.2.3. Warning & Critical level alarm set points

Set the required warning level high, low and delay in Alarm 1, then

Click the black toggle button at the end of Alarm 2 to make it active and editable. Set the required critical level high, low and delay in Alarm 2. Click the Submit button, both alarm set points will be set and the screen returns to the Sensor Detail page

4.3. Sensor Inhibit/Clear Inhibit

SITE => SELECT SENSOR => INHIBIT/CLEAR INHIBIT

Note - Only Users with the access privileges can see the Inhibit/Clear Inhibit alarm button, access privileges are set by the System Administrator/s.

This function is often used when a location being monitored is out of service or known to be faulty, by Inhibiting the alarm it stops false alarms occurring during a known outage.

To Inhibit Alarm – Click the Inhibit Alarm Button, the sensor will be inhibited. At the next screen refresh the sensor status will change to show as Inhibit, the Inhibit button will now show Clear Inhibit. No alarm notifications will be produced for this sensor while in an Inhibited status. The current readings will still be displayed.

To Clear Inhibit – Click the Clear Inhibit button and the inhibit will be removed. At the next screen refresh the sensor status will change to either OK, Alarm Pending or Alarm depending on the actual status of the sensor. Alarm notifications will be produced from the this point going forwards.

Note - See more on Auto Inhibit in section 14.2 Scheduler for scheduling sensors to inhibit alarms at set time periods daily/weekly.

5. GRAPHS

5.1. Graphing Tool

The graphing tool can be entered on any page displaying the graphing icon by clicking the icon.

1. Select Device – the default is the sensor where the graphing icon was selected, however using the drop down box another sensor can be chosen.

2. Select Traces –

Default - Sensor Reading

Default - High Alarm 1 set point

Default - Low Alarm 1 set point

Default – Status

User Defined – High Alarm 2 set point

User Defined – Low Alarm 2 set point

User Defined – Communications – this shows the quality of the signal being received from the sensor by the base station

User Defined – Signal Strength – this shows the strength of the signal be received from the sensor by the base station.

Note - the default traces are loaded automatically when a date/date range is selected, therefore the traces only need to be selected if more than the default is required.

3. Select Data Range – 4 selections are available, these are;

Today – Displays the data from 00:01am to the latest reading

Week – Displays the last 7 days of data

Month – Displays the last month's data

User Defined – Displays the user selected date range (up to 1 year)

VIEW GRAPH

Select device 1 S1A Store 1 Front

Select Traces 2 EDIT

Select date range 3 TODAY WEEK MONTH

DD/MM/YYYY DD/MM/YYYY

SHOW

5.2. Graph View

1. New Graph Trace, Pan Left, Refresh, Pan Right and Print Tools

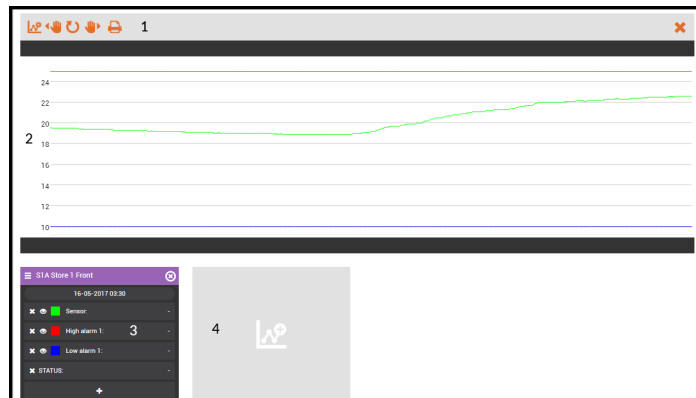
New Graph Trace – opens the Select Trace tool and allows additional traces to be added to the current selection.

Pan Left & Right – allows for panning of the graph when zoomed in.

Refresh – reverts the graph to 100% zoom level, this can also be completed by double clicking on a zoomed graph.

Print – downloads the graph in a .PNG format for printing or saving.

2. Selected Traces – bringing the mouse cursor into trace area will bring a cursor line into view, the trace data will be shown in the trace detail box (3 below). This cursor line can be moved along the trace, the trace data details will change to reflect the data recorded at each point the cursor line covers.



Click and drag to zoom in on a desired selection of trace, data can be zoomed to the 1 minute interval period at which it is stored. See 1 above to zoom out

3. Trace Detail Box – gives the id and name of traced sensor, shows the time, date and readings for the trace period covered by the cursor line. Selecting the cross in front of trace element will remove that trace from the graph, the eye icon can be used to hide/show a trace but not remove it from the graph. The + at the base of the box allows for additional traces to be added to a current graph. Clicking the top right corner cross removes this sensor from the current graph

4. Brings up the Select Trace tool to allow for comparison traces to be added to the existing graph. A comparison could be made for the same sensor against a different time period and/or another sensor over the same or different time period.

Up to 4 sensors traces can be compared on the same graph by repeater step 5

When multiple sensor are being compared, each will show the time, date and selected data when the cursor line is moved over the graph, zooming one will zoom all.

Trace colours can be changed by clicking the colour box in the trace box and selecting the desired colour from the colour swatch that opens.

Clicking the red cross in the top right corner closes the graph and opens the Status page.

Hint - No system changes or data changes can be administered within the graphing tool, only data can be viewed, users should familiarise themselves with this tool by clicking on the various elements.

6. ALARMS

SITE => ALARMS

1. Selection Tabs – the Alarms page is broken down in 4 areas, these are;

- **Current (default)** – this is all alarms that are currently on the system, this includes unacknowledged alarms. Therefore the alarm status may have cleared and the sensor may no longer be in alarm, but until the alarm is acknowledged it will remain in the current alarm list to alert of the occurrence.

- **Unacknowledged** – this is all alarm events that have occurred and have not yet been acknowledged by an authorised user. Once a user acknowledges an alarm it will be removed from this tab, if the sensor is still in alarm it will remain in the Current tab, if the sensor's alarm has cleared it will be in Historical

- **Historical** – this is all the alarms that have occurred and stored in the system memory

- **Audit** – this is a record all alarm and user system change events stored within the system memory

2. Allows the current viewed data to be exported or printed/saved in various formats

3. Allows a search of the current viewed data by a user defined parameter

4. Description Bar – allows for the sensors to be quickly sorted by Alarm/Event ID, Date, Time, Device, Sensor Type, Alarm/Event by clicking on the sort button next to the various headed elements.

ID	Date	Time	Device	Sensor Type	Alarm/Event	STATUS
54	10/05/2017	11:01:36	1B Store 1 Middle	Temperature	Reading alarm	Alarm

Graphing Button – clicking the icon opens the Graphing Tool showing the point of the alarm occurrence

ID – this is the system generated unique ID given to the alarm event

Date & Time – show the system date and time when the alarm event occurred

Device - gives the device Ref and Name

Sensor Type – type of sensor that has alarmed

Alarm Event – gives reason for alarm event (Reading, Communications, etc), clicking the underlined alarm message will open the Alarm Details Box where more information can be seen and alarm notes can be added

Status – shows the current status of the sensors readings; Alarm shows the sensor is still in an alarm status, Cleared shows that the alarm has cleared but indicates that the alarm event has not yet been acknowledged.

Note - All system users can view the Alarms pages, however only users with the appropriate access privileges can acknowledge and add notes to an alarm event. System access privileges are assigned to users by the System Administrator/s.

6.1. Alarm Details

SITE => ALARMS => select ALARM/EVENT

This box contains the details of an alarm event and allows for alarm notes to be added, it lists:

Name – The system ID and name of the sensor

Serial Number – The serial number of the sensor

Sensor Type – The type of sensor

Details – the causal fault for the alarm

Reference (not seen on communications or fault alarms) – the reading that caused the alarm

Occurred – the date and time the alarm event was triggered

Acknowledged – the date and time the alarm was acknowledged, if blank then the alarm has not yet been acknowledged

Acknowledged by – the details of the user who acknowledged the alarm, if blank then the alarm has not yet been acknowledged

Cleared, if the sensor has returned to within its defined set points then the point at which this occurred and the alarm cleared is recorded, if blank then the sensor is still in alarm

Email – if emailing of this alarm event is enabled then this will confirm an emails was sent

Add – this allows users with the correct access privileges to enter notes against the alarm event, these notes are then visible to other system users. Up to 20 notes can be added per alarm event. Each note is unique and stored with the users ID details, Notes cannot be deleted nor amended.

Graphing Icon (top left corner) – opens the graphing tool to the instance of the alarm event

Time / Date	User	Comment
10/05/2017 11:28:03	Admin Admin (ERS:DB.80.39.FF.03)	Acknowledged alarm and called engineer
10/05/2017 11:28:55	Admin Admin (ERS:DB.80.39.FF.03)	Engineer attended site and repaired faulty compressor, see engineer report no. 12334

6.1.1. Adding an Alarm Note

SITE => ALARMS => select ALARM/EVENT => ALARM DETAILS => ADD

When the Add button is selected a record entering panel is opened at the bottom of the Alarm Details box, the user can type a message of up to 255 alpha/numeric characters. Clicking the Submit button records the alarm comments into the system memory.

Up to 20 records can be entered per alarm event.

An audit review of the alarm details contain any notes entered against that alarm.

6.2. Unacknowledged Alarms

SITE => ALARMS => UNACKNOWLEDGED

The Unacknowledged alarm page is similar to the Current Alarm page, the 2 difference being

1. Acknowledge Alarm button is available
2. The graphing icon is replaced with a selection button.

ID	Date	Time	Device	Sensor Type	Alarm/Event	STATUS
356	17/05/2017	12:41:00	S3B Store 3 Co2	Current	Reading alarm	Alarm

Exporting, sorting and the search capabilities are the same.

6.2.1. Acknowledging an Alarm

SITE => ALARMS => UNACKNOWLEDGED => select Alarm/s => ACKNOWLEDGE ALARMS

On entering the Unacknowledged alarms tab, the Acknowledge Alarm button is shaded and the Select Buttons are a solid colour.

Acknowledging alarms individually - Alarms can be acknowledged individually by selecting the Select Button in front of the desired alarm and clicking the Acknowledge Button

Acknowledging a number of alarms at once – Click the Select Button for those alarms to be acknowledged and Click the Acknowledge Button

Acknowledging all alarms at once – Click on the Select Button in the Description Bar, all alarms will be selected, Click the Acknowledge Button

When the Acknowledge Button is clicked the user will be required to enter their password to confirm acknowledgement.

Note - Acknowledged alarms will be moved from the Unacknowledged tab, if still a current alarm they will appear in the Current section, otherwise they will move to Historical if the alarm has cleared

6.3. Historical Alarms

SITE => ALARMS => HISTORICAL

The Historical Page allows for access to all alarm events in the base stations recorded memory. It will also allow for archived alarm events to be viewed and searched from the internal back-up facility (only on systems with this feature enabled).

The layout of the Historical page is similar to that of the Current alarm page with 2 additions. These additions are;

1. User Defined Date Search – search based on user defined start and end period.
2. Show per page tab – users can choose the number records per page, the next and previous buttons then allow users to scan through alarms by page.

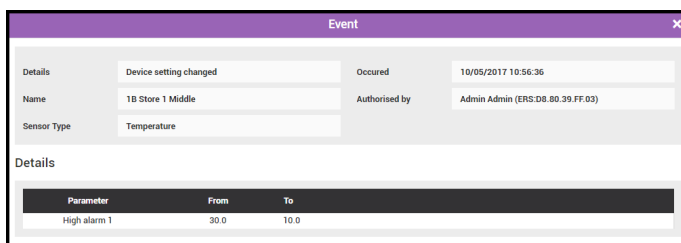
6.4. Audit Information

SITE => ALARMS => AUDIT

The Audit Page is identical to the Historical Alarm page in look and function.

The difference with the Audit Page is that the view contains all alarms as well as user defined events recorded by the base station.

User defined events are system changes made by a user, these are recorded against that users details to give an audit trail of all activity users complete on the system. The parameters changed are highlighted along with the date and time details



7. REPORTS

SITE => REPORTS

All reports generated by the system are in a PDF format and contain the date of creation and the creating users details (including electronic signature).

Note - For reports to be created the network browser MUST support pop-ups and pop-ups must be enabled for the systems assigned IP address.

7.4.1. Select Date

Before creating a report the date for the report to generate must be selected. To select the date click within the date picking box and the date selection tool will appear.

Once a date is selected the report generation buttons become available.

Note - any date from the full recorded history within the base station can be selected for the report to be created.

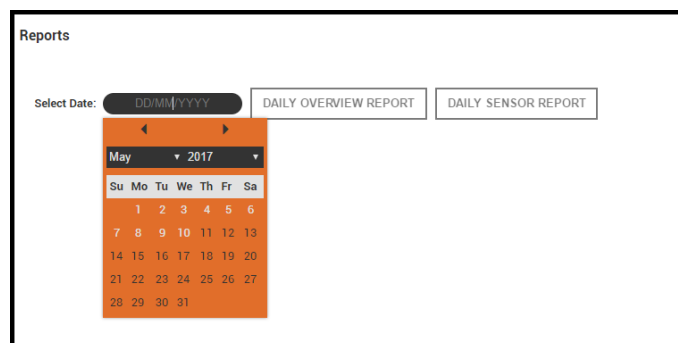
7.4.2. Daily Overview Report

The daily overview report includes a list of all sensors on the system on the date selected. It shows the set points, max, min and average recording for each sensor and the readings taken every 2 hours during that full day.

7.4.3. Daily Sensor Report

The daily sensor report creates a detailed report with a page for each sensor on the date selected. It shows the set points, max, min and average readings by sensor. It has a graphical representation of the data over that day and shows the sensors readings over the 24 hour period at 15 minute intervals.

The end of the report shows any alarm events that occurred on the system (from those alarms still in the active list).



Note - to ensure all associated alarms are included on the daily report it is best practice to produce and save a copy of the report each day for the previous days data.

All alarm details are saved to the Historical Alarm log and can be viewed by date to compare to a daily report.

8. Users Login Details

8.1. Updating/Changing User Login Details

SITE => SETTINGS => MY DETAILS => EDIT

A user set their Username, Unit Passcode and Web Password;

Username - can be up to 25 alpha/numeric characters in length and may be upper & lower case

Unit Passcode - Used where required on the base station - can be up to 8 numeric characters only

Web Password - can be up to 25 alpha/numeric characters in length and may be upper & lower case

Once the user has input their Username, Unit & Web Codes they will need to enter the Administrator provided password and click the submit button, this will action the changes made and the new username and passcodes/words will be required for future logins.

8.2. Forgot Login Details

Should a user forget their login details then they should contact the system Administrator, the Administrator can reset a default login and the user can then complete section 8.1 Updating/Changing User Login Details.

Set-Up Guide

Overview

The set-up guide is aimed at System Administrators & System Installers. Where this guide overlaps actions outlined in the User Manual it will highlight the relevant section for the Administrator/Installer to refer to.

Set-up & Installation should be completed by competent persons, please read this manual in full before commencing any work on the base station.

Quick Start Guides are also issued with new sensors, these guides explain how to configure the sensors to a base station, and these should be used in conjunction with this document during sensor set-up.

Note (No.) A number in brackets refers to relevant part of the system outlined in the System Overview D3 Base Station Assembly of the User Guide

New System Set-up

Hint - Once set-up the base station retains the configuration of all sensors, users, etc. even when powered down. Setting a new system up over a laptop connection and then connecting to the site network is by far the simplest and quickest set-up method.

After reading Settings section of the manual, and prior to commencing sensor set-up, thought should be put into how sensors will be; given a unique ID, named, the set points needed, the alarm delay needed and if the sensors will be grouped together. Actions required on alarm for each sensor will also assist in defining the alarm profiles needed. Planning and documenting this will make the set-up process far simpler.

New system set-up work-flow best practice;

- Network the base station
- Check and set time & date
- Complete the default Site Settings
- Create additional sensor types required in the Customer Sensor Database
- Add & pair all required sensors
- Create alarms profiles
- Create required Schedules (if needed)
- Edit sensor set points, attach to alarm profiles & auto inhibit schedule (if needed)
- Complete Email Set-up & send test email
- Create Users & access levels
- Attach any peripheral hardware & Mount the Base Station
- Install the sensors & repeaters as necessary
- Issues Users with login details

If a site plan is available, marking the positions of installed sensors and repeaters along with their assigned ID's will simplify finding these items at a later date if required.

9. Powering the D3 Base Station

9.1. Powering Up

Connect the power supply male jack to the female input power connector socket (7), securing the power cable behind the internal securing lug built into the base station.

Plug the power supply into a mains socket and switch on, press and hold the power button (5) until the unit starts to power on. The unit's initialisation progress bar will be displayed. Once power up is complete the menu screen will display and the base station is ready.

The LED on the base station display will show solid colour to indicate the system is powered.

9.2. Powering Down

Press and hold the power button (5) for 15 seconds, the base station will then fully power down.

Internal Battery Back-Up² (operation & testing)

On connection to mains power supply the internal battery back-up will commence charging, on mains power loss the battery back-up will auto switch and power the base station.

Note - It is recommended that the battery back-up operation is tested regularly (manufacturer recommends at least monthly). To test; remove the mains power to the base station (switch off at the mains power socket), the base station should continue to function.

Replacement of the battery for the battery back-up should only be completed by competent persons, refer to the system supplier for assistance should the battery need to be replaced.

10. Networking the Base Station - IP Connectivity

The D3 is capable of operating in 3 different IP modes, they are;

- **DHCP Client** - (default from new) this allows the system to be connected directly to an available network port and for that network to provide all the relevant IP settings to access the networked interface - see section 3. Network Interface.

Note - Though this makes for an easier installation of the system the network can assign the base station a new IP, meaning any favourite saved within web browser would need to be updated.

- **DHCP Server** – This allows the base station to communicate with a pc/laptop directly via an ethernet connection. The base station is acting as a server and gives out an IP that can be easily located on the PC/Laptop being used. This option is frequently used when setting the system up on installation, as all can be done on a laptop/pc beforehand.

Where the user wants to connect to a dedicated PC or Laptop this option can also be used but it will limit the alarm capabilities of the system and is not recommended.

Note - do not connect a base station in DHCP Server mode directly into a network as a conflict in IP settings on that network could occur.

- **Static** – This base station is set to a static IP address on the network. The benefit of the static IP is that it does not change (unlike DHCP Client). This means that even if the network loses power on reboot the same IP will be assigned to the base station. This stops the users having to rediscover the IP from the base station for access via their preferred web browser (the static IP can be saved as a favourite or desk top icon).

10.1. IP Setup via the Base Station

HOME => SET UP => Authorise => IP

Also refer to the D3 Quick Start Guide

10.1.1. DHCP Client Mode

HOME => SET UP => Authorise => IP => Change => NETWORK MODE => Select DHCP Client

In DHCP client the network will automatically assign the IP configuration one the system is connected to the network. The assigned network IP address is visible in the Info view (HOME => INFO).

10.1.2. DHCP Server Mode

HOME => SET UP => Authorise => IP => Change => NETWORK MODE => Select DHCP Server

In Server mode the base station is configured for direct connection to a PC/Laptop using a network cable. The IP Address is fixed and is 192.168.100.100

10.1.3. Static Mode

HOME => SET UP => Authorise => IP => Change => NETWORK MODE => Select Static

The base station retains the last Static configuration set, the Static IP details can only be entered/updated over the network interface.

10.2. IP Setup via the Network Interface

SITE => SETTINGS => NETWORKING => IP SETUP

10.2.1. DHCP Client Mode

SITE => SETTINGS => NETWORKING => IP SETUP => DHCP CLIENT

Host Name – this can be edited, the host name is visible on the network and makes identification assigned base station IP easier for IT departments.

The IP Address, Subnet, Gateway, Preferred & Alternate DNS are all auto supplied by the network and no action needs to be taken.

The HTTP Port is also normally auto supplied, however should the network administrator require this can be edited.

10.2.2. DHCP Server Mode

SITE => SETTINGS => NETWORKING => IP SETUP => DHCP SERVER

The IP is set at 192.168.100.100 and does not change, in this mode the unit can be connected directly to a PC/Laptop. Entering this IP address into the browser will access the login window.

10.2.3. Static Mode

SITE => SETTINGS => NETWORKING => IP SETUP => DHCP STATIC

The IP Address, Subnet, Gateway, Preferred & Alternate DNS and HTTP Port must all be manually configured.

Note - the system retains the last static IP settings entered. Therefore once the static IP is set-up other modes can be used, on return to the static mode the last set details will be displayed and can be set. Failure to set all items correctly in static mode may lead to the access and email functionality being impaired.

SETTINGS

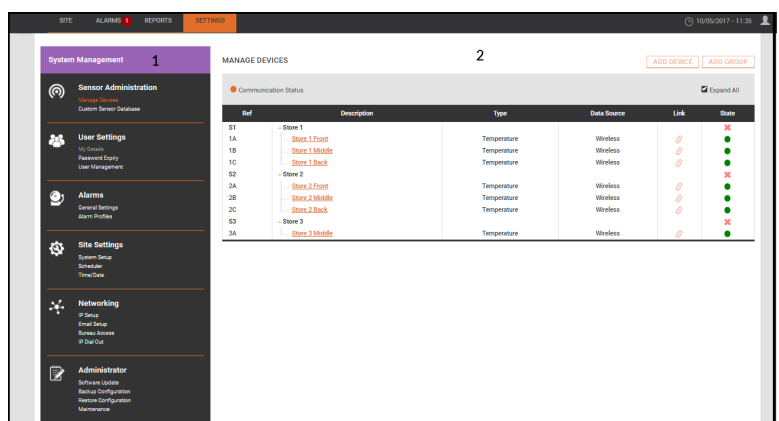
SITE => SETTINGS

The basic set up of the system and its operational parameters are completed through the Setting page. Remember, users will only see those elements of the Settings page that their user defined access levels allow, only Administrator level users see the full Settings page as outlined below.

Note - The default view when entering the Settings page is Manage Devices as below. The settings menu is on the left of the screen with the actions selectable grouped into their relevant headings, the selected action is displayed and updated on the right.

1. Settings Menu Bar

- **Sensor Administration** – Allows for the management of sensors/devices on the system and includes the ability to create user defined device types for pulse, linear and digital input sensors and add these to the sensor database.
- **User Settings** – Includes the elements for all users to amend their own user's details, allows the administrator to set password expiry and the overall management of system users.
- **Alarms** – Allows for the general alarm settings to be created as well as for the administrators to create bespoke alarm profiles – sensors are attached to an alarm profile, the profile outlines the system actions when a sensor goes into an alarm state.
- **Site Settings** – Includes the basic system set up, the scheduler settings that sensors and alarms



can be configured against and the ability to amend the systems Time/Date.

- **Networking** – Allows for the setting up of the IP connection, the email server details and connection to 3rd party alarm notification bureaus.
- **Administrator** – Includes the elements for copying the site configuration, updating software, backing-up and restoring the site configuration.

2. Menu Content

When an area from the Settings Menu is chosen the content will open in this space for editing/configuration.

11. Sensor Administration

Sensor administration is broken down into two sections, these are:

- **Manage Devices** - this allows for sensors and sensor groups to be added, edited and deleted from the system
- **Custom Sensor Database** - this allows for custom sensor types to be created to allow the connection of 3rd party sensors and meters using the D3's range of Linear, Digital and Pulse probes.

11.1. Manage Devices

SITE => SETTINGS => MANAGE DEVICES

1. Add Device/Group buttons – These buttons open the sensor and group settings creation pages

Device groups can be used to group sensors together – e.g. all the sensor in one room could be grouped together and the name of the group could be the room name. Grouping also allows for the an average of the readings of a chosen sensor type within that group to be displayed, e.g. if you have a number of temperature sensors taking readings in the grouped room, you can display the average of all the temperature sensor readings

2. Communications Status – toggling this switch changes the Device view (4) to shows the signal strength and the quality of the signal being received from wireless transmitters & repeaters

4	Ref	Description	Type	Data Source	Link	State
	S1	- Store 1				
	1A	Store 1 Front	Temperature	Wireless	🔗	🟢
	1B	Store 1 Middle	Temperature	Wireless	🔗	🟢
	1C	Store 1 Back	Temperature	Wireless	🔗	🟢
	S2	- Store 2				
	2A	Store 2 Front	Temperature	Wireless	🔗	🟢
	2B	Store 2 Middle	Temperature	Wireless	🔗	🟢
	2C	Store 2 Back	Temperature	Wireless	🔗	🟢
	S3	- Store 3				
	3A	Store 3 Middle	Temperature	Wireless	🔗	🟢

Note - Best practice is to achieve a signal quality greater than 80% and strength greater than 40%. If below these levels a repeaters should be considered

3. Expand All – toggling this switch expands any groups created so that all details of devices in each group can be seen

4. The details of any devices added to the system will show in this section.

Ref – this is the device reference assigned when creating/editing the device to the system

Description – name of the device assigned when creating/editing

Type – shows the type of sensor added, e.g. Temperature

Data Source – shows the communications method for the data received, e.g. Wireless

Link/Link Icon – shows the status of the sensor link with the base station, the link icon will be coloured:

Grey – Device not yet paired

Amber – Linked but waiting for data from device

Green – Device paired

State – shows the connected status of the device/group on the base station, the circular status icon will be coloured:

Green – Device is Active

Red – Device is Disabled

Grey – Device is Decommissioned

Delete – allows for a group to be deleted from the system

11.2. Add a Device/Sensor

SITE => SETTINGS => MANAGE DEVICES => ADD DEVICE

Adding a device to the system is completed in a 2 stage process, the device is created on the base station and then it is linked (paired) with the base station. The first element is to create the device.

Note - Devices can be added to groups when being created – see section 11.3 Adding a Device Group. Or they can be added to a group later by editing the device – see section 11.5 Editing a Device/Group.

Hint - If a number of devices are being added to a system it is quicker to create all of the devices at one time. Once all devices are created each can then be linked (paired).

11.2.1. Adding the Device/Sensor

On selecting the Add Device button from the Manage Device Menu the Add Device pop-up appears.

Short Reference – this is the Ref that appears as a short reference for the device. This must be entered and must be unique for each device, it can be up to 5 characters in length which can be alpha numeric.

Name – this is the name that will be assigned to the device – the name must be entered,

Add Device ✕

Short reference

Name

Group

Sensor Type

ADD DEVICE

it can be up to 25 characters in length and can be alpha numeric.

Group – the default is None (not added to a group), if groups have been created then these will appear by clicking the drop down indicator within the box. All created groups will appear, the chosen group is selected by clicking on it. Devices can be added to groups at a later time by editing the device.

Sensor Type – default Not Configured, a sensor type must be chosen, the available sensor types will appear by clicking the drop down indicator within the box. The standard probe types will appear, they are:

Temperature – for D3 NTC & PT100 & PT1000 sensors only

Humidity - for D3 %RH only

Repeater - for D3 wireless repeaters (wireless extenders) only

Other sensor types, e.g. Pulse Counting, Digital Input & Linear Input, require a Sensor Type created in the Custom Sensor Database – see section 11.6 Customer Sensor Database. Once the sensor type is created then it will appear in the drop down menu for selection.

Once sensors are added they appear in the device details section of the Manage Device window.

11.2.2. Linking a Device

The pairing process to link the wireless device to the device created on the base station is a button pressing process. The wireless device must be within communications distance of the D3 for pairing to be completed.

For each device to be linked follow the step by step guide below.

Step 1

Have the device to be linked to hand.

Hint – also have a fine tipped permanent marker pen to add the relevant system device ID to the wireless device once paired.

Step 2

Click on the grey link icon which corresponds to wireless device you wish to pair, the linking window will open.

Step 3

Click the link button on the screen, the link device window will update to start to count down. The countdown lasts 15 seconds, when the countdown starts press and hold down the wireless communications button on the front of the wireless device. Keep the button depressed until the green LED on the wireless device flashes on, release the button as soon as the LED shows green.

Step 4

The following possible messages will appear in the link device window

Success - The device and base station have been paired, the link icon will change to yellow while it waits for device data, press and release the wireless communication button on the wireless sensor, it should flash twice to indicate communication with the base station has been established. After communication the link icon will change to green to show data has been received.

Timeout! - Pairing the device has failed, steps 2 & 3 of the process should be repeated. Ensure the communications button is released the moment the device LED flashes green during the countdown. If, after repeated attempts fail contact your system supplier for support.

Incompatible Device - Check that the physical device type being added corresponds to the type of device created on the base station, e.g. a humidity probe can only be paired to a device type that is humidity, it cannot be paired to a temperature device type.

Steps 1-4 should be completed for each device to be linked.

Hint – BEST PRACTICE - once the device is successfully linked write the system ID number on to the wireless device (the wireless device has an ID box for this to be entered) using the permanent marker pen. This stops confusion when multiple devices are to be linked.

11.3. Adding a Device Group

SITE => SETTINGS => MANAGE DEVICES => ADD GROUP

Devices can be grouped together, this can be beneficial when; a number of devices in one area benefit from being grouped together, and/or when an average reading of a number of sensors is desired.

Devices can be added and removed from groups at any time.

Groups can be deleted from the system, deleting a group does not delete the devices, it merely moves them from being in a grouped state to an un-grouped state.

On selecting the Add Group button the add group window opens

Short Reference – this is the Ref that appears as a short reference for the group. This must be entered and must be unique, it can be up to 5 characters in length which can be alpha numeric.

Name – this is the name that will be assigned to the group – the name must be entered, it can be up to 25 characters in length and can be alpha numeric.

Active – the default is Disable

The screenshot shows a dialog box titled "Add Group" with a purple header. It contains the following fields and controls:

- Short reference:** A text input field.
- Name:** A text input field.
- Active:** A radio button, currently selected.
- Active Type:** A dropdown menu with "Not Configured" selected.
- ADD GROUP:** An orange button at the bottom right.

Disable – any devices added to this group will be shown within the group but no averaging of any readings will be displayed. No readings are shown against the group on the base station display or via the networked connection

Enabled – if selected the window will update to allow selection from a drop down box for the Active Type to be selected. Any readings for devices within the selected active device type will be included in the average shown against the device group. Individual readings will still be displayed against each device within the group. Active device groups can have alarm set-points and delays set against them just like a device.

Note – Group Active Device Type can only be selected based on device type of devices already linked and paired to the base station. The group can be edited (like any other added device) at a later time to add an active device type – see section 11.5 Editing a Device/Group.

11.4. Deleting, Disabling & Decommissioning Devices & Groups

SITE => SETTINGS => MANAGE DEVICES => CHANGE STATE

11.4.1. Changing the Device's State

Changing the state of a device is achieved by clicking the State circular icon corresponding to the device to be amended. The Change State window will open.

Clicking on the state drop down tag will open the options for the device state changes that can be implemented. Once the selection is made the Submit button will action the status change.

11.4.2. Deleting a Device

Select Delete from the drop down menu and press Submit.

WARNING - when deleting a device from the system the device and associated data are permanently being removed and will no longer be accessible. Historic data will not be viewable for this device in either graphical or report formats once deleted.

11.4.3. Disabling a Device

Select Disable and press the submit button.

A disabled device is still on the system and it can be re-activated at a later date. A device may be disabled for a short duration during planned maintenance programmes, or during periods due to seasonal monitoring, etc.

11.4.4. Decommission a Device

Select Decommission and press the submit button.

A decommissioned device is removed from the system and its input freed for further devices to be added. However, the data remains accessible and can be viewed graphically and in reports. A decommissioned device cannot be reactivated, a new sensor would need to be paired to the system.

11.4.5. Deleting a Group

Deleting a group is achieved by clicking the red-cross in the State column for the corresponding group to be deleted. Any devices in the group being deleted are moved from a grouped state to an un-grouped state, the devices are not deleted nor is their data affected.

Note – for an Active Group any averaged group data will be inaccessible in either report or graphical format once the group is deleted.

11.5. Editing a Device/Group

SITE => SETTINGS => MANAGE DEVICES => SELECT DEVICE/GROUP

To edit a device or group click on the device/group Ref (short reference) the edit function will then display. Clicking the Edit button opens the window to allow for the edit to take place.

11.5.1. Changing a Device Reference and Name

The device Ref, Name can be edited in line with the naming restrictions highlighted in the Add Device Section.

11.5.2. Adding or removing a Device from a Device Group

A device can be added or removed from a Device Group by selecting the relevant option from the drop down tab.

11.5.3. Changing the Device Type

The device type can be edited to correspond with a similar device type. This is designed in the main to be applicable for Linear & Pulse Input Sensors, the sensor type remains the same but it can be configured to a different input option from the Customer Sensor Database.

11.5.4. Changing the Device Display Resolution

The default display resolution for a device is the system display resolution set in System Setup within Site Settings from the administration menu – see section 14.1 – System Setup. However this setting can be overridden by selecting a different resolution for an individual device here in the edit device function.

A resolution from Integer (no decimal places) to 3 decimal places can be selected. Once selected this resolution level will be displayed on the base station and via the network interface for the selected device only.

11.6. Custom Sensor Database

SITE => SETTINGS => CUSTOM SENSOR DATABASE

The Custom Sensor Database allows for the creation of customer device types with which to attach the manufactures range of; Linear In-put (4-20mA, 0-10V, etc.), Pulse Counting and Digital In-put sensors to 3rd party meters and sensors. Creating a device type allows for a limitless range of input readings from 3rd party meters, plant and sensors.

Note - Once a device type is created multiple sensors can be configured to use it. For example, if a Door Monitoring device type is created and there are ten Doors to be monitored, then one door monitoring device type is created. Ten digital input sensors would be added to the system, during the add process they would be configured to the single Door Monitoring device type.

11.7. Adding a Custom Sensor Type

SITE => SETTINGS => CUSTOM SENSOR DATABASE => ADD

Sensor Name – Up to 25 characters that can be a mixture of alpha numeric

Sensor Units – Up to 10 characters that can be a mixture of alpha numeric – most 3rd party sensors will have defined output units that can be expressed on the D3

Hardware Type – these are selected and can be;

Pulse Kwh – for the measurement of energy consumption from pulse emitting energy meters

Pulse Flow – for the measurement of liquid/gas flow from pulse emitting flow meters

Digital – Input from equipment or sensors with digital outputs Voltage – Reading voltage over a range from 0-10v

Current – Reading current over a range from 0-25mA

Resistance – Reading resistance over a range of 0-10,000 ohms

On selecting a hardware type further configuration boxes will appear for completion

11.7.1. Creating Pulse Kwh Sensor Type

Pulse ration – The documentation for the energy meter will include the number of pulses created by the meter to represent 1kWh of energy used. This number of pulses is the ratio needed, example: meter produces 1,000 pulses to represent 1kWh, the ratio entered above would be 1,000.

11.7.2. Creating a Pulse Flow Sensor Type

Pulse flow sensors can be used to measure a wide variety of 3rd party flow meters, these meters can be measuring liquids or gas.

K Factor - The documentation for the flow meter will include the number of pulses created by the meter to represent the level of flow measured. This number of pulses is the K factor.

Time Frame (seconds) – Flow meters typically represent flow over a period of time. As well as the number of pulses a measurement period is typically used within the documentation (commonly in seconds)

11.7.3. Creating a Digital Sensor Type

Digital sensors are an open/closed reading from a digital output. The equipment producing the digital output will document what the open or closed reading represents – for example, typically on plant equipment an open reading means the plant is running, closed indicates a failure and the plant has stopped.

Tag On – What will be seen as the reading when the input is in the digital circuit is read as open status

Tag Off – What will be seen when the input is in a closed status

Both status descriptions can be up to 25 characters long and can be made up of a mix of alpha numeric.

Invert Signal – Occasionally digital outputs will be designed to read in a closed/open format, the inverse of the norm. Selecting Invert Signal allows the digital sensor to read this inverse input.

11.7.4. Creating a Voltage, Current & Resistance Sensor Type

The creation table for these 3 sensor types are essentially the same, the same types of information are required in each.

Voltage input sensors are designed to read a range of voltages between 0-10v. Current inputs between 0-25mA and Resistance inputs of 0-10k Ohms. The documentation for the device to be connected will have the output range to be monitored as well as documenting what the lowest and highest values represent in terms of the reading from the 3rd party sensor.

Example a pressure sensor for 1-30 bar and 1-8v or a 4-20mA

Lowest

Reading (x1) - the lowest reading value (1v = 1, 4mA = 0.004)

Output (y1) - the lowest output value (1 bar in example)

Highest

Reading (x2) - the highest reading value (8v = 8, 20mA =0.02)

Output (y2) - the highest output value (30 bar in the example)

Zero Threshold - This allows for a notional zero threshold to be set, in the example the user may have 3 bar as their notional zero, this would be set by enabling a notional zero and entering a value of 3. Any reading the sensor records under 3 bar would show as zero on the system.

Fault Threshold - This allows for fault threshold to be entered for the D3 to warn of possible 3rd party sensor failure. If enabled lower and upper inputs can be entered to trigger a fault alarm. In the example the lower limit would be less than x1 output reading, the upper would be greater than x2 output reading.

Note - the x1 and x2 inputs are defined as whole integer units e.g. Volts or Amps, therefore where device types of Millivolt (mV) or Milliamp are used the input value needs to reflect this.

1 x mV or mA has an input value of 0.001

12. User Settings

SITE => SETTINGS

12.1. My Details

SITE => SETTINGS => MY DETAILS

See section 8.1 Updating/Changing User Login Details

12.2. Setting Password Expiry

SITE => SETTINGS => PASSWORD EXPIRY

User passwords can be set to expire after a defined period. Selecting a period of 0 (zero) days sets password expiry to off (they never expire). The maximum period is 365 days.

Once the period has expired users are required to update their details when they next login to the system.

12.3. User Management

SITE => SETTINGS => USER MANAGEMENT

User management allows for the control of all users on the system.

From manufacture the base station is delivered with a single Administrator access level enabled. At least a single Administrator level user must be enabled on the system at all times. When only one Administrator access level user remains then this user cannot be deleted or the user account disabled.

An Administrator is defined as a user with Alter System Configuration & Manage Other User Capabilities enabled, see section 12.3.2 Adding Users.

User Management page explained:

- **Add** – User creation button – see section 12.3.2 Adding Users

Account Details Bar:

- **Name** – User defined user name
- **Initials** – Users initials defined by administrator on account creation
- **Ack Alarms** – Ability to acknowledge and add notes to system alarms, see sections 2.6 & 6.2.1 Acknowledge Alarms
- **Inhibit** – Ability to inhibit sensors, see section 4.3 Inhibit/Clear Inhibit Sensors
- **Scheduler** – Ability to access and amend the systems auto schedulers, see section 14.2 Schedulers
- **Set Points** – Ability to manage sensor set points & alarm delays, see section 4.2.1 Edit Alarm Set-points
- **Administrator** – Full system access rights, ability to effect all system options (except management of users)
- **Manage Users** – Ability to disable access and reset password request for other users, see section 12.3 User Management
- **Access Button** – allows user access to be enabled or disabled, see section 12.3.4 Enable/Disable Users
 - Grey – Current user & other users that cannot be amended
 - Green – User Enabled
 - Red – User Disabled.
- **Password Reset Button** – allows the users passwords to be reset, see section 12.3.5 Resetting A User Passwords
 - Grey – Current user & other users that cannot be amended
 - Green – Users Password can be reset
- **Delete User Button** – allows a user to be deleted off of the system – see section 12.3.6 Deleting A User

USER MANAGEMENT											ADD
Name	Initials	Ack Alarms	Inhibit	Scheduler	Set Points	Administrator	Manage users	Access	Password reset	Delete	
Admin	Adm	Yes	Yes	Yes	Yes	Yes	Yes				
Robert	RJ	Yes	No	No	No	No	No				

12.3.1. Default Administrator Passwords/Login Details

Default New System Administrator Login Details

Username: admin
 Network Password: 1234
 Base Station Passcode: 1234

Note - It is highly recommended that these default log in details are changed to user defined username and passwords.

12.3.2. Adding Users

SITE => SETTINGS => MANAGE USERS => ADD

Up to 20 users can be added to the system, user access privileges are determined by Administrator/s.

User Details

- **Forename, Surname and Initials** – These are the user details which will be captured on reports, alarms acknowledgements and system changes. Users are automatically assigned a unique electronic signature by the system that is also captured.
- **Email Address** – This is the email address that user login details and system alarms will be sent to (alarms only sent if user selected to receive email alarm notifications). Where no user email is entered the system username and passcodes will need to be administered by the system administrators.

Note – on D3 Medical version manual administration of user login and password details must have authorisation from two separate Administrator level users.

User Privileges

Note - Default is No, privileges are set to Yes to enable.

- **Alarm Acknowledge** – allows users to acknowledge system alarms and add notes to alarms. User details are captured against the alarm details for both acknowledgement and any notes added.
- **Inhibit Alarms** – allows users to inhibit sensors so that readings are ignored by the system, warnings and alarms are not generated on inhibited sensors.
- **Adjust Scheduler** – allows the user to administer the systems five auto schedule functions.
- **Adjust Alarm Set Points** – allows the user to administer sensor set points and alarm delays.
- **Alter System Configuration** – allows users to access the Settings Page and to administer the full system settings with the exception of Manage Users.
- **Manage Other Users** – allows users to manage password resets and to disable other system users, cannot delete users nor disable full Administrator level users. Only Administrators can add and delete system users.
- **Receive Email Alarms** – selecting will mean the users will receive system alarms that generate an email alarm notification, see section 13.2 Alarm Profiles.

Details	
Forename	<input type="text"/>
Surname	<input type="text"/>
User initials	<input type="text"/>
User email address	<input type="text"/>

User privileges	
Alarm acknowledge	<input type="radio"/> Yes <input type="radio"/> No
Inhibit alarms	<input type="radio"/> Yes <input type="radio"/> No
Adjust scheduler	<input type="radio"/> Yes <input type="radio"/> No
Adjust alarm set points	<input type="radio"/> Yes <input type="radio"/> No
Alter system configuration	<input type="radio"/> Yes <input type="radio"/> No
Manage other users	<input type="radio"/> Yes <input type="radio"/> No
Receive email alarms	<input type="radio"/> Yes <input type="radio"/> No

Authorise	
Username	<input type="text"/>
Password	<input type="text"/>

12.3.3. Editing an Existing User

SITE=> SETTINGS => MANAGE USERS => SELECT USER

Existing system user details and privileges can be edited by an Administrator.

Access to editing is gained by clicking on the user name (orange & underlined). Editing the Details or User Privileges then becomes available.

12.3.4. Enable/Disable Users

SITE => SETTINGS => MANAGE USERS => ENABLE/DISABLE

Only available to users with User Management privilege level.

By clicking the Access Button the edit Enable/Disable Access screen will open.

12.3.5. Resetting a User Passwords

SITE => SETTINGS => USER MANAGEMENT

Only available to users with User Management privilege level.

By clicking the Password Reset Button the Reset Password screen will open.

- **Send Email** – selecting this option allows an email to the users pre-set email address with a temporary username and password. When the user logs in to the system they will have to reset a new user name, base station and web access passwords.
- **Manual Override** – allows a user name and password to be manually entered. When the user logs in to the system they will have to reset a new user name, base station and web access passwords.

Note – D3 Medical system requires two User Management privilege level user to administer authorisation of Manual Override.

12.3.6. Deleting a User

Only Administrators can delete users from the system. Clicking the Delete User button will open the Delete User screen.

User name & password confirmation for the completion of the deletion process is then required. D3 Medical systems require two Administrators to action the deletion of a user.

WARNING – deleting a user removes them from the system, their access cannot be re-enabled.

13. Alarms

This section allows for general setting of the base station alarm actions and creation of alarm profiles for sensors to be associated with.

13.1. General Alarm Settings

SITE => SETTINGS => ALARMS => GENERAL ALARM SETTINGS

Allows administration of the system overall general alarm settings, individual sensor alarm set points are covered in section 4.2 Sensor Details

Note - As a default all settings are set to off, those required need to be configured to on.

- **Internal Relay 1 & 2** – these control the actions of the base stations 2 internal relays. 3 types of action can be selected for each of the relays individually on an alarm event.

Sounder – the relay action follows the action of the internal sounder. On alarm if the internal sounder is muted then the relay is deactivated, if the internal sounder re-activates then the relay re-activates.

Note - the internal sounder cannot be set to off if the relay option of sounder is enabled. The internal sounder being off will mean the relay will not activate on alarm.

Dial Out – creates a pulsed relay output commonly used by 3rd party alarm companies and auto-diallers.

Beacon – this creates a continual relay output, the output will continue until the alarm event has cleared.

Note - if a sound beacon is added and is required to have the capability to be muted then the Sounder relay option should be chosen.

- **Relay Operation on Battery** – allows the relays to operate if the system loses power and goes onto battery back-up. This option may reduce the operational period of the system on battery back-up.
- **Sounder** – controls the on/off function of the systems internal sounder.
- **Alarm roaming at home** – by default the base station does not record or activate alarms on Roaming Sensors when they are at home, this overrides this functionality.

Note - this covers all roaming probes when at home, it is a general setting and cannot be applied to sensors individually.

- **Repeat Alarms & Repeat Period** – repeat alarms allows the base station to resend a current alarm if it is still active after a user defined repeat period (even if it has been acknowledged), the repeat period is the number of minutes at which alarms will repeat until the alarm has cleared.

GENERAL ALARM SETTINGS

Internal relay 1	Off
Internal relay 2	Off
Relay operation on battery	Off
Sounder	Off
Alarm roaming at home	Off
Repeat Alarms	No
Repeat period (minutes)	60

EDIT

13.2. Alarm Profiles

SITE => SETTINGS => ALARMS => ALARM PROFILES

Alarm profiles determine the actions the base station will take when an associated sensor alarms. See section 13.2.3 Adding/Editing a Sensor/Device Alarm Profile for configuring sensors to alarm profiles.

Note - By default no alarm profiles are present on the system from manufacture.

- **Name** – name given to the created profile

Device Actions

- **Reading** – alarm based sensor readings
- **Comms** – alarm based on sensor communications
- **Sounder** - If the internal sounder will activate
- **Relay** – If the relays are to activate
- **Relay Delay** – a delay set for relay activation in an alarm state
- **Email** - settings for email on alarm
- **IP** – shows activity of sending alarms over IP
- **Schedule** – shows if a schedule for these alarms is set
- **Delete** - Will delete this alarm event

Numerous alarm profiles can be created with different actions to be completed on alarm. Sensors can then be associated with a profile that gives the desired outputs based on the users needs.

ALARMS PROFILES ADD

Name	Reading	Comms	Sounder	Relay	Relay delay	Email	IP	Scheduler	Delete
Stores	Yes	Yes	None	None	0	Always	None	Off	✘

13.2.1. Creating an Alarm Profile

SITE => SETTINGS => ALARMS => ALARM PROFILES => ADD

Creating an alarm profile is completed by clicking the ADD button, the profile dialogue box will open.

- **Name** – User defined, can be 15 alpha numeric characters long.

Device Actions

- **Alarm on reading** – will alarm based on the reading from the sensor exceeding the warning/critical set points.
- **Alarm on communications** – will alarm if the base station loses communications with the paired sensor for beyond the user defined communications failure alarm period.
- **Alarm on sensor fault** – will alarm if the base station senses that a sensor is in a fault condition, the delay period will be that set for the Reading set points above.
- **Send cleared alarm notification** – The base station can send a cleared alarm notification once the status returns to OK.

Output

- **Schedule** – allows the outputs from the alarm to follow a user defined system schedule (see section 14.2 Schedules for more information on setting schedules). The default Off means the output actions will occur 24 hours per day.
- **Output to Sounder** – the internal sounder will active on alarm.
- **Output to Relay** – allows activation of the internal relays.
- **Relay Delay** – allows for a delay (in minutes) to be entered between the alarm event and the relay activation in dial out mode only.
- **Output to IP** – allows for alarms to be sent over IP - see section 15.3 IP Dial Out Set-UP for more information
- **Output to email** – allows an alarm email to be sent.

The screenshot shows a configuration window for an alarm profile. It has a 'Details' title bar. Below it is a 'Profile name' text field. The 'Device Action' section contains four rows of radio buttons: 'Alarm on reading', 'Alarm on communications', 'Alarm on Sensor Fault', and 'Send cleared alarm notificat...'. Each row has 'Yes' and 'No' options. The 'Output' section contains several dropdown menus: 'Schedule' (set to 'Off'), 'Output to sounder', 'Output to relay', 'Output to IP', and 'Output to email'. There is also a 'Relay delay' text input field set to '0'. The 'Alarm action instructions' section has 'Enable' radio buttons and an 'Action notes' text field. A 'SUBMIT' button is located at the bottom of the window.

Each profile output can be set too:

None – they are off and will not activate

Always – they are on and will always activate

Schedule – they will activate based on the output schedule set.

- **Alarm Action Instructions**

If email alarms are activated the alarm actions instruction tab can be enabled. On sending the email alarm the action note will also be included in the email message and be visible to the alarm recipients.

13.2.2. Editing an Alarm Profile

SITE => SETTINGS => ALARMS => ALARM PROFILES => Select Alarm Profile => EDIT

Selecting a current alarm profile allows that profile to be edited. Once editing is completed the profile can be Submitted for the change action to be complete.

13.2.3. Adding/Editing a Sensor/Devices Alarm Profile

SITE => Select Sensor => ALARM EDIT => Select Alarm Profile

Adding an alarm profile to a sensor/device is completed by clicking the alarm edit button on the Sensor Detail page - see section 4.2 Sensor Detail. The required alarm profile is selected from the alarm profile drop down selection, clicking Submit enacts the alarm profile for that sensors.

14. Site Settings

Allows for general site and base station settings to be actioned

14.1. System Setup

SITE => SETTINGS => SITE SETTINGS => SYSTEM SETUP

System setup allows for general changes to be made in the base stations operational configuration.

14.1.1. Adding A Site Name

SITE => SETTINGS => SITE SETTINGS => SYSTEM SETUP => Edit

The site name is user defined and can be up to 40 alpha/numeric characters long. It is displayed on the D3 base station, report and alarm notifications sent.

14.1.2. Dimming/Brightening & Display Sleep Mode

SITE => SETTINGS => SITE SETTINGS => SYSTEM SETUP => Edit

Back-light Level – dims and brightens the D3 base station screen in normal operation mode

Display Sleep Period – allows users to select a period after which the D3 base station screen goes into hibernation mode. Screen is woken by pressing within the touch screen area.

SYSTEM SETUP	
Site name	d3
Backlight level	50
Display sleep period	5 Minutes
Backlight level on battery	20
Daylight saving	Off
Display temperature	Celsius
Display resolution	1 decimal place
Web password expiry	30

EDIT

Note – Default is On meaning screen will permanently scroll & display the latest reading received

Back-light Level on Battery – allows for a dimmer screen to be used on battery back-up to increase the battery backed operational period.

Note – only applicable on D3 and D3 Medical

14.1.3. Daylight Saving

SITE => SETTINGS => SITE SETTINGS => SYSTEM SETUP => Edit

Toggling switch On allows for the system clock to be updated automatically for daylight saving.

14.1.4. Change Displayed Temperature (°C or °F)

SITE => SETTINGS => SITE SETTINGS => SYSTEM SETUP => Edit

Default is °C, selection to °F can be made via a drop down menu

14.1.5. Change the Default Displayed Resolution

SITE => SETTINGS => SITE SETTINGS => SYSTEM SETUP => Edit

A selection can be made to set the default resolution of readings displayed, this can be from integer to 3 decimal places.

Note – the resolution can be set/edited individually for each sensor, this will override the system default. It is therefore possible to have different sensors displaying from integer to 3 decimal places on the system depending on the user needs.

14.2. Scheduler

SITE => SETTINGS => SITE SETTINGS => SCHEDULER

The system scheduler is based on a 7 day schedule cycle, up to 5 different schedules can be implemented. Schedules can be attached to Alarm Profiles and/or Devices. Multiple profiles or devices can be attached to the same schedule.

Note – A sensor or alarm profile can only be attached to 1 schedule.

14.2.1. Setting/Editing a Schedule

SITE => SETTINGS => SITE SETTINGS => SCHEDULER => Select SCHEDULE => EDIT

The schedule works on a 24 hour clock setting.

On Time – this is the time the scheduled action will commence

Off Time – this is the time the scheduled action will end

Note: 00:00 in both On & Off sets the schedule to be off for that day.

14.2.2. Example - Activate Inside Set Hours Schedule

Inside set hours schedules are typically set for monitoring devices in areas that are only operational during normal working hours and where readings and alarms are not required outside of these times.

This example assumes an operational time of 8.00am to 5.30pm Monday to Friday, closed over weekend

Devices or alarm profiles attached to this schedule would only operate between the times set, therefore a device would record and alarm between 8am and 5.30pm each work day, no data or alarms would be reported outside of these hours.

Day	On	Off
Monday	08:00	17:30
Tuesday	08:00	17:30
Wednesday	08:00	17:30
Thursday	08:00	17:30
Friday	08:00	17:30
Saturday	00:00	00:00
Sunday	00:00	00:00

14.2.3. Example - Activate Outside Set Hours Schedule

Outside set hours are typically set for Alarm Output Notifications, see section 13.2 Alarm Profiles, they are also used when a set schedule occurs within a business at the same time every day and record recording and alarm notifications are not required within that set period.

This example assumes an operational time of 8.00am to 5.30pm Monday to Friday, closed over weekend

Attached alarm profiles and devices would only activate/record data between 5.30pm each day and 8.00am, they would be active over the weekend period.

Day	On	Off
Monday	17:30	08:30
Tuesday	17:30	08:30
Wednesday	17:30	08:30
Thursday	17:30	08:30
Friday	17:30	08:30
Saturday	00:00	00:00
Sunday	00:00	00:00

14.2.4. Adding a Auto Inhibit Schedule to a Sensor/Device

SITE => Select Sensor => ALARM EDIT => Select Auto Inhibit - Default = Off

Adding an auto inhibit to a sensor/device is completed by clicking the alarm edit button on the Sensor Detail page - see section 4.2 Sensor Detail. The required schedule is selected from the Auto Inhibit drop down selection, clicking Submit enacts the auto inhibit schedule for that sensors/device. No alarms will be sent during the auto inhibit period.

14.3. Setting/Editing Time & Date

SITE => SETTINGS => SITE SETTINGS => TIME/DATE

Allows for the systems displayed time and date to be set/amended

15. Networking

The networking menus allow access to input/edit the IP functionality of the base station.

15.1. Email Setup/Editing

SITE => SETTINGS => NETWORKING => EMAIL SETUP

To send email alarms the D3 must be configured with the relevant email settings. Failure to configure the email settings will result in email alarm notifications not being sent.

Note - consultation with IT personnel/network provider may be required for providing the relevant email settings data.

Enable Email - toggle selection, set as Yes to activate email

SMTP Address- this is emails SMTP Server address for outgoing mail

SMTP Port - the communications port used by the SMTP Server

SMTP Authentication - required as standard

Use SSL/TLS - toggle selection Yes/No, if the SMTP Server requires either SSL or TLS protocol for communications then Yes must be selected.

Username & Password - see SMTP Authentication above

Email From - A valid email address for the SMTP Server being used needs to be entered

Retries - If the D3 fails to send an email due to network issues it can be set to retry a number of times

Retry Delay (minutes) - the delay between the email retries can be set in minutes

Once all email details are entered the email settings are Submitted for the changes to take effect.

Ensure a test message is sent and received to ensure email setup has been completed correctly.

SMTP	
Email enabled	<input checked="" type="radio"/> Yes <input type="radio"/> No
Smtp address	<input type="text"/>
Smtp port	<input type="text" value="25"/>
Smtp Authentication	<input checked="" type="radio"/> Yes <input type="radio"/> No
Use SSL/TLS	<input checked="" type="radio"/> Yes <input type="radio"/> No
User name	<input type="text"/>
User password	<input type="password"/>
Email from	<input type="text"/>
Retries	<input type="text" value="5"/>
Retry delay (minutes)	<input type="text" value="5"/>
<input type="button" value="CANCEL"/> <input type="button" value="SUBMIT"/>	

15.2. Bureau Access Setup

SITE => SETTINGS => NETWORKING => BUREAU ACCESS

The base station can be configured to allow a remote bureau access data on the base station to bring the recorded data into their 3rd party monitoring application.

The 3rd party application would need to be configured to communicate correctly and need the relevant data string information to obtain the D3 data.

Consult system supplier for more information.

15.3. IP Dial Out Setup

SITE => SETTINGS => NETWORKING => IP Dial Out

The base station can be set to automatically push alarm notifications in a text format over IP to an alarm bureaus.

Each base station can push to up to 3 alarm IP addresses.

IP Dial-Out Address (1,2 &3) - the alarm IP for the bureau to receive the alarm notification needs to be entered (default is 0.0.0.0 which is the off status)

Send Heart Beat (IP1, 2 & 3) - toggle selection Yes/No, if the alarm IP uses heart beats to confirm communications status then Yes should be selected

Send Cleared Alarms - toggle selection Yes/No, default is No. Yes will mean notification is sent at the time the alarm clears

Retries & Retry Delay - where communication failure is detected to the external IP the D3 can be set to automatically retry to send a number of times, a delay between retries can also be entered.

IP DIAL-OUT	
IP dial-out address 1	0.0.0.0
IP dial-out address 2	0.0.0.0
IP dial-out address 3	0.0.0.0
Send heart beat IP 1	Off
Send heart beat IP 2	Off
Send heart beat IP 3	Off
Send cleared alarms	Off
Retries	5
Retry delay (minutes)	10

[EDIT](#)

16. Administrator

The administrator section allows for general system administration functions to be completed.

16.1. Software Update

SITE => SETTINGS => ADMINISTRATOR => SOFTWARE UPDATE

To complete a software update the software file can be dragged and dropped onto the update page screen, the on-screen instructions should then be followed.

16.2. Backup Configuration

Backup configuration is a back up of the systems settings, this is not a back up of data.

The back-up configuration CRC file is downloaded by selecting the download button. This should be saved in a secure location should it be required at a later time to restore the system configuration.

Note - it is recommended that a backup of the configuration is taken once the system has been fully installed. Backup is also recommended after system changes are enacted.

16.3. Restore Configuration

The configuration can be restored from a backup by simply dropping the backup onto the restore screen then following the on-screen instructions.

16.4. Maintenance

Two other maintenance functions are available. They are:

16.4.1. Cancel all queued alarms

This allows an email alarm queue to be cleared, meaning any alarm emails in the queue will be deleted. During set up of the system, alarm events may occur before the system is networked, to stop these historic alarm emails being sent the queue can be cleared. Only new alarms after the queue being cleared will create email alarm notifications.

16.4.2. Re-index archive files

This allows for the alarm and audit histories to re-index the locations of archived data in the system memory. This increases the speed of the search functions and is necessary after the system configuration has been re-installed.

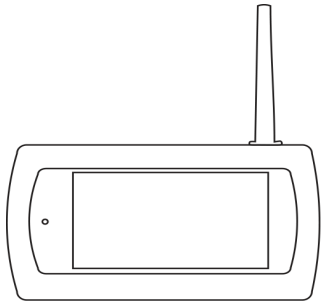
Installing the Base Station



Installation should be completed by competent persons only.

When installing the base station ensure it and any connected hard wired powered accessories are fully powered off.

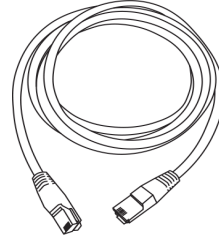
17. What's in the Box



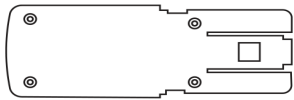
1 x Base Station



1 x Power Supply



1 x Ethernet Cable



1 x Wall Fixing Plate



4 x Fixing Screws



4 x Solid Wall Raw Plugs

18. Mounting the Base Station

Before mounting the base station consideration should be given that both power and a network connection are available in the chosen location.

18.1. Power Supply & Ethernet Connection

18.1.1. Power Supply

The power block supplied with the unit has international adaptors, the correct adaptor should be chosen and fitted.

The power supply cable has a maximum length of 1.4 meters

Firmly push the power connector into the base station power connection point, ensure to route the power cable at the rear of the base station using the inbuilt cable securing lug.

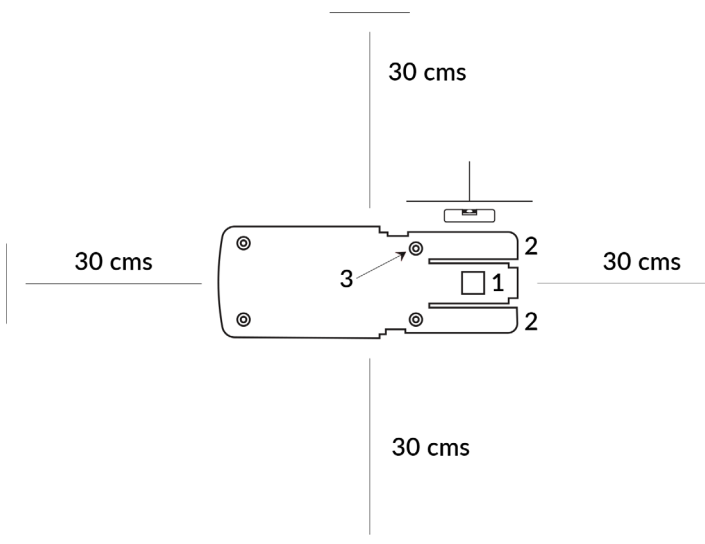
18.1.2. Ethernet Connection

A 2 meter Ethernet cable is supplied with the base station from manufacture, longer Ethernet cables can be used if required.

Firmly push the Ethernet cable into the base station Ethernet port.

18.2. Mounting Wall Plate

The mounting wall plate is shipped attached to the base station, it can be removed by lifting the Securing Lug and sliding from the base unit.



- 1 - Securing Lug
- 2 - Securing Arms
- 3 - Countersunk fixing holes

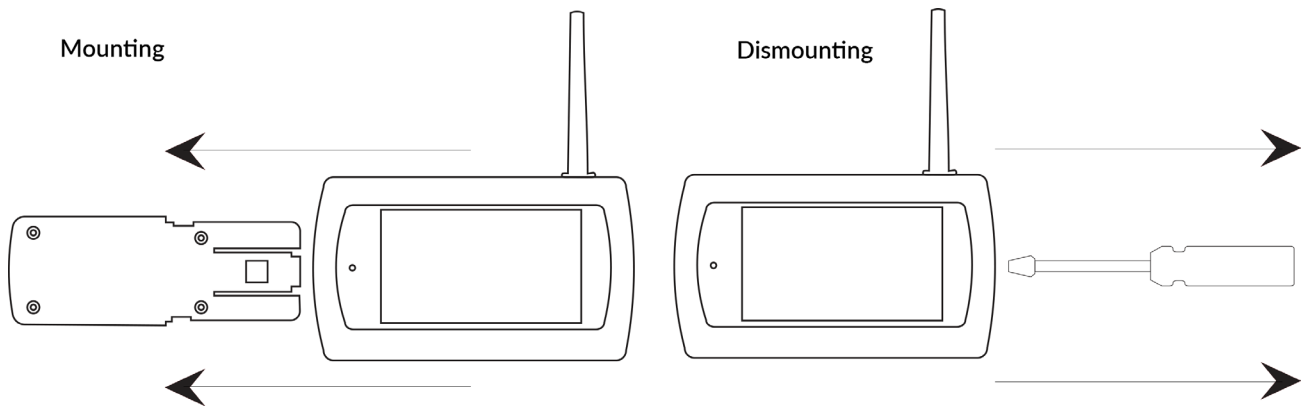
To ensure maximum wireless transmission distances allow a minimum of 30cms free space above, below and to the sides of the wall plate once mounted.

Using the fixing screws (and raw plugs) provided ensure the wall plate is mounted on flat wall, care should be taken to ensure the unit is level.

Note - For non-sold wall mounting other raw plugs may be required (not provided)

Note - Ensure the screw heads are below the level of the plate surface in the countersunk fixing holes. Failure to do so may result in damage to the back surface of the base station during the mounting process.

18.3. Mounting/Dismounting the Base Station



18.3.1. Mounting the Base on Wall Plate

Align the two mounting slots on the back of the base station with the guide runners on the securing arms of the fixing plate, slide the base station from right to left until the securing lug clicks into place. The base station is now securely mounted on the wall plate.

Ensure all connecting cables and leads are securely and safely routed.

The base station and any connected accessories can now be powered on.

18.3.2. Dismounting the Base from Wall Plate

Ensure the base station and any connected accessories are powered off.

Carefully insert a flat headed screwdriver between the base station and the tip of the fixing lug, ease the securing lug backwards and slide the base station to the right.

19. Connecting to the Internal Relays



The base station has two internal relays for connection to 3rd party accessories/systems.

Note - Refer to the 3rd party accessory/system manual for instructions on the wiring configuration required.

Relay 2		<p>19.1. Relay 1 - Digital Relay Output</p> <p>Configured for a Common (C) with a Normally Open (NO) or Normally Closed (NC) connection method. The accessory is connected using a two core cable, the relevant screw terminals are used.</p>
Relay 1		<p>19.2. Relay 2 - Solid State Relay Output</p> <p>Mosfet switch provides a low powered output for signalling connected accessories</p>

20. Changing the Micro MMC Card

Applicable to the D3 & D3 Medical only.

From manufacture the unit is supplied with an industrial grade micro MMC card as the back-up memory. This MMC card can be changed by opening the micro card holder.

The card holder is opened by sliding the metal jacket to the right and then lifting it on its hinge from the left. The card can then be removed. To insert a new card the process is reversed.

Ensure the base station is powered down before removing the MMC.

Note - any historic data contained on the MMC will not be accessible from the system memory if the card is removed/changed.

Annex 1 - Technical Specification

	D3 Medical P1-D3103	D3 P1-D3102	D3 LITE P1-D3101
Height, Width, Depth	175mm (max), 157mm, 40mm (Including Wall Plate)		
Weight	317 grams (including wall plate & battery back-up)		271 grams (including wall plate)
Operating Temperature	0°C to 40°C		
Storage Temperature	0°C to 50°C		
Power Supply	5V dc via an external universal power brick (supplied), discrete push button on/off function on base station		
Operating System	Embedded		
Internal Storage	1Gb high speed data flash		
Back-up Storage Media	8Gb industrial grade micro MMC	4Gb industrial grade micro MMC	-
Display	Full colour 480 x 272 resistive touch screen		
LED	Green (system OK) and Red (system alarm) functionality		
Sounder	Built-in buzzer (can be switched of in software)		
USB	Micro USB 2.0 (for manual data back-up)		
Ethernet	Built-in (2 meter cable supplied with unit)		
Relay Options	Relay 1: Volt free relay output providing NO & NC contacts Relay 2: Solid state relay output (Mossfet Switch)		
Mini Din Socket	For connection to proprietary external hardware		
Low Power Radio Module	Yes		
Frequency	433Mhz (UK/Europe), 2.4Ghz (ROW) - licence free bands		
Power	10mW maximum (433Mhz), 14dbm maximum (2.4Ghz)		
Communication	Bi-directional		
Protocol	Proprietary (433Mhz), 802.15.4 Proprietary (2.4Ghz)		
Battery Back Up	Yes		No
Type	Plug connection lithium ion rechargeable		-
Power Voltage	3.7V		-
Capacity	2050mA		-
Recharge Time	2.5 hours (from flat)		-
Test Cycle	Advise monthly by removing system power		-

User Notes

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Klipspringer

Compliance with confidence



Klipspringer
Rynor House
Farthing Road
Ipswich
IP1 5AP

Tel. : +44 (0) 1473 461 800
Fax. : +44 (0) 1473 747 200
Email: info@klipspringer.com

www.klipspringer.com

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