

# Expert Power Control 1000 / 1001





# Table of content

<b>Chapter 1 Safety Advice</b>	<b>4</b>
<b>Chapter 2 Description</b>	<b>4</b>
<b>Chapter 3 Hardware</b>	<b>4</b>
3.1 Content of delivery	4
3.2 Connections	5
3.3 Installation	5
<b>Chapter 4 Configuration</b>	<b>6</b>
4.1 DHCP	6
4.2 Network settings with GBL_Conf	6
4.3 Configuration via webinterface	7
4.3.1 Configuration - Power Ports	7
4.3.2 Configuration - IP address	8
4.3.3 Configuration - IP ACL	9
4.3.4 Configuration - HTTP	9
4.3.5 Configuration - SNMP	10
4.3.6 Configuration - SNMP Trap Receiver List	12
4.3.7 Configuration - Syslog	12
<b>Chapter 5 Operation</b>	<b>13</b>
5.1 Switching at the device	13
5.2 Switching by Webinterface	14
5.2.1 Switching	14
5.2.2 Batchmode	14
<b>Chapter 6 Features</b>	<b>15</b>
6.1 Bootloader mode	15
6.2 Firmware update	15
6.3 Technical information	15
6.4 Fabrique settings	15
<b>Chapter 7 Support</b>	<b>16</b>
<b>Chapter 8 Declarations of conformity</b>	<b>17</b>

# 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.

## 2 Description

## 3 Hardware

### 3.1 Content of delivery

Included in delivery are:

- **Expert Power Control 1000 / 1001**
- Power supply cable , if **Expert Power Control NET 1x IEC**
- Quick installation guide

### 3.2 Connections



- 1) Power Port
- 2) LED
- 3) Power supply
- 4) Ethernet connector
- 5) Button

### 3.3 Installation

- 1.) Connect the power supply cable to the of **Expert Power Control 1000 / 1001** and a socket. **Expert Power Control 1000 / 1001** now is booting and shortly after ready for usage.
- 2.) Plug the Ethernet cable into the ethernet connector (RJ45) of **Expert Power Control 1000 / 1001** and connect it to your Ethernet.
- 3.) Connect the clients to the Power Port of the device.

## 4 Configuration

### 4.1 DHCP

After switch-on **Expert Power Control 1000 / 1001** looks for a DHCP server and requests an available IP address .

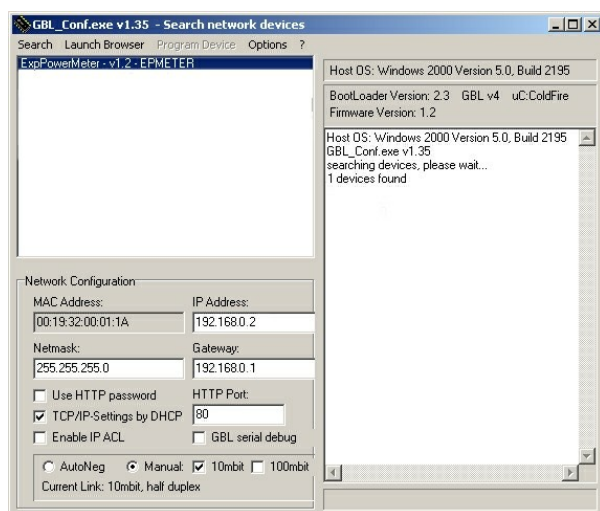
Please check the IP address allocated to **Expert Power Control 1000 / 1001** in the DHCP server settings to make sure that the same address is used at every reboot.

### 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](http://www.gude.info).

Furthermore *GBL\_Conf.exe* enables you to install firmware updates and to reset **Expert Power Control 1000 / 1001** to its factory settings.

Activate bootloader mode of **Expert Power Control 1000 / 1001** 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.

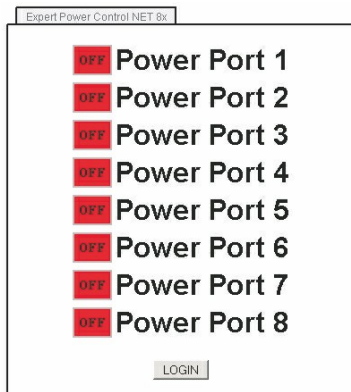
Enter a free IP address and the according netmask in the entry mask, then save these changes by clicking on *Program Device* → *SaveConfig*.

Restart the firmware of **Expert Power Control 1000 / 1001**, 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 1000 / 1001**. Enter the IP address of **Expert Power Control 1000 / 1001** into the address line of your internet browser:

*http://IP address of Expert Power Control 1000 / 1001/*  
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

##### 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 After power-up switch

The Power Port's switching state after a power-on of the device can be defined here (*on, off, remember last state*).

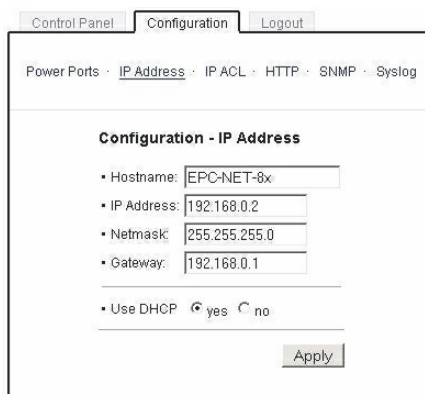
##### 4.3.1.3 If switching on after power-up, wait ...

A switching delay of a Power Port can be defined here that is applied after switch on of the device. The delay can last up to 8191 seconds.

##### 4.3.1.4 After turning off, wait ...

While this function is enabled, the Power Port will reactive after the stated time, when it got switched off.

### 4.3.2 Configuration - IP address



The screenshot shows a web interface for configuring IP settings. At the top, there are tabs for 'Control Panel', 'Configuration', and 'Logout'. Below the tabs, there is a navigation menu with links for 'Power Ports', 'IP Address', 'IP ACL', 'HTTP', 'SNMP', and 'Syslog'. The main content area is titled 'Configuration - IP Address' and contains the following fields:

- Hostname:
- IP Address:
- Netmask:
- Gateway:

Below these fields, there is a section for 'Use DHCP' with radio buttons for 'yes' (selected) and 'no'. An 'Apply' button is located at the bottom right of the form.

#### 4.3.2.1 Hostname

Enter the host name of **Expert Power Control 1000 / 1001**. **Expert Power Control 1000 / 1001** 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.**

#### 4.3.2.2 IP Address

Here you can change the IP address of **Expert Power Control 1000 / 1001**.

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

#### 4.3.2.3 Netmask

Here you can change the netmask of **Expert Power Control 1000 / 1001**.

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

#### 4.3.2.4 Gateway

Here you can change the standard gateway of **Expert Power Control 1000 / 1001**.

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

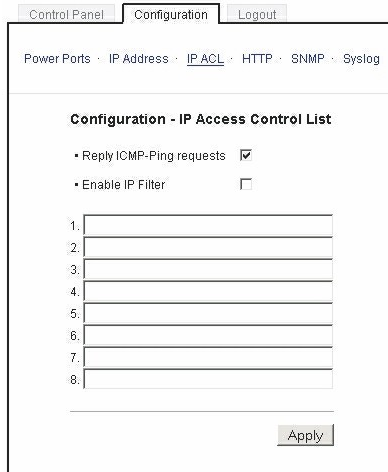
#### 4.3.2.5 Use DHCP

Here you can set, if **Expert Power Control 1000 / 1001** shall get its TCP/IP settings directly from your DHCP server. If DHCP is activated, **Expert Power Control 1000 / 1001** proves if a DHCP server is active inside of your LAN. Then **Expert Power Control 1000 / 1001** 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.**



### 4.3.3 Configuration - IP ACL



IP Access Control List (IP ACL) acts as an IP filter for your **Expert Power Control 1000 / 1001**. Whether it is active, only hosts and subnets listed in this IP ACL can contact **Expert Power Control 1000 / 1001**.

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 1000 / 1001**, 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>.

#### 4.3.3.1 Reply ICMP-Ping requests

Here you can set, if **Expert Power Control 1000 / 1001** shell react on pings.

#### 4.3.3.2 Enable IP Filter

Here you can activate the IP Access Control List (IP ACL) of **Expert Power Control 1000 / 1001**.

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

### 4.3.4 Configuration - HTTP



#### 4.3.4.1 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 1000 / 1001**, you have to enter the port number behind the IP address of **Expert Power Control 1000 / 1001**, e.g.: `http://192.168.0.2:1720`

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

#### 4.3.4.2 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 1000 / 1001** 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 1000 / 1001** nor the ports. The username of the user is "user".

If you have forgotten your password, activate the bootloader mode of **Expert Power Control 1000 / 1001**, start GBL-Conf.exe and deactivate the password request.

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

#### 4.3.4.3 Check Password on start page

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

#### 4.3.5 Configuration - SNMP

The screenshot shows a web interface for configuring SNMP. At the top, there are tabs for 'Control Panel', 'Configuration', and 'Logout'. Below the tabs, there is a navigation menu with links for 'Power Ports', 'IP Address', 'IP ACL', 'HTTP', 'SNMP', and 'Syslog'. Under the 'SNMP' link, there are sub-links for 'Config' and 'Traps'. The main content area is titled 'Configuration - SNMP' and contains the following settings:

- Enable SNMP-get:  yes  no
- Community public:
- Enable SNMP-set:  yes  no
- Community private:

At the bottom of the form, there are two buttons: 'Download SNMP MIB' and 'Apply'.

#### 4.3.5.1 SNMP

To get detailed status information of **Expert Power Control 1000 / 1001** SNMP can be used. SNMP communicates via UDP (port 161) with **Expert Power Control 1000 / 1001**: 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 1000 / 1001** 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 1000 / 1001** via SNMP.

#### 4.3.5.1.1 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.

#### 4.3.5.1.2 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 1000 / 1001**:

„system“, „interface“ and „powerports“

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

„powerports“ (GUDEADS-EPC-MIB::gadsEPC) was created especially for **Expert Power Control 1000 / 1001**.

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.

#### 4.3.5.1.3 SNMP-traps

SNMP-Traps are system messages, sent via SNMP-protocol to different clients. On following events, **Expert Power Control 1000 / 1001** 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>.

#### 4.3.5.2 Enable SNMP-get

Here you can activate SNMP-get protocol of **Expert Power Control 1000 / 1001**.

**Use SNMP only if your network is fitted for.**

#### 4.3.5.3 Community public

Here you can enter the SNMP public community.

**Use SNMP only if your network is fitted for.**

#### 4.3.5.4 Enable SNMP-set

Here you can activate SNMP-set protocol of **Expert Power Control 1000 / 1001**.

**Use SNMP only if your network is fitted for.**

#### 4.3.5.5 Community private

Here you can enter the SNMP private community.

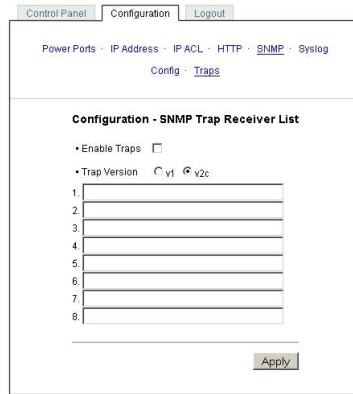
**Use SNMP only if your network is fitted for.**

#### 4.3.5.6 Download SNMP MIB

Here you can download the MIBs of **Expert Power Control 1000 / 1001**.

**Use SNMP only if your network is fitted for.**

### 4.3.6 Configuration - SNMP Trap Receiver List



#### 4.3.6.1 Enable Traps

Here you can activate SNMP-traps. if enabled, **Expert Power Control 1000 / 1001** 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.**

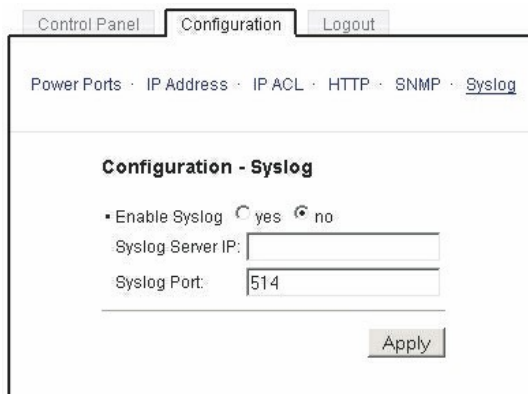
#### 4.3.6.2 Trap Version

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 1000 / 1001**, you can find in chapter SNMP, on <http://www.gude.info/wiki> or ask our support team.

### 4.3.7 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 1000 / 1001** 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>.

#### 4.3.7.1 Enable Syslog

Here you can activate Syslog of **Expert Power Control 1000 / 1001**.

#### 4.3.7.2 Syslog Server IP

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

#### 4.3.7.3 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.

## 5 Operation

### 5.1 Switching at the device

On the front of **Expert Power Control 1000 / 1001** a button is located. When the device is running, you can change the Power Port status by pushing this button. The LED on the upper side of the device indicates the recent switching status (green=enabled/red=disabled).

## 5.2 Switching by Webinterface

Go to the website of **Expert Power Control 1000 / 1001**. Enter the IP address of **Expert Power Control 1000 / 1001** into the address line of your internet browser:

*http://IP address of Expert Power Control 1000 / 1001* and press LOGIN



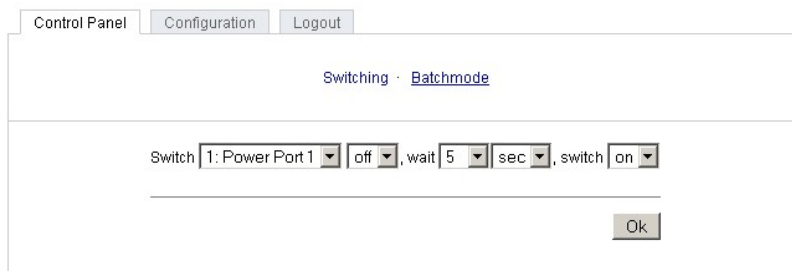
### 5.2.1 Switching

Here you are able to switch the ports directly.

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

### 5.2.2 Batchmode

The of **Expert Power Control 1000 / 1001** 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.



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](http://www.gude.info/wiki)

## 6 Features

### 6.1 Bootloader mode

To activate the bootloader mode of **Expert Power Control 1000 / 1001** the 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 1000 / 1001** 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](http://www.gude.info), free to download.

### 6.3 Technical information

Connections:	1 x Ethernet (RJ45) 1 x IEC C13, 230 VAC, max. 10A iif <b>EPC NET 1x IEC Rev. 2</b> , or. 1 Schukosocket if <b>EPC NET 1x Schuko Rev. 2</b> 1 x IEC C20, 230 VAC, max. 10A bei <b>EPC NET 1x IEC Rev. 2</b> , bzw. 1 Schukostecker bei <b>EPC NET 1x Schuko Rev. 2</b>
Network:	10/100 MBit/s 10baseT Ethernet
Protocols:	TCP/IP, HTTP, SNMP v1 und v2c, SNMP traps, Syslog
Switched Power (total):	10 A (~ 2000W) bei <b>EPC NET 1x IEC Rev. 2</b> 2500 W bei <b>EPC NET 1x Schuko Rev. 2</b>
Switched Power (per port):	10 A (~ 2000W) bei <b>EPC NET 1x IEC Rev. 2</b> 2500 W bei <b>EPC NET 1x Schuko Rev. 2</b>
Operating temperature:	0°C-50°C
Dimensions:	120 mm x 95 mm x 65 mm (L x H x W)
Weight:	ca.500g

### 6.4 Fabrique 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](http://www.gude.info/wiki) or do not hesitate to contact our support ([mail@gude.info](mailto:mail@gude.info)).



# 8 Declarations of conformity



**ETS Product Service GmbH**

## CERTIFICATE OF CONFORMITY

**EU LVD DIRECTIVE 2006/95/EC**

This certifies that the following designated product

**Expert Power Control**  
**Model No.: NET 8x**

.....  
(Product identification)

complies with the essential protection requirements of the LVD Directive 2006/95/EC on the approximation of the laws of the Member States relating to electrical equipment designed for use within certain voltage limits. Assessment of compliance of the product with the requirements relating to the Low Voltage Directive (LVD) was based on the following standards:

**EN 60950-1:2006**

.....  
(Identification of regulations / standards)

This certificate is issued for


**Gude Analog- und Digitalsysteme GmbH**  
**Eintrachtstr. 113**  
**50668 Koeln, Germany**

.....  
(Name / Address)

The certification is valid only in accordance with the test report No. G0M20803-1696-L and when the product is manufactured in accordance with the tested sample.


  

**GS LVD E/e-MARK FCC GSM UMTS SAR RADIO CB EMC DECT WLAN 3G Bluetooth R&TTE**




**G0M20803-1696**

This is the result of tests carried out on those samples of the product referred to above which were submitted for testing, in accordance with the specification for the respective standards.  
Eurofins ETS Product Service GmbH – Accredited Test House – Recognized Certification Body –



July 18, 2008

.....  
(Date)



Dieter Griep  
Certification Body

**Eurofins ETS PRODUCT SERVICE GMBH**  
STORKOWER STRASSE 38C, D-15526 REICHENWALDE B. BERLIN, GERMANY, TEL. + 49-33631-888 0 FAX + 49-33631-888 660

T13



Konformitätserklärung / Declaration of Conformity



Die Firma / The manufacturer

Gude Analog- und Digitalsysteme GmbH

---

**Anschrift/Address:** Eintrachtstr. 113, 50668 Köln  
**Telefon/Phone:** 0221 – 912 90 97    **Fax:** 0221 – 912 90 98    **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 NET 1x Schuko, Expert Power Control NET 1x IEC, Expert Power Control NET 4x, Expert Power Control NET 8x, Expert Power Control NET 2x6, Expert Power Control NET 24x, Expert Power Control NET D4x, Expert Power Control NET D1M3S, Expert Power Control NET 4x DIN**  
 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, 09.02.2010

Dr. Michael Gude, Geschäftsführer / CEO



Der Hersteller/  
The manufacturer



**Gude Analog- und Digitalsysteme GmbH**  
Eintrachtstrasse 113  
50668 Köln

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



**GUDE**  
**ANALOG - und**  
**DIGITALSYSTEME**  
**GmbH**  
Eintrachtstr. 113, 50668 Köln  
Tel.: 0221 / 912 90 97  
Fax: 0221 / 912 90 98  
www.gude.info - info@gude.info

