

Expert Power Control 8212/8213





Expert Power Control 8212/8213
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1 Safety Advice

The device must be installed only by qualified personnel according to the following installation and operating instructions. The manufacturer does not accept responsibility in case of improper use of the device and particularly any use of equipment that may cause personal injury or material damage.

The device contains no user-maintenable parts. All maintenance has to be performed by factorytrained service personnel.

Check if the power cord, the plug and the socket are in proper condition.

The device can be connected only to 230V AC (50 or 60 Hz) sockets.

Always connect the device to properly grounded power sockets.

The device is intended for indoor use only. Do NOT install them in an area where excessive moisture or heat is present.

Because of safety and approval issues it is not allowed to modify the device without our permission.

Please note the safety advises and manuals of connected devices, too.

The device is NOT a toy. It has to be used or stored out of range of children.

Packaging material is NOT a toy. Plastics has to be stored out of range of children. Please recycle the packaging materials.

In case of further questions, about installation, operation or usage of the device, which are not clear after reading the manual, please do not hesitate to ask our support team.

Please, never leave connected equipment unattended, that can cause damage (e.g. iron heater, etc.).

2 Description

The Remote Power Switch **Expert Power Control 8212/8213** allows the switching of electrical devices via a TCP/IP network and a serial interface.

For installation just connect the power and network cables to **Expert Power Control 8212/8213**.

After the device has received an IP address every client in the same network is able to switch the four Power Ports (max. 10 A) via webinterface. **Expert Power Control 8212/8213** offers also features like SNMP and Syslog. Additional **Expert Power Control 8212/8213** can be controlled via a serial connection.

A temperature sensor and a hybrid sensor (temperature and humidity) can be connected to **Expert Power Control 8212/8213**.

A watchdog function for each power port is implemented.

The display on the front is able to show the IP address, the recent total load, the peak current (timeframe adjustable) and the measurements of the sensors.

Furthermore the access to the device can be restricted by IP access control lists and a HTTP password.

3 Hardware

3.1 Content of delivery

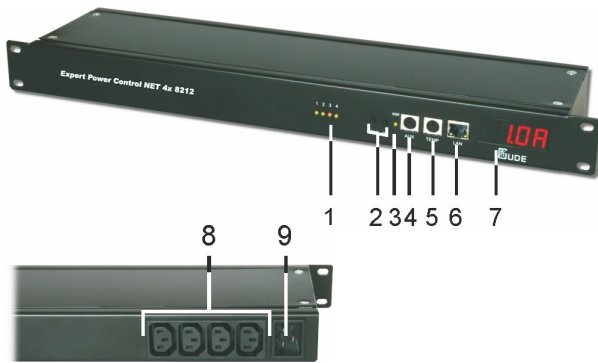
Included in delivery are:

- **Expert Power Control 8212/8213**
- Power supply cable
- CD-ROM incl. software and manual
- Quick installation guide

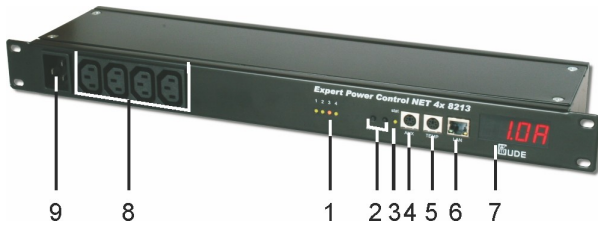


3.2 Connections

Connections **Expert Power Control NET 4x 8212**



Connections **Expert Power Control NET 4x 8213**

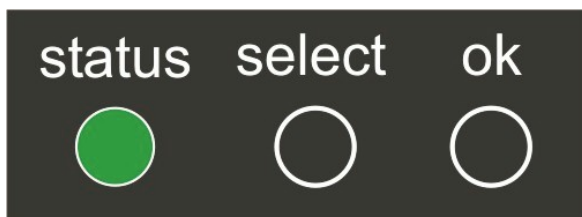


- 1) Power Port LEDs
- 2) Buttons "select" and "ok"
- 3) Status LED
- 4) Aux connector for serial interface (RS232-PS2 cable) or Sensor
- 5) TEMP connector for Sensor
- 6) Ethernet connector (RJ45)
- 7) Display
- 8) 8 Power Ports (IEC C13, max. 10A)
- 9) Power supply (IEC C20, max. 16A)

3.3 Installation

- 1.) Connect the power supply cable to the power socket at the rear side (**Expert Power Control NET 4x 8212**) or front side (**Expert Power Control NET 4x 8213**) of **Expert Power Control 8212/8213** and a socket. **Expert Power Control 8212/8213** now is booting and shortly after ready for usage.
- 2.) Plug the Ethernet cable into the ethernet connector (RJ45) of **Expert Power Control 8212/8213** and connect it to your Ethernet.
- 3.) Connect the clients to the Power Ports at the rear side (**Expert Power Control NET 4x 8212**) or front side (**Expert Power Control NET 4x 8213**) of the device.

3.4 Status LED



The Status LED shows different states of the device:

- Status LED red: Device is not connected to the Ethernet
- Status LED orange: Device is connected to the Ethernet, TCP/IP settings are not allocated

- Status LED green: Device is connected to the Ethernet, TCP/IP settings allocated, device is ready to use
- Status LED blinks alternately red and green: Device is in Bootloader mode.

4 Configuration

4.1 DHCP

After switch-on **Expert Power Control 8212/8213** looks for a DHCP server and requests an available IP address .

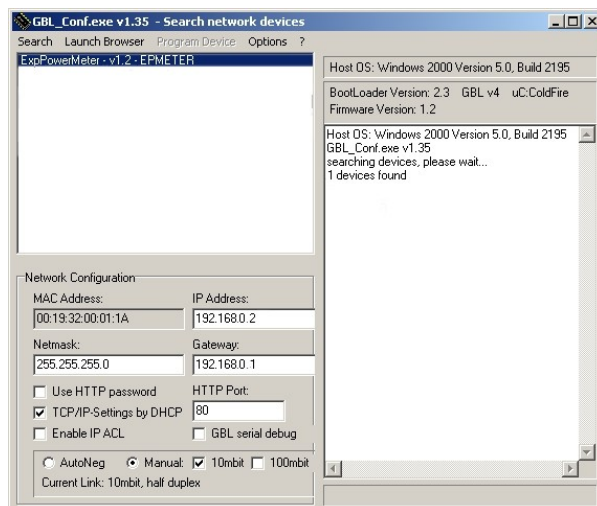
Please check the IP address allocated to **Expert Power Control 8212/8213** in the DHCP server settings to make sure that the same address is used at every reboot.

4.2 Network settings with GBL_Conf

For changing the network properties manually, the program *GBL_Conf.exe* is required. This tool is available for free on our website www.gude.info.

Furthermore *GBL_Conf.exe* enables you to install firmware updates and to reset **Expert Power Control 8212/8213** to its factory settings.

Activate bootloader mode of **Expert Power Control 8212/8213** and run *GBL_Conf.exe*. The program will look automatically for connected devices and will display their network configuration.



If the displayed IP address accords with the factory settings (192.168.0.2), there is either no DHCP server available in the network or no free IP address could be allocated.

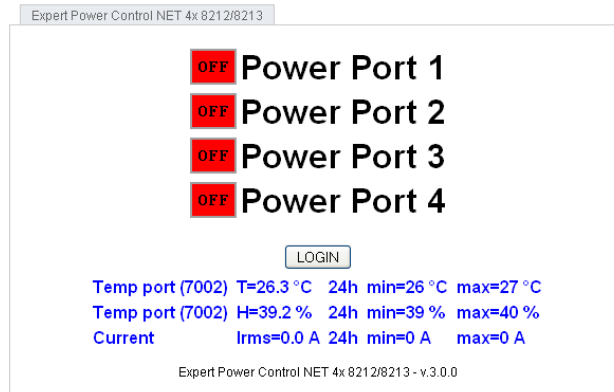
Enter a free IP address and the according netmask in the entry mask, then save these changes by clicking on *Program Device* g *SaveConfig*.

Restart the firmware of **Expert Power Control 8212/8213**, so that the changes will take effect. Now click on *Search* in order to have the new network configuration displayed.

4.3 Configuration via webinterface

Go to the website of **Expert Power Control 8212/8213**. Enter the IP address of **Expert Power Control 8212/8213** into the address line of your internet browser:

http://IP address of Expert Power Control 8212/8213/
and press LOGIN.



To enter the configuration menu, click on „Configuration“ on the upper left side of the screen.

4.3.1 Configuration - Power Ports

The screenshot shows the 'Configuration - Powerports' page. At the top, there are tabs for 'Control Panel', 'Configuration', and 'Logout'. Below the tabs is a navigation menu with links: 'Powerports', 'IP Address', 'IP ACL', 'HTTP', 'Messages', 'Alarm Beeper', 'SNMP', 'Syslog', and 'E-Mail'. The main content area is titled 'Configuration - Powerports' and contains the following fields:

- Choose Powerport to configure:
- Label:
- Initialization status: on off Remember last state
- Initialization delay:
- Repower delay:
- Enable watchdog: yes no
 - Watchdog Type: ICMP TCP
 - Watchdog Action: Reset Off
- Hostname:
- TCP Port:
- Ping Interval:
- Ping Retries:

An 'Apply' button is located at the bottom of the configuration area.

4.3.1.1 Label

A name with a maximum of 15 characters can be entered here for each Power Port.

4.3.1.2 Initialization Status

Here can be the status of the Power Ports defined, that should be attained after the device has been turned on (*remember last state, on, off*).

4.3.1.3 Initialization Delay

When the Power Port Initialization is executed after powering up of the device, a delay in the Initialization sequence can be specified. This will prevent to turn on too much load at the same time. The delay can last up to 8191 seconds. This corresponds to about two hours and 20 minutes.

4.3.1.4 Repower Delay

When this feature is enabled (value greater than zero), the power port will turn itself on after the specified time. This happens after the power port was turned off via webinterface, SNMP or serial interface.

4.3.1.5 Reset Duration

If the Reset button in the switching menu is triggered, the device will turn of the specified Power Port, wait the time entered here (in seconds) and then it will turn on the power port again.

4.3.2 Watchdog

While using the watchdog, electrical devices can be observed. The watchdog sends ICMP-pings or TCP-pings to the device. If these pings were not answered, during a defined delay (time or pings), the power port will reset. The watchdog function allows to restart e.g. crashed servers or NAS systems.

You can check the watchdog function and other information inside of the switching menu. There are different colors:

Green text: Watchdog is active and receives ping replies

Orange text: Watchdog is activating at the moment, waiting for first ping reply

Red text: Watchdog is active and does not receive ping replies any longer

When watchdog is activating it waits of a first ping reply. During this time, the information is written as an orange text. After the receive of the first ping reply, it switches to active, written in green letters.

When a watchdog reset a power port, the watchdog again waits for a first ping reply, as stated above.

4.3.2.1 Enable Watchdog

Here you can activate the watchdog for this power port.

4.3.2.2 Watchdog type

Here you can switch between ICMP ping or TCP ping.

4.3.2.3 Host IP

Here you can enter the IP address this watchdog should observe.

4.3.2.4 TCP Port

If TCP pings are used, here you can enter the TCP port. A TCP port is not needed, when ICMP pings are choosen.

4.3.2.5 Ping interval

Here you can enter the time between two pings.

4.3.2.6 Ping retry

Here you can enter how often the ping should be repeated, before a power port reset will be done.

4.3.3 Configuration - IP Address

The screenshot shows a web-based configuration interface. At the top, there are navigation tabs: 'Control Panel', 'Configuration', and 'Logout'. Below the tabs is a breadcrumb trail: 'Powerports > IP Address > IP ACL > HTTP > Messages > Alarm Beeper > SNMP > Syslog > E-Mail'. The main content area is titled 'Configuration - IP Address' and contains the following fields:

- Hostname: EPC-NET-8x
- IP Address: 192.168.1.250
- Netmask: 255.255.255.0
- Gateway Address: 192.168.1.3
- DNS Address: 192.168.1.5
- Use DHCP: yes no

An 'Apply' button is located at the bottom of the configuration area.

4.3.3.1 Hostname

Enter the host name of **Expert Power Control 8212/8213**. **Expert Power Control 8212/8213** uses this name to connect with DHCP server.

Special signs may destabilize your network.

All changes need a restart of the firmware to get valid.

4.3.3.2 IP Address

Here you can change the IP address of **Expert Power Control 8212/8213**.

All changes need a restart of the firmware to get valid.

4.3.3.3 Netmask

Here you can change the netmask of **Expert Power Control 8212/8213**.

All changes need a restart of the firmware to get valid.

4.3.3.4 Gateway

Here you can change the standard gateway of **Expert Power Control 8212/8213**.

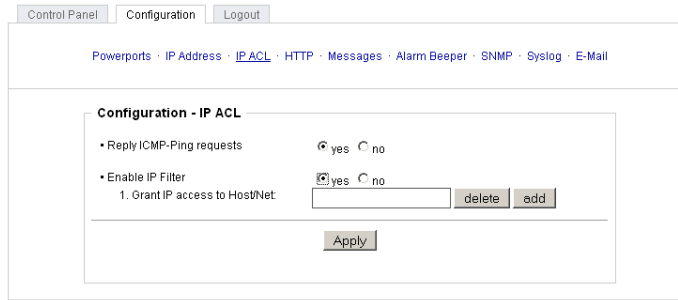
All changes need a restart of the firmware to get valid.

4.3.3.5 Use DHCP

Here you can set, if **Expert Power Control 8212/8213** shall get its TCP/IP settings directly from your DHCP server. If DHCP is activated, **Expert Power Control 8212/8213** probes if a DHCP server is active inside of your LAN. Then **Expert Power Control 8212/8213** requests TCP/IP settings from this server. If there is no DHCP server inside of your network, we recommend to deactivate this function.

All changes need a restart of the firmware to get valid.

4.3.4 Configuration - IP ACL



IP Access Control List (IP ACL) acts as an IP filter for your **Expert Power Control 8212/8213**. Whether it is active hosts and subnets only can contact **Expert Power Control 8212/8213**, if their IP addresses are stated in this IP ACL.
 e.g.: „<http://192.168.0.1>“ or „<http://192.168.0.1/24>“
 If you locked yourself out by mistake, please activate the bootloader mode of **Expert Power Control 8212/8213**, start *Gbl_Conf.exe* and deactivate IP ACL.
 You can find more information about configuration of IP ACL or have a look at <http://www.gude.info/wiki>.

4.3.4.1 Reply ICMP-Ping requests

Here you can set, if **Expert Power Control 8212/8213** shell react on pings.

4.3.4.2 Enable IP Filter

Here you can activate the IP Access Control List (IP ACL) of **Expert Power Control 8212/8213**.

If IP ACL is active, DHCP and SNMP only work, if all necessary servers and clients are registered in this list.

4.3.4.3 IP Access Control List

The IP Access Control List (IP ACL) is an IP filter for the Expert Power Control 8212/8213. If the filter is active, only those hosts and subnets whose IP addresses are entered in the list, can contact the device to change settings or switch the ports.

Example:

Entry in the IP ACL	Operation
192.168.0.123	a PC with IP Address „192.168.0.123“ can access to the device
192.168.0.1/24	all Devices in the Subnet „192.168.0.1/24“ can access

Sollten Sie sich hier aus Versehen „ausgesperrt“ haben, aktivieren Sie den Bootloader-Modus des **Expert Power Control 8212/8213** und deaktivieren Sie mit Hilfe der *GBL_Conf.exe* die IP ACL.
 You find possible adjustments of the IP ACL in the chapter "Configuration - IP ACL".

4.3.5 Configuration - HTTP

The screenshot shows the 'Configuration - HTTP' web interface. At the top, there are navigation tabs for 'Control Panel', 'Configuration', and 'Logout'. Below these are links for 'Powerports', 'IP Address', 'IP ACL', 'HTTP', 'Messages', 'Alarm Beeper', 'SNMP', 'Syslog', and 'E-Mail'. The main content area is titled 'Configuration - HTTP' and contains several settings:

- HTTP Port:** A text input field containing the number '80'.
- Enable HTML Autorefresh:** Radio buttons for 'yes' (selected) and 'no'.
- Require HTTP Password:** Radio buttons for 'yes' (selected) and 'no'.
- Check Password on Start Page:** Radio buttons for 'yes' and 'no' (selected).
- Set new admin password:** Two text input fields for the password and its repeat.
- Set new user password:** Two text input fields for the password and its repeat.

An 'Apply' button is located at the bottom center of the configuration area.

4.3.5.1 HTTP Port

Here you can enter the HTTP port number, if necessary. Possible numbers are 1 ... 65534 (standard: 80). To get access to **Expert Power Control 8212/8213**, you have to enter the port number behind the IP address of **Expert Power Control 8212/8213**, e.g.: `http://192.168.0.2:1720`

All changes need a restart of the firmware to get valid.

4.3.5.2 Enable HTML Auto Refresh

You can activate and de-activate the auto-refresh of the web interface. The auto-refresh keeps the information of the status page up to date, but the additional network traffic can be unwanted.

4.3.5.3 Require HTTP Password

Password protected access can be activated here. In this case, a user and an admin password have to be defined. Passwords have a maximum lengths of 15 characters. Administrators are authorized to switch all ports and to modify the settings of **Expert Power Control 8212/8213** and of all ports. The username of the admin is "admin".

Users are authorized to switch all ports but are not allowed to modify the settings of neither **Expert Power Control 8212/8213** nor the ports. The username of the user is "user".

If you have forgotten your password, activate the bootloader mode of **Expert Power Control 8212/8213**, start GBL-Conf.exe and deactivate the password request.

All changes need a restart of the firmware to get valid.

4.3.5.4 Check Password on start page

If activated, the user has to enter his password, before logging in to the webinterface.

4.3.6 Configuration - Messages

Control Panel Configuration Logout

Powerports · IP Address · IP ACL · HTTP · Messages · SNMP · Syslog · E-Mail

Configuration - Messages

- Choose Sensor Port: Temperature 1
- Generate Messages: yes no
 - Maximum Value: 0
 - Minimum Value: 0
 - Hysteresis: 0
- Peak measurement period: 24 Hours

Apply

Expert Power Control 1100 - v2.0.0

Control Panel Configuration Logout

Powerports · IP Address · IP ACL · HTTP · Messages · SNMP · Syslog · E-Mail

Configuration - Messages

- Choose Sensor Port: Hygrometer 1
- Generate Messages: yes no
 - Maximum Value: 0
 - Minimum Value: 0
 - Hysteresis: 0
- Peak measurement period: 24 Hours

Apply

Expert Power Control 1100 - v2.0.0

4.3.6.1 Generate Messages

Here you can configure if and at which Min-/Max-values the device shall send alerts via SNMP-Traps and Syslog.

4.3.6.2 Max Value

Here you can define the maximum value, if the sensor measures this value the device will generate an alert via SNMP and Syslog.

4.3.6.3 Min. Value

Here you can define the minimum value, if the sensor measures this value the device will generate an alert via SNMP and Syslog.

4.3.6.4 Peak measurement period

Here, you can enter the time over which the peak values of the sensors and the power measurement shall be displayed: 30 minutes up to 24 hours.

4.3.7 Configuration - Alarm Beeper

Expert Power Control 1290 - v1.0.0

4.3.7.1 Activate Beeper

The device contains of an internal beeper. It is able to make sounds if an ampere limit is reached.

4.3.7.2 Ampere limit

Here you can enter the ampere limit for the activation of the beeper.

4.3.8 Configuration - SNMP

4.3.8.1 SNMP

To get detailed status information of **Expert Power Control 8212/8213** SNMP can be used. SNMP communicates via UDP (port 161) with **Expert Power Control 8212/8213**: You can use SNMP to switch the power ports as well.

Supported SNMP commands:

- SNMPGET: request status information
- SNMPGETNEXT: request the next status information
- SNMPSET: **Expert Power Control 8212/8213** request change of status

You will need a Network Management System, e.g. HP-Open View, OpenNMS, Nagios etc., or the command line tools of NET-SNMP to request information of **Expert Power Control 8212/8213** via SNMP.

4.3.8.1.1 SNMP-communities

SNMP authenticates requests by so called communities.

The public community has to be added to SNMP-read-requests and the private community to SNMP write requests. You can see the SNMP communities like read/write passwords. SNMP v1 and v2 transmit the communities without encryption. Therefore it is simple to spy out these communities. We recommend to use a DMZ or IP ACL.

4.3.8.1.2 MIB

All information, that can be requested or changed, the so called „Managed Objects“, are described in „Management Information Bases“ (MIBs).

There are three MIBs, which can be requested from **Expert Power Control 8212/8213**:

„system“, „interface“ and „powerports“

„system“ and „interface“ are standardised MIBs (MIB-II).

„powerports“ (GUDEADS-EPC-MIB::gadsEPC) was created especially for **Expert Power Control 8212/8213**.

At least, there are so called Object Identifiers (OID) subordinated to those three structures. An OID describes the location of an information inside a MIB.

4.3.8.1.3 SNMP-traps

SNMP-Traps are system messages, sent via SNMP-protocol to different clients. On following events, **Expert Power Control 8212/8213** will dispatch a SNMP-Trap:

- Switching of the Power Ports
- Min/Max-Alerts from the sensors

You can find more information about configuration of SNMP at <http://www.gude.info/wiki>.

4.3.8.2 Enable SNMP-get

Here you can activate SNMP-get protocol of **Expert Power Control 8212/8213**.

Use SNMP only if your network is fitted for.

4.3.8.3 Community public

Here you can enter the SNMP public community.

Use SNMP only if your network is fitted for.

4.3.8.4 Enable SNMP-set

Here you can activate SNMP-set protocol of **Expert Power Control 8212/8213**.

Use SNMP only if your network is fitted for.

4.3.8.5 Community private

Here you can enter the SNMP private community.

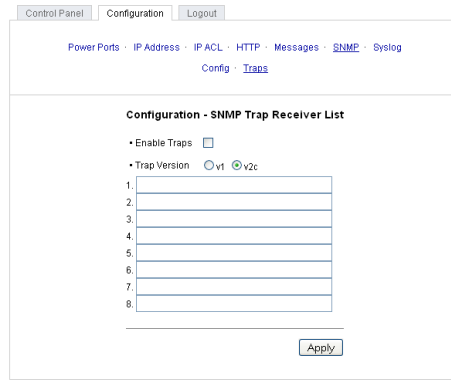
Use SNMP only if your network is fitted for.

4.3.8.6 Download SNMP MIB

Here you can download the MIBs of **Expert Power Control 8212/8213**.

Use SNMP only if your network is fitted for.

4.3.9 Configuration - SNMP Trap Receiver List



4.3.9.1 Enable Traps

Here you can activate SNMP-traps. if enabled, **Expert Power Control 8212/8213** will dispatch SNMP-traps to all receivers listed. Receivers have to be listed as follows: IP address (and, if necessary the HTTP port), e.g.: *192.168.0.2:8000*

Use SNMP only if your network is fitted for.

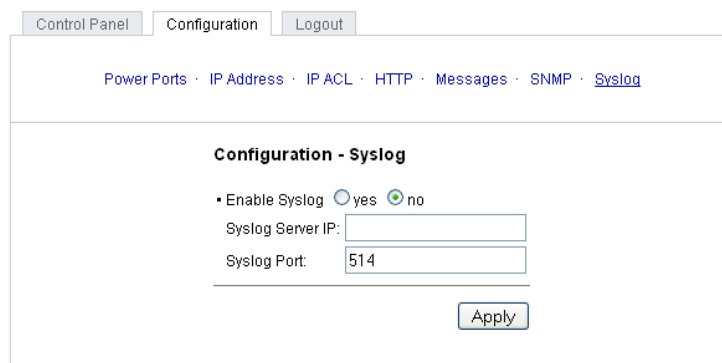
4.3.9.2 Trap Version

Here you can choose between SNMP-traps standard v1 and v2c.

Use SNMP only if your network is fitted for.

More information about the SNMP functions of **Expert Power Control 8212/8213**, you can find in chapter SNMP, on <http://www.gude.info/wiki> or ask our support team.

4.3.10 Configuration - Syslog



Syslog messages are simple text messages transmitted to a syslog server using UDP. Linux OS regularly have a syslog daemon installed, e.g. syslog-ng. For Windows there are some freeware tools available. On following events, **Expert Power Control 8212/8213** will send a syslog message:

- Booting up
- Activation/deactivation of syslog
- Switching of Power Ports

You can find more information about configuration of Syslog in chapter Configuration - Syslog or have a look at <http://www.gude.info/wiki>.

4.3.10.1 Enable Syslog

Here you can activate Syslog of **Expert Power Control 8212/8213**.

4.3.10.2 Syslog Server IP

If syslog is active enter here the IP address of your Syslog server.

4.3.10.3 Syslog Port

If syslog is active enter here the port number, that your Syslog server uses to receive syslog information.

More information about Syslog you can find in chapter Syslog, on <http://www.gude.info/wiki> or ask our support team.

4.3.11 Configuration - E-Mail

Control Panel Configuration Logout

Power Ports · Input Ports · IP Address · IP ACL · HTTP · SNMP · Syslog · E-mail

Configuration - E-Mail

- Enable E-Mail: yes no
- Mail Server:
- Sender address:
- Recipient address:

• Enable Authentication: yes no

Apply

expert net control 2i2o 2100i/2150 - v1.0.0

4.3.11.1 Enable E-Mail

Here you can activate the e-mail function of the device.

4.3.11.2 E-Mail server

Enter the e-mail server, e.g. mail@gmx.net

4.3.11.3 Sender address

Enter the address, the device should use, when sending e-mails.

4.3.11.4 Recipient address

Enter the e-mail address of the recipient.

4.3.11.5 Enable Authentification

If your e-mail server needs an authentication, you can enter it here.

4.3.11.6 Username

Enter the username, the device should use to log on your e-mail server.

4.3.11.7 Set new password

If your server needs a password for sending e-mails, you can enter it here.

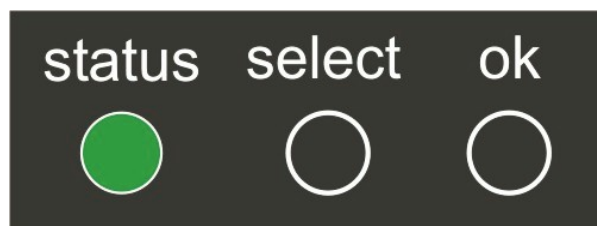
4.3.11.8 Repeat password

Repeat the password, to enable it.

5 Operation

5.1 Switching at the device

Expert Power Control 8212/8213 disposes of two buttons: “*select*” and “*ok*”. By pushing “*select*”, the LED of Power Port 1 starts blinking which means that it is selected. By pushing the button again, the next Power Port is selected. If you want to change the switching state of the selected Power Port, push the “*ok*” button for two seconds.

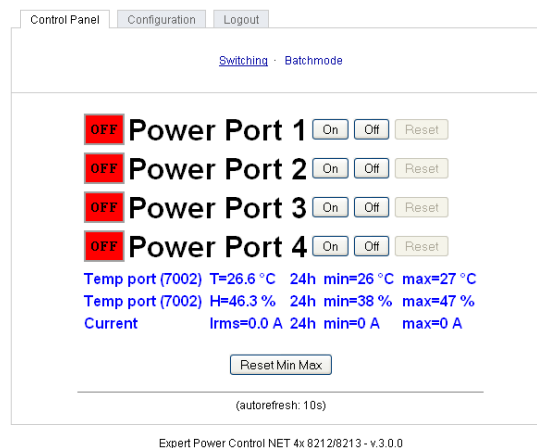


You can check the status of the Power Ports by the color of the Power Port status LED (green=enabled/red=disabled).

5.2 Switching by Webinterface

Go to the website of **Expert Power Control 8212/8213**. Enter the IP address of **Expert Power Control 8212/8213** into the address line of your internet browser:

http://IP address of Expert Power Control 8212/8213/ and press LOGIN



5.2.1 Switching

Here you are able to switch the ports directly.

You can check the status of the Power Ports by the color of the Power Port status LED (green=enabled/red=disabled).

5.2.2 Batchmode

Each Power Port of **Expert Power Control 8212/8213** can be switched on or switched off for a selectable delay (1-30 sec. or 1-30 min.). After the chosen delay the selected port will be switched off or switched on again auto-matically.

The screenshot shows a web interface with three tabs: "Control Panel", "Configuration", and "Logout". The "Configuration" tab is active, displaying "Switching - Batchmode". Below this, there is a configuration line: "Switch 1: Power Port 1" (dropdown), "off" (dropdown), ", wait 5" (dropdown), "sec" (dropdown), ", switch on" (dropdown). An "Ok" button is located at the bottom right of the configuration area.

Expert Power Control NET 4x Desktop - v.1.1.1

Optionally the device can be accessed by using the perl script „*EPC_Control2.pl*” through the command line (e.g. for automatic or time-triggered switching).

For more information please refer to our website:

www.gude.info/wiki

5.3 Switching via serial interface

Alternatively to the Ethernet interface, the Power Ports of **Expert Power Control 8212/8213** can be switched through its serial interface. It only requires a terminal program like HyperTerminal, a program provided under Windows for free (to be found under *Programs -> Accessories -> Communication*).

Connect your PC with **Expert Power Control 8212/8213** with the PS2-RS232 adaptor cable and plug the device into a outlet. Now you can turn on **Expert Power Control 8212/8213**. The boot process lasts a few seconds longer than by Ethernet.

You can access **Expert Power Control 8212/8213** through the terminal program as soon as the status LED shines green. Choose the COM port that is connected to **Expert Power Control 8212/8213** and enter the following values for the serial interface:

Bits per seconds	115200
Data bits	8
Parity	none
Stop bits	1
Flow control	none

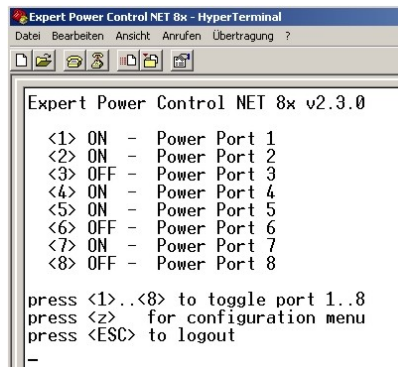
If you do not use *HyperTerminal*, please make sure that the terminal program supports VT100 commands.

After having it connected successfully, **Expert Power Control 8212/8213** answers as shown in figure below. Press *Enter* for login.



```
Expert Power Control NET 8x v2.3.0
press <ENTER>-key to login
-
```

Now the Power Ports can be switched on and off per number keys. By pressing *c* you can check the network configuration and by pressing *Esc* you can log out.



```
Expert Power Control NET 8x v2.3.0
<1> ON - Power Port 1
<2> ON - Power Port 2
<3> OFF - Power Port 3
<4> ON - Power Port 4
<5> ON - Power Port 5
<6> OFF - Power Port 6
<7> ON - Power Port 7
<8> OFF - Power Port 8
press <1>..<8> to toggle port 1..8
press <z> for configuration menu
press <ESC> to logout
-
```

5.4 Sensor

Connect the temperature sensor with the TEMP and AUX connector at the front of the device. If it is connected exactly, the recent temperature is displayed in the login window, in the switching window and can be requested via SNMP. The temperature sensor can be ordered as additional supplies. More information can be found at www.gude.info or requested at mail@gude.info.



Temperature sensor 7001



Hybrid sensor 7002

Temperature sensor 7001	
Cable length	≈ 2m
Connection	MiniDIN
Measurement	-20°C - +100°C ±2°C (max) and ±1°C (typical)

Hybrid sensor 7002	
Cable length	≈ 2m
Connection	MiniDIN
Measurement	-20 - +80 Grad, ± 0,5°C / Moisture 0-100% ±3%

6 Features

6.1 Bootloader mode

To activate the bootloader mode of **Expert Power Control 8212/8213** the select button must be pushed while restarting the device. In bootloader mode it is possible to disable the password protection, to update the firmware and to restore the default settings by running the program *GBL_Conf.exe*.

If the device runs already, press the buttons "select" and "ok" for three seconds. The bootloader mode of **Expert Power Control 8212/8213** is indicated by "BOOT-LDR" appended to the device name in the program window of *GBL_Conf.exe*.

During bootloader mode an alteration of the relays is not possible.

To restart the firmware, without toggle the Power Ports, press the buttons *select* and *ok* for three seconds again.

6.2 Firmware update

In order to update the firmware the program *GBL_Conf.exe* and the latest firmware are needed.

Start the device in bootloader mode and run the program *GBL_Conf.exe*. On the left side of the program window all Gude devices that are in the network are listed. Select the device, that should be updated, click on Program DeviceFirmware Update and determine the location of the new firmware.

Please note: The up-to-date firmware and *GBL_Conf.exe* can be found at www.gude.info, free to download.

6.3 Technical information

Connections:	1 x Ethernet (RJ45) 2 x PS2 Connector 4 x Power Ports (IEC C13, max. 10A) 1 x Power supply inlet (IEC C20, max. 16A)
Network:	10/100 MBit/s 10baseT Ethernet
Protocols:	TCP/IP, HTTP, SNMP v1 und v2c, SNMP traps, Syslog
Switched Power (total):	16 A (~ 3600W)
Switched Power (per port):	10 A (~ 2000W)
Power supply:	IEC C20 (16A, 230V AC)
Operating temperature:	0°C-50°C
Dimensions:	19" / 1 rack unit
Total weight:	ca. 1,5 kg

6.4 Factory settings

In order to restore the default settings the device must be started in bootloader mode. Besides that the program *GBL_Conf.exe* is required.

Run *GBL_Conf.exe* and select the device whose settings should be restored. Then click on *Program Device -> Reset to Fab default*.

Please notice that all current settings will be deleted. The default settings will be loaded when the firmware of the device is restarted the next time.

7 Support

In case of further questions, about installation or operation of the device, please have look at www.gude.info/wiki or do not hesitate to contact our support (mail@gude.info).

8 Contact

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WEEE-number: DE 58173350
Value added tax identification number (VAT): DE 122778228

9 Declarations of conformity

CE Konformitätserklärung / Declaration of Conformity

Die Firma / The manufacturer

Gude Analog- und Digitalsysteme GmbH

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Telefon/Phone: +49 (0)221 – 912 90 97
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Web: www.gude.info
Mail: mail@gude.info

erklärt hiermit, dass die Produkte / hereby declares that the following products

Produktkennzeichnung / Product name

Expert Power Control 8212/8213

Schaltbare Ein- bzw. Mehrfach-Steckdose für TCP/IP Netzwerke / Switchable single and multiple socket for TCP/IP networks

mit den Bestimmungen der nachstehenden EU-Richtlinien übereinstimmen /
 are in accordance with the following european directives

Referenz-Nummer / Reference no.	Titel / Title
89/336/EWG / 89/336/EEC	Elektromagnetische Verträglichkeit / Electromagnetic Compatibility
2006/95/EWG / 2006/95/EEC	Niederspannungsrichtlinie / Low Voltage Electrical Equipment
93/68/EWG / 93/68/EEC	CE Kennzeichnung / CE marking

und dass die nachstehenden Europäischen Normen zur Anwendung gelangt sind. /
 and comply with the following european standards.

Norm / Standard	Titel / Title
EN 55022:2006 + A1, A2	Einrichtungen der Informationstechnik: Funkstöreigenschaften – Grenzwerte und Messverfahren
EN 55022:2006 + A1, A2	Information technology equipment: Radio disturbance characteristics - Limits and methods of measurement
EN 55024:1998 + A1, A2	Einrichtungen der Informationstechnik: Störfestigkeitseigenschaften – Grenzwerte und Prüfverfahren
EN 55024:1998 + A1, A2	Information technology equipment: Immunity characteristics - Limits and methods of measurement
EN 61000-3-2:2006	Elektromagnetische Verträglichkeit Teil 3-2: Grenzwerte - Grenzwerte für Oberschwingungsströme
EN 61000-3-2:2006	Electromagnetic compatibility Part 3-2 : Limits – Limits for harmonic current emissions
EN 60950-1:2006	Sicherheit von Einrichtungen der Informationstechnik
EN 60950-1:2006	Safety for Industrial Control Equipment

Köln, 04.08.2011



Dr. Michael Gude, Geschäftsführer / CEO

Der Hersteller/
The manufacturer



Gude Analog- und Digitalsysteme GmbH
Eintrachtstrasse 113
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erklärt hiermit, dass für folgende Produkte/
hereby declares that the following products:

Expert mouseClock (alle Varianten/all versions)
EMC Professional NET (alle Varianten/all versions)
Expert GPS Clock (alle Varianten/all versions)
Expert Power Control NET (alle Varianten/all versions)
Expert Power Meter (alle Varianten/all versions)
Expert OptoBridge
USB-RS232 OptoBridge
Expert ISDN Control (alle Varianten/all versions)
Aktive Antennen / Active Antennas

mit den Bestimmungen der nachstehenden Richtlinien übereinstimmen/
are in accordance with the following directives:

2002/95/EG (RoHS - Restriction of certain Hazardous Substances)
2002/96/EG (WEEE - Waste Electrical and Electronic Equipment)
ElektroG (Elektro- und Elektronikgerätegesetz)

Köln, 07.05.2009

Dr. Michael Gude, Geschäftsführer / CEO

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Expert Power Control 8212/8213
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