

ePowerSwitch-4^{R2}



User guide

Version 2014-01

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SAFETY INSTRUCTIONS: To be read before use!



NOTE

- ▶ The ePowerSwitch-4 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 use of the ePowerSwitch-4 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 socket used to plug the power cord of the ePowerSwitch-4 device must be close to the ePowerSwitch-4 device and easily accessible.
- ▶ Check that the power cords, plugs and sockets are in good condition.
- ▶ The ePowerSwitch-4 devices can only be connected to three-wire 230 VAC (50-60Hz) sockets.
- ▶ Always plug the ePowerSwitch-4 devices into properly grounded power sockets (two poles plus ground).
- ▶ Never exceed 10 Amp total load.
- ▶ If you have to replace an external fuse of an ePowerSwitch-4 device, never use another type of fuse than 10A/250V T.
- ▶ The ePowerSwitch-4 devices are intended for indoor use only. Do NOT install them in an area where excessive moisture or heat is present.
- ▶ Always disconnect the power cord of the ePowerSwitch-4 device if you want to intervene on the ePowerSwitch-4 device or on the equipment powered from the ePowerSwitch-4 device.
- ▶ The power outlets of the ePowerSwitch-4 devices are not circuit breakers! If you want to intervene on equipment connected to an ePowerSwitch-4 device you must disconnect this equipment from the ePowerSwitch-4 device.
- ▶ The ePowerSwitch-4 devices contain potentially hazardous voltages. Do NOT attempt to disassemble them.
- ▶ The ePowerSwitch-4 devices contain no user serviceable parts and repairs are to be performed by factory trained service personnel only.

1. DESCRIPTION

ePowerSwitch-4^{R2} is an extension lead that enables remote power control over IP or locally through an RS-232 Terminal connection.

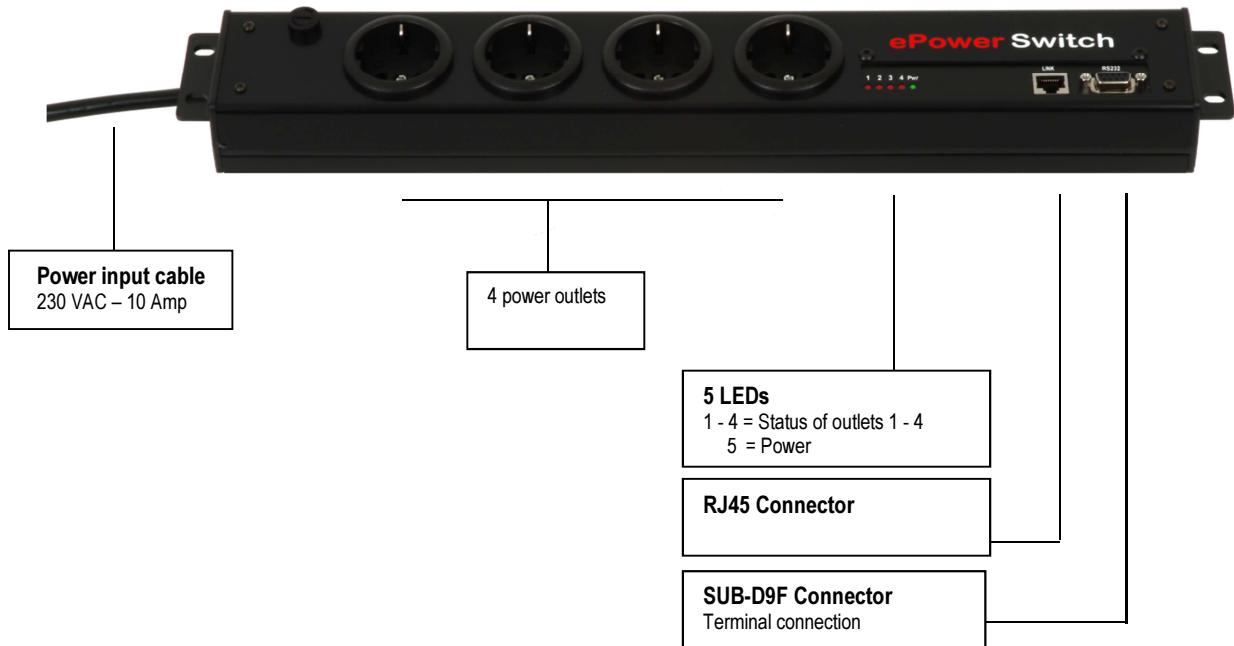
The built-in mini Web server allows individual control of the four sockets, using a browser.

Its serial interface can be used to control the power outlets over a Terminal connection (KVM Switch, console server...) or to trigger a soft shutdown of a server with shutdown capabilities. An internal Real Time Clock enables to trigger scheduled actions and timestamp all events (logs, SNMP traps and Syslog events).

ePowerSwitch-4^{R2} is more than a simple power strip. It offers IP device monitoring with automatic reboot function in case of lock-up.

The ePowerSwitch-4^{R2} supports the HTTP, DHCP, Syslog, SNMP and SNTP protocols.

1.1 Diagram



1 2 3 4 5 (LEDs)

- 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)
- 5 ePowerSwitch is powered

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

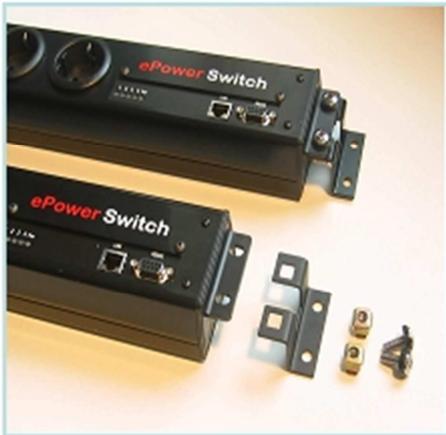
2 = TxD
3 = RxD
5 = Gnd

1.2 Package list

The following items are included:

- 1 extension lead (ePowerSwitch-4^{R2}), 19" rack mountable
- 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

The figure shows how to fix the optional wall mounting kit (2 metal brackets, 4 cage nuts, washer and screws) :



2. INSTALLATION

Remark:

Make sure that the ePowerSwitch-4^{R2} is powered off.

Connection instructions

1. Use a shielded RJ45 network cable to connect your ePowerSwitch-4^{R2} to the network.
2. Use appropriated three-wire power cords (two poles plus ground) to connect your electrical devices to the ePowerSwitch-4^{R2} unit.
3. Plug the power cable into a grounded socket. The LED 5 lights on to confirm that power is on.
4. You can now configure the ePowerSwitch-4^{R2} by following the indications of the chapter "Configuration".

3. CONFIGURATION

To use the ePowerSwitch-4^{R2} 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 ePowerSwitch-4^{R2}.

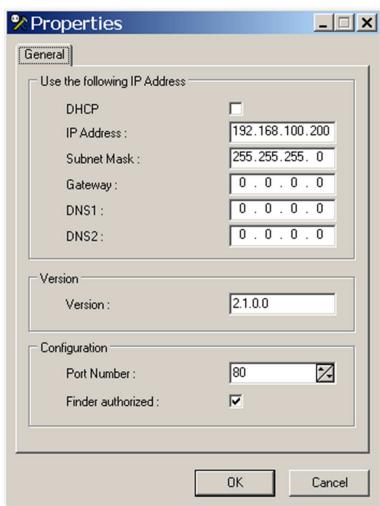
3.1. Configuration through the LAN using the Finder program

It is the simplest and fastest configuration method if you use Windows as operating system. It allows to configure your ePowerSwitch-4^{R2} 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 ePowerSwitch-4^{R2} 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 ePowerSwitch-4^{R2} device and displays the version of the Firmware. The HTTP protocol is enabled and the Finder program is authorized at factory settings.

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

DHCP:

Check this box if you want to obtain the IP address, the subnet mask and the default gateway for your ePowerSwitch-4^{R2} 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 ePowerSwitch-4^{R2}, default is 192.168.100.200.

Subnet Mask:

Subnet Mask of the ePowerSwitch-4^{R2}, 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.

Port Number:

Port number: default is 80 (HTTP).

Version:

Firmware version of the ePowerSwitch-4^{R2}

Finder authorized:

The Network parameters of the ePowerSwitch-4^{R2} 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.

3.2. Configuration through an RS232 Terminal connection

1. Use the provided RS232 cable to connect the ePowerSwitch-4^{R2} to an available serial port of your PC.
2. Run a Terminal program such as Windows HyperTerminal or the Micro Terminal program on the CD.
3. Configure the appropriate serial port @ 9.600, n, 8, 1 and no flow control. 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.
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 ePowerSwitch-4^{R2}.

```
-----  
NETWORK INTERFACE PARAMETERS:  
IP address on LAN is 192.168.100.200  
LAN interface's subnet mask is 255.255.255.0  
IP address of default gateway to other networks is 0.0.0.0  
IP address of primary DNS server is 0.0.0.0  
IP address of secondary DNS server is 0.0.0.0  
MISCELLANEOUS:  
HTTP Port is 80  
Finder program is enabled  
HARDWARE PARAMETERS:  
MAC Address is 00.13.F6.01.3C.80  
-----
```

Configuration menu

Special commands (type /? or /Help)

| | |
|---------------------|-----------------------------------------|
| /viewlog | <i>Displays the log file</i> |
| /initlog | Clears the log file |
| /initadminaccount | Restores default administrator password |
| /restorefactoryconf | Restores to factory default settings |
| /help /? | Displays this help |

3.2.1. Serial port configuration

Connector: SUB-D9 female connector

Pin configuration

Pin 2 = TxD (transmit data to the PC)
Pin 3 = RxD (receive commands)
Pin 5 = GND

RS232 parameters

Speed: 9600 bauds
Parity: No
Format: 8 bits
Stop bit: 1
Flow control: no

The serial cable provided with the ePowerSwitch is a standard straight extension cable with DB9 connectors. This cable is intended to connect the serial port of the ePowerSwitch to a serial port of a PC.

3.2.2. Restore to default factory settings

If you want to restore the ePowerSwitch to factory settings, you can reset it to default value using following procedure:

1. Use the supplied RS232 cable to connect the ePowerSwitch to an available serial port of your PC.
2. Run a terminal program such as Windows HyperTerminal or the Micro Terminal program on the CD.
3. Configure the appropriate serial port with the following settings @ 9.600, n, 8, 1 and no flow control.
If you use the Micro Terminal 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.
4. On your computer, press <ENTER> until the menu appears on your screen.
5. Type in following command:
/restorefactconf (the command MUST be preceded with a slash).

Now you can log in using **admin** as Login name and password.

The login values are case sensitive.



3.2.3. Restore to default administrator password

If you have forgotten your administrator password, you can reset it to default value using following procedure:

1. Use the supplied RS232 cable to connect the ePowerSwitch to an available serial port of your PC.
2. Run a terminal program such as Windows HyperTerminal or the Micro Terminal program on the CD.
3. Configure the appropriate serial port with the following settings @ 9.600, n, 8, 1 and no flow control.
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.
4. On your computer, press <ENTER> until the menu appears on your screen.
5. Type in following command:
/initadminaccount (the command MUST be preceded with a slash).

The system answers:

System is restarting...

System Started

Now you can log in using **admin** as Login name and password.

The login values are case sensitive.



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 ePowerSwitch-4^{R2}.

Factory network settings of the ePowerSwitch-4^{R2}:

IP Address: **192.168.100.200** - Port: **80**

Gateway: **255.255.255.0**

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 ePowerSwitch-4^{R2}.

| | |
|------------------------|-------------------------------------|
| DHCP Client enabled | <input type="checkbox"/> |
| IP Address | 192.168.100.200 |
| Subnet Mask | 255.255.255.0 |
| Default Gateway | 0.0.0.0 |
| Primary DNS Server | 0.0.0.0 |
| Secondary DNS Server | 0.0.0.0 |
| Finder Program enabled | <input checked="" type="checkbox"/> |
| HTTP Port | 80 |

3.3.1. General / IP configuration

This page enables you to define all the IP parameters of the ePowerSwitch-4^{R2}.

| | |
|------------------------|-------------------------------------|
| DHCP Client enabled | <input type="checkbox"/> |
| IP Address | 192.168.100.200 |
| Subnet Mask | 255.255.255.0 |
| Default Gateway | 0.0.0.0 |
| Primary DNS Server | 0.0.0.0 |
| Secondary DNS Server | 0.0.0.0 |
| Finder Program enabled | <input checked="" type="checkbox"/> |
| HTTP Port | 80 |

DHCP Client enabled:

Check this box if you want to obtain the IP address, the subnet mask and the default gateway for your ePowerSwitch-4^{R2} 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 ePowerSwitch-4^{R2}, default is 192.168.100.200.

Subnet Mask:

Subnet Mask of the ePowerSwitch-4^{R2}, 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 ePowerSwitch-4^{R2} 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.



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

HTTP Port:

Port number: default is 80.

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 ePowerSwitch-4^{R2} is used for synchronizing scheduling actions and to timestamp SNMP traps, Syslog information 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.

The screenshot shows the 'System Time' configuration page. At the top, there are tabs for General, Settings, Misc, Help, IP Configuration, System Time (which is selected), SNMP, and Tools. The main area is titled 'System Time'. It displays the 'Current System Time' as 'Tue 4 Jan 2000 09:33:46' and a warning message 'Waiting for NTP server response'. There are three configuration options: 'Use Browser Time' (selected), 'Use NTP Server' (unchecked), and 'Use Network Time' (unchecked). Under 'Use NTP Server', 'Refresh Time' is set to '12 hours', 'Primary' is 'htptime.org', and 'Secondary' is 'htptime.net'. The 'Time Zone' dropdown is set to '(GMT+01:00) Brussels, Copenhagen, Madrid, Paris, Vilnius'. Below this, 'Daylight Saving Time' is checked, and a date range from 'Start: Mar Last Sun' to 'End: Oct Last Sun' is specified. At the bottom, there are buttons for 'LOGOUT', 'DISCARD CHANGES', and 'APPLY CHANGES'.

Current System Time:

This field shows the current system time of the ePowerSwitch-4^{R2}.

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.

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 / SNMP

The ePowerSwitch-4^{R2} provides a built-in SNMP (Simple Network Management Protocol) agent, which enables you to manage the ePowerSwitch-4^{R2} through SNMP-based network management systems. The ePowerSwitch-4^{R2} MIB file enables to remotely read out the status of all power outlets. It also enables to control individually all power outlets and all groups of power outlets. The MIB file is stored on the ePowerSwitch-4^{R2} and can be downloaded from the General / Tools Page.

The screenshot shows the 'SNMP Configuration' page with the following fields:

| Setting | Value |
|--------------------|---------------------------------------------|
| SNMP enabled | <input type="checkbox"/> |
| Contact | contact |
| Name | rism |
| Location | location |
| Read Community | public |
| Write Community | <input checked="" type="checkbox"/> private |
| Trap Community | <input checked="" type="checkbox"/> trap |
| Trap Destination 1 | <input type="checkbox"/> |
| Trap Destination 2 | <input type="checkbox"/> |

At the bottom of the page are three buttons: 'LOGOUT', 'DISCARD CHANGES', and 'APPLY CHANGES'.

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 ePowerSwitch-4^{R2} 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.

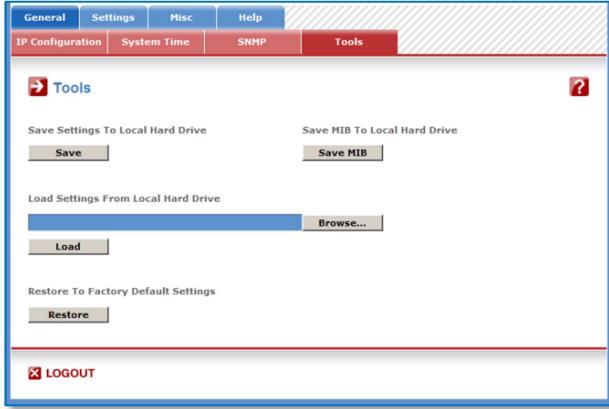
APPLY CHANGES:

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

3.3.4. General / Tools

This page enables you to:

- download and save the current settings of your ePowerSwitch-4^{R2} on your PC,
- upload an existing configuration file to your ePowerSwitch-4^{R2},
- restore the factory settings,
- download the ePowerSwitch-4^{R2} 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 ePowerSwitch-4^{R2}.

Restore:

Click this button if you want to restore the factory default settings.

Save MIB:

Click this button if you want to download the ePowerSwitch-4^{R2} MIB file onto your local hard drive.

LOGOUT:

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

3.3.5. Settings / Accounts

3.3.5.1 Settings / Accounts

This page is used to create, activate, deactivate, modify and delete up to 40 accounts.

The screenshot shows a table with columns: Activated, User Name, Access, Edit, Copy, and Delete. The 'admin' account is listed with 'Administrator' access. Buttons at the bottom include LOGOUT, DISCARD CHANGES, and APPLY CHANGES.

| Activated | User Name | Access | Edit | Copy | Delete |
|-------------------------------------|-------------|---------------|------|------|--------|
| <input checked="" type="checkbox"/> | admin | Administrator | | | |
| <input type="checkbox"/> | Hidden Page | | | | |

- 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.

The screenshot shows a form with fields: Activated (checkbox), User Name (text input), Password (text input), Confirm Password (text input), IP Address Control (checkbox and two input fields for IP range), Device (dropdown menu showing 'MO: ePowerSwitch 4M+ Name'), and Inputs/Outputs (checkbox). Buttons at the bottom include LOGOUT, DISCARD CHANGES, and APPLY CHANGES.

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.

Do not use quotes or special characters in labels!

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.

IP Address Control:

Check this checkbox and specify an IP address or a range of IP address if you want to restrict the access of this account.

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.

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.

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.

3.3.5.2 Settings / Accounts / Hidden Page account

This account is intended for developers who want to implement the power outlet control in own programs. If activated, they can access to a special page named hidden.htm and control individually the power outlets using simple commands.

| Activated | User Name | Access | Edit | Copy | Delete |
|-------------------------------------|-----------|---------------|------|------|--------|
| <input checked="" type="checkbox"/> | admin | Administrator | | | |
| <input type="checkbox"/> | | Hidden Page | | | |

LOGOUT | DISCARD CHANGES | APPLY CHANGES

- To activate or deactivate this account, check or uncheck the corresponding checkbox.
- To modify the Hidden page account, click on "Edit" next to the corresponding account.
A new page appears, allowing you to set all the parameters of the account.

LOGOUT | DISCARD CHANGES | APPLY CHANGES

Activated

This check box must be checked to activate the Hidden Page Account. It enables to deactivate temporarily this account while keeping all its settings for a later use. The Hidden Page Account cannot be deleted.

User Name

In this field, enter the name you want to give to the Hidden Page Account.

The user name can be up to 32 characters long and contain alphanumeric characters.

Do not use quotes or special characters in labels!

Password

In this field, enter the password you want to give to the Hidden Page Account.

The password can be up to 32 characters long and contain alphanumeric characters.

Confirm Password

In this field, enter the password again for confirmation.

IP Address Control

Network security can be increased by IP address filtering. Check this checkbox and specify an IP address or a range of IP addresses which has the right to access to the Hidden Page Account.

Groups

 **This field appears only if at least one group has already been created. To create a group, go to the Settings/Groups Page.**

- To add an existing group of Power Outlets to the current account, select the group you want to add in the left field and click on the Arrow button, the group will then appear in the right field.
- To remove a Group from the current account, select the group you want to remove in the right field and click on the Arrow button, the group will then appear in the left field.

Each group is clearly identified by its own ID (G1, G2, G3...) followed by the name given during the configuration. If the symbol "!" appears between brackets behind the ID Code that means that the Group is not activated. To activate it, go to the "Settings/Groups" page.

Device

In this drop-down list, choose the device from which one 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 an Input or Output to the current account, select the Input / Output you want to add in the left field and click on the Arrow button, the selected Input / Output will then appear in the right field.
- To remove an Input or Output from the current account, select the Input / Output you want to remove in the right field and click on the Arrow button, the selected Input / Output will then appear in the left field.

Accessing to the Hidden Page Account

To be able to access to the Hidden Page, you must have configured the Hidden Page Account and activated it. For the first tests, simply check the Activated check box, start your browser and type into your browser's address bar the IP address of your power switch followed by the name of the hidden page.

Example: if the IP address of your Power Switch is 192.168.100.200, type in:
<http://192.168.100.200/hidden.htm> followed by <ENTER>.

Your Web browser will now display:

Hidden Page
 21 Dec 2010 01:50:03
 Version: 2.1.0.0

Controlling Power Outlets

Only Power Outlets which have been selected can be controlled over the Hidden Page. To select Power Outlets, go to the "Settings/Accounts" page and edit the Hidden Page Account. In the Inputs/Outputs field, selected the Power Outlets you want to control and click on the Arrow button next to the Inputs/Outputs field. The selected Power outlets appear in the right field, click on Apply Change to validate the configuration.

Example: if you have selected all 4 power Outlets and the IP address of your Power Switch is 192.168.100.200, type in:
<http://192.168.100.200/hidden.htm> followed by <ENTER>.

Your Web browser will now display:

Hidden Page
 21 Dec 2010 02:29:01
 Version: 2.1.0.0
 M0:O1=On
 M0:O2=On
 M0:O3=On
 M0:O4=On

Each Power Outlet support individually 3 commands: On, Off and Restart using following syntax:
 M0:Ox=[ON], [OFF], [RESTART]

M0: ID of your Power Switch
 Ox: Outlet number of your Power Switch
 ON: ON command
 OFF: OFF command
 RESTART: Restart command

The first command must be preceded by a "?"
Commands can be concatenated using the character "&"
Commands can be specified in upper case, lower case or mixed case

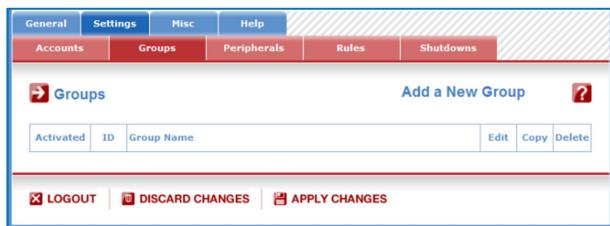
Example: if you want to switch to OFF the Power Outlet #1 and 3, type in:
<http://192.168.100.200/hidden.htm?M0:O1=OFF&M0:O3=OFF>

Your Web browser will now display:

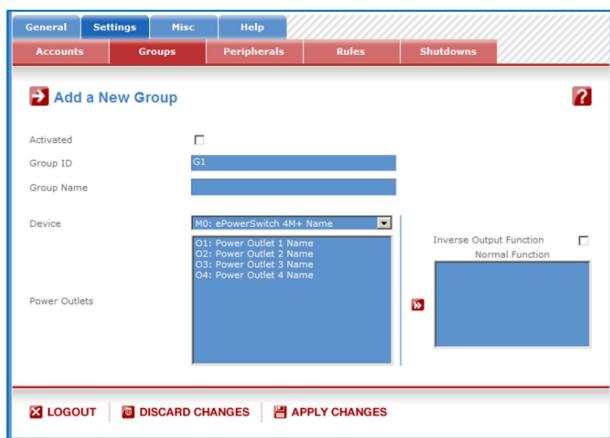
Hidden Page
21 Dec 2010 02:42:08
Version: 2.1.0.0
M0:O1=Off
M0:O2=On
M0:O3=Off
M0:O4=On

3.3.6. Settings / Groups

This page is used to create, modify and delete groups of power outlets which can be controlled by the ePowerSwitch-4^{R2}. 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.



- 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.



Activated

This check box must be checked to activate the group. It enables to deactivate temporarily a group of Power outlets while keeping all its settings for a later use.

Group Id:

The ePowerSwitch-4^{R2} 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.

Note: Do not use quotes or special characters in labels!

Device:

In this drop-down list, choose an ePowerSwitch 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 ePowerSwitch 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.

3.3.7. Settings / Peripherals

This page enables to label the device, the 4 power outlets of the ePowerSwitch-4^{R2} and the shutdown function. Names of up to 32 alphanumeric characters in length are supported and appear in log files, Syslog messages and SNMP traps to avoid confusions.

| Activated | ID | Type | Name | Edit | Info | Delete |
|-------------------------------------|----|----------------|---------------------|------|------|--------|
| <input checked="" type="checkbox"/> | M0 | ePowerSwitch 4 | ePowerSwitch 4 Name | | | |

1. Open your 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 | Designation | Name | Activated |
|----|-------------|---------------------|-------------------------------------|
| M0 | Device | ePowerSwitch 4 Name | <input checked="" type="checkbox"/> |

| ID | Designation | Name | Default Power Up | Power Up Delay (sec) | Function Delay (sec) |
|----|----------------|---------------------|------------------|----------------------|----------------------|
| O1 | Power Outlet 1 | Power Outlet 1 Name | Last State | 0 | 10 |
| O2 | Power Outlet 2 | Power Outlet 2 Name | Last State | 0 | 10 |
| O3 | Power Outlet 3 | Power Outlet 3 Name | Last State | 0 | 10 |
| O4 | Power Outlet 4 | Power Outlet 4 Name | Last State | 0 | 10 |

| ID | Designation | Name |
|-----|---------------------|-----------------|
| SD1 | Shutdown Function 1 | ShutDown 1 Name |

Name:

In these fields, enter the name you want to give to the device. The name can be from 1 to 32 characters long, and can contain alphanumeric characters.

Note: Do not use quotes or special characters in labels!

Activated

This check box must be checked to activate the device and enables to deactivate it temporarily while keeping all its settings for a later use.

Power Outlets:

ID:

The ePowerSwitch-4^{R2} automatically creates an ID Code to clearly identify each Power outlet.

- O followed by a number identifies each Power outlet

Create new rule:

Click on this button to create a new rule.

Name:

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



Do not use quotes or special characters in labels!

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 255 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).

Shutdowns Functions

ID:

The ePowerSwitch-4^{R2} automatically creates an ID Code to clearly identify the Shutdown Function.

- SD1 identifies the Shutdown Function 1.



Create a new Shutdown Association:

Click on this button to create a new Shutdown Association.

Name:

In this field, enter the name you want to give to the Shutdown function. The name can be from 1 to 32 characters long and can contain alphanumeric characters.

Do not use quotes or special characters in labels!

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

LOGOUT:

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

DISCARD CHANGES:

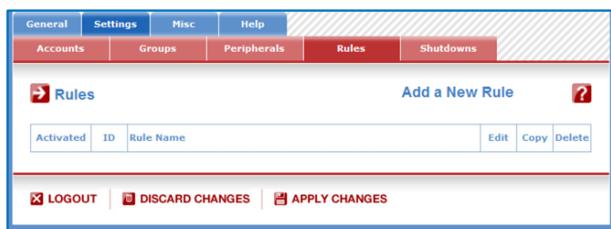
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.

APPLY CHANGES:

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

3.3.8. Settings / 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 SNMP or Syslog.



- 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 screenshot of a configuration page for adding a new monitoring rule. The top navigation bar is identical to the previous screenshot. The main area is titled 'Add a New Monitoring Rule'. It includes fields for Activated (checkbox), Rule ID (R1), Rule Name (text input), Rule Color (color picker), and Rule Type (dropdown menu). Below these are sections for Schedule Action (Start Time, Repeat Time, Stop Time, Applicable Weekday checkboxes for Sun-Sat), and Type of Action (checkboxes for Set Power Outlet, Send Syslog Message, Send Trap Message, and Syslog/Trap Message). At the bottom are buttons for LOGOUT, DISCARD CHANGES, and APPLY CHANGES.

A total of 32 rules can be created and there are 4 different types of rules:

1. Schedule Rule:

This rule is used to trigger user-specified actions according to a defined time table.

This rule can be used to:

- execute **once** defined actions at specified time and weekday(s). In this case you must only specify the start time and the weekday(s),
- execute **repeatedly** defined actions during a given time. In this case you must specify the start time, the interval on which the rule has to be repeated and the end time.

Example:

- The rule could be used to restart a power outlet (or a group of power outlets) at regular interval during a given time.

2. Timer Rule:

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

This rule can be used to switch On or Off a power outlet (or a group of power outlets) at specified time and weekday(s) for a specified time. You must define the start time, the weekday(s) and the stop time.

Example:

- The rule could be used to switch On a device every Monday and Friday from 8:00 AM (Start Time) and switch it automatically off every Monday and Friday at 05:00 PM (Stop Time)

3. Ping Monitoring Rule:

This rule is used to control actions according to the response to a Ping command.

This rule can be used to check if a computer or any IP device is connected to the network. If the host doesn't reply, the ePowerSwitch-4^{R2} can automatically restart the powered device.

4. Scan Monitoring Rule:

This rule is used to control actions according to the response to a Scan command.

This rule can be used to check if a specific protocol is available on a. If the connection is not possible, ePowerSwitch-4^{R2} can automatically restart the powered device.

3.3.8.1. 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 on specified weekdays at regular interval.

The screenshot shows the 'Add a New Monitoring Rule' configuration page. At the top, there are tabs for General, Settings, Misc, Help, Accounts, Groups, Peripherals, Rules, and Shutdowns. The 'Rules' tab is selected. The main area has a title 'Add a New Monitoring Rule' with a question mark icon. It contains the following fields:

- Activated:** A checkbox that is checked.
- Rule ID:** A text input field containing 'R1'.
- Rule Name:** A text input field.
- Rule Color:** A color picker set to yellow.
- Rule Type:** A dropdown menu showing 'Schedule Rule'.
- Schedule Action:** A section with checkboxes for Start Time, Repeat Time, and Stop Time. Below these are dropdown menus for Hour and Minute.
- Applicable Weekday:** A section with checkboxes for Sun, Mon, Tue, Wed, Thu, Fri, and Sat.
- Type of Action:** A section with checkboxes for Set Power Outlet, Send Syslog Message, Send Trap Message, and Syslog/Trap Message. Each action has a dropdown menu for 'From' and 'to' times.

At the bottom are three buttons: LOGOUT, DISCARD CHANGES, and APPLY CHANGES.

Activated

This check box must be checked to activate the Rule and enables to deactivate temporarily a rule while keeping all its settings for a later use.

Rule ID:

The ePowerSwitch-4^{R2} 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 32. 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.

 **Do not use quotes or special characters in labels!**

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 user's 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.

 **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 3600 seconds.

- If you choose 0 second, the delay will be the delay defined in the ePowerSwitch power outlets settings.
- If you choose a delay different from 0, the delay will replace the delay defined in the ePowerSwitch 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 ePowerSwitch power outlets settings.
- If you choose a delay different from 0, the delay will replace the delay defined in the ePowerSwitch power outlets settings.

Send Syslog Message:

This type of action 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 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.

Syslog / Trap Message:

This field can be used only if you have already specified at least one destination Syslog Server (Misc/Log Settings Page) or one destination SNMP Server (General/SNMP Page).

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

3.3.8.2. Settings / Rules - Timer Rule

This rule can be used to trigger some actions according to a defined time table. For instance, you could create a rule to switch OFF a Power Outlet every Friday at 6 PM and create another rule to switch the Power Outlets ON again every Monday at 8 AM.

The screenshot shows the 'Add a New Monitoring Rule' configuration page. At the top, there are tabs for General, Settings, Misc, Help, Accounts, Groups, Peripherals, Rules (which is selected), and Shutdowns. Below the tabs, there's a section for 'Activated' with a checkbox. The 'Rule ID' field contains 'RS'. The 'Rule Name' field is empty. The 'Rule Color' field is set to yellow. The 'Rule Type' dropdown is set to 'Timer Rule'. Under 'Timer Action', there are fields for 'Start Time' (Hour: 00, Minute: 00) and 'Stop Time' (Hour: 00, Minute: 00). The 'Applicable Weekday' section has checkboxes for Sun, Mon, Tue, Wed, Thu, Fri, and Sat, with Sun checked. The 'Type of Action' section has a dropdown for 'Set Power Outlet' with options 'On' and 'Off', and another dropdown for 'from' and 'to' times. At the bottom, there are buttons for 'LOGOUT', 'DISCARD CHANGES', and 'APPLY CHANGES'.

Activated

This check box must be checked to activate the rule. It enables to deactivate temporarily a rule while keeping all its settings for a later use.

Rule ID

The Power Switch automatically creates an ID Code to clearly identify each rule. These codes 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.

Do not use quotes or special characters in labels!



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 user's page.

Rule Type

In this Drop-Down list, choose Schedule Rule.

Rules are used to control actions according to a specific event. To create a rule, you will first have to configure the chosen event and then to choose the actions to perform.

Configuring the Event

Timer Action

Start Time

Defines what time the rule starts.

Stop Time

Defines what time the rule ends.

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 or Off.

If you choose 0 second, the delay will be the delay defined in the ePowerSwitch power outlets settings.

- If you choose a delay different from 0, the delay will replace the delay defined in the ePowerSwitch 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 or Off.

- If you choose 0 second, the delay will be the delay defined in the ePowerSwitch power outlets settings.
- If you choose a delay different from 0, the delay will replace the delay defined in the ePowerSwitch power outlets settings.

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 / 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 ePowerSwitch-4^{R2} can automatically switch the powered device off and after a specified delay, switch it again on (for details see Ping & Scan Method).

The screenshot shows the configuration interface for a new monitoring rule. The 'Rule Type' is set to 'Ping Monitoring Rule'. In the 'Type of Action' section, 'Set Power Outlet' is selected, with 'M0: ePowerSwitch 4M+ Name' and 'O1: Power Outlet 1 Name' both set to 'On'. Other action types like 'Send Syslog Message', 'Send Trap Message', and 'Syslog/Trap Message' are listed but not selected.

Activated

This check box must be checked to activate the Rule and enables to deactivate temporarily a rule while keeping all its settings for a later use.

Rule ID:

The ePowerSwitch-4^{R2} 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 32. 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.

Note: Do not use quotes or special characters in labels!

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

Monitored device address:

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 Action:

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.

Maximum Number of Actions

In this field, define the maximum number of actions. The number can be set between 0 and 255.

Type of 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 3600 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 3600 seconds.

- If you choose 0 second, the delay will be the delay defined in the ePowerSwitch power outlets settings.
- If you choose a delay different from 0, the delay will replace the delay defined in the ePowerSwitch power outlets 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.

Syslog / Trap Message

 **This field can be used only if you have already configured at least one destination Syslog Server (Misc/Log Settings Page).**

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

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 / 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, POP...). If the connection is possible, ePowerSwitch-4^{R2} knows that a server program is running there. If the connection is not possible, ePowerSwitch-4^{R2} can automatically switch the powered device off and, after a specified delay, switch it again on (for details see Ping & Scan Method).

The screenshot shows the 'Add a New Monitoring Rule' configuration page. The 'Rules' tab is active. Key settings include:

- Activated:
- Rule ID: R1
- Rule Name: (empty)
- Rule Color: Pink
- Rule Type: Scan Monitoring Rule
- Monitored Device Address: (IP address) Port to scan: (Port number)
- Wait Time for Answer: 1 sec
- Interval between Requests: 30 sec
- Number of unsuccessful Requests before Action: 1
- Delay before First Request after Action: 30 sec
- Maximum Number of Actions: 0
- Type of Action:
 - Set Power Outlet: M0: ePowerSwitch 4M+ Name, O1: Power Outlet 1 Name, to: On
 - Send Syslog Message: (IP address), (Port number), 0
 - Send Trap Message: (IP address), (Port number), 0
 - Syslog/Trap Message: (IP address), (Port number), 0

Activated

This check box must be checked to activate the Rule and enables to deactivate temporarily a rule while keeping all its settings for a later use.

Rule ID:

The ePowerSwitch-4^{R2} 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 32. 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.

 **Do not use quotes or special characters in labels!**

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

Monitored Device Address:

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 Requests 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 Action:

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.

Maximum Number of Actions

In this field, define the maximum number of actions. The number can be set between 0 and 255.

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 3600 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 3600 seconds.

- If you choose 0 second, the delay will be the delay defined in the ePowerSwitch power outlets settings.
- If you choose a delay different from 0, the delay will replace the delay defined in the ePowerSwitch power outlets settings.

Send Syslog Message:

 **This type of action 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 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.

Syslog / Trap Message:

 **This field can only be used if you have already specified at least one destination Syslog Server (Misc/Log Settings Page) or one destination SNMP Server (General/SNMP Page).**

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

LOGOUT:

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

DISCARD CHANGES:

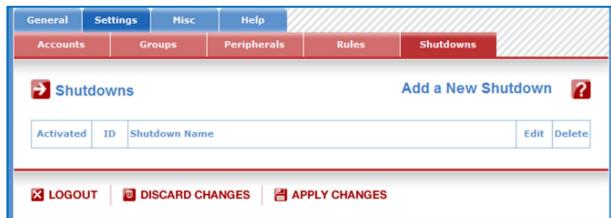
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.

APPLY CHANGES:

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

3.3.9. Settings / Shutdowns

This power switch supports shutdown facilities of 1 server via its Serial RS232 interface.

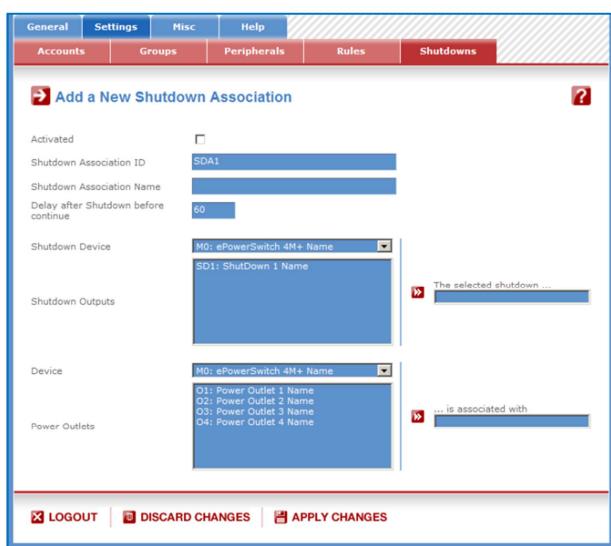


- To remove an existing Shutdown association, click on "Delete" of the corresponding rule.
- To modify a Shutdown rule, click on "Edit" of the corresponding rule.

This page is used to create, modify and delete a Shutdown Association.

Click on "Add a New Shutdown" on the right side of the page.

A new page appears, allowing you to set all the parameters of the rule.



Activated

This check box must be checked to activate the Shutdown Rule and enables to deactivate temporarily a rule while keeping all its settings for a later use.

Shutdown Association ID

The Power Switch automatically creates ID codes to clearly identify each rule. The codes used to identify Shutdown Rules start with the letters "SDA" followed by a number.

Shutdown Association 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.

Note: **Do not use quotes or special characters in labels!**

Delay after Shutdown before continue

In this field, specify a delay after which the associated power outlet will be switched off.

Shutdown Device

This Drop-Down list will only show the Power Switch itself.

Shutdown Outputs

In this field, choose the output which will be used to trigger the Shutdown.

- To select an output, select the output you want to add in the left field and click on the Arrow button, the output will then appear in the right field.
- To remove the selected output, select this output in the right field and click on the Arrow button, the output will then appear in the left field.



Group:

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

In this field, choose the group of power outlets which will be used for the Shutdown rule.

- To select a group, select the output you want to add in the left field and click on the Arrow button, the output will then appear in the right field.

- To remove the group displayed in the right field, select this group in the right field and click on the Arrow button, the group will then appear in the left field.

Device

In this Drop-Down list, choose the device of which the power outlet will be used to trigger the Shutdown action. If the Power Switch is used as stand-alone unit, this Drop-Down list will only show the Power Switch itself.

Power Outlets

In this field, choose the Power Outlet will be used to trigger the Shutdown.

- To select a Power Outlet, select the Power outlet you want to add in the left field and click on the Arrow button, the Power Outlet will then appear in the right field.

- To remove the selected Power Outlet, select this Power Outlet in the right field and click on the Arrow button, the Power Outlet will then appear in the left field.

LOGOUT:

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

DISCARD CHANGES:

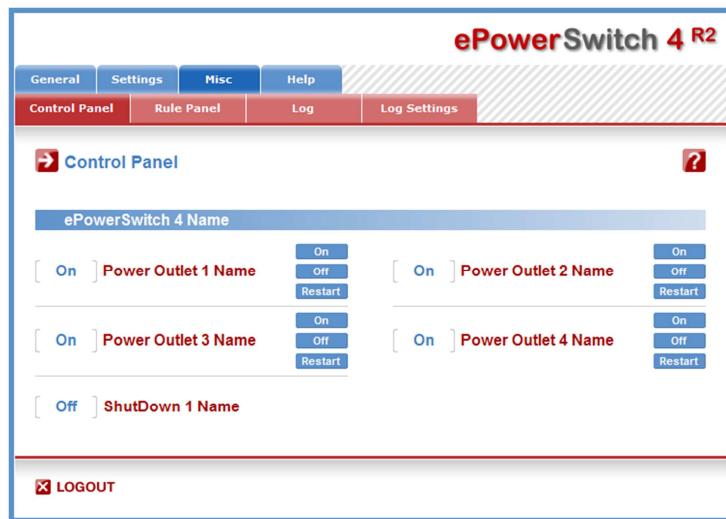
Click "Discard Changes" at the bottom of the page to discard all the changes you have made on this page.

APPLY CHANGES:

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

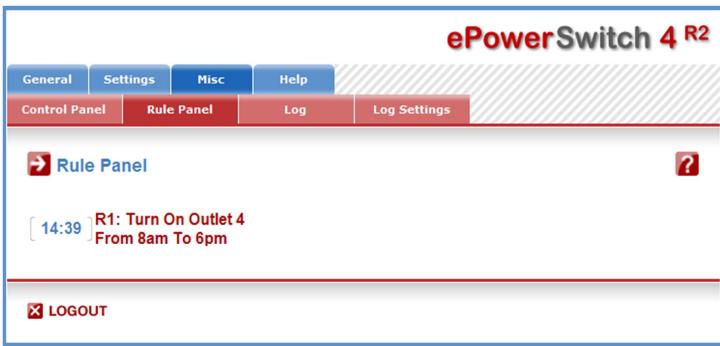
3.3.10. Misc / Control Panel

This page is very helpful for the administrator because it gives a complete overview of all the power outlets. He can control all the power outlets of the ePowerSwitch.



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 one rule and to see on a glance if the rule has been triggered.



The page is automatically refreshed every 10 seconds.

Unlike a standard session, the web server of the ePowerSwitch-4^{R2} 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 10 recent logs.

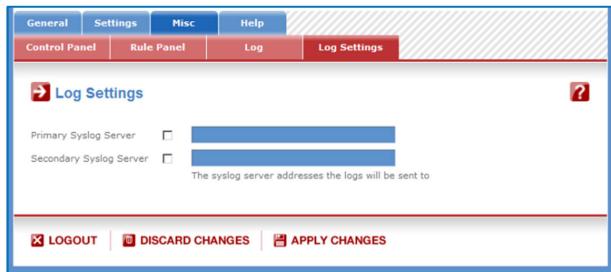
The screenshot shows a software interface titled "Log". At the top, there are tabs for General, Settings, Misc, and Help, with "Misc" being the active tab. Below the tabs are four buttons: Control Panel, Rule Panel, Log (which is highlighted in red), and Log Settings. The main area displays a list of log entries. The first entry is highlighted with a green background. The log entries are as follows:

| Level | Date | Message |
|---------------|----------------------|---------------------------------------------------------------------------------------------------------------------------|
| Informational | 04 Jan 2000 11:51:42 | Administrator Session open (IP:192.168.100.12) |
| Informational | 04 Jan 2000 11:51:54 | User Session closed by "Bill1" (IP:192.168.100.12) |
| Informational | 04 Jan 2000 11:50:13 | User Session open by "Bill1" (IP:192.168.100.12) |
| Informational | 04 Jan 2000 11:50:06 | Administrator Session closed (IP:192.168.100.12) |
| Informational | 04 Jan 2000 11:49:54 | Rule R1 (Temperature in office 2) : Modulu ePowerSwitch 4M+ Name Power Outlet Power Outlet 2 Name has been switched to On |
| Informational | 04 Jan 2000 11:49:21 | User Session closed by "Bill1" (IP:192.168.100.12) |
| Informational | 04 Jan 2000 11:48:50 | Administrator Session open (IP:192.168.100.12) |
| Informational | 04 Jan 2000 11:46:23 | User Session open by "Bill" (IP:192.168.100.12) |
| Informational | 04 Jan 2000 11:46:12 | Administrator Session closed (IP:192.168.100.12) |
| Informational | 04 Jan 2000 11:37:17 | Administrator Session open (IP:192.168.100.12) |

At the bottom left are buttons for LOGOUT and CLEAR LOG.

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:

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. If you want to enable the Power Switch to send messages to a Syslog Server, check the box.

Syslog Note: if you use a hostname, it is important that the system can resolve the hostname locally and so you need to configure a Default Gateway and at least one DNS Server on the Network Settings Page (General/IP Configuration page).

Secondary Syslog Server:

In this field you can define the IP Address of a secondary Syslog Server. You can enter either the hostname or the IP address of a Syslog server.

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.

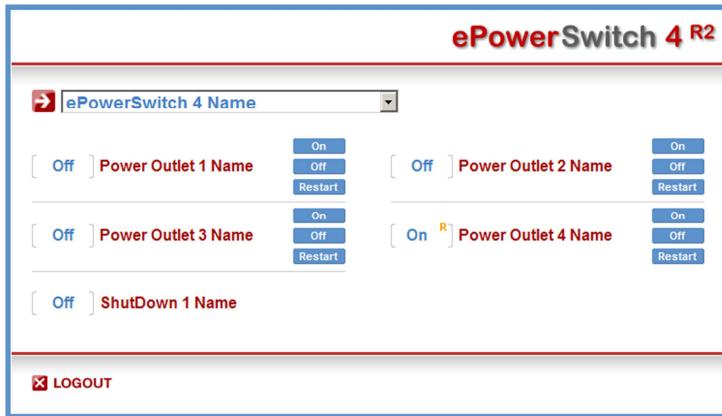
APPLY CHANGES:

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

4. POWER OUTLET CONTROL

4.1. Via the Internet using a standard browser

1. Start your Web browser and type the IP address of your ePowerSwitch-4^{R2}. The browser displays the authentication dialog box.
2. Enter a user name and its corresponding password. The status of the ePowerSwitch-4^{R2} is displayed.



If you log in as system administrator, you will be able to:

- control all the power outlets and all the power outlet groups of ePowerSwitch.

If you log in as a user (ePowerSwitch-4^{R2} handles up to 40 accounts), you will be able to:

- control individually all the power outlets and all the power outlet groups 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).

4.2. Through a serial connection

The power outlets of the ePowerSwitch-4^{R2} can be controlled using a simple ASCII protocol over an RS232 serial connection.

1. Use the supplied RS232 serial cable to connect the ePowerSwitch to an available serial port of your PC.
2. Run a terminal program such as Windows HyperTerminal or the Micro Terminal program on the CD (folder miscellaneous).
3. Configure the appropriate serial port with the following settings:
4. 9.600 bauds, 8 bits, no parity, 1 stop bit and no flow control.
If you use the Micro Terminal 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.

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

NETWORK INTERFACE PARAMETERS:

IP address on LAN is 192.168.100.200

LAN interface's subnet mask is 255.255.255.0

IP address of default gateway to other networks is 0.0.0.0

IP address of primary DNS server is 0.0.0.0

IP address of secondary DNS server is 0.0.0.0

MISCELLANEOUS:

HTTP Port is 80

Finder program is enabled.

HARDWARE PARAMETERS:

MAC Address is nn.nn.nn.nn.nn.nn

Press M to modify these settings.

Syntax of the command line:

/P0y=z (the command line MUST start with a slash)

| Parameter | Value | Function |
|-----------|--------|--------------------------------------------------------------------------------|
| y | 0 | means that all 4 power outlets have to be controlled together with one command |
| | 1 to 4 | indicates the number of the power outlet you want to control |
| z | 0 | Command to switch the socket(s) Off |
| | 1 | Command to switch the socket(s) On |
| | r | Command to restart the socket(s) |
| | t | Command to toggle the state of the socket |

Examples to control the Master:

/P00=1 <ENTER> switch all the 4 power outlets ON

/P00=0 <ENTER> switch all the 4 power outlets OFF

/P04=r <ENTER> restart power outlet 4

/P03=t <ENTER> toggle power outlet 3

-  **Note**
- The ePowerSwitch accepts lower case and upper case commands.
 - The ePowerSwitch sends an echo for each received character.

4.3. Through the network using simple commands in your own program

Developers who want to implement the power outlet control in own programs can access to a special page named hidden.htm and control individually the power outlets using simple commands.

To configure the Hidden Page Account, go to Settings / Accounts.

The screenshot shows a web-based configuration interface for account management. At the top, there are tabs for General, Settings, Misc, and Help, with Settings selected. Below these are sub-tabs for Accounts, Groups, Peripherals, Rules, and Shutdowns. The main area is titled 'Accounts' and contains a table with two rows. The first row has 'Activated' checked for 'admin', 'User Name' as 'admin', 'Access' set to 'Administrator', and icons for Edit, Copy, and Delete. The second row has 'Activated' unchecked for 'Hidden Page', 'User Name' as 'Hidden Page', 'Access' set to 'Hidden Page', and icons for Edit, Copy, and Delete. At the bottom are buttons for LOGOUT, DISCARD CHANGES, and APPLY CHANGES.

- To activate or deactivate this account, check or uncheck the corresponding checkbox.
- To modify the Hidden page account, click on "Edit" next to the corresponding account.
A new page appears, allowing you to set all the parameters of the account.

The screenshot shows the configuration page for the 'Hidden Page Account'. It includes fields for 'Activated' (unchecked), 'User Name' (set to 'Hidden Page'), 'Password' (redacted), 'Confirm Password' (redacted), and 'IP Address Control' (checkbox unchecked). There is a 'Device' dropdown set to 'M0: ePowerSwitch-4M+ Name' with a list of options: O1: Power Outlet 1 Name, O2: Power Outlet 2 Name, O3: Power Outlet 3 Name, O4: Power Outlet 4 Name, and SD1: ShutDown 1 Name. A large blue rectangular area is present on the right side of the form. At the bottom are buttons for LOGOUT, DISCARD CHANGES, and APPLY CHANGES.

Activated

This check box must be checked to activate the Hidden Page Account. It enables to deactivate temporarily this account while keeping all its settings for a later use. The Hidden Page Account cannot be deleted.

User Name

In this field, enter the name you want to give to the Hidden Page Account.

The user name can be up to 32 characters long and contain alphanumeric characters.

Password

In this field, enter the password you want to give to the Hidden Page Account.

The password can be up to 32 characters long and contain alphanumeric characters.

Confirm Password

In this field, enter the password again for confirmation.

IP Address Control

Network security can be increased by IP address filtering. Check this checkbox and specify an IP address or a range of IP addresses which has the right to access to the Hidden Page Account.

Groups



This field appears only if at least one group has already been created. To create a group, go to the [Settings/Groups Page](#).

- To add an existing group of Power Outlets to the current account, select the group you want to add in the left field and click on the Arrow button, the group will then appear in the right field.
- To remove a Group from the current account, select the group you want to remove in the right field and click on the Arrow button, the group will then appear in the left field.



Each group is clearly identified by its own ID (G1, G2, G3...) followed by the name given during the configuration. If the symbol "!" appears between brackets behind the ID Code that means that the Group is not activated. To activate it, go to the "Settings/Groups" page.

Device

You will see the name of your ePowerSwitch-4^{R2}

Inputs/Outputs

- This field is used to add/remove Inputs or Outputs to/from the current account.
- To add an Input or Output to the current account, select the Input / Output you want to add in the left field and click on the Arrow button, the selected Input / Output will then appear in the right field.
- To remove an Input or Output from the current account, select the Input / Output you want to remove in the right field and click on the Arrow button, the selected Input / Output will then appear in the left field.

Accessing to the Hidden Page Account

To be able to access to the Hidden Page, you must have configured the Hidden Page Account and activated it. For the first tests, simply check the Activated check box, start your browser and type into your browser's address bar the IP address of your power switch followed by the name of the hidden page.

Example: if the IP address of your Power Switch is 192.168.100.200, type in:
<http://192.168.100.200/hidden.htm> followed by <ENTER>.

Your Web browser will now display e.g.:

Hidden Page
16 Jan 2014 14:07:18
ePowerSwitch 4
Version: 2.2.0.6
M0:O1=On
M0:O4=On

Controlling Power Outlets

Only Power Outlets which have been selected can be controlled over the Hidden Page. To select Power Outlets, go to the "Settings/Accounts" page and edit the Hidden Page Account. In the Inputs/Outputs field, selected the Power Outlets you want to control and click on the Arrow button next to the Inputs/Outputs field. The selected Power outlets appear in the right field, click on Apply Change to validate the configuration.

Example: if you have selected all 4 power Outlets and the IP address of your Power Switch is 192.168.100.200, type in:

<http://192.168.100.200/hidden.htm> followed by <ENTER>

Your Web browser will now display:

Hidden Page
Date
Device name
Version
M0:O1=On
M0:O2=On
M0:O3=On
M0:O4=On

Each Power Outlet support individually 3 commands: On, Off and Restart using following syntax:

M0:Ox=[ON], [OFF], [RESTART]

M0: ID of your Power Switch

Ox: Outlet number of your Power Switch

ON: ON command

OFF: OFF command

RESTART: Restart command

The first command must be preceded by a "?"

Commands can be concatenated using the character "&"

Commands can be specified in upper case, lower case or mixed case

Example: if you want to switch to OFF the Power Outlet #1 and 3, type in:

<http://192.168.100.200/hidden.htm?M0:O1=OFF&M0:O3=OFF>

Your Web browser will now display:

Hidden Page
Date
Device name
Version
M0:O1=Off
M0:O2=On
M0:O3=Off
M0:O4=On

5. APPENDIX

5.1. Ping and Scan Methods

ePowerSwitch-4^{R2} 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, ePowerSwitch-4^{R2} knows that the TCP/IP connection is established. If the system does not react to one or several requests, ePowerSwitch-4^{R2} 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, POP...). ePowerSwitch-4^{R2} simply tries to connect to a specific server port. If the connection is possible, ePowerSwitch-4^{R2} knows that a server program is running there. If the connection is not possible, ePowerSwitch-4^{R2} can automatically switch the device off and after a specified delay switch it again on (Reboot function).

- The Supervision function works only if the ePowerSwitch-4^{R2} is connected to the LAN.
- The Ping and Scan functions can be used separately or together.
- The network route between ePowerSwitch-4^{R2} 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

5.2. Technical Data

Network standards:

IEEE 802.3, 10 / 100 BASE-T

Network protocols:

TCP/IP, HTTP

Network connection:

RJ-45 connector for STP CAT5

Max. network cable length 100 meters

Serial connection:

RS232, SUB-D 9 female

Operating temperature:

0°C to +40°C

Operating humidity:

10% to 80% RH (not condensing)

Dimensions:

478 x 62 x 49 mm

Weight:

1,3 Kg

Approvals:

CE, EN55022 & EN55024

| | all Relays open | all Relays closed |
|----------------------|-----------------|-------------------|
| Voltage (V) | 230 | 230 |
| Power Consumption(W) | 2.46 | 4.10 |
| Reactive Power (Var) | 5.2 | 4.8 |
| Apparent Power (VA) | 5.7 | 6.34 |
| PF | 0.43 | 0.65 |

5.4. Commonly used Ports

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.**UDP 514:** This port is used to deliver Syslog messages.

5.4. Syslog Messages: Severity Level Definitions

The Emergency level is the most severe type of message generated by ePowerSwitch-4 and the Debug severity level is the least severe one.

Severity Level 0, Emergency:

The following messages appear at severity 0:

- Continuous error!

Severity Level 1, Alert:

The following messages appear at severity 1:

- Settings have been reinitialized through the serial connection
- ePowerSwitch-4^{R2} does not respond
- Failure on Power Input

Severity Level 2, Critical:

The following messages appear at severity 2:

- "file" config corrupted: restoring default values

Severity Level 3, Error:

ePowerSwitch-4^{R2} 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:

- has been connected
- Power Supply restored
- Rule (number) : Outlet (number) has been switched ON
- Rule (number) : Group (number) has been switched ON

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) has been switched ON
- User "name" : Group (number) has been switched ON
- Session opened by user "name"

Severity Level 7, Debug:

ePowerSwitch-4^{R2} doesn't generate Severity Level 7.

Statement of Conformity

Konformitätserklärung

Für unser Erzeugnis "ePowerSwitch" in den Varianten ePowerSwitch-4, ePowerSwitch-4^{R2}, ePowerSwitch-4 IEC, ePowerSwitch 1G, ePowerSwitch 1G^{R2}, ePowerSwitch 1XS, ePowerSwitch 4G, ePowerSwitch 4M+, ePowerSwitch 4XM, ePowerSwitch 8G, ePowerSwitch 8M+, ePowerSwitch 8M+^{R2}, ePowerSwitch 8XM, ePowerSwitch 8XM^{R2}, ePowerSwitch 8XS, ePowerSwitch M8, ePowerSwitch S8, wird hiermit bestätigt, dass es den wesentlichen Schutzanforderungen entspricht, die in den Richtlinien des Rates über elektrische und elektronische Produkte festgelegt sind:

1. 89/336 bzw. 92/31 EEC - EWG EMV-Richtlinie
2. 73/23, bzw. 93/68 Niederspannungsrichtlinie

Zur Beurteilung wurden folgende Normen herangezogen:

Zu 1. Elektromagnetische Verträglichkeit nach

EN55022 Klasse B (1998) + A1, A2

EN55024 (1998) + A1, A2

EN61000-3-2 (2000) +A2

EN61000-3-3 (1995) + A1

Zu 2. Elektrische Sicherheit nach

EN60950-1 (2001)

Diese Erklärung wird verantwortlich für den Hersteller abgegeben durch (siehe unten):

Declaration of Conformity

We hereby declare that the versions ePowerSwitch-4, ePowerSwitch-4^{R2}, ePowerSwitch-4 IEC, ePowerSwitch 1G, ePowerSwitch 1G^{R2}, ePowerSwitch 1XS, ePowerSwitch 4G, ePowerSwitch 4M+, ePowerSwitch 4XM, ePowerSwitch 8G, ePowerSwitch 8M+, ePowerSwitch 8M+^{R2}, ePowerSwitch 8XM, ePowerSwitch 8XM^{R2}, ePowerSwitch 8XS, ePowerSwitch M8, ePowerSwitch S8, of our **ePowerSwitch** product meet the safety requirements specified in the European Union directives relating to electrical and electronic products:

1. EMC Directive 89/336/EEC, 92/31 EEC
2. Low Voltage Directive 73/23/EEC and 93/68/EEC

The following standards were used in assessing conformity:

Electromagnetic compatibility

EN 55022 Class B (1998) + A1, A2

EN 55024 (1998) + A1, A2

EN 61000-3-2 (2000) +A2

EN 61000-3-3 (1995) + A1

Electrical safety

EN 60950-1 (2001)

This Declaration is issued by:

**LEUNIG GMBH
D-53721 Siegburg**

Siegburg, 16.01.2014

Hermann-J. Vester



General Manager