



# **SafetyNet User Manual**



**Document Revision CSSN 10/04  
SafetyNet Version 1.01**

## Copyright and Trademark

© 2004, Computer Support Systems

All rights reserved. No part of the contents of this manual may be transmitted or reproduced in any form or by any means without the written permission of Computer Support Systems. Computer Support Systems reserves the right to make changes and improvements to its products without providing notice.

Ethernet is a trademark of XEROX Corporation. Java™ is a trademark or a registered trademark of Sun Microsystems, Inc. in the United States and other countries.



### Computer Support Systems Pty Ltd.

Head Office: 373 Johnston Street  
Abbotsford  
VICTORIA 3067  
Australia

Telephone: - 61 3 9419 3955  
Facsimile: - 61 3 9419 3509  
Web Address: - [www.csspl.com.au](http://www.csspl.com.au)  
[sales@csspl.com.au](mailto:sales@csspl.com.au)  
[support@csspl.com.au](mailto:support@csspl.com.au)

## Disclaimer and Revisions

Operation of this equipment in a residential area may cause interference in which case the user, at his or her own expense, will be required to take whatever measures may be required to correct the interference.

Date	Revision	Comments
29/06/2004	CSSSN 06/04	NK – Alarm and event logs
24/08/2004	CSSSN 08/04	NK – SNMP Trap-Type added
04/10/2004	CSSSN 10/04	NK – Version 1.01 Released

## **Declaration of Conformity**

### **Manufacturer's Name & Address:**

Computer Support Systems Pty Ltd, 373 Johnston Street, Abbotsford VICTORIA  
3067, Australia.

**Product Name Model:** SafetyNet Environmental Monitoring System – Version 1.01E

## **Warranty**

Computer Support Systems warrants SafetyNet

- If used in accordance with all applicable instructions
- To be free from defects in material and workmanship for a period of one year from the date of initial purchase.

This warranty is voided if the customer uses SafetyNet in an unauthorized or improper way, or in an environment for which it was not designed. Warranty does not apply to normal wear or to damage resulting from accident, misuse, abuse or neglect.

## Safety Instructions

When using this product, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons, including the following:

1. Read and understand all instructions.
2. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
3. Do not use this product in an outdoor environment or near water, for example, near a bathtub, washbowl, kitchen sink or laundry tub, in a wet basement, or near a swimming pool.
4. Do not place this product on an unstable surface. The product may fall, causing serious damage to the product.
5. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.
6. Do not allow anything to rest on the power cord. Do not locate this product where the cord will be abused by persons walking on or over it.
7. Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.
8. Never push objects of any kind into this product through the slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electrical shock. Never spill liquid of any kind on the product.
9. To reduce the risk of electrical shock, do not disassemble this product. Opening or removing covers will expose you to dangerous voltages or other risks. Incorrect re-assembly can cause electric shock when the appliance is subsequently used.
10. Unplug this product from the wall outlet and return to CSS for repairs under the following conditions:
  - a) When the power supply cord or plug is damaged.
  - b) If liquid has been spilled into the product.
  - c) If the product has been exposed to rain or water.
  - d) If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions because improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
  - e) If the product has been dropped or has been damaged.
  - f) If the product exhibits a distinct change in performance.
11. Do not use sensors that are not supplied by Computer Support Systems

## Table of Contents

COPYRIGHT AND TRADEMARK .....	I
DISCLAIMER AND REVISIONS.....	II
DECLARATION OF CONFORMITY .....	III
<b>WARRANTY .....</b>	<b>IV</b>
<b>1 INTRODUCTION TO SAFETYNET .....</b>	<b>1</b>
<b>2 ASSUMPTIONS.....</b>	<b>2</b>
<b>3 INTRODUCTION TO SAFETYNET WEB INTERFACE .....</b>	<b>3</b>
3.1 SAFETYNET MAIN MENU .....	3
3.1.1 Enabling Features on your product (Registration Keys) .....	4
3.1.2 Introduction to SafetyNet Viewer .....	4
3.1.3 Introduction to Administration Configuration .....	4
3.1.4 Introduction to Sensor/Relay Configuration .....	4
3.1.5 Introduction to SNMP Configuration .....	4
3.1.6 Introduction to SMS Configuration.....	4
3.2 SECURITY ON SAFETYNET .....	5
3.2.1 Password.....	5
3.2.2 Forgotten Password .....	5
3.2.3 Inactivity Timed Redirection .....	5
<b>4 SAFETYNET VIEWER.....</b>	<b>6</b>
4.1 RELAY STATUS.....	8
4.2 GRAPHS .....	8
4.3 ALARM AND EVENT LOG .....	8
<b>5 CONFIGURING SAFETYNET .....</b>	<b>9</b>
5.1 ADMINISTRATION CONFIGURATION.....	9
5.2 SENSOR/RELAY CONFIGURATION .....	12
5.3 SNMP CONFIGURATION.....	17
5.4 SMS CONFIGURATION .....	18
5.5 FEATURE REGISTRATION/ LICENSING ON SAFETYNET.....	20
<b>6 GRAPHS ON SAFETYNET .....</b>	<b>21</b>
6.1 2 HOUR GRAPH (1 MINUTE AVERAGE).....	21
6.2 DAILY GRAPH (6 MINUTE AVERAGE).....	22
6.3 WEEKLY GRAPH (1 HOUR AVERAGE).....	22
6.4 MONTHLY GRAPH (3 HOUR AVERAGE).....	23
<b>7 ALARM AND EVENT LOGS ON SAFETYNET .....</b>	<b>24</b>
7.1 ALARM LOG.....	24
7.2 EVENT LOG.....	25
7.2.1 Clearing of Alarm and Event Logs.....	26
<b>8 OPERATION OF SAFETYNET .....</b>	<b>27</b>
8.1 BASIC OPERATION .....	27
8.2 SENSORS.....	27
8.2.1 Temperature and Humidity Sensors.....	27
8.2.2 Fluid Detectors .....	27
8.2.3 Smoke Detectors .....	28
8.2.4 Digital Sensors .....	28
8.2.5 Using Digital Sensor Inputs as Fluid or Smoke Sensors .....	28
8.3 ALARMS AND ALERTS .....	29
<b>9 SMS MESSAGES FROM SAFETYNET .....</b>	<b>30</b>
9.1 INTRODUCTION TO SMS MESSAGES FROM SAFETYNET.....	30
9.2 REQUIREMENTS FOR SMS MESSAGES .....	30
9.3 LIMITATIONS.....	30
9.4 SAMPLE MESSAGES.....	30
<b>10 SNMP ON SAFETYNET .....</b>	<b>31</b>
10.1 INTRODUCTION TO SNMP FEATURES ON SAFETYNET .....	31
10.2 SNMP IMPLEMENTATION.....	31

10.3	REQUIREMENTS.....	33
10.4	HOW TO RECEIVE TRAPS.....	33
10.5	SETTING THE MIB.....	33
10.6	INTERPRETING SAFETYNET TRAPS .....	33
10.7	SNMP GRAPHING .....	35
10.7.1	Requirements .....	35
10.7.2	Configuration .....	35
10.7.3	Samples .....	37
<b>11</b>	<b>HARDWARE SPECIFICATION.....</b>	<b>38</b>
<b>12</b>	<b>TROUBLESHOOTING.....</b>	<b>39</b>
12.1	TECHNICAL SUPPORT.....	41
<b>13</b>	<b>GLOSSARY .....</b>	<b>42</b>
<b>14</b>	<b>FREQUENTLY ASKED QUESTIONS (FAQ'S) .....</b>	<b>43</b>



# 1 Introduction to SafetyNet

SafetyNet is a modern network based Environmental Monitoring System (EMS). It is capable of notifying error conditions via SNMP (Simple Network Management Protocol), via SMS or by a web page. Blinking LED's, a buzzer and a strobe is also activated on alarms and will attract attention on error conditions.



It is capable of driving relays on alarms to activate desired external products. This product is ideal to monitor facility services and notify of potential environmental problems, which may impact on the network operations.

SafetyNet comprises an embedded web server. With a standard Java enabled web browser installed in almost all computers today, you can easily view SafetyNet web pages to monitor status and change settings remotely.

## Features

- Powerful embedded microprocessor driven, with networking features.
- Up to 2.5 hours of internal battery backed operation.
- 19" inch rack mountable and compact size.
- SNMP features to notify error conditions or to poll data.
- SMS messaging via the Internet.
- Remote configuration and monitoring capabilities.
- Two analogue (temperature or humidity), smoke, fluid and four contact sensor (digital) inputs.
- Configurable trigger delays for digital contact sensors.
- Two individual relays, capable of being driven via a web interface or by sensors.
- A strobe, a buzzer and a LED to indicate error conditions.
- Graphical plotting for your analogue sensors.
- Up to 40 entries of alarm and event logs.

## Applications

- Computer server room monitoring.
- Computer rack monitoring and management.
- Alarm consolidation from other non-network enabled systems.
- Monitoring of other controlled environments
- Remote door controlling applications.



SafetyNet Environmental Monitoring System  
ZSP2008

## 2 Assumptions

We assume that you have: -

- Configured SafetyNet network parameters according to the **SafetyNet Quick Install Guide**, and that the IP address of the device is known. This manual is to explain how to use SafetyNet once successfully installed on the network. You can find information on how to get SafetyNet on the network in the **Quick Install Guide** found on your product CD.
- Installed SafetyNet with all necessary sensors supplied by Computer Support Systems.
- All requirements specified on the **SafetyNet Getting Started Manual** are met.

### 3 Introduction to SafetyNet Web Interface

SafetyNet web interface is controlled by Java applets. The Java™ Runtime Environment version 1.4.2 or higher is required to be installed on your computer to load the applets. See section 2 (Requirements) under the *SafetyNet Getting Started Manual* for further details.

The SafetyNet uses applets to represent its Graphical User Interface (GUI). This user interface consists of a menu for easy navigation.

The SafetyNet web interface is password protected and case sensitive. Factory default password is set to be "password".

A simple description of each web interface is described below. Further details of each web interface and how to use them can be found under chapter 5, Configuring SafetyNet.

The web interface is loaded simply using a Java enabled browser, and by pointing it to the IP address of SafetyNet. Alternatively, you may configure your WINS (Windows Internet Name Service) to provide a name resolution for SafetyNet from NetBIOS names to IP addresses for Windows PCs. This will enable to type the given name instead of the IP address.

#### 3.1 SafetyNet Main Menu

The Safety Net main menu controls the navigation. It shows the current Software Version, the unit name, the MAC address (serial number) and the features that are enabled.

Features that are unregistered will have their configuration menu entry access denied or disabled.

#### SafetyNet Main Menu

<input type="checkbox"/>	SafetyNet Viewer
<input type="checkbox"/>	Administration Configuration
<input type="checkbox"/>	Sensor/Relay Configuration
<input type="checkbox"/>	SNMP Configuration
<input type="checkbox"/>	SMS Configuration

Features	Status
SNMP Traps	Registered
SNMP Graphing	Registered
SMS Messages	Registered

Device name: Web Demo Unit  
Serial number: 0090C2C4744B

<input type="checkbox"/>	Licensing/Registration Keys
--------------------------	-----------------------------

Software version 1.01E  
To obtain a license key contact [sales@csspl.com.au](mailto:sales@csspl.com.au)  
[Computer Support Systems](#)

### 3.1.1 Enabling Features on your product (Registration Keys)

SafetyNet has the following features controlled by registration keys.

- SNMP trap messages
- SNMP graphing
- SMS messages

The product CD label on the provided CD-ROM will contain the appropriate registration key for each feature purchased.

To register features enter the registration keys on the Registration Control web page. Click on "*Licensing/Registration Keys*" under the main menu to enter this page.

Enter the correct registration keys and click on "*Update*". Any incorrect entry will be notified. Once you enter the correct keys the feature status will be updated to "*registered*". Click on main menu to exit.

Notice that you have access to the configuration settings of the features that are registered only. Features that are unregistered cannot be configured and access to the configuration web pages would be denied.

### 3.1.2 Introduction to SafetyNet Viewer

This is the main remote interface that allows viewing of the current sensor and relay status. It also gives access to control the relays remotely if the relays are manually controlled.

The temperature/humidity, smoke, fluid and digital-alarm status are clearly indicated and any fault will attract attention by blinking indicators.

This interface also provides navigation shortcuts to view the analogue sensor graphs and the alarm & event logs.

Chapter 4, SafetyNet Viewer discusses further about the Viewer features.

### 3.1.3 Introduction to Administration Configuration

Allows network-setting changes, password changes, hardware resets, loading factory defaults and updating the time on SafetyNet.

### 3.1.4 Introduction to Sensor/Relay Configuration

Allows installing sensors, making changes to sensor settings and configuring the relays. This also allows clearing existing data used for graphing purposes and the alarm & event log.

### 3.1.5 Introduction to SNMP Configuration

Allows SNMP configuration changes; such as the communities and the network manager IP address insertion.

### 3.1.6 Introduction to SMS Configuration

Allows configuring the SMS operation of SafetyNet.

## 3.2 Security on SafetyNet

### 3.2.1 Password

A password secures entry to the important configuration pages of the SafetyNet.

The factory default password is set to be "password". We recommend that you change it to a desired password with at least four characters.

**Note:** SafetyNet password is case sensitive. The password is limited to a maximum number of eight characters.

#### 3.2.1.1 Changing the Password

You are able to change the password on the administration configuration web interface. Read section chapter 5.1 Administration Configuration to find out how to change the password.

### 3.2.2 Forgotten Password

Entering an incorrect password for more than three times on the web interface will direct to a web page where it provides details of how to re-enter a new password.

## Have you forgotten your SafetyNet Password?

If you have forgotten SafetyNet System's password and wish to have a new password set on SafetyNet follow the instructions given below.

1. Contact [Computer Support Systems](#) and fax a password reset request on your company letterhead authorised by an authorised personnel.  
Make sure you have the following details available for us.  
  
Your contact details and company details.  
The serial number of your product, which is: 0090c2c47430
2. Computer Support Systems will then provide you with a password unlock key.
3. Enter this given key at the field below and click on submit.
4. If the key is a valid key it will allow you to enter a new password on SafetyNet.

Enter Password Unlock Key

Submit

Main Menu

Upon a successful password unlock key submission it will then allow to enter a new password.

### 3.2.3 Inactivity Timed Redirection

If SafetyNet configuration pages that you have logged in are inactive for more than five minutes, it will automatically log you out from the web interface and will direct back to the main menu. This feature will protect users from forgetting to logout from the configuration pages and will attempt to prevent unauthorised access to the configuration aspects of the unit.

This does not apply to the SafetyNet Viewer interface.

## 4 SafetyNet Viewer

SafetyNet viewer is the key remote interface that allows viewing the current status of the monitored environment.

It shows the label of each sensor, what type of a sensor it is, the current status or the reading of the sensor.

For temperature or humidity type sensor types it gives visual interpretation of the current level with respect to the upper and lower range settings of the sensor limits. This will enable an immediate impression of what level of threat you are in, if at an alarm stage.

The viewer also shows the current output status of each individual relay. If the relays are manually controlled, it allows controlling the relays via this interface. When relays are latched, and no alarms are active you are able to reset the latched relays via this interface.

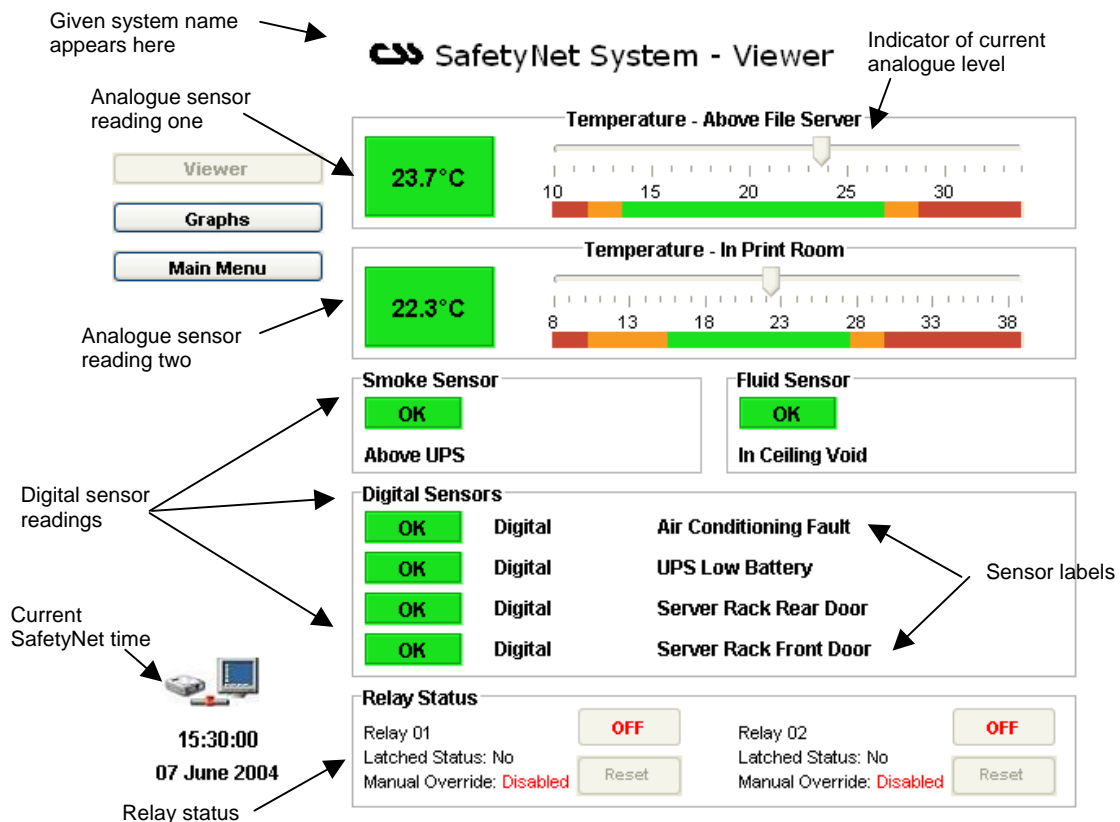
Hardware errors, mains failure type or low battery errors are also shows on the viewer if they occur.

The time display on the left bottom of the viewer interface is the time extracted from SafetyNet.

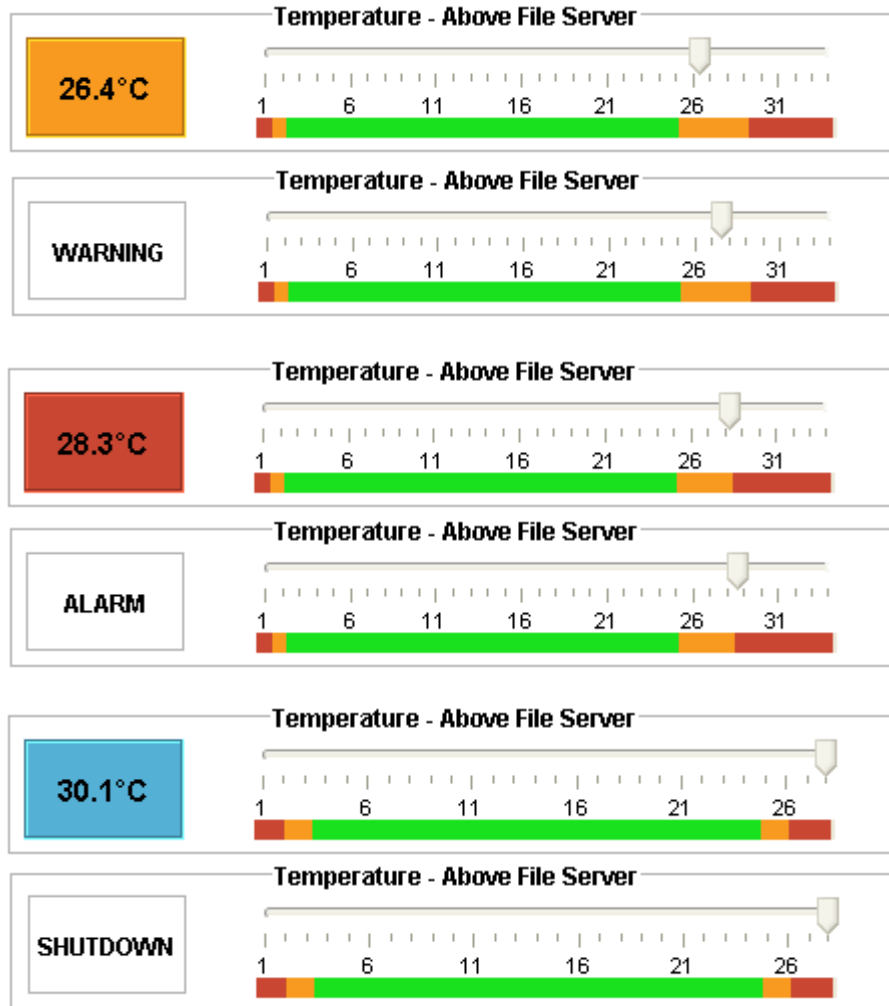
The two alternating images at the bottom left corner is an indicator that the interface is communicating with the SafetyNet via the network.

The sub-menu on the right will allow you to view the graphs for temperature/humidity type sensors and to view the alarm & event log.

A typical "All's well" status will give you an interface such as.



Any warning, alarm or a shutdown of an analogue sensor will be indicated on the screen as below.



If an analogue sensor is faulty, mains have failed, or the internal battery is low notification is set by a text field describing the error.

### SafetyNet System - Viewer

The screenshot shows the 'SafetyNet System - Viewer' interface. On the left is a navigation menu with buttons for 'Viewer', 'Graphs', 'Alarm & Events', and 'Main Menu'. Below the menu, a red text message reads 'Main Failure Detected'. The main area displays two sensor status cards: 'Temperature - Analogue Sensor One Label' showing 21.0°C and 'Humidity - Analogue Sensor Two Label' showing 37.9%RH. Below these are two detector status cards: 'Smoke Sensor' showing 'OK' and 'Fluid Sensor' showing 'OK'. Each card includes a label for the detector.

## 4.1 Relay Status

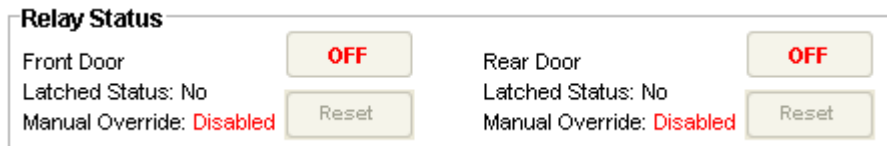
If the relay is configured as driven manually, (manual override enabled under Sensor/Relay Configuration) it is possible to control the relay manually over the network via the viewer interface.



Clicking the ON button will turn the relay OFF, (This is a toggle button) and clicking the OFF button will turn the relay ON. The current text on these buttons represents the current status of the relay.

The above image describes that the relay at the "Front Door" is ON and the relay at the "Rear Door" is OFF.

If sensors drive the relays the following is visible



The "Reset" button would be disabled at all times, except: -

- A. If latching were enabled and,
- B. If there are no active alarms that drive relays.

## 4.2 Graphs

Click on the "Graphs" button on the left side of the viewer to view the analogue sensor data using line graphs. This allows viewing the trend of the temperature or humidity sensors up to the last month. It is vital to view these graphs as an audit trail, as well as to analyse the trend of future data based on previous records.

There are 4 different graphs offered with SafetyNet local graphing. They are:

- o 2 Hour Graph (1 minute average)
- o Daily Graph (6 minute average)
- o Weekly Graph (1 hour average)
- o Monthly Graph (3 hour average)

Read chapter 6 to learn more about graphs.

## 4.3 Alarm and Event Log

Click on the "Alarm & Events" to check the log entries. These log entries will allow to keep track of previous alarms and event entries.

Read chapter 7 to learn more about log entries.



## 5 Configuring SafetyNet

Configuring SafetyNet is purely done remotely using web interfaces that embed Java™ applets. Any configuration change does not reboot SafetyNet. All configuration changes are performed at runtime.

Once all configuration aspects have been performed, we recommend initiating a hardware reset by clicking the “*Hardware Reset*” sub menu button found in the administration configuration interface on SafetyNet.

As a backup of your configuration, we recommend keeping a listing of each of the settings stored elsewhere.

### 5.1 Administration Configuration

To enter this configuration interface click on “*Administration Configuration*” button on the main menu of SafetyNet.

Use this interface to

- Set network parameters
- Set a device name
- Set/Change the time on SafetyNet
- Perform a hardware reset via software
- Load factory defaults of the product
- Change the current password

#### SafetyNet Administration Configuration

<div style="border: 1px solid #ccc; background-color: #f0f0f0; padding: 5px; margin-bottom: 5px; text-align: center;">IP Settings</div> <div style="border: 1px solid #ccc; background-color: #f0f0f0; padding: 5px; margin-bottom: 5px; text-align: center;">Update Settings</div> <div style="border: 1px solid #ccc; background-color: #f0f0f0; padding: 5px; margin-bottom: 5px; text-align: center;">Change Password</div> <div style="border: 1px solid #ccc; background-color: #f0f0f0; padding: 5px; margin-bottom: 5px; text-align: center;">Set Time</div> <div style="border: 1px solid #ccc; background-color: #f0f0f0; padding: 5px; margin-bottom: 5px; text-align: center;">Hardware Reset</div> <div style="border: 1px solid #ccc; background-color: #f0f0f0; padding: 5px; margin-bottom: 5px; text-align: center;">Factory Defaults</div> <div style="border: 1px solid #ccc; background-color: #f0f0f0; padding: 5px; margin-bottom: 5px; text-align: center;">Main Menu</div>	<h4 style="margin-top: 0;">IP Settings</h4> <p>SafetyNet Name <input style="width: 150px;" type="text" value="SafetyNet System"/> ( Max 17 Chars)</p> <p>IP Address <input style="width: 100px;" type="text" value="DHCP detected"/> Eg: 192.168.1.10</p> <p>Subnet Mask <input style="width: 100px;" type="text" value="255.255.255.0"/></p> <p>Gateway <input style="width: 100px;" type="text" value="0.0.0.0"/></p>
--	---

Software version 1.00

#### IP Settings

**SafetyNet Name:** A 17-character device name to uniquely identify each SafetyNet on the network.

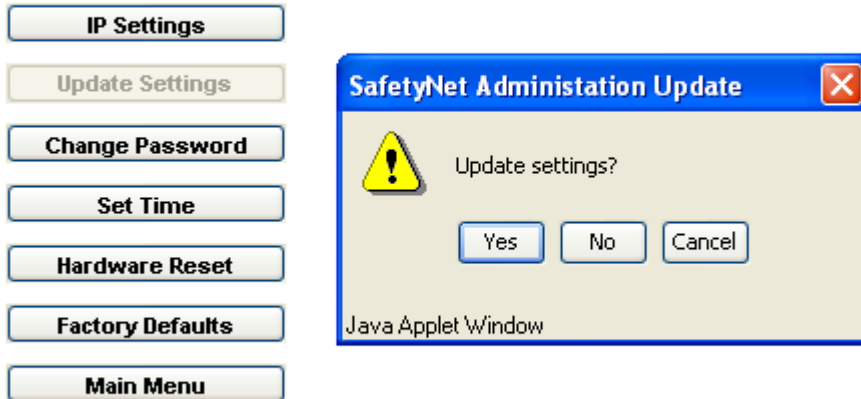
**IP Address:** Enter new static IP address or 0.0.0.0 to enable DHCP.

**Subnet Mask:** Indicates the number of subnets in the network. Contact your network administrator for further details on your subnet mask. DHCP will automatically allocate the subnet mask.

**Gateway:** Contact your network administrator for further details.

## SafetyNet Administration Configuration

### Updating IP Settings



Software version 1.00

[Computer Support Systems](#)

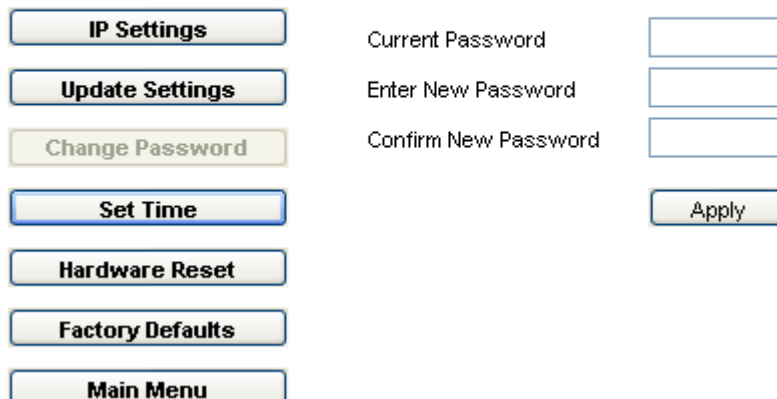
### Update Settings

When clicked on “*Update Settings*” it will prompt a confirmation dialog box to proceed. Click “*Yes*” to apply your settings or click “*No*” or “*Cancel*” to cancel new settings.

If clicked “*Yes*”, the new settings are applied to SafetyNet. Updating settings take approximately about 10 seconds.

## SafetyNet Administration Configuration

### Change Password



### Change Password

**Password Settings:** Change the password here and click “*Apply*”. It will automatically log you out from the device and the new password is required to log back in.

## SafetyNet Administration Configuration

<p><b>IP Settings</b></p> <p><b>Update Settings</b></p> <p><b>Change Password</b></p> <p><b>Set Time</b></p> <p><b>Hardware Reset</b></p> <p><b>Factory Defaults</b></p> <p><b>Main Menu</b></p>	<h3>Set Time</h3> <p style="text-align: right;"><input type="button" value="Refresh Date/Time"/></p> <p>Date Settings</p> <p>Date <input type="text" value="22/06/2004"/> Select Day <input type="text" value="Tuesday"/> <input type="button" value="v"/>  <small>DD/MM/YYYY format only</small></p> <p>Time Settings</p> <p>Time <input type="text" value="11:00:19"/> <small>hh:mm:ss (24 hour format)</small></p> <p><input type="button" value="Insert System Time"/> <input type="button" value="Update Date/Time"/></p>
--	--

### Set Time

This allows setting the real time clock of SafetyNet. When the “*Set Time*” button is clicked, the time and date is extracted from SafetyNet and displayed. The date format should be DD/MM/YYYY and the time format should be HH:MM:SS in 24-hour format.

**Refresh Date/Time:** The web interface will read the SafetyNet current time and date updates the appropriate fields.

**Insert System Time:** This will extract the system time & date from your machine and place them on fields.

**Update Date/Time:** Will confirm the update and set the current field time and date on to SafetyNet. Once the update is completed, the time is refreshed on fields with the new time and date on SafetyNet.

## SafetyNet Administration Configuration

<p><b>IP Settings</b></p> <p><b>Update Settings</b></p> <p><b>Change Password</b></p> <p><b>Set Time</b></p> <p><b>Hardware Reset</b></p> <p><b>Factory Defaults</b></p> <p><b>Main Menu</b></p>	<h3>Hardware Reset</h3> <p>Click button below for a <b>hardware reset</b> of SafetyNet.</p> <p>Any active alarms/warnings will be reset. Relays will be set back to reset levels (Off positions)</p> <p style="text-align: center;"><input type="button" value="Hardware Reset"/></p>
--	---

Software version 1.00

[Computer Support Systems](#)

## Hardware Reset

This is similar to toggling power to the unit and resetting the device. It will cause all alarms to be redetected if present, and both relays to be turned off at start up.

## SafetyNet Administration Configuration

<p><b>IP Settings</b></p> <p><b>Update Settings</b></p> <p><b>Change Password</b></p> <p><b>Set Time</b></p> <p><b>Hardware Reset</b></p> <p><b>Factory Defaults</b></p> <p><b>Main Menu</b></p>	<h3>Factory Defaults</h3> <p>Click below to load <b>factory defaults</b> on SafetyNet.</p> <ul style="list-style-type: none"> <li>* All sensors will be <b>un-installed</b> and set to default sensor types.</li> <li>* Analogue sensor related <b>graphs</b> will be cleared.</li> <li>* <b>Event &amp; alarm log</b> will be cleared.</li> <li>* <b>SMS configuration</b> will be cleared.</li> <li>* Any <b>active alarms/warnings</b> will be reset.</li> <li>* Relays will be set back to <b>reset levels</b> (Off positions).</li> <li>* <b>SNMP configuration</b> will be cleared.</li> </ul> <p style="text-align: center;"><b>Load Factory Defaults</b></p>
--	--

## Factory Defaults

This will give a method to set factory defaults on SafetyNet. The following will be activated on the product.

- All sensors will be uninstalled & will be set back to its original sensor types, labels & threshold values.
- All analogue-sensor related graph data would be cleared.
- Both alarm and event logs will be cleared.
- SMS configuration cleared.
- SNMP configuration cleared.
- Relay configuration cleared.

Click on “*Load Factory Defaults*” to set the above settings.

## Main Menu

The main menu can be reached by clicking “*Main Menu*” button at any given time.

Staying inactive for over 5 minutes will automatically direct you out from the SafetyNet configuration back to the menu page.

## 5.2 Sensor/Relay Configuration

To enter this configuration interface click on the “*Sensor/Relay Configuration*” button on the main menu of SafetyNet.

Use this interface to

- Install or un-install any sensor/s. (making sensors active or inactive)
- Change any of the sensor parameters, such as the trigger delay, temperature limits or the sensor label.
- Associate sensors with any of the relays and configure each individual relay.
- Clear analogue sensor related data that plots graphs, or clear the alarm & event log.

## SafetyNet Sensor and Relay Configuration

**Sensor Settings**

Sensor Settings	Sensor Name	Installed	Drive Relay 1	Drive Relay 2	More
Relay Settings	Analogue Sensor 1 - TMP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	>>
Update Settings	Analogue Sensor 2 - HMD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	>>
Clear Data	Smoke Alarm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	>>
Main Menu	Fluid Alarm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	>>
	Digital Input 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	>>
	Digital Input 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	>>
	Digital Input 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	>>
	Digital Input 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	>>

Software version 1.00  
[Computer Support Systems](#)

### Sensor Settings

This section allows installing sensors and associating them with the relays on the unit. Click on the ">>" button to expand each sensor/s further setting.

It is not possible to drive the relays for temperature or humidity type sensors from this page. You need to click on the ">>" button and associate the relays to a limit associated drive setting.

The first two sensors will have the word TMP or HMD, indicating if they are of type temperature or humidity respectively. To change the type click the ">>" button and use the given drop down box.

## SafetyNet Sensor and Relay Configuration

**Sensor Settings**

Sensor Settings	Sensor Name	Sensor Type	Range Settings	Relay 1	Relay 2	High Range	Relay 1	Relay 2
Relay Settings	Above File Server	Temperature	ZSP2024					
Update Settings			<b>Low Range</b>			<b>High Range</b>		
Clear Data			Shutdown	10 °C	<input type="checkbox"/>	Shutdown	34 °C	<input type="checkbox"/>
Main Menu			Alarm	12 °C	<input type="checkbox"/>	Alarm	29 °C	<input type="checkbox"/>
			Warning	14 °C	<input type="checkbox"/>	Warning	27 °C	<input type="checkbox"/>
								<input type="button" value="Done"/>

### Temperature or Humidity Sensor Detail Expansion

**Sensor Name:** A 32-character label for the sensor

**Sensor Type:** Temperature or humidity type, select what type it is.

**Sensor Type Selection:** There is more than one type of temperature or humidity sensor that could be connected to SafetyNet supplied by Computer Support Systems. The current system supports the type ZSP2024 for temperature and ZSG1020 for humidity. You are able to specify which sensor is used with SafetyNet by this selection.

**Range Settings:** Insert the lower and higher end analogue sensor cutoff limits. It is able to associate them with any of the relays. (The relays should not be selected as driven manually). If the relays are selected as driven by any of these limits they will be activated upon this limit associated alarm/warning or shutdown.

The preferred temperature or humidity range of the monitored environment should be between the low warning and high warning limits.

Click “Done” when finished configuring the sensor.

## SafetyNet Sensor and Relay Configuration

### Sensor Settings

<div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px; width: 100%;">Sensor Settings</div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px; width: 100%;">Relay Settings</div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px; width: 100%;">Update Settings</div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px; width: 100%;">Clear Data</div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px; width: 100%;">Main Menu</div>	<p>Sensor Name <input style="width: 150px;" type="text" value="Air Conditioning Fault"/></p> <p>Sensor Type <input style="width: 100px;" type="text" value="A/C"/></p> <p>Trigger Delay <input style="width: 50px;" type="text" value="10"/> (in seconds)</p> <p>Contact Closure <input style="border: none; border-bottom: 1px solid #ccc;" type="text" value="Normally Open"/> <span style="font-size: 0.8em;">▼</span></p> <p style="text-align: right;"><input style="width: 60px;" type="button" value="Done"/></p>
---	--

### Smoke, Fluid & Digital Sensor Detail Expansion

**Sensor Type:** a 10-character type label, e.g. A/C, External, Security, Lock, and Power, etc.

**Trigger Delay:** Enter a trigger delay for digital type sensors. An actual alarm is raised only if the alarm was active for this period. The accepted range of values for this field is 0-120 seconds. Any sensor input that activates or deactivates before the trigger delay period is elapsed is not treated as an alarm. For immediate triggers of digital alarms set this value as zero. (PS: not configurable for the smoke or fluid sensors)

**Contact Closure:** Digital sensors can be either “Normally Open” or “Normally Closed”. The smoke sensor associated to SafetyNet is always set to be at “Normally Closed”.

Click on “Done” when finished configuring the sensor.

## SafetyNet Sensor and Relay Configuration

Relay Settings		Relay 1	Relay 2
<b>Sensor Settings</b>	<b>Relay Action Settings</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Relay Settings</b>	Use Manual Override	<input type="checkbox"/>	<input type="checkbox"/>
<b>Update Settings</b>	Use Latching	<input type="checkbox"/>	<input type="checkbox"/>
<b>Clear Data</b>	Name for Relay 1	<input type="text" value="Relay 01"/>	
<b>Main Menu</b>	Name for Relay 2	<input type="text" value="Relay 02"/>	

[Read More...](#)

### Relay Settings

This section allows configuring both relays on SafetyNet.

**Use Manual Override:** It is able to control the relay manually via the SafetyNet Viewer interface. To enable this have none of the sensors driving this relay. Also latching this relay is not possible if selected.

**Use Latching:** A sensor may activate a relay, but on deactivation of the alarm the relay remains active and is never reset. The only way to reset the relays is to reset the unit or to click on “Reset” under the relay status of SafetyNet Viewer.

Tick this option if the relays are to be latched. “Manual Override” selection prevents relays being set as latched.

**Relay Names:** Relays can be identified by convenient 10-character names. These names are displayed on SafetyNet Viewer for easy identification.

### Update Settings

When clicked on “*Update Settings*” it will prompt a confirmation dialog box to proceed. Click “*Yes*” to apply settings or click “*No*” or “*Cancel*” to cancel new settings.

If clicked “*Yes*”, the new settings are applied to SafetyNet. Updating settings take approximately about 5 seconds.

### Clear Data

When clicked on “*Clear Data*”, it gives the option to clear the analogue sensor related graph contents and the alarm & event log.

## SafetyNet Sensor and Relay Configuration

**Clear Data**

**Sensor Settings**

**Relay Settings**

**Update Settings**

**Clear Data**

**Main Menu**

Click button below to clear the the **Alarm and Event Log**

Click below to clear **graph Data**

Click the appropriate button to clear data. A confirmation dialog box is prompted to proceed. Click on "Yes" to clear the relevant data.

Clearing the graph data will give a blank graph to start with. This is ideal if the product was moved to a new site or analogue sensors were changed from humidity to temperature type, as analogue values would clash with each other.

Clearing the alarm & event log will wipe all the entries in both logs and create a new event entry stating the clearance of the logs.

## SafetyNet Sensor and Relay Configuration

**Clear Data**

**Sensor Settings**

**Relay Settings**


**Update Settings**

**Clear Data**

**Main Menu**

Click button below to clear the the **Alarm and Event Log**

**SafetyNet Clear Data** ✖

 This will clear all **analogue sensor related data** for plotting graphs.

Are you sure to clear graph data?

Java Applet Window

The action is performed immediately and a confirmation box will indicate the success of the command.

### Main Menu

The main menu can be reached by clicking "*Main Menu*" button at any given time.

Staying inactive for over 5 minutes will automatically direct you out from the SafetyNet configuration back to the menu page.




### 5.3 SNMP Configuration

Click on the “*SNMP Configuration*” button on the main menu of SafetyNet to enter this configuration interface.

Use this interface to

- Configure the read and write SNMP communities.
- Configure the SNMP manager IP addresses.

PS: Obtain these from your network administrator



## SafetyNet SNMP Configuration

SNMP Settings

Update Settings

Main Menu

### SNMP Settings

SNMP community name for read public ▼

SNMP community name for write private ▼

Network Manager 1

Network Manager 2

Network Manager 3

Network Manager 4

Software version 1.00

#### SNMP Settings

**SNMP Read Community:** Select public, private or other (default: public). If other is selected, a field is displayed for entry of community type.

**SNMP Write Community:** Select public, private or other (default: private). If other is selected, a field is displayed for entry of community type.

**Network Manager Addresses:** Enter IP addresses (up to four) of the Network Management Software hosts. If no IP addresses are entered, SNMP traps are not sent.

#### Update Settings

Same as other configuration interfaces.

#### Main Menu

The main menu can be reached by clicking “*Main Menu*” button at any given time.

Staying inactive for over 5 minutes will automatically direct you out from the SafetyNet configuration back to the menu page.

## 5.4 SMS Configuration

To enter this configuration interface click on the “SMS Configuration” button on the main menu of SafetyNet.

Use this interface to

- Configure the SMS receiving phone numbers.
- Associate sensors to send SMS messages.
- Enable sending SMS messages for warning and shutdown alerts for analogue sensors.
- Enable SMS messages to send general SafetyNet alerts.

### SafetyNet SMS Configuration

Select SMS Inputs	Input Name	Send SMS	Send to Number		
			1	2	3
<b>Phone Number Settings</b>	Analogue Sensor 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Additional Options</b>	Analogue Sensor 2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Advanced Settings</b>	Smoke Alarm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Update Settings</b>	Fluid Alarm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Main Menu</b>	Digital Input 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Digital Input 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Digital Input 3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Digital Input 4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<b>Select all</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### Select SMS Inputs

This section selects which inputs are SMS message enabled. By selecting an alarm you are obliged to select up to three mobile phone numbers where the SMS is sent. Make sure that correct details of the phone numbers are entered under “Phone Number Settings”.

### SafetyNet SMS Configuration

Select SMS Inputs	Phone Number Settings	
Phone Number Settings	Name	Phone Number
<b>Additional Options</b>	1. Nil	04111111111
<b>Advanced Settings</b>	2. John	04222222222
<b>Update Settings</b>	3. Mark	04333333333
<b>Main Menu</b>		

Software version 1.00

### Phone Number Settings

Allows inserting or changing existing mobile telephone numbers.

It is able to receive the same SMS message at, up to three different mobile phones. Priority is given to phone number 1, then 2 and finally 3 when delivering the SMS messages.

## SafetyNet SMS Configuration

<p>Select SMS Inputs</p> <p>Phone Number Settings</p> <p style="background-color: #f0f0f0;">Additional Options</p> <p>Advanced Settings</p> <p>Update Settings</p> <p>Main Menu</p>	<h3>Additional Options</h3> <table border="0"> <thead> <tr> <th>Alarm Type</th> <th>Send SMS</th> <th colspan="3">Send to Number</th> </tr> <tr> <th></th> <th></th> <th>1</th> <th>2</th> <th>3</th> </tr> </thead> <tbody> <tr> <td>TMP/HMD Warnings</td> <td><input checked="" type="checkbox"/></td> <td colspan="3">Same as alarm</td> </tr> <tr> <td>TMP/HMD Shutdowns</td> <td><input checked="" type="checkbox"/></td> <td colspan="3">Same as alarm</td> </tr> <tr> <td>Mains Failure/Low Battery Alarm</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Faulty Analogue Sensor Alarm</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Select all</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table>	Alarm Type	Send SMS	Send to Number					1	2	3	TMP/HMD Warnings	<input checked="" type="checkbox"/>	Same as alarm			TMP/HMD Shutdowns	<input checked="" type="checkbox"/>	Same as alarm			Mains Failure/Low Battery Alarm	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Faulty Analogue Sensor Alarm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Select all	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alarm Type	Send SMS	Send to Number																																		
		1	2	3																																
TMP/HMD Warnings	<input checked="" type="checkbox"/>	Same as alarm																																		
TMP/HMD Shutdowns	<input checked="" type="checkbox"/>	Same as alarm																																		
Mains Failure/Low Battery Alarm	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																
Faulty Analogue Sensor Alarm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																																
Select all	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																

### Additional Options

This section allows customising SMS messages sent for additional notifications.

They are; analogue sensor warnings, analogue sensor shutdowns, mains failure/low battery alarms and faulty analogue sensor alerts.

## SafetyNet SMS Configuration

<p>Select SMS Inputs</p> <p>Phone Number Settings</p> <p style="background-color: #f0f0f0;">Additional Options</p> <p style="background-color: #f0f0f0;">Advanced Settings</p> <p>Update Settings</p> <p>Main Menu</p>	<h3>Advanced Settings</h3> <table border="0"> <tr> <td>Client Name</td> <td><input type="text" value="CSS"/></td> </tr> <tr> <td>SMS Server IP</td> <td><input type="text" value="210.23.143.19"/></td> </tr> <tr> <td>SMS Port Number</td> <td><input type="text" value="42755"/></td> </tr> </table>	Client Name	<input type="text" value="CSS"/>	SMS Server IP	<input type="text" value="210.23.143.19"/>	SMS Port Number	<input type="text" value="42755"/>
Client Name	<input type="text" value="CSS"/>						
SMS Server IP	<input type="text" value="210.23.143.19"/>						
SMS Port Number	<input type="text" value="42755"/>						

### Advanced Settings

This section allows to enter/change-advanced settings related to SMS messaging. The SMS Server IP address or the SMS port number should not be changed unless Computer Support Systems so advises.

**Client Name:** Enter your company name using 8-characters. If the space is insufficient, use initials to identify your company.

### Update Settings

Same as other configuration interfaces.

### Main Menu

The main menu can be reached by clicking “*Main Menu*” button at any given time.

Staying inactive for over 5 minutes will automatically direct you back to the menu page.

## 5.5 Feature Registration/ Licensing on SafetyNet

To enter this configuration interface click on “*Licensing/Registration Keys*” button on the main menu of SafetyNet.

Use this interface to enter registration keys to enable controlled features of SafetyNet.

SafetyNet has the following features.

1. SNMP traps
2. SNMP graphing using a NMS such as HP OpenView or Paessler Router Traffic Grapher (PRTG)
3. SMS Messaging for alerts/warnings & alarms

These individual features are registered only via a unique 9-character registration key supplied by Computer Support Systems. The supplied product CD contains a label with registration keys requested.

### SafetyNet Registration Control

Features	Registration Key	Status
1. SNMP Traps	<input type="text"/>	Registered
2. SNMP Graphs	<input type="text"/>	Registered
3. SMS Messages	<input type="text"/>	Registered
<input type="button" value="Update"/>		
<input type="button" value="Main Menu"/>		

Software version 1.01E

To obtain license key contact [sales@csspl.com.au](mailto:sales@csspl.com.au)  
[Computer Support Systems](#)

Enter the correct registration key(s) and click on “*Update*”. Click on “*Main Menu*” to exit. The main menu will show what features have been registered or not.

## 6 Graphs on SafetyNet

The graphs on SafetyNet allow viewing the trend of temperature or humidity sensors up to the last month. View these graphs as an audit trail as well as a tool to analyse the trend of future data based on the previous records.

There is no special requirement or third party applications involved in viewing these graphs. The data is stored locally in SafetyNet and can be cleared whenever it is necessary.

The left Y-axis of the graph provides the range for the first analogue sensor, where as the right Y-axis provides the range for the second analogue sensor. The sensor labels hold the post words "TMP" or "HMD" to indicate the sensor type. ie: temperature or humidity respectively.

The X-axis displays the most recent time analogue data was updated and the gives timeline of the data records.

The following graphs are provided:

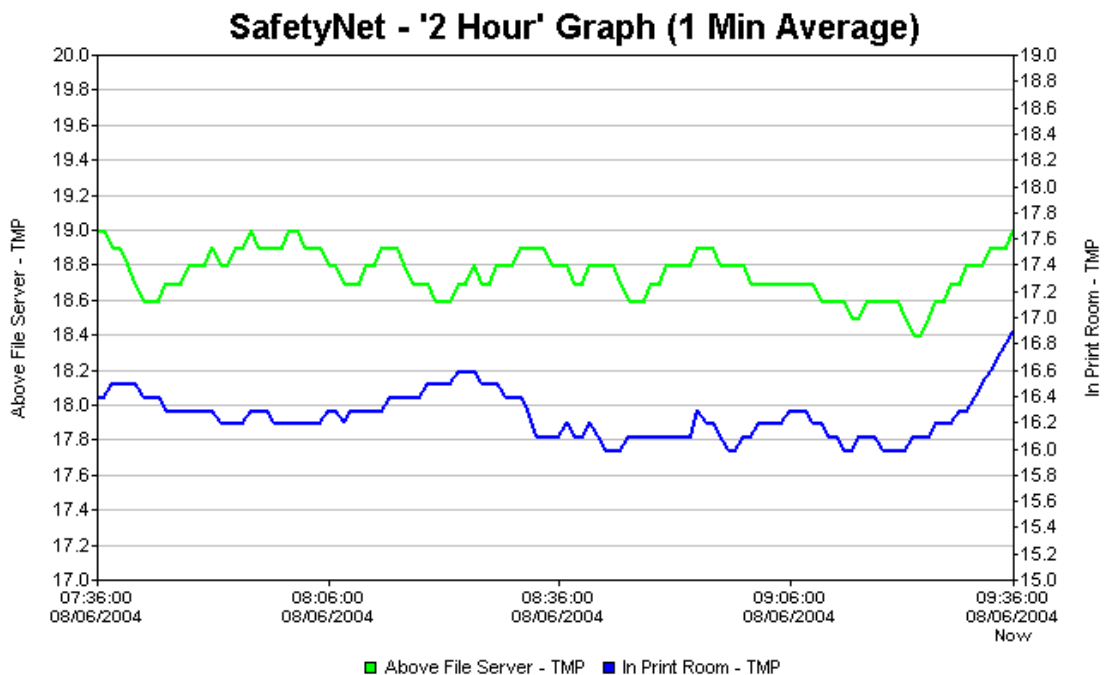
- 2 Hour Graph
- Daily Graph
- Weekly Graph
- Monthly Graph

### 6.1 2 Hour Graph (1 minute average)

Click on "Two Hour Graph" button to refresh data on this graph.

Analogue sensor data is recorded every 5 seconds; the average for every minute is calculated and then plotted for the last two hours. This graph is useful when immediate respond to analogue sensor related alarms are required. For example, if you receive a SMS message stating the temperature or humidity sensor limits were exceeded, you could simply use a browser and view the sensor values noted for the last two hours.

This graph will plot 120 points of data records. (Every minute for 2 hours)

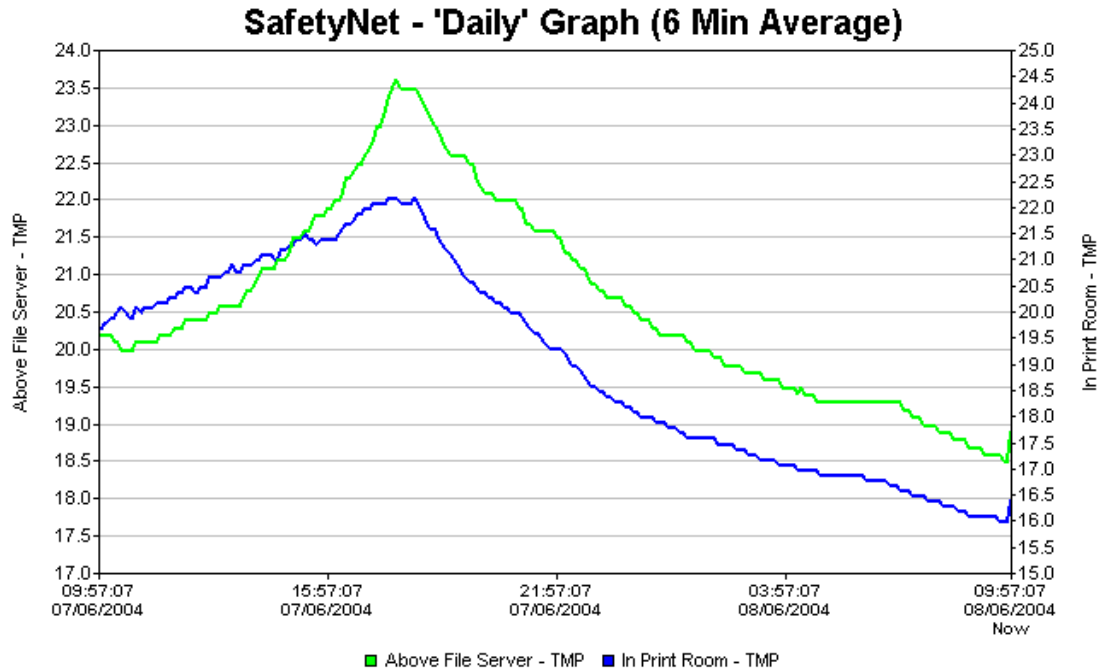


## 6.2 Daily Graph (6 minute average)

Click on "Daily Graph" button to refresh data on this graph.

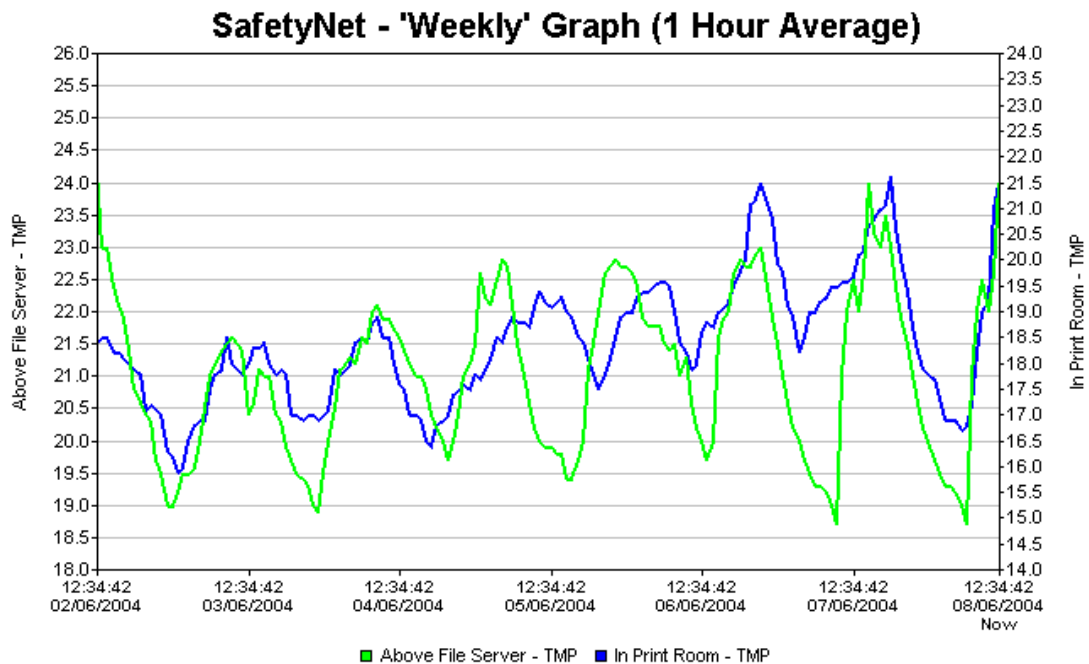
Analogue sensor data average of every 6 minutes is used and plotted for the last 24 hours. This graph is useful to get an overview of the daily temperature or humidity levels of the monitored environment.

This graph will plot 240 points of data records. (Every 6 minutes for 24 hours)



## 6.3 Weekly Graph (1 hour average)

Analogue sensor data average of every 1 hour is used to plot a graph for the last 7 days. This graph is useful to get an overview of the weekly temperature or humidity levels of the monitored environment.

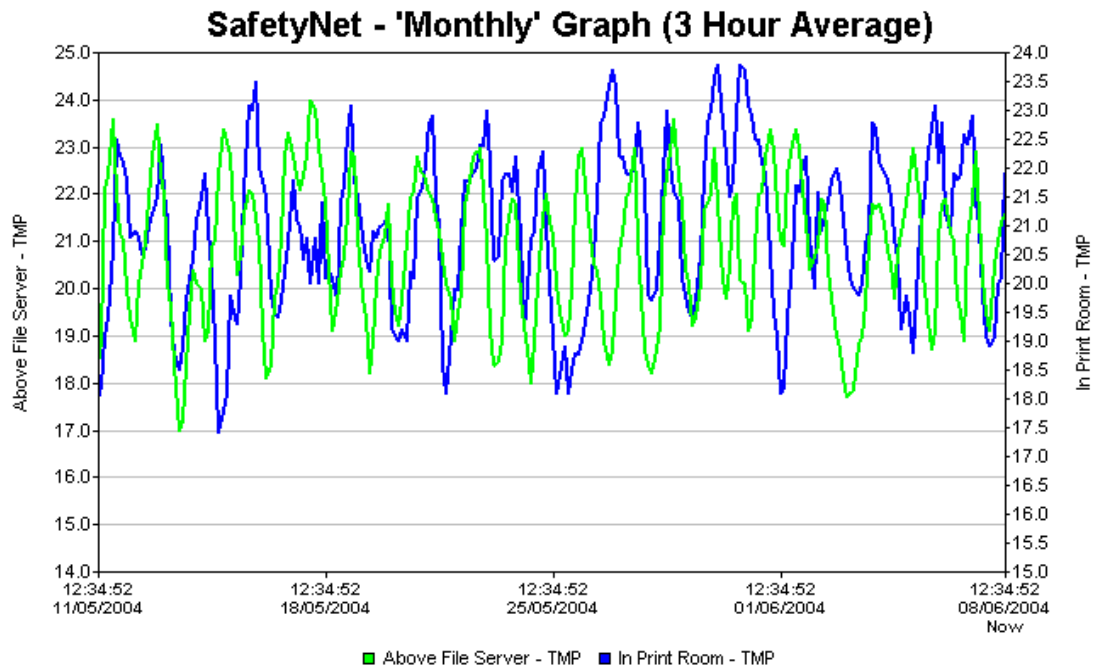


## 6.4 Monthly Graph (3 hour average)

Click on "Monthly Graph" button to refresh data on this graph.

Analogue sensor data average of every 3 hours is used to plot a graph for the last month. This graph is useful to get an overview of the monthly temperature or humidity levels of the monitored environment.

This graph will plot 248 points of data records. (Every 3-hours for 31 days)



## 7 Alarm and Event Logs on SafetyNet

SafetyNet stores internal log entries for each alarms and events that occurs. These are two separate logs with up to 20 entries of each. When the log reaches more than 20 entries, the oldest entry is removed and the latest added. Therefore, at any given time it is able to review the last 20 entries of alarms and events. To keep a record of the alarms and events, we recommend a print of the table or copy and paste the table to a file (eg: to Notepad) frequently.

To view the alarm or event log click on “*Alarm & Events*” button given on the Viewer interface.

Each log entry consists a time stamp and a description of the alarm or the event. For sensor related alarms it will include the sensor label in its description for better identification.

### 7.1 Alarm Log

Any sensor related alarm activation or clearance would be logged in the alarm log. If analogue sensors are installed, and they were faulty or disconnected it will also be logged in the alarm log.

Analogue sensor alarms will be logged indicating what threshold value it reached.

Other items that are logged in the alarm log are 240V mains failure and activation, as well as low battery warning and of its clearance.

#### Alarm and Event Log for - SafetyNet System

Alarm Log		Event Log	
No.	Date & Time	Alarm Description	SMS Status
1	09:50:25 23/06/2004	TMP. low alarm: Above File Server	SMS info. sent to CSS
2	09:50:03 23/06/2004	Mains OK on SafetyNet System	
3	09:49:39 23/06/2004	Mains failure detected on SafetyNet System	SMS info. sent to CSS
4	09:49:03 23/06/2004	TMP. low alarm: Above File Server	SMS info. sent to CSS
5	09:44:13 23/06/2004	Alarm detected at Air Conditioning Fault	SMS info. sent to CSS
6	09:43:53 23/06/2004	TMP. low alarm: Above File Server	SMS info. sent to CSS
7	09:43:53 23/06/2004	Alarm detected at Above UPS	SMS info. sent to CSS
8	09:43:26 23/06/2004	Alarm cleared at Server Rack Rear Door	
9	09:42:42 23/06/2004	TMP. low alarm: Above File Server	SMS info. sent to CSS
10	09:41:38 23/06/2004	TMP. low warning: Above File Server	SMS info. sent to CSS
11	09:40:57 23/06/2004	HMD. level OK: In Print Room	
12	09:40:41 23/06/2004	HMD. high warning: In Print Room	SMS info. sent to CSS
13	09:40:13 23/06/2004	HMD. high alarm: In Print Room	SMS info. sent to CSS
14	09:39:15 23/06/2004	HMD. high shutdown: In Print Room	SMS info. sent to CSS
15	09:26:34 23/06/2004	TMP. low alarm: Above File Server	SMS info. sent to CSS
16	09:26:24 23/06/2004	Alarm detected at Server Rack Rear Door	SMS info. sent to CSS
17	08:59:22 23/06/2004	TMP. low alarm: Above File Server	SMS info. sent to CSS
18	07:29:11 23/06/2004	TMP. low shutdown: Above File Server	SMS info. sent to CSS
19	21:07:07 22/06/2004	TMP. low alarm: Above File Server	SMS info. sent to CSS
20	19:58:39 22/06/2004	TMP. low warning: Above File Server	SMS info. sent to CSS



The alarm log contains a column for indicating the SMS status. This will indicate if the SMS information was successfully sent to the Computer Support Systems' SMS server or if the link failed due to any reason.

Possible SMS status strings are given in the table below.

SMS Status	Description
SMS info. sent to CSS	SMS message information has successfully been sent to Computer Support Systems. SMS messages would be delivered as configured on the unit.
SMS link failed	SMS server is not active or routers did not allow TCP/IP packets to arrive at the correct destination. Check if the unit has rights to connect to SMS server IP on the SMS port number.
Failed opening TCP/IP link	Typically because the Gateway is set incorrectly. Or the proxy server is not forwarding the packets correctly. Contact your Network Administrator. Make sure the firewall has been enabled. (See SMS requirements)
BLANK entry	SMS not to be sent (eg: clearing of an alarm) or SMS messages are not configured to be sent for this type of alarm.

Table 1.0

## 7.2 Event Log

The event log simply logs any internal event within SafetyNet. To view the event log, click on the tab "Event Log" once the alarm log is displayed.

Current event entries consists of:

- SafetyNet reboot
- Configuration updates
  - Real time clock on SafetyNet updated.
  - Administration configuration
  - Sensor/Relay configuration
  - SMS configuration
  - SNMP configuration
  - License key registration updates
- Loading of factory defaults via the web interface.
- Hardware reset via the web interface
- Clearing of analogue sensor data for graphs via the web interface
- Clearing of alarm and event logs via the web interface
- SMS sending failure, TCP/IP link failure
- Watchdog timer reset – Software error
- Ethernet link down indication
- Ethernet link up indication
- Relays turned off or on via the web interface.

## CSS Alarm and Event Log for - SafetyNet System

Alarm Log		Event Log
No.	Date & Time	Event Description
1	10:10:40 23/06/2004	Ethernet connection active
2	10:10:27 23/06/2004	Lost Ethernet connection
3	10:09:51 23/06/2004	SafetyNet Rebooted
4	10:09:51 23/06/2004	Hardware reset via remote interface detected
5	10:09:23 23/06/2004	SNMP configuration update detected
6	10:08:53 23/06/2004	Graph data cleared via web interface
7	10:07:57 23/06/2004	Sending SMS failed. TCP/IP link failed to CSS
8	10:07:21 23/06/2004	Relay 1 turned ON
9	10:07:08 23/06/2004	Sensor/Relay configuration change detected
10	10:06:23 23/06/2004	Time update detected
11	10:05:55 23/06/2004	SafetyNet Rebooted
12	10:05:00 23/06/2004	SNMP configuration update detected
13	10:04:52 23/06/2004	Relay 1 turned ON
14	10:03:44 23/06/2004	Sensor/Relay configuration change detected
15	10:03:34 23/06/2004	SafetyNet Rebooted
16	10:03:34 23/06/2004	Hardware reset via remote interface detected
17	10:03:13 23/06/2004	Graph data cleared via web interface
18	10:03:07 23/06/2004	Sensor/Relay configuration change detected
19	10:02:51 23/06/2004	SMS configuration update detected
20	10:02:42 23/06/2004	Relay 2 turned OFF

### 7.2.1 Clearing of Alarm and Event Logs

Logs can be cleared via two methods.

#### 1. Choose to clear the log data only

Use the main menu and enter Sensor/Relay Configuration. Then select the menu button, "Clear Data". Now click "Clear Alarm & Event Log". Upon success, confirmation is given

## CSS SafetyNet Sensor and Relay Configuration

### Clear Data

<input type="button" value="Sensor Settings"/>	Click button below to clear the the <b>Alarm and Event Log</b>
<input type="button" value="Relay Settings"/>	
<input type="button" value="Update Settings"/>	<input type="button" value="Clear Alarm &amp; Event Log"/>
<input type="button" value="Clear Data"/>	Click below to clear <b>graph Data</b>
<input type="button" value="Main Menu"/>	
	<input type="button" value="Clear Graph Data"/>

#### 2. Load factory defaults. (Read section 5.1 on Administration Configuration on what loading factory defaults resets back to defaults)

Both these events will make an entry indicating the clearance of the logs as an event in the event log just after they have been cleared.

## 8 Operation of SafetyNet

### 8.1 Basic Operation

SafetyNet will constantly monitor 'installed' sensors. It is able to notify any alarm condition via several notification methods those being; SNMP traps, SMS messages, visually on the web interface, activation of relays, blinking blue LED on the unit, an optional strobe and an optional buzzer.

Any alarm or event will be logged, as an entry in its alarm and event log viewable at any given time. These logs can be cleared upon request by the web interface.

SafetyNet will work out the average analogue sensor data for data plotting. This data is stored locally and is shown when the required graph is requested. Data can be cleared upon request by the web interface.

SafetyNet is backed by an internal battery, which lasts for approximately 2.5 hours if main A/C power is not present. The internal battery is capable of running the sensors, the strobe and the buzzer at 12V DC. Users must not attempt to replace this battery at any stage. SafetyNet relays are driven at 12V DC.

Any sensor that is "uninstalled" or "inactive" will not be monitored. To disable an existing sensor simply set it as uninstalled, which will then be disregarded as an active sensor.

### 8.2 Sensors

Only sensors supplied by Computer Support Systems may be used with SafetyNet. The types of sensors that are allowed are: -

- 2 x analogue sensors (temperature or humidity)
- 1 x fluid sensor
- 1 x smoke sensor
- 4 x digital sensors (contact sensors; also configurable as fluid or smoke alarms for having multiple of these alarms)

These are all standard RJ45 connection type sensors and connected to the rear panel of SafetyNet.

#### 8.2.1 Temperature and Humidity Sensors

These are specifically designed to use with SafetyNet.

Features of these sensors are

- Small physical size allows mounting in standard wall plate in single or dual configurations.
- Temperature and Humidity sensors can be combined in single wall plate.
- High accuracy and long-term reliability.
- Can be run up to 50m from SafetyNet using a standard CAT 5 cable.
- Excellent noise immunity.
- Robust, sealed construction.
- Self-testing; SafetyNet raises an alert of sensor is faulty.
- Immune to most airborne industrial contaminants.



#### 8.2.2 Fluid Detectors

These sensors are intended to be used anywhere where water or moisture can intervene normal operation of the environment. Features of fluid sensors are



- Exclusive mat design for detecting surface water on floors, cabinet bases, etc
- Self-resets once fluid is removed.
- Excellent electrical noise immunity and long term reliability.
- Beep sound when fluid is detected from the sensor itself.
- An option of having a hard metal cover installed for industrial safety.

### 8.2.3 Smoke Detectors

These sensors will constantly monitor any smoke presence on the premises. LED indication is activated when smoke is present. A manual acknowledgement of the sensor is required if triggered. This is performed by simply turning the sensor anti-clock wise, and un-latching the situation.



The smoke sensor works on a “Normally Closed” (closed circuit) methodology. Hence, if disconnected from SafetyNet, an alarm is raised.

### 8.2.4 Digital Sensors

Digital sensors are contact closure sensors, and are capable of detecting open circuits or closed circuits. At the time of configuring digital sensors it is able to specify the sensor be “Normally Open” or “Normally Closed”.



Each sensor carries a trigger delay up to 120 seconds. This is also set at the time of installing the sensor on the Sensor/Relay Configuration Interface. For example, if you set your trigger delay to be 30 seconds, an alarm is raised only if the digital sensor is active for 30 seconds or more. This feature eliminates any spikes that could occur in the monitored environment.

### 8.2.5 Using Digital Sensor Inputs as Fluid or Smoke Sensors

You can use digital sensor inputs as fluid or smoke type sensors to increase the number of fluid or smoke sensors than one of each.

Use the below settings to use a digital sensor input as a fluid type sensor

- Set the type as “Fluid”
- Set the trigger delay as 10 seconds
- User a meaningful sensor label
- Set as ‘Normally Open’ or ‘Closed’ based on the sensor type.

Sample illustrated in image below.

## SafetyNet Sensor and Relay Configuration

**Sensor Settings**

<p><b>Sensor Settings</b></p> <p><b>Relay Settings</b></p> <p><b>Update Settings</b></p> <p><b>Clear Data</b></p> <p><b>Main Menu</b></p>	<p>Sensor Name <input type="text" value="Fluid Sensor Under A/C 2"/></p> <p>Sensor Type <input type="text" value="Fluid"/></p> <p>Trigger Delay <input type="text" value="10"/> (in seconds)</p> <p>Contact Closure <input style="border: none; border-bottom: 1px solid black; padding: 2px 5px;" type="text" value="Normally Open"/> <span style="font-size: 0.8em;">▼</span></p> <p style="text-align: right;"><input type="button" value="Done"/></p>
---	---

To set the digital sensor as a smoke alarm, then use settings below.

- Set the type as “Smoke”
- Set the trigger delay as 10 seconds
- User a meaningful sensor label
- Set as ‘Normally Closed.’ (Most smoke sensors are “normally closed” type)

### 8.3 Alarms and Alerts

The types of alarms and alerts could be any of the following.

- Alarm trigger (smoke, fluid or digital).
- Exceeding a lower or higher set threshold of a temperature or humidity sensor.
- Faulty sensor (analogue sensors only).
- 240V mains failure notification.
- Low internal battery notification.

Alarms are triggered only if they are installed via the Sensor/Relay Configuration web interface. SafetyNet will not monitor un-installed sensors. The viewer web interface will indicate an uninstalled sensor as “spare”.

Temperature, humidity, smoke & fluid sensors have a trigger delay of 10 seconds embedded within the software. This will prevent any alarm spikes being treated as an alarm. If the alarms were active for more than 10 seconds they would be triggered. This value is not user-configurable.

The digital sensor trigger delay is variable up to 120 seconds and can be set via software using the web interface.

The remote viewer always shows *almost* real time data, therefore if an alarm threshold is exceeded, it will be shown immediately on the remote viewer. However the actual trigger of alarm occurs only if the trigger delay elapses.

In an instance where the unit is running with its internal battery only, and when the battery is close to exhaustion, (typically after 2.5 hours) the analogue sensors may appear to be faulty and may raise an alarm. The unit will still perform its other duties until the battery completely shuts off the device.

## 9 SMS Messages from SafetyNet

### 9.1 Introduction to SMS Messages from SafetyNet

SafetyNet is capable of sending SMS messages by using a SMS server application hosted on the Internet by Computer Support Systems.

SafetyNet converts any warning, alarms or shutdown messages into TCP/IP packets and transmits them over the Internet to a predetermined IP address. The server at this IP address will handle sending the SMS to predetermined numbers set by SafetyNet.



### 9.2 Requirements for SMS Messages

The additional requirements to successfully send SMS messages are

- Access to the external machine with IP address 210.23.143.19 on port 42755 to establish a TCP/IP link. (Active Internet connection)
- SMS features turned on by using the registration key for SMS software.
- Correct configuration on the SMS configuration web interface. (Sensors associated with SMS messages and correct phone numbers entered)

### 9.3 Limitations

- The SMS message is sent only up to the three phone numbers entered on the SMS configuration web interface.
- Clearing of an alarm is not notified via SMS Messages.
- The time stamp noted on the SMS message is extracted from SafetyNet.
- SMS messages rely on the PSTN (Public Switched Telephone Network)
- SMS messages are delivered only when your mobile phone is switched on.

### 9.4 Sample Messages

Some of the sample SMS messages would look like: (Unit name: MY SAFETYNET)

#### Sensor Alarms

*SafetyNet message from MY SAFETYNET. Msg content: Low temperature warning detected at: Above Air Conditioner One 14:04:56 02/07/2004*

*SafetyNet message from MY SAFETYNET. Msg content: High temperature alarm detected at: Above Air Conditioner Two 14:07:45 02/07/2004*

*SafetyNet message from MY SAFETYNET. Msg content: Alarm detected at: General UPS alarm 14:07:45 02/07/2004*

#### General alerts

*SafetyNet message from MY SAFETYNET. Msg content: Hardware error detected: Temperature sensor faulty or disconnected 13:44:37 02/04/2004*

*SafetyNet message from MY SAFETYNET. Msg content: Mains failure detected 13:41:17 02/07/2004*

*SafetyNet message from MY SAFETYNET. Msg content: Low battery detected 13:38:06 02/07/2004*

## 10 SNMP on SafetyNet

### 10.1 Introduction to SNMP Features on SafetyNet

SafetyNet is an SNMP (Simple Management Network Protocol) agent. You can get the current status of any sensor including the current temperature or humidity values via SNMP polling techniques.

On alarm or on clearance of an alarm, SafetyNet sends SNMP trap messages to up to four dedicated network managers. On boot up and on any configuration update, SafetyNet will send a trap indicating the update to these network managers.

We assume that you are familiar with SNMP to use SNMP features and to feel comfortable with the rest of this chapter. SafetyNet uses SNMP V1 standards.

### 10.2 SNMP Implementation

Computer Support Systems enterprise ID is 14748.

SafetyNet supports the SNMP System group in the MIB-II Objects SysDescr, sysObjectID, sysUpTime, sysContact & sysName.

The private MIB (Management Information Base) implements the following objects.

Object	Description
analogueSensorOneReading	Current analogue sensor one reading as an integer (use multiplier 0.1)
analogueSensorTwoReading	Current analogue sensor one reading as an integer (use multiplier 0.1)
smokeSensorReading	Current smoke sensor reading as an active or inactive (1=active, 0 =inactive)
fluidSensorReading	Current fluid sensor reading as an active or inactive (1=active, 0 =inactive)
digitalSensorXXReading	Digital sensor XX reading as an active or inactive (1=active, 0 =inactive)
safetyNetAlarmAnalogueSensorOne	An integer that describes which region the first analogue sensor is currently at. Alarm for analogue sensor one 0 = level OK 1 = level at high warning limit 2 = level at high alarm limit 3 = level at high shutdown limit 4 = level at low warning limit 5 = level at low alarm limit 6 = level at low shutdown limit
safetyNetAlarmAnalogueSensorTwo	An integer that describes which region the second analogue sensor is currently at. Alarm for analogue sensor two 0 = level OK 1 = level at high warning limit 2 = level at high alarm limit 3 = level at high shutdown limit 4 = level at low warning limit 5 = level at low alarm limit 6 = level at low shutdown limit
safetyNetAlarmSensor	An integer that describes which alarm is active. Alarm for Sensor 1 = Analogue sensor one

	2 = Analogue sensor two 3 = Smoke 4 = Fluid 5 = Digital 01 6 = Digital 02 7 = Digital 03 8 = Digital 04
safetyNetSensorCleared	An integer that describes which alarm is cleared. Alarm cleared for Sensor 3 = Smoke 4 = Fluid 5 = Digital 01 6 = Digital 02 7 = Digital 03 8 = Digital 04
safetyNetSoftwareNotification	An integer that describes a software notification. Software Notification 0 = Software watchdog timer reset 1 = Device reset manually via software 2 = Memory self-check failed, contact CSS 3 = Administration Config. (Device settings or password) change detected 4 = Sensor/Relay configuration update detected 5 = Time update detected 6 = SMS configuration detected 7 = SNMP configuration detected 8 = Graph data cleared via web interface detected
safetyNetHardwareNotification	An integer that describes a hardware notification. Hardware Error 0 = Mains failure detected 1 = Mains failure cleared and active 2 = Internal low battery detected 3 = Internal low battery alarm cleared 4 = Sensor one faulty or disconnected 5 = Sensor two faulty or disconnected 6 = Sensor one back in order 7 = Sensor two back in order 8 = Other hardware error
safetyNetMessageString	A trap will contain this object. It will give more detailed information on alarms/alerts/notifications.

Table 1.1

CSS.MIB implements TRAP-TYPE objects defined by RFC-1215.

Trap-Type	Description
hardwareErrorNotification	A hardware error notification trap is sent when any of the hardware goes into an alarm stage.
alarmNotification	An alarm notification trap is sent when any of the monitored inputs go into an alarm stage.
alarmClearNotification	An alarm clear notification trap is sent when any of the monitored inputs go into an alarm clear stage after being at an alarm stage.
softwareNotificationUpdate	A software notification update trap is sent when any an update or configuration change is detected on a unit.
softwareErrorNotification	A software error notification trap is sent when some kind of unwanted software error occurs within the unit.

Table 1.2



Refer to the file CSS.MIB under the SafetyNet product CD-ROM under the folder MIB for further details on the Management Information Base.

### 10.3 Requirements

- Registration keys for SNMP Traps and/or SNMP Graphing software.
- A Network Manger System installed on your network or a SNMP sniffer program installed on your PC to detect SNMP traps.
- A correct SNMP configuration web interface setting.

### 10.4 How to Receive Traps

If the read community is set according to your local network SNMP read community, on alarm, SafetyNet will send a trap out to each network manager IP address defined on its SNMP web interface.

SafetyNet sends a “cold start” trap at a boot up. Upon a configuration update it also sends an update notification as a trap.

### 10.5 Setting the MIB

Use the CSS.MIB file given on the CD-ROM for SafetyNet to set the MIB structure settings. The SNMP software you use will allow to configure/add paths to where the MIB file is. Read your software help files to find out how to apply MIB paths.

Once you have your MIB path effectively applied the trap bindings will indicate the details of the trap message.

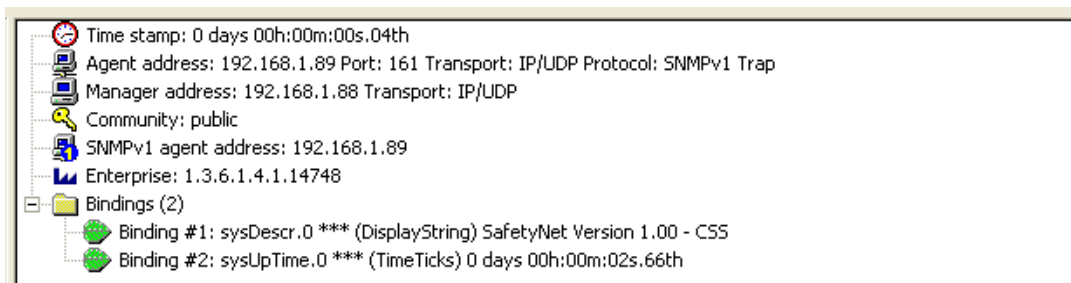
### 10.6 Interpreting SafetyNet Traps

Every SNMP trap is accompanied by a string, which describes the notification in plain simple English.

In most cases there is another object that holds an integer value(s) that gives indication to which sensor is involved or what type of an alarm it is. Based on this integer value you are able to set the network manager software to perform any other third party action as desired. It is also possible to get the network manger software to poll the current sensor status periodically, and to check if there are any alarms active.

A few samples of the SNMP traps detect on a SNMP sniffer programs is depicted below.

#### Coldstart trap

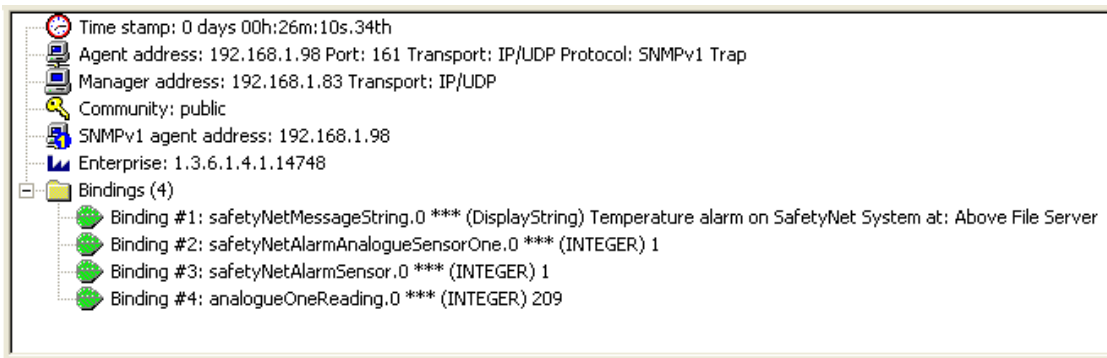


The bindings in the above image give indication of

1. System description: Gives the software version and manufacturer name.
2. System up time: How long the device has been up for.

The above bindings are objects on the MIB-II implementation.

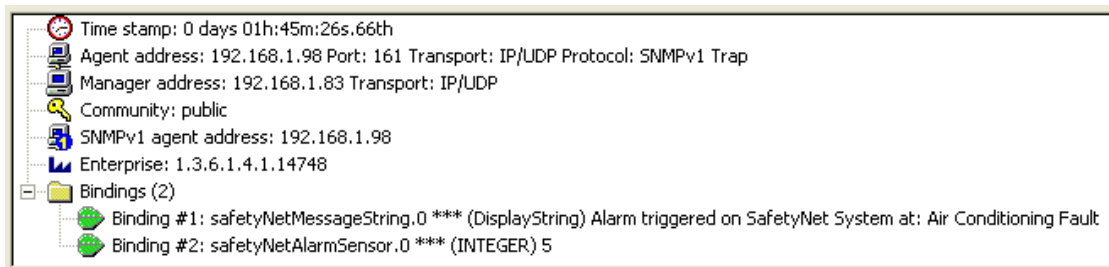
### Temperature alarm trap



The bindings in the above image give indication of

1. Message string
2. Which region the analogue sensor value falls to (1 = Analogue sensor one at high warning limit, see table 1.1 under section 10.2 for details)
3. What sensor it arrived from; in the above case, sensor 1.
4. The reading of the sensor value; 20.9 degrees. (This binding is sent only if SNMP graphing license has been purchased)

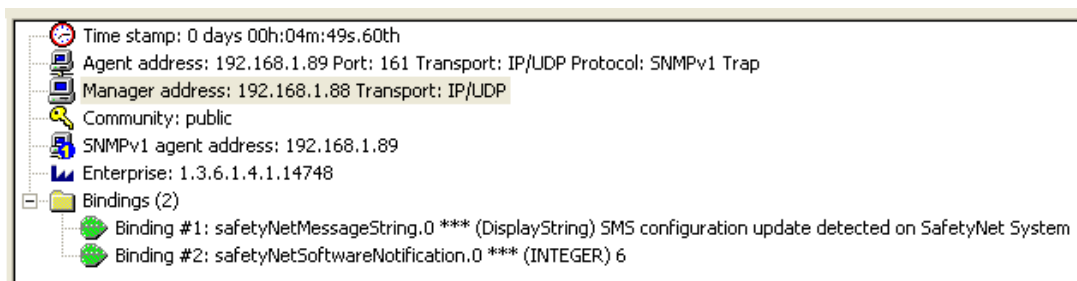
### A digital sensor alarm trap (A/C alarm)



The bindings in the above image give indication of

1. Message string
2. It is arriving from sensor number 5, which has been configured as an A/C type alarm.

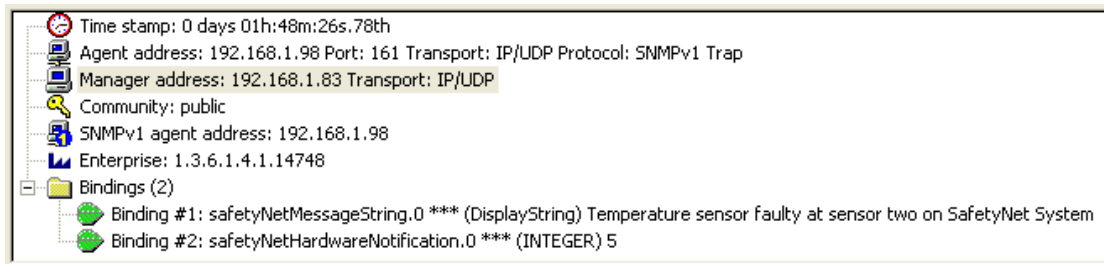
### A configuration update notification



The bindings in the above image give indication of

3. Message string
4. Software notification number 6, which is interpreted as SMS configuration change detection on SafetyNet.

### Temperature sensor faulty notification trap



The bindings in the above image give indication of

5. Message string
6. Hardware error number 5, which is interpreted as analogue sensor one is disconnected or faulty. (table 1.1)

## 10.7 SNMP Graphing

It is possible for the Network Manager Software (NMS) to poll the current temperature or humidity periodically and store for graphing purposes. SafetyNet updates the SNMP objects analogueSensorOneReading & analogueSensorTwoReading every second with its current temperature or humidity reading. If these sensors are uninstalled, it will show zero value. You can also poll the digital sensors where an indication of 1 is interpreted as an active alarm and 0 as an inactive alarm.

The values retrieved are integers hence a temperature or humidity value is shown as a multiplication of 10. Most SNMP graphing tools provide a method to view the graph by using a customised multiplier. In this case, use the multiplier 0.1 to retrieve the exact value. For example, temperature value 25.6°C is retrieved as 256 & humidity value 60.4% is retrieved as 604.

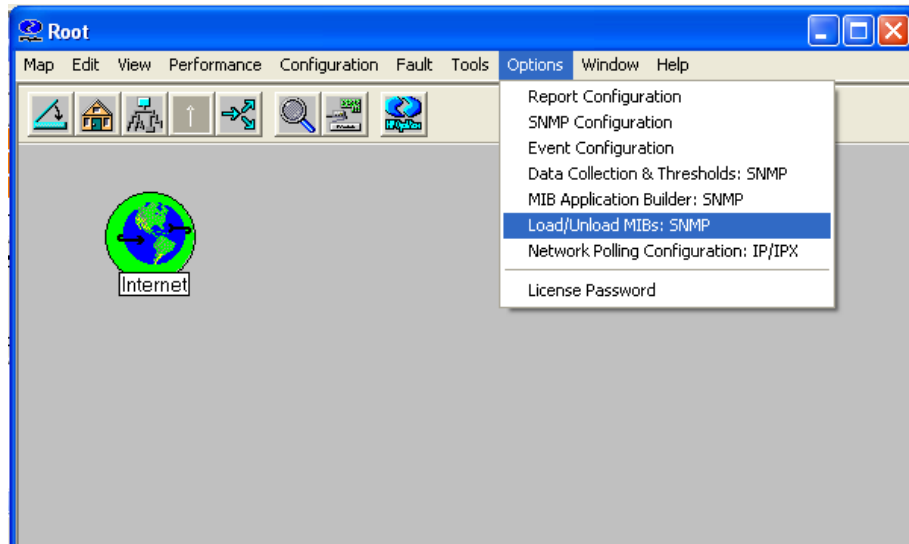
### 10.7.1 Requirements

- A Network Management System similar to HP OpenView that allows storing SNMP data.
- SNMP graphing licensing enabled.

### 10.7.2 Configuration

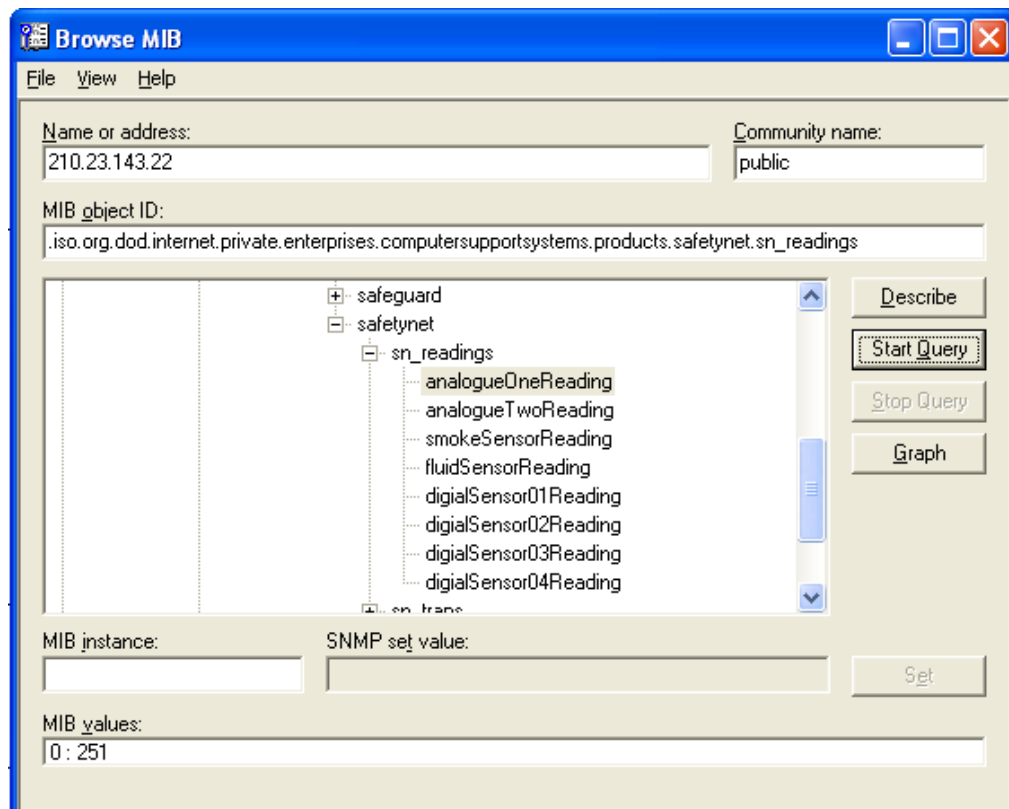
Check the help files for the NMS to determine how to store data and view graphs. Below are a few examples where graphing has been configured on HP OpenView Network Node Manager 6.31.

Load the MIB file provided by Computer Support Systems

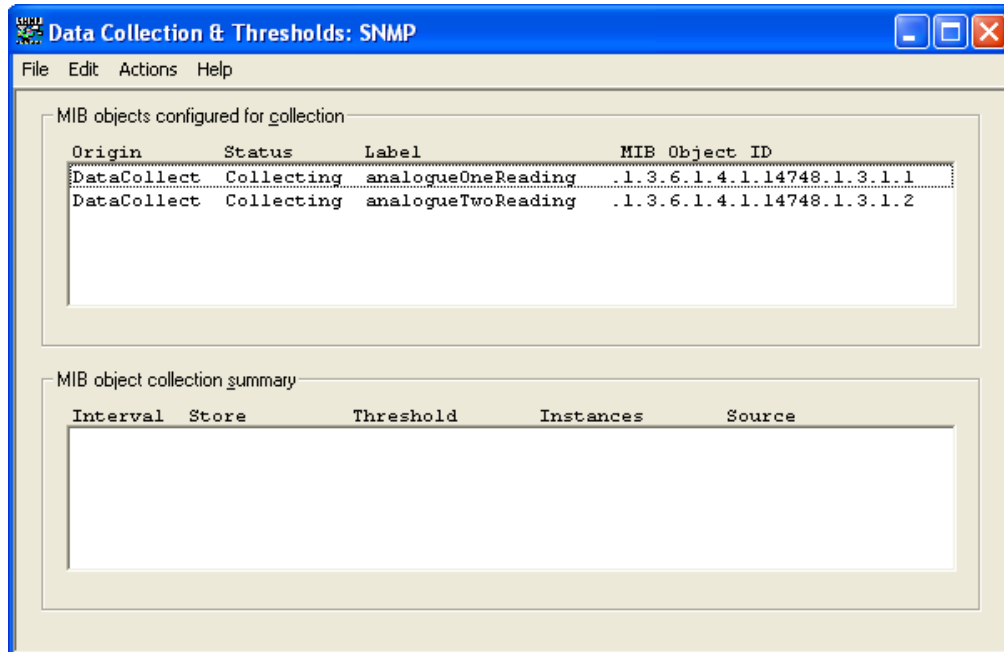


Do an “snmpwalk” on the IP address to see if you are able to talk to the device. If unsuccessful, check if you have entered the correct Network Manager IP address on SafetyNet.

Use the menu Tools->SNMP MIB Browser to browse the CSS.MIB file. Click on the analogueOneReading or analogueTwoReading, and click “Start Query”. This will produce the current sensor value with a multiplication factor of 10. (Note: these sensors have to be installed, if not you will be replied with zero.)

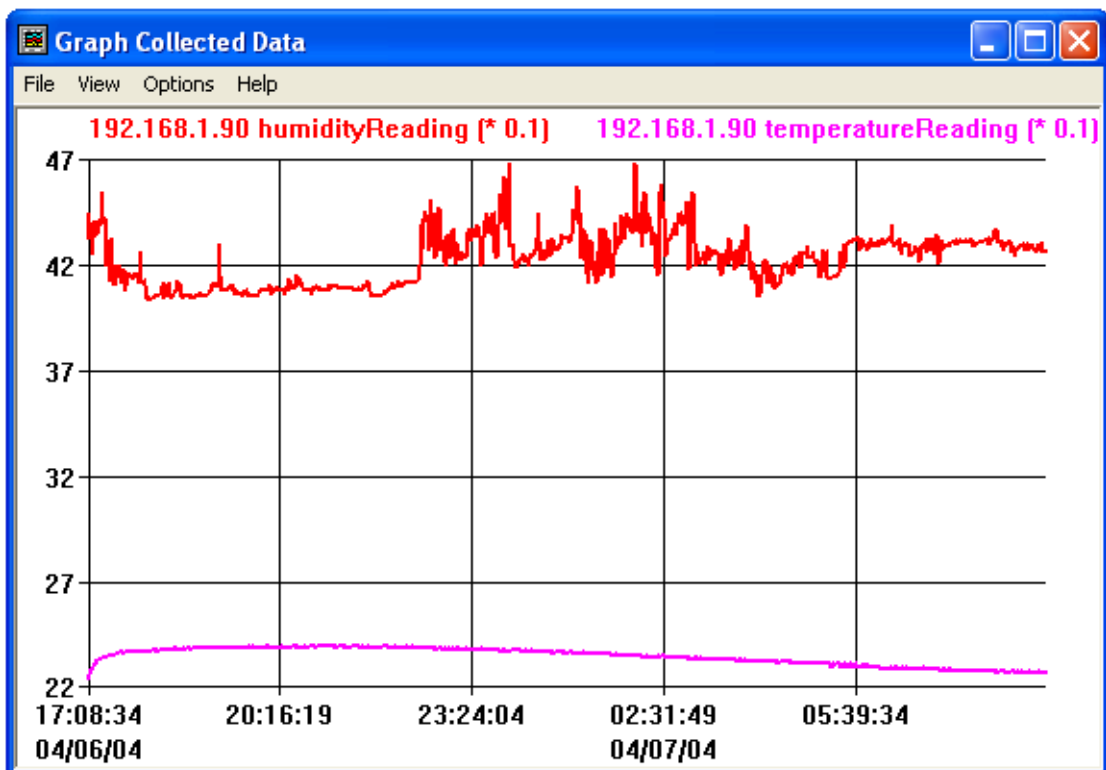


Use the Options->Data Collection & Thresholds: SNMP section to configure your polling frequency in order to store data.



If you are able to poll data using the "MIB Browser", and if you have set the correct settings on data collection and thresholds, you would be able to view graphs of any of the analogue sensors.

### 10.7.3 Samples



A sample humidity and temperature sensor reading graph plotted using HP OpenView.

# 11 Hardware Specification

**Device Model:** SafetyNet Version 1.01E

## Physical Dimensions

- Dimensions: 480 mm L X 43 mm H (1 RU) X 107 mm W
- Weight: 2.75kg

## Network Interface

- RJ45 Ethernet 10Base-T, Realtek Semiconductors
- LED indication: 10Base-T TX Activity, Full/half duplex.
- Network Compatibility: Ethernet: Version 2.0/IEEE 802.3

## Operating Conditions

- Temperature range: -40°C to +70°C
- Humidity range: 5-95%, non condensing

## Power Requirements

- Operating voltage: 12V
- Input power: 240V A/C 50-60Hz
- Current usage: 300 -1000 mA
- Internally battery backed up to 2.5 to 3 hours of operation

## 12 Troubleshooting

This section of this manual will give tips to troubleshoot SafetyNet without having to contact technical support staff from Computer Support Systems.

When troubleshooting the following problems, make sure that the SafetyNet is powered on. Confirm that you are using a good network connection.

**Note:** *Some unexplained errors might be caused by duplicate IP addresses on the network. Make sure that your unit's IP address is unique.*

Problem/Message	Reason	Solution
When you load the IP address on your browser, get an error message.	Your computer is not able to connect to port 30705 (77F1h) on the unit or your PC could not allocate a port to connect to SafetyNet.	Make sure that port 30705 (77F1h) is not blocked with any router that you are using on the network. Close your browser, wait for a few minutes and try again.
Your password is not accepted any more or you have forgotten the correct password	Caps lock may be on.	The SafetyNet passwords are case sensitive. Make sure you are entering the correct password. Keep a note of your current password in a secure place. Change your password periodically. 3 consecutive entries will give you instruction on resetting the password.
There is no response when you type the IP address on the browser address bar.	The SafetyNet may not have rebooted properly. The device may not be powered on. The device may have its main connection fail and its internal battery life may have run out.	Ping the IP address for a response to detect if the device is active Make sure the product is active. The red led indicator shows the power status. The Ethernet link activity cable shows that the unit is up and running on the network.
You are unable to find what the IP address of the unit is, or you have forgotten the IP address of the unit.	A new DHCP lease may have been issued.	Use the SafetyNet Finder Application provided by Computer Support Systems to locate your unit on the local network. If the product is not shown it may be behind a router. Make sure that you are on the same local network and that the unit is turned on.
When you type the IP address on the browser the menu is not loaded.	You may not have the Java™ Runtime Environment 1.4.2 or higher installed on your PC.	Install the Java™ Runtime Environment on your PC. This environment is a requirement of this product.
When loading the menu, you are receiving a prompt box saying "Time out in retrieving Menu information. Make sure device is active or network congestion is not present."	The congestion on your network is too high. UDP response was not received for over a period of 1.5 seconds. This is a great amount of time for packet data to come through the network.	Close browser and retry. Check what is causing congestion on your network. Also make sure that the device is powered on. It may have got turned off in the interim process of replying to your response.

Problem/Message	Reason	Solution
When the Viewer is active you are prompted with the message "Could not communicate with SafetyNet. Timeout occurred. Possibly a Network delay or an inactive SafetyNet device."	The congestion on the network is too high. UDP response was not received for over a period of 1 second over 5 seconds. This is a great amount of time for packet data to come through the network.  Or the product is not active anymore.	Click OK. If you keep getting this message every 5 seconds thereon, the product is no longer active. Check power to the unit.  Close browser and re-try again.
No SNMP traps are sent out	SNMP license may not have been entered.  Network Manager IP addresses may have not been set.  SNMP community access level may not acceptable on your SNMP community.	Make sure the main menu displays that SNMP traps are enabled. Contact your network administrator to check the SNMP communities on your network.  Contact your network administrator to check your SNMP settings on the network
SNMP graphing produces 0 values only.	SNMP graphing license may not have entered.	Make sure the main menu displays that SNMP graphs are enabled. Make sure the sensors are active and not faulty.
SNMP polling shows values more that 100 for temperature or humidity sensors.	Temperature values and humidity values are represented by Integers.	Use a multiplier of 0.1 to get the correct analogue sensor value. E.g.: 257 is $257 \cdot 0.1 = 25.7$ degrees
SNMP traps are sent, detected but SNMP bindings are not shown.	CSS.MIB may not have been configured on your SNMP sniffer/detector	Configure the MIB file on your Network Management System. Read on help files of your software & follow steps on how to insert MIB files.
No SMS Messages are sent	SMS configuration page settings may not be correct.  Correct target IP address or/and ports are not used as advice by the CSS technical staff.  Sensors may not be associated with sending SMS messages  SafetyNet is not able to make a direct TCP/IP connection to the target IP address on the destination port. Refer to your network administrator on setting these parameters	Check the SMS Configuration page settings.  Check if the correct target IP address and ports are used as advice by the CSS technical staff. Check if sensors enabled to send SMS messages.  Make sure that your unit is able to make a direct TCP/IP connection to the target IP address on the destination port. Refer to your network administrator on setting these parameters The target IP is 210.23.143.19 on port 42755.
A temperature or humidity sensor did not send SMS messages for warnings or shutdown limit alarms.	Sending SMS messages for warnings and shutdowns are optional and has to be specified under SMS configuration.	Make sure that you have ticked to send warnings and shutdown SMS's under additional settings under SMS configuration.
A mains failure or a faulty sensor SMS is not sent.	"Send general alarms" under SMS configuration may not have been ticked.	Make sure that you have ticked "send SMS for general errors" under additional settings under SMS configuration.



## 12.1 Technical Support

If unable to troubleshoot SafetyNet using the above table, or if the FAQ section does not provide a solution, or if you cannot fix your error, you may contact CSS technical support at

Email: [support@csspl.com.au](mailto:support@csspl.com.au)

Telephone: +613-9419 3955

Fax: +613-9419 3509

Please have the following details when you contact CSS technical staff

- Model of product with software version.
- Serial number (Label on back panel or from the main menu display)
- Date of purchase
- Clear definition of problem
- Steps taken so far to fix problem

## 13 Glossary

### **SNMP – Simple Network Management Protocol**

Simple Network Management Protocol is used for internetwork management. More information can be obtained from <http://www.snmplink.org/> (link active as at 22/06/2004)

### **MIB – Management Information Base**

An important component of SNMP. Contains information for Network Managers interpretation.

### **WINS - Windows Internet Name Service**

Windows Internet Name Service (WINS) provides a distributed database for registering and querying dynamic NetBIOS names to IP address mapping in a routed network environment for name resolution.

### **SafetyNet Registration License Keys**

Unique keys that enables certain features on SafetyNet. Provided at the time of purchasing a SafetyNet unit. Additional keys can be obtained from Computer Support Systems by emailing at [sales@csspl.com.au](mailto:sales@csspl.com.au)

### **SafetyNet Password Unlock Key**

A specific key that allows entering a new password at the time of forgetting the SafetyNet password. This key is only valid for a day. In order to obtain this key it is required to request this key officially from Computer Support Systems on a company letterhead, authorised by an authorised personnel.

### **DHCP - Dynamic Host Configuration Protocol**

The *Dynamic Host Configuration Protocol* (DHCP) is an Internet protocol for automating the configuration of computers that use TCP/IP. DHCP can be used to automatically assign IP addresses, to deliver TCP/IP stack configuration parameters such as the subnet mask and default router, and to provide other configuration information such as the addresses for printer, time and news servers.

### **UDP - User Datagram Protocol**

The User Datagram Protocol belonging to the TCP/IP family offers only a minimal transport service -- non-guaranteed datagram delivery -- and gives applications direct access to the datagram service of the IP layer. UDP is used by applications that do not require the level of service of TCP or that wish to use communications services (e.g., multicast or broadcast delivery) not available from TCP.

---

## 14 Frequently Asked Questions (FAQ's)

**FAQ 1.** My product is connected to the network and turned on. Now what do I do?

**Answer:** Use the application "SafetyNetFinder.exe" provided by Computer Support Systems in the CD-ROM of SafetyNet to detect the IP address of the unit. Alternatively, get your network administrator to look up the DHCP leases on your server and try to locate the device by using the MAC address of the unit. The MAC address can be found on the back of the unit on a label attached to it.

---

**FAQ 2.** My Java™ applets do not load up or my interface does not show up any buttons to click. What am I doing wrong?

**Answer:** Your system may not have the Java™ Runtime Environment (JRE) version 1.4.2 or higher installed. Check the requirements on the Getting Started Manual and install the JRE. Use your control panel to check what version you have currently installed.

---

**FAQ 3.** Can I daisy chain two SafetyNet units to increase my number of sensors?

**Answer:** No.

---

**FAQ 4.** Can I install more than one temperature sensor?

**Answer:** Yes, SafetyNet supports up to two analogue sensors (could be temperature, humidity or a combination of both)  
SafetyNet provides inputs for one smoke, one fluid and 4 digital sensors. However these digital sensor inputs can be configured as fluid and smoke types, thus extending its number of fluid or smoke sensor types.

---

**FAQ 5.** What trigger delays are associated with sensors?

**Answer:** The analogue type sensors, the smoke and the fluid sensor have a 10 second trigger delay, where as the digital sensors provide a trigger delay that could be customised up to 120 seconds.

---

**FAQ 6.** Can I have multiple fluid or smoke sensors?

**Answer:** Yes. You can have up to 5 of each type combining both sensor types. The digital sensor inputs can be set as fluid or smoke as preferred. Section 8.2.5 describes on setting digital sensor inputs as smoke or fluid type.

---

**FAQ 7.** How long can I run my sensor cables from SafetyNet?

**Answer:** We recommend up to 60m of distance from the sensor to SafetyNet.

---

**FAQ 8.** Occasionally when the Viewer is active I am prompted with the message "Could not communicate with SafetyNet. Timeout occurred. Possibly a Network delay or an inactive SafetyNet device." Why is this happening?

**Answer:** The viewer did not receive an answer from SafetyNet for more than 7.5 seconds. Click OK and try again. If you keep getting this message your network has a high volume of congestion or SafetyNet is no longer active. Ensure that UDP port 30705 is open for communication and that your network setting on SafetyNet has been entered correctly.

---

**FAQ 9.** Graph data is corrupted. What can I do? Changed my sensor type from temperature to humidity or vice-versa, and now I am having conflicting data on my graph. What can I do?

**Answer:** You can clear all related graph data by going in Sensor/Relay Configuration and then clicking "Clear Graph Data" button. Note: This will clear both sensor related data.

---

**FAQ 10.** I have received a SNMP trap but I did not receive a SMS for a further 2 hours. I have enabled SMS registration and configured this particular sensor to send a SMS. What happened to the SMS?

**Answer:** Computer Support Systems cannot guarantee the time, delivery or reliability of SMS delivery as SMS relies on the Public Switched Telephone Network (PSTN) and the receiving mobile being switched and attended.

---

**FAQ 11.** My network is not DHCP enabled. Because the device is set by factory default to have DHCP when shipped, what IP address does it load up with?

**Answer:** If your network is not-DHCP enabled, after a timeout of 15 seconds the device will fall to IP address 192.168.1.100 (DHCP fall back IP address) with a subnet mask of 255.255.255.0.

The best way to allocate a preferred static IP address is to connect the device direct to a PC using a crossover cable. Set the PC IP address to 192.168.1.xxx (excluding 192.168.1.100) with a subnet mask of 255.255.255.0 and try to ping SafetyNet on the fallback DHCP IP address. Once you are able to communicate with the device, then you may set the preferred static IP address and connect SafetyNet on your network.

---

**FAQ 12.** I have set a static IP address on my product, but now I want to set it back so that DHCP is enabled. How can I set SafetyNet with DHCP enabled?

**Answer:** Set the IP address in the Administration Configuration page to be 0.0.0.0 where DHCP will be activated. To find the DHCP enabled IP address, look up on your server DHCP leases or use the tool SafetyNetFinder.exe application provided by CSS included the SafetyNet CD under the tools directory.

---

**FAQ 13.** How can I load factory defaults on SafetyNet?

**Answer:** Go to administration configuration settings and click on "*Factory Defaults*" menu. Then click on "*Load Factory Defaults*" button to clear current settings and load defaults on SafetyNet.

---

**FAQ 14.** How can I clear the alarm & events log or the graph data on SafetyNet?

**Answer:** Go to Sensor/Relay Configuration from the main menu and then select "*Clear Data*". You can then clear the graph data or the alarm log as desired.

---

**FAQ 15.** I have forgotten my password on my SafetyNet system. How can I access the product now?

**Answer:** SafetyNet provides a secure method to re-enter a new password if you have forgotten the existing password. If attempted to login to SafetyNet more than three times with an incorrect password it will redirect to a webpage where specific instructions are given on how to obtain a password unlock key to access the product.