BLACK BOX
NETWORK SERVICES

March 2011
PSE528MA-XX

Secure Power Switch
Master 8-Port

System Administrator's Guide

This product carries the CE mark to indicate compliance with the European Directive on Electromagnetic Compatibility (89/336/EEC). It has been tested to EN55024:1998 and EN55022:1998.

PSE528MA

Secure Power Switch PSE528MA (Master) is a power control unit that enables remotely power control with the highest security over Intranet or Internet.

Secure Power Switch Master is a power control unit with a built-in Web server, an Ethernet and a RS232 connection. It enables to control the power supply of 8 power outlets through an Ethernet connection. The number of controlled power outlets can be extended up to 136 by cascading up to 16 Power Switch Satellite to the Master. It supports a maximum load of 2x10A through 2 separate power inputs.

This high security unit offers HTTPS protocol with Web browsers that support SSL version 2 or 3.

It also supports plenty of control options, like IP devices monitoring, external temperature/humidity sensors and dry contacts. It is able to send Syslog information and e-mails, and to record all events into a time-stamped log file.

RoHS
COMPLIANT

Contents

SAFETY INSTRUCTIONS: To be read before use!

NOTE

- The Secure Power Switch Master devices can only be installed by qualified people with the following installation and use instructions. The manufacturer disclaims all responsibility in case of a bad utilization of the Secure Power Switch Master devices and particularly any use with equipments that may cause personal injury or material damage.
- This equipment is designed to be installed on a dedicated circuit that must have a circuit breaker or fuse protection.
- The electrical power sockets used to plug the power cords of the Secure Power Switch Master devices must be close to the Secure Power Switch Master devices and easily accessible.
- Check that the power cords, plugs and sockets are in good condition.
- The Secure Power Switch Master devices can only be connected to three-wire 230 VAC (50-60Hz) sockets.
- Always plug the Secure Power Switch Master devices into properly grounded power sockets (two poles plus ground).
- Never exceed 10 Amp total load for each group of 4 power outlets of an Secure Power Switch Master device.
- The Secure Power Switch Master devices are intended for indoor use only. Do NOT install them in an area where excessive moisture or heat is present.
- Always disconnect the 2 (two) power cords of the Secure Power Switch Master device if you want to intervene on the Secure Power Switch Master device or on the equipment powered from the Secure Power Switch Master device.
- The power outlets of the Secure Power Switch Master devices are not circuit breakers! If you want to intervene on equipments connected to an Secure Power Switch Master device you must disconnect these equipments from the Secure Power Switch Master device.
- Do NOT attempt to disassemble the Secure Power Switch Master devices, they contain potentially hazardous voltages.
- The Secure Power Switch Master devices contain no user serviceable parts and repairs are to be performed by factory trained service personnel only.
- Always use a shielded cable for the Ethernet connection.

1. DESCRIPTION

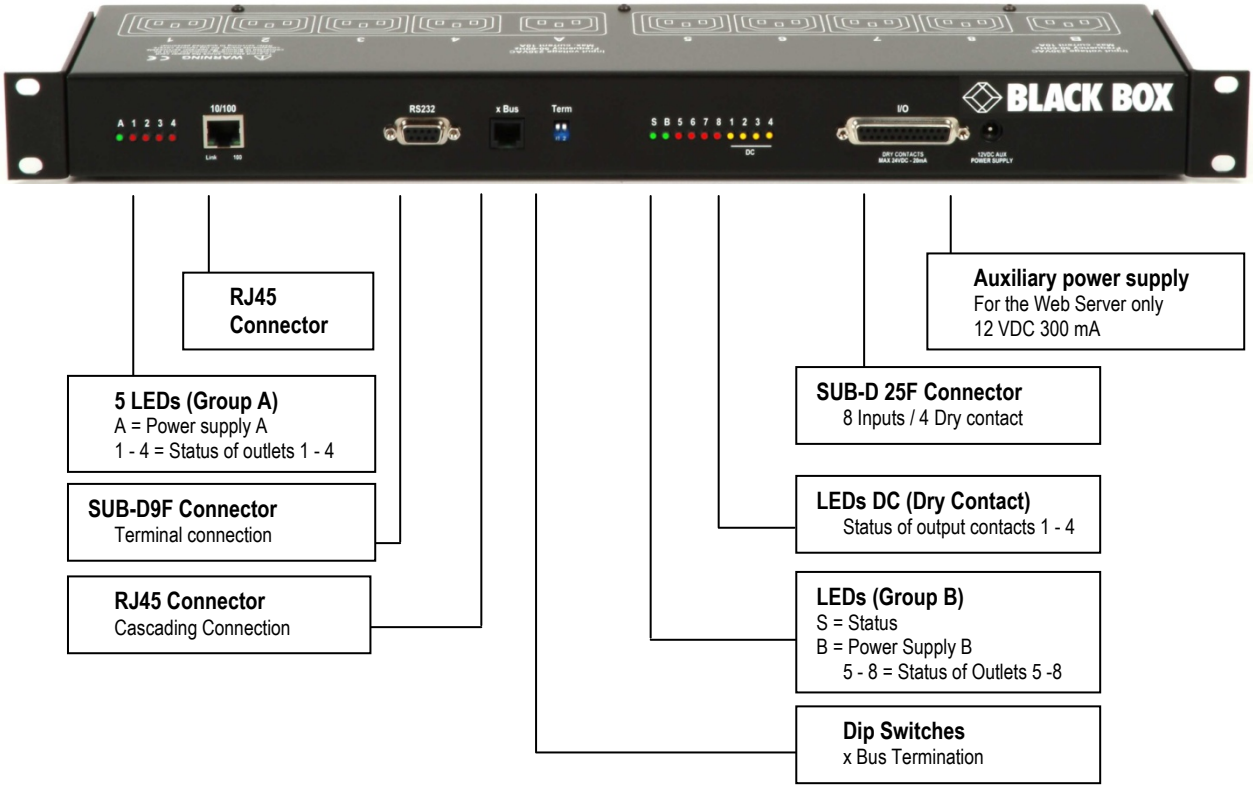
Secure Power Switch Master is a power control unit with a built-in Web server, an Ethernet and a RS232 connection. It enables to control the power supply of 8 power outlets through an Ethernet connection. The number of controlled power outlets can be extended up to 136 by cascading up to 16 Power Switch Satellite to the Master. It supports a maximum load of 2x10A through 2 separate power inputs.

This high security unit offers HTTPS protocol with Web browsers that support SSL version 2 or 3.

It also supports plenty of control options to increase the security of your facilities and reduce unforeseen downtimes of your equipment. Its modular conception allows to monitor many sensors and trigger emergency actions like alert sending via SNMP traps, Email or Syslog messages. It is able to record all events into a time-stamped log file.

1.1 Diagram

The front panel of the **Secure Power Switch Master** (Master)



A 1 2 3 4 (LEDs)

A Green. Lights up when Power applied on Group A
1 Red. Status of power outlet 1 (On/Off)
2 Red. Status of power outlet 2 (On/Off)
3 Red. Status of power outlet 3 (On/Off)
4 Red. Status of power outlet 4 (On/Off)

10/100 (RJ45 Connector)
Network connection 10/100 Mbits/sec

Link (LED)
Off = Network connection not detected
On = Network connection detected
Flashing = the device is sending or receiving data over this port

100 (LED)
Off = 10 Mbits/sec connection
On = 100 Mbits/sec connection

RS232 (SUB-D 9F Connector)
Serial port RS232 with DB-9 female connector

Pinout
2 = TxD
3 = RxD
5 = Gnd

xBus
The RJ45 connector is used for cascading Secure Power Switch Master devices and xBus peripherals
Maximal TOTAL line length: 200 meters

Term (RS485 Termination DIP Switch)
The xBus interface (RS485) has built-in termination resistors. To enable these resistors slide the two DIP Switch to the ON position (down).
Termination should be enabled at the two end stations on an RS485 network.
No more than two stations should be terminated on an RS485 network.

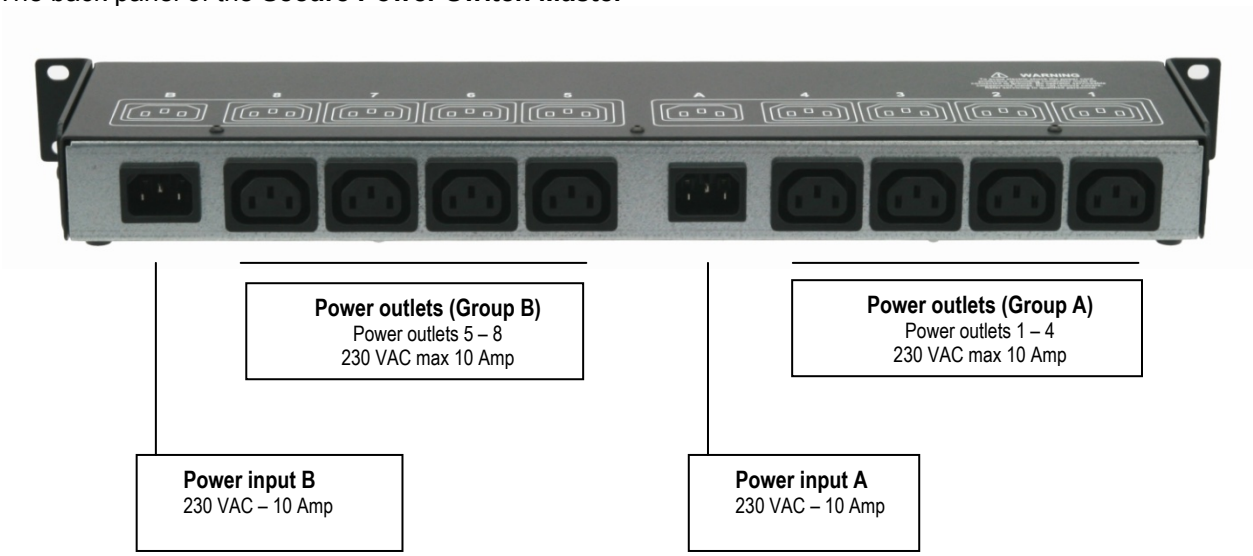
S B 5 6 7 8 1 2 3 4 (LEDs)

S Status
On = Secure Power Switch Master software is loaded and functional
Off = power default
1 time repeatedly = power on but not ready
2 times repeatedly = waiting on IP address from DHCP server
3 times repeatedly = SSL key computing in progress (takes several minutes!!!)
4 times repeatedly = System error (contact the manufacturer)
B Green. Lights up when power applied on Group B
5 Red. Status of power outlet 5 (On/Off)
6 Red. Status of power outlet 6 (On/Off)
7 Red. Status of power outlet 7 (On/Off)
8 Red. Status of power outlet 8 (On/Off)
1 Yellow. Status of dry contact output 1 (Open/Closed)
2 Yellow. Status of dry contact output 2 (Open/Closed)
3 Yellow. Status of dry contact output 3 (Open/Closed)
4 Yellow. Status of dry contact output 4 (Open/Closed)

I/O (SUB-D 25F Connector)
Dry Contacts: 4 Outputs and 8 Inputs
Do NOT exceed 24VDC – 20 mA
(see Annexe Table for the Pin configuration)

12 VDC AUX Power Supply
The Web server can be powered either by power input A or power input B.
To increase the operational safety of the Web server, an auxiliary power supply (12 VDC / 300 mA) can be connected to this input (double insulated, ie. not connected to ground).

The back panel of the **Secure Power Switch Master**



1.2 Package list

The following items are included:

- ❑ 1 Secure Power Switch Master^{R2} 19"
- ❑ 1 power adapter 12 VDC
- ❑ 2 power cables, 230 V / 10 Amp, length 1.80 Meters
- ❑ 1 RJ45 M/M cable, 2 Meters
- ❑ 1 serial cable SUB-D 9 points M/F, 1.80 Meters
- ❑ 1 quick installation guide
- ❑ 1 CD with User Guide, Quick Start Guide and Windows configuration program

2. INSTALLATION

Remark:

Make sure that the Secure Power Switch Master is powered off.

Connection instructions

1. Use a shielded RJ45 network cable to connect your Secure Power Switch Master to the network.
2. Use appropriated three-wire power cords (two poles plus ground) to connect your electrical devices to the Secure Power Switch Master unit.
3. Plug the 2 power cables into 2 grounded sockets. The power supply LED of group A and of group B light on to confirm that power is on.
4. You can now configure the Secure Power Switch Master by following the indications of the chapter "Configuration of the Secure Power Switch Master".

3. CONFIGURATION

To use the Secure Power Switch Master on your network, you must first configure its network parameters. Ask your network administrator for the parameters to use.

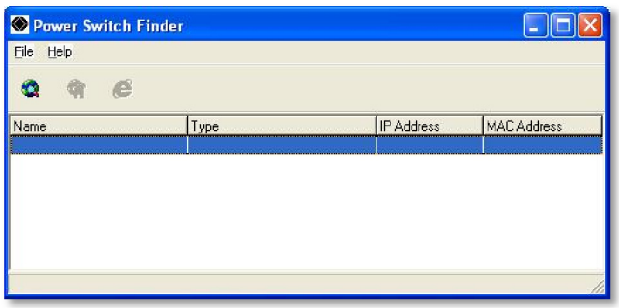
There are three methods to configure the network parameters of the Secure Power Switch Master:

3.1. Configuration through the LAN using the Finder program

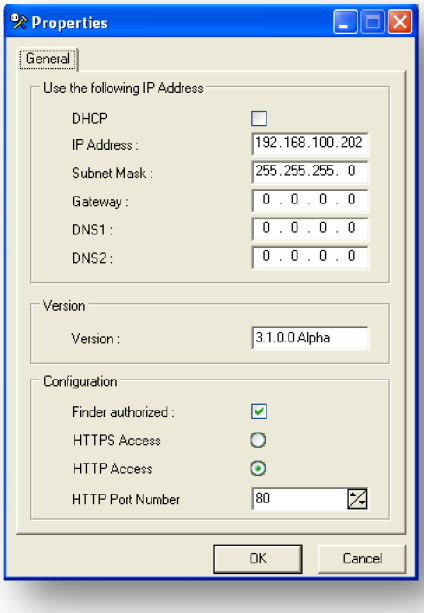
It is the simplest and fastest configuration method if you use Windows as operating system. It allows to configure your Secure Power Switch Master through your local network even if its network parameters are not compatible with those of your PC.

1. Start the Finder.exe program contained on the CD-ROM.

2. Open the File menu and choose **SCAN** (or click on the first left button in the tool bar) to discover the Secure Power Switch Master connected on your LAN.



3. Open the File menu and choose **CONFIGURE** (or click on the second left button in the tool bar) to configure the network parameters.



This page enables to define all IP parameters of the Secure Power Switch Master device and displays the version of the Firmware. The HTTP protocol is enabled and the Finder program is authorized at factory settings.

!!! To achieve the highest security level we suggest to disable the configuration using the Finder program after the first installation.

DHCP:
Check this box is you want to obtain the IP address, the subnet mask and the default gateway for your Secure Power Switch Master via DHCP.

Use of DHCP (Dynamic Host Configuration Protocol) requires a DHCP host to be set up on the network.

IP Address:
IP address of the Secure Power Switch Master, default is 192.168.100.200.
Subnet Mask:
Subnet Mask of the Secure Power Switch Master, default is 255.255.255.0.
Gateway:
Generally the address of your router, default is blank.
DNS 1:
Primary DNS (Domain Name Server), default is blank.
DNS 2:
Secondary DNS, default is blank.

Version:
Firmware version of the Secure Power Switch Master

Finder authorized:
The Network parameters of the Secure Power Switch Master can be configured through a Local Area Network using the provided Finder Program. It is a simple and fast configuration method if you use Windows as operating system.

!!! The Finder Program is enabled as default value. For security reasons we suggest to disable the Finder program after the first configuration.

HTTP / HTTPS Access:
These options enable to choose between the standard HTTP and the HTTP over SSL protocol.
HTTPS encrypts and decrypts the page requests and page information between the client browser and the web server of the Secure Power Switch Master using a Secure Socket Layer (SSL). A URL beginning with HTTPS indicates that the connection is encrypted using SSL. SSL transactions are negotiated by means of a Key-based encryption algorithm between your browser and the web server of your Secure Power Switch Master.
The HTTP protocol is enabled as default value.
HTTP Port Number:
Port number: default is 80 (HTTP).

Standard HTTP port is 80.
Standard HTTPS port is 443.

3.2. Configuration through an RS232 Terminal connection

1. Use the provided RS232 cable to connect the Secure Power Switch Master to an available serial port of your PC.

2. Run a Terminal program such as Windows HyperTerminal.

3. Configure the appropriate serial port @ 9.600, n, 8, 1 and no flow control.

4. On your computer, press <ENTER> until the menu appears on your screen.

5. Press the “M” on your keyboard and follow the menu to configure the network parameters of your Secure Power Switch Master.

```
NETWORK INTERFACE PARAMETERS:
Should this target obtain IP settings from the network?[N]
Static IP address [192.168.1.250]?
Subnet Mask IP address [255.255.255.0]?
Gateway IP address [192.168.1.2]?
Primary DNS Server IP address [192.168.1.2]?
Secondary DNS Server IP address [0.0.0.0]?
MISCELLANEOUS:
Finder program enabled?[Y]
```

Configuration menu

3.3. Configuration through the LAN using a standard Browser

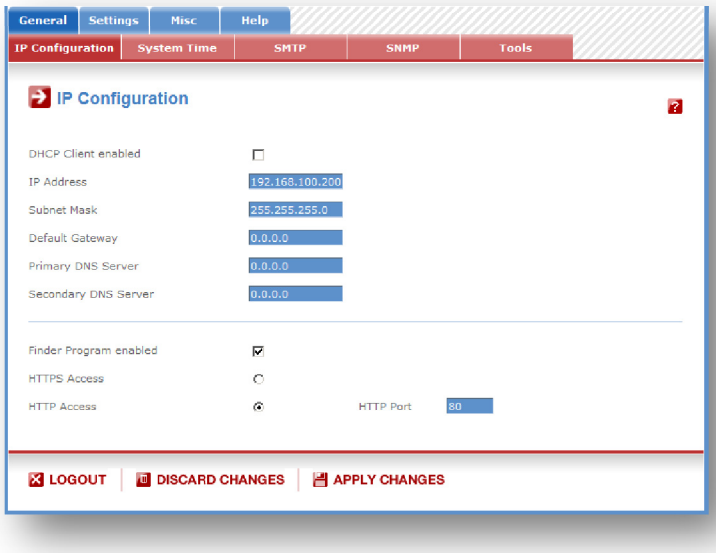
During the first installation, change temporarily the network settings of your PC according to the default network settings of the Secure Power Switch Master.

Factory network settings of the Secure Power Switch Master:
IP Address: **192.168.100.200 - Port: 80**
Gateway: **255.255.255.0**
Default factory protocol is **HTTP !!!**

1. Open your Web browser and type following IP address:
   http://192.168.100.200/sysadmin.htm

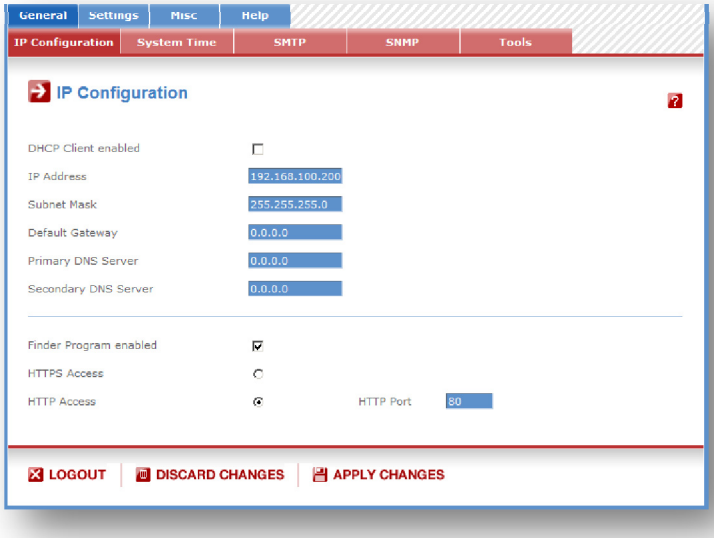
2. Enter the administrator name and password (default for both = **admin**)

3. The home page appears, allowing you to configure all settings of your Secure Power Switch Master.



3.3.1. General / IP configuration

This page enables you to define all the IP parameters of the Secure Power Switch Master.



DHCP Client enabled:
Check this box is you want to obtain the IP address, the subnet mask and the default gateway for your Secure Power Switch Master via DHCP. Factory default setting for this option is disabled.

Note **Use of DHCP (Dynamic Host Configuration Protocol) requires a DHCP host to be set up on the network.**

IP Address:
IP address of the Secure Power Switch Master, default is 192.168.100.200.

Note **If you use the https protocol and change the IP address, the system needs to compute new SSL keys. This operation takes several minutes and the LED marked "Status" on the case blinks 3 times repeatedly during all the process. During all this time, you cannot login.**

Subnet Mask:
Subnet Mask of the Secure Power Switch Master, default is 255.255.255.0.

Default Gateway:
Generally the address of your router, default is blank.

Primary DNS Address:
Primary DNS (Domain Name Server), default is blank

Secondary DNS Address:
Secondary DNS, default is blank

Finder Program enabled:
The Network parameters of the Secure Power Switch Master can also be configured through a Local Area Network using the provided Finder Program. It is a very simple and fast configuration method if you use Windows as operating system.
The Finder Program is enabled as default value.

Note **!!!For security reasons we suggest to disable the Finder program after the first configuration.**

HTTP / HTTPS Access:
This option enables to choose between the standard HTTP and the HTTP over SSL protocol. HTTPS encrypts and decrypts the page requests and page information between the client browser and the web server of the Secure Power Switch Master using a Secure Socket Layer (SSL). A URL beginning with HTTPS indicates that the connection is encrypted using SSL. SSL transactions are negotiated by means of a Key-based encryption algorithm between your browser and the web server of your Secure Power Switch Master.
The HTTP Protocol is enabled as default value.

Note **!!!To achieve the highest security level we suggest to choose the HTTPS protocol.**

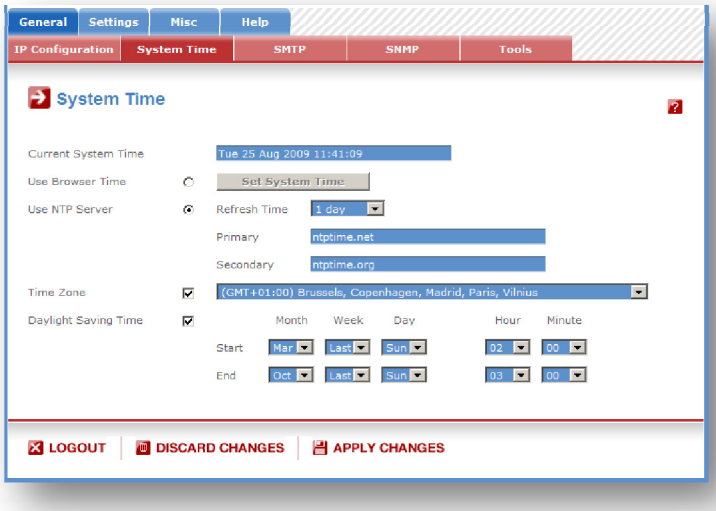
HTTP Port:
Port number: default is 80 (HTTP).

Standard HTTP port is 80.
Standard HTTPS port is 443.

LOGOUT:
Click "Logout" at the bottom of the page to exit the session without saving changes.
DISCARD CHANGES:
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.
APPLY CHANGES:
Click "Apply Changes" at the bottom of the page to save changes.

3.3.2. General / System time

The system time of the Secure Power Switch Master is used for synchronizing scheduling actions and to timestamp SNMP traps, Syslog information, e-mails and internal logs. The system time can be set manually with the browser time of the connected computer or can be automatically synchronized with one or two NTP timeservers.



Current System Time:
This field shows the current system time of the Secure Power Switch Master.

Note **As the system time is displayed through the browser, a small difference (1 to 2 sec) can appear as compared to the exact hour. The system time is nevertheless correct.**

Use Browser Time:
If you want to set the system time using the current Browser time of your PC, select this option and click on the "Set System Time" button.

Use NTP Server:
If you want to set the system time using an NTP timeserver, select this option, choose a refresh interval and enter the IP address of the timeserver you wish to use in the "Primary" field. The address of a second timeserver can be specified in the "Secondary" field. The secondary timeserver is optional and is used only if the primary timeserver is not available.

Note **You can enter either the hostname (in that case you must have specified a DNS server on the IP configuration page) or the IP address of an NTP server.**
NTP uses port 123/UDP.

Time Zone:
Set the time zone corresponding to your location. The system clock will subsequently show local time. Without setting this, the system clock will show UTC/GMT time. Setting a time zone is only relevant if you are synchronizing with an NTP server.

Daylight Saving Time:
If you want to set Daylight Saving dates, check this box and specify the date you want to use.

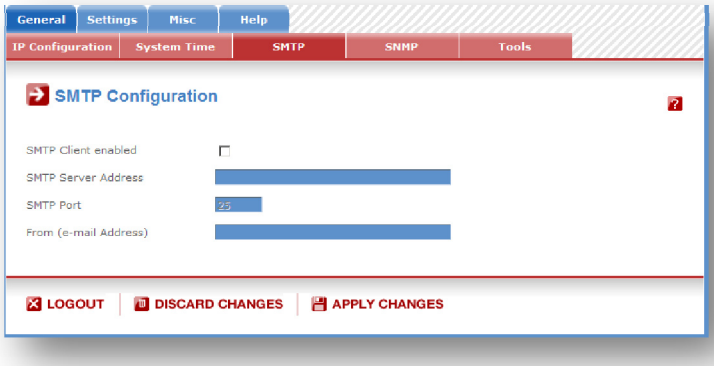
LOGOUT:
Click "Logout" at the bottom of the page to exit the session without saving changes.

DISCARD CHANGES:
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.

APPLY CHANGES:
Click "Apply Changes" at the bottom of the page to save changes.

3.3.3. General / SMTP

You can setup the Secure Power Switch Master to send the logs to an email account and report all activities triggered by the rules defined by the administrator.



To send e-mails, you will need a SMTP server on the network and you will have to configure the following parameters:

SMTP enabled:
Check this box if you want the Secure Power Switch Master to be able to send e-mails.
SMTP Server Address:
In this field, enter the address of the e-mail server you want to use.

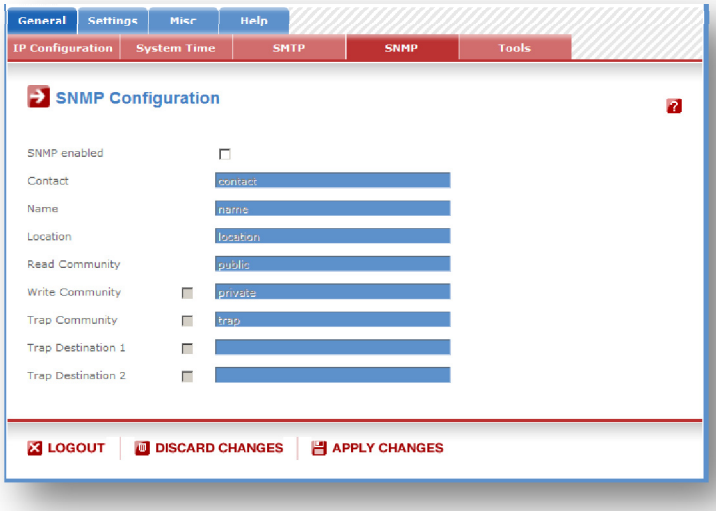
You can enter either the hostname (in that case you must have specified a DNS server on the IP configuration page) or the IP address of an NTP server.
NTP uses port 123/UDP.

SMTP Port:
In this field, enter the Port Number you want to use, default and usual port is 25.
From (e-mail Address):
In this field, enter the e-mail address that Secure Power Switch Master messages will appear to come from.
The name can be from 1 to 64 characters long, and can contain alphanumeric characters. This should be a valid address (generally servers reject messages that don't have a valid from address).
Example:
yourname@yourmailserver.net

LOGOUT:
Click "Logout" at the bottom of the page to exit the session without saving changes.
DISCARD CHANGES:
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.
APPLY CHANGES:
Click "Apply Changes" at the bottom of the page to save changes.

3.3.4. General / SNMP

The Secure Power Switch Master provides a built-in SNMP (Simple Network Management Protocol) agent, which enables you to manage the Secure Power Switch Master through SNMP-based network management systems. The Secure Power Switch Master MIB file enables to remotely read out the status of all power outlets and the values of all sensors (temperature, humidity, ambient light). It also enables to control individually all power outlets and all groups of power outlets. The MIB file is stored on the Secure Power Switch Master and can be downloaded from the General / Tools Page.

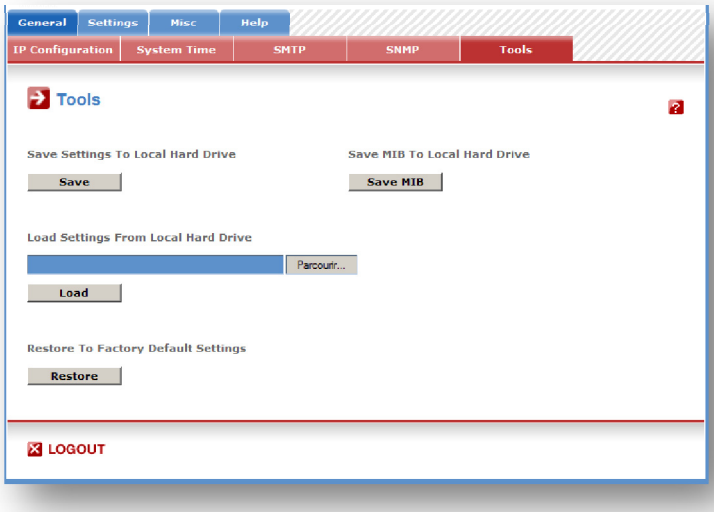


SNMP enabled:
Check this box if you want to enable the SNMP protocol.
Contact:
In this field, enter the name you want to give to the Contact field. The name can be from 1 to 64 characters long, and can contain alphanumeric characters. Default name is "contact".
Name:
In this field, enter the name you want to give to the Name field. The name can be from 1 to 64 characters long, and can contain alphanumeric characters. Default name is "name".
Location:
In this field, enter the name you want to give to the Location field. The name can be from 1 to 64 characters long, and can contain alphanumeric characters. Default name is "location".
Read Community:
In this field, enter the name you want to give to the Read Community field. The name can be from 1 to 64 characters long, and can contain alphanumeric characters. Default name is "public".
Write Community:
Check this box if you want to be able to control the power outlets through a MIB browser. In the following field, enter the name you want to give to the Write Community. The name can be from 1 to 64 characters long, and can contain alphanumeric characters. Default name is "private".
Trap Community:
Check this box if you want to configure the Secure Power Switch Master SNMP agent to send traps to a community. In the following field, enter the name you want to give to the Trap Community. The name can be from 1 to 64 characters long, and can contain alphanumeric characters. Default name is "trap".
Trap Destination 1:
Check this box and enter the primary SNMP Server address the traps will be sent to.
Trap Destination 2:
Check this box and enter the secondary SNMP Server address the traps will be sent to.

LOGOUT:
Click "Logout" at the bottom of the page to exit the session without saving changes.
DISCARD CHANGES:
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.
APPLY CHANGES:
Click "Apply Changes" at the bottom of the page to save changes.

3.3.5. General / Tools

This page enables you to:
- download and save the current settings of your Secure Power Switch Master on your PC,
- upload an existing configuration file to your Secure Power Switch Master,
- restore the factory settings,
- download the Secure Power Switch Master MIB file on your PC.

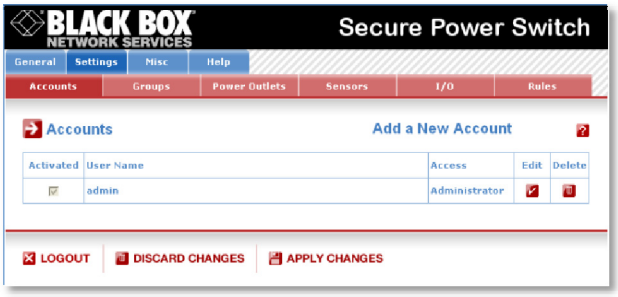


Save:
Click this button to save the current system settings onto your local hard drive.
Load:
Click this button and select a settings file you want to download to the Secure Power Switch Master.
Restore:
Click this button if you want to restore the factory default settings.
Save MIB:
Click this button if you want to download the Secure Power Switch Master MIB file onto your local hard drive.

LOGOUT:
Click "Logout" at the bottom of the page to exit the session without saving changes.

3.3.6. Settings / Accounts

This page is used to create, activate, deactivate, modify and delete up to 255 accounts.



- To activate or deactivate an account, check or uncheck the corresponding checkbox.
- To modify an account, click on "Edit" next to the corresponding account.
- To delete an existing account, click on "Delete" next to the corresponding account.
- To create an account, click on "Add a New Account" on the right side of the page.
  A new page appears, allowing you to set all the parameters of the account.

User Name:
In this field, enter the name you want to give to the user. The name can be from 1 to 32 characters long, and can contain alphanumeric characters.
Password:
In this field, enter the password you want to give to the user. The password can be from 4 to 32 characters long, and can contain alphanumeric characters.
Confirm Password:
In this field, enter the password again.

Groups:
This field is used to add or remove groups to the current account.
To add Groups to the current account, press the Ctrl key and click on the displayed Groups. The selected Groups are marked dark blue and their IDs are listed at the right side of the Groups field.

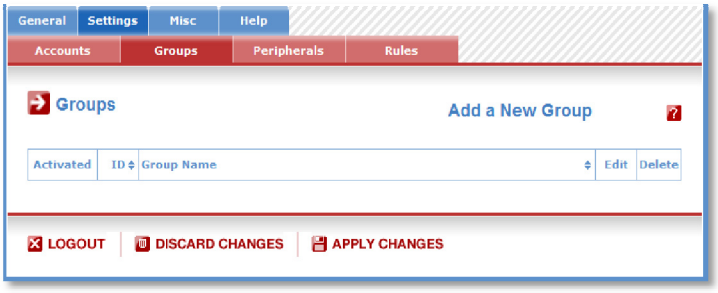
Note **This field appears only if you have already created at least one group (Settings/Groups Tab).**

Device:
In this drop-down list, choose a device from which you want to add Inputs or Outputs to the current account.
Inputs/Outputs:
This field is used to add/remove Inputs or Outputs to/from the current account.
To add Inputs or Outputs to the current account, press the Ctrl key and click on the Inputs/Outputs of the device selected in the previous field. The selected Inputs/Outputs are marked dark blue and their IDs are listed at the right side of the Input/Output field.
The Secure Power Switch Master supports number of peripherals which are clearly identified by specific ID Codes.

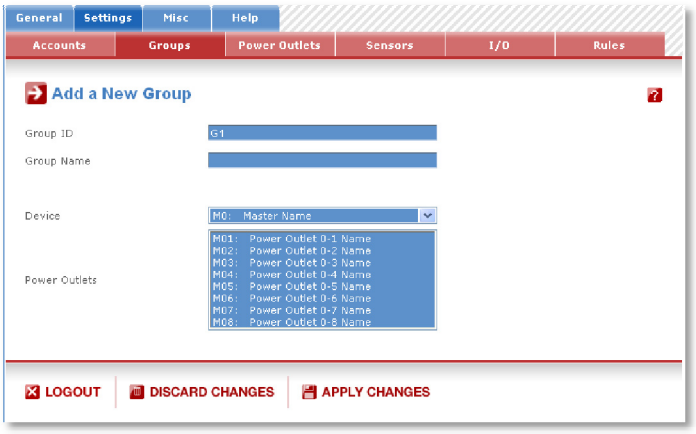
LOGOUT:
Click "Logout" at the bottom of the page to exit the session without saving changes.
DISCARD CHANGES:
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.
APPLY CHANGES:
Click "Apply Changes" at the bottom of the page to save changes.

3.3.7. Settings / Groups

This page is used to create, modify and delete groups of power outlets which can be controlled by the Secure Power Switch Master. This functionality is particularly useful if you have to control the power supply of devices using redundant power supplies. You can create groups including several power outlets distributed on several Power Switch Satellite devices.



- To delete an existing group, click on "Delete" of the corresponding device.
- To add or remove power outlets to/from an existing group, click on "Edit" of the corresponding device.
- To deactivate a Group, uncheck the box "Activated" of the corresponding group.
- To add a new group, click on "Add a New Group" on the right side of the page. A new page appears, allowing you to set all parameters of the group.

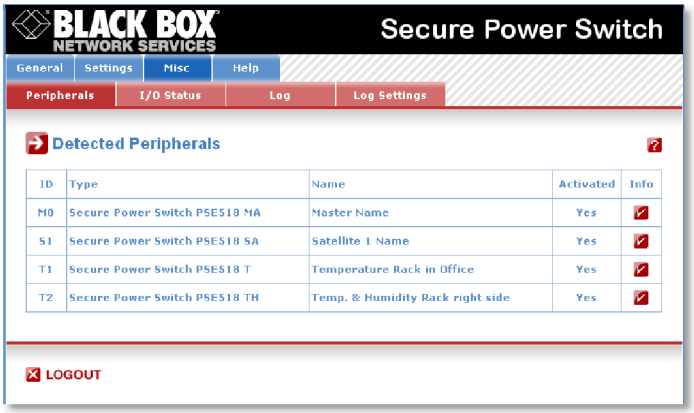


Group Id:
The Secure Power Switch Master automatically creates an ID Code to clearly identify each group of power outlets. All the ID Codes used to identify groups start with the letter "G".
Group Name:
In this field, enter the name you want to give to the selected group. The name can be from 1 to 32 characters long, and can contain alphanumeric characters.
Device:
In this drop-down list, choose an Secure Power Switch Master from which you want to add power outlets to the selected group.
Power Outlets:
This field is used to add and remove power outlets to/from the group.
- To add power outlets to the group, press the Ctrl key and click on the power outlets of the Secure Power Switch Master selected in the field above. The selected power outlets are marked dark blue and their names are listed at the right of the field "Power Outlets".
- To remove a power outlet from the group, press the Ctrl key and click on the power outlet you wish to remove.

LOGOUT:
Click "Logout" at the bottom of the page to exit the session without saving changes.
DISCARD CHANGES:
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.
APPLY CHANGES:
Click "Apply Changes" at the bottom of the page to save changes.

3.3.8. Settings / Peripherals

The Peripherals page is used to enable and configure the xBus peripherals which have been connected to the Secure Power Switch Master. This page is also very useful to give an overview of all the peripherals which are or have been connected to the Secure Power Switch Master.



Following xBus peripherals can be connected to the Secure Power Switch Master:

- 16 x Power Switch Satellite 1 or 8-port,
- 16 x EnergyMeter for real-time power consumption measuring,
- 16 x current probes,
- 32 x sensors (temperature, temperature and humidity and temperature and ambient light),
- 16 x Digital Input Modules with 16 digital inputs or 16 x push buttons or 16 x IR proximity sensors,
- any xBus Extenders,
- any xBus Optocouplers.

You can connect an xBus peripheral to the RJ45 connector on the Secure Power Switch Master or behind an xBus peripheral already connected to the Secure Power Switch Master (Daisy Chain Connection).

Connecting an xBus peripheral to the Secure Power Switch Master:

1. Set the dip switches of the xBus peripheral so that the selected I/O address does not conflict with another peripheral already connected to the xBus (see user's guide of the corresponding peripheral).

Note **- Do NOT connect the xBus cable (and the power cable if need be) before setting its DIP switches**
- Do NOT use the same address for two different xBus peripherals

2. Using a standard RJ45 Network cable, connect the xBus peripheral to the RJ45 xBus connector on the Secure Power Switch Master or behind an xBus peripheral already connected to the Secure Power Switch Master.

After connecting an xBus peripheral, you MUST enable it in the Peripherals Page:

1. Open your browser and log in to the Administrator's Configuration Page (default: http://192.168.100.200/sysadmin.htm)

2. Enter the administrator name and password (default for both = admin).
   => The home page appears.

3. Click on the Settings and then on the Peripherals Tab.

If the peripheral is properly connected to the Secure Power Switch Master it will be automatically recognized and displayed on this page after a delay of 1 to 60 seconds. In this case, the colour of the corresponding Edit and Info symbol is red.

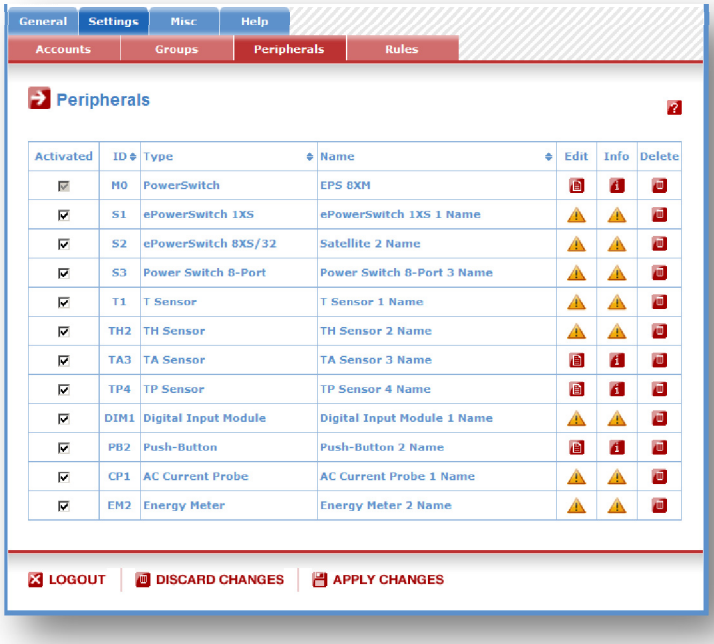
Note **The Peripheral page is not automatically refreshed, so you need to refresh it by clicking the peripheral TAB again (or push [F5] or press <CTRL-R> on your keyboard if you use Internet Explorer or Mozilla Firefox).**

Problem / Troubleshooting

- *If you choose any setting that is already in use by another xBus peripheral connected to the Secure Power Switch Master, an address conflict occurs and the corresponding Edit and Info symbol of the previous connected peripheral will be replaced by a yellow warning triangle. In that case, disconnect your last connected peripheral, remove its power cable if need be, change the DIP switch settings to solve the address conflict and reconnect the peripheral. If the conflict is solved, all connected peripherals will appear on the Peripherals page and their Edit and Info Symbol will be red.*

- *The yellow warning triangle is also displayed to point out that a connected xBus peripheral can no longer be reached (for instance if a cable is disconnected).*

- *The Peripheral page is not automatically refreshed, so you need to refresh it by clicking the peripheral TAB again (or push [F5] or press <CTRL-R> on your keyboard if you use Internet Explorer or Mozilla Firefox).*



The Peripherals page is used to configure all peripherals connected to the Secure Power Switch Master.

- To activate a peripheral, check the box "Activated" of the corresponding device.
- To deactivate a peripheral, uncheck the box "Activated" of the corresponding device. Even if the device remains physically connected to the Secure Power Switch Master, it will no longer be accessible by its authorized users.

Note **The Secure Power Switch Master cannot be deactivated.**

- To remove a peripheral, click on the corresponding “Delete” button.

Note **A peripheral cannot be deleted if it belongs to a group or a rule. In that case, you will first have to delete it from the group or the rule**.

- To know the Firmware version of a device, click on the corresponding “Info” button.
- To configure or modify the settings of a device, click on the corresponding "Edit" button.

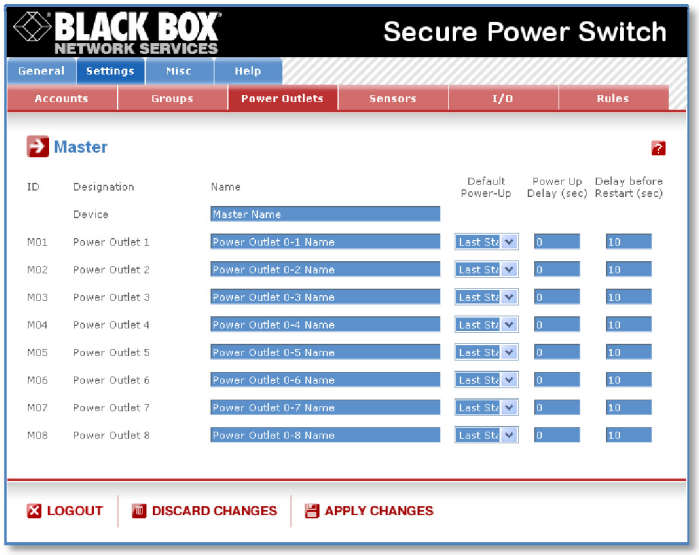
3.3.8.1. Settings / Peripherals - Secure Power Switch Master

This page enables to label the device power supply inputs, the 8 digital inputs and 4 outputs located on the I/O Extension Module (option) and the 8 power outlets of the Secure Power Switch Master. Names of up to 32 alphanumeric characters in length are supported and appear in log files, Syslog messages, SNMP traps and Emails to avoid confusions.

1. Open you browser and log in to the Administrator's Page, (ex. http://192.168.100.200/sysadmin.htm).

2. Enter the administrator name and password (default for both = admin). The home page appears.

3. Click on the Settings Tab, on the Peripherals Tab and then on the Edit symbol.
   Following new page appears, allowing you to define the labels.



ID:
The Secure Power Switch Master automatically creates an ID Code to clearly identify each device and each input.

- M0 identifies the Secure Power Switch Master device,
- PW followed by "A", "B" or "X" identifies power supply input A, B and auxiliary power input,
- DI followed by 1 to 8 identifies the Digital Inputs of the I/O Extension Module (option),
- EM identifies the I/O Extension Module (option),
- O followed by 1 to 8 identifies the power outlets.

Name:
In these fields, enter the name you want to give to the selected device, its power outlets, digital inputs or outputs and power supplies. The name can be from 1 to 32 characters long, and can contain alphanumeric characters.

Power Supplies:
In this field, enter the name you want to give to the two power inputs A and B and to the auxiliary power input. The name can be from 1 to 32 characters long and can contain alphanumeric characters.

Digital inputs:
In this field, enter the name you want to give to each Digital Input of the I/O Extension Module connected to the Secure Power Switch Master (option). The name can be from 1 to 32 characters long and can contain alphanumeric characters.

Power Outlets:
In this field, enter the name you want to give to each power outlet of the Secure Power Switch Master. The name can be from 1 to 32 characters long and can contain alphanumeric characters.
Default Power-Up:
In the drop-down lists, choose for each power outlet the default status to apply after power-up.
You can choose between:
- "On" if you want the corresponding power outlet to be always switched On after power-up.
- "Off" if you want the corresponding power outlet to be always switched Off after power-up.
- "Last Status" if you want that the corresponding power outlet takes again the state it was in before power failure.

Power up delay:
In this field, enter the power up delay you want to define for each power outlet. Power up delay means the delay before the power outlet will take the defined status after power up. The delay can be set between 1 and 65535 seconds, the value 0 means that no delay has to be applied after power up.
Function delay:
In this field, enter the delay you want to define before the execution of a function (for example Restart function of an outlet).

Digital outputs:
In this field, enter the name you want to give to each Digital Output of the I/O Extension Module connected to the Secure Power Switch Master (option). The name can be from 1 to 32 characters long and can contain alphanumeric characters.

LOGOUT:
Click "Logout" at the bottom of the page to exit the session without saving changes.
DISCARD CHANGES:
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.
APPLY CHANGES:
Click "Apply Changes" at the bottom of the page to save changes.

3.3.8.2. Settings / Peripherals - Power Switch Satellite

Up to 16 Power Switch Satellite1 or 8-port can be attached to the Power Switch Master to remotely turn electrical devices on/off or reboot them.

You can connect a Power Switch Satellite to the RJ45 connector on the Power Switch Master or behind an xBus peripheral already connected to the Power Switch Master (Daisy Chain Connection).

To connect a Power Switch Satellite to the Power Switch Master, use following procedure:

1. Set the dip switches of the Power Switch Satellite so that the selected I/O address does not conflict with another Power Switch already installed (see user's guide of the corresponding Power Switch Satellite).
   - Do NOT connect the xBus cable and the power cable before setting its DIP switches,
   - Do NOT use the same address for two different Secure Power Switch Master devices.

2. Using a standard RJ45 network cable, connect the Power Switch Satellite to the xBus connector on the Power Switch Master or behind another xBus peripheral already connected to the Power Switch Master.

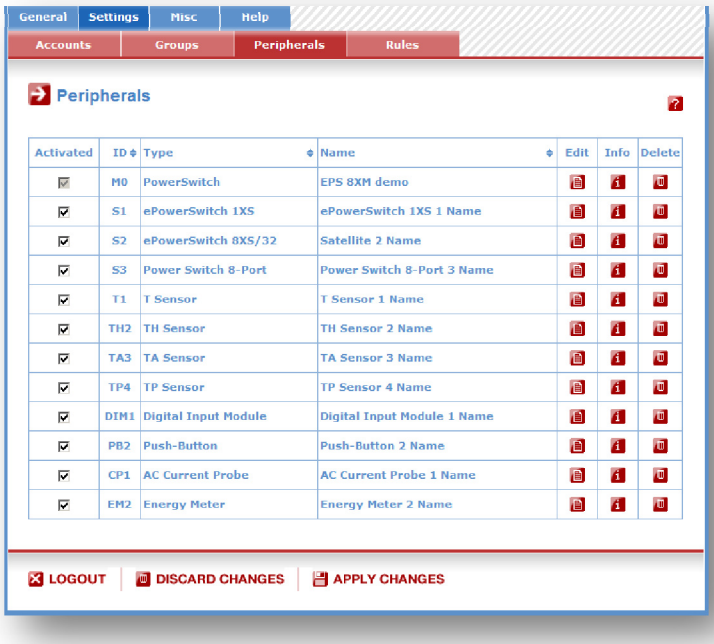
3. Connect the power cable(s) to your Power Switch Master device.

To configure the Power Switch Satellite, use following Log in procedure:

1. Open you browser and log in to the Administrator's Configuration Page,
   (ex. http://192.168.100.200/sysadmin.htm).

2. Enter the administrator name and password (default for both = admin). The home page appears.

3. Click on the Settings and then on the Peripherals Tab.



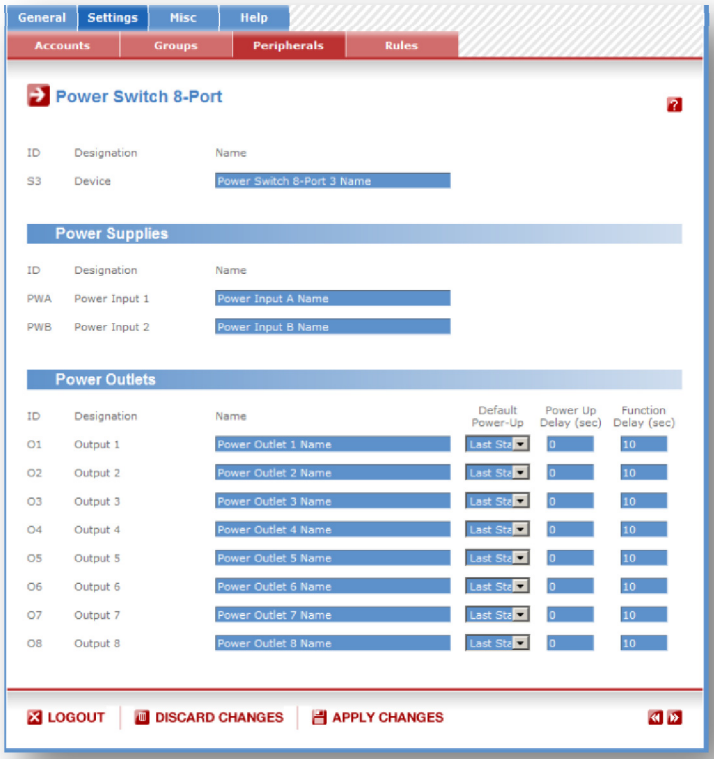
If the Power Switch Satellite is properly connected to the Power Switch Master it will be automatically recognized and displayed on this page after a delay of up to 60 seconds. In this case, the colour of the corresponding Edit and Info symbol is red.

The Peripheral page is not automatically refreshed, so you need to refresh it by clicking the peripheral TAB again (or push [F5] or press <CTRL-R> on your keyboard if you use Internet Explorer or Mozilla Firefox).

Problem / Troubleshooting

- *If you choose any setting that is already in use by another Power Switch connected to the Power Switch Master, a conflict occurs and the corresponding Edit and Info symbol of the previous connected Power Switch will be changed to black. In that case, disconnect your last connected Power Switch, remove its power cable, change the DIP switch settings to solve the address conflict and reconnect the Power Switch again. If the conflict is solved, all connected Power Switch Satellites will now appear on the Peripherals page and their Edit and Info Symbol will be red.*
- *The Peripheral page is not automatically refreshed, so you need to refresh it by clicking the peripheral TAB again (or push [F5] or press <CTRL-R> on your keyboard if you use Internet Explorer or Mozilla Firefox).*

4. To configure or modify the settings of the connected Power Switch Satellite device, click on the corresponding "Edit" button in the Peripherals page. A new page appears, allowing you to set all the parameters of the Power Switch Satellite device.



ID:

The Secure Power Switch Master automatically creates an ID Code to clearly identify each connected Power Switch Satellite, its power input(s) and its power outlet(s).

- S followed by a number between 1 and 16 identifies the Power Switch Satellite unit,
- I followed by "A" or "B" identifies the current input A and B of the Power Switch Satellite /32,
- PW followed by "A" or "B" identifies power supply input A and B of each Power Switch Satellite,
- O followed by 1 to 8 identifies the power outlet output.

Name:

In this field, enter the name you want to give to the selected Power Switch Satellite. The name can be from 1 to 32 characters long and can contain alphanumeric characters.

Analog Inputs:

Only for Satellite /32

Name:
In this field, enter the name you want to give to the two current inputs A and B. The name can be from 1 to 32 characters long and can contain alphanumeric characters.

Unit:
In this field enter the unit of measurement you want to be displayed.

Graph:
Check this box if you want a display of the analog inputs.

Period (minutes):
In this field enter the period between two measurements.

Power Supplies:
In this field, enter the name you want to give to the two power input A or B. The name can be from 1 to 32 characters long and can contain alphanumeric characters.

Power Outlets:
In this field, enter the name you want to give to each power outlet of the Power Switch Satellite. The name can be from 1 to 32 characters long and can contain alphanumeric characters.

Default Power-Up:
In the drop-down lists, choose for each power outlet the default status to apply after power-up.
You can choose between:
- "On" if you want the corresponding power outlet to be always switched On after power-up.
- "Off" if you want the corresponding power outlet to be always switched Off after power-up.
- "Last Status" if you want that the corresponding power outlet takes again the state it was in before power failure.

Power up delay:
In this field, enter the power up delay you want to define for each power outlet. Power up delay means the delay before the power outlet will take the defined status after power up. The delay can be set between 1 and 65535 seconds, the value 0 means that no delay has to be applied after power up.

Function delay:
In this field, enter the delay you want to define before the execution of a function (for example Restart function of an outlet).

LOGOUT:
Click "Logout" at the bottom of the page to exit the session without saving changes.

DISCARD CHANGES:
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.

APPLY CHANGES:
Click "Apply Changes" at the bottom of the page to save changes.

3.3.8.3. Settings / Peripherals - Analog inputs

Up to 32 temperature, temperature and humidity, temperature and ambient light sensors can be attached to the Secure Power Switch Master to monitor environmental conditions.

Only 16 temperature and IR proximity sensors can be attached to the Secure Power Switch Master to monitor temperature change and detect presence of a target. The IR proximity sensor acts as a digital input like the DIM module (see § 3.3.8.4.2).

You can connect a sensor to the RJ45 connector on the Power Switch Master or behind an xBus peripheral already connected to the Power Switch Master (Daisy Chain Connection).

To connect a sensor to the Power Switch Master, use following procedure:

1. Set the dip switches of the sensor so that the selected I/O address does not conflict with another sensor already installed (see user's guide of the corresponding sensor).
   - Do NOT connect the xBus cable before setting its DIP switches
   - Do NOT use the same address for two different sensors

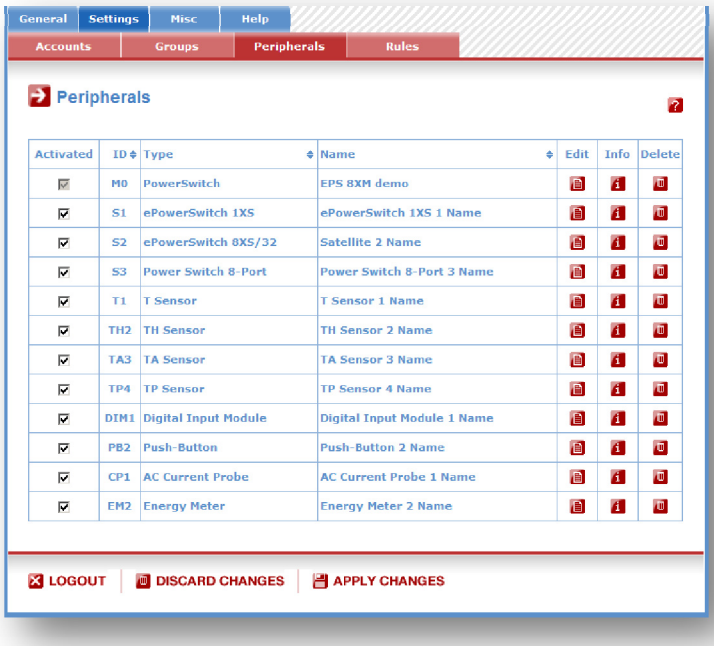
2. Using a standard RJ45 network cable, connect the sensor to the RJ45 xBus connector on the Power Switch Master or behind another xBus peripheral already connected to the Power Switch Master.

To configure the sensor, use following Log in procedure:

1. Open you browser and log in to the Administrator's Configuration Page, (ex. http://192.168.100.200/sysadmin.htm).

2. Enter the administrator name and password (default for both = admin). The home page appears.

3. Click on the Settings and then on the Peripherals Tab.



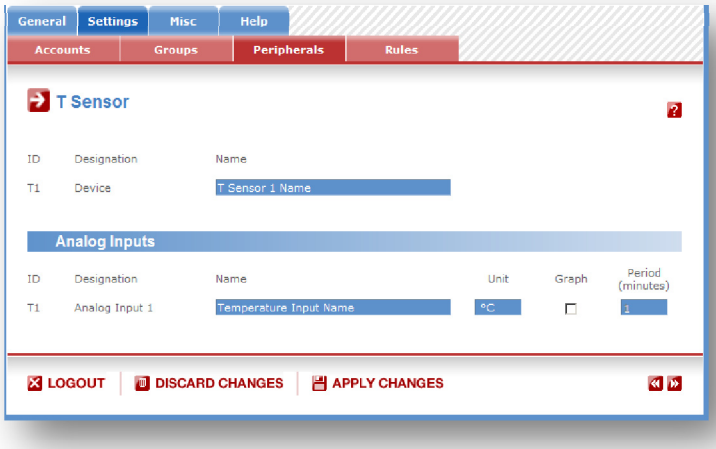
If the sensor is properly connected to the Power Switch Master it will be automatically recognized and displayed on this page after a delay of up to 60 seconds. In this case, the colour of the corresponding Edit and Info symbol is red.

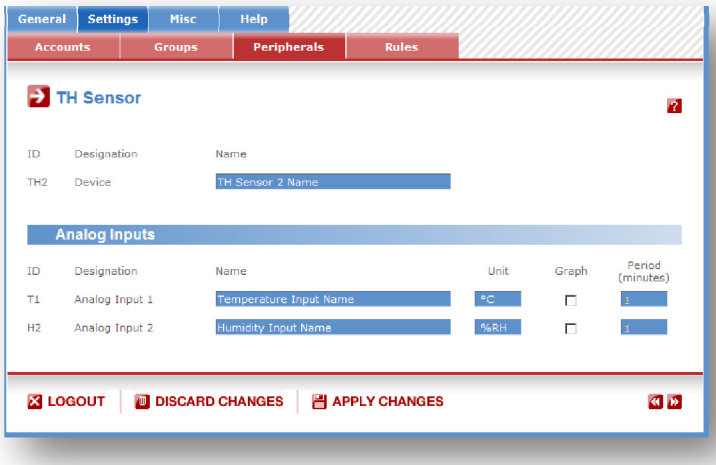
The Peripheral page is not automatically refreshed, so you need to refresh it by clicking the peripheral TAB again (or push [F5] or press <CTRL-R> on your keyboard if you use Internet Explorer or Mozilla Firefox).

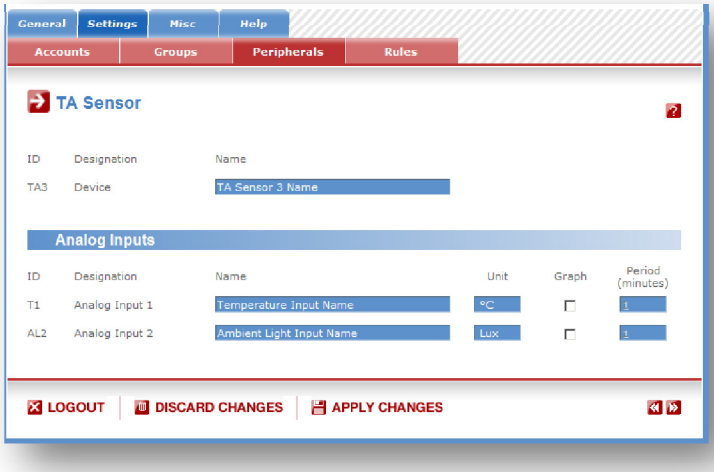
Problem / Troubleshooting

- *If you choose any setting that is already in use by another sensor connected to the Power Switch, a conflict occurs and the corresponding Edit and Info symbol of the previous connected sensor will be changed to black. In that case, disconnect your last connected sensor, change the DIP switch settings to solve the address conflict and reconnect the sensor again. If the conflict is solved, all connected sensors will now appear on the Peripherals page and their Edit and Info Symbol will be red.*
- *The Peripheral page is not automatically refreshed, so you need to refresh it by clicking the peripheral TAB again (or push [F5] or press <CTRL-R> on your keyboard if you use Internet Explorer or Mozilla Firefox).*

4. To configure or modify the settings of a sensor, click on the corresponding "Edit" button in the Peripherals page. A new page appears, allowing you to set all the parameters of the temperature (T), temperature and humidity (TH) or temperature and ambient light (TA) sensors.







Sensor ID:
The Secure Power Switch Master automatically creates an ID Code to clearly identify each connected sensor.

- T followed by a number between 1 and 32 identifies each temperature sensor,
- TH followed by a number between 1 and 32 identifies each humidity sensor,
- TA followed by a number between 1 and 32 identifies each ambient light sensor.

Sensor Name:
In this field, enter the name you want to give to the selected sensor. The name can be from 1 to 32 characters long, and can contain alphanumeric characters.

Analog Inputs
Name:
In this field enter the name you want to give to the analog inputs.
Unit:
In this field enter the unit of measurement you want to be displayed (°C, %RH, Lux).
Graph:
Check this box if you want a display of the analog inputs.
Period (minutes):
In this field enter the period between two measurements.

LOGOUT:
Click "Logout" at the bottom of the page to exit the session without saving changes.
DISCARD CHANGES:
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.
APPLY CHANGES:
Click "Apply Changes" at the bottom of the page to save changes.

3.3.8.4. Settings / Peripherals - Digital Inputs

Up to 16 x Digital Input Modules, Push Buttons or Temperature and Proximity sensors can be attached to the Secure Power Switch Master to monitor environmental conditions.

You can connect them the RJ45 connector on the Power Switch Master or behind an xBus peripheral already connected to the Power Switch Master (Daisy Chain Connection).

An I/O Extension Module is also available to connect 8 dry contact inputs and 4 relay outputs to the Secure Power Switch Master (ref. I/O EXT MOD).

3.3.8.4.1. Digital Input Modules

Up to 16 Digital Input Modules with 16 inputs for dry contacts (door contacts, smoke and water detectors…) can be attached to the Power Switch Master to monitor environmental conditions.

To connect a Digital Input Module to the Power Switch Master, use following procedure:

1. Set the dip switches on the bottom of the case so that the selected I/O address does not conflict with another Digital Input Module already installed (see user's guide of the Digital Input Module).

- Do NOT connect the xBus cable and the Power adapter(s) before setting its DIP switches
- Do NOT use the same address for two different Digital Input Modules

2. Using a standard RJ45 network cable, connect the Digital Input Module to the RJ45 xBus connector on the Power Switch Master or behind another xBus peripheral already connected to the Master.

3. Connect the power adapter(s) to your Digital Input Module.

To configure the Digital Input Module, use following Log in procedure:

1. Open you browser and log in to the Administrator's Configuration Page,
   (ex. http://192.168.100.200/sysadmin.htm).

2. Enter the administrator name and password (default for both = admin). The home page appears.

3. Click on the Settings and then on the Peripherals Tab.

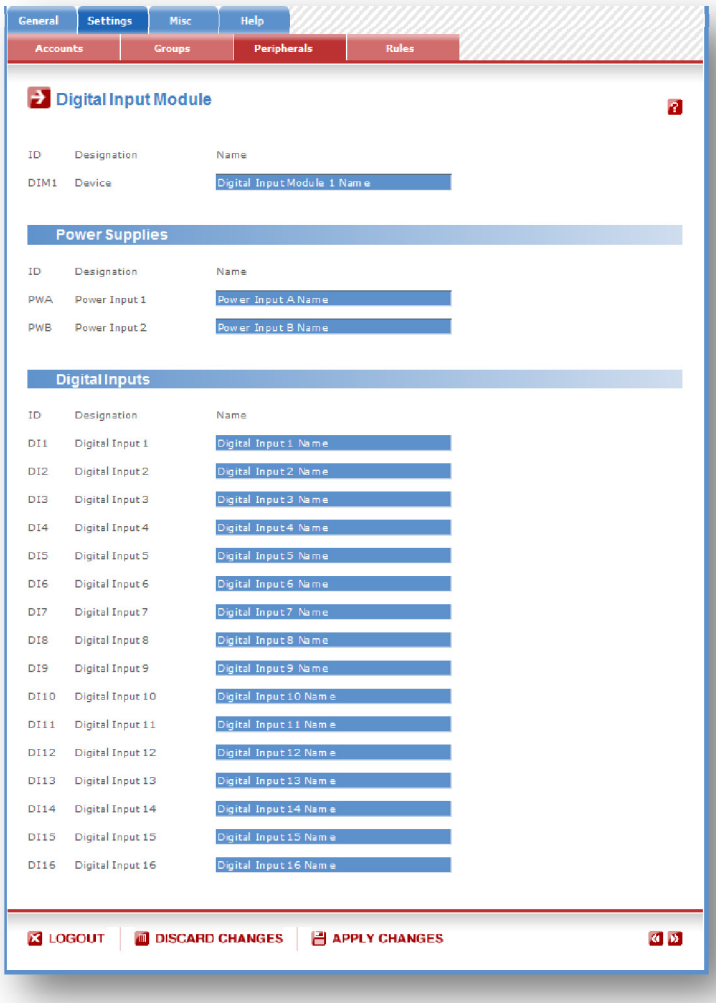
If the Digital Input Module is properly connected to the Power Switch Master it will be automatically recognized and displayed on this page after a delay of up to 60 seconds. In this case, the colour of the corresponding Edit and Info symbol is red.

The Peripheral page is not automatically refreshed, so you need to refresh it by clicking the peripheral TAB again (or push [F5] or press <CTRL-R> on your keyboard if you use Internet Explorer or Mozilla Firefox).

Problem / Troubleshooting

- *If you choose any setting that is already in use by another* Digital Input Module *connected to the Power Switch Master, a conflict occurs and the corresponding Edit and Info symbol of the previous connected* Digital Input Module *will be changed to black. In that case, disconnect your last connected* Digital Input Module*, remove its power adapter(s), change the DIP switch settings to solve the address conflict and reconnect it again. If the conflict is solved, all connected devices will now appear on the Peripherals page and their Edit and Info Symbol will be red.*
- *The Peripheral page is not automatically refreshed, so you need to refresh it by clicking the peripheral TAB again (or push [F5] or press <CTRL-R> on your keyboard if you use Internet Explorer or Mozilla Firefox).*

To configure or modify the settings of the Digital inputs, click on the corresponding "Edit" button in the Peripherals page.
A new page appears, allowing you to set all the parameters of the Digital Inputs.



ID:
The Secure Power Switch Master automatically creates an ID Code to clearly identify each connected Digital Input Module.

- DIM followed by a number between 1 and 16 identifies each Digital Input Module
- PW followed by “A” or “B” identifies power supply input A and B of each Digital Input Module
- DI followed by a number between 1 and 16 identifies each digital input of the module

Name:
In this field, enter the name you want to give to the Digital Input Module. The name can be from 1 to 32 characters long, and can contain alphanumeric characters.

Power Supplies:
In this field, enter the name you want to give to the two power supplies “PWA” and “PWB”. The name can be from 1 to 32 characters long, and can contain alphanumeric characters.

Digital Inputs
Name:
In this fields, enter the name you want to give to each Digital Input. The name can be from 1 to 32 characters long, and can contain alphanumeric characters.

LOGOUT:
Click "Logout" at the bottom of the page to exit the session without saving changes.
DISCARD CHANGES:
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.
APPLY CHANGES:
Click "Apply Changes" at the bottom of the page to save changes.

3.3.8.4.2. Temperature and proximity sensors

Up to 16 temperature and proximity sensors can be attached to the Power Switch Master to monitor temperature change and detect presence of a target

The IR proximity sensor acts as a digital input like the Digital Input Module or the Push Button.

You can connect a sensor to the RJ45 connector on the Power Switch Master or behind an xBus peripheral already connected to the Master (Daisy Chain Connection).

To connect a sensor to the Power Switch Master, use following procedure:

1. Set the dip switches of the sensor so that the selected I/O address does not conflict with another sensor already installed (see user's guide of the corresponding sensor).

- Do NOT connect the xBus cable before setting its DIP switches.
- Do NOT use the same address for two different sensors.

2. Using a standard RJ45 network cable, connect the sensor to the RJ45 xBus connector on the Power Switch Master or behind another xBus peripheral already connected to the Master.

To configure the sensor, use following Log in procedure:

1. Open you browser and log in to the Administrator's Configuration Page, (ex. http://192.168.100.200/sysadmin.htm).

2. Enter the administrator name and password (default for both = admin). The home page appears.

3. Click on the Settings and then on the Peripherals Tab.

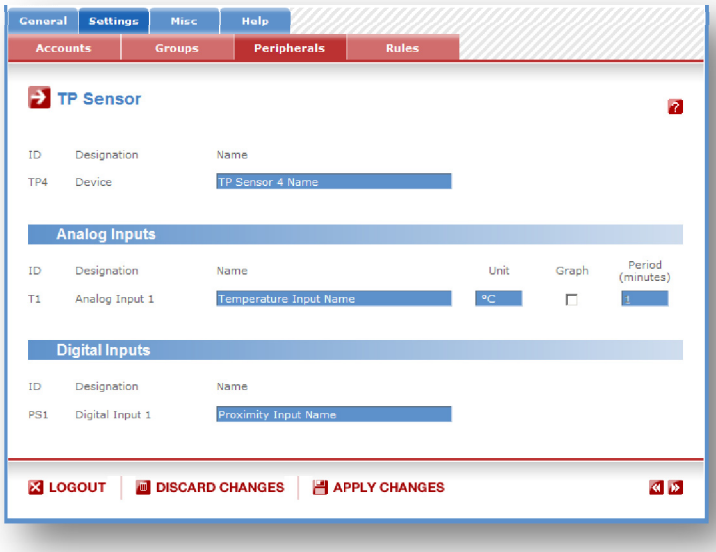
If the sensor is properly connected to the Power Switch Master it will be automatically recognized and displayed on this page after a delay of up to 60 seconds. In this case, the colour of the corresponding Edit and Info symbol is red.

The Peripheral page is not automatically refreshed, so you need to refresh it by clicking the peripheral TAB again (or push [F5] or press <CTRL-R> on your keyboard if you use Internet Explorer or Mozilla Firefox).

Problem / Troubleshooting

- *If you choose any setting that is already in use by another sensor connected to the Master, a conflict occurs and the corresponding Edit and Info symbol of the previous connected sensor will be changed to black. In that case, disconnect your last connected sensor, change the DIP switch settings to solve the address conflict and reconnect the sensor again. If the conflict is solved, all connected sensors will now appear on the Peripherals page and their Edit and Info Symbol will be red.*
- *The Peripheral page is not automatically refreshed, so you need to refresh it by clicking the peripheral TAB again (or push [F5] or press <CTRL-R> on your keyboard if you use Internet Explorer or Mozilla Firefox).*

To configure or modify the settings of a sensor, click on the corresponding "Edit" button in the Peripherals page. A new page appears, allowing you to set all the parameters of the temperature & proximity (TP) sensors.



Sensor ID:
The Power Switch Master automatically creates an ID Code to clearly identify each connected sensor.

- TP followed by a number between 1 and 16 identifies each proximity sensor.

Note **The Power Switch Master supports a total of up to 16 temperature and proximity sensors.**

Sensor Name:
In this field, enter the name you want to give to the selected sensor. The name can be from 1 to 32 characters long, and can contain alphanumeric characters.

Analog Inputs
Name:
In this field enter the name you want to give to the analog inputs.
Unit:
In this field enter the unit of measurement you want to be displayed (°C).
Graph:
Check this box if you want a display of the analog inputs.
Period (minutes):
In this field enter the period between two measurements.

Digital Inputs
Name:
In this field enter the name you want to give to the digital input.

LOGOUT:
Click "Logout" at the bottom of the page to exit the session without saving changes.
DISCARD CHANGES:
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.
APPLY CHANGES:
Click "Apply Changes" at the bottom of the page to save changes.

3.3.8.4.3. Push Button

Up to 16 Push buttons can be attached to the Power Switch Master to trigger manually pre-programmed actions.

You can connect a Push Button to the RJ45 connector on the Master or behind an xBus peripheral already connected to the Power Switch Master (Daisy Chain Connection).

To connect a Push button to the Power Switch Master, use following procedure:

1. Set the dip switches of the Push button so that the selected I/O address does not conflict with another Push button or another Digital Input Module already installed (see user's guide of the Push button).

Note **- Do NOT connect the xBus cable before setting its DIP switches.**
- Do NOT use the same address for two different Push buttons.

2. Using a standard RJ45 network cable, connect the Push button to the RJ45 xBus connector on the Power Switch Master or behind another xBus peripheral already connected to the Master.

To configure the Push button, use following Log in procedure:

1. Open you browser and log in to the Administrator's Configuration Page, (ex. http://192.168.100.200/sysadmin.htm).

2. Enter the administrator name and password (default for both = admin). The home page appears.

3. Click on the Settings and then on the Peripherals Tab.

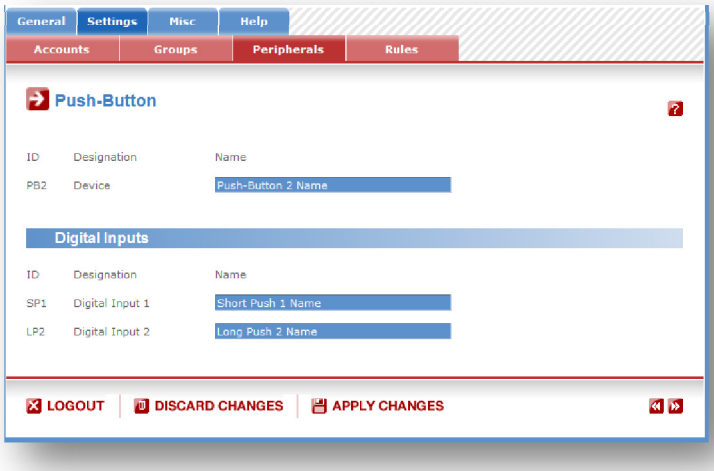
If the Push button is properly connected to the Power Switch Master it will be automatically recognized and displayed on this page after a delay of 1 to 60 seconds. In this case, the colour of the corresponding Edit and Info symbol is red.

Note **The Peripheral page is not automatically refreshed, so you need to refresh it by clicking the peripheral TAB again (or push [F5] or press <CTRL-R> on your keyboard if you use Internet Explorer or Mozilla Firefox).**

Problem / Troubleshooting

- *If you choose any setting that is already in use by another* Push button or another Digital Input Module *connected to the Power Switch Master, a conflict occurs and the corresponding Edit and Info symbol of a previous connected* Push button or Digital Input Module *will be changed to black. In that case, disconnect your last connected* Push button*, change the DIP switch settings to solve the address conflict and reconnect the* Push button *again. If the conflict is solved, all connected devices will now appear on the Peripherals page and their Edit and Info Symbol will be red.*
- *The Peripheral page is not automatically refreshed, so you need to refresh it by clicking the peripheral TAB again (or push [F5] or press <CTRL-R> on your keyboard if you use Internet Explorer or Mozilla Firefox).*

To configure or modify the settings of the Push Button, click on the corresponding "Edit" button in the Peripherals page. A new page appears, allowing you to set all the parameters of the connected Push Buttons.



ID:
The Power Switch Master automatically creates an ID Code to clearly identify each Push button.

- PB followed by a number between 1 and 16 identifies each Push button
- SP1 identifies each "Short Push" action (during less than 1 second)
- LP2 identifies each "Long Push" action (during more than 3 seconds)

Name:
In this field, enter the name you want to give to the selected Push button. The name can be from 1 to 32 characters long, and can contain alphanumeric characters.

Digital Inputs
Name:
In these fields enter the name of the two type of action (Short Push or Long Push).

LOGOUT:
Click "Logout" at the bottom of the page to exit the session without saving changes.
DISCARD CHANGES:
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.
APPLY CHANGES:
Click "Apply Changes" at the bottom of the page to save changes.

3.3.8.5. Settings / Peripherals - AC Current Probe

Up to 16 AC Current probes can be attached to the Power Switch Master to monitor the current consumption of an electrical device (PC, server, light, printer…) and trigger actions if predefined limits are exceeded.

You can connect an AC Current probe to each of the RJ45 connector on the Power Switch Master or behind an xBus peripheral already connected to the Master (Daisy Chain connection).

To connect an AC Current probe to the Secure Power Switch Master, use following procedure:

1. Set the dip switches of the AC Current probe so that the selected I/O address does not conflict with another AC Current probe already installed (see user's guide of the AC Current probe)

Note **- Do NOT connect the xBus cable and the power cable before setting its DIP switches**
- Do NOT use the same address for two different AC Current probes

2. Using a standard RJ45 network cable, connect the AC Current probe to the RJ45 xBus connector on the Power Switch Master or behind another AC Current probe already connected to the Master.

3. Connect the power cable to your device

To configure the Current Probe, use following Log in procedure:

1. Open you browser and log in to the Administrator's Configuration Page, (ex. http://192.168.100.200/sysadmin.htm).

2. Enter the administrator name and password (default for both = admin). The home page appears.

3. Click on the Settings and then on the Peripherals Tab

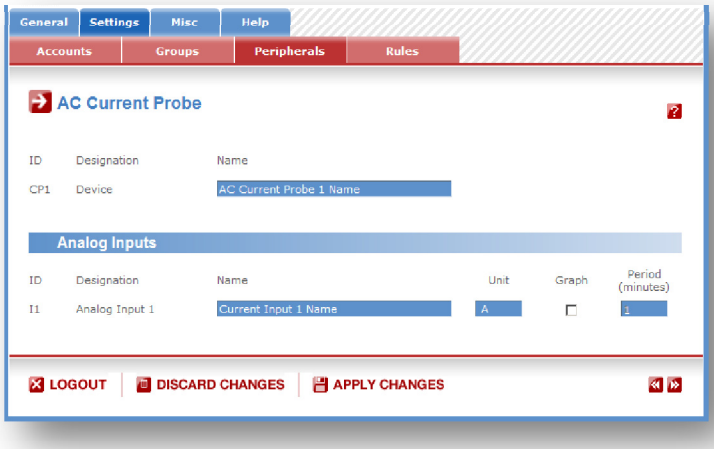
If the AC Current probe is properly connected to the Power Switch Master it will be automatically recognized and displayed on this page after a delay of 1 to 60 seconds. In this case, the colour of the corresponding Edit and Info symbol is red.

Note **The Peripheral page is not automatically refreshed, so you need to refresh it by clicking the peripheral TAB again (or push [F5] or press <CTRL-R> on your keyboard if you use Internet Explorer or Mozilla Firefox).**

Problem / Troubleshooting

- *If you choose any setting that is already in use by another* AC Current probe *connected to the Power Switch Master, a conflict occurs and the corresponding Edit and Info symbol of the previous connected* AC Current probe *will be changed to black. In that case, disconnect your last connected* AC Current probe*, remove its power cable, change the DIP switch settings to solve the address conflict and reconnect the* AC Current probe *again. If the conflict is solved, all connected* AC Current probes *will now appear on the Peripherals page and their Edit and Info Symbol will be red.*
- *The Peripheral page is not automatically refreshed, so you need to refresh it by clicking the peripheral TAB again (or push [F5] or press <CTRL-R> on your keyboard if you use Internet Explorer or Mozilla Firefox).*

4. To configure or modify the settings of an AC Current Probe, click on the corresponding "Edit" button in the Peripherals page. A new page appears, allowing you to set all the parameters of the connected AC Current Probe.



ID:
The Power Switch Master automatically creates an ID Code to clearly identify each Current Probe.

- CP followed by a number between 1 and 16 identifies each current probe
- I1 identifies the current analog input.

Name:
In this field, enter the name you want to give to the selected current probe. The name can be from 1 to 32 characters long, and can contain alphanumeric characters.

Analog Inputs
Name:
In this field, enter the name you want to give to the analog input. The name can be from 1 to 32 characters long, and can contain alphanumeric characters.
Unit:
In this field enter the unit of measurement you want to be displayed.
Graph:
Check this box if you want a display of the analog inputs.
Period (minutes):
In this field enter the period between two measurements.

LOGOUT:
Click "Logout" at the bottom of the page to exit the session without saving changes.
DISCARD CHANGES:
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.
APPLY CHANGES:
Click "Apply Changes" at the bottom of the page to save changes.

3.3.8.6. Settings / Peripherals - Energy Meter

Up to 16 EnergyMeters can be attached to the Secure Power Switch Master to monitor the energy consumption (kWh) and the current consumption (Amp RMS) of eight electrical devices (PC, server, light, printer…) and trigger actions if predefined limits are exceeded. The EnergyMeter is also able to monitor the Input voltage of both 16 Amps power inputs.

You can connect an EnergyMeter to the RJ45 connector located on the Secure Power Switch Master or behind an xBus peripheral already connected to the Secure Power Switch Master (Daisy Chain connection).

To connect an EnergyMeter to the Secure Power Switch Master, use following procedure:

1. Set the dip switches of the EnergyMeter so that the selected I/O address does not conflict with another EnergyMeter already installed (see user's guide of the EnergyMeter).

- Do NOT connect the xBus cable and the Power cable(s) before setting its DIP switches.
- Do NOT use the same address for two different AC Current probes.

2. Using a standard RJ45 Network cable, connect the EnergyMeter to the RJ45 xBus connector on the Power Switch Master or behind another xBus peripheral already connected to the Master.

3. Connect the power cable(s) to your EnergyMeter.

To configure the EnergyMeter, use following Log in procedure:

1. Open you browser and log in to the Administrator's Configuration Page,
(ex. http://192.168.100.200/sysadmin.htm).

2. Enter the administrator name and password (default for both = admin). The home page appears.

3. Click on the Settings and then on the Peripherals Tab.

If the EnergyMeter is properly connected to the Power Switch Master it will be automatically recognized and displayed on this page after a delay of 1 to 60 seconds. In this case, the colour of the corresponding Edit and Info symbol is red.

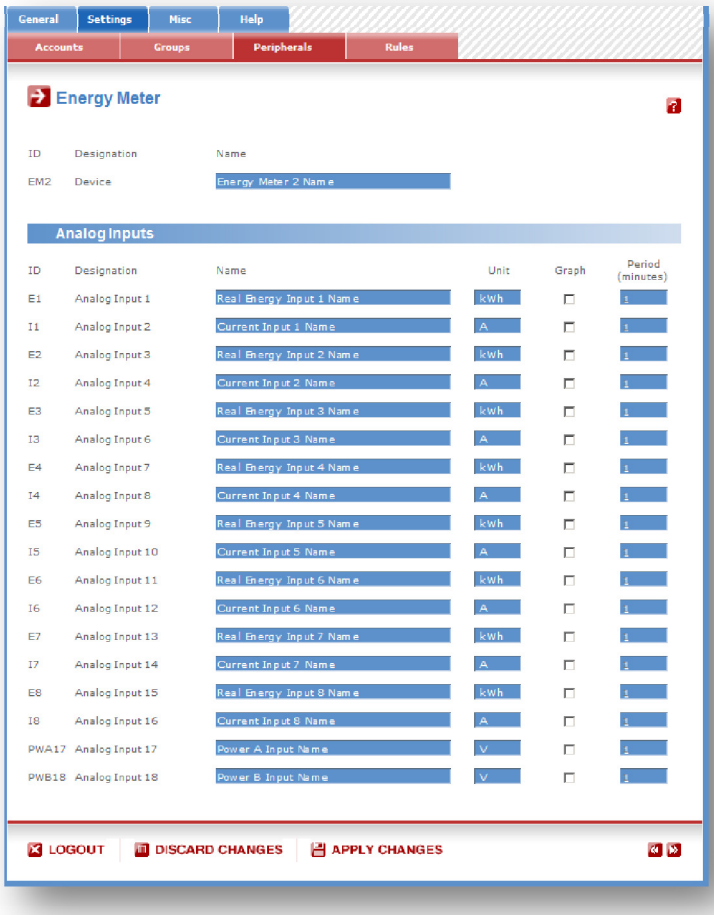
The Peripheral page is not automatically refreshed, so you need to refresh it by clicking the peripheral TAB again (or push [F5] or press <CTRL-R> on your keyboard if you use Internet Explorer or Mozilla Firefox).

Problem / Troubleshooting

- *If you choose any setting that is already in use by another* EnergyMeter *connected to the Secure Power Switch Master, a conflict occurs and the corresponding Edit and Info symbol of the previous connected* EnergyMeter *will be changed to black. In that case, disconnect your last connected* EnergyMeter*, remove its power cable(s), change the DIP switch settings to solve the address conflict and reconnect the* EnergyMeter *again. If the conflict is solved, all connected* EnergyMeter *will now appear on the Peripherals page and their Edit and Info Symbol will be red.*
- *The Peripheral page is not automatically refreshed, so you need to refresh it by clicking the peripheral TAB again (or push [F5] or press <CTRL-R> on your keyboard if you use Internet Explorer or Mozilla Firefox).*

4. To configure or modify the settings of the EnergyMeter, click on the corresponding "Edit" button in the Peripherals page. A new page appears, allowing you to set all the parameters of the Analog Inputs.

   This page is used to configure the connected EnergyMeter.



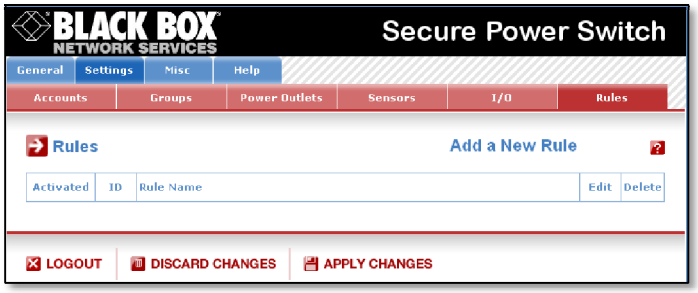
ID:
The Power Switch Master automatically creates an ID Code to clearly identify each Energy Meter. All the ID Codes used to identify an Energy Meter start with the characters "EM" followed by a number.
Name:
In this field, enter the name you want to give to the selected Energy Meter. The name can be from 1 to 32 characters long, and can contain alphanumeric characters.

Analog Inputs
Name:
In this field enter the name you want to give to the analog input.
Unit:
In this field enter the unit of measurement you want to be display (A, kWh, V...).
Graph:
Check this box if you want a display of the analog inputs.
Period (minutes):
In this field enter the period between two measurements.

LOGOUT:
Click "Logout" at the bottom of the page to exit the session without saving changes.
DISCARD CHANGES:
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.
APPLY CHANGES:
Click "Apply Changes" at the bottom of the page to save changes.

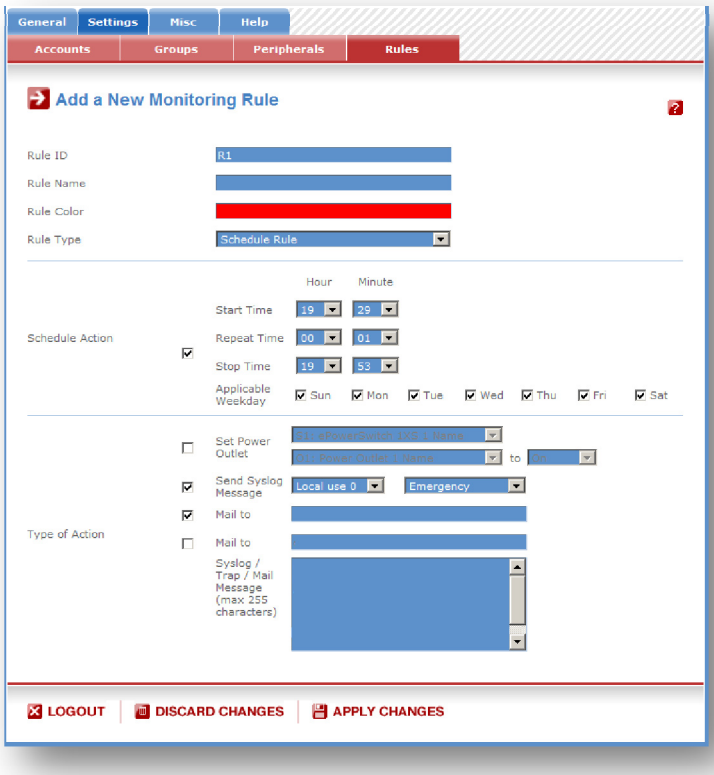
3.3.9. Settings / Rules

Rules are used to control actions according to a specific event. For example, you can define a rule to switch a power outlet OFF and send an alert message using different methods like email, SNMP or Syslog when a temperature, humidity, ambient light or current exceeds a predefined value or when a contact is open.



- To remove an existing rule, click on "Delete" of the corresponding rule.
- To modify a rule, click on "Edit" of the corresponding rule.

This page is used to create, modify and delete rules.
- To add a new rule, click on "Add a New Rule" on the right side of the page.
A new page appears, allowing you to set all the parameters of the rule.



A total of 255 rules can be created and there are 6 different types of rules:

1. Schedule Rule:
This rule can be used to trigger user-specified actions according to a defined time table.

2. Ping Monitoring Rule:
This rule is used to control actions according to the response to a Ping command.

3. Scan Monitoring Rule:
This rule is used to control actions according to the response to a Scan command.

4. Power Supply Monitoring Rule:
This rule is used to control actions according to the state of the power supplies of the Secure Power Switch Master and its peripherals like the Power Switch Satellite units and the Digital Input Module.

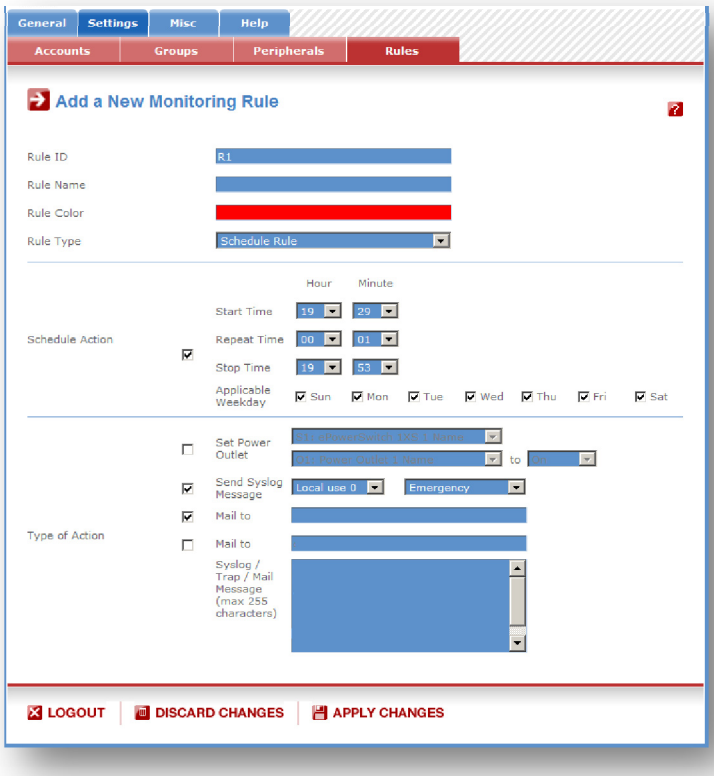
5. Digital Input Monitoring Rule:
This rule is used to control actions according to the state of a dry contact from the I/O Extension Module connected to the Power Switch Master, to a Digital Input Module, Proximity Sensor or a Push Button connected over the xBus to the Power Switch Master.

6. Analog Input Monitoring Rule:
This rule is used to control actions when an analog input (temperature, humidity, ambient light, current...) exceeds a predefined value.

3.3.9.1. Settings / Rules - Schedule Rule

This rule can be used to trigger user-specified actions according to a defined time table. The schedule rule is weekday based and the administrator can declare, for each weekday, a start time, an end time and after what time the rule should be repeated.

The schedule rule can also be used to send status information or sensor values on specified weekdays at regular interval.



Rule ID:
The Secure Power Switch Master automatically creates an ID Code to clearly identify each rule. All the ID Codes used to identify rules start with the letter "R" followed by a number from 1 to 255. If you delete a rule in the middle of the Rule list, the number of this rule will only be used again if no other rule is available.
Rule Name:
In this field, enter the name you want to give to the rule. The name can be from 1 to 32 characters long, and can contain alphanumeric characters.
Rule Color:
In this field, select one of the 48 standard colours you want to use to highlight the rule when executed. To use own colours, just type in the Hex value of the colour you want. The Rule highlighting allows to quickly identify the triggered rule when displayed in the Rule Panel page or in a special users page.
Rule Type:
In this drop-down list, choose Schedule Rule then configure the event and the actions to perform.

Configuring the Event

Schedule Action:
Here you can define the time when the rule has to be executed. In the Drop-Down lists choose the time and below, check one or more day boxes.
Start Time
Defines what time the rule starts.
Repeat Time
Defines the time period in which the rule repeats.

Note **Repeat Time cannot be set to zero.**

Stop Time
Defines what time the rule ends.

- **End Time must be greater than or equal to Start Time.**
- **If the rule has to be executed only once at the selected weekday, enter the same value for Start Time and End Time.**
- **If the rule has to be executed 24 hours at the selected weekday, Start Time must be 1 minute later than EndTime.**

Applicable weekday
Defines which day(s) the rule has to be executed.

Type of Action

For the Event defined above, you can choose and configure following actions:

Set Group:
This type of action appears and can be configured only if you have already created at least one group (Settings/Groups Tab).
Check this box and in the corresponding drop-down list choose the power outlet group the rule will apply to. In the next corresponding drop-down list, choose the action to execute.
Each power outlet group can be switched On/Off and restarted. If you choose "restart" you will also be able to define a restart delay between 0 and 65535 seconds.
- If you choose 0 second, the delay will be the delay defined in the Secure Power Switch Master power outlets settings.
- If you choose a delay different from 0, the delay will replace the delay defined in the Secure Power Switch Master power outlets settings.

Set Power Outlet:
Check this box and in the corresponding drop-down list, choose the power outlet the rule will apply to. In the next corresponding drop-down list, choose the action to execute. Each power outlet can be switched On/Off and restarted. If you choose "restart" you will also be able to define a restart delay between 0 and 65535 seconds.
- If you choose 0 second, the delay will be the delay defined in the Master power outlets settings.
- If you choose a delay different from 0, the delay will replace the delay defined in the Power Switch Master power outlets settings.

Set Digital Output:
Check this box and in the first corresponding drop-down list, choose the device from which one you want to switch a digital output. In the second drop-down list, choose the digital output the rule will apply to. In the next corresponding drop-down list, choose the action to execute. Each digital output can be open, close, pulse open or pulse close. If you choose "pulse...", you will also be able to define a pulse delay between 0 and 65535 seconds.
- If you choose 0 second, the delay will be the delay defined in the Secure Power Switch Master digital output settings.
- If you choose a delay different from 0, the delay will replace the delay defined in the Master digital output settings.

Send Syslog Message:
This type of action appears and can be configured only if you have already created at least one destination Syslog Server (Misc/Log Settings Tab).
Check this box if you want to send a message to a Syslog server. In the following drop-down lists choose the facility and the severity of the message to send. The address of the Syslog server has to be defined in the "Log Settings Page".

Send Trap Message:
This type of action appears and can be configured only if you have already specified at least a destination SNMP Server (General/SNMP Tab).
Check this/these box(es) and specify one or two SNMP addresses in the corresponding field if you want to send SNMP messages to one or two SNMP Servers.

Mail to:
This type of action appears and can be configured only if you have already created a destination SMTP Server (General/SMTP Tab).
Check this/these box(es) and specify one or two e-mail address(es) in the corresponding field if you want to send an e-mail to one or two specific user(s). To send e-mails, you will need a SMTP server on the network and you will have to configure its parameters in the "SMTP Page".

Syslog / Trap / Mail Message:

This field appears only if you have already specified at least one destination Syslog Server (Misc/Log Settings Page), one destination SNMP Server (General/SNMP Page) or a destination SMTP Server (General/SMTP Page).

Up to 255 characters may be entered in this free text field. The text will appear in the Syslog, the Trap and the e-mails.

The message can be completed with the status of an input (a power supply or door contact for example) or the value of a sensor (a temperature sensor for example). For this, simply enter, between two percent characters, the ID of the corresponding input device (for details see § 5.1 Sending status and values using rules).

LOGOUT:

Click "Logout" at the bottom of the page to exit the session without saving changes.

DISCARD CHANGES:

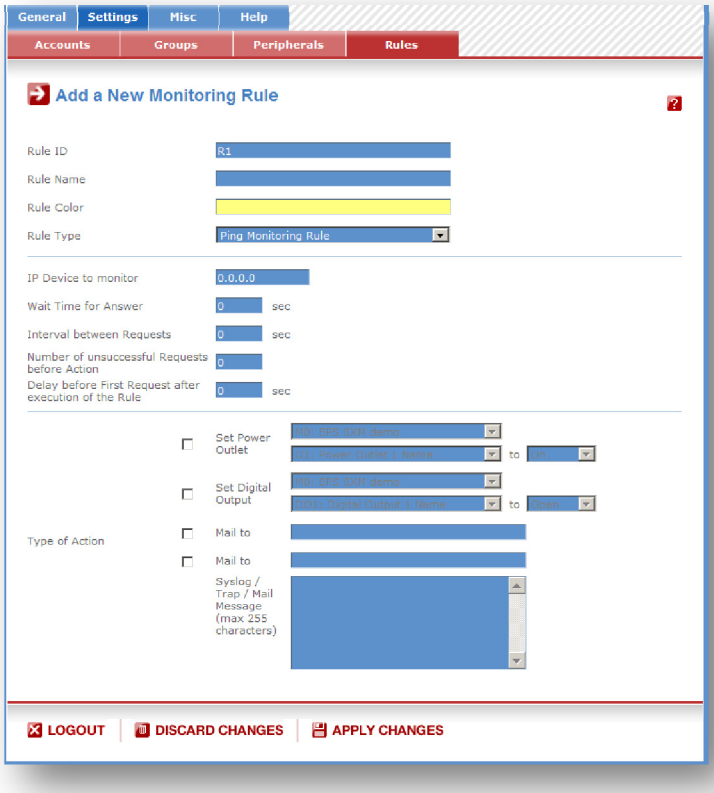
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.

APPLY CHANGES:

Click "Apply Changes" at the bottom of the page to save changes.

3.3.9.2. Settings / Rules - Ping Monitoring Rule

This rule can be used to check if a computer or any IP device is connected to the network. It sends ping packets and listens for replies from the specific host. If the host doesn't reply, the Secure Power Switch Master can automatically switch the powered device off and after a specified delay, switch it again on (for details see Ping & Scan Method).



Rule ID:
The Secure Power Switch Master automatically creates an ID Code to clearly identify each rule. All the ID Codes used to identify rules start with the letter "R" followed by a number from 1 to 255. If you delete a rule in the middle of the Rule list, the number of this rule will only be used again if no other rule is available.
Rule Name:
In this field, enter the name you want to give to the rule. The name can be from 1 to 32 characters long, and can contain alphanumeric characters.
Rule Color:
In this field, select one of the 48 standard colours you want to use to highlight the rule when executed. To use own colours, just type in the Hex value of the colour you want. The Rule highlighting allows to quickly identify the triggered rule when displayed in the Rule Panel page or in a special users page.
Rule Type:
In this drop-down list, choose Ping Monitoring Rule then configure the event and the actions to perform.

Configuring the Event

IP device to monitor:
In this field enter the IP address of the IP device that you want to monitor using the Ping command.
Wait Time for Answer:
In this field, define the delay in seconds for the Answer Timeout.
The delay can be set between 1 and 10 seconds.
Interval between Requests:
In this field, define the delay in seconds between ping commands sent to the IP device to monitor.
The delay can set between 30 and 65535 seconds.

Number of unsuccessful Requests before Action:
In this field, define the number of Ping commands to be sent to the IP device before executing the actions. The number can be set between 1 and 65535 seconds.
Delay before First Request after Power up:
In this field, define the time in seconds before restarting the monitoring after the reboot action.
The delay can be set between 30 and 65535 seconds.

Configuring the Actions:

For the Event defined above, you can choose and configure following actions:

Set Group:
Note **This type of action appears and can be configured only if you have already created at least one group (Settings/Groups Tab).**
Check this box and in the corresponding drop-down list choose the power outlet group the rule will apply to. In the next corresponding drop-down list, choose the action to execute.
Each power outlet group can be switched On/Off and restarted. If you choose "restart" you will also be able to define a restart delay between 0 and 65535 seconds.
- If you choose 0 second for the delay, the delay will be the delay defined in the power outlets settings.
- If you choose a delay different from 0, it will replace the delay defined in the power outlets settings.

Set Power Outlet:
Check this box and in the corresponding drop-down list, choose the power outlet the rule will apply to. In the next corresponding drop-down list, choose the action to execute. Each power outlet can be switched On/Off and restarted. If you choose "restart" you will also be able to define a restart delay between 0 and 65535 seconds.
- If you choose 0 second, the delay will be the delay defined in the Master power outlets settings.
- If you choose a delay different from 0, the delay will replace the delay defined in Master power outlets settings.

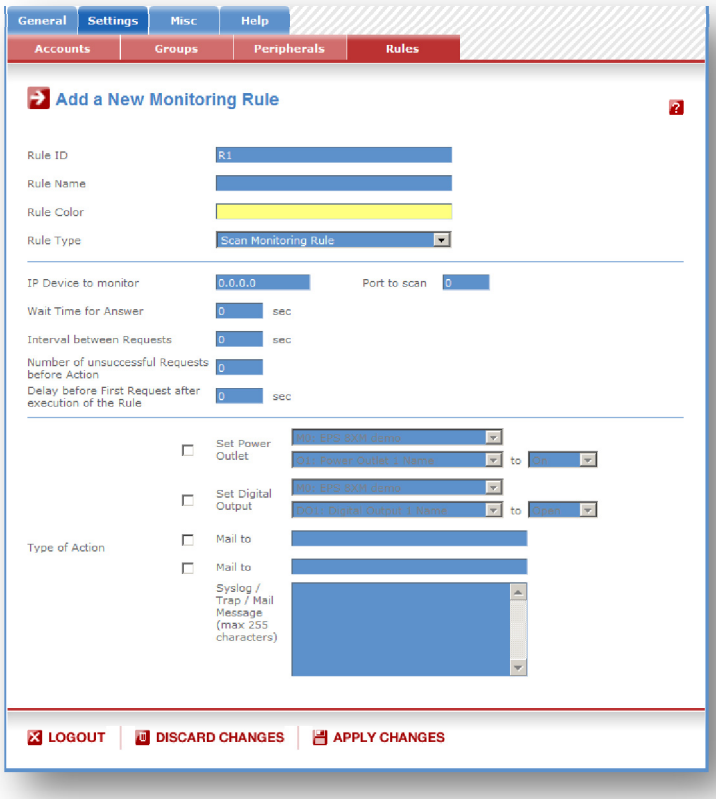
Set Digital Output:
Check this box and in the first corresponding drop-down list, choose the device from which one you want to switch a digital output. In the second drop-down list, choose the digital output the rule will apply to. In the next corresponding drop-down list, choose the action to execute. Each digital output can be open, close, pulse open or pulse close. If you choose "pulse...", you will also be able to define a pulse delay between 0 and 65535 seconds.
- If you choose 0 second, the delay will be the delay defined in the digital output settings.
- If you choose a delay different from 0, the delay will replace the delay defined in the digital output settings.

Send Syslog Message:
Note **This type of action appears and can be configured only if you have already created at least one destination Syslog Server (Misc/Log Settings Tab).**
Check this box if you want to send a message to a Syslog server. In the following drop-down lists choose the facility and the severity of the message to send. The address of the Syslog server has to be defined in the "Log Settings Page".
Send Trap Message
Note **This type of action appears and can be configured only if you have already specified at least a destination SNMP Server (General/SNMP Tab).**
Check this/these box(es) and specify one or two SNMP addresses in the corresponding field if you want to send SNMP messages to one or two SNMP Servers.
Mail to:
Note **This type of action appears and can be configured only if you have already created a destination SMTP Server (General/SMTP Tab).**
Check this/these box(es) and specify one or two e-mail address(es) in the corresponding field if you want to send an e-mail to one or two specific user(s). To send e-mails, you will need a SMTP server on the network and you will have to configure its parameters in the "SMTP Page".
Syslog / Trap / Mail Message
Note **This field appears only if you have already configured at least one destination Syslog Server (Misc/Log Settings Page) or a destination SMTP Server (General/SMTP Page).**
Up to 255 characters may be entered in this free text field. The text will appear in the Syslog, the Trap and the e-mails.

LOGOUT:
Click "Logout" at the bottom of the page to exit the session without saving changes.
DISCARD CHANGES:
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.
APPLY CHANGES:
Click "Apply Changes" at the bottom of the page to save changes.

3.3.9.3. Settings / Rules - Scan Monitoring Rule

This rule can be used to check if a specific protocol is available on a server (for example HTTP, FTP, Telnet, SMTP, POP...). If the connection is possible, Secure Power Switch Master knows that a server program is running there. If the connection is not possible, Secure Power Switch Master can automatically switch the powered device off and, after a specified delay, switch it again on (for details see Ping & Scan Method).



Rule ID:
The Secure Power Switch Master automatically creates an ID Code to clearly identify each rule. All the ID Codes used to identify rules start with the letter "R" followed by a number from 1 to 255. If you delete a rule in the middle of the Rule list, the number of this rule will only be used again if no other rule is available.
Rule Name:
In this field, enter the name you want to give to the rule. The name can be from 1 to 32 characters long, and can contain alphanumeric characters.
Rule Color:
In this field, select one of the 48 standard colours you want to use to highlight the rule when executed. To use own colours, just type in the Hex value of the colour you want. The Rule highlighting allows to quickly identify the triggered rule when displayed in the Rule Panel page or in a special users page.
Rule Type:
In this drop-down list, choose Scan Monitoring Rule then configure the event and the actions to perform.

Configuring the Event

IP device to monitor:
In this field, enter the IP address of the IP device that you want to monitor using the Scan command. In the "Port to scan" field, enter the port number you want to monitor.
The value can be set between 1 and 65535.
Wait Time for Answer:
In this field, define the delay in seconds for the Answer Timeout.
The delay can be set between 1 and 10 seconds.

Interval between Requests:
In this field, define the delay between the scan commands sent to the IP device. The delay can be set between 30 and 65535 seconds.
Number of unsuccessful Scan Commands before Action:
In this field, define the number of Port scanning commands to be sent to the IP device before executing the actions.
The number can be set between 1 and 65535 seconds.

Delay before First Request after Power Up:
In this field, define the time in seconds before restarting the monitoring after the reboot action. The delay can be set between 30 and 65535 seconds.

Configuring the Actions
For the Event defined above, you can choose and configure following actions:
Set Group

This type of action appears and can be configured only if you have already created at least one group (Settings/Groups Tab).
Check this box and in the corresponding drop-down list choose the power outlet group the rule will apply to. In the next corresponding drop-down list, choose the action to execute.
Each power outlet group can be switched On/Off and restarted. If you choose "restart" you will also be able to define a restart delay between 0 and 65535 seconds.
- If you choose 0 second, the delay will be the delay defined in the power outlets settings.
- If you choose a delay different from 0, the delay will replace the delay defined in the power outlets settings.

Set Power Outlet:
Check this box and in the corresponding drop-down list, choose the power outlet the rule will apply to. In the next corresponding drop-down list, choose the action to execute. Each power outlet can be switched On/Off and restarted. If you choose "restart" you will also be able to define a restart delay between 0 and 65535 seconds.
- If you choose 0 second, the delay will be the delay defined in the Secure Power Switch Master power outlets settings.
- If you choose a delay different from 0, the delay will replace the delay defined in the Master power outlets settings.

Set Digital Output:
Check this box and in the first corresponding drop-down list, choose the device from which one you want to switch a digital output. In the second drop-down list, choose the digital output the rule will apply to. In the next corresponding drop-down list, choose the action to execute. Each digital output can be open, close, pulse open or pulse close. If you choose "pulse...", you will also be able to define a pulse delay between 0 and 65535 seconds.
- If you choose 0 second, the delay will be the delay defined in the digital output settings.
- If you choose a delay different from 0, the delay will replace the delay defined in the digital output settings.

Send Syslog Message:

This type of action appears and can be configured only if you have already created at least one destination Syslog Server (Misc/Log Settings Tab).
Check this box if you want to send a message to a Syslog server. In the following drop-down lists choose the facility and the severity of the message to send. The address of the Syslog server has to be defined in the "Log Settings Page".
Send Trap Message:

This type of action appears and can be configured only if you have already specified at least a destination SNMP Server (General/SNMP Tab).
Check this/these box(es) and specify one or two SNMP addresses in the corresponding field if you want to send SNMP messages to one or two SNMP Servers.
Mail to:

This type of action appears and can be configured only if you have already created a destination SMTP Server (General/SMTP Tab).
Check this/these box(es) and specify one or two e-mail address(es) in the corresponding field if you want to send an e-mail to one or two specific user(s). To send e-mails, you will need a SMTP server on the network and you will have to configure its parameters in the "SMTP Page".

Syslog / Trap / Mail Message:

This field appears only if you have already specified at least one destination Syslog Server (Misc/Log Settings Page), one destination SNMP Server (General/SNMP Page) or a destination SMTP Server (General/SMTP Page).

Up to 255 characters may be entered in this free text field. The text will appear in the Syslog, the Trap and the e-mails.

LOGOUT:

Click "Logout" at the bottom of the page to exit the session without saving changes.

DISCARD CHANGES:

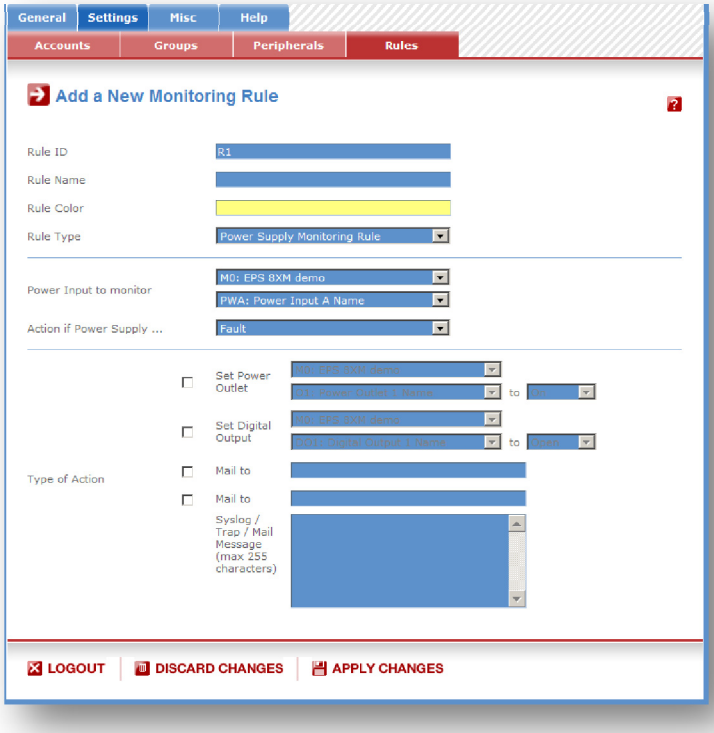
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.

APPLY CHANGES:

Click "Apply Changes" at the bottom of the page to save changes.

3.3.9.4. Settings / Rules - Power Supply Monitoring Rule

This rule can be used to monitor the status of the 2 power supplies of the Power Switch Master and the power supplies of connected peripherals like Power Switch Satellite and Digital Input Modules.



Rule ID:
The Secure Power Switch Master automatically creates an ID Code to clearly identify each rule. All the ID Codes used to identify rules start with the letter "R" followed by a number from 1 to 255. If you delete a rule in the middle of the Rule list, the number of this rule will only be used again if no other rule is available.
Rule Name:
In this field, enter the name you want to give to the rule. The name can be from 1 to 32 characters long, and can contain alphanumeric characters.
Rule Color:
In this field, select one of the 48 standard colours you want to use to highlight the rule when executed. To use own colours, just type in the Hex value of the colour you want. The Rule highlighting allows to quickly identify the triggered rule when displayed in the Rule Panel page or in a special users page.
Rule Type:
In this drop-down list, choose Power Supply Monitoring Rule then configure the event and the actions to perform.

Configuring the Event

Power Input to monitor:
In the first Drop-Down list choose the device for which you want to monitor the power supplies.
Each device name is preceded by the ID Code of the device.

- M0 for the Secure Power Switch Master,
- S1 to S16 for the Power Switch Satellite units,
- DIM1 to DIM16 for Digital Input Modules.

A character between brackets can follow this ID Code:
- The "X" character means that the corresponding peripheral is physically not connected.
- The "!" character means that the corresponding peripheral is physically connected but not activated. If you want to activate it, go to the "Settings/Power Outlets" tab.
- The " " character (blank) means that the corresponding satellite is physically connected and activated.

In the second Drop-Down list, choose the power input (Input A or Input B) you wish to monitor.

Action if power supply...:

In this Drop-Down list, choose if the action has to be executed on power on or power failure.

Configuring the Actions

For the Event defined above, you can choose and configure following actions:

Set Group:

Note **This type of action appears and can be configured only if you have already created at least one group (Settings/Groups Tab).**

Check this box and in the corresponding drop-down list choose the power outlet group the rule will apply to. In the next corresponding drop-down list, choose the action to execute.

Each power outlet group can be switched On/Off and restarted. If you choose "restart" you will also be able to define a restart delay between 0 and 65535 seconds.
- If you choose 0 second, the delay will be the delay defined in the Secure Power Switch Master power outlets settings.
- If you choose a delay different from 0, the delay will replace the delay defined in the Master power outlets settings.

Set Power Outlet:

Check this box and in the corresponding drop-down list, choose the power outlet the rule will apply to. In the next corresponding drop-down list, choose the action to execute. Each power outlet can be switched On/Off and restarted. If you choose "restart" you will also be able to define a restart delay between 0 and 65535 seconds.
- If you choose 0 second, the delay will be the delay defined in the Secure Power Switch Master power outlets settings.
- If you choose a delay different from 0, the delay will replace the delay defined in the Master power outlets settings.

Set Digital Output:

Check this box and in the first corresponding drop-down list, choose the device from which one you want to switch a digital output. In the second drop-down list, choose the digital output the rule will apply to. In the next corresponding drop-down list, choose the action to execute. Each digital output can be open, close, pulse open or pulse close. If you choose "pulse...", you will also be able to define a pulse delay between 0 and 65535 seconds.
- If you choose 0 second, the delay will be the delay defined in the digital output settings.
- If you choose a delay different from 0, the delay will replace the delay defined in the digital output settings.

Send Syslog Message:

Note **This type of action appears and can be configured only if you have already created at least one destination Syslog Server (Misc/Log Settings Tab).**

Check this box if you want to send a message to a Syslog server. In the following drop-down lists choose the facility and the severity of the message to send. The address of the Syslog server has to be defined in the "Log Settings Page".

Send Trap Message:

Note **This type of action appears and can be configured only if you have already specified at least a destination SNMP Server (General/SNMP Tab).**

Check this/these box(es) and specify one or two SNMP addresses in the corresponding field if you want to send SNMP messages to one or two SNMP Servers.

Mail to:

Note **This type of action appears and can be configured only if you have already created a destination SMTP Server (General/SMTP Tab).**

Check this/these box(es) and specify one or two e-mail address(es) in the corresponding field if you want to send an e-mail to one or two specific user(s). To send e-mails, you will need a SMTP server on the network and you will have to configure its parameters in the "SMTP Page".

Syslog / Trap / Mail Message:

This field appears only if you have already specified at least one destination Syslog Server (Misc/Log Settings Page), one destination SNMP Server (General/SNMP Page) or a destination SMTP Server (General/SMTP Page).

Up to 255 characters may be entered in this free text field. The text will appear in the Syslog, the Trap and the e-mails.

The message can be completed with the status of an input (a power supply or door contact for example) or the value of a sensor (a temperature sensor for example). For this, simply enter, between two percent characters, the ID of the corresponding input device (for details see § 5.1 Sending status and values using rules).

LOGOUT:

Click "Logout" at the bottom of the page to exit the session without saving changes.

DISCARD CHANGES:

Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.

APPLY CHANGES:

Click "Apply Changes" at the bottom of the page to save changes.

3.3.9.5. Settings / Rules - Digital Input Monitoring Rule

This rule can be used to monitor the status of an electrical contact (a door contact, a smoke contact, a proximity sensor, a push button) and to initiate different actions if the contact status has changed.

Rule ID:
The Secure Power Switch Master automatically creates an ID Code to clearly identify each rule. All the ID Codes used to identify rules start with the letter "R" followed by a number from 1 to 255. If you delete a rule in the middle of the Rule list, the number of this rule will only be used again if no other rule is available.
Rule Name:
In this field, enter the name you want to give to the rule. The name can be from 1 to 32 characters long, and can contain alphanumeric characters.
Rule Color:
In this field, select one of the 48 standard colours you want to use to highlight the rule when executed. To use own colours, just type in the Hex value of the colour you want. The Rule highlighting allows to quickly identify the triggered rule when displayed in the Rule Panel page or in a special users page.
Rule Type:
In this drop-down list, choose Digital Input Monitoring Rule then configure the event and the actions to perform.

Configuring the Event

Digital Input to monitor:
In the first drop-down list, choose the device you want to monitor:

- M0 for Secure Power Switch Master,
- TP followed by a number for a Proximity Sensor,
- DIM followed by a number for a Digital Input Module,
- PB follower by a number for a Push Button.

In the second drop-down list, choose the Input you want to monitor. The Secure Power Switch Master uses ID Codes to clearly identify each Input:

- DI1 to DI4 for the digital inputs of the Power Switch Master,
- PS followed by a number for the IR proximity sensor inputs,
- DI followed by a number for the digital inputs of a DIM module,
- SP followed by a number for a short push on the push buttons,
- LP followed by a number for a long push on the push buttons.

Action if contact...:
In this Drop-Down list choose if the action has to be executed when:
- a contact opens or closes,
- when a push button is used (On or Off),
- when a IR proximity sensor detects a presence (On or Off).

Configuring the Actions

For the Event defined above, you can choose and configure following actions:

Set Group:

Note **This type of action appears and can be configured only if you have already created at least one group (Settings/Groups Tab).**

Check this box and in the corresponding drop-down list choose the power outlet group the rule will apply to. In the next corresponding drop-down list, choose the action to execute.
Each power outlet group can be switched On/Off and restarted. If you choose "restart" you will also be able to define a restart delay between 0 and 65535 seconds.
- If you choose 0 second, the delay will be the delay defined in the Secure Power Switch Master power outlets settings.
- If you choose a delay different from 0, the delay will replace the delay defined in the Secure Power Switch Master power outlets settings.

Set Power Outlet:
Check this box and in the corresponding drop-down list, choose the power outlet the rule will apply to. In the next corresponding drop-down list, choose the action to execute. Each power outlet can be switched On/Off and restarted. If you choose "restart" you will also be able to define a restart delay between 0 and 65535 seconds.
- If you choose 0 second, the delay will be the delay defined in the Secure Power Switch Master power outlets settings.
- If you choose a delay different from 0, the delay will replace the delay defined in the Secure Power Switch Master power outlets settings.

Set Digital Output:
Check this box and in the first corresponding drop-down list, choose the device from which one you want to switch a digital output. In the second drop-down list, choose the digital output the rule will apply to. In the next corresponding drop-down list, choose the action to execute. Each digital output can be open, close, pulse open or pulse close. If you choose "pulse...", you will also be able to define a pulse delay between 0 and 65535 seconds.
- If you choose 0 second, the delay will be the delay defined in the digital output settings.
- If you choose a delay different from 0, the delay will replace the delay defined in the digital output settings.

Send Syslog Message:

Note **This type of action appears and can be configured only if you have already created at least one destination Syslog Server (Misc/Log Settings Tab).**

Check this box if you want to send a message to a Syslog server. In the following drop-down lists choose the facility and the severity of the message to send. The address of the Syslog server has to be defined in the "Log Settings Page".

Send Trap Message:

Note **This type of action appears and can be configured only if you have already specified at least a destination SNMP Server (General/SNMP Tab).**

Check this/these box(es) and specify one or two SNMP addresses in the corresponding field if you want to send SNMP messages to one or two SNMP Servers.

Mail to:

Note **This type of action appears and can be configured only if you have already created a destination SMTP Server (General/SMTP Tab).**

Check this/these box(es) and specify one or two e-mail address(es) in the corresponding field if you want to send an e-mail to one or two specific user(s). To send e-mails, you will need a SMTP server on the network and you will have to configure its parameters in the "SMTP Page".

Syslog / Trap / Mail Message:

This field appears only if you have already specified at least one destination Syslog Server (Misc/Log Settings Page), one destination SNMP Server (General/SNMP Page) or a destination SMTP Server (General/SMTP Page).

Up to 255 characters may be entered in this free text field. The text will appear in the Syslog, the Trap and the e-mails.

The message can be completed with the status of an input (a power supply or door contact for example) or the value of a sensor (a temperature sensor for example). For this, simply enter, between two percent characters, the ID of the corresponding input device (for details see § 5.1 Sending status and values using rules).

LOGOUT:

Click "Logout" at the bottom of the page to exit the session without saving changes.

DISCARD CHANGES:

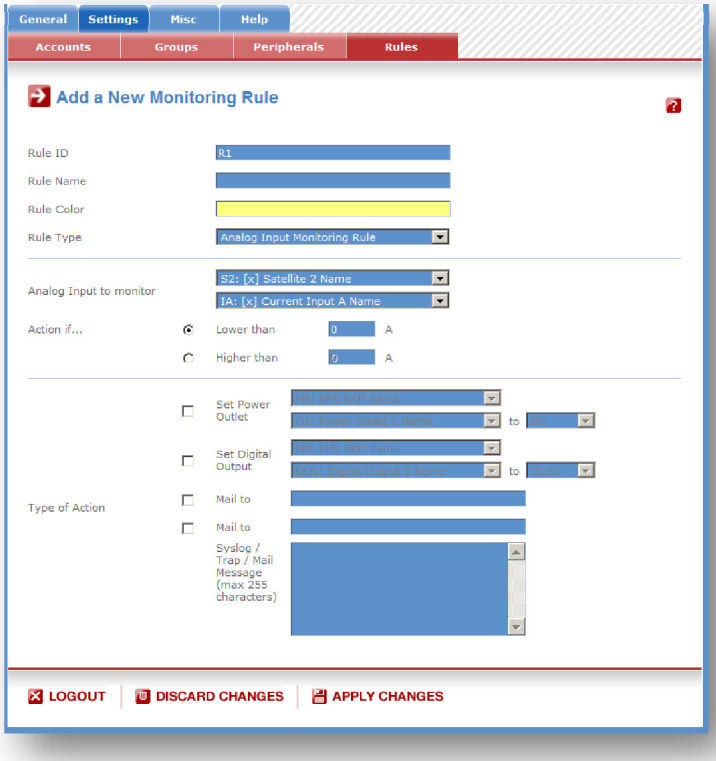
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.

APPLY CHANGES:

Click "Apply Changes" at the bottom of the page to save changes.

3.3.9.6. Settings / Rules - Analog Input Monitoring Rule

This rule can be used to monitor an Analog Input value (temperature, humidity, ambient light, current....) and perform actions when the predefined value is exceeded.



Rule ID:
The Secure Power Switch Master automatically creates an ID Code to clearly identify each rule. All the ID Codes used to identify rules start with the letter "R" followed by a number from 1 to 255. If you delete a rule in the middle of the Rule list, the number of this rule will only be used again if no other rule is available.
Rule Name:
In this field, enter the name you want to give to the rule. The name can be from 1 to 32 characters long, and can contain alphanumeric characters.
Rule Color:
In this field, select one of the 48 standard colours you want to use to highlight the rule when executed. To use own colours, just type in the Hex value of the colour you want. The Rule highlighting allows to quickly identify the triggered rule when displayed in the Rule Panel page or in a special users page.
Rule Type:
In this drop-down list, choose Analog Input Monitoring Rule then configure the event and the actions to perform.

Configuring the Event

Analog Input to monitor:
Choose in the first Drop-Down list the device you want to monitor.
The Secure Power Switch Master supports:
- up to 32 temperature, humidity and ambient light sensors,
- up to 16 current probes,
- up to 16 EnergyMeter,
- up to 16 Power Switch Satellite /32.

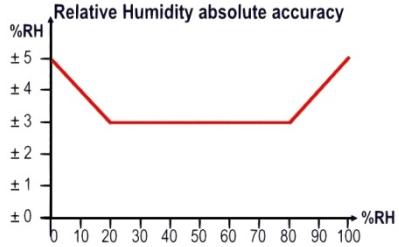
Each device name, which can be defined by the administrator (go to Settings/Sensors Tab), is preceded by the ID Code of the device. For example, all ID Codes used to identify temperature sensors start with the character "T" followed by a number.
A character between brackets can follow this ID Code:

- The "X" character means that the corresponding sensor is physically not connected.
- The "!" character means that the corresponding sensor is physically connected but not activated. If you want to activate it, go to the "Settings/Power Outlets" tab.
- The " " character (blank) means that the corresponding sensor is physically connected and activated.

According to the device you use, choose the Analog Input in the second Drop-Down (temperature, humidity, light, current, energy...).

Action Condition:
The options "higher than" and "lower than" enable you to define when the rule has to be executed.
- Choose "higher than" if you want to execute the rule when the environment value exceeds the value you defined in the field on the right of "higher than".
- Choose "lower than" if you want to execute the rule when the environment value is below the value you defined in the field on the right of "lower than".

- For temperature, you can define values between -25°C and 60°C, +/- 2°C.
- For relative humidity, you can define values between 20 RH and 80 RH, +/- 3%.



- For ambient light, you can define values between 0 and 1000 Lux.
- For the effective current (rms), you can define values between 1 and 10 Amps.

Configuring the Actions

For the Event defined above, you can choose and configure the following actions:

Set Group:
This type of action appears and can be configured only if you have already created at least one group (Settings/Groups Tab).
Check this box and in the corresponding drop-down list choose the power outlet group the rule will apply to. In the next corresponding drop-down list, choose the action to execute.
Each power outlet group can be switched On/Off and restarted. If you choose "restart" you will also be able to define a restart delay between 0 and 65535 seconds.
- If you choose 0 second, the delay will be the delay defined in the Secure Power Switch Master power outlets settings.
- If you choose a delay different from 0, the delay will replace the delay defined in the Secure Power Switch Master
power outlets settings.

Set Power Outlet:
Check this box and in the corresponding drop-down list choose the power outlet the rule will apply to. In the next corresponding drop-down list, choose the action to execute. Each power outlet can be switched On/Off and restarted. If you choose "restart" you will also be able to define a restart delay between 0 and 65535 seconds.
- If you choose 0 second, the delay will be the delay defined in the Master power outlets settings.
- If you choose a delay different from 0, the delay will replace the delay defined in the Master power outlets settings.

Set Digital Output:
Check this box and in the first corresponding drop-down list, choose the device from which one you want to switch a digital output. In the second drop-down list, choose the digital output the rule will apply to. In the next corresponding drop-down list, choose the action to execute. Each digital output can be open, close, pulse open or pulse close. If you choose "pulse...", you will also be able to define a pulse delay between 0 and 65535 seconds.
- If you choose 0 second, the delay will be the delay defined in the digital output settings.
- If you choose a delay different from 0, the delay will replace the delay defined in the digital output settings.

Send Syslog Messages:

This type of action appears and can be configured only if you have already created at least one destination Syslog Server (Misc/Log Settings Tab).

Check this box if you want to send a message to a Syslog server. In the following drop-down lists choose the facility and the severity of the message to send. The address of the Syslog server has to be defined in the "Log Settings Page".

Send Trap Message:

This type of action appears and can be configured only if you have already specified at least a destination SNMP Server (General/SNMP Tab).

Check this/these box(es) and specify one or two SNMP addresses in the corresponding field if you want to send SNMP messages to one or two SNMP Servers.

Mail to:

This type of action appears and can be configured only if you have already created a destination SMTP Server (General/SMTP Tab).

Check this/these box(es) and specify one or two e-mail address(es) in the corresponding field if you want to send an e-mail to one or two specific user(s). To send e-mails, you will need a SMTP server on the network and you will have to configure its parameters in the "SMTP Page".

Syslog / Trap / Mail Message:

This field appears only if you have already specified at least one destination Syslog Server (Misc/Log Settings Page), one destination SNMP Server (General/SNMP Page) or a destination SMTP Server (General/SMTP Page).

Up to 255 characters may be entered in this free text field. The text will appear in the Syslog, the Trap and the e-mails.

The message can be completed with the status of an input (a power supply or door contact for example) or the value of a sensor (a temperature sensor for example). For this, simply enter, between two percent characters, the ID of the corresponding input device (for details see § 5.1 Sending status and values using rules).

LOGOUT:

Click "Logout" at the bottom of the page to exit the session without saving changes.

DISCARD CHANGES:

Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.

APPLY CHANGES:

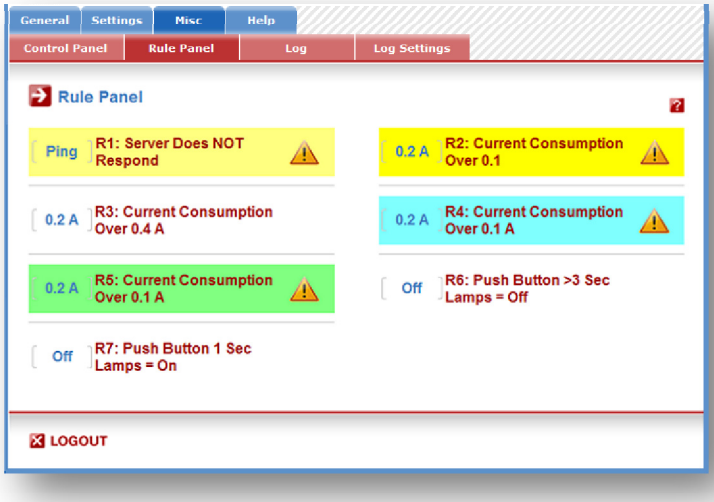
Click "Apply Changes" at the bottom of the page to save changes.

3.3.10. Misc / Control Panel

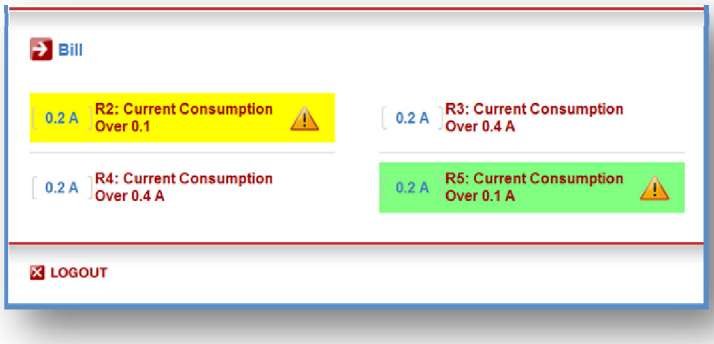
This page is very helpful for the administrator because it gives a complete overview of all the peripherals which are currently connected or have been connected to the Secure Power Switch Master. At a glance, the administrator can check the status of the power supplies of the Master and the connected Peripherals. He can also check the values of the connected sensors, check the status of the connected dry contacts and of course control all the power outlets of the connected Power Switch units.

3.3.11. Misc / Rule Panel

This page shows all the rules the administrator has created and activated. The rules which have been executed can also be highlighted in different colours according to the emergency of the action. The highlight colours can be customized during the creation of the rule (Settings/Rules Page).



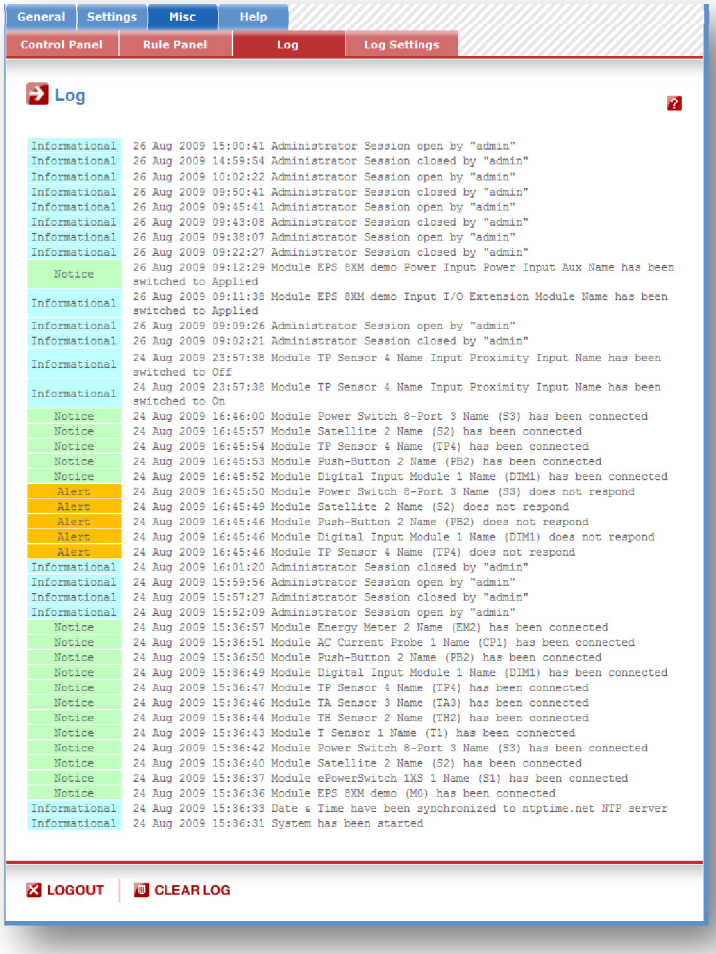
For supervision purpose, the administrator can create special accounts which display only some specific rules. In the example below, the user Bill has the possibility to supervise 4 rules and to see on a glance the rules which have been triggered.



The page is automatically refreshed every 10 seconds.
Unlike a standard session, the web server of the Secure Power Switch Master won't automatically close this kind of session. Opening many sessions of this affects the performances of the web server.

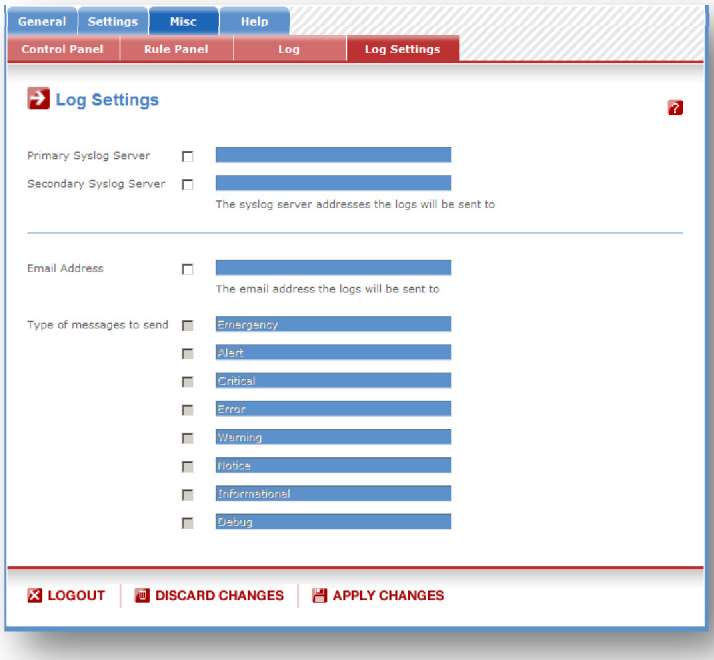
3.3.12. Misc / Log

The log file keeps a running log of events and activities occurring on the device. The logs are automatically cleared when the device is rebooted. The file will display up to 2048 recent logs.



3.3.13. Misc / Log Settings

This page allows you to configure the logs. The Log file is used by the system to record actions, warnings, errors and problems. It is often quite useful to discover the causes of tricky problems. The messages recorded in the log file and sent as copy to a Syslog server are classified into 8 severity levels (Emergency, Alert, Critical, Error, Warning, Notice, Informational and Debug).



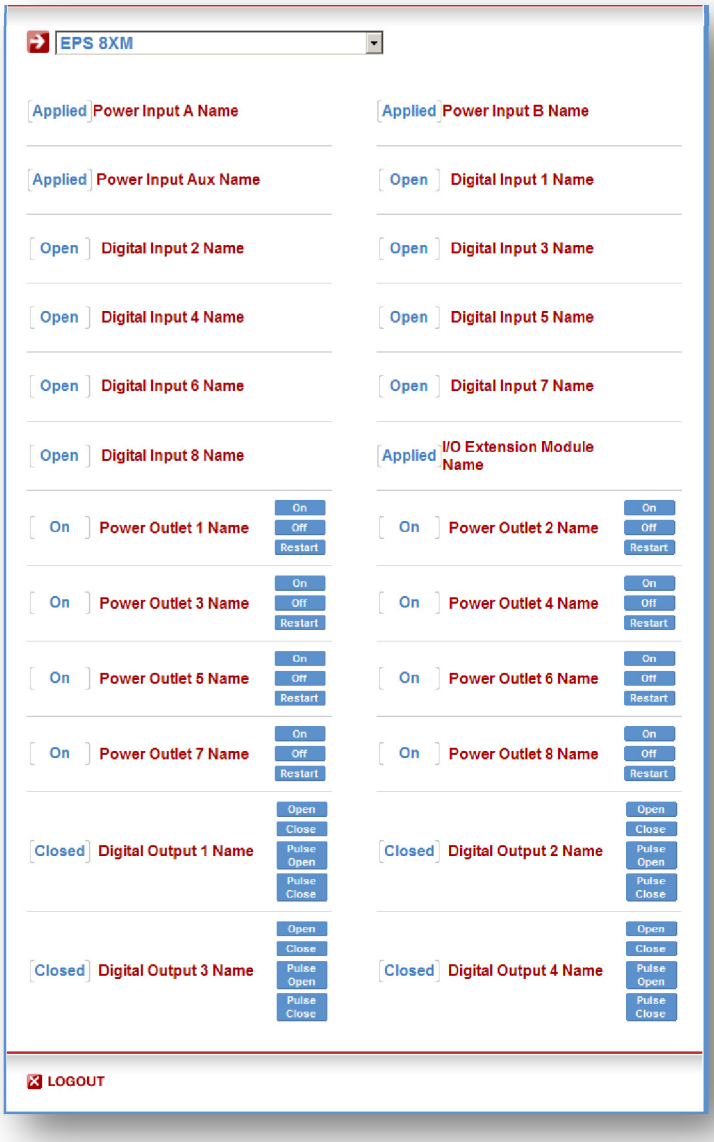
Primary Syslog Server:
If you want to enable the Secure Power Switch Master to send messages to a Syslog Server, check the box "Syslog Server Address" and enter the address of the Syslog Server you wish to use. You can enter either the hostname or the IP address of a Syslog server. The Syslog uses port 443/UDP.
Secondary Syslog Server:
In this field you can define the IP Address of a secondary Syslog Server.
Example: syslog.Secure Power Switch Master.com or 192.168.1.252
Email Address:
If you want to enable the Secure Power Switch Master to send e-mails, check the box "e-mail address" and specify the destination e-mail address to be used.
Type of messages to send:
Specify in this field the type of messages you want to send to the specified e-mail address.
(for details see Syslog Messages: Severity Level definition).

LOGOUT:
Click "Logout" at the bottom of the page to exit the session without saving changes.
DISCARD CHANGES:
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.
APPLY CHANGES:
Click "Apply Changes" at the bottom of the page to save changes.

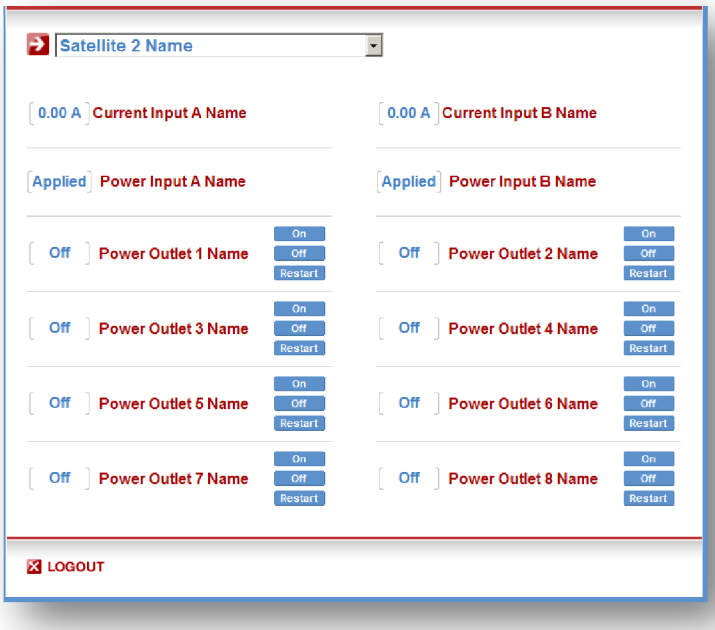
4. POWER OUTLET CONTROL AND PERIPHERALS STATUS

1. Start your Web browser and type the IP address of your Secure Power Switch Master. The browser displays the authentication dialog box.

2. Enter a user name and its corresponding password. The status of the Secure Power Switch Master is displayed.



3. In the drop-down list, choose the power control unit you want to control or the peripheral for which you want to know the status.



If you log in as system administrator, you will be able to:
- control all the power outlets and all the power outlet groups of the connected Power Switch devices,
- display the instant values of all the connected sensors (temperature, humidity, ambient light),
- display the status of all digital inputs.

If you log in as a user (Secure Power Switch Master handles up to 255 accounts), you will be able to:
- control individually all the power outlets and all the power outlet groups for which you have the rights,
- display the values of all the connected sensors for which you have the rights,
- display the status of all the digital inputs for which you have the rights.

The ON button allows you to switch ON the corresponding power outlet or group of power outlets.
The OFF button allows you to switch OFF the corresponding power outlet or group of power outlets.
The RESTART button allows you to switch OFF the corresponding power outlet or group of power outlets. The power outlet or group of power outlets will then be automatically switched ON after the delay defined by the administrator (see Settings / power outlets Page).

5. APPENDIX

5.1. Sending status information and sensor values using rules

The administrator can create rules (see Settings/Rules) to trigger actions and send personalized messages in form of Syslog messages, SNMP traps or emails when an event occurs. Moreover, the administrator also has the possibility to complete his messages with status information of an input (a power supply or a door contact for example) or the value of a sensor (a temperature sensor for example).

In the "Syslog/Trap/Mail Message" field of the rule settings page, the administrator has simply to enter the ID of the input of which he wants to send the status or value. This ID is made of the ID of the device where the input is located and the ID of the input itself.

The IDs have to be entered between two percent characters.
Many IDs can be specified in the text box but the message must not exceed 255.

Syntax: %[device ID]:[input ID]%

To know all IDs currently used by the system, go to the "Settings/Rules" page and click on "Add a New Rule". The two IDs of the monitored input are displayed in the two fields in the middle of the page.

- To know all Digital Input IDs, choose "Digital Input Monitoring Rule" as Rule Type.
- To know all Analog Input IDs, choose "Analog Input Monitoring Rule" as Rule Type.
- To know all Power Status IDs, choose "Power Supply Monitoring Rule" as Rule Type.

Examples:
- To send the value of the T1 temperature, the administrator could add following line in the "Syslog/Trap/Mail Message" text area:

  Temperature is %T1:T1%

- To send the state of the D1 door contact of the DIM1 Digital Input Module, the administrator could add following line in the "Syslog/Trap/Mail Message" text area:

  Door contact status is %DIM1:DI1%

The schedule rule can be used to send status information or sensor values on specified weekdays at regular interval.

5.2. Ping and Scan Methods

Secure Power Switch Master has two methods to check whether an IP equipment (PC, server, router, Webcam...) is still alive:

Address Pinging:
The first method uses the well-known Ping command whereby a request is sent to a specific IP address. The Ping command, which is an echo request, enables you to determine through an ICMP protocol (Internet Control Message Protocol) if an IP device is available on the network. If the system reacts to this request, Secure Power Switch Master knows that the TCP/IP connection is established. If the system does not react to one or several requests, Secure Power Switch Master can automatically switch the device off and after a specified delay switch it again on (Reboot function).

Port Scanning:
The second method uses the Port Scan command to test a specific TCP/IP port. In other words, this command allows you to find out if a specific protocol is available on a server (for example HTTP, FTP, Telnet, SMTP, POP...). Secure Power Switch Master simply tries to connect to a specific server port. If the connection is possible, Secure Power Switch Master knows that a server program is running there. If the connection is not possible, Secure Power Switch Master can automatically switch the device off and after a specified delay switch it again on (Reboot function).

- **The Supervision function works only if the Power Switch Master is connected to the LAN.**
- **The Ping and Scan functions can be used separately or together.**
- **The network route between Secure Power Switch Master and the IP device you wish to supervise should be as direct as possible, so do not use unnecessary routers and complex wiring between them.**
  A problem on a router or the wiring could reboot the IP device to supervise.
- **Execute several Pings and/or Scans before running the Reboot function. It could be possible that the IP device doesn't respond although it is still working.**
- **Choose a realistic supervision cycle. One second is possible, however it's not necessary to overload the network with Ping and Scan requests.**

Recommended values:
- Interval between Requests: 10 sec or more
- Number of unsuccessful Requests before Reboot: 3 or more
- Delay before Reboot: 10 sec or more
- Delay before restarting monitoring after Reboot: 120 sec or more

5.3. Technical Data

Network standards:
IEEE 802.3, 10 / 100 BASE-T
Network protocols:
TCP/IP, HTTP/HTTPS
Network connection:
RJ-45 connector for STP CAT5
Max. network cable length 100 meters
Serial connection:
RS232, SUB-D 9 female
SSL Technology:
Version 2 and 3
Operating temperature:
0°C to +40°C
Operating humidity:
10% to 80% RH (not condensing)
Dimensions (LxDxH):
170 x 110 x 42 mm
Weight:
0,63 kg
Approvals:
CE, EN55022 & EN55024

5.4. Commonly used Ports

TCP 25: This port is used to deliver e-mails over SMTP (Simple Mail Transfer Protocol).
TCP 80: This port is used for http connections.
UDP 123: This port is used to allow time synchronization over NTP (Network Time Protocol).
UDP 161: This port is used for SNMP Requests.
UDP 162: This port is used for SNMP Traps.
TCP 443: This port is used to allow SSL support (Secure Socket Layer).
UDP 514: This port is used to deliver Syslog messages.

5.5. Syslog Messages: Severity Level Definitions

The Emergency level is the most severe type of message generated by Secure Power Switch Master and the Debug severity level is the least severe one.

Severity Level 0, Emergency:
The following messages appear at severity 0:
- Continuous error!
- An SMTP Client could not be created

Severity Level 1, Alert:
The following messages appear at severity 1:
- Settings have been reinitialized through the serial connection
- Secure Power Switch Master does not respond
- Satellite "number" does not respond
- Sensor "number" does not respond
- Failure on Power Input A of Master M0
- Failure on Power Input B of Master M0
- Failure on auxiliary Power Input of Master M0
- Failure on Power Input A of Satellite (number)
- Failure on Power Input B of Satellite (number)
- I/O Extension Module has been disconnected
- A Mail could not be sent "subject" to "name"
- SMTP Client not available: a Mail could not be sent "subject" to "name"

Severity Level 2, Critical:
The following messages appear at severity 2:
- "file" config corrupted : restoring default values

Severity Level 3, Error:
Secure Power Switch Master doesn't generate Severity Level 3.

Severity Level 4, Warning:
The following messages appear at severity 4:
- Settings have been changed through the serial connection
- Settings have been changed through the network by User "name"

Severity Level 5, Notice:
The following messages appear at severity 5:
- Master M0 has been connected
- Satellite (number) has been connected
- Sensor (number) has been connected
- SSL Key has been reinitialized through the serial connection
- System has been restarted through the serial connection
- Power Supply A of Master restored
- Power Supply B of Master restored
- Auxiliary Power Supply of Master restored
- Power Supply A of Satellite (number) restored
- Power Supply B of Satellite (number) restored
- I/O Extension Module has been connected
- Rule (number) : Outlet (number) of Master has been switched ON
- Rule (number) : Group (number) has been switched ON
- Rule (number) : Dry Contact Output (number) has been open
- Rule (number) : Mail "subject" has been sent to "name"

Severity Level 6, Informational:
The following messages appear at severity 6:
- System has been started
- Date & Time have been synchronized to a Network Time Server
- User "name" : Outlet (number) of Master M0 has been switched ON
- User "name" : Group (number) has been switched ON
- Dry Contact Input (number) has been opened
- Dry Contact Input (number) has been closed
- Dry Contact Output (number) has been opened
- Dry Contact Output (number) has been closed
- Mail "subject" has been sent to "name"
- Session opened by user "name"

Severity Level 7, Debug:
Secure Power Switch Master doesn't generate Severity Level 7.