Expert PDU basic 8110/8111
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1 Security Advise

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 factory-trained 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

Expert PDU basic 8110/8111 is a 19" device which allows to monitor the power distribution of up to 8 electrical devices via TCP/IP.

For installation, Expert PDU basic 8110/8111 is simply connected to a power supply and to the local network. After allocating a free IP address to Expert PDU basic 8110/8111, the device can be monitored from any computer in the same LAN via web browser.

Expert PDU basic 8110/8111 offers the possibility to use SNMP and Syslog. Furthermore, access to the device can be controlled via IP access control list (IP-ACL) and HTTP password.

3 Hardware

3.1 Content of delivery

Included in delivery are:

- Expert PDU basic 8110/8111
- Short manual
3.2 Connections

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

3.3 Installation

1.) Connect the power supply cable to the at the rear side (Expert PDU basic 8110) or front side (Expert PDU basic 8111) of Expert PDU basic 8110/8111 and a socket. Expert PDU basic 8110/8111 now is booting and shortly after ready for usage.

2.) Plug the Ethernet cable into the ethernet connector (RJ45) of Expert PDU basic 8110/8111 and connect it to your Ethernet.

3.) Connect the clients to the Power Ports at the rear side (Expert PDU basic 8110) or front side (Expert PDU basic 8111) of the device.
4 Configuration

4.1 DHCP

After switch-on **Expert PDU basic 8110/8111** looks for a DHCP server and requests an available IP address.

Please check the IP address allocated to **Expert PDU basic 8110/8111** in the DHCP server settings to make sure that the same address is used at every reboot.

4.2 Network settings with GBL_Cnf

For changing the network properties manually, the program **GBL_Cnf.exe** is required. This tool is available for free on our website [www.gude.info](http://www.gude.info).

Furthermore **GBL_Cnf.exe** enables you to install firmware updates and to reset **Expert PDU basic 8110/8111** to its factory settings.

Activate bootloader mode of **Expert PDU basic 8110/8111** and run **GBL_Cnf.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 PDU basic 8110/8111**, 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 PDU basic 8110/8111**. Enter the IP address of **Expert PDU basic 8110/8111** into the address line of your internet browser:

http://[IP address of Expert PDU basic 8110/8111]/

and press LOGIN.

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

4.3.1.1 Hostname

Enter the host name of Expert PDU basic 8110/8111. Expert PDU basic 8110/8111 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.

4.3.1.2 IP Address

Here you can change the IP address of Expert PDU basic 8110/8111.

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

4.3.1.3 Netmask

Here you can change the netmask of Expert PDU basic 8110/8111.

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

4.3.1.4 Gateway

Here you can change the standard gateway of Expert PDU basic 8110/8111.

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

4.3.1.5 Use DHCP

Here you can set if Expert PDU basic 8110/8111 shall get its TCP/IP settings directly from your DHCP server. If DHCP is activated, Expert PDU basic 8110/8111 proves if a DHCP server is active inside of your LAN. Then Expert PDU basic 8110/8111 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.
4.3.2 Configuration - IP ACL

IP Access Control List (IP ACL) acts as an IP filter for your Expert PDU basic 8110/8111. Whether it is active hosts and subnets only can contact Expert PDU basic 8110/8111, 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 PDU basic 8110/8111, 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.

4.3.2.1 Reply ICMP-Ping requests

Here you can set, if Expert PDU basic 8110/8111 shell react on pings.

4.3.2.2 Enable IP Filter

Here you can activate the IP Access Control List (IP ACL) of Expert PDU basic 8110/8111.

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

4.3.3 Configuration - HTTP
4.3.3.1 HTTP Port

Here you can enter the HTTP port number, if necessary. Possible numbers are 1 ... 65534 (standard: 80). To get access to Expert PDU basic 8110/8111, you have to enter the port number behind the IP address of Expert PDU basic 8110/8111, e.g.: http://192.168.0.2:1720

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

4.3.3.2 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 PDU basic 8110/8111 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 PDU basic 8110/8111 nor the ports. The username of the user is “user”.

If you have forgotten your password, activate the bootloader mode of Expert PDU basic 8110/8111, start GBL-Conf.exe and deactivate the password request.

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

4.3.3.3 Check Password on start page

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

4.3.4 Configuration - Messages

4.3.4.1 Generate Temperature Messages

Here you can configure if and at which Min-/Max-Temperature Expert PDU basic 8110/8111 shell send temperature alerts via SNMP-Traps and Syslog.

4.3.4.2 Max Temperature

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

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

4.3.5 Configuration - SNMP

4.3.5.1 Enable SNMP-get

Here you can activate SNMP-get protocol of Expert PDU basic 8110/8111.

Use SNMP only if your network is fitted for.

4.3.5.2 Community public

Here you can enter the SNMP public community.

Use SNMP only if your network is fitted for.

4.3.5.3 Enable SNMP-set

Here you can activate SNMP-set protocol of Expert PDU basic 8110/8111.

Use SNMP only if your network is fitted for.

4.3.5.4 Community private

Here you can enter the SNMP private community.

Use SNMP only if your network is fitted for.

4.3.5.5 Download SNMP MIB

Here you can download the MIBs of Expert PDU basic 8110/8111.

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 PDU basic 8110/8111 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 PDU basic 8110/8111, you can find in chapter SNMP, on [http://www.gude.info/wiki](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 PDU basic 8110/8111 will send a syslog message:

- Booting up
- Activation/deactivation of syslog

You can find more information about configuration of Syslog in chapter Configuration - Syslog or have a look at [http://www.gude.info/wiki](http://www.gude.info/wiki).
4.3.7.1 Enable Syslog

Here you can activate Syslog of Expert PDU basic 8110/8111.

4.3.7.2 Syslog Server IP

If syslog is active enter here the IP address of your 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](http://www.gude.info/wiki) or ask our support team.

5 Operation

5.1 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](http://www.gude.info) or requested at mail@gude.info.

<table>
<thead>
<tr>
<th>Cable length</th>
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</thead>
<tbody>
<tr>
<td>Connection</td>
<td>PS2</td>
</tr>
<tr>
<td>Measurement</td>
<td>-10°C bis +70°C bei ±2°C (maximal) und ±1°C (typisch)</td>
</tr>
</tbody>
</table>
6 Features

6.1 Bootloader mode

To activate the bootloader mode of Expert PDU basic 8110/8111 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 PDU basic 8110/8111 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 relais 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  
               8 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  
Power (total): 16 A (~ 3600W)  
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 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

More information, current drivers and software can be found on http://www.gude.info.

In case of further questions, about installation or operation of Expert PDU basic 8110/8111, please have look at www.gude.info/wiki or do not hesitate to contact our support (mail@gude.info).
8 Declarations of conformity

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. GOM20803-1696-L and when the product is manufactured in accordance with the tested sample.

July 18, 2008

Dieter Gneip
Certification Body

Eurofins ETS Product Service GmbH
Storkower Strasse 28c, D-13526 Potsdam, Berlin, Germany
Tel.: +49-3031-888 6
Fax: +49-3031-888 660
# Konformitätserklärung / Declaration of Conformity

The manufacture
gute Analog- und Digitalsysteme GmbH

Address/City: Eindruck: 113, 5000 Köln
Phone/Fax: 0221 - 912 30 97/912 30 98
Web: www.gude.info Mail: mail@gude.info

declares this product to comply with the following directives:

<table>
<thead>
<tr>
<th>Directive</th>
<th>Title</th>
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<tr>
<td>89/336/EEC</td>
<td>Electromagnetic Compatibility</td>
</tr>
<tr>
<td>2006/95/EC</td>
<td>Low Voltage Electrical Equipment</td>
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<tr>
<td>2014/30/EU</td>
<td>CE marking</td>
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and that the following European standards are applicable:

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<th>Standard</th>
<th>Title</th>
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<td>EN 50522:2009 + A1, A2</td>
<td>Electromagnetic susceptibility - Protection of persons and equipment against harmful effects of electromagnetic fields in the frequency range from 0.1 to 300 GHz</td>
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<tr>
<td>EN 60950-1:2006</td>
<td>Safety of Information Technology Equipment</td>
</tr>
<tr>
<td>EN 61000-3-2:2006</td>
<td>Electromagnetic compatibility - Limits - Part 3-2: Limits for power lines, single I/O devices</td>
</tr>
</tbody>
</table>

Köln, 26.09.2010

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 PDU basic (alle Versionen / all versions)
Expert PDU energy (alle Versionen / all versions)
mit den Bestimmungen der nachstehenden Richtlinien übereinstimmen/
are in accordance with the following directives

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

Kölne, 26.08.2010

Dr. Michael Gude, Geschäftsführer / CEO