



PDU AGENT SNMP USER GUIDE



Agent Information

All Site Information

Total Amps	Total kWts	Total Energy Consumption
		kWh: 0.0
		BTU/h: 0
		kgCO2: 0
		kJ/h: 0
		Total Energy Cost: £0.00

Phase Balance

Amps	Phase L1	Phase L2	Phase L3

Feed Balance

Amps	Feed A	Feed B

PDU SNMP Agent Information

Client:	G4 Power		
Location:	Ely Cambridgeshire		
Contact:	sales@g4mps.co.uk		
PDU-SNMP / PDU Servers:	1	Total No. PDUs:	1

Overall Status:

Close



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Introduction

This software is intended for use by customers of iPower products who would like to Monitor their iPower PDU infrastructure remotely. The Software can monitor up to 50 IP Addresses, and each IP address can gather information from up to 32 PDU's.

This software is supplied 'free of charge'. Please read the '**Warranty Disclaimer**' below.

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Installation

Run setup.exe and follow the prompts. The application will start upon installation completion.

Operation

Upon application start the user is presented with a Login screen that must be completed to gain entry into the main application. Default Administrator username and password is 'Admin'.

Upon successful login the application presents a main window with menu list and opens the Agent Information window which provides an overview of the agent settings and the total energy usage for all connected PDU Servers.

We would suggest you change the Admin password as soon as possible to secure the software.

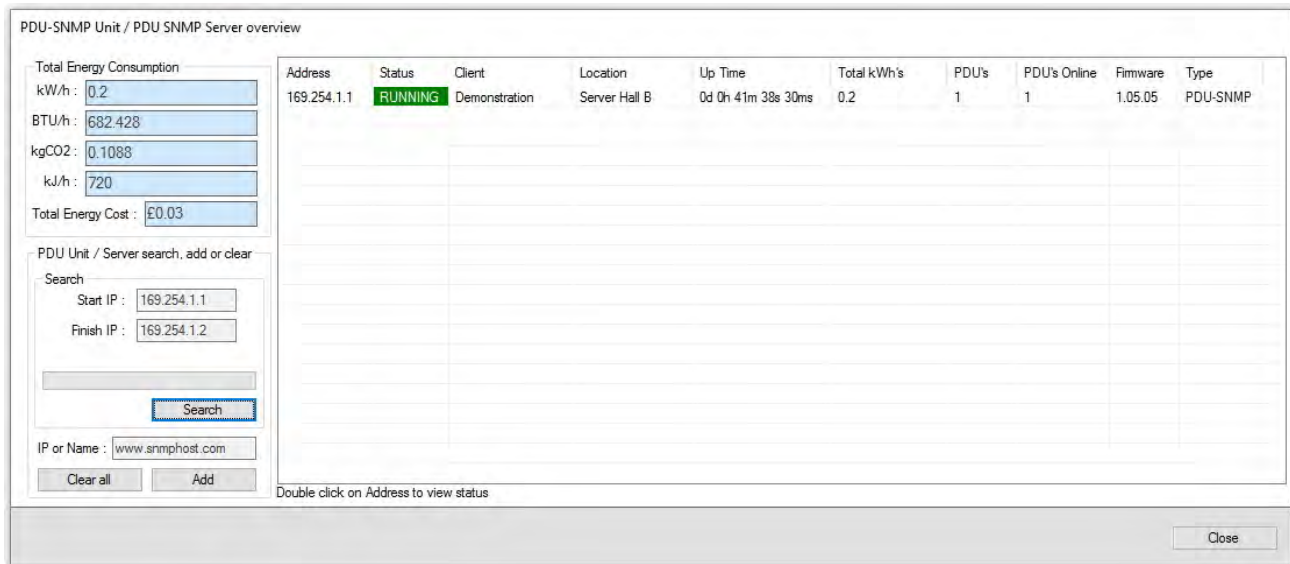
The menu list is broken into three headings as follows:

View

The view list provides four options, PDU Server View and Search, Agent Information and Graphs and Log Viewer.

PDU Server View and Search

Clicking on this menu item opens the PDU SNMP Server overview window that provides two methods of adding PDU Servers to the agent, total energy usage for all PDU Servers and a list of the currently monitored PDU Servers. Sample screen below:



The screenshot displays the 'PDU-SNMP Unit / PDU SNMP Server overview' window. On the left, there are input fields for energy consumption: kW/h (0.2), BTU/h (682.428), kgCO2 (0.1088), kJ/h (720), and Total Energy Cost (£0.03). Below this is a search section for adding servers, with fields for Start IP (169.254.1.1) and Finish IP (169.254.1.2), and a 'Search' button. At the bottom left, there is an 'IP or Name' field (www.snmpghost.com) and 'Clear all' and 'Add' buttons. The main area is a table with the following data:

Address	Status	Client	Location	Up Time	Total kWh's	PDU's	PDU's Online	Firmware	Type
169.254.1.1	RUNNING	Demonstration	Server Hall B	0d 0h 41m 38s 30ms	0.2	1	1	1.05.05	PDU-SNMP

At the bottom of the window, there is a 'Close' button and a note: 'Double click on Address to view status'.

Adding PDU Servers

There are two methods of adding PDU Servers to the system, searching over a range of IP addresses or manually adding a PDU Server if it's IP Address or DNS name are known.

To search for servers an IP address range must be specified based on the network segment that the servers reside upon. Under normal circumstances the PDU Servers will be configured for DHCP which automatically provides an IP address for the server in the range 1 to 254 on the current segment.

The segment address of the network can normally be found by looking at the IP address of a computer connected to this network and would normally be something like 192.168.1.nn, where nn is the DHCP allocated address. The Start IP and Finish IP addresses can be specified in the boxes provided and the 'Search' button clicked to find PDU Servers connected to the network.

PDU Servers found during the search are added to the list with their IP Address, Client and Location definitions, Up Time [time server has been powered up], total energy consumed by devices connected the PDU's connected to the PDU Server, number of PDU's connected and the firmware version of the server.

After you have searched using the Start IP and Finish IP you cannot use this option again as it will clear any already added IP's and start over, once this option has been used you then have to manually add in any extra IP's using the Add button.

continued

To manually add a PDU server enter it's IP Address or DNS name and click 'Add', if the server exists it will be added to the list. The 'Clear all' button allows any current PDU Servers in the list to be cleared.

Double clicking the address of a PDU Server in the list will open the PDU SNMP Server status window, you can see this the PDU SNMP Server status window definition on page 8.

Agent Information

Clicking on this menu item displays the Agent Information window if it has been closed.

Graphs

Clicking on this menu item opens the Graph View window which allows historical data to be displayed. Please see later on page 14.

Log Viewer

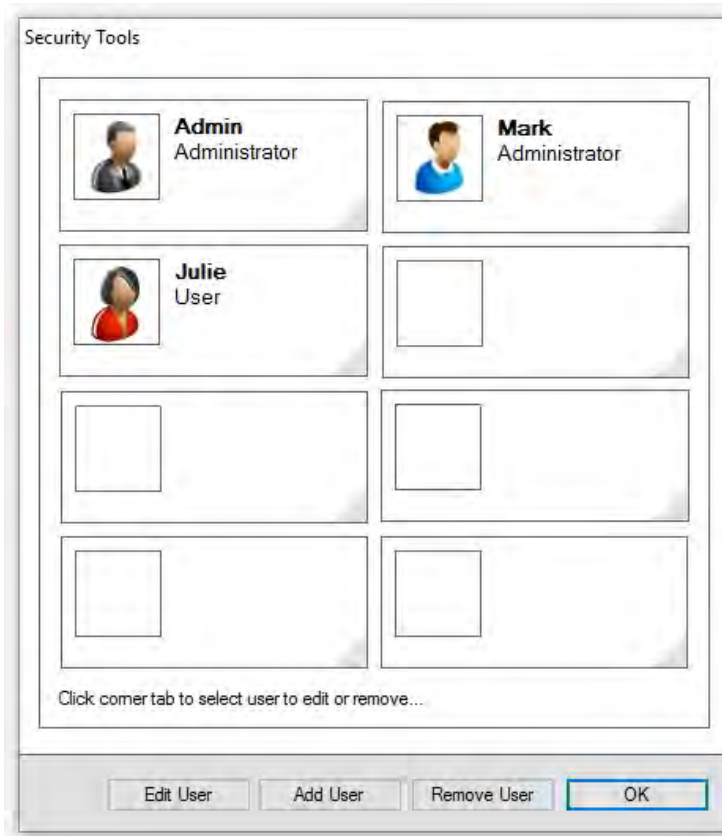
Clicking on this will show a user history data trail of who has logged in and what if any, actions have been carried out. This can be shown by date and time stamp. Please see later on page 15.

Tools

The tools list provides three options, Security setup, PDU SNMP Agent Setup and EMAIL Setup.

Security Setup

Clicking on this menu item opens the Security Tools window that allows users to be added, edited or removed from the agent.



PDU SNMP Agent Setup

Clicking on this menu item opens the **PDU SNMP Agent Setup** window that allows agent descriptions, parameters, event logs, SNMP parameters, current and kW value alarms to be set as well as cost per unit.

NOTE - If the Heartbeat email is ticked then once a day around 12pm a single email will be sent to demonstrate that the program is still running.

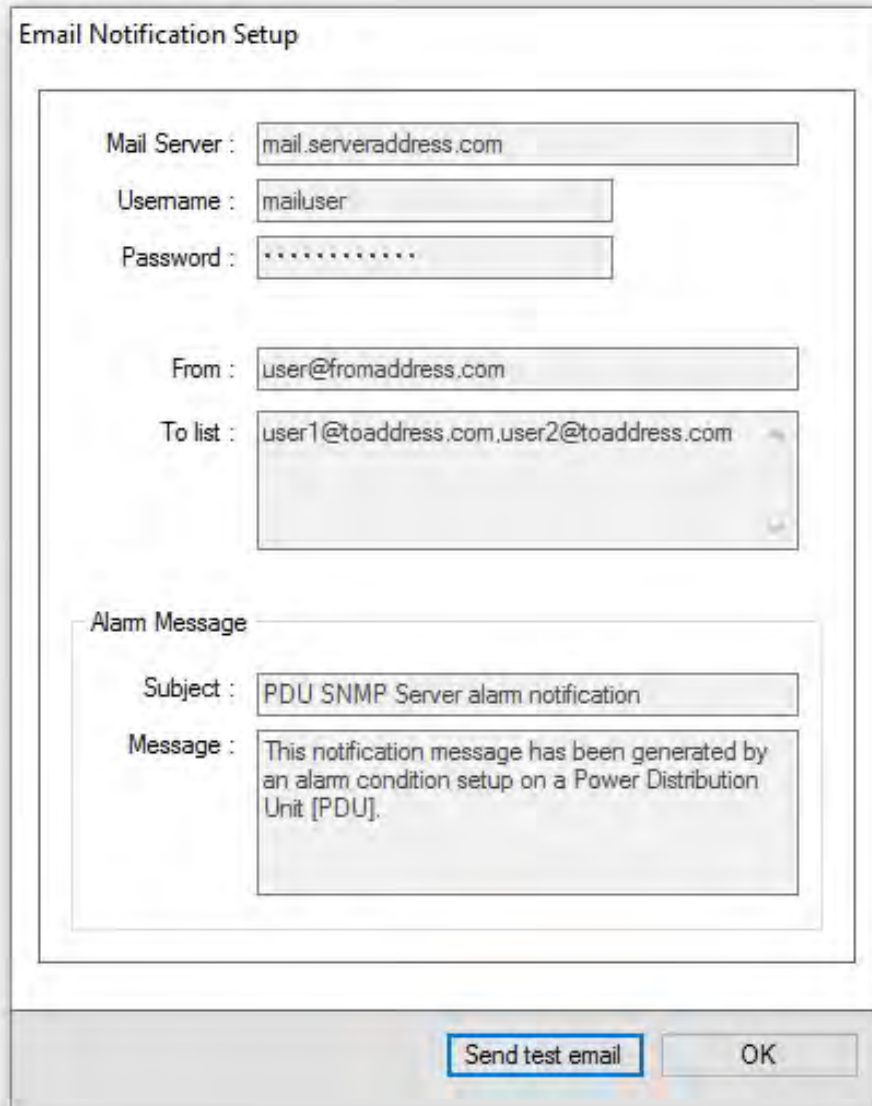
PDU SNMP Agent Setup

<div style="border: 1px solid gray; padding: 5px; margin-bottom: 10px;"> PDU SNMP Agent Information setup Client : <input type="text" value="Demonstration"/> Location : <input type="text" value="Cambridge"/> Contact : <input type="text" value="demo@company.co.uk"/> </div> <div style="border: 1px solid gray; padding: 5px; margin-bottom: 10px;"> Event setup <input checked="" type="checkbox"/> Event logging enabled <input checked="" type="checkbox"/> Alarm checking enabled <input checked="" type="checkbox"/> Data logging enabled <input type="checkbox"/> Heartbeat email enabled <input type="checkbox"/> SNMP error logging enabled </div> <div style="border: 1px solid gray; padding: 5px;"> SNMP setup SNMP Read Community : <input type="text" value="public"/> SNMP Write Community : <input type="text" value="public"/> SNMP Timeout (mS) : <input type="text" value="1000"/> SNMP Retries : <input type="text" value="0"/> SNMP Host name : <input type="text" value="localhost"/> SNMP Port No. : <input type="text" value="161"/> SNMP Status : RUNNING <input type="button" value="Stop SNMP"/> </div>	<div style="border: 1px solid gray; padding: 5px; margin-bottom: 10px;"> Parameter setup kgCO2 conversion : <input type="text" value="0.544"/> Cost per unit : <input type="text" value="0.15"/> Currency designator : <input type="text" value="£"/> Alarm check period (secs) : <input type="text" value="60"/> or <input style="border: 1px solid blue;" type="text" value="1.0"/> Minutes </div> <div style="border: 1px solid gray; padding: 5px; margin-bottom: 10px;"> All Site Information window setup Amps gauge setup Maximum Amps value : <input type="text" value="100"/> Minimum Amps threshold : <input type="text" value="10"/> <input type="checkbox"/> Min alarm enabled Maximum Amps threshold : <input type="text" value="80"/> <input checked="" type="checkbox"/> Max alarm enabled </div> <div style="border: 1px solid gray; padding: 5px; margin-bottom: 10px;"> kWs gauge setup Maximum kWs value : <input type="text" value="50"/> Minimum kWs threshold : <input type="text" value="1"/> <input type="checkbox"/> Min alarm enabled Maximum kWs threshold : <input type="text" value="40"/> <input checked="" type="checkbox"/> Max alarm enabled </div> <div style="border: 1px solid gray; padding: 5px;"> Phase balance and feed chart setup <input type="checkbox"/> kWs on phase chart <input type="checkbox"/> kWs on feed chart </div>
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Email Setup

Clicking on this menu item opens the Email Notification Setup window that allows the alarm email server, from and to addresses and default subject and message header to be defined.

Clicking on the **'Send test email'** button will test the email setup.



The screenshot shows a dialog box titled "Email Notification Setup". It contains several input fields and a text area. The "Mail Server" field is set to "mail.serveraddress.com". The "Username" field is set to "mailuser". The "Password" field is masked with dots. The "From" field is set to "user@fromaddress.com". The "To list" field is a list box containing "user1@toaddress.com,user2@toaddress.com". Below these fields is a section titled "Alarm Message" which contains a "Subject" field set to "PDU SNMP Server alarm notification" and a "Message" text area containing the text: "This notification message has been generated by an alarm condition setup on a Power Distribution Unit [PDU].". At the bottom of the dialog box, there are two buttons: "Send test email" and "OK".

Security

The Security list provides two options, Login or Change User and Logout.

Login or Change User

Clicking on this menu item opens the login dialog to allow another user to login.

Logout

Clicking on this logs out the user from the PDU SNMP Agent.

Help

The list provides a single option to show an about dialog with versions etc.

PDU SNMP Server Status

On double clicking on a PDU Server address under the PDU SNMP Server overview window the PDU SNMP Server status window is opened, example below: Please note the Online, Disabled and Offline conditions.

The PDU name is taken from the HTML web browser, so this has to be setup on that first, names cannot be changed using the PDU SNMP Agent, and this is also the case for the Client and Location. In order to access the Web Browser for each IP click on disable server first before logging in, then remember to enable the server after changes, if names have been changed on the Web browser then also click on the refresh list button shown below:

PDU-SNMP Unit / PDU Server status [Address: 169.254.1.1]

PDU-SNMP / PDU Server Status

Client : Demonstration

Location : Server Hall B

CabinetID : CabinetID: 23C

Server status : RUNNING

PDU(s) on Site : 1

PDU(s) online : 1 75%

Site Energy Consumption

kWh/h : 0.4

BTU/h : 1364.9

kgCO2 : 0.2176

kJ/h : 1440

Total Energy Cost : £0.06

PDU Name	Status	kWh's	M1 Amps	M2 Amps	M3 Amps	No. Sockets	Address	Firmware
PDU 1	ONLINE	0.4	0.00	0.00	0.00	4	1	1.05.05
PDU 2	DISABLED	0.0	0.00	0.00	0.00	0	2	0.00.00
PDU 3	DISABLED	0.0	0.00	0.00	0.00	0	3	0.00.00
PDU 4	DISABLED	0.0	0.00	0.00	0.00	0	4	0.00.00
PDU 5	DISABLED	0.0	0.00	0.00	0.00	0	5	0.00.00
PDU 6	DISABLED	0.0	0.00	0.00	0.00	0	6	0.00.00
PDU 7	DISABLED	0.0	0.00	0.00	0.00	0	7	0.00.00
PDU 8	DISABLED	0.0	0.00	0.00	0.00	0	8	0.00.00
PDU 9	DISABLED	0.0	0.00	0.00	0.00	0	9	0.00.00
PDU 10	DISABLED	0.0	0.00	0.00	0.00	0	10	0.00.00
PDU 11	DISABLED	0.0	0.00	0.00	0.00	0	11	0.00.00
PDU 12	DISABLED	0.0	0.00	0.00	0.00	0	12	0.00.00
PDU 13	DISABLED	0.0	0.00	0.00	0.00	0	13	0.00.00
PDU 14	DISABLED	0.0	0.00	0.00	0.00	0	14	0.00.00
PDU 15	DISABLED	0.0	0.00	0.00	0.00	0	15	0.00.00
PDU 16	DISABLED	0.0	0.00	0.00	0.00	0	16	0.00.00
PDU 17	DISABLED	0.0	0.00	0.00	0.00	0	17	0.00.00
PDU 18	DISABLED	0.0	0.00	0.00	0.00	0	18	0.00.00

Double click on PDU Name to view status

Disable Server Refresh list Setup Close

The PDU Server client and location names are provided along with the number of PDU's on site and site energy consumption.

All the PDU's available on the system are listed by PDU name and information given for each PDU, including status which can be Online, Offline, Disabled or Alarm, energy delivered in kWh's, Amps, Number of ports, the Modbus address and Firmware version.

Double clicking on a PDU Name will open the PDU Status view for that PDU

PDU Status View

On double clicking on a PDU Name under the PDU SNMP Server status window the PDU Status view window is opened, example below:

PDU Status view [Address: 169.254.1.1 Client: Demonstration Location: Server Hall B]

PDU Status Name : <input type="text" value="PDU 1"/> Status : ONLINE <input type="button" value="DISABLE"/> <input type="button" value="RESET"/>		PDU Information No. of ports : <input type="text" value="4"/> Serial No. : <input type="text" value="1301785"/> Address : <input type="text" value="1"/> Firmware : <input type="text" value="1.05.05"/>																									
Meter 1 <input type="button" value="Meter 2"/> <input type="button" value="Meter 3"/> <input type="button" value="Total Energy and Phase / Feed balance"/>																											
PDU Values Volts : <input type="text" value="247.0V"/> Amps : <input type="text" value="0.00A"/> kW : <input type="text" value="0.000"/> Temp : <input type="text" value="32.64C"/> PF : <input type="text" value="0.287"/> Freq : <input type="text" value="49.9Hz"/>		Energy Consumption kW/h : <input type="text" value="0.4"/> BTU/h : <input type="text" value="1364.856"/> kgCO2 : <input type="text" value="0.2176"/> kJ/h : <input type="text" value="1440"/> Energy Cost : <input type="text" value="£0.06"/>																									
Phase and feed setup Phase : <input type="text" value="Phase L1"/> Feed : <input type="text" value="Feed A"/>		Low Alarm : <input type="checkbox"/> 220 <input type="checkbox"/> 260 <input type="checkbox"/> 0.1 <input type="checkbox"/> 0.32 <input type="checkbox"/> 10 <input type="checkbox"/> 50 High Alarm : <input type="checkbox"/> 220 <input type="checkbox"/> 260 <input type="checkbox"/> 0.1 <input type="checkbox"/> 0.32 <input type="checkbox"/> 10 <input type="checkbox"/> 50 Low Alarm Email text : <input type="text" value="Meter 1 Volts low"/> <input type="text" value="Meter 1 Amps low"/> <input type="text" value="Meter 1 kW low"/> <input type="text" value="Meter 1 Temp low"/> <input type="text" value="Meter 1 PF low"/> <input type="text" value="Meter 1 Frequency low"/> High Alarm Email text : <input type="text" value="Meter 1 Volts high"/> <input type="text" value="Meter 1 Amps high"/> <input type="text" value="Meter 1 kW high"/> <input type="text" value="Meter 1 Temp high"/> <input type="text" value="Meter 1 PF high"/> <input type="text" value="Meter 1 Frequency high"/>																									
Environmental <input type="button" value="Security"/> <input type="button" value="Socket 1"/> <input type="button" value="Socket 2"/> <input type="button" value="Socket 3"/> <input type="button" value="Socket 4"/> <input type="button" value="Socket 5"/> <input type="button" value="Socket 6"/> <input type="button" value="Socket 7"/> <input type="button" value="Socket 8"/> <input type="button" value="Socket 9"/> <input type="button" value="Socket 10"/> <input type="button" value="Socket 11"/>																											
Environment Temp S1 Humidity Sensor Temp S2 Temp S3 Temp S4 Temp S5 Temp S6 Temp S7 Temp S8 Temperature : <input type="text" value="0.00C"/> Low Alarm : <input type="checkbox"/> 10 <input type="checkbox"/> 50 High Alarm : <input type="checkbox"/> 10 <input type="checkbox"/> 50 Low Alarm Email text : <input type="text" value="Low temperature on 1"/> High Alarm Email text : <input type="text" value="High temperature on 1"/>																											
Contact monitoring <table border="1"> <thead> <tr> <th>Input</th> <th>Trigger</th> <th>Name</th> <th>Alarm triggered</th> <th>Alarm cleared</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>Input 1 : <input type="text" value="OPEN"/></td> <td><input type="text" value="NONE"/></td> <td><input type="text" value="Input 1"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="button" value="Clear Input"/></td> </tr> <tr> <td>Input 2 : <input type="text" value="OPEN"/></td> <td><input type="text" value="NONE"/></td> <td><input type="text" value="Input 2"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="button" value="Clear Input"/></td> </tr> <tr> <td>Input 3 : <input type="text" value="OPEN"/></td> <td><input type="text" value="NONE"/></td> <td><input type="text" value="Input 3"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="button" value="Clear Input"/></td> </tr> </tbody> </table>				Input	Trigger	Name	Alarm triggered	Alarm cleared	Action	Input 1 : <input type="text" value="OPEN"/>	<input type="text" value="NONE"/>	<input type="text" value="Input 1"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="button" value="Clear Input"/>	Input 2 : <input type="text" value="OPEN"/>	<input type="text" value="NONE"/>	<input type="text" value="Input 2"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="button" value="Clear Input"/>	Input 3 : <input type="text" value="OPEN"/>	<input type="text" value="NONE"/>	<input type="text" value="Input 3"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="button" value="Clear Input"/>
Input	Trigger	Name	Alarm triggered	Alarm cleared	Action																						
Input 1 : <input type="text" value="OPEN"/>	<input type="text" value="NONE"/>	<input type="text" value="Input 1"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="button" value="Clear Input"/>																						
Input 2 : <input type="text" value="OPEN"/>	<input type="text" value="NONE"/>	<input type="text" value="Input 2"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="button" value="Clear Input"/>																						
Input 3 : <input type="text" value="OPEN"/>	<input type="text" value="NONE"/>	<input type="text" value="Input 3"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="button" value="Clear Input"/>																						
<input type="button" value="Save Settings"/> <input type="button" value="Close"/>																											

The window is broken into status, information, values, energy consumption and extended values, environmental, security and port status groups.

The PDU Status group provides the Name of the PDU, its status and two buttons, one to reset the PDU and other to place the PDU ONLINE or OFFLINE.

The PDU Information group provides the number of ports, MODBUS address, serial number if set and firmware version running on the PDU.

continued

The PDU values group provides the currently measured voltage *VAC+, current in amps, kW's and internal PDU temperature. Alarms for low and high thresholds may be set by checking the relevant checkbox and entering a threshold value and modifying the Alarm email text if required.

The Energy Consumption group provides energy consumption using different units of measurement and cost based on the cost of the unit value setup in the PDU SNMP Agent Setup.

The extended value provides the Power factor for that individual PDU.

Under that the extended group provides status for any ENVIRO module that may be connected to the PDU giving environmental values for temperature, humidity and contact free connections, and also security.

Finally individual port status if the PDU has this (switching).

See below which shows an example of a port. Please note if switching is available on the PDU that port 1 can switch off all the sockets on that strip if the Control all ports box is ticked for a timed On or Off setup.

PDU Status view [Address: 169.254.1.1 Client: Demonstration Location: Server Hall B]

PDU Status

Name :

Status : ONLINE

PDU Information

No. of ports : Serial No. :

Address : Firmware :

Meter 1 | Meter 2 | Meter 3 | Total Energy and Phase / Feed balance

PDU Values

Volts : <input type="text" value="242.7V"/>	<input type="checkbox"/>	Low Alarm : <input type="text" value="220"/>	<input type="checkbox"/>	High Alarm : <input type="text" value="260"/>	Low Alarm Email text : <input type="text" value="Meter 1 Volts low"/>	High Alarm Email text : <input type="text" value="Meter 1 Volts high"/>
Amps : <input type="text" value="9.74A"/>	<input type="checkbox"/>	0.1	<input type="checkbox"/>	32	Meter 1 Amps low	Meter 1 Amps high
kW : <input type="text" value="0.237"/>	<input type="checkbox"/>	0.1	<input type="checkbox"/>	10	Meter 1 kW low	Meter 1 kW high
Temp : <input type="text" value="31.44C"/>	<input type="checkbox"/>	10	<input type="checkbox"/>	50	Meter 1 Temp low	Meter 1 Temp high
PF : <input type="text" value="0.999"/>	<input type="checkbox"/>	0.2	<input type="checkbox"/>	0.999	Meter 1 PF low	Meter 1 PF high
Freq : <input type="text" value="49.9Hz"/>	<input type="checkbox"/>	45.0	<input type="checkbox"/>	55.0	Meter 1 Frequency low	Meter 1 Frequency high

Phase and feed setup

Phase : Feed :

Energy Consumption

kW/h :

BTU/h :

kgCO2 :

kJ/h :

Energy Cost :

Environmental

Security

Socket 1

Socket 2

Socket 3

Socket 4

Socket 5

Socket 6

Socket 7

Socket 8

Socket 9

Socket 10

Socket outlet

Status : Equipment name :

Phase :

Timed control

Timed turn ON/OFF : 8:00:00 AM 5:00:00 PM

User email address for notifications : Control all ports

Diagnostics

All ON/OFF Switch time :

Consumption

Amps : Fuse blown Alarm text : Low Alarm : 0.1 3.0 High Alarm : 3.0 Low Alarm text : High Alarm text :

kWh : Note: The values given here are only indicative and should not be used to calculate total energy consumption.

When switching a port off or on you cannot switch another port on the same PDU until the status for the port you switched has changed, you can however switch another port on another PDU. Power consumption will also be shown if the PDU has individual port monitoring.

If the timed turn off/on is used then an email will be sent to an individual that will be using either that port or the actual PDU (if control all ports is ticked) to warn that their power will be switched off. The email is sent out 30 minutes and 10 minutes before power will be switched off.

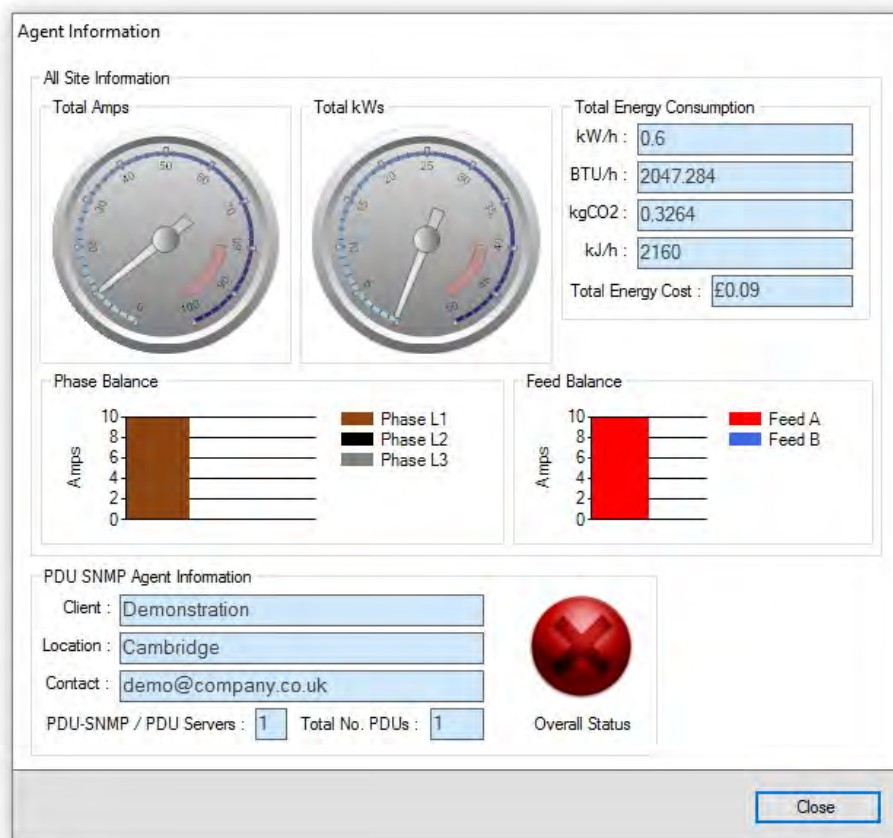
NOTE - PDU control is only available on Master or Normal PDU's, switching sockets on a slave PDU is not possible, (This is due to the length of time it would take to respond on a PDU string with 32 PDU's and 48 sockets per PDU, Time outs would occur). The PDU SNMP Agent can be minimised with all users logged out and will still keep monitoring and logging historical data, only if the program is closed completely will this stop.

Users can be given either Admin or User log in rights; depending on how the Web browser has been set up for User's will determine what a user can do.

The PDU SNMP Agent software can Monitor up to 50 IP Addresses: and each IP Address can be daisy chained to monitor up to 32 PDU's over a Modbus network.

Each IP is polled individually so any thresholds that are set will be polled within a certain time no matter how many IP's are added to the PDU SNMP Agent.

When an alarm has been raised either by a PDU going offline or a threshold being broken an email will be sent and various changes will become apparent, you can also manually check if you have access to the PDU SNMP Agent, the next few pictures will demonstrate the alarm state.



This Red Cross simply means there is an alarm state on the PDU SNMP Agent

PDU-SNMP Unit / PDU SNMP Server overview

Total Energy Consumption

kWh: 0.5

BTU/h: 1706.07

kgCO2: 0.272

kJ/h: 1800

Total Energy Cost: £0.08

Address	Status	Client	Location	Up Time	Total kWh's	PDU's	PDU's Online	Firmware	Type
169.254.1.1	ALARM	Demonstration	Server Hall B	0d 1h 34m 19s 980ms	0.5	1	1	1.05.05	PDU-SNMP

PDU Unit / Server search, add or clear

Search

Start IP: 169.254.1.1

Finish IP: 169.254.1.2

Search

IP or Name: www.snmpghost.com

Clear all Add

Double click on Address to view status

Close

When you open the PDU SNMP Server you can now see which IP Server is giving the alarm, by double clicking on the IP it will then show the PDU(s) which are giving the alarm as shown below:

PDU-SNMP Unit / PDU Server status [Address: 169.254.1.1]

PDU-SNMP / PDU Server Status

Client: Demonstration

Location: Server Hall B

CabinetID: CabinetID: 23C

Server status: RUNNING

PDU(s) on Site: 1

PDU(s) online: 1 68%

PDU Name	Status	kWh's	M1 Amps	M2 Amps	M3 Amps	No. Sockets	Address	Firmware
PDU 1	ALARM	0.5	9.76	0.00	0.00	4	1	1.05.05
PDU 2	DISABLED	0.0	0.00	0.00	0.00	0	2	0.00.00
PDU 3	DISABLED	0.0	0.00	0.00	0.00	0	3	0.00.00
PDU 4	DISABLED	0.0	0.00	0.00	0.00	0	4	0.00.00
PDU 5	DISABLED	0.0	0.00	0.00	0.00	0	5	0.00.00
PDU 6	DISABLED	0.0	0.00	0.00	0.00	0	6	0.00.00
PDU 7	DISABLED	0.0	0.00	0.00	0.00	0	7	0.00.00
PDU 8	DISABLED	0.0	0.00	0.00	0.00	0	8	0.00.00
PDU 9	DISABLED	0.0	0.00	0.00	0.00	0	9	0.00.00
PDU 10	DISABLED	0.0	0.00	0.00	0.00	0	10	0.00.00
PDU 11	DISABLED	0.0	0.00	0.00	0.00	0	11	0.00.00
PDU 12	DISABLED	0.0	0.00	0.00	0.00	0	12	0.00.00
PDU 13	DISABLED	0.0	0.00	0.00	0.00	0	13	0.00.00
PDU 14	DISABLED	0.0	0.00	0.00	0.00	0	14	0.00.00
PDU 15	DISABLED	0.0	0.00	0.00	0.00	0	15	0.00.00
PDU 16	DISABLED	0.0	0.00	0.00	0.00	0	16	0.00.00
PDU 17	DISABLED	0.0	0.00	0.00	0.00	0	17	0.00.00
PDU 18	DISABLED	0.0	0.00	0.00	0.00	0	18	0.00.00

Double click on PDU Name to view status

Disable Server Refresh list Setup Close

Simply double click on the PDU name to view the status and see what has triggered the alarm.

continued

PDU Status view [Address: 169.254.1.1 Client: Demonstration Location: Server Hall B]

PDU Status

Name : PDU 1

Status : **ALARM** [DISABLE] [RESET]

PDU Information

No. of ports : 4 Serial No. : 1301785

Address : 1 Firmware : 1.05.05

Meter 1 | Meter 2 | Meter 3 | Total Energy and Phase / Feed balance

PDU Values

Value	Low Alarm	High Alarm	Low Alarm Email text	High Alarm Email text
Volts : 246.9V	<input type="checkbox"/> 220	<input type="checkbox"/> 260	Meter 1 Volts low	Meter 1 Volts high
Amps : 9.76A	<input type="checkbox"/> 0.1	<input checked="" type="checkbox"/> 6.0	Meter 1 Amps low	Meter 1 Amps high
kW : 0.237	<input type="checkbox"/> 0.1	<input type="checkbox"/> 10	Meter 1 kW low	Meter 1 kW high
Temp : 32.79C	<input type="checkbox"/> 10	<input type="checkbox"/> 50	Meter 1 Temp low	Meter 1 Temp high
PF : 0.999	<input type="checkbox"/> 0.2	<input type="checkbox"/> 0.999	Meter 1 PF low	Meter 1 PF high
Freq : 49.9Hz	<input type="checkbox"/> 45.0	<input type="checkbox"/> 55.0	Meter 1 Frequency low	Meter 1 Frequency high

Phase and feed setup
Phase : Phase L1 | Feed : Feed A

Energy Consumption

kW/h : 0.6

BTU/h : 2047.284

kgCO2 : 0.3264

kJ/h : 2160

Energy Cost : £0.09

Environmental | Security | Socket 1 | Socket 2 | Socket 3 | Socket 4 | Socket 5 | Socket 6 | Socket 7 | Socket 8 | Socket 9 | Socket 10 | Socket 11

Environment

Temp S1 | Humidity Sensor | Temp S2 | Temp S3 | Temp S4 | Temp S5 | Temp S6 | Temp S7 | Temp S8

Temperature : 0.00C

Low Alarm	High Alarm	Low Alarm Email text	High Alarm Email text
<input type="checkbox"/> 10	<input type="checkbox"/> 50	Low temperature on 1	High temperature on 1

Contact monitoring

Input	Trigger	Name	Alarm triggered	Alarm cleared	Action
Input 1 : OPEN	NONE	Input 1	<input type="checkbox"/> Input 1 triggered	<input type="checkbox"/> Input 1 cleared	Clear Input
Input 2 : OPEN	NONE	Input 2	<input type="checkbox"/> Input 2 triggered	<input type="checkbox"/> Input 2 cleared	Clear Input
Input 3 : OPEN	NONE	Input 3	<input type="checkbox"/> Input 3 triggered	<input type="checkbox"/> Input 3 cleared	Clear Input

[Save Settings] [Close]

On this occasion the alarm has been triggered because the threshold set for current (Amps) has been exceeded and as you can see, it's highlighted in red.

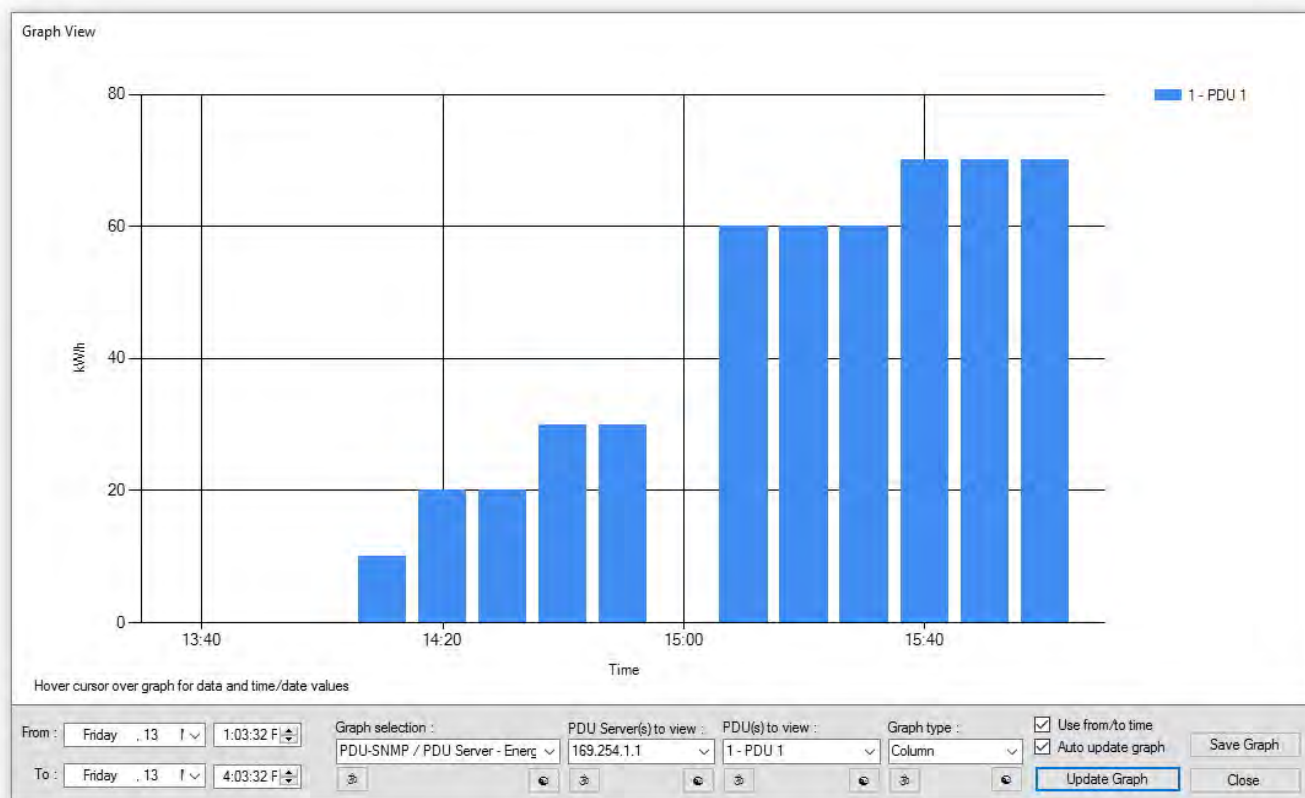
All this information again would be available to view in the log viewer and email(s) would be sent if set up, to the people concerned stating the exact location, client, IP server, PDU number and what the actual alarm is for.

Graphs

When clicking on the view tab select the graph option and you will be presented with the graph window, if this is the first time the PDU SNMP Agent has been run it will take around 20/30 minutes before it will be able to start to plot. You will see from the graph you have a lot of options, date options, time options and options for all individual information that you can pull from a PDU.

Logs are stored every 10 minutes as part of a .csv file, the graph function draws from this information.

NOTE - that the IP has to be selected to be able to view any PDU information.



In the above example, I have selected a date Friday the 13th of May, the IP I want to get the information from and the PDU number (you can select all PDU's to be shown).

I then selected PDU-SNMP / PDU Server - Energy kW/h's to view the recent usage.

NOTE - The figures are tiny as it was just a Demonstration unit being used with a single source drawing current from just one socket.

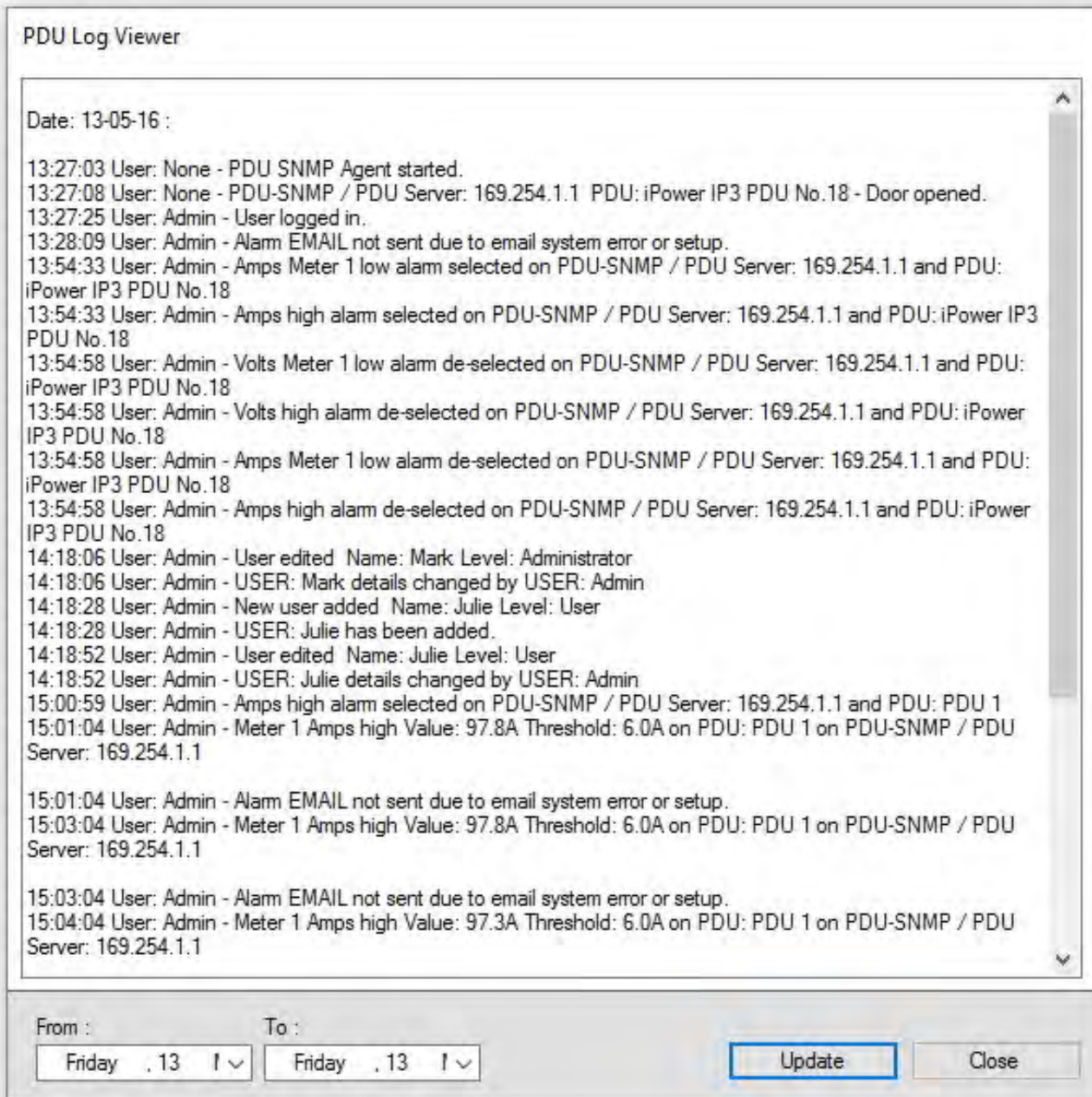
I needed a closer look so I selected the time I required, ticked the use from/to time and selected **Update graph**, this then gave me a closer view of a certain time (as shown above).

The Auto update graph tick box if selected will update the graph every 10 minutes if the graph is left up to view.

The graph type has 6 different options to choose from depending on your preferences, if you use the arrow buttons on the PDU's to view or the graph type, the graph will update automatically, using the arrow buttons for the graph selection or PDU server will still require the update graph button to be clicked.

Log Viewer

When clicking on the view tab select the log viewer to be able to view event history, who logged in/out and what a user has done, any alarms and any emails sent:



In the above you can see a simple log viewer event, I logged in at 13.27 as Admin (if this name had been changed it would show the new name).

An alarm was triggered at 15:01 by PDU 169.254.1.1 showing the current threshold was exceeded.

So you can see even from the above that everything is captured, whether it is an email being sent (or NOT because of a setup error), an alarm, or a change in a PDU status such as a port being switched on or off.

All users are captured logging in and out and date and timed stamped.

PLEASE NOTE - SNMP PDU Agent is a "Free of Charge" piece of software to provide entry level monitoring for **iPower** PDU's, it is **NOT a DCIM package**.

However **iPower** can provide an MIB file for integration with third party softwares, and also if required an introduction to other software providers.

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