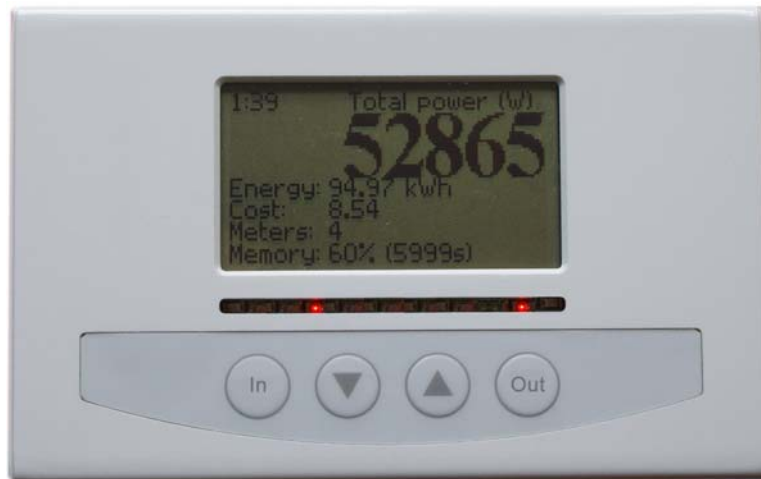


Smart Energy Controller

User Instructions



The Smart Energy Controller acts as master interface between the Enistic Energy Manager and other Enistic products. Simply plug the Controller onto your internal network, i.e. into a data point, router or hub and this will act as a bridge between the Enistic system and the Enistic Energy Manager.

Because Enistic is a meshing system, every module talks to every other module in order to maximise range and reliability. This means that in any office or home environment, only one Zone Controller is required for full coverage so long as every module is within 30m of any other module. If the Zone Controller cannot directly pass messages to any module on the network, the other modules in the range will "pass on" the message to ensure trouble-free operation.

The Smart Energy Controller sends information to Enistic Energy Manager (desktop or Internet versions) via TCP/IP. As such, this controller can be mounted remotely, reporting the information back to a centrally maintained server if required. This enables use in monitoring many installations using one central copy of the Energy Manager.

Plugging in your controller

Your controller needs to be plugged into a power supply. If you want to connect your controller to any of the Enistic software, which is optional, then you will also need to connect a network cable.

To connect the power supply or the network cable:

- a) Turn off and unplug the 5V power supply to the controller if you have already fitted one.
- b) Slide the back of the unit off to reveal the sockets where the cables plug in. To remove the back of the unit unclip it along the two long edges. This can be easily achieved either with something thin that you can slide along the clip although many people use a fingernail.
- c) Fit the cables into the sockets inside the unit as required
- d) Replace the back of the case, placing the wires through the hole provided
- e) Press firmly the back of the case firmly to reseal it along the two clip-in edges

Mounting on a wall

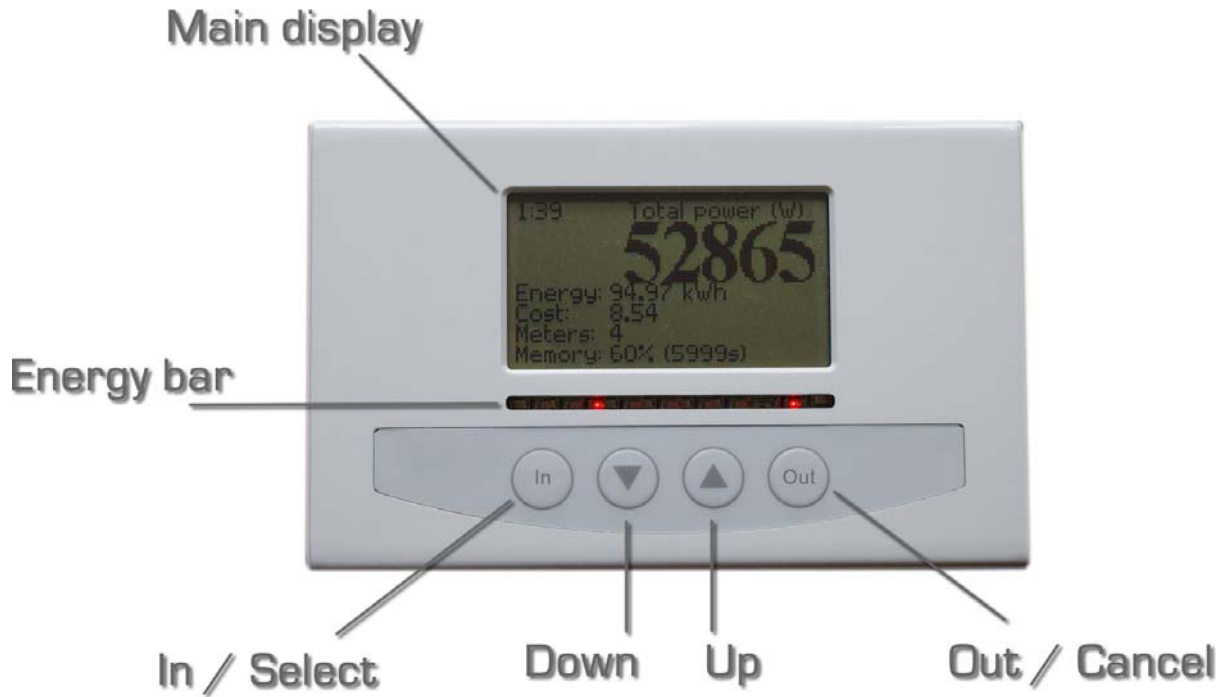
To mount the controller on a wall, screw in 2 flat head screws to match the two key cuts in the case and ensure that the screws stand proud enough so that the controller can slide down over them.

Connecting the desk stand

The enclosed optional stand can be used to support the unit on a desk.

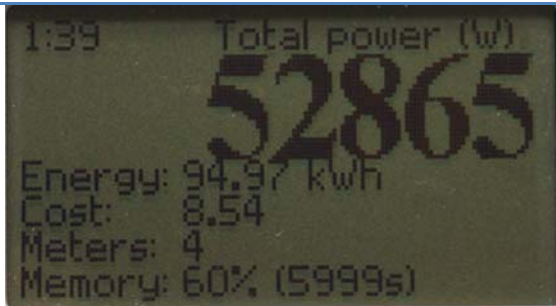
To attach the stand, place one end of the stand in the back of the case with the large slot in the stand pointing towards the top of the controller. Then swing the stand back into place until it clicks into place.

Your controller explained



Function	Description
Main Display	The main display of the controller.
Energy bar	The Energy bar lights up to show your energy use. Red means your energy use has gone up, blue means it has gone down and green means it is roughly the same.
In / select	Press to go to different screens within the controller.
Down	This button helps you navigate through the built in menus.
Up	This button helps you navigate through the built in menus.
Out / cancel	Cancels a current action.

Controller functions



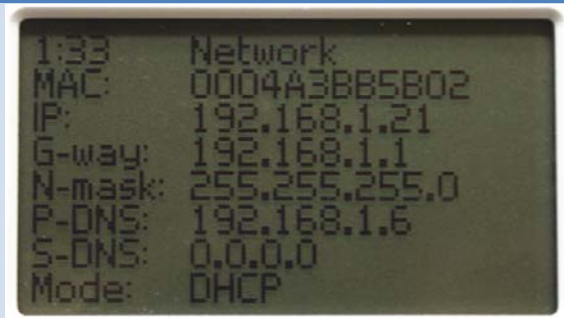
The main screen of the controller.

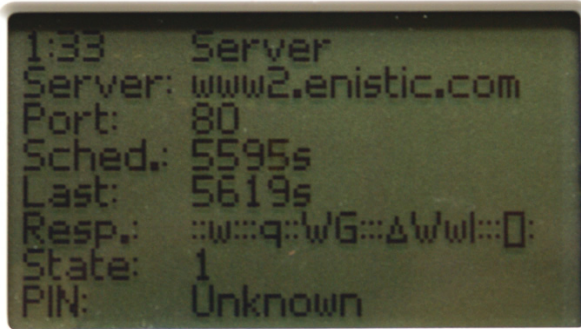
It shows the power being used now in large numbers and also:

- The time in the top left. This time is set to Central European Time. For UK users this is 1 hour out.
- Energy use in kWh since the controller was switched on.
- Cost of that electricity, priced at 0.11 per unit.
- Number of meters connected
- The amount of memory used
- The last time that the internal memory was transferred to the online system shown in brackets.

The internal network state:

- MAC address
- IP address
- Gateway address
- TCP/IP Netmask
- Primary DNS server
- Secondary DNS server
- DHCP or static IP address mode



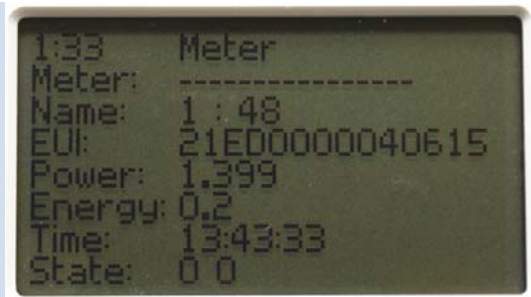


The current online server state, showing:

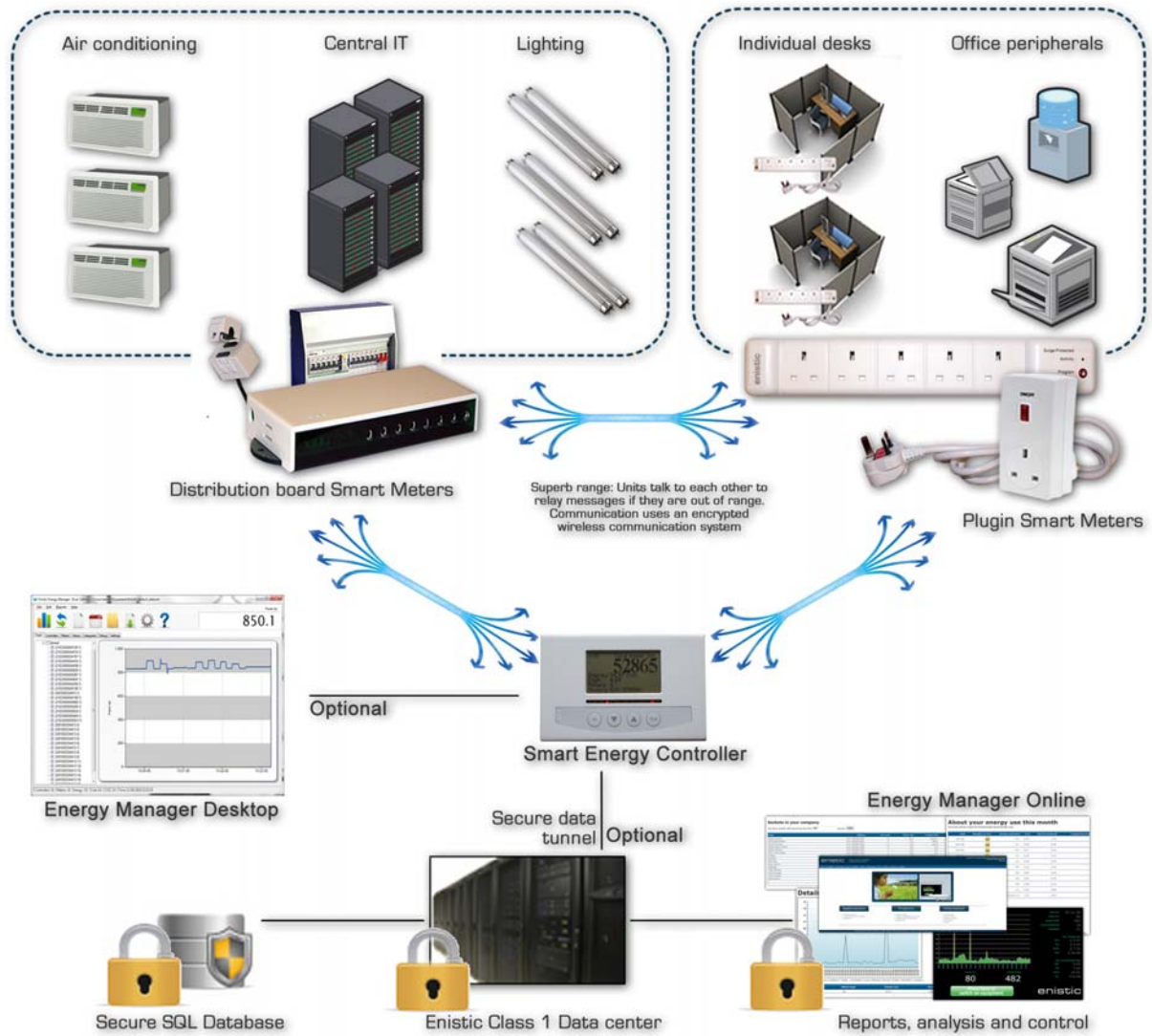
- Which server the controller is linking to
- Which port is being used
- How long ago the last server communication took place
- How long since the last successful server communication
- The response obtained from the server
- The internal server state (for internal use only)
- The PIN number of the controller

The meter store information. Showing:

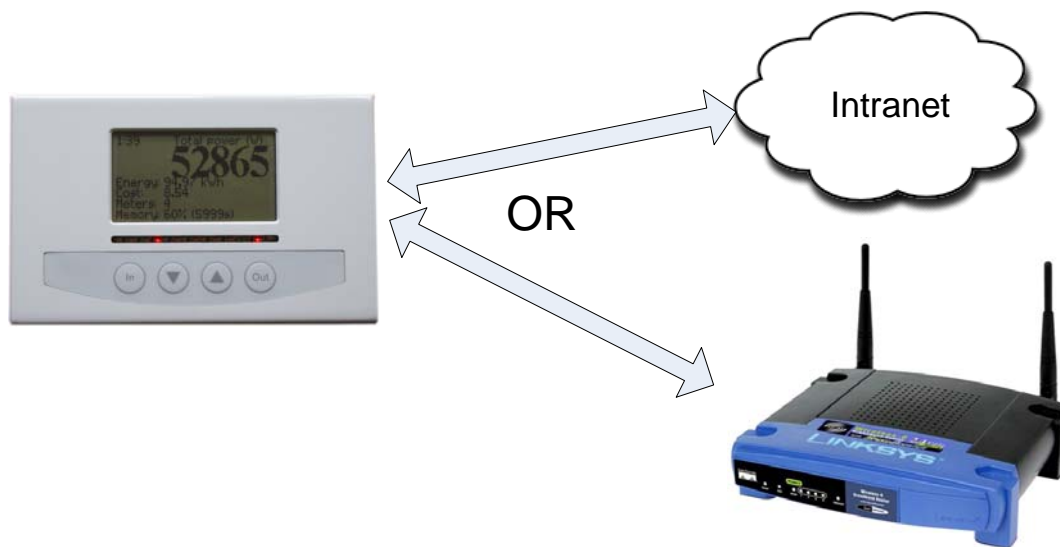
- The meter name
- The internal meter storage location and its channel number
- The serial number of the meter (known as the Enistic Unique Identifier)
- The power it was using when it was last read
- The energy it has used since the controller was last turned on
- The state of the internal relay if it has one



The communications screen is an internal debug screen and can be ignored.

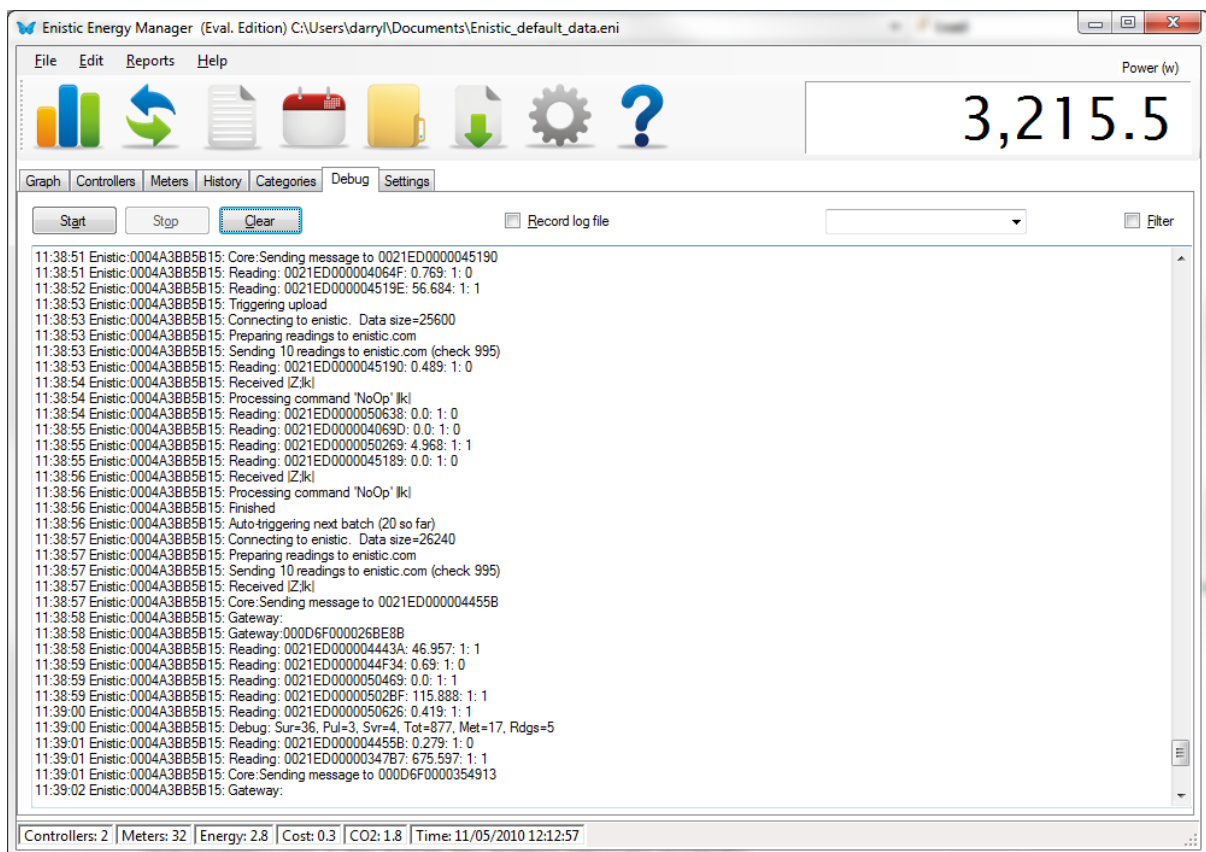


The Smart Energy Controller plugs into your broadband or your Intranet as shown below:



Testing your Smart Energy Controller

Run the Energy Manager for Desktop software. If you click on the debug tab you should see information of the kind shown below scrolling up the screen. If you don't then it generally indicates a network problem of some kind and you should refer to the troubleshooting guide below.



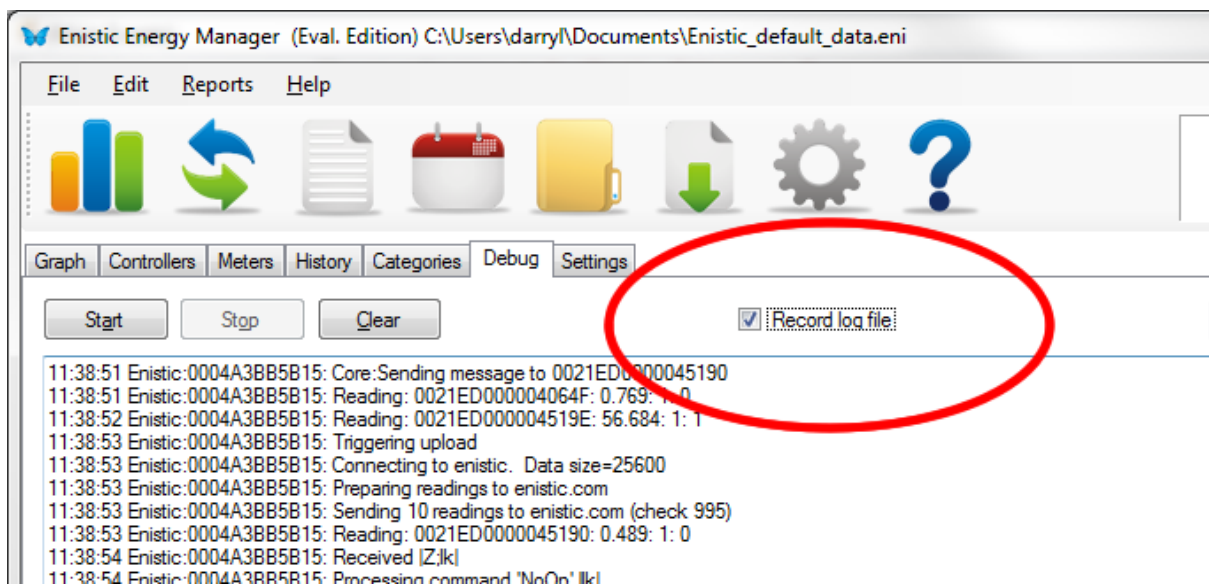
Troubleshooting your controller

Symptom	Possible resolution
Your controller is not appearing online	<ol style="list-style-type: none"> 1) You have plugged the controller into your laptop by mistake. Try removing it from your laptop and plug it into your broadband router or Intranet. 2) You have a firewall running that is blocking the controller communications. Try adjusting your firewall to allow outbound traffic on port 80. 3) You have not plugged in the network cable. Try plugging in your network cable to the controller at one end and the other into your broadband router or Intranet. 4) Your broadband connection is not functioning. From any computer on the network try accessing the Internet to see whether you can access other sites.
Your controller is not showing up in the Energy Manager Lite or Energy Manager Pro software.	<p>Try going to the Debug tab. You should see information like that shown above in the "testing your controller" section.</p> <p>If you do not see this type of information it could be because you have a firewall running that is blocking your network communication.</p> <p>Try asking your Network Administrator to unblock UDP broadcasts on port 53004 and 53005.</p> <p>If you are running a Windows firewall, try temporarily disabling the firewall and see if that fixes the problem.</p>
Your controller looks like it is working but no Smart Sockets are connecting	<p>This can occur when you have set the PIN number security in your controller. From the Energy Manager Pro software right click on the controller in the Controllers screen and choose "Clear PIN number"</p> <p>When Smart Sockets are trying to connect the LEDs on the unit flash rapidly. Once they have connected to your controller they begin to flash once every 10 seconds.</p>
There are no lights on your controller	<p>The power supply is not plugged in or the network cable is not plugged in.</p>
You can see debug information on the Debug tab but you cannot get the controller to respond to commands you send it (such as changing the reporting interval etc)	<p>This can be caused by your firewall blocking communications between your computer and the controller.</p> <p>If you are running the Energy Manager Lite / Pro on a laptop computer that is using wireless try plugging your laptop into a wired Ethernet connection and trying again.</p>

Sending troubleshooting logs to Enistic

If you would like to send us information about your controller to help us troubleshoot your installation then you can do so by recording a log file and then emailing it to us (see below).

To record a log file, go to the debug tab in the Energy Manager Lite / Pro and click on “Record Log File”. This records all debug activity to a file in “My Documents” called “EnisticLog.txt” which you can email to us to help us help you identify any potential problems.



Specifications

- Power indicator
- In / out / up and down functions
- 2 x Red, 2 x green and 2 x blue indicator LEDs
- RJ45 Ethernet connector for connection to
- 5V power supply, 300 mA

Physical

- Operating temperatures: -50 to +75 degrees C
- Dimensions: 130(h) x 92 (w) x 31.5 (d) mm
- Weight: 320g
- For internal use only. Do not expose to moisture.

Technical

- 20Mhz Dual Processor
- 256Kbit Flash Memory
- 2K RAM
- 2.4GHz ISM Band digital direct sequence spread spectrum transceiver.
- Hardware acceleration for IEEE802.15.4 operations.
- Hardware supported encryption (AES-128)
- Can be configured to act as a ZigBee coordinator, router or end device
- Up to 4dBm output power
- Sensitivity up to -98dBm (1% PER)

Software

- Built in UDP for configuration
- Output debug broadcast on UDP port 53005
- Controller API commands accepted on UDP port 53004
- DHCP compatible (required)
- Connects to server on port 80 using HTTP POST protocol

Certifications

- CE certified
- Zigbee Pro network compliant (closed network mode)
- LVD certified
- WEE certified

Getting further help

If you would like further help getting your controller working you can either visit our forum (24 hours per day, 7 days a week)

www.Enistic.com/forum

Or you can contact us on:

Address: Enistic Limited, 10 Wornal Park, Worminghall, Bucks, HP18 9PH

Email: Support@enistic.com

Web: www.Enistic.com

Tel: +44 (0) 844 875 1600