

# User Manual

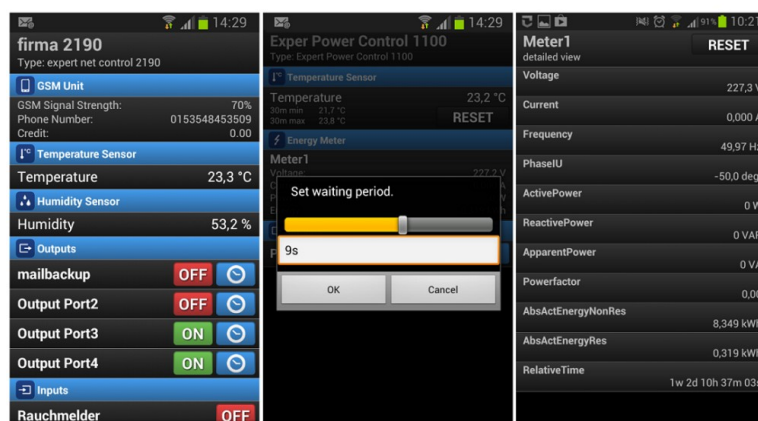
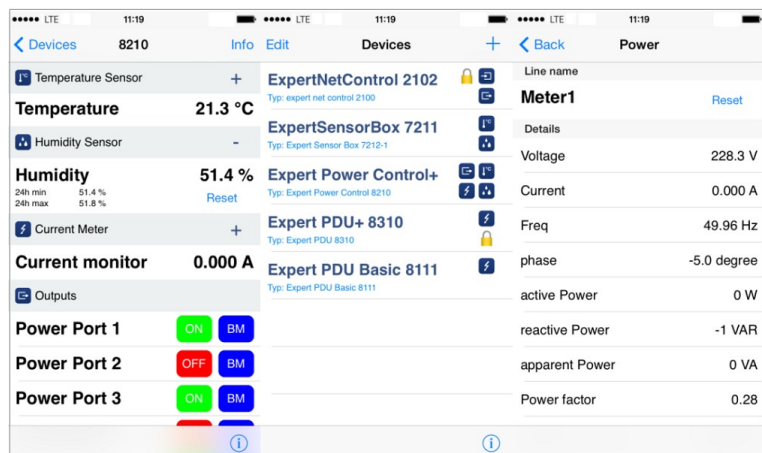
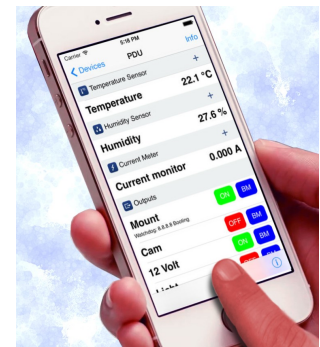
## Expert Power Control 8090 GSM



## Have your Gude devices always in view - and in control.

With the free Gude Control App you can retrieve all relevant information from your GUDE products regardless of their current whereabouts. Check with your smartphone the important operating figures of your server and rack environment like sensor values (max/min), energy consumption as well as state of inputs and outputs with watchdog functions. In particular, connected consumers can be switched remotely with Gude Control.

"Gude Control" is available for the Expert Power Control 8090 GSM and can be free downloaded from the Google Play Store and iTunes Store.



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# 1 Device Description

## 1.1 Security 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 factory trained service personnel.
- This device contains potentially hazardous voltages and should not be opened or disassembled.
- The device can be connected only to 230V AC (50Hz or 60 Hz) power supply sockets.
- The power cords, plugs and sockets have to be in good condition. 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.
- Care about packaging material. 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.
- Connect only electrical devices that do not have limited on-time. I.e. in case of failure, all connected appliances have to cope with a continuous on-time without causing damage.
- The human head should always be kept more than 30cm away from the built-in GSM modem.
- Connect only electrical devices that do not have limited on-time. I.e. in case of failure, all connected appliances have to cope with a continuous on-time without causing damage.

## 1.2 Content of Delivery

The package includes:

- Expert Power Control 8090 (EPC8090)
- CD-ROM with Manual and Software Tools
- Power Supply cable (max. 16A)
- GSM antenna

What you still need to use all the features of the EPC8090

- SIM Card (prepaid or contract)

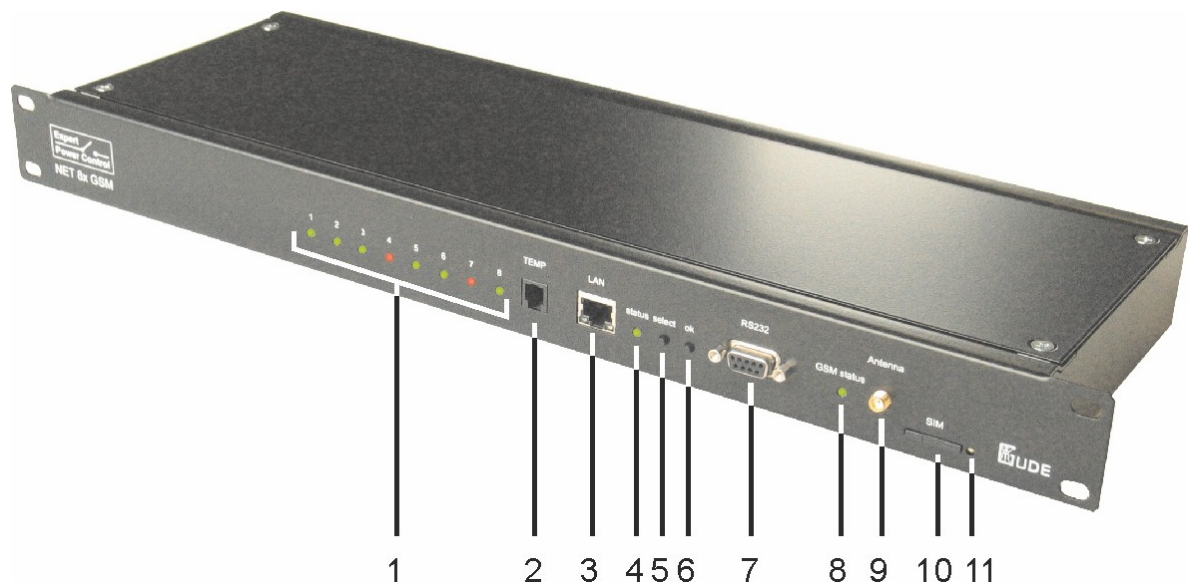
## 1.3 Description

The Expert Power Control (EPC) 8090 is a switchable power distribution unit, that can remote switch other devices in the power grid. The EOC8090 has the following features:

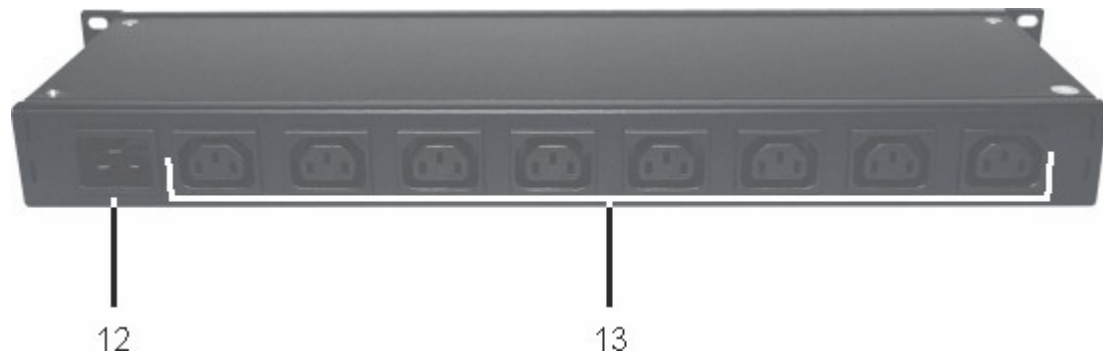
- Switching of 8 load outputs (230V, 10A).

- Connects to an external sensor to measure temperature values.
- Control and monitor the device via Ethernet with an integrated web server and SNMP (v1 and v2c).
- The device has a built-in GSM modem, which allows the control of the device. One can thus control the EPC8090 via SMS, Data Call and Voice Call with DTMF tones.
- When switching the relays and reaching the limits of the external sensor, messages are generated. These messages can be sent by e-mail, syslog, SNMP traps and SMS.

## 1.4 Installation



1. Status LED output indicator (green - output switched)
2. Temperature sensor connector (RJ11)
3. Ethernet connector (RJ45)
4. Status LED
5. Select button
6. Ok button
7. RS232 Connector (D-SUB)
8. Status LED GSM connection
9. GSM antenna connector
10. SIM Card
11. Eject button for SIM Card



12. Power supply (IEC C20, max.16A)

13. 8 x Load outputs (IEC C13, max. 16A)

### Start-up the device

- Connect the power cord of the unit to the mains supply.
- Plug the network cable into the Ethernet connector (RJ45).

## 1.5 Status LED

The Status LED shows different states of the device:

- red: Device is not connected to the Ethernet
- orange: Device is connected to the Ethernet, TCP/IP settings are not allocated
- green: Device is connected to the Ethernet, TCP/IP settings allocated
- periodic blinking: Device is in Bootloader mode.

The GSM status LED describes the reception situation of the GSM module:

- off: The GSM module is switched off.
- red: The GSM module is switched on but has no GSM reception.
- flashing red: The module has poor reception.
- flashing orange: The module has moderate reception.
- flashing green: The module has good reception.

There are three LEDs mounted on the device (traffic light) that show the load condition in addition to the website:

green: Less than 10A is flowing through the power strip.  
Yellow: The load on the device is between 10A and 14A.  
flashing red: There is more than 14A load connected.

## 1.6 Bootloader Mode

Certain actions can, for safety reasons, only be carried out if the device is in bootloader mode. The following operations are possible only in Bootloader Mode:

- Firmware Update
- Configuration with GBL\_Conf.exe
- Factory Reset

### Activation of the Bootloader Mode

via push button:

- Hold both buttons for 3 seconds (only if the device has 2 buttons)

or

- Remove the power supply
- Hold down the button (or the "Select" button for devices with 2 buttons). If the push button is recessed, use a pin or paper clip
- Connect the operating voltage

by Software: (only if "Enable FW to BL" was previously activated in GBL\_Conf.exe)

- Start GBL\_Conf.exe
- Do a network search with the "Search" menu action
- Activate in menu "Program Device" the item "Enter Bootloader"

Whether the device is in bootloader mode, is indicated by the flashing of the status LED, or it is shown in GBL\_Conf.exe, after a renewed device search, with the appendix "BOOT-LDR" after the device name. In bootloader mode the program GBL\_Conf.exe can disable the password and the IP ACL, perform a firmware update, and restore the factory settings.

**Activation of the bootloader mode and an abandonment of the bootloader does not change the state of the power or output ports as long as the supply voltage is maintained.**

### Abandonment of the Bootloader Mode

via push button:

- Hold both buttons for 3 seconds (only if the device has 2 buttons)

or

- Remove and connect the power supply without operating a button

by Software:

- Start GBL\_Conf.exe
- Do a network search with the "Search" menu action
- In menu "Program Device" activate the item "Enter Firmware"



## Factory Reset

If the device is in bootloader mode, it can always be put back to its factory default. All TCP / IP settings are reset in this operation.

via push button:

- Activate the Bootloader Mode of the device
- Hold down the button (or the "Select" button for devices with 2 buttons) for 6 seconds. If the push button is recessed, use a pin or paper clip
- The status LED will blink in a fast rhythm, please wait until the LED blinks slowly (about 5 seconds)

by Software:

- Activate the Bootloader Mode of the device
- Start GBL\_Conf.exe
- In menu "*Program Device*" activate the item "*Reset to Fab Settings*"
- The status LED will blink in a fast rhythm, please wait until the LED blinks slowly (about 5 seconds)

## 1.7 Firmware-Update

To perform a firmware update, the program GBL\_Conf.exe and the latest firmware is needed.

Enable the bootloader mode (see Chapter Bootloader Mode)

Start GBL\_Conf.exe

Select the device for which a firmware update is to be performed

Click "Program Device" and then select there "Firmware Update"

Specify the firmware file that should be uploaded

Upon completion of the update process, please start the new firmware of the device. You can do this by simply leaving the bootloader mode.

A firmware update, unlike other functions, is not sent as a network broadcast. Therefore, the device must have a valid IP address and a valid netmask before the firmware update. If necessary, please correct the entries in GBL\_Conf.exe in bootloader mode and save them with "*Save Config*".

If after a firmware update, the web page is not displayed correctly anymore, this may be related to the interaction of Javascript with an outdated browser cache. Not always helps a Ctrl-F5, it is recommended that you manually delete the cache in the browser options. Alternatively, you can test start the browser in "private mode".

## 1.8 Technical Specifications

Interfaces	1 x Ethernet port (RJ45) 1 x Serial connector (D-SUB, RS232) 1 x Power supply (IEC C20, max. 16A) 3 x Load outputs (IEC C13, max. 16A) 1 x RJ11 for external sensor 1 x SMA Connector for GSM antenna 1 x SIM card slot
Network connectivity	10/100 MBit/s 10baseT Ethernet
Protocols	TCP/IP, HTTP, DHCP, ICMP, SNMP v1/v2c + traps, Syslog, SMTP
GSM Modem	Triband GSM Module (900/1800/1900 MHz)
Sim Card	Mini-SIM
Environment <ul style="list-style-type: none"> <li>Operating temperature</li> <li>Storage temperature</li> <li>Humidity</li> </ul>	0°C - 50°C -15°C - 60°C 10% - 85%
Case	Powder Coated Metal
Measurements	19" (inches), 1 Rack Unit, (Depth 155mm)
Weight	approx. 2.8kg

## 1.9 Sensor

An external sensor can be connected to the EPC 8090. The following sensors are currently available



Temperature-Sensor 7000	
Cable length	≈ 2m
Connector	RJ11
Measurement range	-20°C to +80°C at ±3°C (maximum) and ±2°C (typical)

Control Panel Configuration Logout

OFF

Power Port 1

OnOffResetBatchmode

OFF

Power Port 2

OnOffResetBatchmode

OFF

Power Port 3

OnOffResetBatchmode

OFF

Power Port 4

OnOffResetBatchmode

OFF

Power Port 5

OnOffResetBatchmode

OFF

Power Port 6

OnOffResetBatchmode

OFF

Power Port 7

OnOffResetBatchmode

OFF

Power Port 8

OnOffResetBatchmode

[show/hide GSM Log](#)

to logout in 290s

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The sensor is automatically detected after connect.

## 2 Operating

### 2.1 Operating the device directly

The current status of the output is indicated by the color of the LED. Red indicates that the output is off, green shows that the output is on. On the device are the buttons "**select**" and "**ok**". If you press "**select**", the LED will blink for the first output, ie the output is selected. Press "**select**" again to select the next output. Hold down the button "**ok**" for two seconds, then the status of the selected output is toggled.

## 2.2 Operating by Webinterface

Access the web interface: `http://"IP-address"` and log-in.

Control Panel
Configuration
Logout

OFF
Power Port 1
On
Off
Reset
Batchmode

OFF
Power Port 2
On
Off
Reset
Batchmode

OFF
Power Port 3
On
Off
Reset
Batchmode

OFF
Power Port 4
On
Off
Reset
Batchmode

OFF
Power Port 5
On
Off
Reset
Batchmode

OFF
Power Port 6
On
Off
Reset
Batchmode

OFF
Power Port 7
On
Off
Reset
Batchmode

OFF
Power Port 8
On
Off
Reset
Batchmode

Port	Name	Temperature	24h min	24h max	
Temp: 7000	Temperature	22,0 °C	21,0 °C	22,0 °C	Reset min/max

show/hide GSM Log

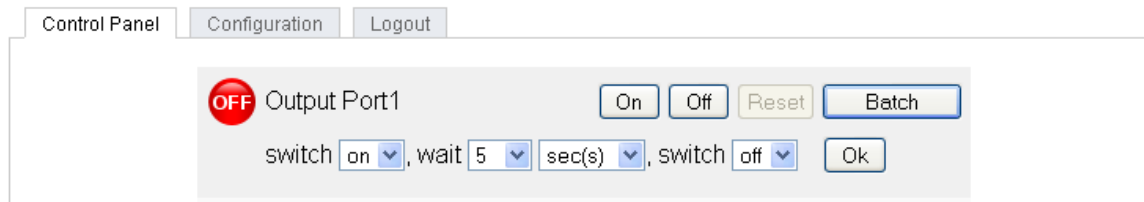
to logout in 290s

Expert Power Control 8090 - v2.0.2

The website offers an overview of the port status, measurements and sensors, if they are connected. Furthermore, there are buttons to control the state of the ports. The ports can be switched manually with the "On" and "Off" buttons. If the port is turned on, it can be turned off by pressing the "Reset" button, until after a delay it turns itself on again. The delay time is determined by the parameter Reset Duration, which is described in the chapter about configuration via web interface.

### Batchmode

Each individual port can be set for a selectable period of time to the state "switch on" or "switch off". After the selected time they are automatically switched to the second preselected state.



Optionally the device can be switched via a Perl script or external tools like wget. More information is available on our support wiki at [www.gude.info / wiki](http://www.gude.info/wiki).

## 2.3 GSM

To use the GSM functions, there must be an activated SIM card in the SIM card slot located on the front of the unit.

If the SIM card is inserted, and the device is enabled, the integrated GSM module searches automatically for a connection to the GSM network. If this connection works, you can control and configure the device via SMS or by call.

When operating via SMS, send defined SMS commands to the device. The device executes these commands and confirms them with reply SMS.

When operating via phone call, you can perform commands by FreeCall, that allow the unit to perform preconfigured commands, when it is called from a particular phone number. There is no connection established and there are no call charges. Another possibility is the voice call. Here, the device menu is operated using DTMF codes. This type of operation can also be carried out automatically.

### Preparing for GSM operation

If you are using a new SIM card, please take note:

#### 1. Preparing the SIM card

- If you are using a contracted SIM card, please start with step 2
- If you are using a prepaid SIM card, please take care:
  - There has to be a positive balance on the card
  - The card has to be activated. New prepaid cards need some manual operation at the start of usage. These requests have to be made from a user with a cellphone.

#### 2. SIM-card pin code

- The device awaits the SIM card pin code 1234 first. Enter this PIN to the SIM card, by using a cellphone. In case you are using another pin code, you have to configure the EPC NET GSM before you activate the GSM part of the device! Otherwise this may lead to a lock of the SIM card.
- You can disable the need to enter the PIN code on the SIM card with a mobile phone. In this case the EPC NET GSM accepts the SIM card without checking the code.

#### 3. Install SIM card

- Switch off the device or deactivate the GSM module. Alternatively, you can just turn off the GSM module in the EPC NET GSM via software. Never install a SIM card, when GSM module is active. Otherwise the SIM card may be destroyed.
- Release the SIM card holder by pressing the yellow button with a fine stick. Insert the SIM card in the ejected plastic tray and slide it back inside until it stops.

#### 4. Connect Antenna

- Take the GSM antenna from the box and screw it to the EPC NET GSM by turning clockwise. It is enough to attract the connection hand-tight. Never use pliers to tighten or similar to the antenna, thus inevitably destroying the antenna connection.

#### 5. Activate the EPC NET GSM

- Power up the device. In factory default state, the GSM module is deactivated. This is a security setting in delivery to avoid accidentally locking a SIM card with the wrong code.
- Log in on the web interface.
- Switch to Configuration / GSM / SIM.
- Here the button "Enable GSM" is set to "No", that is the GSM module is turned off. Set the button to "yes", then press the button "Apply" to transmit the data to the EPC NET GSM.
- Wait some minutes, until the device has logged into the GSM. You can see the status change from the flashing GSM status LED or in the web interface.

### GSM Status LED

The GSM status LED displays different states of the GSM module.

#### **LED off**

GSM module is deactivated.

#### **LED permanent red**

GSM module activated, looking for GSM signal.

#### **LED blinks red**

GSM module activated, bad receive quality.

#### **LED permanent orange**

GSM module activated, medium receive quality.

#### **LED blinks green**

GSM module activated, good receive quality.

The quality of the GSM signal can also be checked in the web interface in the Control Panel.

## 2.3.1 SMS

### 2.3.1.1 SMS Commands

Description of the SMS format to send commands to the device:

#### **Format**

```
%[cmd-name] [param 1] [...] [param N] {param 1} {...} {param N}
    [param x] = mandatory parameter
    {param x} = optional parameter
```

If activated, a port code or master code will be required. Entering these codes is initiated by **p** (for Port code) or **m** (for Master code).

### 2.3.1.1.1 Powerport: Query Power Port State

#### Format

%port state [portnumber] {Portcode/Mastercode}

#### Command:

Request of status of Power Port 1, Portcode 1111

%port state 1 p1111

#### Answer:

Device name: epc007

Powerport state: Port 1 on

Account credit: Credit: 130.50 Eur

### 2.3.1.1.2 Powerport: Simple Switching

#### Format

%port [on, off, toggle] [portnumber] {Portcode/Mastercode}

#### Examples:

Switch off Power Port 2, Mastercode 2222

%port off 2 m2222

Toggle Power Port 8, Portcode 1238

%port toggle 8 p1238

Reset Power Port 6, Portcode 0123

%port reset 6 p0123

Switch on Power Port 1, without Portcode

%port on 1

#### Answer (example):

Device name: epc007

Power switch: Port 1 off -> on

Account Credit: Credit: 130.50 Eur

### 2.3.1.1.3 Powerport: Advanced Switching (Batchmode)

#### Format

%port batchmode [portnumber] [batch-sequence-number] {Portcode/Mastercode}

[batch-sequence-number]

'11' .. '19' off, wait [t1 .. t9]s, on

'21' .. '29' on, wait [t1 .. t9]s, off

'31' .. '39' toggle, wait [t1 .. t9]s, toggle

**Note:** Sequence numbers are identical to the DTMF codes for voice calls.

tn	Time in seconds
t1	1
t2	2
t3	5
t4	10
t5	20
t6	60
t7	120
t8	240
t9	480

**Example:**

```
%port batchmode 1 13 m0123
```

**Answer:**

Device name: epc007

Switch sequence: Port 1 off -> t3 -> on

Account Credit: Credit 130.50

**2.3.1.1.4 Powerport: Advanced Switching (coldstart)**

The command '**coldstart**' turns off all Powerports at once. Then it switches the ports temporally delayed on again (according to the current power port configuration), as if the device performs a cold start.

**Format**

```
%coldstart {mastercode}
```

**Example:**

```
%coldstart m0123
```

**Answer:**

Device name: epc007

Switch sequence: coldstart

Account Credit: Credit: 130.50 Eur

**2.3.1.1.5 Configuration: Read****Format**

```
%config get [config-name] {mastercode}
```

[config-name] 17):

all  
code  
telbook  
gsmstatus  
temp  
response  
error



portname  
adminnum  
tempmin  
tempmax  
gsm

**Example:**

```
%config get code m1234
```

**Answer:**

Config: code = on

**Example:**


```
%config get all
```

**Answer:**

Config: code = on  
telbook = off  
[...]  
adminnum = 0161123456  
gsm = on

**2.3.1.1.6 Configuration: Write****Format**

```
%config set [config-name] [config-value] {Mastercode}
```

[config-name] :

code  
telbook  
gsmstatus  
temp  
response  
error  
portname  
adminnum  
tempmin  
tempmax  
gsm

**Example:**

```
%config set code off m1234
```

**Answer:**

Config: code = off

**2.3.1.1.7 Configuration: All Parameter**

Description	SMS [config-name]	SMS [config-value]	default
Master/Port Code	code	on, off	off

Description	SMS [config-name]	SMS [config-value]	default
enabled?			
Check of phone book?	telbook	on, off	off
Send GSM Status SMS to 'adminnum'	gsmstatus	on, off	off
Send SMS to 'adminnum' if tempmin / tempmax are changed	temp	on, off	off
Send SMS reply on SMS commands to recent SMS user	response	on, off	on
Send SMS reply with error message, if SMS command was malformed	error	on, off	on
States configured Port name instead of Power Port n in SMS replies	portname	on, off	off
Allow deactivation of GSM module via SMS	gsm	on, off	off
Phone number for e-mail messages	email	max. 15 chars	
Access only for admin	mastergsm	on, off	off
Autosync	autosync	on, off	off
DTMF for VoiceCall	calltone	on, off	off
Voice for VoiceCall	callvoice	on, off	on
Phone number for SMS messages	adminnum	max. 15 chars	
Minimum value for temperature alerts	tempmin	'-20' .. '0'	0
Maximum value for temperature alerts	tempmax	'0' .. '90'	50
Allows freecall operation	freecall	on, off	off

### 2.3.1.1.8 Sensors: Query State

#### Format

%sensor state [portnumber, all] {Mastercode}

#### Example:

Query the state of all sensors, Mastercode 0000

%sensor state m0000

#### Answer:

Device name: epc007

Port: Sensor port 1

Sensor name: Temperature

Value: NC

Port: Sensor port 2

Sensor name: Temperature

Value: T=22.79C

Value: RH= 76.64%

Account credit: Credit: 130.50 Eur

### 2.3.1.1.9 Query Device State

#### Format

%all state {Mastercode}

#### Example:

Query the state of the device:

%all state

#### Answer:

Device name: epc007: Status

Outputport state: outp: 1=On 2=On 3=On 4=Off

Inputport state: dinp: 1=Off 2=Off 3=Off 4=Off

Sensor Port 1: senp 1: NC

Sensor Port 2: senp 2: T=22.79C RH= 76.64%

Account credit: Credit: 130.50 Eur

### 2.3.1.2 SMS replies

#### 2.3.1.2.1 SMS command replies

A command reply SMS looks like:

Device name: [name]	prefix
[response text]	Command specific reply
Account credit: [x]	

#### [response text]

Device name: [name]

Power switch: [powerport] [s] -> [s]  
 [powerport] = Port 1 .. Port 99 (or Config:portname)  
 [s] = on .. off

Powerport state: [powerport] is [s], [...], [powerport] is [s]  
 [powerport] = Port 1 .. Port 99 (or Config:portname)  
 [s] = on .. off

Switch sequence: [s]  
 [s]

[powerport] [c] -> wait t -> [c]  
 [powerport] = 'Port 1' .. 'Port 99' (or Config:portname)  
 [c] = on, off, toggle, coldstart

Account credit: [x]

Config: name = value, [...], name = value

or

command parse error

#### 2.3.1.2.2 Status Change Report SMS

A SMS status change request reply looks like:

Device name: [name]	Prefix
[response text]	Status change request specific reply
Account credit: [x]	

##### [response text]

Device name: [name]

[powerport] -> [s]  
 [powerport] = 'Port 1' .. 'Port 99' (or Config:portname)  
 [s] = 'on' .. 'off'

[powerport] [s]  
 [powerport] = 'Port 1' .. 'Port 99' (or Config:portname)  
 [s] = batchmode, toggled, Coldstart

Temperature state: [val]  
 [val] = 'over the MAX limit', 'under the MIN limit'

Account credit: [x]

## 2.3.2 Voice Call

### 2.3.2.1 Menu

For operating with VoiceCall, simply call the phone number of the SIM card of the GSM module. When connection is established the device replies with the announcement: "Main menu" and a DTMF tone. In the menu the navigation works via DTMF commands.

Each command starts with # and ends with \*.

Numbers	Men
*1#	Power Port
*2#	Input Port
*8#	Status

You can combine multiple commands into a command. Just type the commands one after another and terminate it as a whole with #.

\*[Command 1][Command 2]...[Command n]#

Some commands may require the Port or MasterCode. These codes have to be added at end of the command

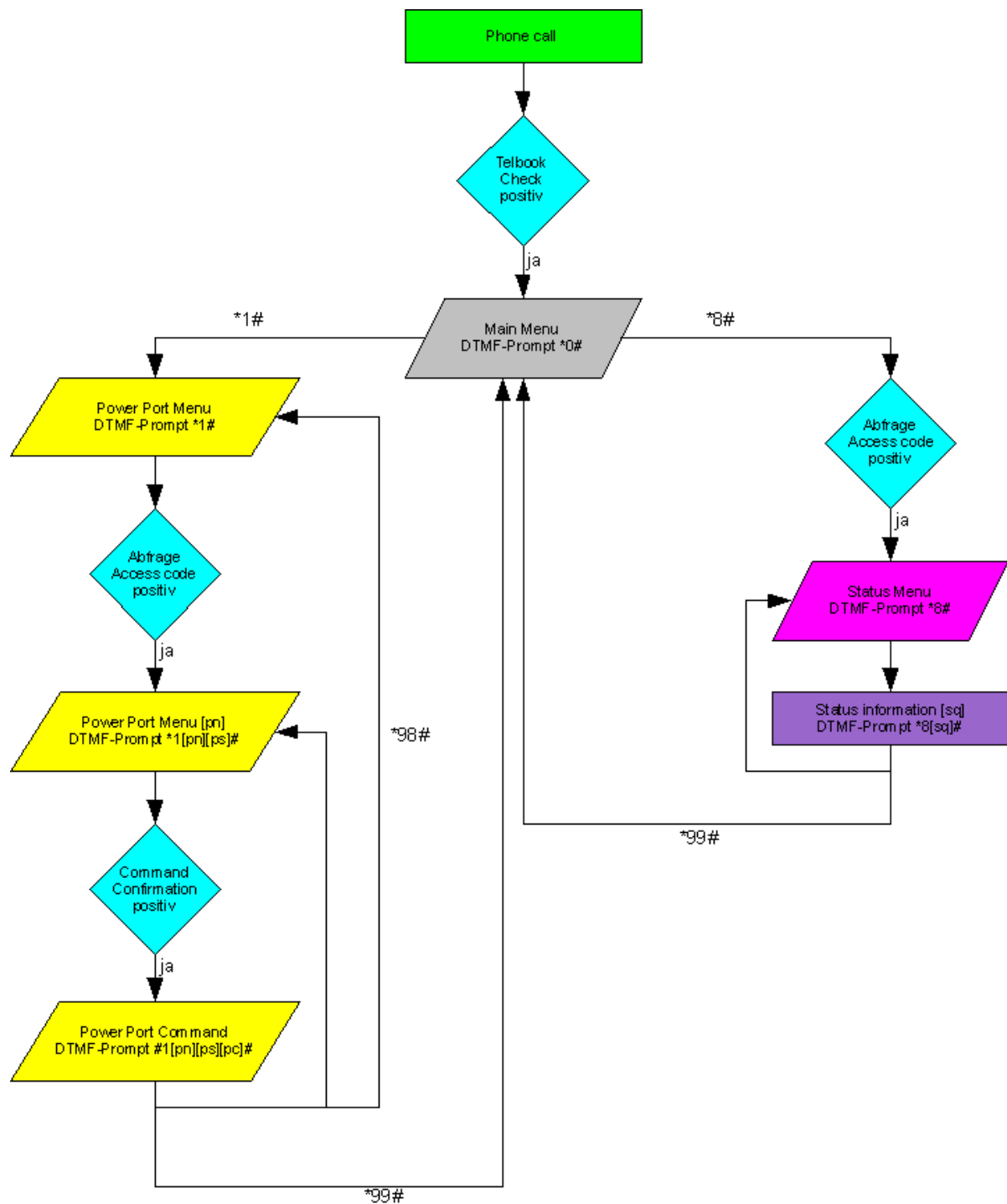
Example:

Navigate from Main Menu into the Status Menu using mastercode 1111

\*8# - enter Status Menu  
1111 - Mastercode

For the navigation in menus the following commands are required:

\*99# - Jump to Main Menu  
\*98# - Return to prev Menu  
\*97# - Help



### 2.3.2.1.1 Power Port Menu

Here you can choose and switch Power Ports or request the status of a Power Port.

Example:

\*1# - Switch to Power Port menu

\*5# - Choose Power Port 5  
\*01# - Switch on

Or connected into one command: \*1501#

Example:

\*7# - Choose Power Port 7  
\*23# - Activate Batchmode No.23 for Power Port 7 - Powerport 7 on, wait t3, off

Example:

\*3# - Choose Power Port 3  
\*03# - Request state of Power Port 4

Or as one command: \*303#

Please check the Power Port commands [pc] for further information

#### 2.3.2.1.2 Status Menu

Different states of the device can be requested

*00#	Value of the account of the PrePaid card
*01#	Request of an SMS with all power port information, announcement "SMS sent"
*02#	Request of an SMS with all input port information, announcement "SMS sent"
*03#	Request of an SMS with configuration information, announcement "SMS sent"
*04#	Request of actual sensor information (a sensor has to be connected)
*10#	Request of the state of all Power Ports
*20#	Request of the state of all Input Ports

#### 2.3.2.1.3 Parameter Description

[pn]  
Power-Port Nummer  
- Values: '1' .. '9'

[ps]  
- Power-Port State  
- Values: '0' .. '1'  
(on/off)

[pc]  
- Power-Port Command  
- Values: '00' .. '89'

[in]  
- Input-Port Number  
- Values: '1' .. '9'

[is]

- Input-Port State
- Values: '0' .. '1'
- (on/off)

[sq]

- Status Query
- Values '01' .. '89'

Special Menu Commands (90 .. 00)

- 99 : Jump to Main Menu
- 98 : return to prev Menu
- 97 : Help

### 2.3.3 Power Port Commands

List of possible Power Port commands (pc)

Port Com- mand	Command	Description
00	off	Switch off
01	on	Switch on
02	toggle	Toggle
03	state info	Request of state of Power Port
04	reset	Switch off, wait 30 seconds, switch on

Port Com- mand	Command	Description
11	Batchmode: off, wait t1, on	Powerport off, wait t1, Power Port on
12	Batchmode: off, wait t2, on	Powerport off, wait t2, Power Port on
13	Batchmode: off, wait t3, on	Powerport off, wait t3, Power Port on
14	Batchmode: off, wait t4, on	Powerport off, wait t4, Power Port on
15	Batchmode: off, wait t5, on	Powerport off, wait t5, Power Port on
16	Batchmode: off, wait t6, on	Powerport off, wait t6, Power Port on
17	Batchmode: off, wait t7, on	Powerport off, wait t7, Power Port on
18	Batchmode: off, wait t8, on	Powerport off, wait t8, Power Port on
19	Batchmode: off, wait t9, on	Powerport off, wait t9, Power Port on



Port Com-mand	Command	Description
21	Batchmode: on, wait t1, off	Powerport on, wait t1, Power Port off
22	Batchmode: on, wait t2, off	Powerport on, wait t2, Power Port off
23	Batchmode: on, wait t3, off	Powerport on, wait t3, Power Port off
24	Batchmode: on, wait t4, off	Powerport on, wait t4, Power Port off
25	Batchmode: on, wait t5, off	Powerport on, wait t5, Power Port off
26	Batchmode: on, wait t6, off	Powerport on, wait t6, Power Port off
27	Batchmode: on, wait t7, off	Powerport on, wait t7, Power Port off
28	Batchmode: on, wait t8, off	Powerport on, wait t8, Power Port off
29	Batchmode: on, wait t9, off	Powerport on, wait t9, Power Port off

Port Com-mand	Command	Description
31	Batchmode: toggle, wait t1, toggle	Power Port toggle, wait t1, Power Port toggle
32	Batchmode: toggle, wait t2, toggle	Power Port toggle, wait t2, Power Port toggle
33	Batchmode: toggle, wait t3, toggle	Power Port toggle, wait t3, Power Port toggle
34	Batchmode: toggle, wait t4, toggle	Power Port toggle, wait t4, Power Port toggle
35	Batchmode: toggle, wait t5, toggle	Power Port toggle, wait t5, Power Port toggle
36	Batchmode: toggle, wait t6, toggle	Power Port toggle, wait t6, Power Port toggle
37	Batchmode: toggle, wait t7,toggle	Power Port toggle, wait t7, Power Port toggle
38	Batchmode: toggle, wait t8, toggle	Power Port toggle, wait t8, Power Port toggle
39	Batchmode: toggle, wait t9, toggle	Power Port toggle, wait t9, Power Port toggle

tn	Time in seconds
t1	1
t2	2
t3	5
t4	10
t5	20
t6	60
t7	120
t8	240
t9	480

### 2.3.4 Security

Please note that the device has no security options set in the delivery settings, in order to allow a quick start. For a later use we strongly recommend that you activate the phone book check and code queries. The phone book check provides pretty high security, because only phone book members can operate the device. Unfortunately, there are mobile carriers that allow to simulate any number with some technical effort. These numbers will be marked with a special bit and can only be identified by the police as forged. Unfortunately the GSM network has no possibility to identify this fake numbers. For this reason we recommend the code query.

Access	Phonebook Check	Port/MasterCode	Security
Anybody	off	off	Very low
Phonebook Check	on	off	Normal
Code Check	off	on	High
Phonebook and Code Check	on	on	Very high

## 3 Configuration

### TCP/IP configuration by DHCP

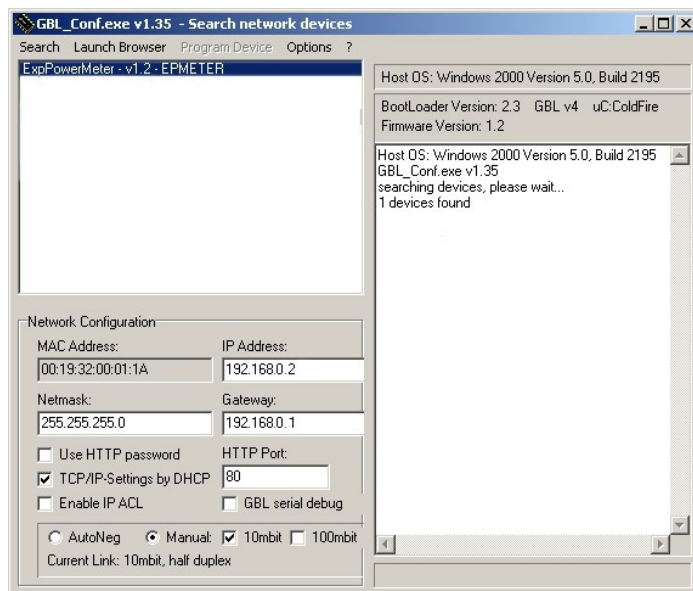
After switching on the device is scanning on the Ethernet for a DHCP server and requests an unused IP address. Check the IP address that has been assigned and adjust if necessary, that the same IP address is used at each restart. To turn off DHCP use the software GBL\_Conf.exe or use the configuration via the web interface.

To check the network settings with GBL\_Conf.exe, start the program and choose "All Devices" in the "Search" menu. From the list select the appropriate device. The lower part of the left half of the window now shows the current network settings of the device. If the IP address is displayed with the default settings (192.168.0.2), either no DHCP server is present on the network, or there could be no free IP

address assigned to it.

### 3.1 Configuration by Software

To view and change the network settings, you can use the program GBL\_Conf.exe. The program is available for free on our website [www.gude.info](http://www.gude.info) and is also available on the accompanying CD-ROM. You can also use GBL\_Conf.exe to install firmware updates and trigger a reset to factory defaults.



Interface GBL\_Conf

To check the network settings with GBL\_Conf.exe, start the program and choose "All Devices" in the "Search" menu. From the list select the appropriate device. The lower part of the left half of the window now shows the current network settings of the device. If the IP address is displayed with the default settings (192.168.0.2), either no DHCP server is present on the network, or there could be no free IP address assigned to it.

- Activate the Bootloader Mode (see Chapter Bootloader Mode) and choose in menu "Search" the item "Bootloader-Mode Devices only"
- Enter the desired settings in the edit window and save them with "Save Config".
- Deactivate the boot loader mode for the changes to take effect. Select again "All Devices" in the "Search" menu of GBL\_Conf.exe. The new network configuration is now displayed.

### 3.2 Configuration via Webinterface

Access the web interface: <http://IP-address> and log-in.

Control Panel

Configuration

Logout

 Power Port 1	<input type="button" value="On"/>	<input checked="" type="button" value="Off"/>	<input type="button" value="Reset"/>	<input type="button" value="Batchmode"/>
 Power Port 2	<input type="button" value="On"/>	<input type="button" value="Off"/>	<input type="button" value="Reset"/>	<input type="button" value="Batchmode"/>
 Power Port 3	<input type="button" value="On"/>	<input type="button" value="Off"/>	<input type="button" value="Reset"/>	<input type="button" value="Batchmode"/>
 Power Port 4	<input type="button" value="On"/>	<input type="button" value="Off"/>	<input type="button" value="Reset"/>	<input type="button" value="Batchmode"/>
 Power Port 5	<input type="button" value="On"/>	<input type="button" value="Off"/>	<input type="button" value="Reset"/>	<input type="button" value="Batchmode"/>
 Power Port 6	<input type="button" value="On"/>	<input type="button" value="Off"/>	<input type="button" value="Reset"/>	<input type="button" value="Batchmode"/>
 Power Port 7	<input type="button" value="On"/>	<input type="button" value="Off"/>	<input type="button" value="Reset"/>	<input type="button" value="Batchmode"/>
 Power Port 8	<input type="button" value="On"/>	<input type="button" value="Off"/>	<input type="button" value="Reset"/>	<input type="button" value="Batchmode"/>

[show/hide GSM Log](#)

to logout in 288s

Expert Power Control 8090 - v2.0.2

Use the "Configuration" Tab to enter the configuration menu.

### 3.2.1 Configuration - Power Ports

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

- Choose Power Port to configure: A dropdown menu showing 'Power Port 1'.
- Label: A text input field containing 'Power Port 1'.
- GSM Portcode: A text input field containing '1111'.
- Initialization status: Three radio buttons labeled 'on', 'off' (selected), and 'remember last state'.
- Initialization delay: A text input field containing '0'.
- Repower delay: A text input field containing '0'.
- Reset duration: A text input field containing '10'.

Below these fields is a section for 'Enable watchdog' with two radio buttons labeled 'yes' and 'no' (selected). At the bottom of the form is an 'Apply' button. The footer of the page reads 'Expert Power Control 8090 - v2.0.2'.

Choose Power Port to configure: This field is used to select the power ports to be configured.

Label: You can assign a name up to 15 characters for each of the power ports. Using the name, an identification of the the device connected to the port can be facilitated.

### Start-up Monitoring

It is important, that if necessary the condition of the power ports can be restored after a power failure. Therefore each port can be configured with Initialization status to a specific start-up state. This start-up sequence can be carried out delayed by the parameter Initialization Delay. There is in any case a minimum one-second delay between switching of ports.

Initialization status: This is the port state (on, off, remember last state) the port should be set when the device is turned on. The setting "remember last state" saves the last manually set state of the power port in the EEPROM.

Initialization delay: Here can be configured how long the port should wait to switch to its defined state after the device is turned on. The delay may last up to 8191 seconds. This corresponds to a period of approx. two hours and 20 minutes. A value of zero means that the initialization is off.

Repower delay: When this feature is enabled (value greater than 0), the power port will switch itself on again a specified time after it has been disabled. Unlike the "Reser" button this function applies to all switch actions, including SNMP, or an optional serial interface.

Reset Duration: When the "Reser" button is triggered, the device turns the power port off, waits for the time entered here (in seconds) and turns the power port on.

### 3.2.2 Configuration - Watchdog

The watchdog feature enables to monitor various remote devices. Therefore either ICMP pings or TCP pings are sent to the device to be monitored. If these pings are not answered within a certain time (both the time and the number of attempts can be set), the port is reset. This allows e.g. to automatically restart not responding server or NAS systems.

When a watchdog is activated it presents various information in the Control Panel. The information is color-coded.

Green text: The watchdog is active and regularly receives ping replies.

Orange text: The watchdog is currently enabled, and waits for the first Ping response.

Red text: The watchdog is active and receives no ping replies anymore from the configured IP address.

After the watchdog has been enabled, the display remains orange until the watchdog receives a ping response for the first time. Only then the watchdog is activated. Even after triggering a watchdog and a subsequent power port reset, the display will remain orange until the device is rebooted and responds again to ping requests. This will prevent a premature watchdog reset of the port, e.g. when a server needs a long time for a file check.

You can monitor devices on your own network, as well as devices on an external network, e.g. the operating status of a router.

[Control Panel](#) [Configuration](#) [Logout](#)

[Power Ports](#) · [IP Address](#) · [IP ACL](#) · [GSM](#) · [HTTP](#) · [Sensors](#) · [SNMP](#) · [Syslog](#) · [E-Mail](#)

#### Configuration - Power Ports

• Choose Power Port to configure:

Power Port 1

• Label:

Power Port 1

• GSM Portcode:

1111

• Initialization status:

☐ on ☒ off ☐ remember last state

• Initialization delay:

0

• Repower delay:

0

• Reset duration:

10

• Enable watchdog:

☒ yes ☐ no

• Watchdog type:

☒ ICMP ☐ TCP

• Watchdog action:

☒ reset ☐ off

• Hostname:

• Ping interval:

10

• Ping retries:

6

Apply

Enable watchdog: Enables the watchdog function for this Power Port.

Watchdog action: When selecting *reset*, the Port will be turned off and switched on again after a Reset Duration. The setting *off* leaves the Port in the off state.

Watchdog type: Here you can choose between the monitoring by ICMP pings or TCP pings.

- ICMP Pings: The classic ping (ICMP echo request). It can be used to check the accessibility of network devices (for example, a server).
- TCP Pings: With TCP pings, you can check if a TCP port on the target device would accept a TCP connect. Therefore a non-blocked TCP port should be selected. A good choice would be port 80 for http or port 25 for SMTP.

Hostname: The name or IP address of the monitored network device.

TCP port: Enter the TCP port to be monitored. When using ICMP pings this is not needed.

Ping interval: Select the frequency (in seconds) at which the ping packet is sent to each network device to check its operating status.

Ping retries: After this number of consecutive unanswered ping requests the device is considered inactive.

### 3.2.3 Configuration - IP Address

Control Panel Configuration Logout

Power Ports - IP Address - IP ACL - GSM - HTTP - Sensors - SNMP - Syslog - E-Mail

**Configuration - IP Address**

• Hostname: EPC-8090

• IP Address: 192.168.1.248

• Netmask: 255.255.255.0

• Gateway address: 192.168.1.3

• DNS address: 192.168.1.5

• Use DHCP: ☒ yes ☐ no

Apply

Expert Power Control 8090 - v2.0.2

Hostname: Here you can enter a name with up to 15 characters. This name will be used for registration on the DHCP server. Special characters and umlauts can cause problems in the network.

IP Address: The IP address of the device.

Netmask: The network mask used in the network.

Gateway address: The IP address of the gateway.

Use DHCP: Select "yes" if the TCP/IP settings should be obtained directly from the DHCP server: When the function is selected, each time the device powers up it is checked if a DHCP server is available on the network. If not, the last used TCP/IP setting will be used further.

**All changes will be effective after a reboot of the firmware.**

### 3.2.4 Configuration - IP ACL

Control Panel Configuration Logout

Power Ports · IP Address · IP ACL · GSM · HTTP · Sensors · SNMP · Syslog · E-Mail

**Configuration - IP Access Control List**

• Reply ICMP ping requests: ☒ yes ☐ no

• Enable IP filter: ☐ yes ☒ no

Apply

Expert Power Control 8090 - v2.0.2

Reply ICMP ping requests: If you enable this feature, the device responds to ICMP pings from the network.

Enable IP filter: Enable or disable the IP filter here. The IP filter represents an access control for incoming IP packets.

**Please note that when IP access control is enabled DHCP and SNMP only work if the appropriate servers and clients are registered in the IP access control list.**

#### IP Access Control List

The IP Access Control List (ACL IP) is a filter for incoming IP packets. If the filter is active, you can only connect to hosts and subnets whose IP addresses are entered in the list.

Examples:

Entry in the IP ACL	Meaning
192.168.0.123	the PC with IP Address „192.168.0.123" can access the device
192.168.0.1/24	all devices of subnet „192.168.0.1/24" can access

If you choose a wrong IP ACL setting and locked yourself out, please activate the Bootloader Mode and use GBL\_Conf.exe to deactivate the IP ACL.



### 3.2.5 Configuration - HTTP

Control Panel Configuration Logout

Power Ports · IP Address · IP ACL · GSM · **HTTP** · Sensors · SNMP · Syslog · E-Mail

**Configuration - HTTP**

• HTTP port:

• Enable HTML autorefresh: ☒ yes ☐ no

• Require HTTP password: ☐ yes ☒ no

Apply

Expert Power Control 8090 - v2.0.2

**HTTP port:** Here can be set the port number of the internal HTTP. Possible values are from 1 to 65534 (default: 80). If you do not use the default port, you must append the port number to the address with a colon to address the device from a web browser. Such as: "http://192.168.0.2:800"

**Enable auto refresh HTML:** If this is activated, the information of the status page is automatically updated via http request (AJAX).

**Require HTTP password:** If desired, a http password protection can be enabled. In this case, an admin password and a user password can be assigned. The password can have up to 15 characters. User can log in by entering the user's password to query the status information and make changes to ports (if applicable). Admins have the privileges of a User and can change the Configuration settings. In the username field of the password input mask the names "admin" and "user" are supported. In the factory defaults the password for the admin is set to "admin" resp. "user" for the user password.

**If you have forgotten your password, please activate the bootloader mode and then turn off the password prompt in GBL\_Conf.exe.**

### 3.2.6 Configuration - Sensors

Control Panel Configuration Logout

Power Ports · IP Address · IP ACL · GSM · HTTP · Sensors · SNMP · Syslog · E-Mail

**Configuration - Sensors**

- Choose sensor port: Temp
- Sensor name: Temperature
- Generate messages: ☒ yes ☐ no
  - Maximum value: 0
  - Minimum value: 0
  - Hysteresis: 0
- Min/Max measurement period: 24 Hours

Apply

Expert Power Control 8090 - v2.0.2

Choose sensor port: Selects a type of sensor to configure it. For devices with only one sensor connection, this value is fixed.

Sensor Name: Changeable name for this sensor. Temperature and humidity can have different names, even if they are from the same sensor.

Generate messages: Enables the generation of messages.

Maximum/Minimum value: Here you can choose whether, and at what Maximum/Minimum temperature or humidity measurements limits the alerts are sent via SNMP traps, syslog or email.

Hysteresis: This is the distance between the value that is signaling an overrun of a limit and the value that signals an underrun of the same limit.

Min/Max measurement period: Selects the time range for the sensor min / max values on the overview web page.

#### Hysteresis Example:

A Hysteresis value prevents that too much messages are generated, when a sensor value is jittering around a sensor limit. The following example shows the behavior for a temperature sensor and a hysteresis value of "1". An upper limit of "50 °C" is set.

Example:

49.9 °C - is below the upper limit  
50.0 °C - a message is generated for reaching the upper limit  
50.1 °C - is above the upper limit  
...

49.1 °C - is below the upper limit, but in the hysteresis range  
49.0 °C - is below the upper limit, but in the hysteresis range  
48.9 °C - a message is generated for underrunning the upper limit inclusive hysteresis range  
...

### 3.2.7 Configuration - SNMP

Control Panel Configuration Logout

Power Ports - IP Address - IP ACL - GSM - HTTP - Sensors - **SNMP** - Syslog - E-Mail

**Configuration - SNMP**

- Enable SNMP options: ☐ SNMP-get ☐ SNMP-set
- Community public:
- Community private:
- SNMP traps: ☒ Send SNMP traps
  - SNMP trap version: ☐ SNMP v1 ☒ SNMP v2c
  - SNMP trap receiver 1:

[MIB table](#)

Expert Power Control 8090 - v2.0.2

SNMP-get: Enables the acceptance of SNMP-GET commands.

Community public: The community password for SNMP GET requests.

SNMP-set: Enables the acceptance of SNMP-SET commands.

Community private: The community password for SNMP SET requests.

MIB table: The download link to the text file with the MIB table for the device.

Send SNMP traps: Activates the usage of SNMP traps.

SNMP v1: SNMP traps are sent in SNMP v1 format.

SNMP v2c: SNMP traps are sent in SNMP v2c format.

SNMP trap receiver: You can insert here up to eight SNMP trap receiver.

More information about SNMP settings are available from our support or can be found on the Internet at [www.gude.info/wiki](http://www.gude.info/wiki).

### 3.2.8 Configuration - Syslog

Control Panel Configuration Logout

Power Ports · IP Address · IP ACL · GSM · HTTP · Sensors · SNMP · Syslog · E-Mail

**Configuration - Syslog**

• Enable Syslog: ☒ yes ☐ no

• Syslog server:

Apply

Expert Power Control 8090 - v2.0.2

Enable Syslog: Enables the usage of Syslog Messages.

Syslog Server: If you have enabled Syslog Messages, enter the IP address of the server to which the syslog information should be transmitted.

### 3.2.9 Configuration - E-Mail

Control Panel Configuration Logout

Power Ports · IP Address · IP ACL · GSM · HTTP · Sensors · SNMP · Syslog · E-Mail

**Configuration - E-Mail**

• Enable E-Mail: ☒ yes ☐ no

• E-Mail server:

• Sender address:

• Recipient address:

• Enable authentication: ☐ yes ☒ no

Apply

Expert Power Control 8090 - v2.0.2

Enable E-Mail: Activates the email dispatch of messages.

E-Mail Server: The SMTP IP-address of the e-mail server. Either as FQDN, e.g: "mail.gmx.net", or as IP-address, e.g: "213.165.64.20". If required, attach a designated port, e.g: "mail.gmx.net:25".

Sender address: The e-mail address of the sender.

Recipient address: The e-mail address of the recipient.

Enable authentication: Select this option if the e-mail server requires authentication.

Username: User name that is registered with the SMTP e-mail server.

Set new password: Enter the password for the login to the e-mail server.

Repeat password: Enter the password again to confirm it.

### 3.2.10 Configuration - GSM

#### 3.2.10.1 Configuration - GSM General

The screenshot shows the 'Configuration - GSM' settings page. At the top, there are tabs for 'Control Panel', 'Configuration', and 'Logout'. Below these, a navigation bar lists various settings: 'Power Ports', 'IP Address', 'IP ACL', 'GSM' (selected), 'HTTP', 'Sensors', 'SNMP', 'Syslog', and 'E-Mail'. Under the 'GSM' tab, there are sub-tabs: 'General' (selected), 'Misc', 'Phonebook', and 'SIM-Card'. The main content area is titled 'Configuration - GSM' and contains several settings:

- Enable GSM: ☒ yes ☐ no
- SIM PIN:
- My phone number:
- Admin SMS number:
- Enable admin GSM status information: ☐ yes ☒ no
- Enable admin GSM E-mail: ☐ yes ☒ no
- Enable DTMF/SMS access codes: ☐ yes ☒ no

At the bottom of the settings area is an 'Apply' button. Below the main content area, the version 'Expert Power Control 8090 - v2.0.2' is displayed.

Enable GSM: Activates the built-in GSM module

SIM PIN: Switches the PIN request of the SIM card on. A wrong Pin leads to a blocking of the SIM card. You **cannot** change the PIN of the SIM card via this menu option.

My phone number: Please enter here the phone number of the inserted SIM card

Admin SMS number: All device changes are sent via SMS to this mobile number.

Enable admin GSM status information: When active, all GSM status changes are sent via SMS to the Admin.

Enable admin GSM E-mail: When active, all GSM status changes are sent via email to the Admin.

Enable DTMF/SMS access codes: When activated, the mastercode or portcode is needed to switch a port.

### 3.2.10.2 Configuration - GSM Misc

Control Panel Configuration Logout

Power Ports · IP Address · IP ACL · GSM · HTTP · Sensors · SNMP · Syslog · E-Mail

General · Misc · Phonebook · SIM-Card

**Configuration - GSM Misc**

- Enable phonebook check: ☐ yes ☒ no
- Enable freecall: ☐ yes ☒ no
- Enable GSM for admin only: ☐ yes ☒ no
- Enable SMS response: ☒ yes ☐ no
- Enable SMS errors/warning: ☒ yes ☐ no
- Enable port name indication: ☐ yes ☒ no
- Enable autosync SMS: ☐ yes ☒ no
- Enable voice in voice call: ☒ yes ☐ no
- machine-to-machine DTMF tones: ☐ yes ☒ no

Apply

Expert Power Control 8090 - v2.0.2

Enable phonebook check: If selected, only numbers registered to the phonebook can access the GSM module. All other numbers are ignored.

Enable freecall: When active, without accumulating phone charges, the functions assigned to a dialed number can be triggered.

Enable GSM for admin only: If enabled, the GSM functions can only be used when activated from the entered GSM Admin number.

Enable SMS response: When activated, every command SMS is acknowledged from an answer SMS.

Enable SMS errors/warning: Enables the sending of an error SMS when a defective command SMS was received.

Enable port name indication: If selected, the complete portname is sent via SMS. E.g., instead of "Port 1" the name "server 1. floor". This can lead to longer SMS with higher costs.

Enable autosync SMS: When this options is enabled, the EPC tries to request date and time information from the GSM network after power-up.

Enable voice in voice call: If enabled, you hear voice samples when a call is coming an (Voicecall).

machine-to-machine DTMF tones: Enables DTMF tones in voice steering.

### 3.2.10.3 Configuration - GSM Phonebook

The screenshot shows the 'Configuration - GSM Phonebook' interface. At the top, there are tabs for 'Control Panel', 'Configuration', and 'Logout'. Below these, a navigation bar includes links for 'Power Ports', 'IP Address', 'IP ACL', 'GSM', 'HTTP', 'Sensors', 'SNMP', 'Syslog', and 'E-Mail'. Under the 'GSM' link, there are sub-links for 'General', 'Misc', 'Phonebook', and 'SIM-Card'. The main content area is titled 'Configuration - GSM Phonebook' and contains three input fields: 'Name', 'Phone Number', and 'FreeCall'. The 'FreeCall' field has a dropdown menu with 'Powerport 1' and 'None' options. There are 'Ok' and 'Cancel' buttons to the right. Below the input fields, there are two buttons: 'Load Phonebook from SIM-Card' and 'Save Phonebook to SIM-Card'. At the bottom, the text 'Expert Power Control 8090 - v2.0.2' is displayed.

The phonebook can be used to store telephone numbers under a name. When the phonebook is activated only stored numbers can access the device.

Furthermore, the "FreeCall" option can be assigned to every number in the phone book. If this number is recognized, a preselected action is executed without accepting the call.

An active "FreeCall" number cannot activate other functions via "Voicecall". If you want to use the voice menu with a "FreeCall" number, you have to suppress the phone number.

### 3.2.10.4 Configuration - GSM SIM Card

The screenshot shows the 'Configuration - SIM-Card' interface. At the top, there are tabs for 'Control Panel', 'Configuration', and 'Logout'. Below these, a navigation bar includes links for 'Power Ports', 'IP Address', 'IP ACL', 'GSM', 'HTTP', 'Sensors', 'SNMP', 'Syslog', and 'E-Mail'. Under the 'GSM' link, there are sub-links for 'General', 'Misc', 'Phonebook', and 'SIM-Card'. The main content area is titled 'Configuration - SIM-Card' and contains a text box with the message: 'The following wizard will guide you with mounting or changing the SIM-Card.' Below the text box, there is a button labeled 'Change GSM SIM-Card'. At the bottom, the text 'Expert Power Control 8090 - v2.0.2' is displayed.

To enter a new SIM card, please press the button "Change GSM SIM-card".

### 3.2.10.5 Configuration - GSM Provider

Control Panel Configuration Logout

Power Ports · IP Address · IP ACL · GSM · HTTP · Sensors · Alarm Beeper · SNMP · Syslog · E-Mail

General · Misc · Phonebook · SIM-Card · Provider

#### Configuration - GSM Provider

- IMSI:
- SMS to Email Gateway:
- Balance request code:
- Balance parsing string:

Apply

This menu only appears when you insert a SIM card from a phone company that operates outside of Germany. To receive necessary information, contact your wireless service provider.

IMSI: Your IMSI number.

The International Mobile Subscriber Identity (IMSI) is used in GSM and UMTS mobile networks to uniquely identify network nodes (internal subscriber identity). Among other data, the IMSI is stored in a special smart card, the so-called SIM (Subscriber Identity Module). A worldwide unique IMSI number is awarded every customer of a mobile network. While the IMSI has nothing to do with the telephone number that is assigned to the SIM card.

SMS to Email Gateway: The number of the SMS to email gateway for your network provider.

Balance request code: Please enter the word that names the prepaid balance: e.g. "balance", "conto", "balances".

You will find this word in the news of your provider when you query your prepaid balance. The correct spelling is important to help the device recognizing whether the current balance is communicated in a message.

Balance parsing string: Enter the query that you send to your provider to access your prepaid balance: E.g. \*101#

## 4 Protocols

### 4.1 SNMP

SNMP can be used to obtain status information via UDP (port 161). Supported SNMP commands are:

- GET
- GETNEXT
- GETBULK
- SET



To query via SNMP you need a Network Management System, such as HP OpenView, OpenNMS, Nagios, etc., or the command line tools of the Net-SNMP software.

## SNMP-communities

SNMP authenticates requests by communities. A community is a string that acts like a password for a read or a write SNMP access. Since these passwords are sent unencrypted and are easily intercepted with IP sniffers, it is recommended to use a safe network structure (DMZ) when security is required.

## MIB

The values that can be read from the device or changed, the so-called "Managed Objects", are described in Management Information Bases (MIBs). The MIB table is build of substructures that are called OIDs (Object Identifiers). An OID number indicates the location of a value within the MIB tree. Each OID may alternatively be referred to with its symbol name (subtree name).

## SNMP Traps

SNMP Traps are system messages that are sent via the SNMP protocol to different recipients. SNMP traps are triggered by the following events:

- Switching of the power ports
- Exceeding of the max / min values of attached sensors

## 4.2 Syslog

Syslog messages are simple text messages that are sent via UDP to a syslog server. Under Linux, normally a syslog daemon is already running (eg. syslog-ng), for Microsoft Windows systems some freeware programs are available on the market. The syslog messages are sent for the following events:

- Switching of the power ports
- Exceeding of the max / min values of attached sensors

## 4.3 Email

Currently, only SMTP servers are supported, that are offering no authentication (open-relay) or unencrypted authentication (PLAIN). An encrypted authentication to the SMTP server is not possible.

An experienced user can learn whether the desired SMTP server understands the PLAIN authentication, by sending the string "EHLO localhost" with Telnet to the server. Here's an example:

```
$ telnet smtp.1und1.com 25
Trying 212.227.15.129...
Connected to smtp.1und1.com.
Escape character is '^]'.
220 smtp.1und1.com (mreu3) Welcome to Nemesis ESMTP server
EHLO localhost          <---- *TYPE* *THIS*
250-smtp.1und1.com
250-STARTTLS
```

```
250-AUTH LOGIN PLAIN      <---- *PLAIN* *SUPPORTED!*
```

250-AUTH=LOGIN PLAIN  
250-SIZE 120000000  
250 HELP

## 5 Support

You will find the latest product software on our website at [www.gude.info](http://www.gude.info) available for download. If you have further questions about installation or operation of the unit, please contact our support team. Furthermore, we present in our support wiki at [www.gude.info/wiki](http://www.gude.info/wiki) FAQs and configuration examples.

### 5.1 Contact

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Eintrachtstraße 113  
50668 Cologne  
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E-Mail: [mail@gude.info](mailto:mail@gude.info)  
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Managing Director: Dr.-Ing. Michael Gude

District Court: Köln, HRB-Nr. 17 7 84  
WEEE-number: DE 58173350  
Value added tax identification number (VAT): DE 122778228

## 5.2 Declarations of conformity



### EG Konformitätserklärung

EC Declaration of Conformity

**Der Hersteller**  
**The manufacturer**

Gude Analog- und Digitalsysteme GmbH  
Eintrachtstr. 113  
50668 Köln (Deutschland)

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

**Produktbezeichnung**  
**Product name**

Expert Power Control 8090

**Beschreibung**  
**Description**

IP und GSM gesteuerte schaltbare Stromverteilung  
IP and GSM remote controlled power distribution unit

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

**1999/5/EG**  
1999/5/EC

R&TTE Richtlinie  
R&TTE Directive

**2011/65/EU**

zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten (RoHS)  
on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

**und dass die nachstehenden harmonisierten Europäischen Normen zur Anwendung gelangt sind. / and comply with the following harmonised European standards.**

**EN 60950-1:2006 /**  
**AC:2011**

Einrichtungen der Informationstechnik – Sicherheit / Information technology equipment – Safety - - Article 3.1.a

**EN 55022:2010**

Einrichtungen der Informationstechnik – Funkstöreigenschaften / Information technology equipment – Radio disturbance characteristics

**EN 55024:2010**

Einrichtungen der Informationstechnik - Störfestigkeitseigenschaften / Information technology equipment - Immunity characteristics

**EN 301 489-1 V1.8.1**

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) - Article 3.1.b

**EN 301 489-7 V1.3.1**

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services - Article 3.1.b

**EN 301 511 V9.0.2**

Harmonized EN for mobile stations in the GSM 900 and GSM 1800 bands covering essential requirements under article 3.2 of the R&TTE directive (1999/5/EC) - Article 3.2

**EN 50385:2002**

Produktnorm zur Konformitätsüberprüfung von Mobilfunk-Basisstationen und stationären Teilnehmergeräten / Product standard to demonstrate the compliance of radio base stations and fixed terminal stations for wireless telecommunication - Article 3.1.a

**EN 50581:2012**

Technische Dokumentation zur Beurteilung von Elektro- und Elektronikgeräten hinsichtlich der Beschränkung gefährlicher Stoffe / Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

Köln, 01.03.2013

**Dr. Michael Gude, Geschäftsführer / General manager, CEO**



Expert Power Control 8090 GSM  
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