Remote Power Management & Monitoring System

# MODEL: 1RU8126MS

# USER MANUAL

SOUTHERN MANUFACTURING
AN EP COMPANY

2000 E Lake Mary Blvd

Sanford, FL 32773

(407) 894-8851  (800) 866-5699

contactus@ITSCOMMANDER.com

WWW.ITSCOMMANDER.COM

Read this manual before using this product. Failure to follow the instructions and safety precautions in this manual can result in serious injury.

Keep this manual in a safe location for future reference.

For other ITS Commander™ products, previous firmware versions and updates please go to our webpage at http://www.ITSCOMMANDER.com

# Trademark and Copyright Information



Earnest Products Inc. dba Southern Manufacturing, hereafter referred to as EP, shall not be held liable for any damage or injury involving its enclosures and/or its remote power manager and monitoring system if used or operated in any manner or subject to any condition inconsistent with its intended purpose, or if installed or operated in an unapproved manner, or improperly maintained.

Although reasonable efforts have been made to ensure the information contained herein is as useful and as accurate as possible, EP assumes no responsibility for its application, usefulness, or completeness. EP will not be held responsible or liable under any circumstances for any damages or losses. Damages or losses include direct, indirect, special, incidental, or consequential damages or losses arising from the use of any information contained herein or the use of any products or services referenced.

EP reserves the right to change ITS Commander™ specifications, features, warranties, documentation, pricing, terms and conditions at any time, without notice.

# Table of Contents

# Introduction

The ITS Commander™ is designed to improve system reliability and lower the cost of ownership through reduced maintenance costs. The system benefits both the owning agency and maintaining agency by promptly sending signals of an abnormal situation, allowing routine monitoring of critical equipment, and providing the capability to remotely control outlets to reboot equipment. These features can reduce unnecessary trips to inspect or service the cabinet thereby saving money.

Southern Manufacturing's ITS Commander™ may be integrated with ITS enclosures from the factory. Power panel and factory installed equipment are pre-wired and connected.

# Package

The contents of your package are:

(1) ITS Commander™ Unit

(2) Adjustable rack mounting brackets

(1) Power cord

(1) Temperature Probe

(1) Users Manual

MIB, frequently asked questions and support provided at www.ITSCOMMANDER.com

# SAFETY

Read this manual before using this product. Failure to follow the instructions and safety precautions in this manual can result in serious injury .
Keep this manual in a safe location for future reference.

## Safety Symbols

The following symbols have been placed thought this manual to reduce the risk of serious injury or death and to ensure the continued safe operation of this product.

*NOTE*

Notes provide additional information when completing a specific task or procedure. Notes will be designated by a check mark inside a circle, the word NOTE and a line beneath which the information appears.

*CAUTION*

Caution is used to provide safety information to prevent damage to the product or connected equipment. Caution is designated by a yellow triangle with a black exclamation mark in the center, the word CAUTION and a line beneath which the information appears

# Certifications and Compliances

The ITS Commander™ is designed, tested and manufactured to meet the requirements of the following national safety standards:

FCC Part 15 Class B

This equipment has been tested and found to comply with the limits of Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more o f the following measures (1) Reorient or relocate the receiving antenna (2) Increase the separation between the equipment and receiver (3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected (4) Consult the dealer or an experienced radio/TV technician for help.

---

NEMA

NEMA TS 2-2003 v02.06 Sections 2.2.7.3—2.2.7.6 , 2.2.8.4 and 2.2.9

This equipment has been tested and found to comply with the NEMA TS 2-2003 environmental requirements as are applicable for this device. The requirements applicable are (1) Operating voltage (2) Operating Frequency (3) Temperature and Humidity (4) Ambient Temperature (5) Humidity (6) Vibration and (7) Shock.

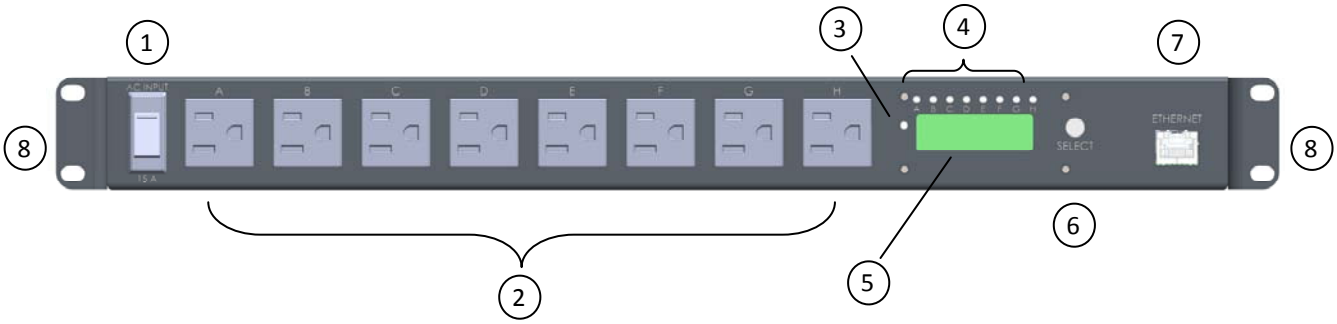
---

ITS COMMANDER
...Take Control™

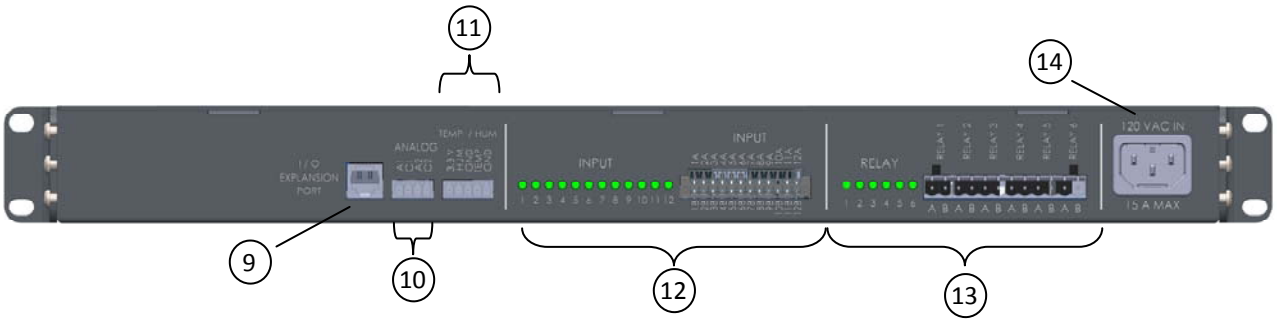
# Specifications

| MODEL | | 1RU8126MS |
|---|---|---|
| INPUT | Voltage Range | 89 VAC- 135 VAC, 120 VAC (Nominal) [1] |
| | Rated Current | 12 Amps |
| | Circuit Breaker | 15 Amps |
| | Frequency Range | 60 hertz ± 3 Hz |
| | AC Inlet | IEC C16, 15A, 250 VAC, 60 Hz |
| | Power Cord | NEMA 5-15P to IEC-C15, 15 A / 125 V |
| | Surge Suppression | 10 kA, L-N |
| OUTPUT | Outlet Quantity | 8 |
| | Outlet Type | NEMA 5-15R, 15A / 125 VAC, 60 Hz |
| | Dry Contact Input Quantity | 12 |
| | Dry Contact Input Connector | 24 Position, Screw-less Push-In terminal, 16-24 AWG |
| | Relay Quantity | 6 |
| | Relay Switching Voltage | 250 VAC, 125 VDC Max |
| | Relay Contact Form | SPST-NO (1 Form A) |
| | Relay Contact Rating (Current) | 10 A |
| | Relay Connector | 12 Position, Screw Terminal, 12-22 AWG |
| | Temperature Sensor | Thermistor, R @ 25°C = 10k Ω, ± 1 % ( 4.1 feet /1.25m) |
| | Humidity Sensor | 26mV / % RH ±3% RH, Linear, 3.3 V Supply |
| | Temperature / Humidity Connector | 5 Position, Screw terminal, 16-30 AWG |
| | Analog Inputs | 2 |
| | Analog Input Connector | 4 Position, Screw terminal, 16-30 AWG |
| ENVIRONMENTAL | Operating Temperature | -34°C (-30°F) to +74°C (+165°F) [1] |
| | Operating Humidity | 0—95 % Relative Humidity[1] |
| | Storage Temperature, Humidity | -45°C (-50°F) to +85°C (+185°F) / 0-100% [1] |
| OTHER | Dimensions | 1.7" x 5.5" x 19" |
| | Rack Space | 1 RU (Rack Unit) |
| | Network | 10/100/1000 Base-T Ethernet Port, Auto MDI-X |
| | Alert Types | Email / SMS / User Interface / SNMP |
| | Clock | NTP |
| | Scheduling | 100 events, ON—OFF—RESET |
| NOTES | 1. Per NEMA TS2-2003v02.06 | |

# Features




**FRONT**




**REAR**

| ITEM | DESCRIPTION |
|---|---|
| 1 | Input circuit breaker, 15A |
| 2 | Outlets, 15 A, Labeled A trough H |
| 3 | Unit Status indicator, Green |
| 4 | Outlet Status indicator, Green, labeled A through H |
| 5 | LCD Screen |
| 6 | Select Button |
| 7 | Ethernet Port |

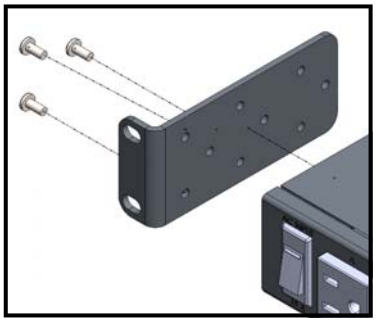
| ITEM | DESCRIPTION |
|---|---|
| 8 | Adjustable rack mounting ears |
| 9 | I/O Expansion Port |
| 10 | Analog Inputs |
| 11 | Temperature and Humidity Inputs |
| 12 | Dry Contact inputs 1-12 |
| 13 | Relay contacts 1-6 |
| 14 | AC Power In, IEC C16 Inlet |

# Mounting

Choose the desired mounting bracket location.

**Procedure**

The ITS Commander is provided with mounting brackets for a standard 19-inch rack. Each mounting ear is removable and adjustable towards the rear or the front .



1. Remove retaining screws from unit body
2. Choose the location of the bracket, by aligning the mounting bracket holes to the unit body.
3. Secure using retaining screws
4. Repeat for the other side.

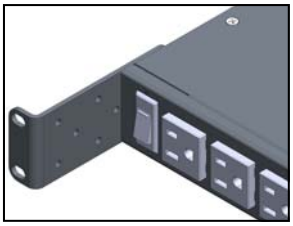
**Bracket Location Options**

Front

Flush

Front

Recessed



Front

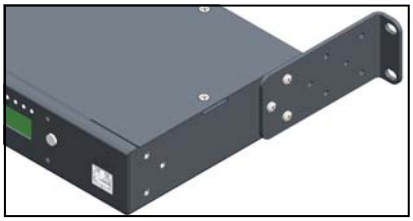
Deep Recessed

Rear

Flush

Rear

Recessed



Rear

Deep Recessed

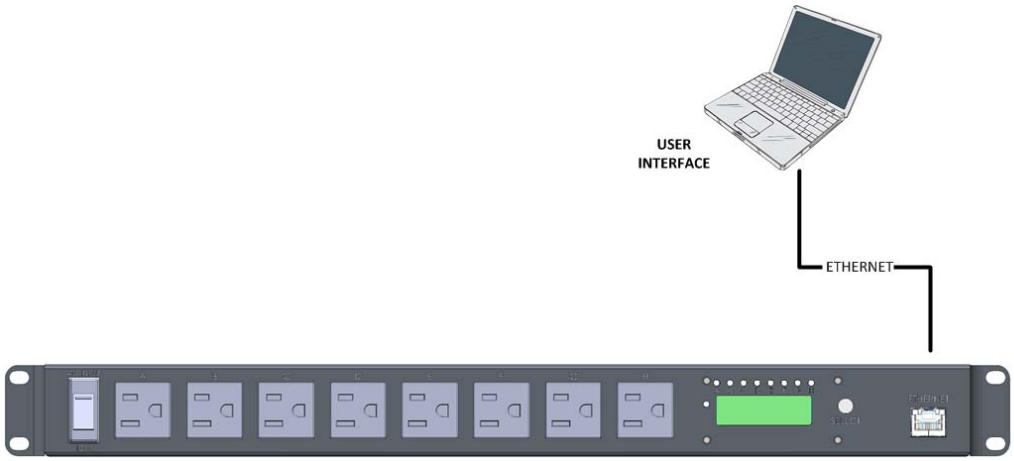
*NOTE*

Ensure to replace all screws in the mounting holes. Empty screw holes should be filled.

5. Mount in a standard EIA 19” Rack with (4) #10 screws.

# Installation

## Stand Alone Configuration



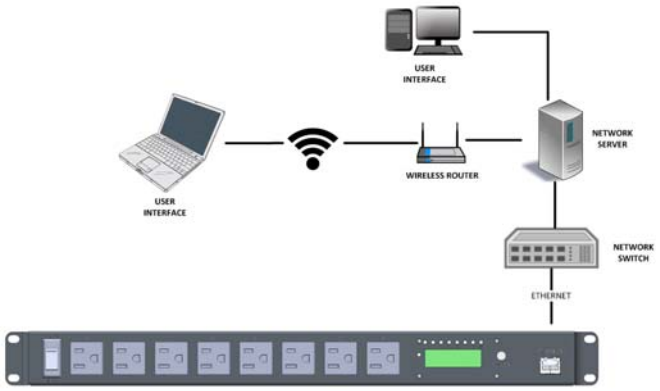

1. Connect an Category 5 (CAT 5) patch cable to the ITS Commander Ethernet port. A straight-through or crossover cable may be used.

2. Connect the other end of the RJ45 patch cable to the user interface (Laptop, PC, etc.).

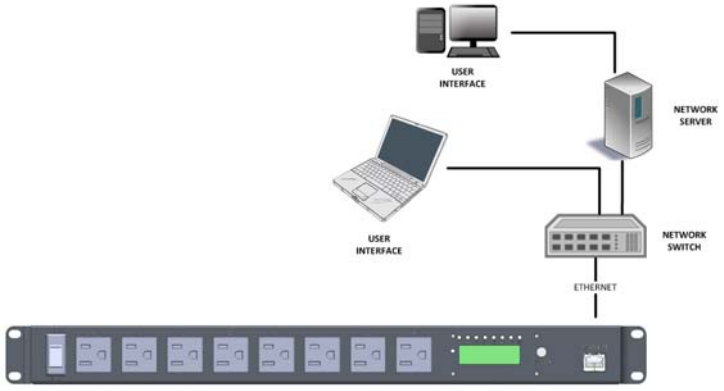
*CAUTION*

Stand alone configuration does not provide network time synchronization (NTP). Logging, Scheduling and Notification features will not be available

## Network Configuration




Network Configuration 1




Network Configuration 2

1. Connect an RJ45 patch cable to the ITS Commander Ethernet Port.
2. Connect the other end of the RJ45 Patch cable to the network switch.
3. User interface may be accessed using a wireless router or direct connection to the network.

# Set Up

*CAUTION*

Ensure input circuit breaker is in the OFF position  before applying power to the unit.

*CAUTION*

Do not remove the MALE end of the power cord in order to “hardwire” the unit.  Ensure proper safety standards are followed by using only  listed or recognized power cords.

## Power

1. Ensure the input circuit breaker is in the OFF position before proceeding.
2. Connect the  IEC-C13 (FEMALE) end of the power cord to the rear of the unit.
3. Connect the NEMA 5-15P (MALE) end of the power cord to the desired power source (receptacle).

*The desired power source may be a PDA (Power distribution assembly) receptacle, or other appropriate power source.*

1. The 15 A circuit breaker, located on the front of the unit, may also serve as an ON / OFF switch.

*NOTE*

If power or connectivity is lost to the unit, the below message will appear on the summary page.

**ERROR: Connection to ITS Commander was lost.**

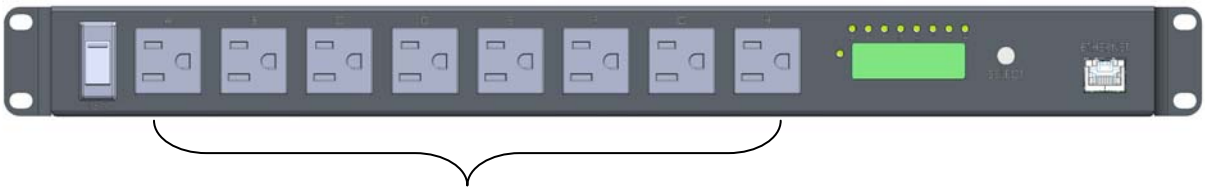
*NOTE*

This unit has a safe shutdown feature.  This feature provides a few seconds of back up power within the unit to safely shut down and send one last “packet” of information to the server.

# Set Up

## Outlets

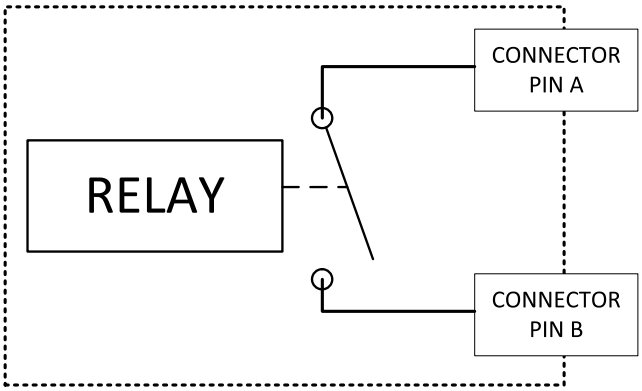
1. Connect desired equipment to the outlet  position using a NEMA 5-15P Plug.
2. Outlet labels may be changed in the [Names and Notifications] tab.
3. LEDs on the front of the unit labeled A—H indicate the ON / OFF status of each outlet.  An illuminated LED means ON.



OUTLETS

## Relays

1. Connect desired equipment to the relay position using  12—22 AWG wire.
2. Relay labels may be changed in the [Names and Notifications] tab.
3. LEDs on the rear of the unit labeled  Relay 1-6 indicate the OPEN / CLOSED status of each relay .  An illuminated LED means CLOSED (current is allowed to flow)




*NOTE*

Relay contact rating is 10 A max.  Relay switching voltage is 250 VAC / 125 VDC max.

# Set Up

*CAUTION*

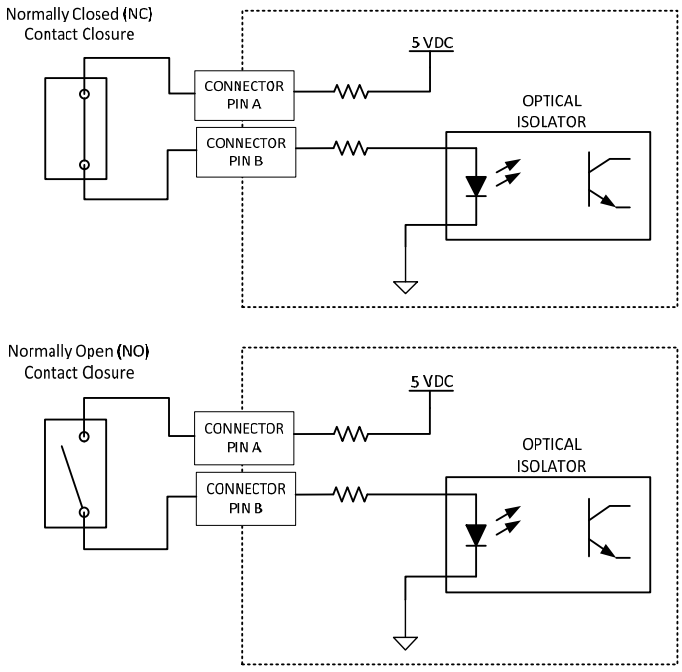
Inputs (Dry Contacts) provide their own voltage. DO NOT connect live power to Input (Dry Contact) terminals. Connecting live power to Input (Dry Contact) terminals will result in severe damage to the unit.

## Input (Dry Contacts)

1. Ensure the input circuit breaker is in the OFF position before proceeding.
2. Connect the desired switch/equipment terminal to the Input position using 16—24 AWG wire. Do not connect live power to the input (dry contact) terminal. Connecting live power will result in severe damage to the unit
3. Input labels may be changed in the [Names and Notifications] tab.
4. Alarm status for normally open (NO) and normally closed (NC) contact closures may be changed in the [Names and Notifications] tab.
5. LEDs on the rear of the unit labeled Input 1-12 indicate the OPEN / CLOSED status of each input . An illuminated LED means a CLOSED input.

*NOTE*

The LEDs indicating input status are not linked to the ALARM status in the [Names and Notifications] tab. An illuminated LED means the contact is closed. A closed contact may be the normal condition for that contact. Illumination of an Input LED does not indicate an ALARM condition.



# Set Up

## **Humidity Probe** (sold separately)

1. Ensure the input circuit breaker is in the OFF position before proceeding.
2. Connect the humidity probe to the following pins:

   Pin 1—3.3 V

   Pin 2—HUM

   Pin 3—GND

3. Humidity threshold levels may be changed in the [Names and Notifications] tab.

*NOTE*

Please visit www.ITSCOMANDER.com to order a compatible humidity probe for this unit.

## Temperature Probe

1. Connect the temperature probe to the following pins:

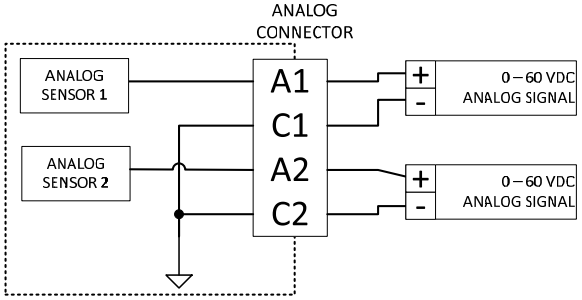
   Pin 4—TEMP

   Pin 5—GND

2. Temperature threshold levels may be changed in the [Names and Notifications] tab.

## Analog Input

1. Connect desired equipment to the analog position using 16—30 AWG wire.
2. Analog threshold levels may be changed in the [Names and Notifications] tab.




*NOTE*

Analog inputs have an isolated ground. Please do not connect chassis ground to this connector.

## I / O Expansion Port

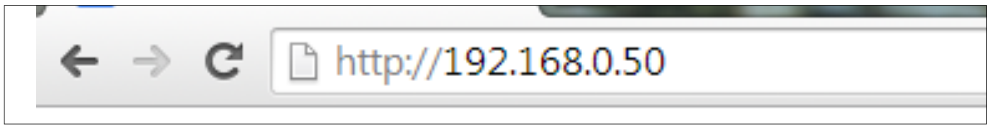
The I/O Expansion Port is not implemented in this model.

# Set Up

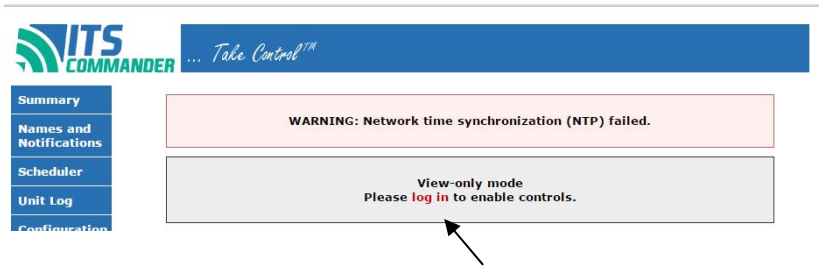
The ITS Commander™ can be configured using a web browser. To set up the unit:

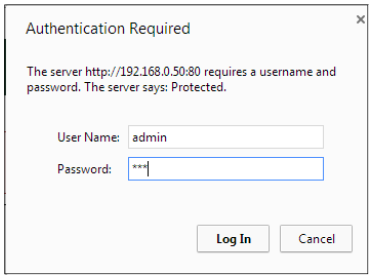
1. Enter the following URL in the address bar.

*http://192.168.0.50*




2. When first accessing the user interface, log in to the unit using the default log in information.



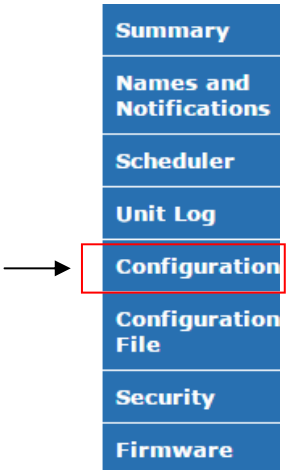




**User name: *admin***

**Password: *its***

3. To configure the unit, select the [Configuration]

## System




Enter the desired system values

System name (30 Characters)

System location (30 Characters)

System contact (30 Characters)

Temperature Units ( °F / °C)

Time zone

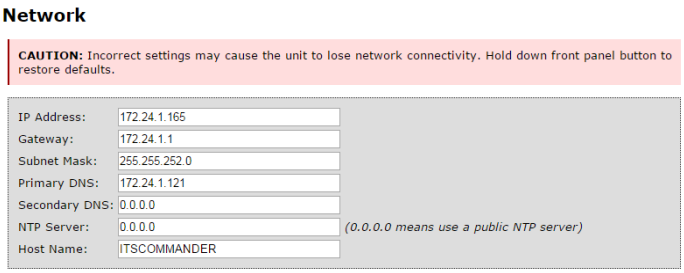
Reset Interval (in seconds) [ 1– 254 seconds]

# Set Up

*CAUTION*

Incorrect settings may cause the unit to lose network connectivity. If connectivity is lost, hold down the front panel button to restore the unit to its default settings.

## Network




Enter the desired network and system parameters for the unit. [Save Configuration] at the bottom of the page to save changes.

*NOTE*

Once the default IP address is changed, navigate to the new IP address by entering the following URL in the address bar of the web browser.

*http://{new IP address}*

## Email / SMS

1. Enter the desired Email address in the recipient fields ( 1– 5)
2. For SMS text messaging use the cellphone carrier SMS gateway for email to SMS.
3. Enter the SMTP Server
4. If required by the SMTP server, enter the Username and Password
5. Select SSL if applicable.
6. Enter the Port

*NOTE*

Your SMTP server may not require a user name or password.

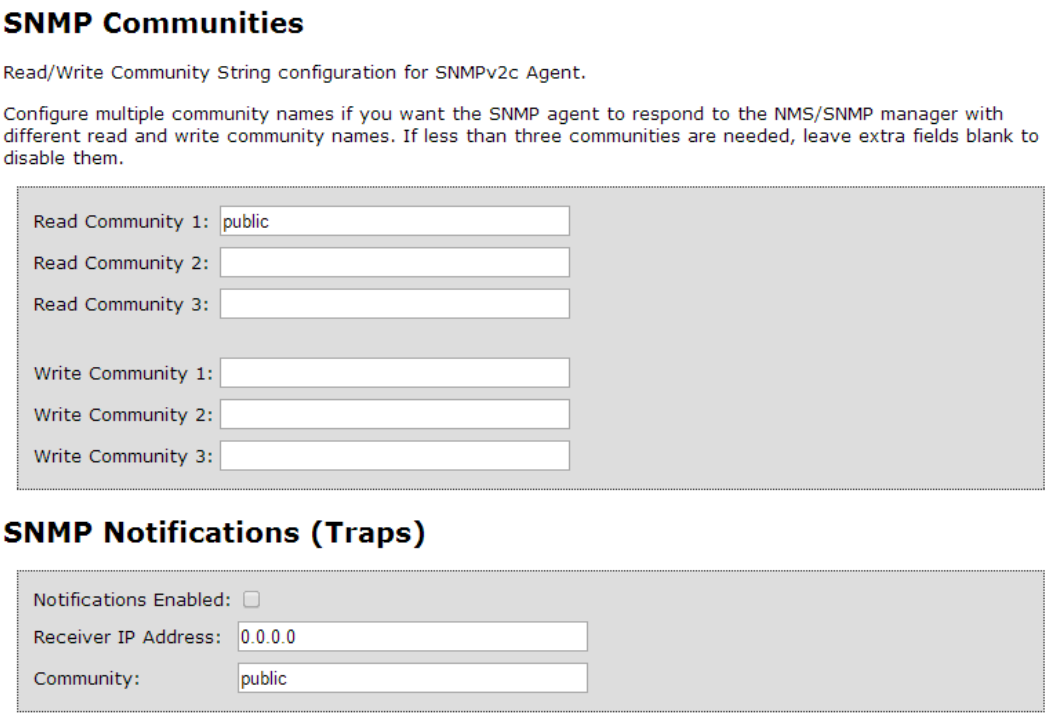
*NOTE*

Contact your cell provider for the correct SMS gateway address.

# Set Up

## SNMP

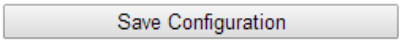
1. Enter up to 3 Read and Write Communities as desired.
2. Select {Notifications Enabled} if notifications (traps) are desired.
3. Enter the Receiver IP address
4. Enter the community name.




*NOTE*

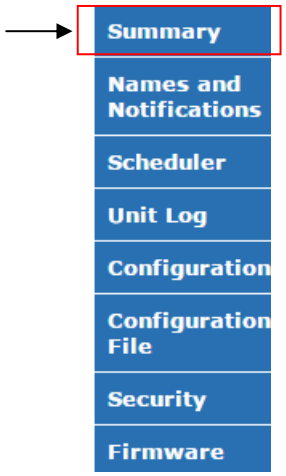
Please visit www.ITSCOMMANDER.com to download the MIB for the SNMP traps.

5. Click Save Configuration to save changes



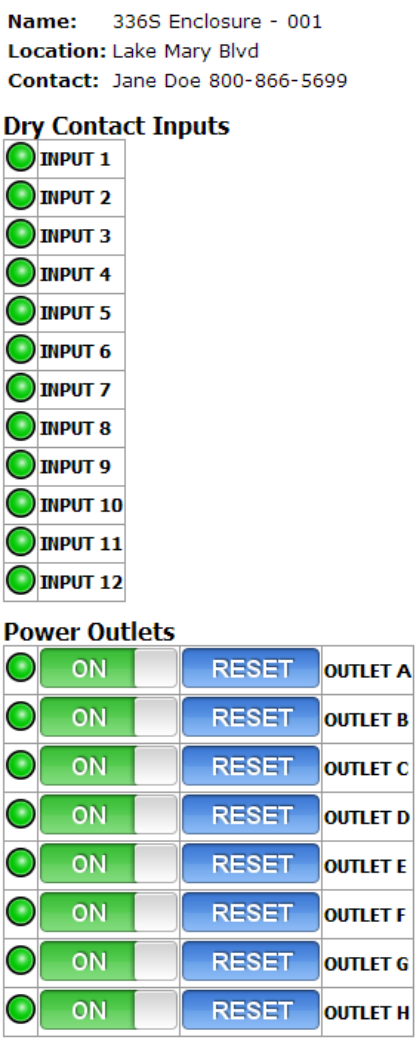
# User Interface Tabs

## Summary Tab




The [Summary] tab contains a live status of the following items:

- Dry Contact Inputs
- Power Outlets
- Relays
- Current
- Voltage
- Temperature
- Humidity
- Analog Inputs
- System Parameters




**Unit Information**

Can be changed in the [Configuration] tab.

**Dry Contact Inputs**

Labels can be changed in the [Names and Notifications] tab

Alarm status can be changed in the [Names and Notifications] tab

Dry contact inputs are green when in a non-Alarm status. Default Alarm status is a closed contact.

Dry contact inputs will turn red when in an Alarm status as set in the [Names and Notifications] tab.

Any state change will be reflected in the [Unit Log] tab.

**Power Outlets**

Labels can be changed in the [Names and Notifications] tab

Outlets are green when on, they are grey when off

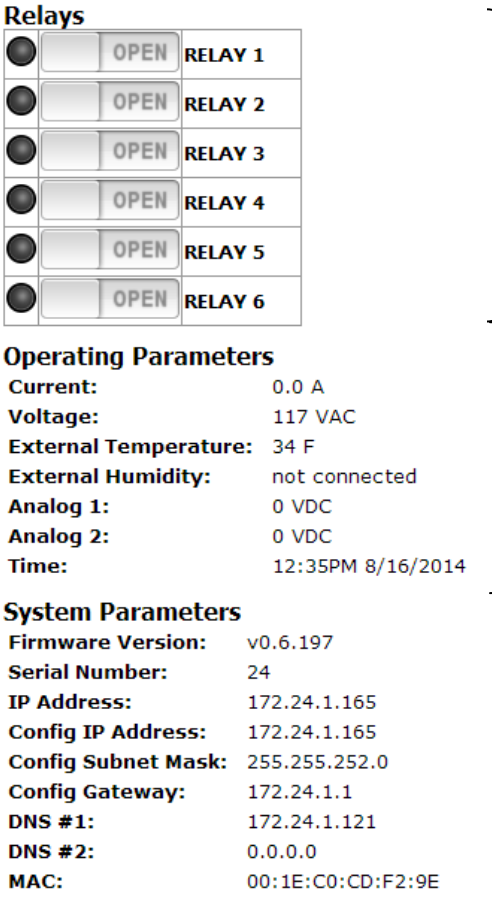
Clicking the [ON] / [OFF] slider, will turn the outlet ON or OFF

The reset button turns the outlet off then back on for a specified reset interval time. Default reset interval is 10 seconds, and can be changed in the [Configuration] tab, in the system section

The reset button will Flash while resetting

# User Interface Tabs

## Summary Tab (continued)




**Relays**

Labels can be changed in the [Names and Notifications] tab

Relays are grey when open, they are green when closed

Clicking the [OPEN] / [CLOSE] slider, will open or close the relay.

**Operating Parameters**

Current and Voltage are displayed for the unit

Temperature and Humidity are displayed when sensors are connected, units of measurement can be changed in the [Configuration] tab. Will turn red when upper threshold is exceeded, and blue when lower thresholds are exceeded . Thresholds may be changed in the [Names and Notifications] tab.

Analog 1 and Analog 2 voltages are displayed when connected

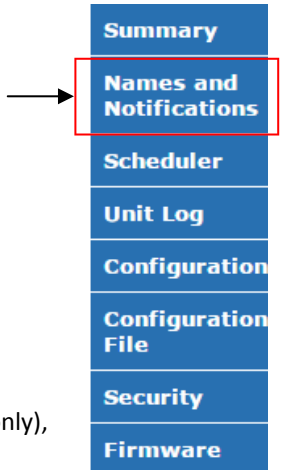
Network time and date are displayed when configured in a network

**System Parameters**

Displays all system parameters.

Can be changed in the [Configuration] tab

## Names and Notifications Tab




The [Names and Notifications] tab allows the user to provide meaningful names for:

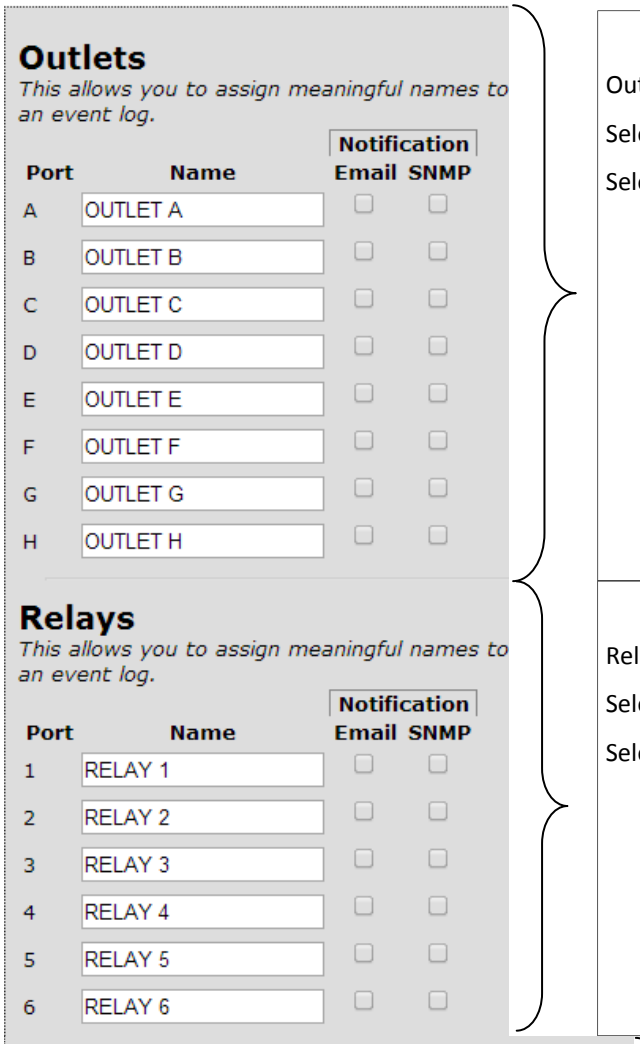
- Outlets
- Relays
- Inputs
- Analog Inputs
- Power

This tab also allows the user to set the types of notification requested (for all), alarm state (inputs only), and Lower / Upper Limits ( Analog and Environmental inputs).

- Email
- SNMP

# User Interface Tabs

## Names and Notifications Tab (continued)




**Outlets**

Outlet Labels can be changed for each outlet (max 30 characters)

Select Email to receive an email notification ( all state changes)

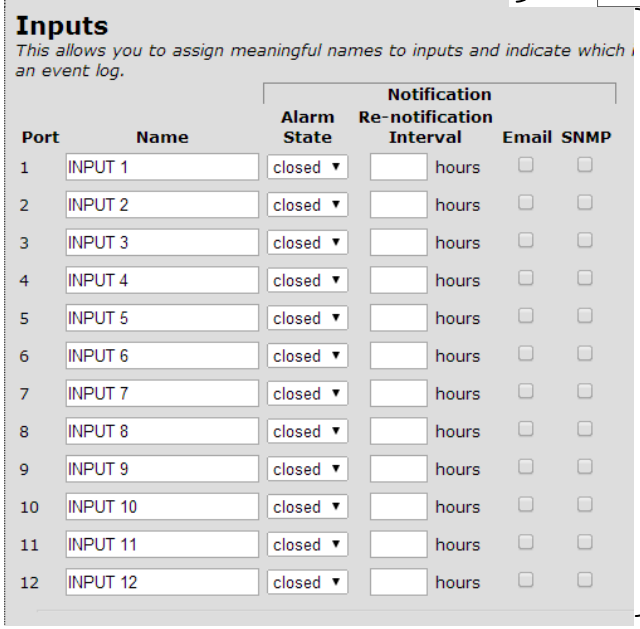
Select SNMP to receive a “trap” notification ( all state changes)

**Relays**

Relay Labels can be changed for each outlet (max 30 characters)

Select Email to receive an email notification ( all state changes)

Select SNMP to receive a “trap” notification ( all state changes)




**Inputs**

Input Labels can be changed for each outlet (max 30 characters)

Select the Alarm State of Closed or Open

- Closed (Alarm status is when the contact is closed)
- Open ( Alarm status is when the contact is open)

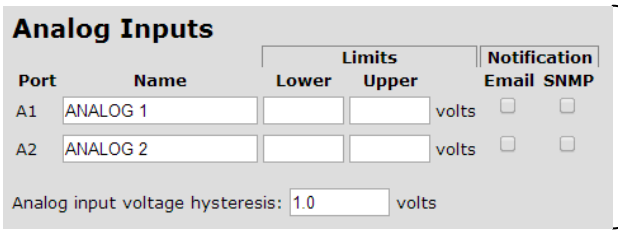
Re-Notification Interval can be set if re-notification is desired after the original alarm notification was sent.

Select Email to receive an email notification ( Alarm Status)

Select SNMP to receive a “trap” notification ( all state changes)

# User Interface Tabs

## Names and Notifications Tab (continued)




**Analog Inputs**

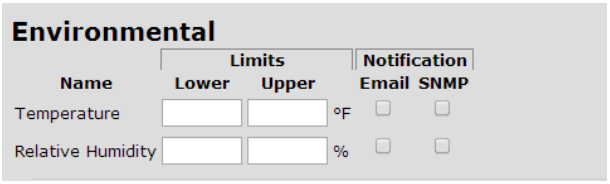
Analog Input Labels can be changed for each outlet (max 30 characters)

Set Lower and Upper threshold limits

Select Email to receive an email notification ( threshold limits)

Select SNMP to receive a “trap” notification ( threshold limits)

Enter the desired voltage hysteresis (default 1 volt)



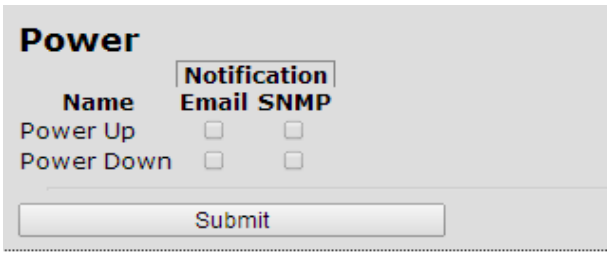

**Environmental**

Set Lower and Upper threshold limits

Temperature units may be changed in the [configuration] tab.

Select Email to receive an email notification ( threshold limits)

Select SNMP to receive a “trap” notification ( threshold limits)




**Power**

Select Email to receive an email notification on Power up or down

Select SNMP to receive a “trap” notification

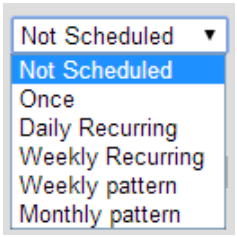
Click Submit to save changes

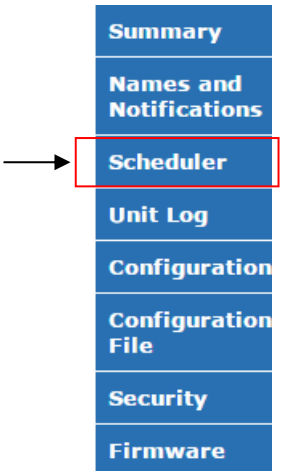
# User Interface Tabs

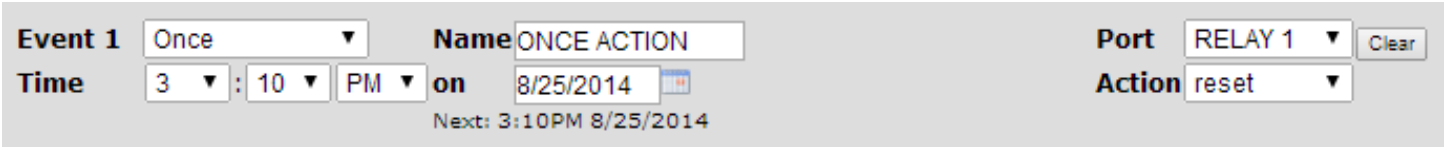
## Scheduler Tab

The [Scheduler] tab allows the user to schedule up to 100 events.

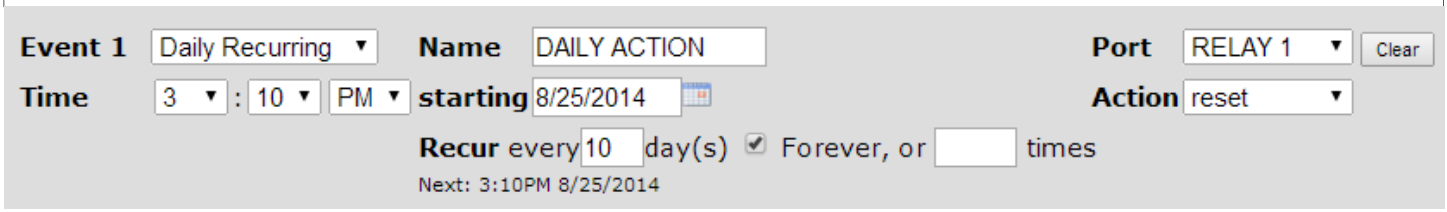
For each event, there are several options:



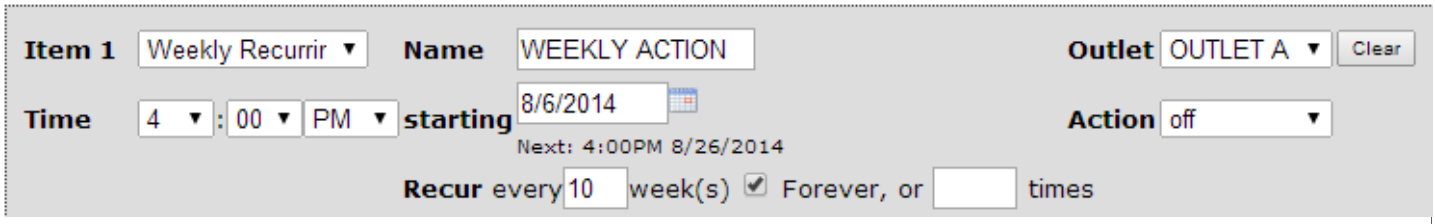

| Once | |
|---|---|
| NAME: | Event label can be changed (max 30 characters) |
| TIME: | Time for the desired event |
| ON: | Date for the desired event |
| PORT : | Outlet / Relay to be affected |
| ACTION: | Action taken during the event |
| NEXT: | Lets the user know (after changes have been saved) when the next scheduled action is to take place for that event |




| Daily Recurring | |
|---|---|
| NAME: | Event label can be changed (max 30 characters) |
| TIME: | Time for the desired event |
| STARTING: | Date for the first occurrence of the desired event |
| PORT : | Outlet / Relay to be affected |
| ACTION: | Action taken during the event |
| RECUR: | Every [ # ] days, forever or for a specified # of times required |
| NEXT: | Lets the user know (after changes have been saved) when the next scheduled action is to take place for that event |

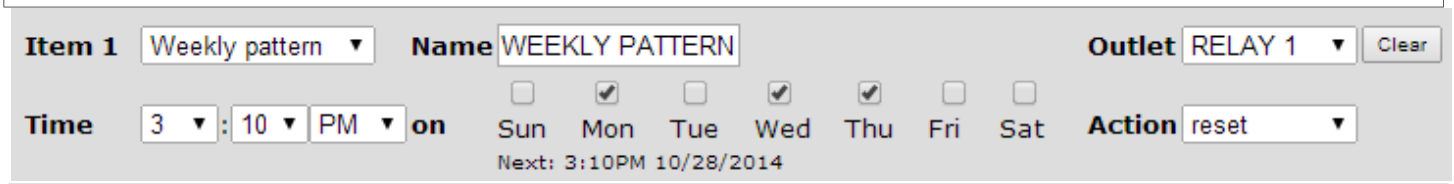
# User Interface Tabs

## Scheduler Tab (continued)




**Weekly Recurring**

| | |
|---|---|
| NAME: | Event label can be changed (max 30 characters) |
| TIME: | Time for the desired event |
| STARTING: | Date for the first occurrence of the desired event |
| OUTLET / RELAY : | Outlet / Relay to affected |
| ACTION: | Action taken during the event |
| RECUR: | Every [ # ] weeks, forever or for a specified # of times required |
| NEXT: | Lets the user know (after changes have been saved) when the next scheduled action is to take place for that event |

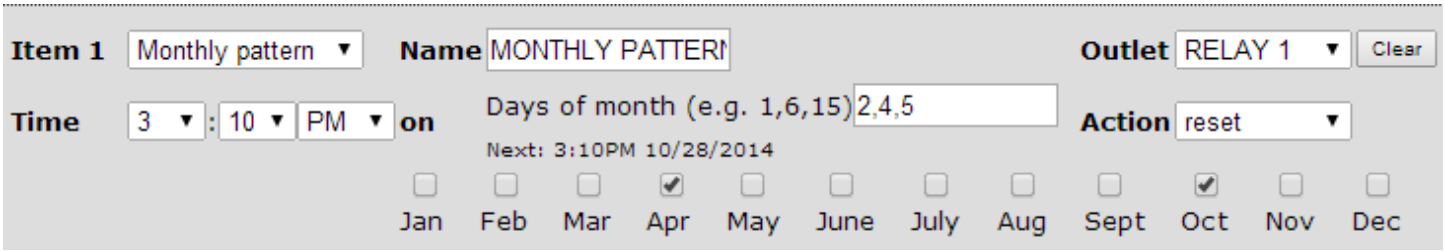



**Weekly Pattern**

| | |
|---|---|
| NAME: | Event label can be changed (max 30 characters) |
| TIME: | Time for the desired event |
| ON: | Days of the week when the event is to occur |
| OUTLET / RELAY : | Outlet / Relay to affected |
| ACTION: | Action taken during the event |
| NEXT: | Lets the user know (after changes have been saved) when the next scheduled action is to take place for that event |

# User Interface Tabs

## Scheduler Tab (continued)




**Monthly Pattern**

| | |
|---|---|
| NAME: | Event label can be changed (max 30 characters) |
| TIME: | Time for the desired event |
| ON: | Days of the month when the event is to occur (multiple may be separated by a coma) |
| OUTLET / RELAY : | Outlet / Relay to affected |
| ACTION: | Action taken during the event |
| MONTHS: | Select months in which the event is to occur |
| NEXT: | Lets the user know (after changes have been saved) when the next scheduled action is to take place for that event |

*NOTE*

Ensure to click SAVE after making the desired changes.

*NOTE*

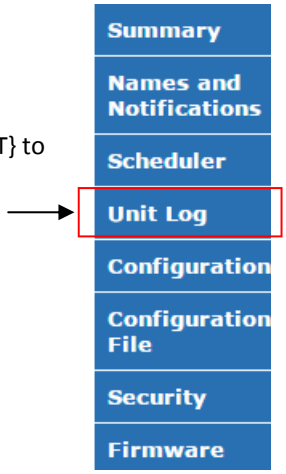
The first screen always shows the first 10 events, to see more events click NEXT at the bottom of the page.

*NOTE*

Up to 100 events may be scheduled

# User Interface Tabs

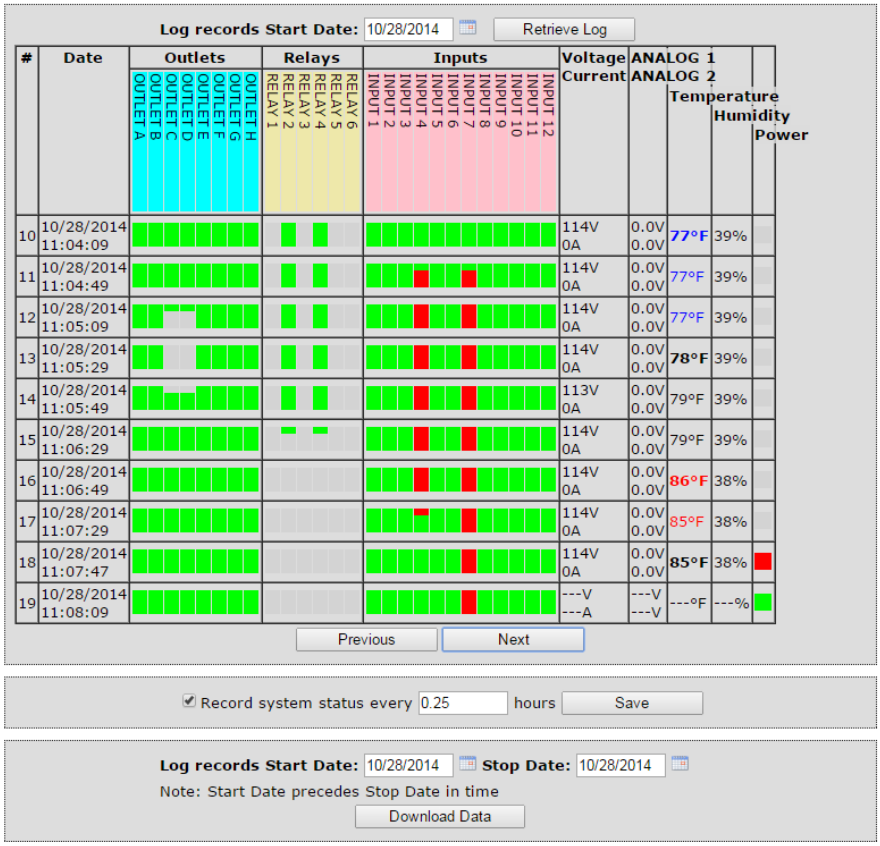
## Unit Log




The [Unit Log] tab allows the user to view, download and set the interval for system status log.

Select a records start date and click {Retrieve Log}, the first 10 log entries are displayed. Click {NEXT} to navigate trough further entries.

To download the log file. Select the records start and stop date and click {Retrieve Log}




### Log Entry Legend

**Outlets and Relays:**

- = *on/closed* state
- = *on/closed* state (changed from *off/open* state)
- = *off/open* state
- = *off/open* state (changed from *on/closed* state)

**Inputs:**

- = *normal* state
- = *normal* state (changed from *alarm* state)
- = *alarm* state
- = *alarm* state (changed from *normal* state)

**Analog and Environmental Inputs:**

black = normal / in-range
red = high limit exceeded during log interval
blue = low limit exceeded during log interval
**bold** = input triggered log entry

*NOTE*

The unit is able to save thousands of records. When the unit reaches the end of the allocated log memory, the oldest record will be over written. Download the log periodically in order to avoid losing data.

# User Interface Tabs

## Configuration

The [Configuration ] tab allows the user to configure the unit as desired.

This tab is covered in the  SET UP section of this manual

## Configuration File

The [Configuration File] tab allows the user to download and upload saved configurations.

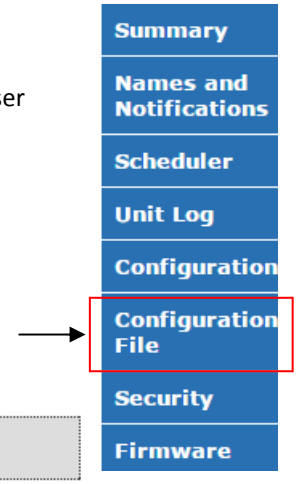
In order to ease the set up of multiple units, the configuration may be downloaded and saved in a user defined location.

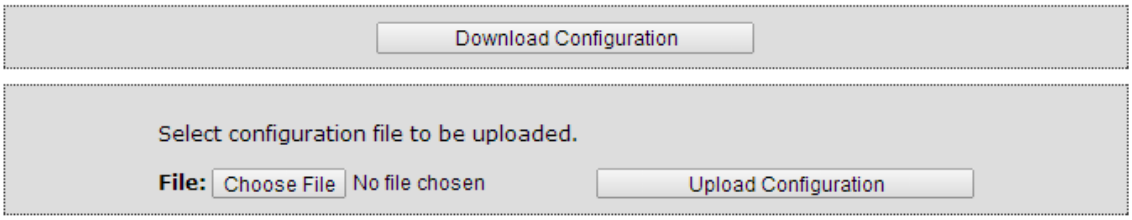
The configuration file may also be uploaded into a unit.

Items covered in the configuration file:

Schedule

Names and Notifications




To download a configuration file

1. Click {Download Configuration}
2. File will automatically download
3. Move file to desired location

*NOTE*

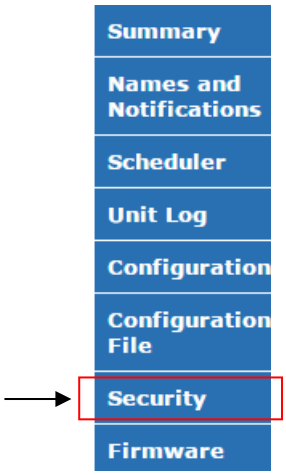
Different internet browsers require permissions to download this type of file.  Contact your systems administrator for assistance in downloading the configuration file.

To upload a configuration file

1. Click {Choose File}
2. Navigate to the configuration file desired
3. Click {Upload Configuration}
4. Configuration is not loaded into the unit

# User Interface Tabs

## Security

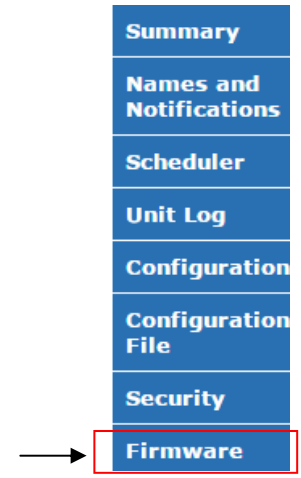



The [Security ] tab allows the user to change the password assigned to the unit

To change the password:

1. Enter the old password (Default: its)
2. Enter the new password
3. Click {Change Password} to enact changes.

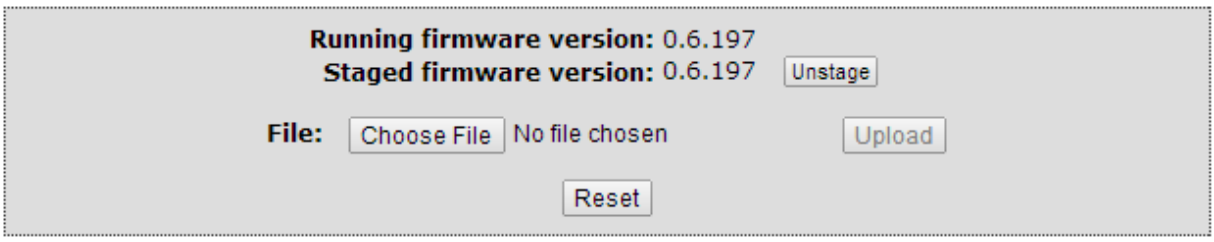
## Firmware




The [Firmware] tab allows the user to change the download firmware updates. Please visit www.ITSCOMMANDER.com to download firmware updates for this unit.

To download a firmware update:

1. Click {Choose File}
2. Navigate to the downloaded firmware file
3. Click {Upload}
4. Once the file has uploaded, verify that the new firmware version appears as a Staged firmware version, to un-do the staging simply click {unstage}
5. Click {Reset} to apply the new firmware




*NOTE*

Please visit www.ITSCOMMANDER.com for firmware updates

# Technical Assistance

*NOTE*

Please visit www.ITSCOMMANDER.com for Q & A and Technical Assistance. You may also email us at contactus@ITSCOMMANDER.com or phone us at (800) 866-5699