ePowerSwitch-8

Power Management

Master

Slave

User's Guide

V.09/2004

ePowerSwitch-8

ePowerSwitch-8 is a couple of power control units made of a Master named ePowerSwitch-M8 and a slave named ePowerSwitch-S8.

ePowerSwitch-M8 (Master) is a power control unit with a built-in Web server, an Ethernet and a serial RS232 connection. It enables you to control the power supply of 8 power sockets either remotely through a Network (Intranet or Internet) or locally through its serial RS232 connection. The number of the controlled sockets can be extended up to 40 by connecting up to 4 ePowerSwitch-S8 (Slave) to the Master.

Thanks to the use of two separate power inlets and the optional Twin mode which allows you to control at the same time two power sockets, this device is the ideal solution to control the power of servers using redundant power supplies.

ePowerSwitch-S8 (Slave) is a power control unit with a serial RS232 connection. It enables you to control the power supply of 8 sockets through its serial RS232 connection. The number of the controlled sockets can be extended up to 32 by cascading up to 4 ePowerSwitch-S8 (Slave).

Like the Master, this device has two separate power inlets to increase the security and the load available on the power sockets.

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1. Safety instructions: to read before use!

Remark: In the following instructions "ePowerSwitch device" is used for both devices ePowerSwitch-M8 (Master) and ePowerSwitch-S8 (Slave).

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

2. Installation

The **ePowerSwitch-M8 (Master)** has a built-in Web server, an Ethernet and a serial interface. It can be used as a stand-alone device to control over IP eight IEC power sockets. The number of controlled sockets can be extended to 16, 24, 32 or 40 by cascading 1 to 4 ePowerSwitch-S8 (Slave).

The **ePowerSwitch-S8 (Slave)** has a serial RS232 interface used to control individually its 8 power sockets either through an ePowerSwitch-M8 (Master) or through any device using a serial RS232 connection (PC, Console server...). By cascading up to 4 ePowerSwitch-S8 (Slave), it is possible to control up to 32 sockets via one serial port.

Connecting ePowerSwitch-M8 (Master)

1. Connect your 10BasteT cable to the RJ-45 network port and to the ePowerSwitch-M8.
   If you want to configure the ePowerSwitch-M8 or control its power sockets over a Terminal connection, connect the supplied serial cable to an available serial port on your PC and to the serial port of the ePowerSwitch-M8.
2. Plug the 2 power cables into 2 **grounded** sockets. The A and B LEDs light on to confirm that power is on and the Pwr LED confirms that the Web server is powered.
3. You can now configure the ePowerSwitch-M8 by following the indications of the paragraph 3 "Configuration of the ePowerSwitch-M8 (Master)" or, if necessary, install the ePowerSwitch-S8 as indicated hereafter.

Connecting ePowerSwitch-S8 (Slave)

1. Connect the supplied RJ9 link-up cable to the RJ9 Out connector of the Master and to the RJ9 In connector of the slave.
   To cascade several Slaves, link RJ9 Out connector to RJ9 In connector of the next slave.
2. Allocate an address to each Slave by positioning the address selection DIP-switches marked Slct on the front panel according to the following table.

   Remarks
   - Unplug the device before changing its DIP switches.
   - Do NOT use the same address for two different Slaves.

Slave number	DIP-switch 1	DIP-switch 2
1	Off	Off
2	On	Off
3	Off	On
4	On	On

   Position Off = switch upwards
   Position On = switch downwards
   Micro-switch 1 is on the left side, micro-switch 2 on the right.

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

3. Configuration of the ePowerSwitch-M8 (Master)

To use the ePowerSwitch-M8 on your network, you must first configure its network parameters. Ask your network administrator for the parameters to use.

There are two different methods to configure the ePowerSwitch-M8:

Method 1:
Through a network using the ePowerSwitch 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 ePowerSwitch-M8 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 §4 "Configuration using the ePowerSwitch Finder program".

Default Network parameters:

IP address	192.168.100.100
Subnet mask	255.255.255.0
Gateway	no address
Port	80

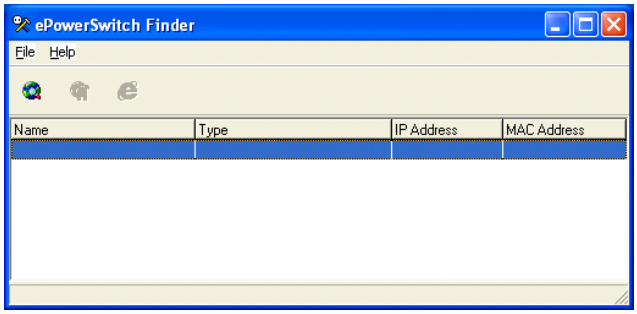
Method 2:
Through a RS232 serial connection using a Terminal connection. If you use a PC, use the serial cable supplied with the product and a Terminal program such as Widows HyperTerminal or the MicroTerminal program on the CD (folder miscellaneous).
If you decide to use this method, you can directly go to §5 "Configuration using a Terminal connection".

4. Configuration using the ePowerSwitch Finder program

Remarks:

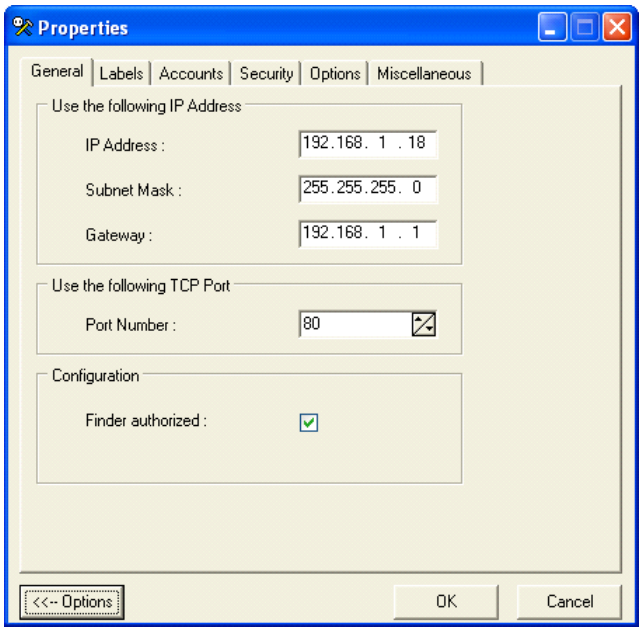
- The ePowerSwitch-M8 and the PC used to configure it have to be connected on the same segment of the network. The protocol of this program can not be routed so it can not be used to configure the ePowerSwitch through a WAN or the Internet.
- This program does not work if the administrator has deactivated it in the configuration of the ePowerSwitch (for security reasons for example).

1. Start the ***ePS-Finder.exe*** program on the CD-ROM.
   The ePowerSwitch 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 ePowerSwitch.

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. To configure all other parameters click on the ***Options*** button on the bottom of the dialog box.



General Tab

This tab is used:

- to define all the network parameters of the ePowerSwitch-M8 (IP Address, Subnet Mask, Default Gateway and Port Number).
- to permit or deny the configuration using the ePowerSwitch Finder program for security reasons.

Labels Tab

This tab is used:

- to attribute a label to a group of ePowerSwitch devices connected together (a group is made of 1 ePowerSwitch Master and up to 4 Slaves).
- to attribute a label to each ePowerSwitch and its 8 power sockets (use the left vertical Tabs to select the ePowerSwitch you want to configure).

Accounts Tab

In combination with the left vertical tab Group, this tab is used:

- to attribute a name and a password to the administrator who has access to all the sockets within a group of ePowerSwitch.

In combination with one of the left vertical tabs «Device 1» to «Device 5», this tab is used:

- to define 8 user accounts using a name and a password for each one.
- to define the power sockets each user will be able to control.
- to activate or deactivate an ePowerSwitch-S8 (Slave) connected to the Master.
- to define the function modus of each ePowerSwitch (Single mode or Twin mode):
  - **Single mode** enables you to control individually each power socket,
  - **Twin mode** enables you to control two power sockets with one command. This mode is particularly intended to restart devices using redundant power supplies.
    In that case, the 4 sockets powered by the power supply A (sockets 1 to 4) are automatically associated to the 4 sockets powered by the power supply B (sockets 5 to 8) and the labels of the first 4 sockets are used.

Security Tab

This tab is used to define addresses which are authorised or denied to access to the ePowerSwitch over the Network. For all details about this features, please refer to chapter 6 "Security parameters configuration".

Options Tab

This tab is used to:

- define the restart delay valid for all power sockets of all ePowerSwitch connected together;
- configure an Email address to which the user can manually send a message in case of problem.

Miscellaneous Tab

In combination with one of the left vertical tabs "Device 1" to "Device 5" to know how many times an ePowerSwitch has been powered ON and how many times its power sockets have been switched from OFF to ON. These values can not be reset by the user.

5. Configuration using a Terminal connection

The RS232 serial port of the ePowerSwitch-M8 can be used to control its power socket and to configure its Web server.

To configure the Web server using a PC and a Terminal connection:

1. Use the supplied RS232 serial cable to connect the ePowerSwitch-M8 to an available serial port of your PC.

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

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 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 prompt «**>**» appears on your screen.
   (the ePowerSwitch-M8 is now in Command mode and is waiting for commands to switch the power sockets. The serial command mode is explained in § 9).

5. Press the <**TAB**> key on your keyboard.
   The Configuration menu appears on your screen and the ePowerSwitch-M8 is now in the Configuration mode. Follow the menu to configure the Web server of your ePowerSwitch-M8.

```
>
ePowerSwitch M8

Commands :

Configuration

   /NP      Network Parameters Settings
   /PS      Passwords Settings
   /NS      Group, Device and Socket Names Settings
   /DP      Device Parameters Settings
   /RD      Socket Restart Delay Settings
   /IS      IP Security Settings
   /RS      Restart the Device

Enter Selection

>
```

   All commands start with the slash «**/**»
   ex.: type the command **/NP** to go to the **N**etwork **P**arameters settings menu.

   To display the current menu again, press <**ENTER**>.
   To go to the previous menu and to display it, press <**ESC**>.

Remark: to leave the configuration mode, type the restart command ***/RS***. This is particularly important if you want to control the power socket later through the serial connection.

The configuration of the serial port is explained in § 7 (Serial port configuration).

MAIN CONFIGURATION MENU

The Main menu of the configuration mode displays all the commands that can be used.

- All commands start with the character slash «**/**»
  (ex.: type the command **/NP** to go to the **N**etwork **P**arameters settings menu.

- To display the current menu again, press <**ENTER**>.

- To return to the previous menu and display it, press <**ESC**>.

```
ePowerSwitch

Commands :

Configuration

   /NP      Network Parameters Settings
   /PS      Passwords Settings
   /NS      Group, Device and Socket Names Settings
   /DP      Device Parameters Settings
   /RD      Socket Restart Delay Settings
   /IS      IP Security Settings
   /RS      Restart the Device

Enter Selection

>
```

NETWORK PARAMETERS SETTINGS MENU

Command /NP

This Menu is used to configure all network parameters (IP Address, Subnet Mask, Gateway and Port) and to permit or prevent the configuration over a local area network using the special ePowerSwitch Finder program.

```
NETWORK PARAMETERS SETTINGS

    MAC Address    00.01.9A.F1.00.0F
1.  IP Address     192.168.100.100
2.  Subnet Mask    255.255.255.0
3.  Gateway        0.0.0.0
4.  Port           80
5.  Finder         Activated


Enter Selection or <ESC> to exit

>
```

Command 1

```
NETWORK PARAMETERS SETTINGS

   IP Address is: 192.168.100.100

Enter IP Address or <ESC> to exit
You must restart the device (Command /RS) to valid the new parameters

>
```

Command 2

```
NETWORK PARAMETERS SETTINGS

  Subnet Mask is: 255.255.255.0

Enter subnet mask or <ESC> to exit
You must restart the device (Command /RS) to valid the new parameters

>
```

Command 3

```
NETWORK PARAMETERS SETTINGS

  Gateway is: 0.0.0.0

Enter gateway address or <ESC> to exit
You must restart the device (Command /RS) to valid the new parameters

>
```

Command 4

```
NETWORK PARAMETERS SETTINGS

   Port is: 80

Enter port or <ESC> to exit
You must restart the device (Command /RS) to valid the new parameters

>
```

Command 5

```
NETWORK PARAMETERS SETTINGS

   Finder is: Activated

1.  Activate
2.  Deactivate

Enter Selection or <ESC> to exit
You must restart the device (Command /RS) to valid the new parameters

>
```

PASSWORD SETTINGS MENU

Command /PS

This Menu is used to configure the names and the corresponding passwords for the administrator and all the users.

```
PASSWORDS SETTINGS

1.  Administrator
2.  Users Device 1
3.  Users Device 2
4.  Users Device 3
5.  Users Device 4
6.  Users Device 5

Enter Selection or <ESC> to exit

>
```

Command 1

```
ADMINISTRATOR NAME & PASSWORD SETTINGS

1.  Administrator Name        admin
2.  Administrator Password    admin

Enter Selection or <ESC> to exit

>
```

Command 2

```
DEVICE 1 / USERS SETTINGS

1.  User 1
2.  User 2
3.  User 3
4.  User 4
5.  User 5
6.  User 6
7.  User 7
8.  User 8

Enter Selection or <ESC> to exit

>
```

Command 1

```
DEVICE 1 / USER 1 SETTINGS

1.  User 1 Name                     user1-1
2.  User 1 Password                 user1-1
3.  User 1 authorized Sockets       1,5

Enter Selection or <ESC> to exit

>
```

GROUP, DEVICE AND SOCKET NAMES SETTINGS

Command /NS

This Menu is used to attribute a label to a group of ePowerSwitch, a label to each ePowerSwitch device and a label to each power socket.

```
GROUP, DEVICE AND SOCKET NAMES SETTINGS

1.  Group Name                Group Name
2.  Device 1 & Socket Name    Device 2 name
3.  Device 2 & Socket Name    Device 2 name
4.  Device 3 & Socket Name    Device 3 name
5.  Device 4 & Socket Name    Device 4 name
6.  Device 5 & Socket Name    Device 5 name

Enter Selection or <ESC> to exit

>
```

Command 1

```
GROUP NAME SETTING

   Group Name is: Device Name

Enter Name (max. 32 characters) or <ESC> to exit

>
```

Command 2 to 6

```
DEVICE 1 / SOCKET NAMES SETTINGS

1.  Device Name    Device 1 name
2.  Socket 1       Socket 1-1 name
3.  Socket 2       Socket 1-2 name
4.  Socket 3       Socket 1-3 name
5.  Socket 4       Socket 1-4 name
6.  Socket 5       Socket 1-5 name
7.  Socket 6       Socket 1-6 name
8.  Socket 7       Socket 1-7 name
9.  Socket 8       Socket 1-8 name

Enter Selection or <ESC> to exit
```

DEVICE PARAMETERS SETTINGS

Command /DP

This Menu is used to:

- configure an Email address to which the user can manually send a message in case of problem,
- define the function modus of each ePowerSwitch device (Single mode or Twin mode),
  Single mode enables you to control individually each power socket,
  Twin mode enables you to control two power sockets with one command. This mode is particularly intended to restart devices using redundant power supplies.
  In this case, the 4 sockets powered by power supply A (sockets 1 to 4) are automatically associated to the 4 sockets powered by power supply B (sockets 5 to 8) and the labels of the first 4 sockets are used.
- activate or deactivate an ePowerSwitch Slave connected to an ePowerSwitch Master.

```
DEVICE PARAMETERS SETTINGS

1.  Mail to
2.  Device #1    Activated        Twin Mode
3.  Device #2    Activated        Twin Mode
4.  Device #3    Not Activated    Single Mode
5.  Device #4    Not Activated    Single Mode
6.  Device #5    Not Activated    Single Mode

Enter Selection or <ESC> to exit

>
```

Command 1

```
MAIL TO SETTING

   Mail to is:

Enter Name (max. 32 characters) or <ESC> to exit

>
```

```
DEVICE 1 PARAMETERS SETTINGS

   Device #1    Activated        Twin Mode

1.  Single Mode / Twin Mode
2.  Activate / Deactivate

Enter Selection or <ESC> to exit

>
```

Command 1

```
DEVICE 1 PARAMETERS SETTINGS

   Mode is: Twin Mode

1.  Twin Mode
2.  Single Mode

Enter Selection or <ESC> to exit

>
```

```
DEVICE 1 PARAMETERS SETTINGS

   Device is: Activated

1.  Activate
2.  Deactivate

Enter Selection or <ESC> to exit

>
```

SOCKET RESTART DELAY SETTINGS

Command /RD

This Menu is used to define the restart delay for all the power sockets.

```
SOCKET RESTART DELAY SETTINGS

1.  Delay before Restart (sec)    5

Enter Selection or <ESC> to exit

>
```

Command 1

```
SOCKET RESTART DELAY SETTINGS

   Delay before Restart (sec) is: 5

1.   5 sec
2.  10 sec
3.  15 sec
4.  30 sec
5.  60 sec

Enter Selection or <ESC> to exit

>
```

Command 1

```
SOCKET RESTART DELAY SETTINGS

1.  Delay before Restart (sec)    5

Enter Selection or <ESC> to exit

>
```

IP SECURITY SETTINGS

Command /IS

This Menu is used to define IP addresses or IP ranges that are authorized or not to access the Web Server of the ePowerSwitch-M8. See § 6 for all details.

```
IP SECURITY SETTINGS

1.  Mask #1    0.0.0.0            Deny      Not Activated
2.  Mask #2    0.0.0.0            Deny      Not Activated
3.  Mask #3    0.0.0.0            Deny      Not Activated
4.  Mask #4    0.0.0.0            Deny      Not Activated
5.  Mask #5    0.0.0.0            Deny      Not Activated
6.  Mask #6    0.0.0.0            Deny      Not Activated
7.  Mask #7    0.0.0.0            Deny      Not Activated
8.  Mask #8    0.0.0.0            Deny      Not Activated

Enter Selection or <ESC> to exit

>
```

Command 1

```
IP SECURITY SETTINGS

   Mask #1    0.0.0.0            Deny      Not Activated

1.  Edit the Mask
2.  Permit / Deny
3.  Activate / Deactivate

Enter Selection or <ESC> to exit

>
```

Command 1

```
IP SECURITY SETTINGS

   Mask #1 is: 0.0.0.0

Enter mask or <ESC> to exit

>
```

Command 2

```
IP SECURITY SETTINGS

   Mask #1 Access is: Deny

1.  Permit
2.  Deny

Enter Selection or <ESC> to exit

>
```

Command 3

```
IP SECURITY SETTINGS

   Mask #1 Supervision is: Not Activated

1.  Activate
2.  Deactivate

Enter Selection or <ESC> to exit

>
```

RESTART THE DEVICE

Command /RS

This Menu is used to restart the ePowerSwitch-M8.
This function is needed:

- to take into account changes of network parameters (command /NP),
- to leave the serial configuration mode and return to the command mode.

```
RESTART THE DEVICE

The system is reinitializing, please wait ...

>
```

6. Security parameters configuration

Explanations about masks settings :

- Each mask can be an IP Address or a range of IP Addresses.
- Each mask allows you to permit or deny access to the Web server of the ePowerSwitch-M8 for specific addresses or ranges of addresses.
- Each mask can be activated or deactivated (without function in this case).
- Each IP Address consists of a series of four eight-bit numbers. The number 255 is used as a wildcard, it replaces all others.
- Masks are listed in order of descending priority; so Mask 1 has the highest priority.
- Masks have a cumulative effect; high priority masks supersede the effect of lower priority masks.

Example 1:
⇒ Deny the access to all IP addresses except 192.168.001.015

Mask	IP Address	Permit	Deny	Activated
#1	192.168.001.015	✓		✓
#2	255.255.255.255		✓	✓

Example 2:
⇒ Permit access only to IP addresses beginning with 192.

Mask	IP Address	Permit	Deny	Activated
#1	192.255.255.255	✓		✓
#2	255.255.255.255		✓	✓

Example 3:

⇒ Permit access only to IP addresses beginning with 192

⇒ Deny access to IP address 192.168.001.010

Masque	IP Address	Permit	Deny	Activated
#1	192.168.001.010		✓	✓
#2	192.255.255.255	✓		✓
#3	255.255.255.255		✓	✓

Example 4:

⇒ Permit access to IP addresses beginning with 192

⇒ Deny access to address 192.168.001.010

⇒ Permit access to IP addresses beginning with 217.128.103

Mask	IP Address	Permit	Deny	Activated
#1	192.168.001.010		✓	✓
#2	192.255.255.255	✓		✓
#4	217.128.103.255	✓		✓
#3	255.255.255.255		✓	✓

7. Serial port configuration

ePowerSwitch-M8 (Master)

Connector: SUB-D9 female connector

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

Configuration parameters

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

Remarks:

- The serial cable provided with ePowerSwitch-M8 is a standard straight extension cable with DB9 connectors. This cable is intended to connect the serial port of the ePowerSwitch-M8 to a serial port of a PC.
- You may use any other straight serial cable, but for EMC reasons, we advise you not to use cables above 2.9 meters long.

ePowerSwitch-S8 (Slave)

Connector: RJ9 female

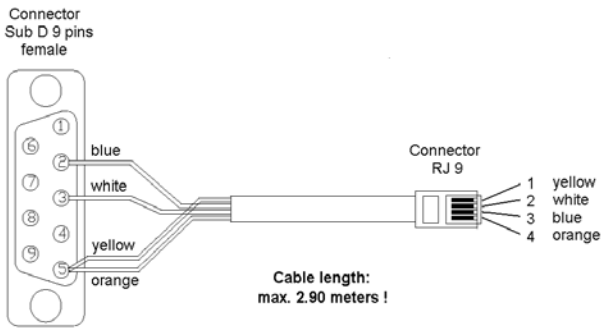
Pin configuration
1 (yellow) = Ground
2 (white) = RxD (receive commands)
3 (blue) = TxD (transmit data)
4 (orange) = Ground

Configuration parameters

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

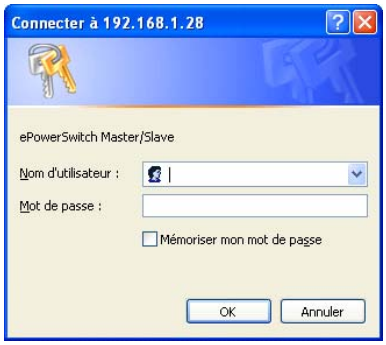
A short connection cable is supplied with each ePowerSwitch-S8 (Slave).
This cable is used to connect its RJ9 input connector to the RJ9 output connector of an ePowerSwitch-M8 (Master) or another ePowerSwitch-S8.

If you want to connect the ePowerSwitch-S8 (Slave) directly to the serial port of a PC, make a serial cable as indicated by the drawing below or contact your dealer to order one.



8. Command the Power Sockets through a Web browser

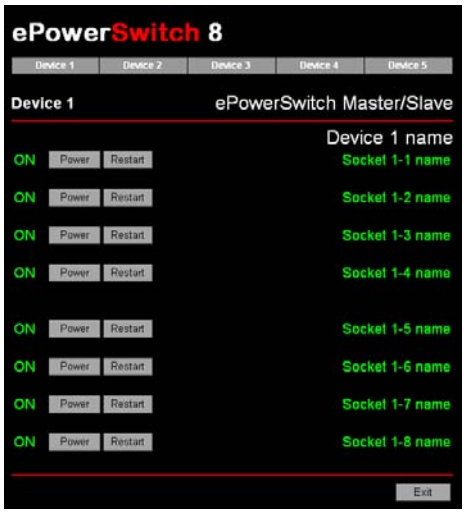
1. Start your Web browser
   Type the IP address of your ePowerSwitch-M8.
   The browser displays the authentication dialog box.



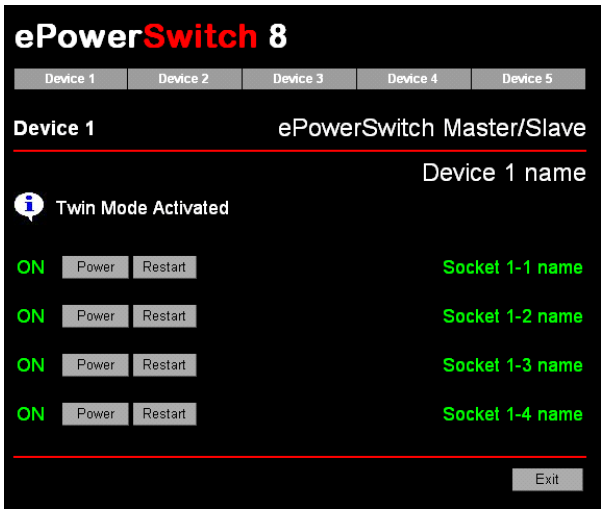
2. Enter a user name and its corresponding password.

   - With the administrator name (default value = admin) and the administrator password (default value = admin), you will be able to control all the power sockets.

   - With a user name and its password you will only be able to control the power outlets for which one you have the permission.



Home page in «Single mode»



Home page in «Twin mode»

The **Power** button allows you to switch the socket ON and OFF.
The **Restart** button allows you to switch OFF the socket. It will be automatically switched on after the delay set by the administrator during the configuration (default value is 5 sec).

Default Configuration of the ePowerSwitch-M8

IP address	192.168.100.100	Administrator Name :	admin
Subnet mask	255.255.255.0	Administrator Password :	admin
Gateway	no address		
Port	80		

9. Command the Power Sockets through a serial connection

The power sockets of the ePowerSwitch-M8 (Master) and the ePowerSwitch-S8 (Slave) can be controlled using a simple ASCII protocol over an RS232 serial connection.

Control the power sockets of the ePowerSwitch Master and its slaves

1. Use the supplied RS232 serial cable to connect the ePowerSwitch-M8 (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 (folder miscellaneous).

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 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 prompt «>» appears on your screen. This prompt indicates that the ePowerSwitch-M8 is in Command mode (it is the default mode after Power up).

Remark: the power socket of the ePowerSwitch can only be controlled if the ePowerSwitch is in Command mode and NOT in Configuration mode. If you are in Configuration mode, type the command ***/RS*** to leave this mode.

The syntax of the command line is: Pxy=z

Parameter	Value	Function
x	1 to 5	represents the number of the ePowerSwitch: 1 means ePowerSwitch-M8 Master 2 to 5 means the corresponding connected Slave
y	0 1 to 8	means that all the sockets have to be controlled together indicates the number of the socket 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

Example to control the Master:

P10=1	<ENTER>	switch all the 8 sockets ON
P10=0	<ENTER>	switch all the 8 sockets OFF
P14=r	<ENTER>	restart socket 4
P18=t	<ENTER>	toggle socket 8

Example to control the first Slave connected to the Master
DIP-Switch of the Slave: 1 = off and 2 = off

P20=1 <ENTER> switch all the 8 sockets ON
P25=0 <ENTER> switch socket 5 OFF

Remarks:

- The ePowerSwitch accepts lower case and upper case commands.
- The ePowerSwitch sends an echo for each received character.
- If the Twin mode is activated, sending a command to a specific socket number will also control its corresponding twin socket.

Control the power sockets of an ePowerSwitch-Slave or several slaves connected together

In this case, you have to make a special serial cable as indicated by the drawing in §7 or contact your dealer to order one.

1. Use this special cable to connect the ePowerSwitch-Slave to an available serial port of your PC.

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

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

4. From your computer, enter the command as explained below.

The syntax of the command line is: Pxy=z

Parameter	Value	Function
x	1 to 4	1 to 4 means the corresponding connected Slave
y	0 1 to 8	means that all the sockets have to be controlled together indicates the number of the socket 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

Example to control the first Slave
DIP-Switch: 1 = off and 2 = off

```
P10=1  <ENTER>   switch all 8 sockets ON
P10=0  <ENTER>   switch all 8 sockets OFF
P14=r  <ENTER>   restart socket 4
P18=t  <ENTER>   toggle socket 8
```

Example to control the second Slave
DIP-Switch: 1 = on and 2 = off

```
P20=1  <ENTER>   switch all 8 sockets ON
P25=0  <ENTER>   switch socket 5 OFF
```

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

10. Technical data

ePowerSwitch-M8

Network standards	IEEE 802.3, 10BASE-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
Nominal input voltage	230 V/50Hz
Input power socket	IEC-320
Output voltage	230 V/50Hz
Output power socket	IEC-320
Maximum total current	10 A
Fuse	2 fuses of 10 A(T) (1 for each group of 4 power sockets)
LEDs	1 for Power Supply A 1 for Power Supply B 8 for the power sockets status 1 for Web server Power and Network traffic 4 for the connected Slaves
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
Guarantee	2 years repair or replace

ePowerSwitch-S8

Serial connection	RS232, SUB-D 9 female
Nominal input voltage	230 V/50Hz
Input power socket	IEC-320
Output voltage	230 V/50Hz
Output power socket	IEC-320
Maximum total current	10 A
Fuse	2 fuses of 10 A(T) (1 for each group of 4 power sockets)
LEDs	1 for Power and Network Traffic 1 for socket status
Operating temperature	0°C to +40°C
Operating humidity	10% to 80%
Dimensions	437 x 107 x 42 mm
Weight	2 Kg
Approvals	CE, EN55022 & EN55024
Guarantee	2 years repair or replace

11. Statement of Conformity

STATEMENT OF CONFORMITY

Application of Council Directives:	89/336/EEC, 92/31/EEC, 73/23/EEC, 93/68/EEC
Standards to Which Conformity declared:	EN 60950, EN 55022, EN 55024
Manufacturer's Name and Address:	NEOL SA 4 Rue Nationale 67800 BISCHHEIM -FRANCE
Type of Equipment:	Power Control Unit
Type Designation:	ePowerSwitch-8 Master and Slave
Reference:	EPS M8 EPS S8
Years of Manufacture:	2003, 2004

We, the undersigned, hereby declare that the equipment specified above conforms to the above directives.

Bischheim, 6th September 2004

Paul REYSER,

General Manager
NEOL SA