ePowerSwitch 8XS

User guide

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This documentation, the ePowerSwitch 8M+^{R2}, its peripherals, accessories and accompanying software were produced with great care, yet errors are possible.
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CONTENTS

SAFETY INSTRUCTIONS: To be read before use!

NOTE

- 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 utilization 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 outlets of an ePowerSwitch device.
- 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 equipments connected to an ePowerSwitch device you must disconnect these equipments from the ePowerSwitch device.
- Do NOT attempt to disassemble the ePowerSwitch devices, they contain potentially hazardous voltages.
- The ePowerSwitch devices contain no user serviceable parts and repairs are to be performed by factory trained service personnel only.
- Always use a shielded cable for the Ethernet connection.

Consignes de sécurité : à lire avant utilisation !

Français

Remarque

- Les équipements ePowerSwitch ne peuvent être installés que par un personnel qualifié. Le fabricant décline toute responsabilité en cas de mauvaise utilisation des équipements ePowerSwitch et tout particulièrement en cas d'utilisation avec des équipements pouvant occasionner des blessures corporelles ou des dommages matériels.

- Les équipements ePowerSwitch sont destinés à être installés sur un ou plusieurs circuits électriques dédiés protégés par des disjoncteurs ou des fusibles. Les prises secteur utilisées pour brancher les cordons secteur d'alimentation des équipements ePowerSwitch doivent être à proximité des équipements ePowerSwitch et facilement accessibles.

- Vérifiez que les cordons secteur d'alimentation, les connecteurs et les prises secteur sont en bon état.Les équipements ePowerSwitch ne peuvent être connectés qu'à des prises secteur à 3 conducteurs (2 prises + terre) 230 VAC (50-60Hz).

- N'utilisez que des prises secteur correctement mises à la terre (deux prises + terre) pour brancher les câbles secteur des équipements ePowerSwitch.

- Ne jamais dépasser un courant total de 10 Amp pour chaque entrée secteur des équipements ePowerSwitch.

- Les équipements ePowerSwitch sont destinés à une utilisation intérieure. NE les installez JAMAIS dans un endroit où règne une humidité ou une chaleur excessive.

- Débranchez TOUJOURS les 2 cordons secteur d'alimentation des équipements ePowerSwitch si vous souhaitez intervenir sur les équipements ePowerSwitch ou sur les appareils alimentés au travers des équipements ePowerSwitch.

- Les prises secteur des équipements ePowerSwitch ne sont PAS des coupe-circuits ! Si vous souhaitez intervenir sur les appareils alimentés au travers des équipements ePowerSwitch vous devez IMPERATIVEMENT débrancher ces appareils des équipements ePowerSwitch.

- Ne démontez JAMAIS l'ePowerSwitch, il y a risque de choc électrique !

- Les équipements ePowerSwitch ne contiennent pas de pièces nécessitant une maintenance. Les éventuelles réparations ne peuvent être faites que par un personnel habilité et formé par le fabricant.

- Utilisez toujours un câble blindé pour la connexion Ethernet.

1. DESCRIPTION

ePowerSwitch 8XS is a power distribution and control unit that enables power management of 8 devices through an RS-232 or RS-485 connection.

The ePowerSwitch 8XS has two separate power inputs of 10 Amp to increase the security and the load available on the power outlets.

This device is intended to be connected to an ePowerSwitch Master or to the VizioGuard Environmental Monitoring Systems. Thanks to the RS232 and RS485 interfaces and its easy to use ASCII protocol, the ePowerSwitch Satellite is also the ideal solution to control power outlets through the serial connection of a KVM switch, a console server or a PC.

The number of the controlled power outlets can be extended by connecting the ePowerSwitch Satellite unit to an ePowerSwitch Master 4M+, 8M+, 8M+R2, 8M+/32 or VizioGuard.

1.1. Package list

The following items are included:

- ❑ 1 ePowerSwitch Satellite 8XS
- ❑ 2 power cables, 230 V / 10 Amp, length 1.80 Meter
- ❑ 1 RJ45 M/M, 0.50 Meter
- ❑ 1 serial cable SUB-D 9 points male/female, length 1.80 Meter
- ❑ CD including this user guide
- ❑ 1 quick installation guide

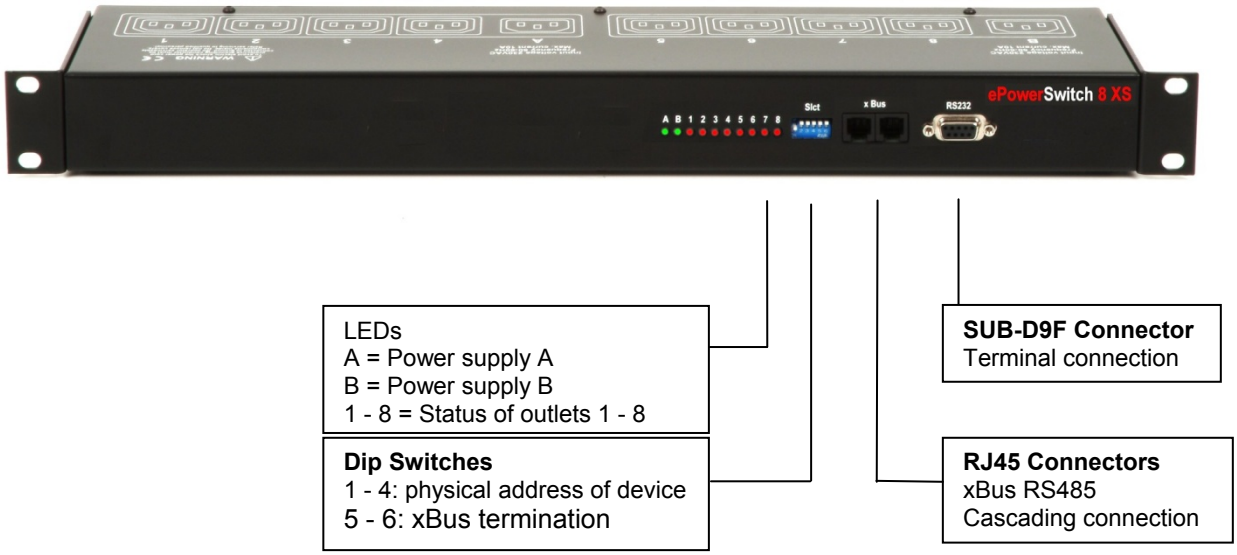
1.2 Compatibility tables

Up to 4 ePowerSwitch 8XS Satellite from V. 2.05 can be connected to:	ePowerSwitch M8	from V.1.1.0.0
	ePowerSwitch 4M+	from V.2.1.0.0
	ePowerSwitch 8M+	from V.1.0.0.3
	ePowerSwitch 8M+^{R2}	from V.2.1.0.0
	ePowerSwitch 8M+/32	from V.1.0.0.0
	VizioGuard^{Tiny}	from V.

Up to 16 ePowerSwitch 8XS Satellite from V. 2.05 can be connected to:	ePowerSwitch 8XM	from V.2.0.1.3
	VizioGuard	from V.3.0.0.1

3. Diagram

3.1. Front panel



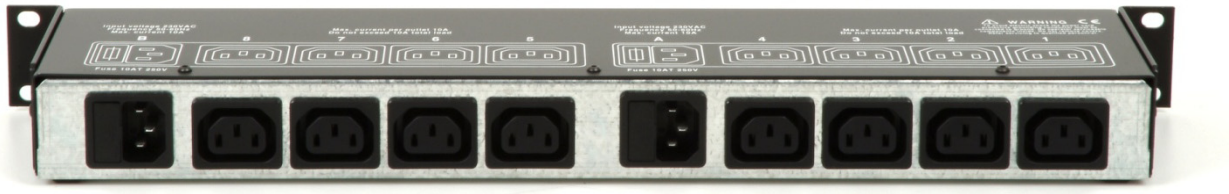
A B 1 2 3 4 5 6 7 8 (LEDs)
A Green. Lights up when power applied on Group A
B Green. Lights up when power applied on Group B
1 Red. Status of power outlet 1 (On/Off)
2 Red. Status of power outlet 2 (On/Off)
3 Red. Status of power outlet 3 (On/Off)
4 Red. Status of power outlet 4 (On/Off)
5 Red. Status of power outlet 5 (On/Off)
6 Red. Status of power outlet 6 (On/Off)
7 Red. Status of power outlet 7 (On/Off)
8 Red. Status of power outlet 8 (On/Off)

Dip Switches
1 - 4: physical address of device
5 - 6: xBus termination

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

xBus (RS485)
These connectors are used for cascading xBus devices together (ePowerSwitch Satellite, sensors, extension modules, etc.).
Maximal TOTAL line length: 200 meters

3.2. Back



Power outlets (Group B)
Power outlets 5 – 8
230 VAC max 10 Amp

Power outlets (Group A)
Power outlets 1 – 4
230 VAC max 10 Amp

Power input B
230 VAC – 10 Amp

Power input A
230 VAC – 10 Amp

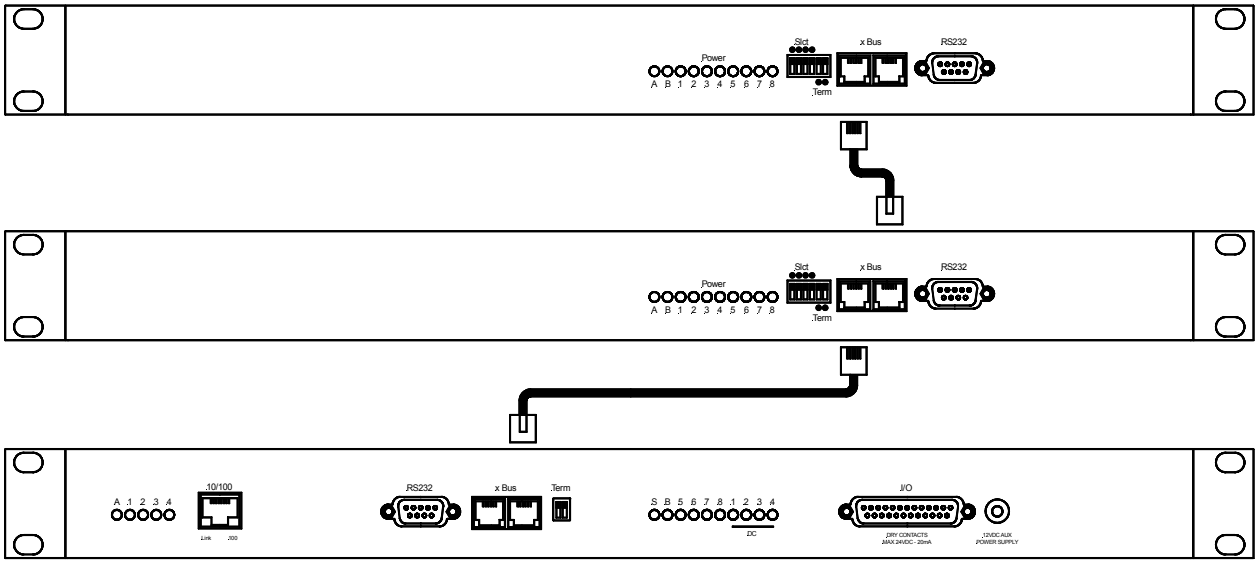
4. Connection to a Master

Make sure that all the ePowerSwitch devices are powered off.

Connection Instructions

1. Connect the appropriate link-up cable to one of the xBus connector of the ePowerSwitch Master and to one of the xBus connector of the ePowerSwitch 8XS. To cascade several Satellites, link the second xBus connector of a Satellite with one of the xBus connector of the next Satellite.

Master unit	Link-up cable to the first satellite	Link-up cable to the next satellites
EPS M8	RJ9M - DB9M (Réf RJ9-DB9M 180, must be ordered separately)	(up to 4 Satellite units) RJ45M - RJ45M or RJ11M - RJ45M (see supplied cable set)
EPS 4M+ EPS 8M+ EPS 8M+^{R2} VizioGuard^{Tiny}	RJ45M - RJ45M (use supplied cable)	(up to 4 Satellite units) RJ45M - RJ45M
EPS 8XM VizioGuard	RJ45M - RJ45M (use supplied cable)	(up to 16 Satellite units) RJ45M - RJ45M



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

Remarks

- Unplug the power cords of the ePowerSwitch 8XS before changing its DIP switches.
- Do NOT use the same address for two different Satellites.

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

Position Off = switch upwards,
Position On = switch downwards

DIP-Switch 1 is located on the left side

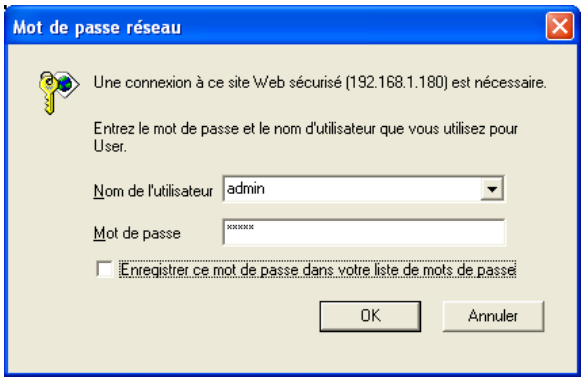
DIP-Switch 5 and 6 are used to activate the built-in termination resistors.

3. **On both devices located at the end of the xBus, switch the DIP-Switch 5 and 6 to ON to activate the built-in termination resistors**.

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

5. Controlling the Satellite power outlets through the Master Web Server

Start your Web browser and type the IP address of your ePowerSwitch Master or your VizioGuard RMS system.
The browser displays the authentication dialog box.



Enter a user name and its corresponding password.

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

If you log in as a user, you will be able to:
- control individually all the power outlets and all the power outlet groups for which you have the rights,
- display the values of all the connected environmental peripherals for which you have the rights.

The ***ON*** button allows you to switch to ON the corresponding power outlet or group of power outlets.

The ***OFF*** button allows you to switch to OFF the corresponding power outlet or group of power outlets.

The ***Restart*** button allows you to switch OFF the corresponding power outlet or group of power outlets.

The power outlet(s) will then be automatically switched ON after the delay defined by the administrator during the configuration (default value is 10 sec).

6. Controlling the Satellite power outlets using a Terminal Connection

The power outlets of the ePowerSwitch 8XS can be individually controlled and the status of each power outlet can be read out using a simple ASCII protocol through a serial connection. The connection can be done either using the RS232 or the RS485 port of the ePowerSwitch 8XS.

6.1. Using the RS232 port

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

In this case, use the supplied RS232 serial cable to connect the ePowerSwitch 8XS to an available serial port of your PC.

6.2. Using the RS485 port

(RJ45 connector marked xBus on the front panel).

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

6.3. Commands

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

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

Summary of the commands:

6.3.1. Controlling of the power outlet(s)

This command enables to control individually each power outlet or all power outlets of the same ePowerSwitch 8XS in one command.

Command to be sent to the ePowerSwitch 8XS:
Pxy=z[CR]
Pxy=z,t_1[CR]
Pxy=z,t_1,t_2[CR]

Reply from the ePowerSwitch 8XS:
Pxy=z[CR]
Pxy=z,t_1[CR]
Pxy=z,t_1,t_2[CR]

Explanations:

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

Examples:

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

The ePowerSwitch 8XS accepts lower case and upper case commands.

The ePowerSwitch 8XS sends its reply only after having received a valid command terminated by the character [CR].

6.3.2. Reading out the power outlet status

This command enables to read out the status of each power outlet.

Command to be sent to the ePowerSwitch 8XS:
Rxy[CR]

Reply from the ePowerSwitch 8XS:
Rxy=z[CR]

Explanations:

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

Examples:
R11[CR] Read status of the power outlets #1 of ePowerSwitch #1
R168[CR] Read status of the power outlets #8 of ePowerSwitch #16

The ePowerSwitch 8XS accepts lower case and upper case commands.

The ePowerSwitch 8XS sends its reply only after having received a valid command terminated by the character [CR].

6.3.3. Setting of the power up delays

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

Command to be sent to the ePowerSwitch 8XS:
TUxy=z[CR]

Reply from the ePowerSwitch 8XS:
TUxy=z[CR]

Explanations:

Parameter		Value	Function/Remark
x	address of the ePowerSwitch	1 to 16	specifies the number of the ePowerSwitch 8XS
y	number of the power outlet	1 to 8	specifies the number of the power outlet
z	timer value	1 to 255	set the power up delay (in sec)

Examples:
TU12=2 Set power up delay of the power outlet #2 of ePowerSwitch #1 to 2 sec
T163=10 Set power up delay of the power outlet #3 of ePowerSwitch #16 to 10 sec

The ePowerSwitch 8XS accepts lower case and upper case commands.

The ePowerSwitch 8XS sends its reply only after having received a valid command terminated by the character [CR].

6.3.4. Reading out of the power up delay(s)

This command enables to read out the power up delay individually for each power outlet.

Command to be sent to the ePowerSwitch 8XS:
TUxy[CR]

Reply from the ePowerSwitch 8XS:
TUxy=z[CR]

Explanations:

Parameter		Value	Function/Remark
x	address of the ePowerSwitch	1 to 16	specifies the number of the ePowerSwitch 8XS
y	number of the Power Outlet	1 to 8	specifies the number of the power outlet
z	timer value	1 to 255	shows the power up delay (in sec)

The ePowerSwitch 8XS accepts lower case and upper case commands.

The ePowerSwitch 8XS sends its reply only after having received a valid command terminated by the character [CR].

6.3.5. Setting the restart delays

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

Command to be sent to the ePowerSwitch 8XS:
TRxy=z[CR]

Reply from the ePowerSwitch 8XS:
TRxy=z[CR]

Explanations:

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

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

The ePowerSwitch 8XS accepts lower case and upper case commands.

The ePowerSwitch 8XS sends its reply only after having received a valid command terminated by the character [CR].

6.3.6. Reading out of the restart delays

This command enables to read out the restart delay individually for each power outlet.

Command to be sent to the ePowerSwitch 8XS:
TRxy[CR]

Reply from the ePowerSwitch 8XS:
TRxy=z[CR]

Explanations:

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

The ePowerSwitch 8XS accepts lower case and upper case commands.

The ePowerSwitch 8XS sends its reply only after having received a valid command terminated by the character [CR].

6.3.7. Setting the power up default status

This command enables to set the power up default status individually for each power outlet. Settings can be "always On", "Always Off" or "Last memorized Status" before power failure.

Command to be sent to the ePowerSwitch 8XS:
DPxy=z[CR]

Reply from the ePowerSwitch 8XS:
DPxy=z[CR]

Explanations:

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

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

The ePowerSwitch 8XS accepts lower case and upper case commands.

The ePowerSwitch 8XS sends its reply only after having received a valid command terminated by the character [CR].

6.3.8. Reading out the power up default status

This command enables to read out the power up default status individually for each power outlet.

Command to be sent to the ePowerSwitch 8XS:
DPxy[CR]

Reply from the ePowerSwitch 8XS:
DPxy=z[CR]

Explanations:

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

The ePowerSwitch 8XS accepts lower case and upper case commands.

The ePowerSwitch 8XS sends its reply only after having received a valid command terminated by the character [CR].

6.3.9. Reading out the switching counter values of the relays

This command enables to read out the number of power up cycles of the ePowerSwitch 8XS and the number of switching cycles (Off to On) of each power outlet.

Command to be sent to the ePowerSwitch 8XS:
Cxy[CR]

Reply from the ePowerSwitch 8XS:
Cxy=z[CR]

Explanations:

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

The ePowerSwitch 8XS accepts lower case and upper case commands.

The ePowerSwitch 8XS sends its reply only after having received a valid command terminated by the character [CR].

6.3.10. Resetting the switching counter values of the relays

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

Command to be sent to the ePowerSwitch 8XS:
/RC[CR]

Reply from the ePowerSwitch 8XS:
No reply

The ePowerSwitch 8XS accepts lower case and upper case commands.

The ePowerSwitch 8XS sends its reply only after having received a valid command terminated by the character [CR].

6.3.11. Restoring to factory settings

This command enables to restore all factory settings.

Command to be sent to the ePowerSwitch 8XS:
/FS[CR]

Reply from the ePowerSwitch 8XS:
No reply

The ePowerSwitch 8XS accepts lower case and upper case commands.

The ePowerSwitch 8XS sends its reply only after having received a valid command terminated by the character [CR].

Technical Data

Network connection	RJ-45 connector for UTP CAT5
Max. network cable length	100 meters (not included)
Serial connection	RS232, SUB-D 9 female
Connection Bus	RS-485, RJ-45
Nominal input voltage	230 V/50Hz
Input power outlet	IEC-320
Output voltage	230 V/50Hz
Output power outlet	IEC-320
Maximum total current	2 x 10 A
LEDs	1 for power supply A 1 for power supply B 8 for the power outlets status
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, EN 60950-1, EN 55022, EN 55024, RoHS

Statement of Conformity

STATEMENT OF CONFORMITY

NEOL S.A.S. declares that this equipment is in compliance with the Electromagnetic Compatibility Directive and the Low Voltage Directive:

Application of Council Directives:	2004/108/EEC
Standards to Which Conformity declared:	EN 60950-1, EN 55022, EN 55024
Manufacturer's Name and Address:	NEOL S.A.S. 4 Rue Nationale 67800 BISCHHEIM -FRANCE
Type of Equipment:	Power Control Unit
Type Designation:	ePowerSwitch 8XS Satellite
Reference:	EPS 8XS
Years of Manufacture:	2010 -2011

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

Bischheim, 1st February 2011

Paul REYSER,

General Manager
NEOL S.A.S.