



WebSentry Connection:

Our units are designed to communicate with our central server over Internet.

The idea behind this is:

1. We can provide our customers with a Web based management system they can use to monitor their own unit from anywhere in the world using a regular web browser.
2. Service technicians here at Seresco will be able to provide much better technical support if there ever is a problem with the unit.
 - a. We can ready current conditions and even go back in time using our trend logs to see exactly what the unit was doing at the time a fault occurred.
 - b. We even get email notification when there is a fault and can start looking into what possibly can be wrong with the unit before a customer even know there is a problem with the unit.

Firewalls, Security and Access:

Our unit can be on a public network if this simplifies the unit being able to communicate with our server over Internet. The risk to our unit is negligible the unit is using a micro controller so there is no real OS. The closes thing to an OS is the propriety built platform we use for our control system.

If the unit can only be connected to a **non** public network we have a work around method with firewalls. No devices will be communicating with the unit. It is the unit that will be communicating with our central server. Each unit will set up a TCP connection to our central server once a minute. This connection will typically not last for more than 2-3 seconds. When connection is established, the server will send a propriety message to retrieve current conditions and latest log data. When data has been retrieved, connection is closed.

One exception to the above is when someone is looking at a unit using our online tool called WebSentry. Connection will then stay open for as long a user is using the management application (e.g. refreshing pages). Connection will close 10 minutes after no user activity.

Requirements:

The requirements for the Internet connection are not really any different than the requirements for connecting a computer to your internal network that needs Internet access. Default configuration is to use dynamic IP (DHCP). If unit will be connected to BACnet, then the unit needs to be assigned a static IP. That is a requirement of the BACnet BMS and not WebSentry.

The only other requirement is that port 1030 is open for communication since this is the port used by our data collection server that each unit connects to.

For enhanced security you can open up the port to only allow communication to/from the IP address assigned to our unit or even the MAC address of the unit. The MAC address can be found on the core module of our board right under the Ethernet RJ45 port, or you can call us at 1-613 741 3603 Ext 3#. Using an IP for a filter would be better, in the case we ever have to swap out the control board.

Seresco service technicians will have access to the unit but will only do any change to the unit when dealing with a service technician or maintenance personnel when troubleshooting unit. Other people that we would give access to unit, on request, are maintenance personnel and/or service contractor that will do regular maintenance on the unit.

We log all remote access and changes so we can see what has been done via the web.



Troubleshooting Guide

Ethernet cable connected and operating

First thing to check is that the Ethernet cable has been hooked up properly and is operating normally. Use the LED's by the Ethernet socket to verify this. The LED's are the two white square components on the mini board with the Ethernet socket.

The one closest to the socket should be solid green and indicates a solid physical connection. Unplug cable at the unit or at the other end and this LED will go blank.

If cable is connected at both end and the LED still does not lit up, it is very possible the Ethernet socket itself is faulty. Connecting a network cable between a laptop and unit can determine that indeed the Ethernet socket is faulty and that there is not a faulty router port or faulty cable.

The second LED is yellow and will blink when there is communication.

Firewall settings

The unit will try to connect to the WebSentry server once a minute using port 1030. Server name is www.seresco.net (websentry.seresco.net from version 4.8.0). This translates into IP 208.124.128.123.

If network has a firewall, port 1030 must be open for communication or at least for the IP assigned to unit or or the MAC address for the unit or to/from the Seresco domain name or server IP.

The MAC address can be found under System Info using the local keypad. '*' translates to 00:90:C2 so that if MAC shows *:D1:2A:49 the full MAC address is 00:90:C2:D1:2A:49.

Checking network communication status

Check status of network communication from the local keypad. From main screen select Main Menu (1) - System (3) - System Status (5) - Network (4).

TCP/IP should be saying *Up*. If it says *PendingUp*, there is a problem with establishing a physical connection. Network cables and router/switch needs to be checked. Ensure light over port where unit is connected is lit up.

WebSentry will say Idle when waiting to connect to server (connects once a minute). When connected you will either see Receive or Send. If it shows Connecting for several seconds it means there is a problem establishing a connection to the server. Usually it will toggle between Idle and Connecting when a proper connection is not established. Check TCP/IP and WebSentry configuration settings.



Checking TCP/IP configuration settings

Unit can be configured for dynamic or static IP. From main screen select Main Menu (1) - Factory Settings (5) - Network (5) - TCP/IP (1). If asked for a password at Factory Settings selection, enter 813.

DHCP set to Yes is for dynamic IP and if set to no, unit is configured for Static IP.

Dynamic IP

You should see an IP and Mask assigned (* means 255). This is assigned by the router to which the unit is connected. On second page you should also see IP's assigned to GW (Gateway) and DNS.

If any of these IP's are not assigned properly (showing 0.0.0.0 for instance), there is a problem with the router assigning IP info to the unit.

Static IP

IP, Mask, GW and DNS all have to be configured correctly or unit will not be able to communicate with the WebSentry server. This information should be known by the IT group managing the local network.

Check WebSentry configuration settings

By default the unit is configured to use DNS (Domain Name Server) to translate the Seresco domain name to the appropriate WebSentry IP address. Before software version 4.8.0, domain name www.seresco.net was used. Starting from version 4.8.0, domain name websentry.seresco.net is used.

If the IP is changing between an IP address and 0.0.0.0, there is a problem with the domain name lookup. In this case you can try to configure a static IP for the WebSentry server.

Change Use DNS to No and then change the IP address to 208.124.128.123.

Testing Internet access from unit

Unit has a Ping feature that can be used to test that unit can connect to any IP address on the local network as well as to any IP over Internet.

To use the Ping feature you have to start the unit in Service Mode. From main screen select Main Menu (1) - System (3) - System Restart (3) and then press Yes (1) to confirm.

When unit starts up you will have a selection menu. Select Service (2).

To access the Ping feature, select Main Menu (1) – Service (6) – Network (3) – Ping (1). If asked for a password at Service selection, enter 813.

To test connection to WebSentry server, make sure IP (selection 1) is set to 208.124.128.123. Press 2 to start Ping request.



The 3rd line shows the current IP address assigned to the unit. The 4th line will either have 4 time values or the text Fail (up to 4 times). The time values indicate number of milliseconds for Ping message to go to WebSentry server and back.

Testing Internet access and WebSentry access from unit Ethernet cable

A simple test you can do to make sure there is Internet access from the Ethernet cable connected to our unit is to connect this cable into a laptop and accessing any web site using a web browser.

If unit is configured for static IP, you should configure the laptop with the exact same TCP/IP configuration. How this is done is not covered in this document.

IMPORTANT! Make sure WiFi connection is disabled when testing Ethernet cable.

A secondary test to ensure you can communicate with the Seresco WebSentry server is to use the Telnet command to establish a connection to the server.

Open up the Command Prompt window. Enter the command:

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telnet 208.124.128.123 1030
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You should now see a blank screen with a prompt. Hit any two characters. The text *Seresco WebSentry* should now be displayed followed by *Connection to host lost*. This verifies that you can open up a connection to the port used by the WebSentry server and that this port is not blocked by any firewall.

If the connection failed it most likely is a firewall issue. Port 1030 must be open for communication or at least for the IP assigned to the Seresco unit.

Contact Factory

If everything in this document has been tested and everything indicates that the communication should be working, we are dealing with an unknown fault. Contact Seresco for further advice.