SEPTEMBER 2005
PSE518MA-XX
PSE518SA-XX

Secure Power Switch
Master/Satellite
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.

PSE518 MA/SA

Secure Power Switch PSE518 MA (the Master) and **PSE518 SA** (the Satellite) are a couple of power control units that enables remotly power control with the highest security over Intranet or Internet.

Secure Power Switch PSE518 MA (the 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 PSE518 MA (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 monitoring IP devices, 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.

Secure Power Switch Satellite is a power control unit with a serial connection. It enables to control the power supply of 8 Power Outlets either through a serial RS232 or RS485 connection. The number of the controlled Power Outlets can be extended up to 128 by cascading up to 16 Power Switch Satellite.
Like the Master, this unit has two separate power inputs to increase the security and the load available on the power outlets.

Contents

Chapters

Chapter Description

Chapter 1 Safety Instructions

This chapter contains important safety instructions you should know before working with Power Switch Master and Satellite.

IMPORTANT SAFETY INSTRUCTIONS TO BE READ

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any Power Switch device:

- be aware of the hazards involved with electrical circuitry
- be familiar with the practices for preventing accidents

SAVE THESE INSTRUCTIONS !

Chapter 2 Package list

This chapter introduces you to the Power Switch Master and Satellite Packing List. It also introduces the Power Switch accessories (temperature sensor, temperature/humidity sensor and the I/O Extension Board)

Chapter 3 Diagram

This chapter describes the Front and Back Panel of the Power Switch Master and the Power Switch Satellite.

Chapter 4 Installation the Power Switch Master

This chapter describes how to install the Power Switch Master.

Chapter 5 Configuring the Power Switch Master

This chapter describes how to configure the Power Switch Master.

Chapter 6 Controlling the Power Outlets

This chapter describes how to control the Power Outlets of the Master and the Satellite over IP.

Chapter 7 Installation the Power Switch Satellite

This chapter describes how to install the Power Switch Satellite.

Chapter 8 Controlling the Power Outlets of Power Switch Satellite using a terminal connection

This chapter describes how to control the Power Outlets of the Power Switch Satellite.

Chapter 9 Accessories

This chapter describes the accessories, which can be connected to the Power Switch Master.

Annexes

Ping and Scan method
Commonly used ports
SysLog Messages: Severity Level Definitions
Pinout of the RJ11 6/6 x-Bus connector
Technical Data

1. Safety instructions: to read before use!

English

NOTE

In the following instructions "Power Switch device" refers to both devices Power Switch Master and Power Switch Satellite.

- The Power Switch 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 Power Switch 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 Power Switch devices must be close to the Power Switch devices and easily accessible.
- Check that the power cords, plugs and sockets are in good condition.
- The Power Switch devices can only be connected to three-wire 230 VAC (50-60Hz) sockets.
- Always plug the Power Switch 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 Power Switch device.
- The Power Switch 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 Power Switch device if you want to intervene on the Power Switch device or on the equipment powered from the Power Switch device.
- The Power Outlets of the Power Switch devices are not circuit breakers! If you want to intervene on equipments connected to an Power Switch device you must disconnect these equipments from the Power Switch device.
- Do NOT attempt to disassemble the Power Switch devices, they contain potentially hazardous voltages.
- The Power Switch 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.

Consignes de sécurité : à lire avant utilisation !

Français

Remarque

Dans les consignes suivantes, "équipements Power Switch" fait référence aux deux produits Power Switch Master et Power Switch Satellite.

- Les équipements Power Switch ne peuvent être installés que par un personnel qualifié. Le fabricant décline toute responsabilité en cas de mauvaise utilisation des équipements Power Switch et tout particulièrement en cas d'utilisation avec des équipements pouvant occasionner des blessures corporelles ou des dommages matériels.
- Les équipements Power Switch sont destinés à être installés sur un ou plusieurs circuits électriques dédiés protégés par des disjoncteurs ou des fusibles.
- La/les prise(s) secteur utilisée(s) pour brancher le/les cordon(s) secteur d'alimentation des équipements Power Switch doit/doivent être à proximité des équipements Power Switch et facilement accessible(s).
- Vérifiez que le/les cordons secteur d'alimentation, les connecteurs et les prises secteur sont en bon état.
- Les équipements Power Switch ne peuvent être connectés qu'à une/des prise(s) secteur à 3 conducteurs (2 prises + terre) 230 VAC (50-60Hz).
- N'utilisez que des prises secteur correctement mises à la terre (deux prises + terre) pour brancher les câbles secteur des équipements Power Switch.
- Ne jamais dépasser un courant total de 10 Amp pour chaque entrée secteur des équipements Power Switch.
- Les équipements Power Switch sont destinés à une utilisation intérieure. NE les installez JAMAIS dans un endroit où règne une humidité ou une chaleur excessive.
- Débrancher TOUJOURS les 2 cordons secteur d'alimentation des équipements Power Switch si vous souhaitez intervenir sur les équipements Power Switch ou sur les appareils alimentés au travers des équipements Power Switch.
- Les prises secteur des équipements Power Switch ne sont PAS des coupe-circuits ! Si vous souhaitez intervenir sur les appareils alimentés au travers des équipements Power Switch vous devez IMPERATIVEMENT débrancher ces appareils des équipements Power Switch.
- Ne démonter JAMAIS le Power Switch, il y a risque de choc électrique !
- Les équipements Power Switch ne contiennent pas de pièces nécessitant une maintenance. Les éventuelles réparations ne peuvent être faites que par un personnel habilité et formé par le fabricant.
- Toujours utiliser un câble blindé pour la connexion Ethernet.

2. Package list

2.1 Power Switch units

Power Switch Master

The following items are included:

- 2 Power cables
- 1 serial cable SUB-D 9 points male / female
- CD including this user guide and the Power Switch Finder program
- Quick Installation guide

Power Switch Satellite

The following items are included:

- 2 Power cables
- 1 xBus connection cable, length 0.30 Meters
- 1 serial cable SUB-D 9 points male / female
- CD including this user guide
- Quick Installation guide

2.2 Power Switch accessories

Power Switch Temperature sensor

The following items are included:

- 1 xBus connection cable, length 1.80 Meters
- Printed user guide

Power Switch Temperature and Humidity sensor

The following items are included:

- 1 x Bus connection cable, length 1.80 Meters
- Printed user guide

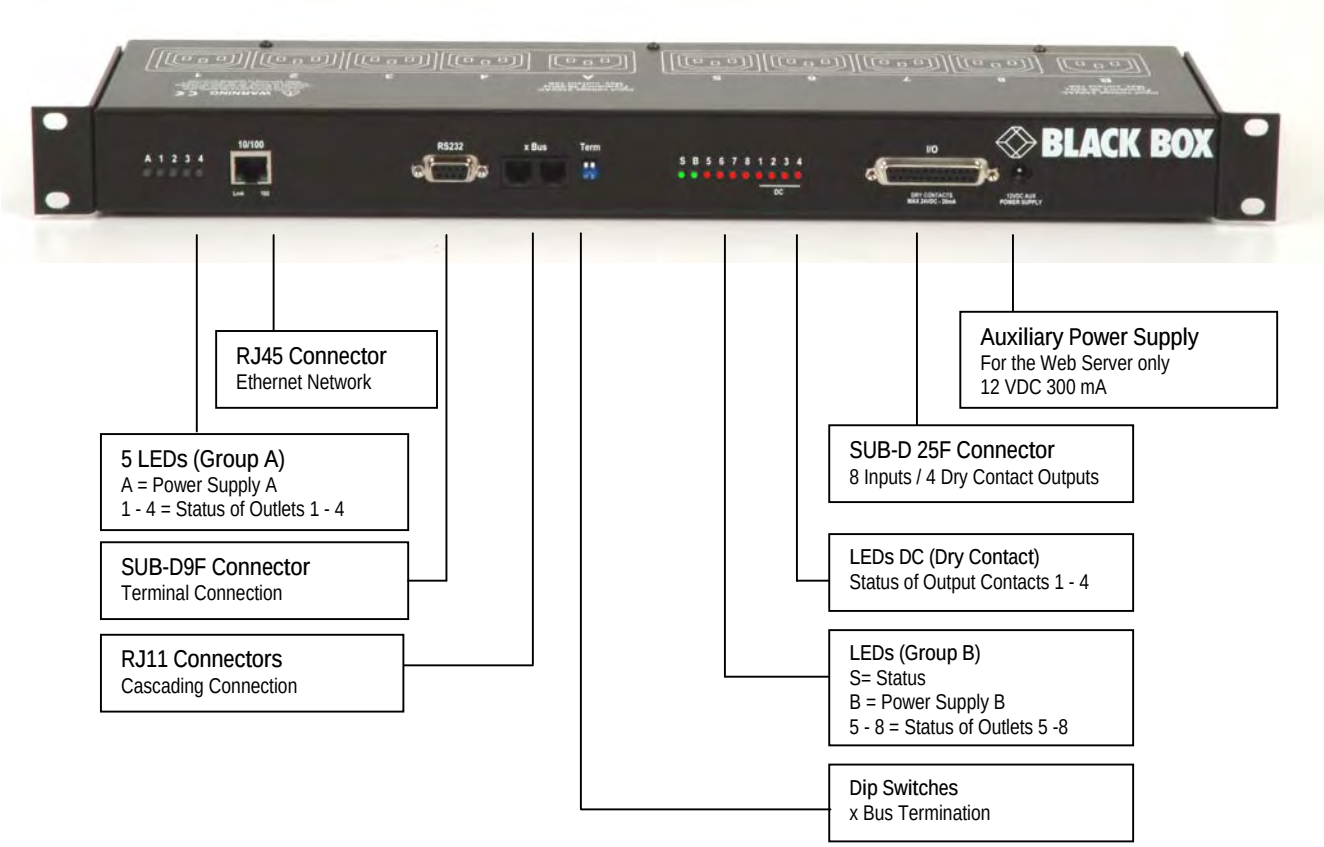
Power Switch I/O Extension Board

The following items are included:

- 1 SUB D 25 M/M cable, length 1.80 Meters
- Printed user guide

3. Diagram

3.1 The Front Panel of the Power Switch Master



A 1 2 3 4 (LEDs)

A Green. Lights up when Power applied on Group A
1 Red. Status of Power Outlets 1
2 Red. Status of Power Outlets 2
3 Red. Status of Power Outlets 3
4 Red. Status of Power Outlets 4

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
These connectors are used for cascading Power Switch devices together (up to 16 Power Switch Satellite and up to 4 Temperatrur / Humidity sensors.
Maximal TOTAL line length: 200 Meters

Term (RS485 Termination DIP Switch)
The x Bus 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
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 Outlets 5
6 Red. Status of Power Outlets 6
7 Red. Status of Power Outlets 7
8 Red. Status of Power Outlets 8
1 Yellow. Dry contact Output 1
2 Yellow. Dry contact Output 2
3 Yellow. Dry contact Output 3
4 Yellow. Dry contact Output 4

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).

3.2 The Back Panel of the Power Switch Master

Power Outlets (Group B)
Power Outlets 5 - 8

Power Outlets (Group A)
Power Outlets 1 - 4

Power Input B
Power Supply A
Status of Outlets 1 - 4

Power Input A
Power Supply A
Status of Outlets 1 - 4

3.3 The Front Panel of the Power Switch Satellite

LEDs
A = Power Supply A
B = Power Supply B
1 - 8 = Status of Outlets 1 - 8

Dip Switches
1 - 4 : physical address of device
5 - 6 x Bus Termination

SUB-D9F Connector
Terminal Connexion

RJ11 Connectors
Cascading Connection

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

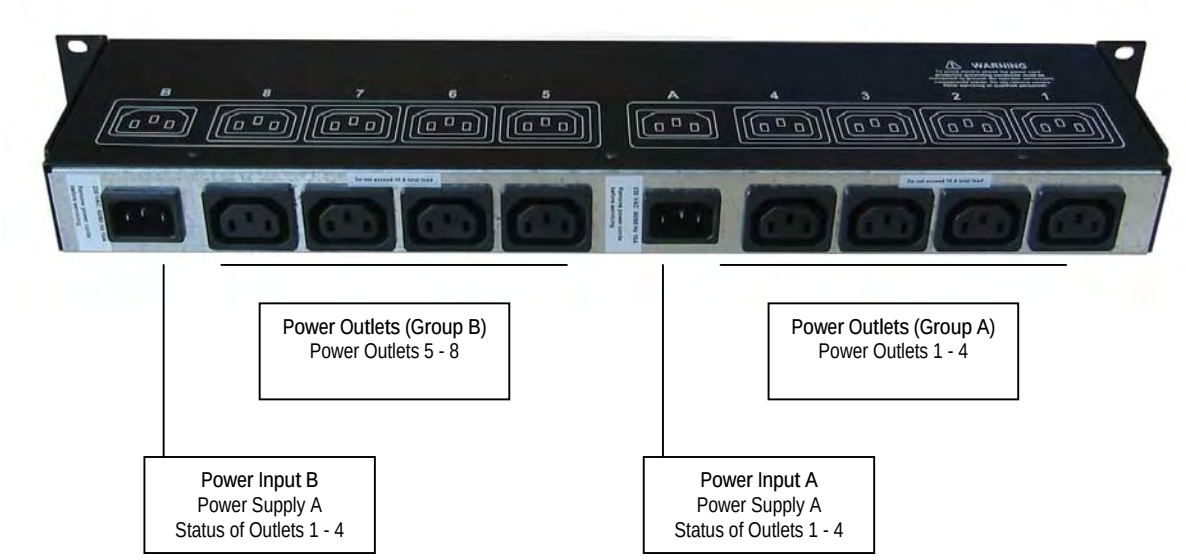
A	Green. Lights up when Power applied on Group A
B	Green. Lights up when Power applied on Group B
1	Red. Status of Power Outlets 1
2	Red. Status of Power Outlets 2
3	Red. Status of Power Outlets 3
4	Red. Status of Power Outlets 4
5	Red. Status of Power Outlets 5
6	Red. Status of Power Outlets 6
7	Red. Status of Power Outlets 7
8	Red. Status of Power Outlets 8

Dip Switches
1 - 4: physical address of device
5 – 6: x Bus Termination

RS232 (SUB-D 9F Connector)
Serial port RS232 with DB-9 female connector
Pinout
2 = RxD
3 = TxD
5 = Gnd

xBus (RS485)
These connectors are used for cascading Power Switch devices together,
up to 16 Power Switch Satellite and up to 4 Temperature / Humidity sensors.
Maximal TOTAL line length: 4.000 feet / 1.200 Meters

3.4 The Back Panel of the Power Switch Satellite



4. Installation the Power Switch Master

Remark:

Make sure that the Power Switch Master is powered off.

Connection Instructions

1. Use a shielded RJ45 Network Cable to connect your Power Switch Master to the network.
2. Use appropriated three-wire Power Cords (two poles plus ground) to connect your electrical devices to the 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 Power Switch Master by following the indications of the chapter "Configuration of the Power Switch Master" or, if necessary, install the Power Switch Satellite as indicated hereafter.

5. Configuring the Power Switch Master

To use the 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 different methods to configure the Power Switch Master:

Method 1:
Through a network using the Power Switch Finder Program (on the delivered CD).

It is the simplest and fastest configuration method if you use Windows as operating system. We suggest that you use this program at least during the first configuration: it allows you to configure your Power Switch Master through your local network even if its network parameters (IP Address, Subnet mask and Port) are not compatible with those of your PC or your local network.
If you decide to use this method you can directly go to chapter "Configuring the network settings of the Power Switch Master with the Finder Program".

Method 2:
Through a network using a Web browser (Internet Explorer > 6.0 or Netscape > 6.1).

This method can only be used if the network parameters of the Power Switch Master (IP Address, Subnet mask…) have already been configured using either the Power Switch Finder program (Method 1) or using a Terminal program (Method 3).
For the first configuration you can also change the Network parameters of your PC according to the default settings of the Power Switch.

Default Network parameters:

IP address	192.168.100.100
Subnet mask	255.255.255.0
Gateway	no address
Port	80

If you decide to use this method you can directly go to the chapter "Configuring the network settings of the Power Switch Master with a browser".

Method 3:
Through a RS232 serial connection using a Terminal connection.

If you use a PC, use the serial cable supplied with the product and a Terminal program such as Widows HyperTerminal or the MicroTerminal program on the CD (folder miscellaneous).
If you decide to use this method, you can directly go to the chapter "Configuring the network settings of the Power Switch Master through a Terminal connection".

5.1 Configuring the network settings of the Power Switch Master with the Finder Program

Remarks:

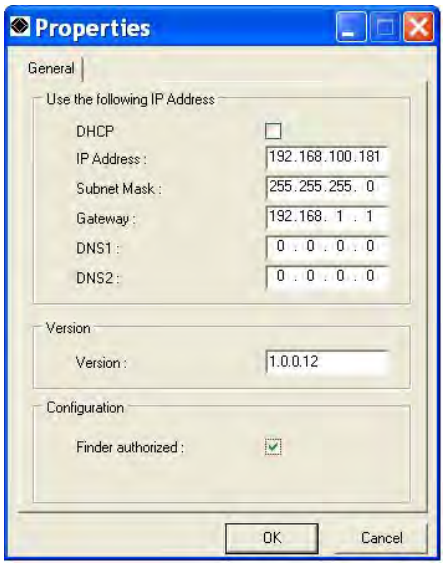
The Power Switch Master and the PC used to configure it, have to be connected on the same segment of the network. The protocol of this program can not be routed so it can not be used to configure the Power Switch through a WAN or the Internet.

This program does not work if the administrator has deactivated it in the configuration of the Power Switch Master (for security reasons for example).

1. Start the PS-Finder.exe program on the CD-ROM.
   The Power Switch Finder window appears.

2. In the tool bar click on the first left button or choose the ***File/Scan Menu***. The program browses the segment on which is connected your PC and displays the name, the type, the IP and MAC Address of the connected Power Switch.

3. In the tool bar click on the second left button or choose the ***File/Configure*** Menu. The properties dialog box appears and you can now configure the network parameters.



This page enables to define all IP parameters of the Power Switch Master device (IP Address, Subnet Mask, Default Gateway, Primary and Secondary DNS Server).

DHCP Client enabled
If this check box is selected, the web server will automatically initialize the IP address from a DHCP host and disable manual IP address setup. Note that use of DHCP (Dynamic Host Configuration Protocol) requires a DHCP host to be set up on the network.
IP Address
IP address of Power Switch Master default is 192.168.100.200.
Subnet Mask:
Subnet Mask of Power Switch, default is 255.255.255.0.

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

Finder Program authorized
The Network parameters of the Power Switch Master (IP address, Default Gateway...) can also be configured through a network using the delivered Finder Program. It is the simplest and fastest configuration method if you use Windows as operating system.
If you want to desable the use of the Finder Program, uncheck the box "Finder program authorized".

5.2 Configuring the network settings of the Power Switch Master through a Terminal connection

Remarks:

For security reasons, we advise you to disable the Finder program after the first installation. This program **does not** use SSL technology, it is only intended for a first quick installation over the LAN.

If you change the IP address, the system needs to compute new SSL keys. This operation takes several minutes and the LED marked "S" on the front panel blinks 3 times repeatedly during all the process. During all this time, you cannot login.

1. Use the supplied RS232 serial cable to connect the serial port marked RS232 on the front panel of the Power Switch Master to an available serial port of your PC.

2. Run a terminal program such as Windows HyperTerminal or the MicroTerminal program on the CD (“Miscellaneous” folder).

3. Configure the appropriate serial port with the following settings: 9.600 bauds, 8 bits, no parity, 1 stop bit and no flow control. If you use the MicroTerminal program on the supplied CD-ROM (“Miscellaneous” folder) you only have to choose the used serial port, this program is already configured at 9600,n,8,1.

4. On your computer, press <ENTER> until the configuration's menu appears on your screen, then press "M" and follow the menu to configure the network parameters of your Secure Power Switch Master.

The serial connection also enables you to use following commands.

```
/viewlog           Display the log file
/initlog           Clear the log file
/initsslkey        Compute new SSL keys (needs several minutes!)
/initadminaccount  Restore default administrator password
/restorefactconf   Restore to factory default settings
/help              Display this help
/?                 Display this help
```

5.3 Configuring the network settings of the Power Switch Master with a browser

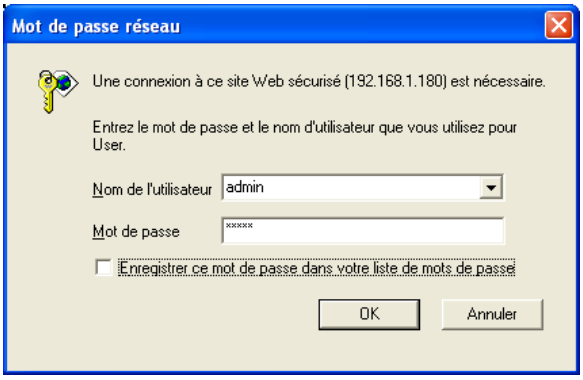
Remarks:

In order to be able to access the Web server of the Power Switch Master, you must before have configured its network parameters (ask your network administrator for the parameters to use).

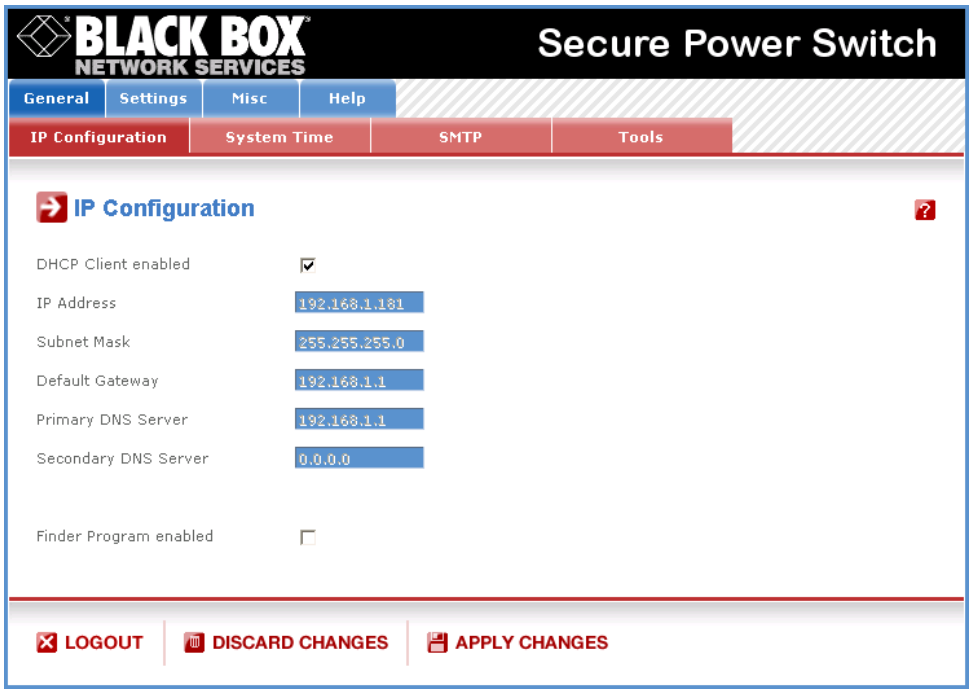
The Web server of the Power Switch Master works with Internet Explorer Version 6.0 or higher and with Netscape Version 6.1 or higher.

1. Start your Web browser.

2. Type the IP address of your Power Switch Master following by /sysadmin.htm to access to the configuration page .
   Example: http://192.168.1.180/sysadmin.htm
   The browser displays the authentication dialog box.

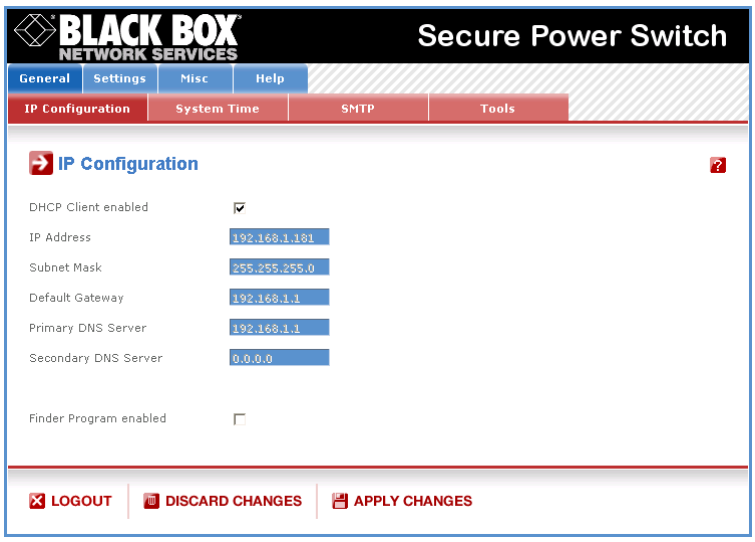


3. Enter the administrator ***name*** and ***password*** then click on ***OK***
   (default values = admin for name and password).
   The configuration page is displayed, allowing you to set all the parameters of the Power Switch Master. There are four main tabs: General, Settings, Misc and Help. Additional tabs will be available after you click one of the main tabs.



5.3.1 GENERAL / IP CONFIGURATION PAGE

This page enables you to define all the IP parameters of the Power Switch Master device (IP Address, Subnet Mask, Default Gateway, Primary and Secondary DNS Server).



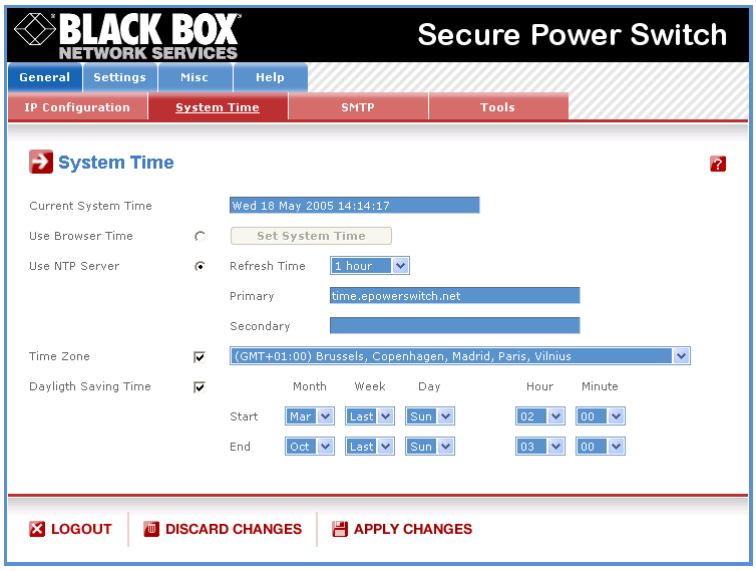
DHCP Client enabled
If this check box is selected, the web server will automatically initialize the IP address from a DHCP host and disable manual IP address setup. Factory default setting for this option is enabled.
Note : Use of DHCP (Dynamic Host Configuration Protocol) requires a DHCP host to be set up on the network.
IP Address
IP address of Power Switch 6XM, default is 192.168.100.200.
Note: If you change the IP address, the system needs to compute new SSL keys.. This operation takes several minutes and the LED marked "S" on the front panel blinks 3 times repeatedly during all the process. During all this time, you cannot login.
Subnet Mask:
Subnet Mask of Power Switch, 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 Power Switch Master (IP address, Default Gateway...) can also be configured through a network using the provided Finder Program. It is the simplest and fastest configuration method if you use Windows as an operating system.
If you do not want to use the Finder Program, uncheck the box "Finder program enabled".

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.

5.3.2 GENERAL / SYSTEM TIME PAGE

The system time of the Power Switch Master is used for synchronizing scheduling actions and to timestamp e-mails and system logging activities. The system time can be set manually with the browser time of the connected computer or can be set automatically synchronize with a NTP timeserver.

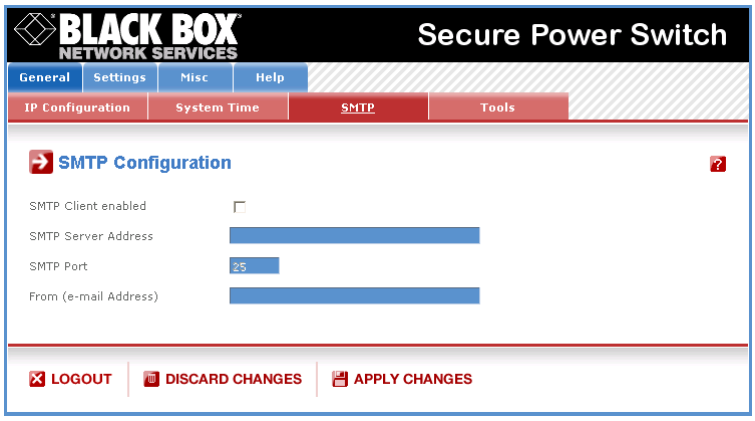


Current System Time
This field shows the current system time of the Power Switch Master. As the system time is displayed through the browser, a small difference (1 to 2 sec) can appear as compared to the exact hour. The system time is nevertheless correct.
Use Browser Time
If you want to set the system time using the current Browser time of your PC, select this option and click on the button "Set System Time".
Use NTP Server
If you want to set the system time using a 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 time server is optional and is used only if the primary timeserver is not available. You can enter either the hostname or the IP address of a NTP server. Note that NTP uses port 123/UDP.
Example: time.Power Switch.net or 192.168.1.252
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 UTP. 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.

5.3.3 GENERAL / SMTP PAGE

The Power Switch Master can be configured to send e-mails to addresses specified in the Settings/Rules Tab. To send e-mails, you will need a SMTP server on the network and you will have to configure the following parameters:

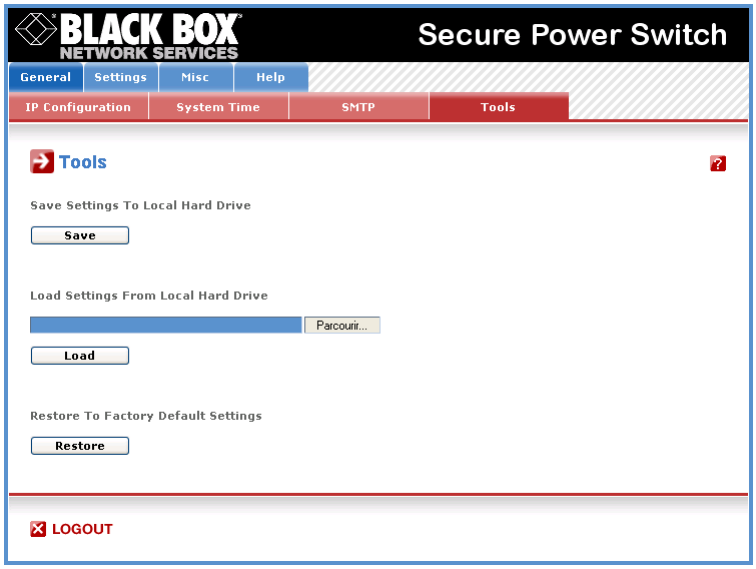


SMTP enabled
Check this box if you want the Power Switch Master to be able to send e-mails.
SMTP Server Address
In this field, enter the address of the e-mail server you want to use.
You can enter either the hostname or the IP address of a NTP server.
Example: smtp.yahoo.com or 127.0.0.1
SMTP Port
In this field, enter the Port Number you want to use, default and usual value is 25.
From Address
In this field, enter the E-Mail address that Power Switch Master messages will appear to come from. This should be a valid address (generally servers rejects messages that don't have a valid from address).

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.

5.3.4 GENERAL / TOOLS PAGE

This page enables you to save and download the current system settings. It also enables you to restore the factory settings.

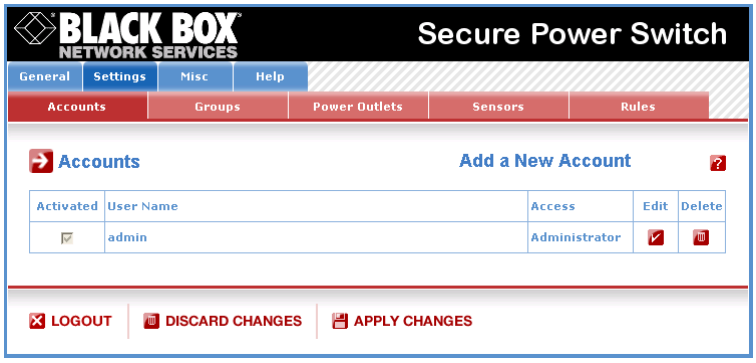


Save button
Click this button to save the current system settings onto the local hard drive.
Load button
Click this button and select a setting file you want to download to the Power Switch.
Restore
Click this button if you want to restore the factory default settings.

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

5.3.5 SETTINGS / ACCOUNTS PAGE

This page is used to create, activate, deactivate, modify and delete accounts.
- 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 parameters of the account.
- To activate or deactivate an account, check or uncheck the corresponding checkbox.
- To modify an account, click on "Edit" of the corresponding account.
- To delete an existing account, click on "Delete" of the corresponding 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 again the password.
Groups
In this field, you will find all the created groups. If no group has been created, this field is empty.
To add a group or groups of power outlets to the account you are creating, press the Ctrl key and click on the group(s) you want to add. The selected groups are marked dark blue and their names are listed at the right of the field "Groups".
Device
In this drop-down list, choose a device from which you want to add power outlets to the current account.

Power Outlets
This field is used to add and remove power outlets to/from the current account.
- To add power outlets to the current account, press the Ctrl key and click on the power outlets device 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".

Sensor
In this drop-down list, choose the sensor box you want to add to the current account.
The Power Switch Master supports up to 4 sensor boxes (currently for temperature or temperatur and humidity) identified by ID Codes T1 to T4. 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/Sensors" tab.
- The " " character (blank) means that the corresponding sensor is physically connected and activated.>

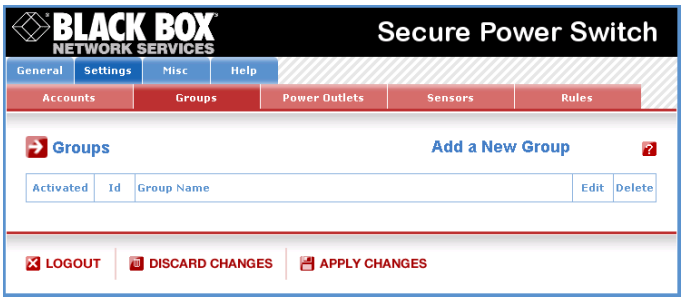
Sensor Type
This field is used to add and remove sensor types to/from the current account.
- To add sensor types (temperature or humidity) to the current account, press the Ctrl key and click on the sensor type s device selected in the field above. The selected sensors are marked dark blue and their names are listed at the right of the field "Power Outlets".
- To remove a sensor type, press the Ctrl key and click on the sensor type 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.

5.3.6 SETTINGS / GROUPS PAGE

Groups Page
This page is used to manage groups of power outlets. This functionnality is particularly usefull if you have to control the power supply of devices using redundant power supplies.
You can create groups including several power outlets distributed on a Power Switch Master and several Power Switch Satellite.

This page is used to create, modify and delete groups.
- 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.
- To delete an existing group, click on "Delete" of the correponding device.
- To add or remove power outlets to from an existing group, click on "Edit" of the correponding device.



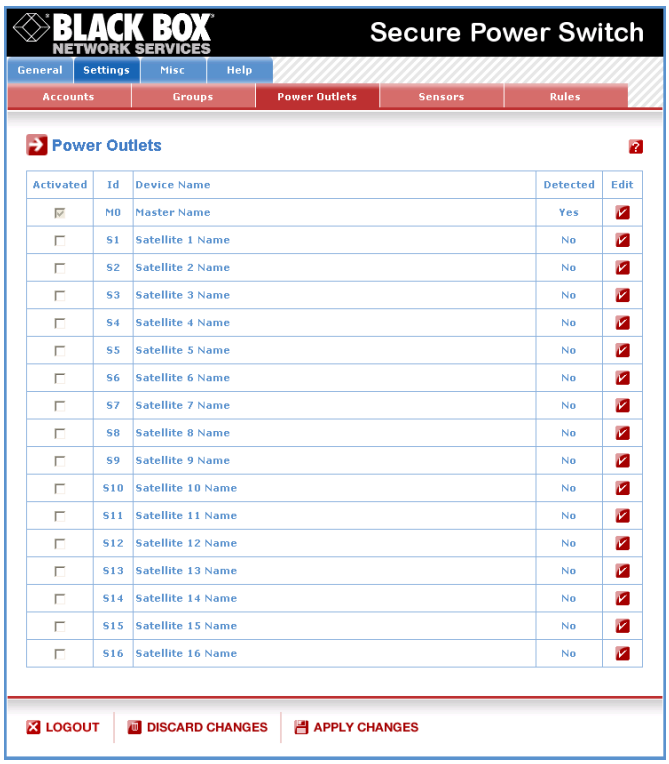
Group Id
The Power Switch Master automatically creates an ID Code to clearly identify each groupe of Power Outlets. All the ID Codes used to identify groups start with the character "G".
Group Name
In this field, enter the name you want to give to the group. The name can be from 1 to 32 characters long, and can contain alphanumeric characters.
Device
In this drop-down list choose an Power Switch from which you want to add power outlets to the group.
Power Outlets
This field is used to add and remove power outlets from the group.
- To add power outlets to the group, press the Ctrl key and click on the power outlets of the Power Switch device 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.

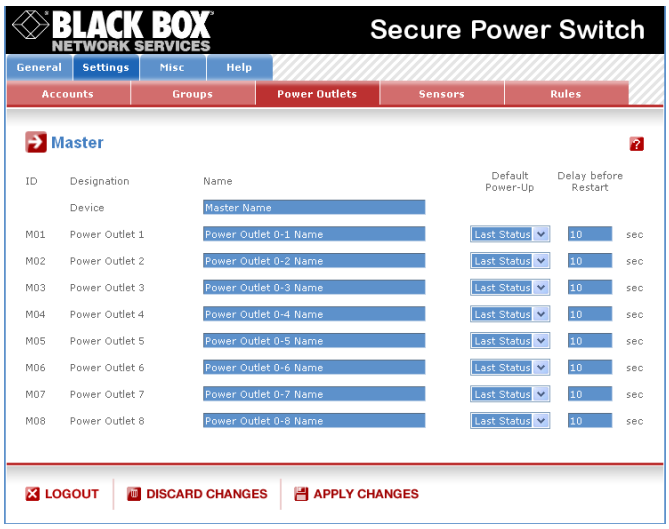
5.3.7 SETTINGS / POWER OUTLETS PAGE

This page is used to configure all the power outlets of the Power Switch Master and all Power Switch Satellite.



The main page is also very usefull to give on an overview of all the Power Switch Satellite that are activated and detected by the Power Switch Master.

- To activate an Power Switch Satellite check the box "Activated" of the corresponding Power Switch Satellite. The Power Switch Master can not be deactivated.
- To deactivate an Power Switch Satellite uncheck the box "Activated" of the corresponding Power Switch Satellite. Even if the device remains physically connected to the Master, its power outlets will no longer be accessible by its authorized users.
- To configure or modify the settings of an Power Switch device, click on "Edit" of the correponding device. A new page appears allowing you to set all parameters of the group.



ID
The Power Switch Master automatically creates an ID Code to clearly identify each Power Outlet.
- All the ID Codes used to identify the power outlets of an Power Switch Master start with the character "M" followed by a number identifying each power outlet.
- All the ID Codes used to identify the power outlets of an Power Switch Satellite start with the character "S" followed by a number identifying each power outlet.

Name
In this fields, enter the name you want to give to the selected device and to each of its power outlets. The name can be from 1 to 32 characters long, and can contain alphanumeric characters.

Default Power-Up Delay
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 to On after power-up.
- **Off** if you want the corresponding power outlet to be always switched to Off after power-up.
- **Last Status** if you want that the corresponding power outlet takes again the state it was in the before power failure.

Delay before Restart
In this fields, enter the Restart Delay you want to define for each power outlet. Restart delay means how long the plug will remain Off before it is switched back On again after a restart operation.
The delay can be set between 0 and 65535 seconds.

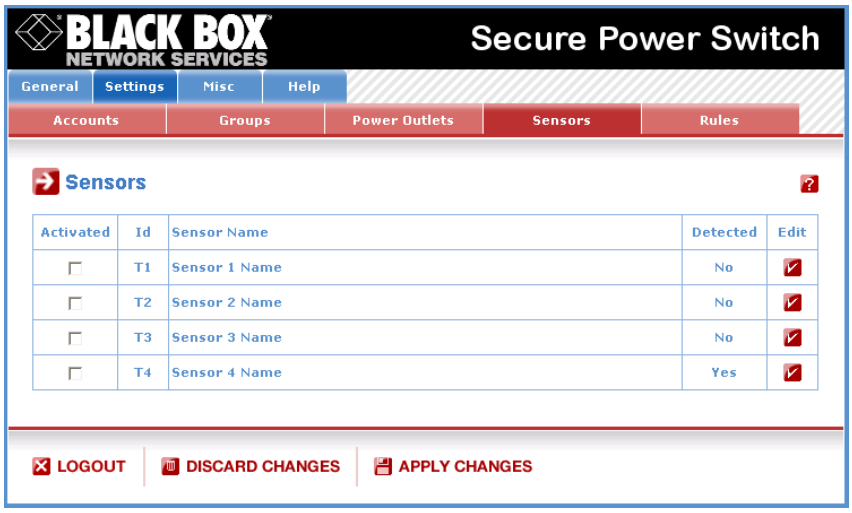
LOGOUT
Click "Logout" at the bottom of the page to exit the session without saving changes.

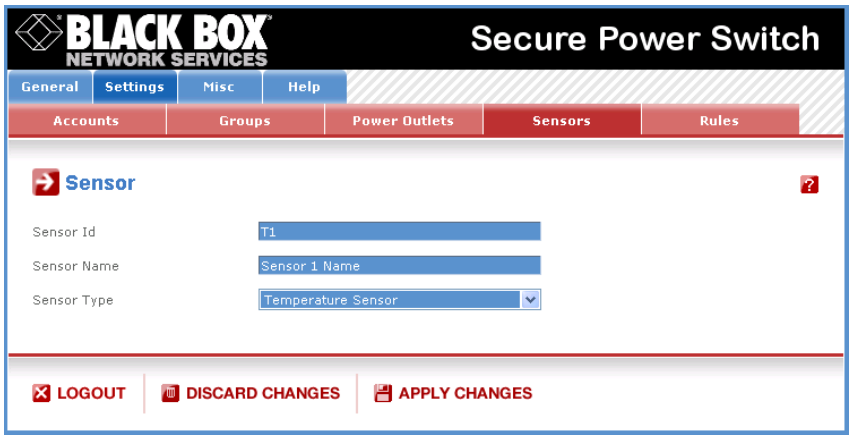
DISCARD CHANGES
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.

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

5.4.8 SETTINGS / SENSORS PAGE

This page is used to configure the temperature and humidity sensors.





Sensor Id
The Power Switch Master automatically creates an ID Code to clearly identify each Sensor. All the ID Codes used to identify Sensors start with the character "T" followed by a number identifying each 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.
Sensor Type
In this drop-down list, choose the sensor type you want to use.

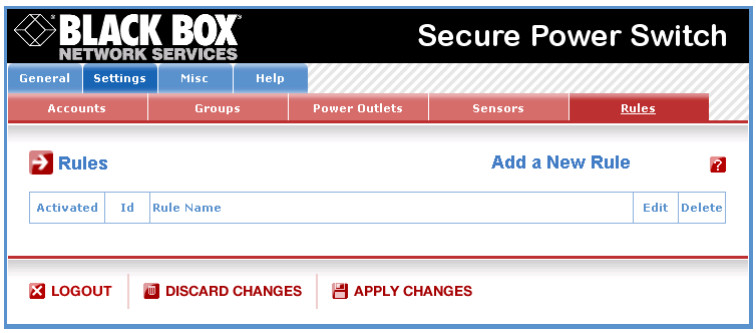
LOGOUT
Click "Logout" at the bottom of the page to exit the session without saving changes.
DISCARD CHANGES
Click "Discard Changes" at the bottom of the page to discard all changes you have made on this page.
APPLY CHANGES
Click "Apply Changes" at the bottom of the page to save changes.

5.4.9 SETTINGS / RULES PAGE

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 e-mail to a specific user when a predefined temperature is reached or a contact is open.

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

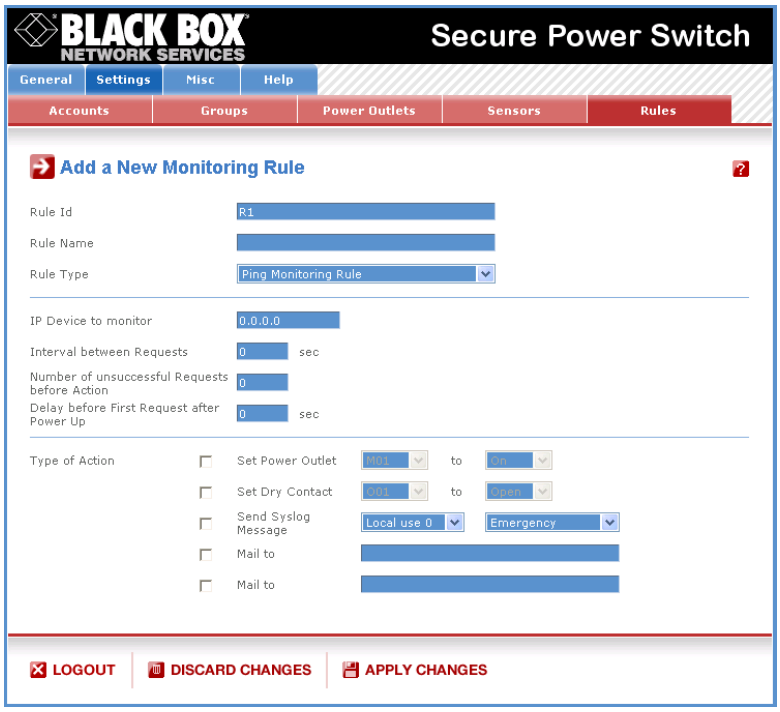
A total of 255 rules can be created and there are 6 different types of rules.



Ping Monitoring Rule
This rule is used to control actions according to the response to a Ping command.
Scan Monitoring Rule
This rule is used to control actions according to the response to a Scan command.
Dry Contact Monitoring Rule
This rule is used to control actions according to the state of a dry contacts (for example, the dry contact could be connected to a door contact or a fog sensor).
Power Supply Monitoring Rule
This rule is used to control actions according to the state of the power supplies of any Master or Satellite Unit.
Schedule Rule
This rules is used to control actions according to the scheduler of the Master Unit.
Environment Rule
This rule is used to control actions according to environment values (temperature and/or humidity).

5.4.10 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 (for more details, see Annexes "Ping and Scan method").



Rule ID
The Power Switch Master automatically creates an ID Code to clearly identify each rule. All the ID Codes used to identify rules start with the character "R" followed by a number.
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 Type
In this field is displayed the type of the rule you are configuring (Ping Monitoring Rule in that case).

Rules are used to control actions according to specific events. After choosing the type of the rule in the drop-down list, you will have first to configure the event and then to configure the actions to perform.

IP device to monitor
In this field, enter the IP address of the IP device that you want to monitor using the Ping command.
Interval between Monitoring
In this field, define the delay in seconds between ping commands sent to the IP device to monitor. The delay can be set between 0 and 65535 seconds.
Number of unsuccessful Ping commands before Action
In this field, define the number of Ping commands to send to the IP device before executing the actions.
Delay before Restarting the Monitoring after Action
In this field, define the time in seconds before restarting the monitoring after the reboot action.
The delay can be set between 0 and 65535 seconds.

Type of action
For the Ping Monitoring Rule defined above, you can choose and configure the following actions:
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, select 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.

Set Group
This type of action is only possible if you already created at least one group!
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, select 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 Page".
- If you choose a delay different from 0, the delay will replace the delay setted in the "Power Outlets Page".

Set Dry Contact
Check this box and in the corresponding drop-down list, choose the dry contact the rule will apply to. In the next corresponding drop-down list, select the action to execute.
Each power dry contact can be switched On/Off and pulsed (open or close) for a specified delay. The delay can be define between 0 and 65535 seconds.

Send Syslog Messages
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".

Mail to
Check this box and specify an e-mails address in the corresponding field if you want to send an E-Mail to a specific user. 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".

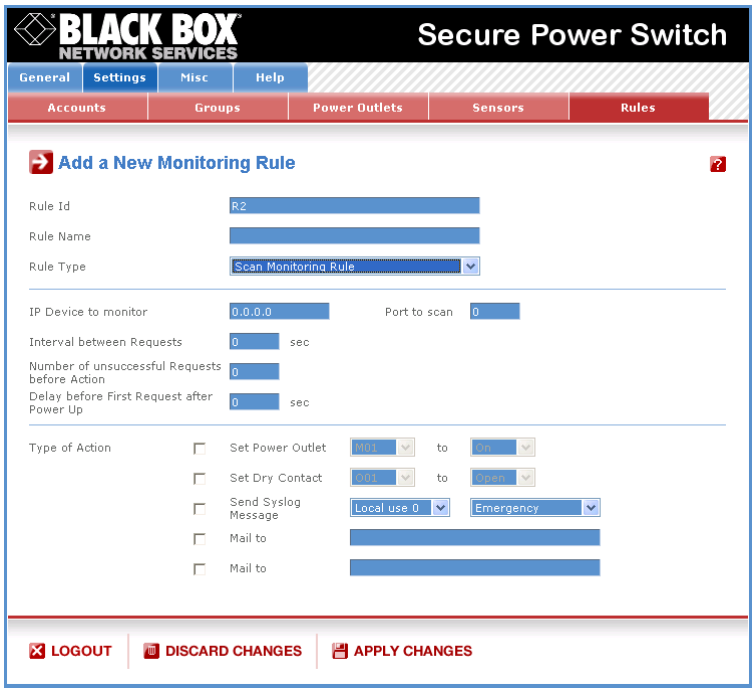
LOGOUT
Click "Logout" at the bottom of the page to exit the session without saving changes.

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.

5.4.11 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, Power Switch Master knows that a server program is running there. If the connection is not possible, Power Switch Master can automatically switch the powered device off and after a specified delay switch it again on.



Rule ID
The 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.
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 Type
This field displayes the type of the rule you are configuring (Scan Monitoring Rule in that case).

Rules are used to control actions according to specific events. After choosing the type of the rule in the drop-down list, you will have first to configure the event and then to configure the actions to execute.

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 you want to check.
Interval between Monitoring
In this field, define the delay between the scan commands sent to the IP device. The delay can be set between 0 and 65535 seconds.
Number of unsuccessful Requests before Action
In this field, define the number of Port scaning commands to be sent to the IP device before executing the actions.
Delay before Restarting the Monitoring after Action
In this field, define the time in seconds before restarting the monitoring after the reboot action.
The delay can be set between 0 and 65535 seconds.

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

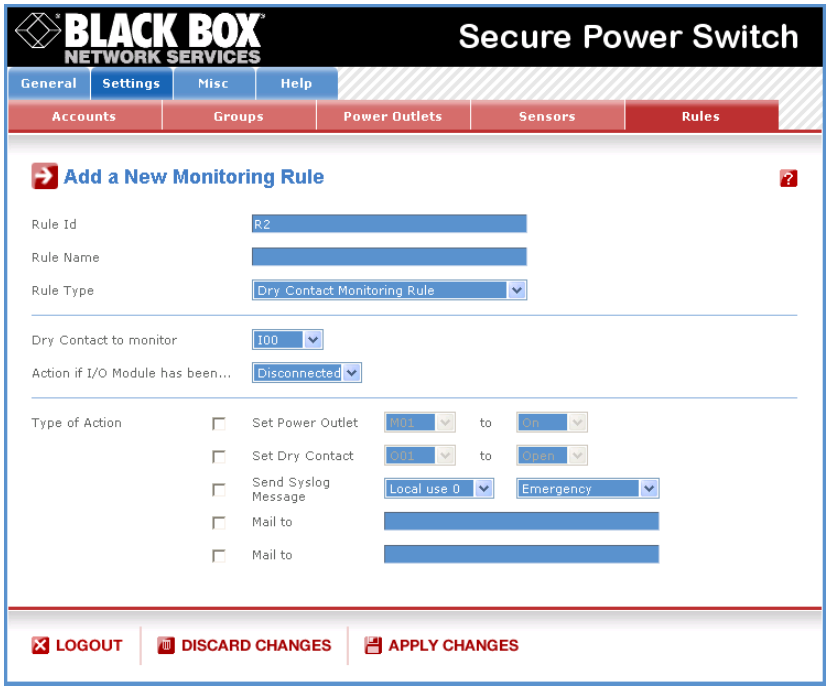
Set Power Outlet
Check this box and in the corresponding drop-down list, choose the power outlet the rule will apply to. In the next corresponding drop-down list, choose the action to perform. Each power outlet can be switched On/Off and restarted. If you choose "restart" you will also be able to define a restart delay between and 65535 seconds.
Set Group
This type of action is only possible if you already created at least one group!
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 perform.
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 Page".
- If you choose a delay different from 0, the delay will replace the delay defined in the "Power Outlets Page".

Set Dry Contact
Check this box and in the corresponding drop-down list, choose the dry contact the rule will apply to. In the next corresponding drop-down list, choose the action to perform.
Each power dry contact can be switched On/Off and pulsed (open or close) for a specified delay. The delay can be define between 0 and 65535 seconds.
Send Syslog Messages
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".
Mail to
Check this box and specify an e-mails address in the corresponding field if you want to send an e-Mail to a specific user. 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".

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.

5.4.12 DRY CONTACT MONITORING RULE

This rule is used to control actions according to the state of ay dry contacts (for example, the dry contact could be connected to a door contact or a fog sensor).



Rule ID
The 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.
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 Type
This field displays the type of the rule you are configuring (Dry Contact Monitoring Rule in that case).

Rules are used to control actions according to specific events. After choosing the type of the rule in the drop-down list, you will have first to configure the event and then to configure the actions to perform.

Dry contact to monitor
In this Drop-Down list, choose the Dry Contact Input you want to monitor. The Power Switch Master uses ID Codes to clearly identify each Input. All ID Codes used to identify Dry Contact Inputs start with the letter "I" followed by a number, 1 for dry contact 1, 2 for dry contact 2.....4 for dry contact 4.
Action if contact...
In this Drop-Down list, choose if the action has to be executed if the contact opens or closes.

Type of action
For the Ping Monitoring Rule defined above, you can choose and configure the following actions:

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, select 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.
Set Group
This type of action is only possible if you already created at least one group!
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 perform.
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 Page".
- If you choose a delay different from 0, the delay will replace the delay defined in the "Power Outlets Page".

Set Dry Contact
Check this box and in the corresponding drop-down list, choose the dry contact the rule will apply to. In the next corresponding drop-down list, choose the action to perform.
Each power dry contact can be switched On/Off and pulsed (open or close) for a specified delay. The delay can be define between 0 and 65535 seconds.
Send Syslog Messages
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".
Mail to
Check this box and specify an e-mails address in the corresponding field if you want to send an e-Mail to a specific user. 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".

Example
You want to monitor the entrance door of your data center and in case of intrusion you want to send a message to a Syslog server and receive an e-mail.
You need:
- the Power Switch I/O extension board
- a door contact switch with an external magnetic contact
- 2-wire cable

Installation:
- Connect the Power Switch I/O extension board to the SUB-D 25 connector of the Power Switch Master using the cable supplied with the I/O extension board
- Connect the 2 wires of the door contact to the Dry Contact Input 1 (DC1)
  The door contact can be located up to 10 meters from the I/O extension board.

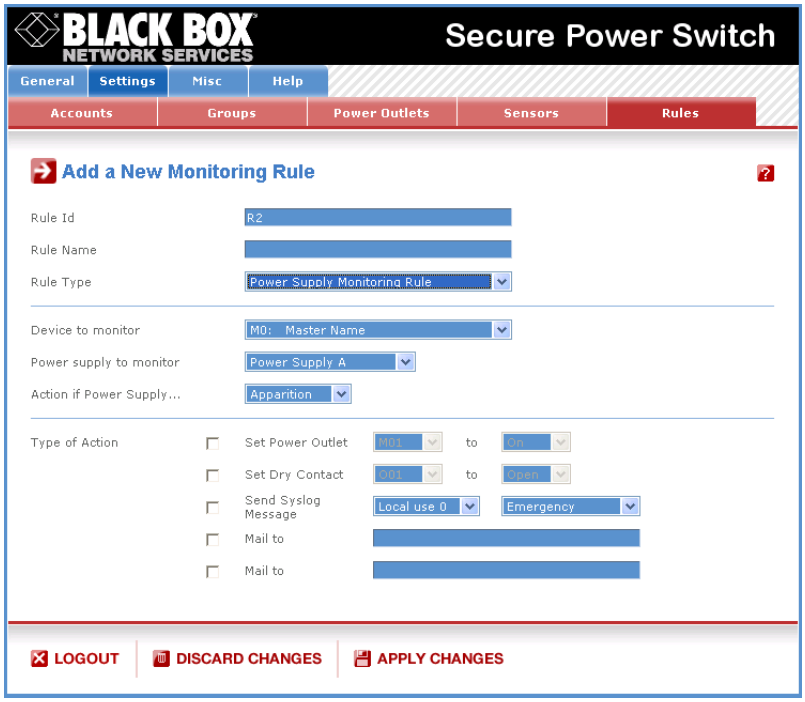
Event configuration:
- Click on the Settings Tab, then on the Rules Tab
- Click on Add a New Rule
- In "Type of the Rule", choose "Dry Contact Monitoring Rule"
- In "Dry Contact to monitor", choose "IO1" (if you connected the door contact on Input 1)
- In "Action", choose "open" (normally the door contact switch opens when the door is open).

Action configuration:
- Check the box "Send Syslog Message" and choose the Facility and the Severity you want to give to the Syslog message.
- Check the box "Mail to" and specify the e-mail address the e-mail has to 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.

5.4.13 POWER SUPPLY MONITORING RULE

This rule can be used to monitor the status of the power suplies of each Power Switch Master and Power Switch Satellite.



Rule ID
The Power Switch Master automatically creates an ID Code to clearly identify each rule. All the ID Codes used to identify rules start with the character "R" followed by a number.
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 Type
In this Drop-Down list, choose Power Supply Monitoring Rule.

Rules are used to control actions according to specific events. First you will have to configure the choosen event as follows, then you will choose the actions to execute.

Device to monitor
In this Drop-Down list, choose the device for which you want to monitor the power supply.
Each device name is preceded by the ID Code of the device (M0 for the Master, S1 for the Satellite 1, S2 for the Satellite 2...).
A character between brackets can follow this ID Code:
- The "X" character means that the corresponding Satellite is physically not connected.
- The "!" character means that the corresponding Satellite 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.>

Power Supply to monitor
In this Drop-Down list, choose the power supply you wish to monitor.
- If in the previous drop-down list, you choose Master unit (ID Code M0), you can choose to monitor the power supply input A, the Power supply input B and the auxiliary power supply input located on the front panel of the Master unit.
  Power supply A is used for the power outlets 1 to 4 and of course to supply the Webserver.
  Power supply B is used for the power outlets 5 to 8 and of course to supply the Webserver.
  Auxiliary Power Supply is used only for the Web server.

- If in previous drop-down list, you choose a Satellite unit (ID Code S1 to S16), you can choose to monitor the power supply input A and the Power supply input B.
  Power supply A is used for the power outlets 1 to 4 and of course to supply the electronic circuits of the Satellite.
- Power supply B is used for the power outlets 5 to 8 and of course to supply the electronic circuits of the Satellite.

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

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.

Set Group
!!! This type of action is only possible if you already created at least one group.
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 setted in the "Power Outlets Page".
- If you choose a delay different from 0, the delay will replace the delay setted in the "Power Outlets Page".

Set Dry Contact
Check this box and in the corresponding drop-down list, choose the dry contact the rule will apply to. In the next corresponding drop-down list, choose the action to execute.
Each power dry contact can be switched On/Off and pulsed (open or close) for a specified delay. The delay can be define between 0 and 65535 seconds.

Send Syslog Messages
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".

Mail to
Check this box and specify an e-mails address in the corresponding field if you want to send an e-Mail to a specific user. 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".

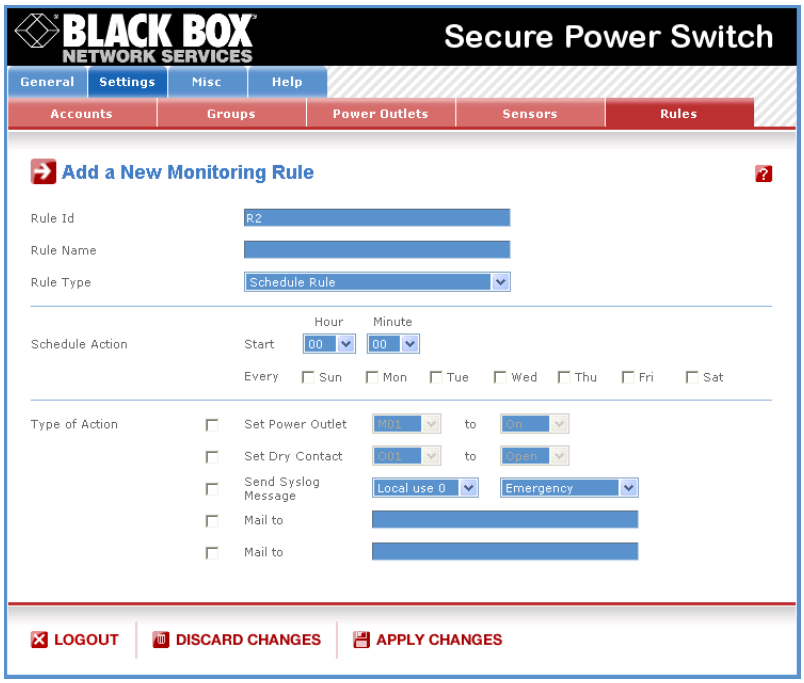
LOGOUT
Click "Logout" at the bottom of the page to exit the session without saving changes.

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.

5.4.14 SCHEDULE RULE

This rule can be used to execute some actions according to a defined time table.



Rule ID
The Power Switch Master automatically creates an ID Code to clearly identify each rule. All the ID Codes used to identify rules start with the character "R" followed by a number.
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 Type
In this Drop-Down list, choose Power Schedule Rule.

Rules are used to control actions according to a specific event. First you will have to configure the chosen event as follows, then you will choose the actions to perform.

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.

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 perform. 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.
Set Group
!!! This type of action is only possible if you already created at least one group.
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 perform.
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 betweeen 0 and 65535 seconds.
- If you choose 0 second for the delay, the delay will be the delay setted in the "Power Outlets Page".
- If you choose a delay different from 0, the delay will replace the delay setted in the "Power Outlets Page".

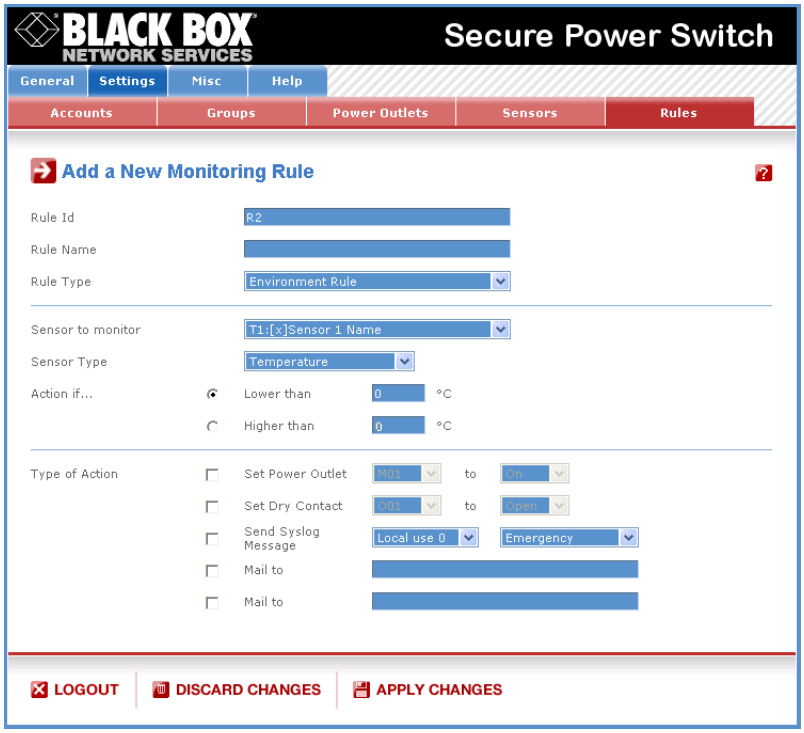
Set Dry Contact
Check this box and in the corresponding drop-down list, choose the dry contact the rule will apply to. In the next corresponding drop-down list, choose the action to perform.
Each power dry contact can be switched On/Off and pulsed (open or close) for a specified delay. The delay can be define between 0 and to 65535 seconds.

Send Syslog Messages
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".
Mail to
Check this box and specify an e-mails address in the corresponding field if you want to send an E-Mail to a specific user. 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".

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.

5.4.15 ENVIRONMENT RULE

This rule can be used to monitor a temperature or a humidity value and perform actions when the predefined value is exceeded.



Rule ID
The Power Switch Master automatically creates an ID Code to clearly identify each rule. All the ID Codes used to identify rules start with the character "R" followed by a number.
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 Type
In this Drop-Down list, choose Environment Rule.

Rules are used to control actions according to a specific event. First you will have to configure the choosen event as follows, then you will choose the actions to perform.

Sensor to monitor
Choose in this Drop-Down list the sensor you want to monitor.
The Power Switch Master supports up to 4 sensors and each sensor name, which can be defined by the administrator (go to Settings/Sensors Tab), is preceded by the ID Code of the sensor. All ID Codes used to identify temperarture and temperature/humidity sensors start with the character "T" followed by a number. This ID Code can be followed by a character between brackets:
- The "X" character means that the corresponding Satellite is physically not connected.
- The "!" character means that the corresponding Satellite 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.>

Sensor type to monitor
According to the sensor model you use, choose temperature or humidity in this Drop-Down list. Two sensor models are available (see the label on the back of your sensor box): the first one uses a temperature sensor and the second one a temperature and humidity sensor.

Action Condition
The options "higher than" and "lower than" enables you to define when the rule has to be executed.
- Choose "higher than" if you want to execute the rule if 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 if 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 xx° and yy °C
For relative humidity, you can define values between xx RH and yy RH

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.
Set Group
!!! This type of action is only possible if you already created at least one group.
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 perform.
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 Page".
- If you choose a delay different from 0, the delay will replace the delay defined in the "Power Outlets Page".

Set Dry Contact
Check this box and in the corresponding drop-down list, choose the dry contact the rule will apply to. In the next corresponding drop-down list, choose the action to execute.
Each power dry contact can be switched On/Off and pulsed (open or close) for a specified delay. The delay can be define between 0 and 65535 seconds.
Send Syslog Messages
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".
Mail to
Check this box and specify an e-mails address in the corresponding field if you want to send an e-Mail to a specific user. 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".

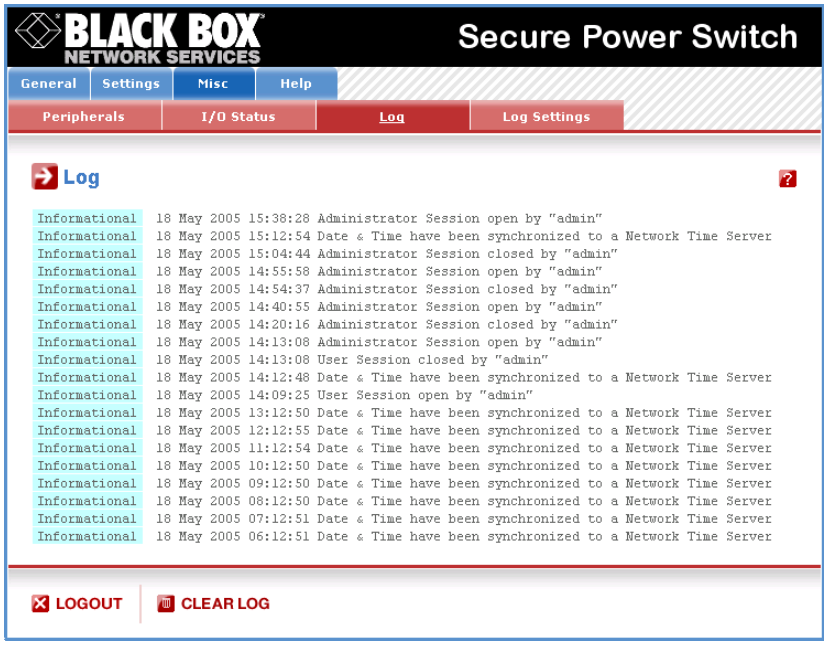
LOGOUT
Click "Logout" at the bottom of the page to exit the session without saving changes.
DISCARD CHANGES
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.
APPLY CHANGES
Click "Apply Changes" at the bottom of the page to save changes.

5.4.16 MISC / PERIPHERALS PAGE

This page displays the ID, Type and Name of all detected peripherals.
If you want to know the actual firmware version of the connected peripherals, click on the corresponding "Info" button. For the Power Switch Master and Satellite you will then also have access to the switching operations counters of each power outlet. This counters can be reset by clicking the "Clear All Counters" button on the bottom of the page.

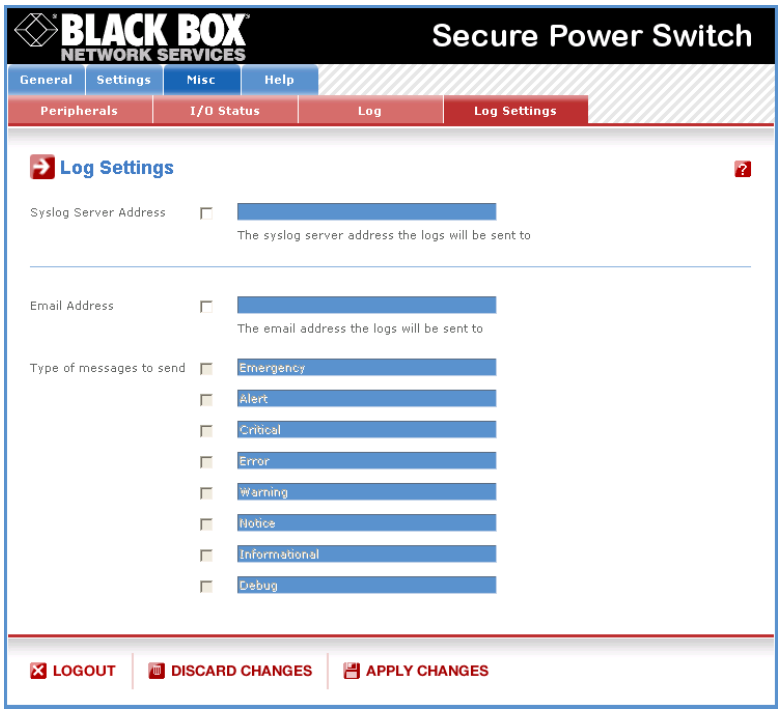
5.4.17 MISC / LOG PAGE

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).



5.4.18 MISC / LOG SETTINGS PAGE

Power Switch Master can output Syslog messages and/or send selected logs to a specific e-mail address. The logs are often quite useful for discovering the causes of tricky problems.
For the logs to be sent to a specific e-mail address, the administrator can choose the severity of the messages to be sent.

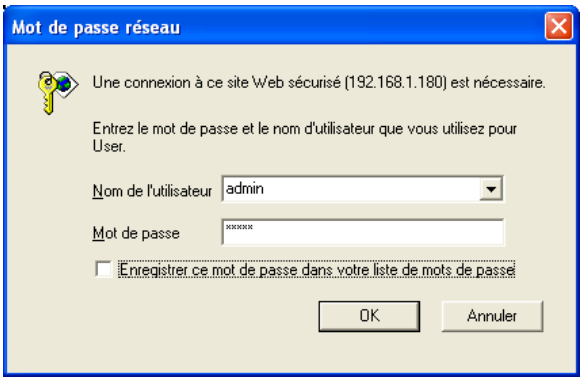


Syslog Server Address
If you want to enable the Power Switch Master to send messages to a Syslog Server, check the box "Syslog Server Address" and enter the address of the Syslog Server you wish to use.
You can enter either the hostname or the IP address of a Syslog server.
Power Switch Master uses the usual UDP Port 514 to output Syslog messages.
Example: syslog.Power Switch.com or 192.168.1.252
E-Mail Address
If you want to enable the 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 sendSeverity of the messages to be sent
Specify in this field the severity of the messages you want to send to the specified e-mail address. The messages are classified in 8 severity Levels (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.

6. Controlling the Power Outlets of the Master and Satellites

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



2. Enter a user name and its corresponding password.

❑ If you log in as system administrator, you will be able to:
- control individually all the power outlets and all the power outlets groups of the Power Switch Master,
- control all the power outlets and all the power outlet groups of the connected Power Switch satellites,
- display the values of all the connected temperature and humidity sensors,
- display the connection status of the I/O extension module and the status of the eight dry contact inputs.

❑ If you log in as a user (Power Switch 518 MA 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 temperature and humidity sensors for which you have the rights.

The ***ON*** button allows you to switch to ON the corresponding Power Outlet or group of Power Outlets.
The ***OFF*** button allows you to switch to 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(s) will then be automatically switched ON after the delay defined by the administrator during the configuration (default value is 10 sec).

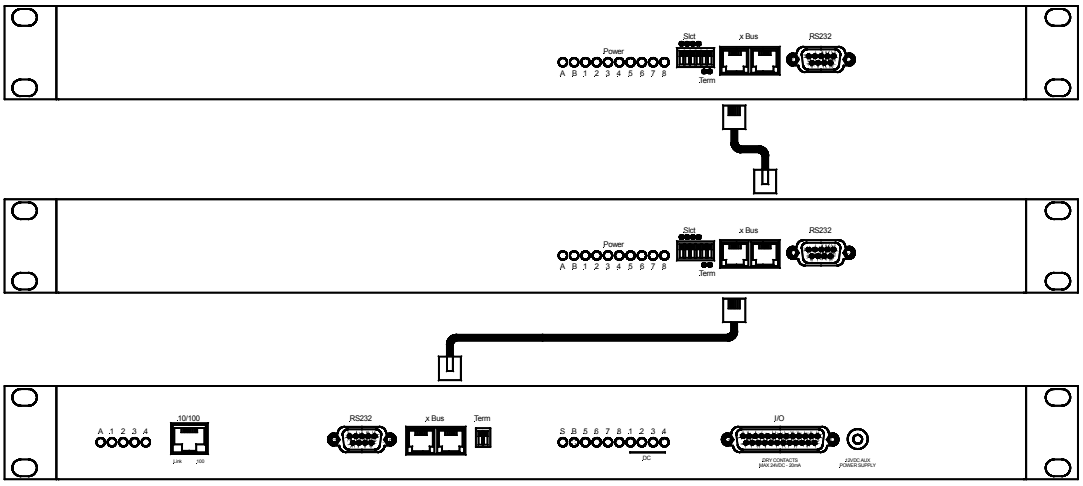
7. Installation the Power Switch Satellite

Remark:

Make sure that all the Power Switch devices are powered off.

Connection Instructions

1. Connect the supplied RJ11 link-up cable to one of the x Bus connector of the Power Switch Master and to one of the xBus connector of the Power Switch Satellite. To cascade several Satellites, link the second xBus connector of a Satellite with one of the x Bus connector of the next Satellite.



2. Allocate an address to each Satellite by positioning the address selection DIP-switches marked "Slct" on the front panel according to the following table.

Remarks
- Unplug the power cords of the Power Switch Satellite before changing its DIP switches.
- Do NOT use the same address for two different Satellites.

Satellite Address	DIP-Switch 1	DIP-Switch 2	DIP-Switch 3	DIP-Switch 4
1	Off	Off	Off	Off
2	**[ON]**	Off	Off	Off
3	Off	**[ON]**	Off	Off
4	**[ON]**	**[ON]**	Off	Off
5	Off	Off	**[ON]**	Off
6	**[ON]**	Off	**[ON]**	Off
7	Off	**[ON]**	**[ON]**	Off
8	**[ON]**	**[ON]**	**[ON]**	Off
9	Off	Off	Off	**[ON]**
10	**[ON]**	Off	Off	**[ON]**
11	Off	**[ON]**	Off	**[ON]**
12	**[ON]**	**[ON]**	Off	**[ON]**
13	Off	Off	**[ON]**	**[ON]**
14	**[ON]**	Off	**[ON]**	**[ON]**
15	Off	**[ON]**	**[ON]**	**[ON]**
16	**[ON]**	**[ON]**	**[ON]**	**[ON]**

Position Off = switch upwards,
Position On = switch downwards

DIP-Switch 1 is located on the left side

3. Plug the 2 power cables into 2 grounded sockets. The A and B LEDs light on to confirm that power is on.

8. Controlling the Power Outlets of the Satellites using a Terminal Connection

The power outlets of the Power Switch Satellites can be individually controlled and the status of each power outlet can be read out using a simple ASCII protocol through a serial connection. The connection can be done either using the RS232 or the RS485 port of the Power Switch PS518 Satellite.

8.1 Using the RS232 port

(SubD-9F connector marked RS232 on the front panel)

In this case, use the supplied RS232 serial cable to connect the Power Switch Satellite to an available serial port of your PC.

8.2 Using the RS485 port

(RJ11 connector marked xBus on the front panel)

In this case, you have to make a special serial cable (see pinout on the following page).

Run a terminal program such as Windows HyperTerminal or the MicroTerminal program on the CD (folder miscellaneous) and configure the appropriate serial port with the following settings:
9.600 bauds, 8 bits, no parity, 1 stop bit and no flow control.

Note:

If you use the MicroTerminal program on the CD (folder miscellaneous) you only have to choose the used serial port, this program is already configured at 9600,n,8,1.

8.3 Commands

Run a terminal program such as Windows HyperTerminal or the MicroTerminal program on the CD (folder miscellaneous) and configure the appropriate serial port with the following settings:
9.600 bauds, 8 bits, no parity, 1 stop bit and no flow control.

Note:
If you use the MicroTerminal program on the CD (folder miscellaneous) you only have to choose the used serial port, this program is already configured at 9600,n,8,1.

Summary of the commands:

8.3.1 CONTROLLING OF THE POWER OUTLET(S)

This command enables to control individually each Power Outlet or all Power Outlets of the same Power Switch Satellite in one command.

Command to be sent to the Power Switch Satellite:
Pxy=z[CR]
Pxy=z,t_1[CR]
Pxy=z,t_1,t_2[CR]

Reply from the Power Switch Satellite:
Pxy=z[CR]
Pxy=z,t_1[CR]
Pxy=z,t_1,t_2[CR]

Explanations:

Parameter		Value	Function/Remark
x	address of the Power Switch	1 to 16	specifies the address of the Power Switch Satellite
y	number of the Power Outlet	0 1 to 8	means all the Power Outlets specify the number of the Power Outlet
z	command	0	set Power Outlet to OFF
		1	set Power Outlet to ON
		r	RESTART the Power Outlet(s)
		t	TOGGLE the Power Outlet(s)
t_1	delay to execute the command	1 to 255	set the delay (in sec) to execute the command
t_2	restart delay	1 to 255	set the restart delay (in sec) If t_2 is not specified, the used Restart Delay is the default value of the Restart Delay of the corresponding Power Outlet (see § 8.3.6)

Examples:

P11=1	Switch Power Outlet #1 of Power Switch #1 to On
P11=0	Switch Power Outlet #1 of Power Switch #1 to Off
P35=r	Restart Power Outlet #5 of Power Switch #3
P30=1	Switch all Power Outlets of Power Switch #3 to On
P168=t	Toggle Power Outlet #8 of Power Switch #16
P10=r,10,20	Execute the Restart Command (switch all Power Outlets of Power Switch #1 to off) after a delay of 10 sec., then switch all Power Outlets to On after a delay of 20 sec.

Remarks:

The Power Switch Satellite accepts lower case and upper case commands.

The Power Switch Satellite sends its reply only after having received a valid command terminated by the character [CR].

8.3.2 READING OUT THE POWER OUTLET STATUS

This command enables to read out the status of each Power Outlet.

Command to be sent to the Power Switch Satellite:
Rxy[CR]

Reply from the Power Switch Satellite:
Rxy=z[CR]

Explanations:

Parameter		Value	Function/Remark
x	address of the Power Switch	1 to 16	specifies the address of the Power Switch Satellite
y	number of the Power Outlet	1 to 8	specify the number of the Power Outlet
z	status	0	status of the corresponding Power Outlet is OFF
		1	status of the corresponding Power Outlet is ON

Examples:
R11[CR] Read Status of the Power Outlets #1 of Power Switch #1
R168[CR] Read Status of the Power Outlets #8 of Power Switch #16

Remarks:

The Power Switch Satellite accepts lower case and upper case commands.

The Power Switch Satellite sends its reply only after having received a valid command terminated by the character [CR].

8.3.3 SETTING OF THE POWER UP DELAYS

This command enables to set the Power Up Delay individually for each Power Outlet. The Delay value can be between 1 and 255 seconds (4 min 15 sec).

Command to be sent to the Power Switch Satellite:
TUxy=z[CR]

Reply from the Power Switch Satellite:
TUxy=z[CR]

Explanations:

Parameter		Value	Function/Remark
x	address of the Power Switch	1 to 16	specifies the number of the Power Switch Satellite
y	number of the Power Outlet	1 to 8	specifies the number of the Power Outlet
z	timer value	1 to 255	set the Power Up Delay (in sec)

Examples:
TU12=2 Set Power Up Delay of the Power Outlet #2 of Power Switch #1 to 2 sec
T163=10 Set Power Up Delay of the Power Outlet #3 of Power Switch #16 to 10 sec

Remarks:

The Power Switch Satellite accepts lower case and upper case commands.

The Power Switch Satellite sends its reply only after having received a valid command terminated by the character [CR].

8.3.4 READING OUT OF THE POWER UP DELAY(S)

This command enables to read out the Power Up Delay individually for each Power Outlet.

Command to be sent to the Power Switch Satellite:
TUxy[CR]

Reply from the Power Switch Satellite:
TUxy=z[CR]

Explanations:

Parameter		Value	Function/Remark
x	address of the Power Switch	1 to 16	specifies the number of the Power Switch Satellite
y	number of the Power Outlet	1 to 8	specifies the number of the Power Outlet
z	timer value	1 to 255	shows the Power Up Delay (in sec)

Remarks:

The Power Switch Satellite accepts lower case and upper case commands.

The Power Switch Satellite sends its reply only after having received a valid command terminated by the character [CR].

8.3.5 SETTING THE RESTART DELAYS

This command enables to set the Restart Delay individually for each Power Outlet. The Delay value can be between 1 and 255 seconds (4 min 15 sec).

Command to be sent to the Power Switch Satellite:
TRxy=z[CR]

Reply from the Power Switch Satellite:
TRxy=z[CR]

Explanations:

Parameter		Value	Function/Remark
x	address of the Power Switch	1 to 16	specifies the address of the Power Switch Satellite
y	number of the Power Outlet	1 to 8	specifies the number of the Power Outlet
z	timer value	1 to 255	set the Restart Delay (in sec)

Examples:
TR31=17 Set Restart Delay of the Power Outlet #1 of Power Switch #3 to 17 sec

Remarks:

The Power Switch Satellite accepts lower case and upper case commands.

The Power Switch Satellite sends its reply only after having received a valid command terminated by the character [CR].

8.3.6 READING OUT OF THE RESTART DELAYS

This command enables to read out the Restart Delay individually for each Power Outlet.

Command to be sent to the Power Switch Satellite:
TRxy[CR]

Reply from the Power Switch Satellite:
TRxy=z[CR]

Explanations:

Parameter		Value	Function/Remark
x	address of the Power Switch	1 to 16	specifies the address of the Power Switch Satellite
y	number of the Power Outlet	1 to 8	specifies the number of the Power Outlet
z	timer value	1 to 255	shows the Restart Delay (in sec)

Remarks:

The Power Switch Satellite accepts lower case and upper case commands.

The Power Switch Satellite sends its reply only after having received a valid command terminated by the character [CR].

8.3.7 SETTING THE POWER UP DEFAULT STATUS

This command enables to set the Power Up Default Status individually for each Power Outlet. Settings can be "always On", "Always Off" or "Last memorized Status" before power failure.

Command to be sent to the Power Switch Satellite:
DPxy=z[CR]

Reply from the Power Switch Satellite:
DPxy=z[CR]

Explanations:

Parameter		Value	Function/Remark
x	address of the Power Switch	1 to 16	specifies the number of the Power Switch Satellite
y	number of the Power Outlet	1 to 8	specifies the number of the Power Outlet
z	default status after Power up	ON	set Power Up Default Status of the Power Outlet to ON
		OFF	set Power Up Default Status of the Power Outlet to OFF
		LAST	set Power Up Default Status of the Power Outlet to last memorized status

Examples:
DP37=LAST Set Power Up Default Status of the Power Outlet #7 of Power Switch #3 to last memorized status
DP165=OFF Set Power Up Default Status of the Power Outlet #5 of Power Switch #16 to OFF

Remarks:

The Power Switch Satellite accepts lower case and upper case commands.

The Power Switch Satellite sends its reply only after having received a valid command terminated by the character [CR].

8.3.8 READING OUT THE POWER UP DEFAULT STATUS

This command enables to read out the Power Up Default Status individually for each Power Outlet.

Command to be sent to the Power Switch Satellite:
DPxy[CR]

Reply from the Power Switch Satellite:
DPxy=z[CR]

Explanations:

Parameter		Value	Function/Remark
x	address of the Power Switch	1 to 16	specifies the address of the Power Switch Satellite
y	number of the Power Outlet	1 to 8	specifies the number of the Power Outlet
z	default status after Power up	ON	power up default status of the power outlet is ON
		OFF	power up default status of the power outlet is OFF
		LAST	power up default status of the power outlet is last memorized status

Remarks:

The Power Switch Satellite accepts lower case and upper case commands.

The Power Switch Satellite sends its reply only after having received a valid command terminated by the character [CR].

8.3.9 READING OUT THE SWITCHING COUNTER VALUES OF THE RELAYS

This command enables to read out the number of power up cycles of the Power Switch Satellite and the number of switching cycles (Off to On) of each power outlet.

Command to be sent to the Power Switch Satellite:
Cxy[CR]

Reply from the Power Switch Satellite:
Cxy=z[CR]

Explanations:

Parameter		Value	Function/Remark
x	address of the Power Switch	1 to 16	specifies the address of the Power Switch Satellite
y	counter	0	reads the number of power up cycles of the Power Switch Satellite
		1 to 8	specifies the number of the Power Outlet switching counter
z	counter value		shows the number of power up or switching cycles of the selected Power Outlet

Remarks:

The Power Switch Satellite accepts lower case and upper case commands.

The Power Switch Satellite sends its reply only after having received a valid command terminated by the character [CR].

8.3.10 RESETTING THE SWITCHING COUNTER VALUES OF THE RELAYS

This command enables to reset the switching counter values of the Relays.

Command to be sent to the Power Switch Satellite:
/RC[CR]

Reply from the Power Switch Satellite:
No reply

Remarks:

The Power Switch Satellite accepts lower case and upper case commands.

The Power Switch Satellite sends its reply only after having received a valid command terminated by the character [CR].

8.3.11 RESTORING TO FACTORY SETTINGS

This command enables to restore all factory settings.

Command to be sent to the Power Switch Satellite:
/FS[CR]

Reply from the Power Switch Satellite:
No reply

Remarks:

The Power Switch Satellite accepts lower case and upper case commands.

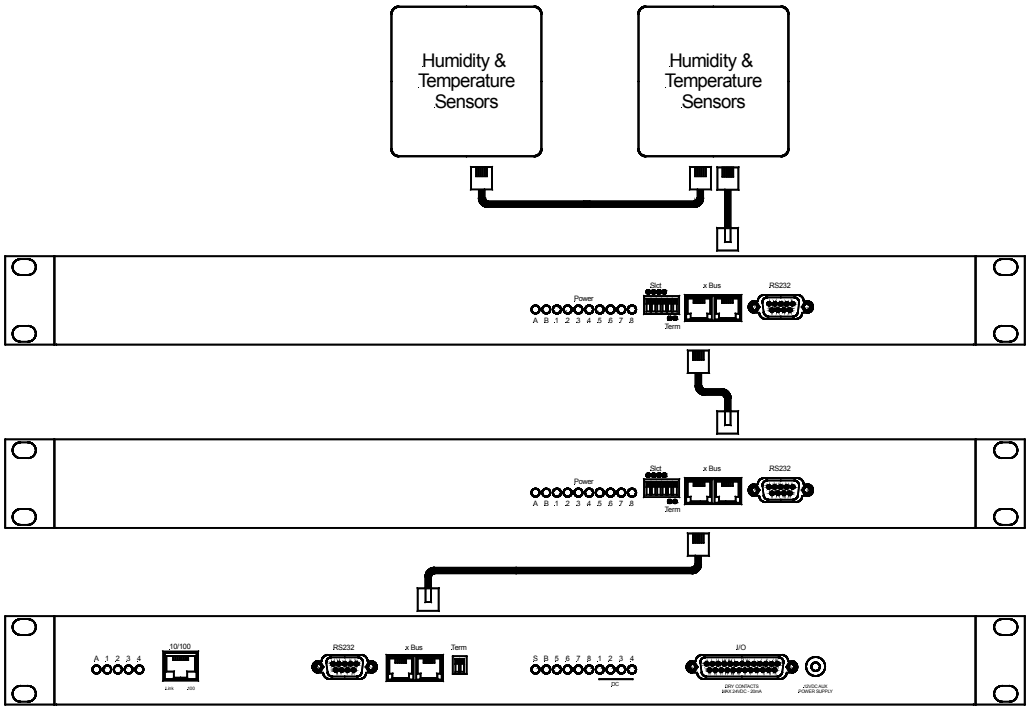
The Power Switch Satellite sends its reply only after having received a valid command terminated by the character [CR].

9. Accessories

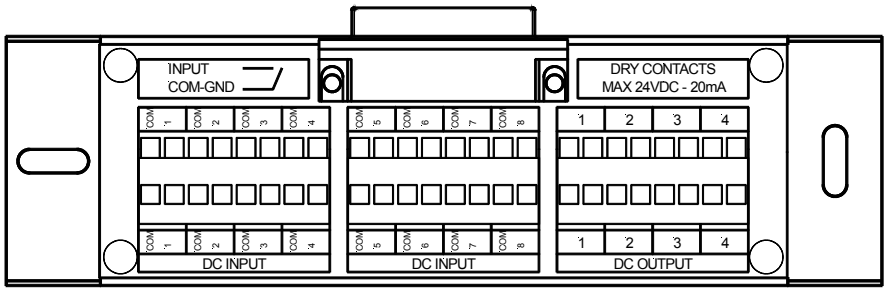
9.1 Temperature sensor

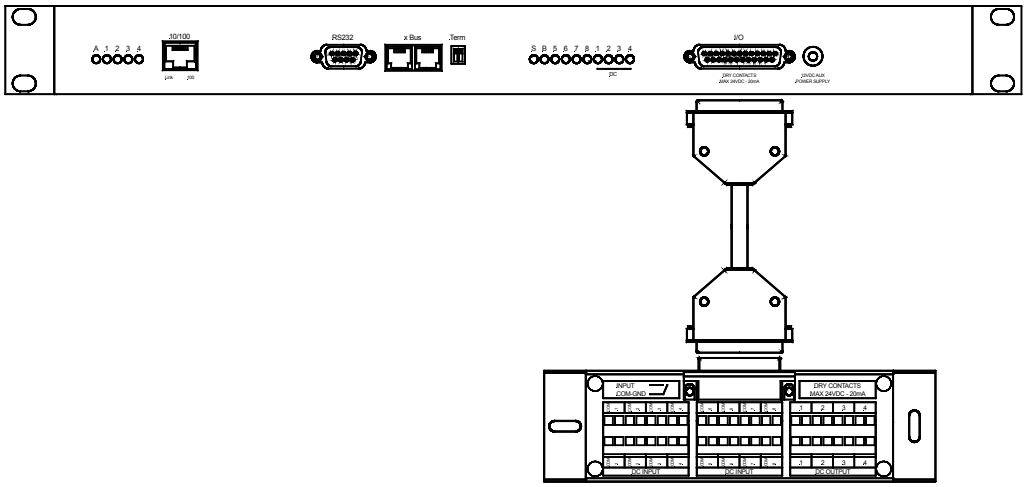
9.2 Temperature and Humidity sensor

The figure below shows an example how to connect 2 sensors.



9.3 I/O extension module





9.4 Horizontal cable manager

The horizontal cable manager allows the secure fastening of the power cables and consist of two angle brackets and a secure cable support bar on the rear of the angle brackets.

Annexes

Ping and Scan methods

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, Power Switch Master knows that the TCP/IP connection is established. If the system does not react to one or several requests, Power Switch Master can automatically switch 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, and POP...). Power Switch Master simply tries to connect to a specific server port. If the connection is possible, Power Switch Master knows that a server program is running there. If the connection is not possible, Power Switch Master can automatically switch off and after a specified delay switch again on the IP equipment (Reboot).
Remarks:

- − The Supervision function works only if the Power Switch Master is disconnected from the LAN.
- − The Ping and Scan functions can be used separately or together.
- − The network route between 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 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

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. The Power Switch Master ONLY uses Secure Port 443 (HTTPS). Ensure that your Firewall / Router is configured to allow HTTPS to pass through.
UDP 123	This port is used to allow time synchronization over NTP (Network Time Protocol).
TCP 443	This port is used to allow SSL support (Secure Socket Layer).
UDP 514	This port is used to deliver Syslog messages.

SysLog Messages: Severity Level Definitions

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

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

Severity Level 1, Alert: action must be taken immediately
The following messages appear at severity 1:
Settings have been reinitialized through the serial connection
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: critical conditions
The following messages appear at severity 2:
"file" config corrupted : restoring default values

Severity Level 3, Error: error conditions, Necessary action is required.
Power Switch Master doesn't generate Severity Level 3.

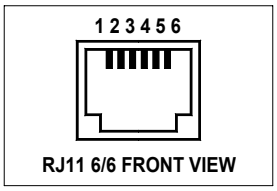
Severity Level 4, Warning: warning conditions, a minor condition has occurred.
The following messages appear at severity 4:
Settings have been changed through the serial connection
Settings have been changed through the network by User "name"

Severity Level 5, Notice: normal but significant condition has occurred.
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 opened
Rule (number) : Mail "subject" has been sent to "name"

Severity Level 6, Informational: informational messages
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 open
Dry Contact Input (number) has been closed
Dry Contact Output (number) has been open
Dry Contact Output (number) has been closed
Mail "subject" has been sent to "name"
Session opened by user "name"

Severity Level 7, Debug: debug-level messages
Power Switch Master doesn't generate Severity Level 7.

PINOUT OF THE RJ11 6/6 X-BUS CONNECTOR



Pin	Signal
1	+Vout (+7V / 100mA)
2	GND
3	RS485 – B
4	RS485 – A
5	GND
6	+Vout (+7V / 100mA)

The power supply delivers a voltage of 7V +-10% for a load of 100mA. The output is overload protected and protected against polarity inversion. The xBus connectors of both Power Switch Master and Satellite have the same features and pinout.

The symmetrical pinout of power output (+Vout) and GND prevents the risk of short circuits if the RJ11 connector is inverted.

Technical Data

Network standards	IEEE 802.3, 10 / 100 BASE-T
Network protocols	TCP/IP, HTTP
Network connection	RJ-45 connector for UTP CAT5
Max. network cable length	100 meters (not included)
Serial connection	RS232, SUB-D 9 female
SSL Technology	Version 2 and 3
Nominal input voltage	230 V/50Hz
Input power outlet	IEC-320
Output voltage	230 V/50Hz
Output power outlet	IEC-320
Maximum total current	2 x 10 A
LEDs	1 for Power Supply A 1 for Power Supply B 8 for the Power Outlets status 1 for System Status 4 for Dry Contacts Output Status 1 for Network traffic 1 for Network Speed 10 / 100 Mbits/s
Operating temperature	0°C to +40°C
Operating humidity	10% to 80%
Dimensions (LxDxH)	437 x 107 x 42 mm
Weight	2 kg
Approvals	CE, EN55022 & EN55024