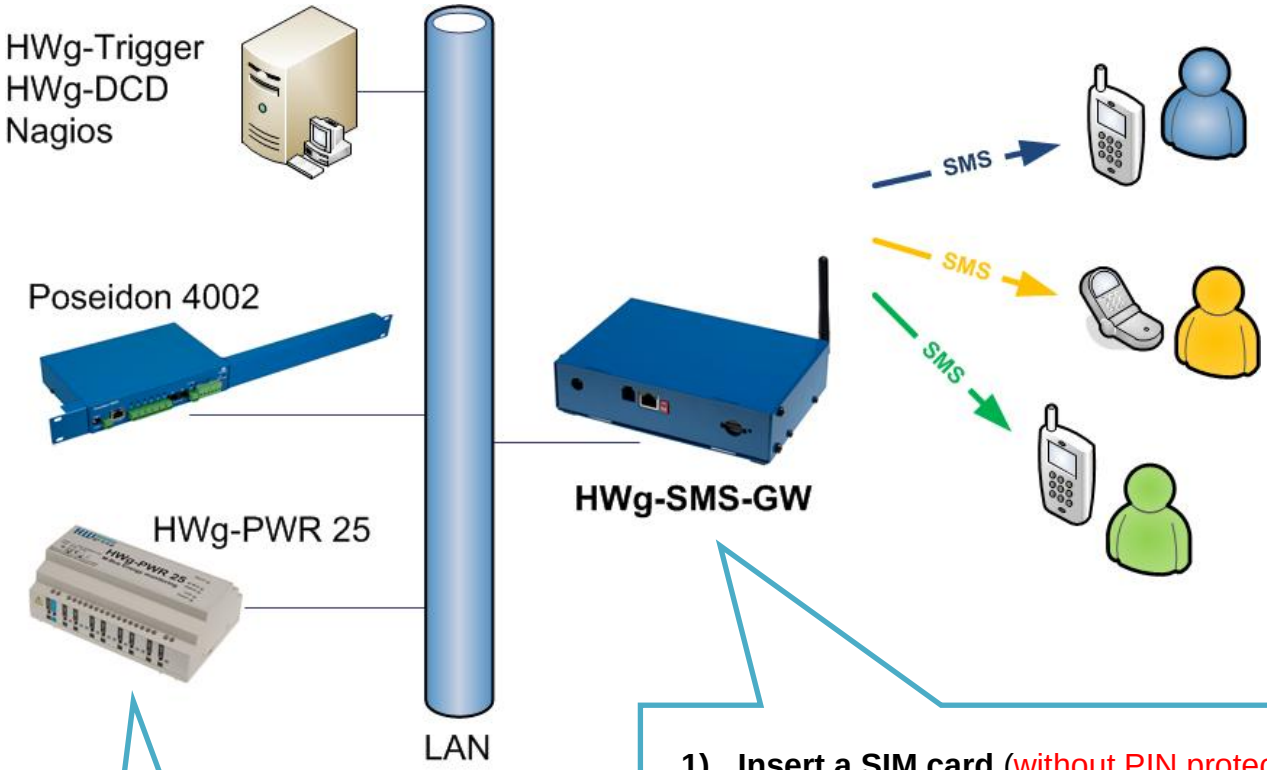
HWg-SMS-GW

SMS gateway for HW group products

Recommended connection

HWg-SMS-GW is a device that enables multiple HW group devices to send alarm text messages (SMS) through a single GSM modem using the netGSM function.



1) **Insert a SIM card** (without PIN protection)

2) Run the UDP Config utility and note the assigned IP address (DHCP)

3) Try to send a SMS via web interface

4) Enter the HWg-SMS-GW IP address + port (default is 80)

5) Enter twice the SMS recipient's number and try to send a test SMS

Technical specifications

ETHERNET	
Interface	RJ45 (10BASE-T) – 10 Mbps or 10/100 Mbps network compatible
Supported protocols	IP: ARP, TCP/IP (http, NTP), UDP/IP (SNMP), netGSM
SNMP compatibility	Ver:1.00 compatible, partial ver. 2.0 implementation
GSM	
Interface	Quad-Band 850/900/1800/1900 MHz, Compliant to GSM phase 2/2+ – Class 4 (2W @ 850/900 MHz) – Class 1 (1W @ 1800/1900MHz)
Antenna connector	SMA male
POWER input	
Port	POWER 9-15V DC
Type	Main device power input (typically 400 mA + external devices)
Connector	Jack (barrel, inner 2.5mm outer6.3 mm) + Terminal block (parallel connection)
LED status indicators	
POWER	Green – power OK
LINK & Activity	Yellow - Ethernet connectivity
DIP SWITCH	
DIP1	**Load defaults:** Toggle 3 times during first 5 seconds after power-up to load default settings.
DIP2	Not used
Physical parameters	
Temperature range	Operating: -10 to 65 °C (!!!!!! to !!!!! °F) / Storage: -25 to 85 °C (-13 to 185 °F)
MTBF	> 90,000 hours
Dimensions / Mass	182 x 44 x 125 [mm] / 500 g
EMC	FCC Part 15, Class B, CE - EN 55022, EN 55024, EN 61000

Restoring default settings

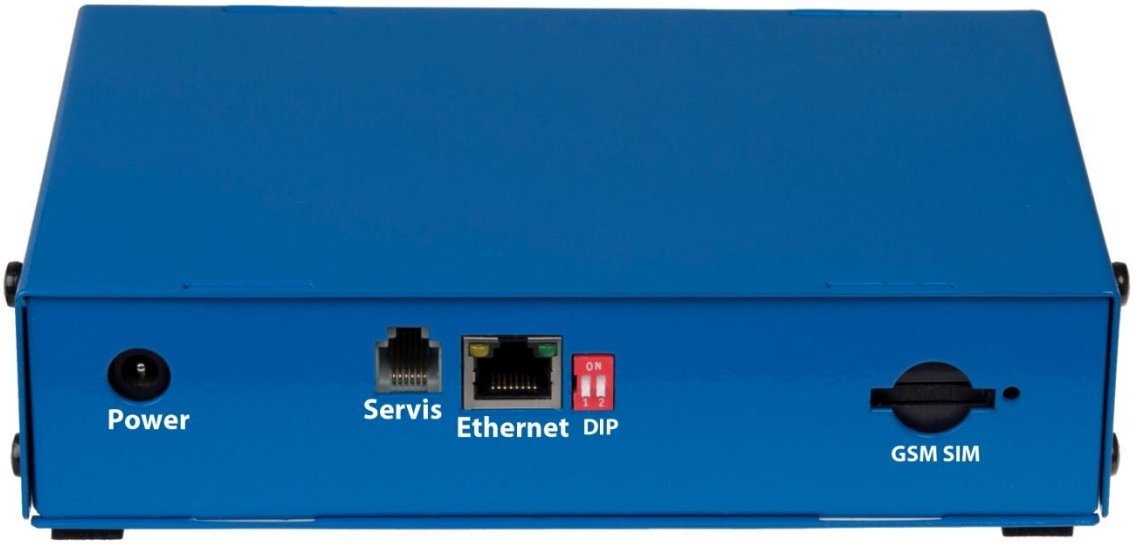
- **Restoring default settings using UDP Config**
  In the UDP Config utility, right-click the device MAC address. Factory defaults can be restored using UDP Config within 60 seconds after powering up the unit.

- **Restoring default settings using DIP switches**
  Disconnect the power from the unit. Set DIP1 to ON and reconnect the power. Toggle DIP1 several times during the first 5 seconds after powering up. Leave DIP1 set to OFF and wait for 10 seconds. Defaults will be restored.

First steps

Connecting the cables

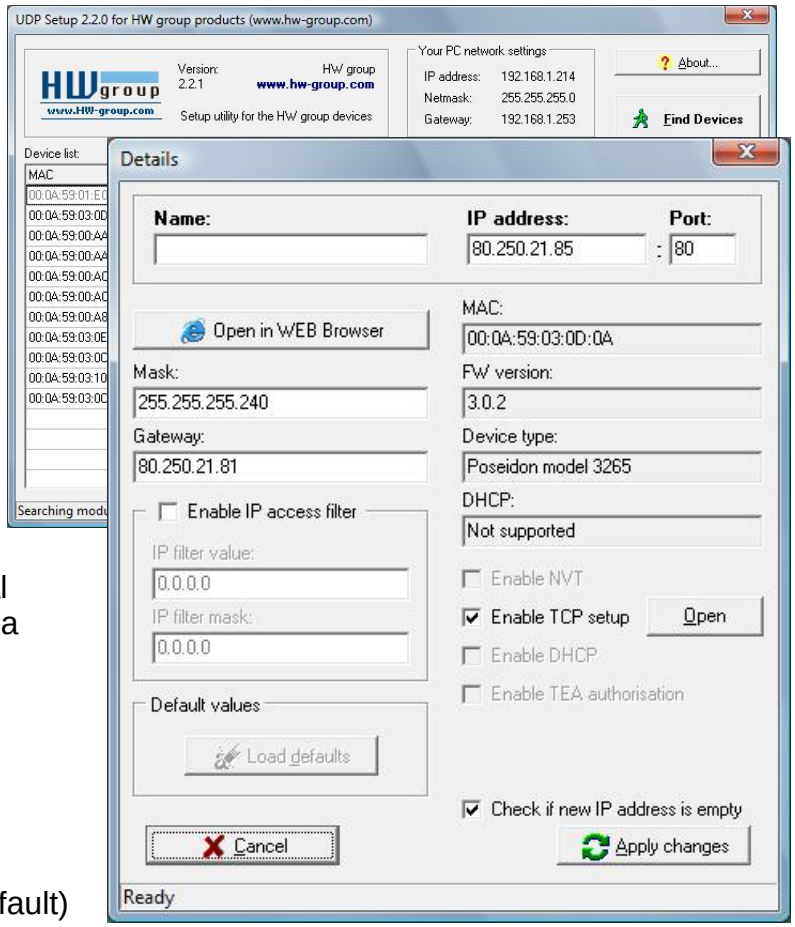
- Turn the unit upside down and write down its MAC address that is printed on the label.
- Set the switches: **DIP1=Off, DIP2=Off.**
- Connect HWg-SMS-GW to the Ethernet.
- Plug the power adapter into a power outlet and connect it to the power connector.
- The green **POWER** LED lights up.
- If the Ethernet connection works properly, the **LINK** LED lights up after a short while, and then flashes whenever data are transferred (activity indication).



- **Power** Connect the power adapter (9-15VDC)
- **Servis** Maintenance connector
- **Ethernet** Connect the network/data connection
- **DIP** DIP1 – restore defaults, DIP2 unused

- **GSM SIM** Insert the SIM card.
  The SIM tray is ejected by pressing the button.

Configuring the IP address – UDP Config



UDP Config utility – root directory of the supplied CD (Windows and Linux versions).

Available for download at www.HW-group.com Software > UDP Config.

- Click the icon to launch UDP Config. The program automatically looks for connected devices.
- To search for devices, click the **Find Devices** icon.

The program searches for devices in your local network. Double-click a MAC address to open a basic device configuration dialog.

Network parameters

- Enable DHCP

or

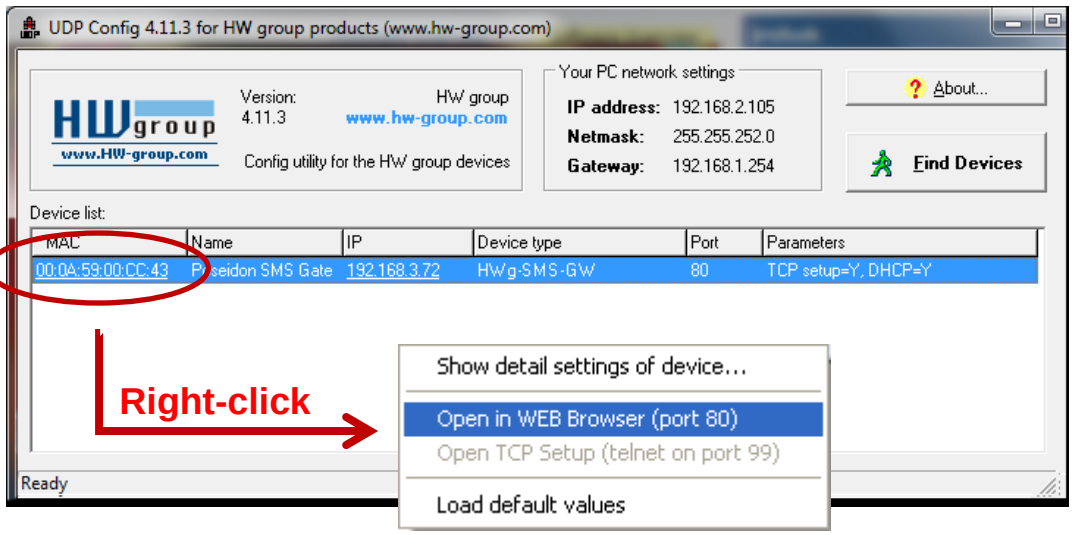
- Set the IP address / HTTP port (80 by default)
- Set the network mask
- Set the gateway IP address for your network

Click **Apply Changes** to save the settings.

Open the device WEB interface

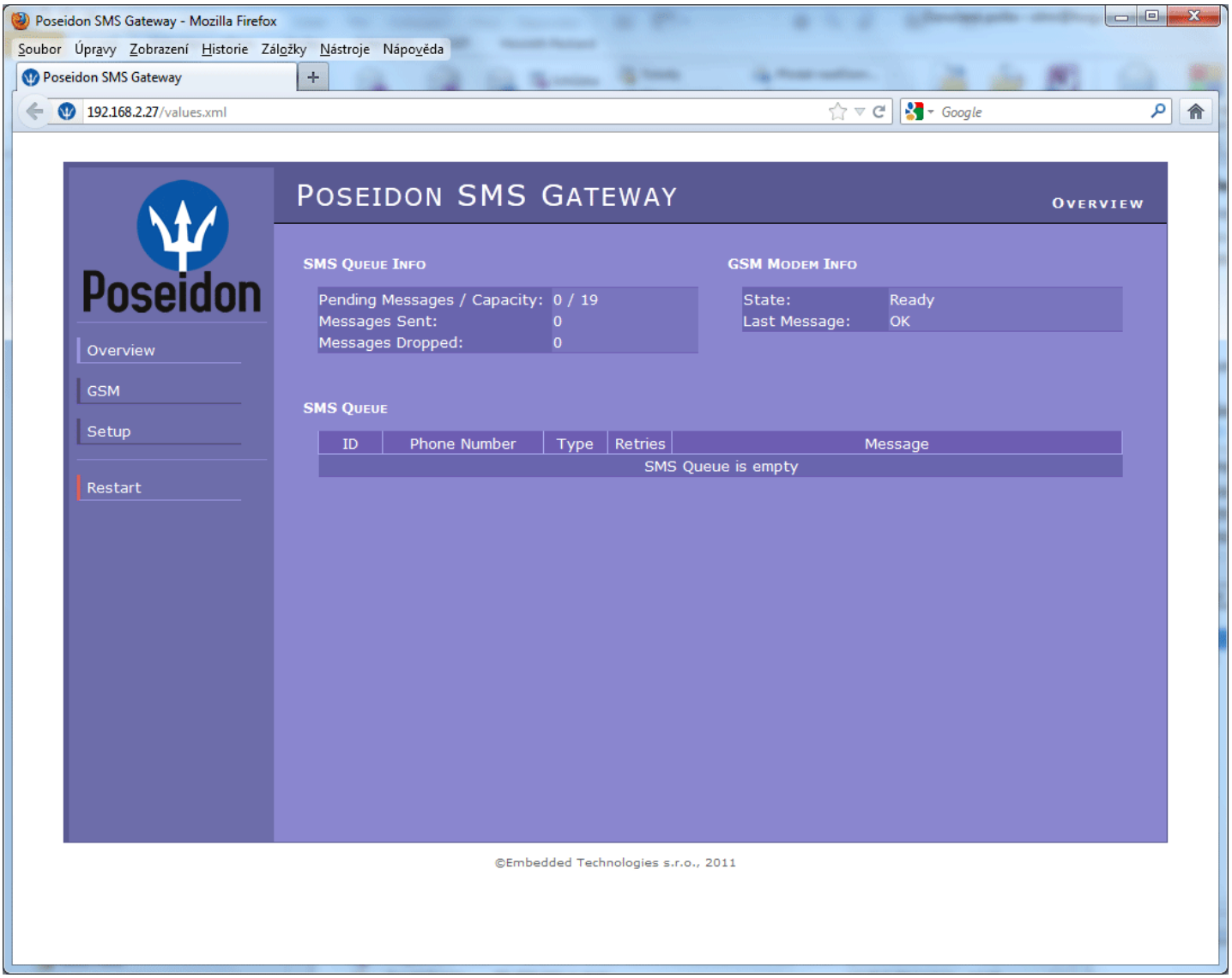
Directly enter the device IP address into your web browser.

Alternatively, open the interface with UDP Config >> click the underlined IP address, or right-click and select from the menu.



WEB interface

Web interface – Main page



SMS Queue Info

- **Pending Message / Capacity** – Number of messages being delivered / total capacity
- **Messages Sent** – Number of messages sent (since the last restart)
- **Messages Dropped** – Number of dropped messages (since the last restart)

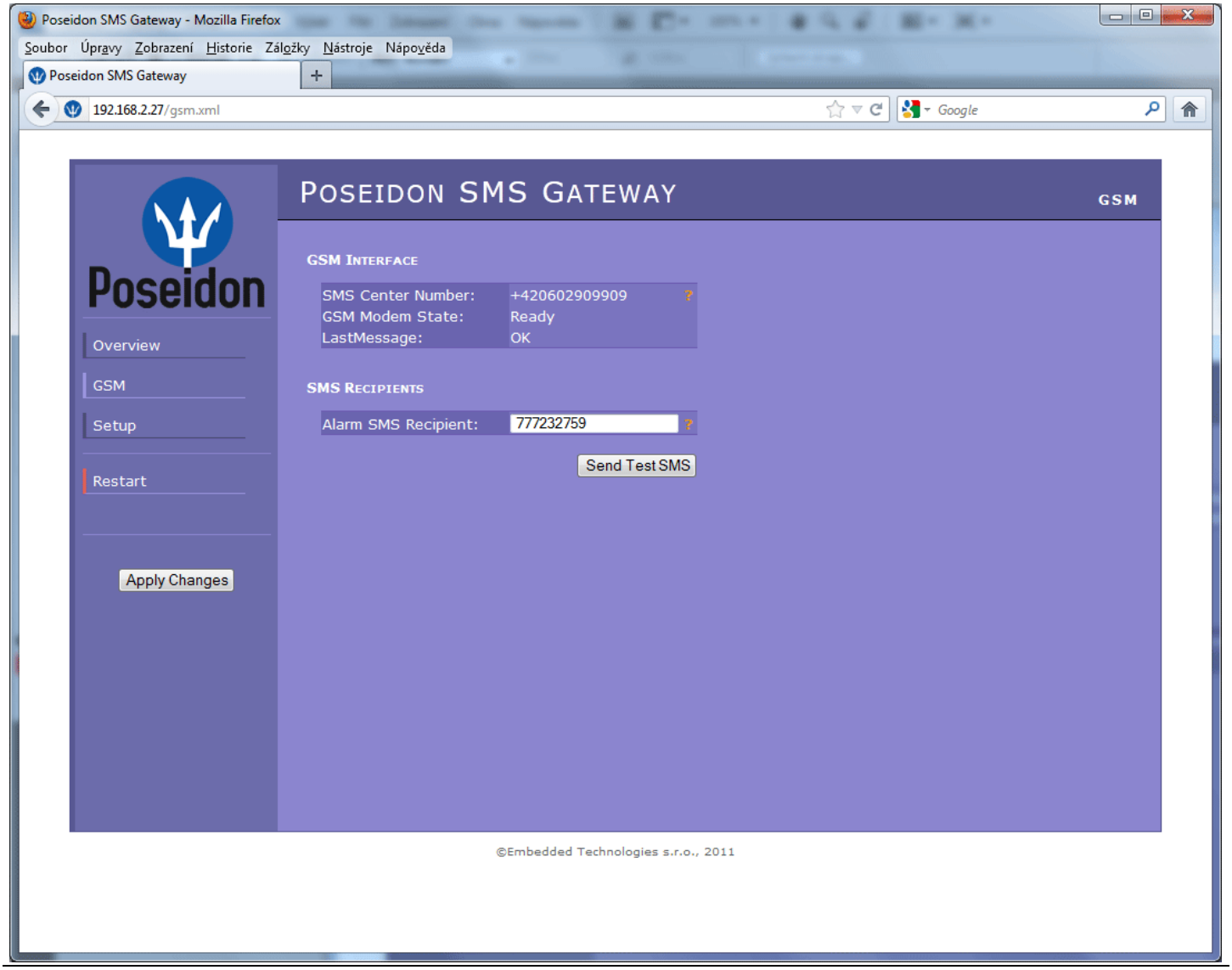
GSM modem Info

- **State** – Modem status
- **Last Message** – Status of the last message

SMS Queue

Overview of messages waiting in the transmit queue

Web interface – GSM



The GSM page displays the modem status and allows for configuration of the default alarm recipient phone number. This number is used **only if** there is no phone number defined in the device (Poseidon, HWg-WLD, HWg-PWR etc.) where the alarm originated.

GSM Interface

- **SMS Center Number** – Retrieved from the SIM.
  Useful for checking the communication with the SMS center.
- **GSM Modem State** – Shows the modem status
- **Last Message** – Shows the status of the last transmitted SMS

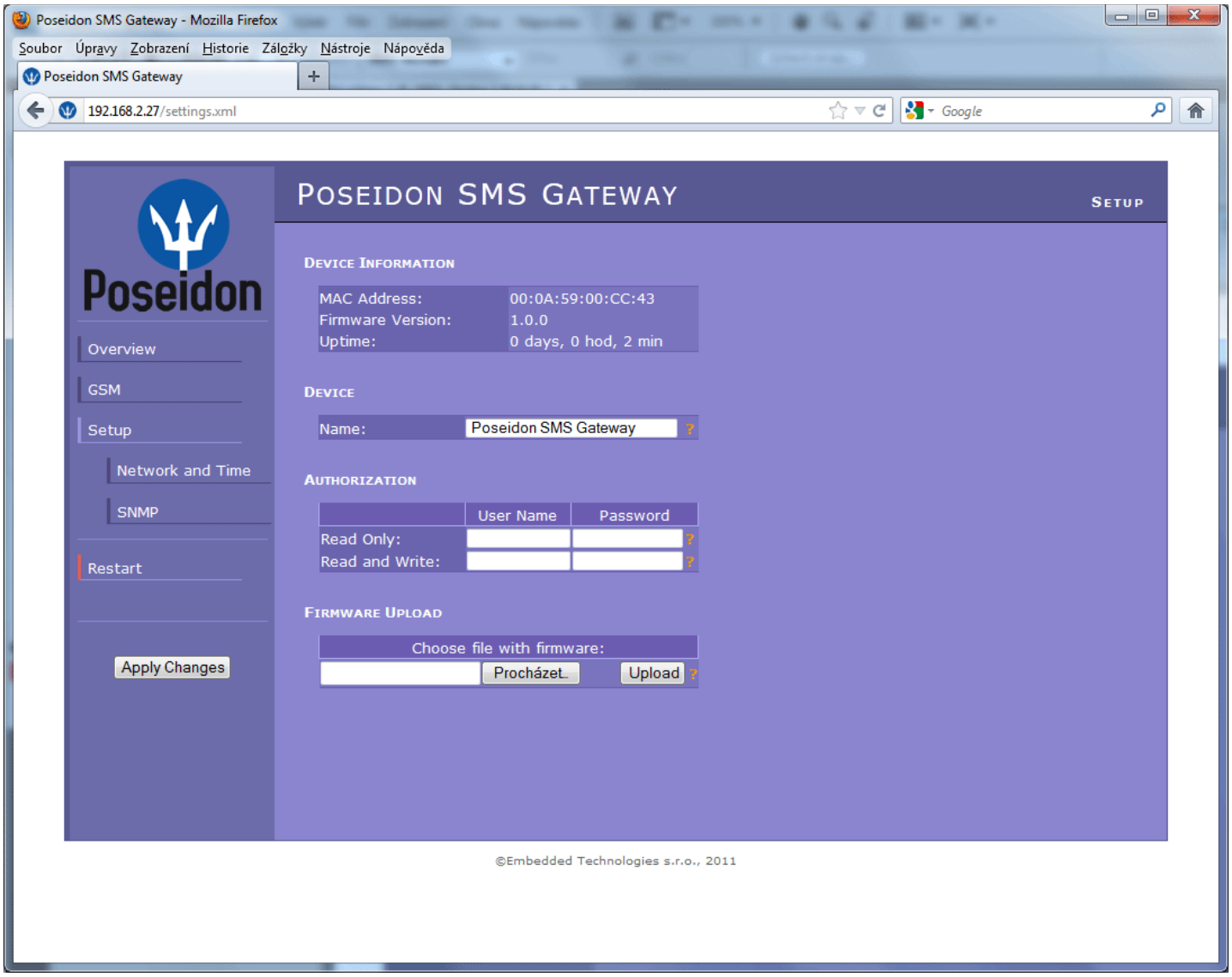
SMS Recipient

- **Alarm SMS Recipient** – If the SMS gateway does not receive a target phone number via the netGSM protocol, the message will be sent to the number shown here

Send Test SMS

Used to check the functionality, sends a test SMS to the configured number

Web interface – Setup



Device Information

- **MAC Address** – MAC address of the device, unique within the entire Ethernet network
- **Firmware Version** – Version of the product firmware. This information is needed when contacting the technical support.
- **Uptime** – Uptime since the last restart. May be requested by the technical support.

Device

- **Name** – Identifies the device in SMS, SNMP or UDP Setup

Authorization

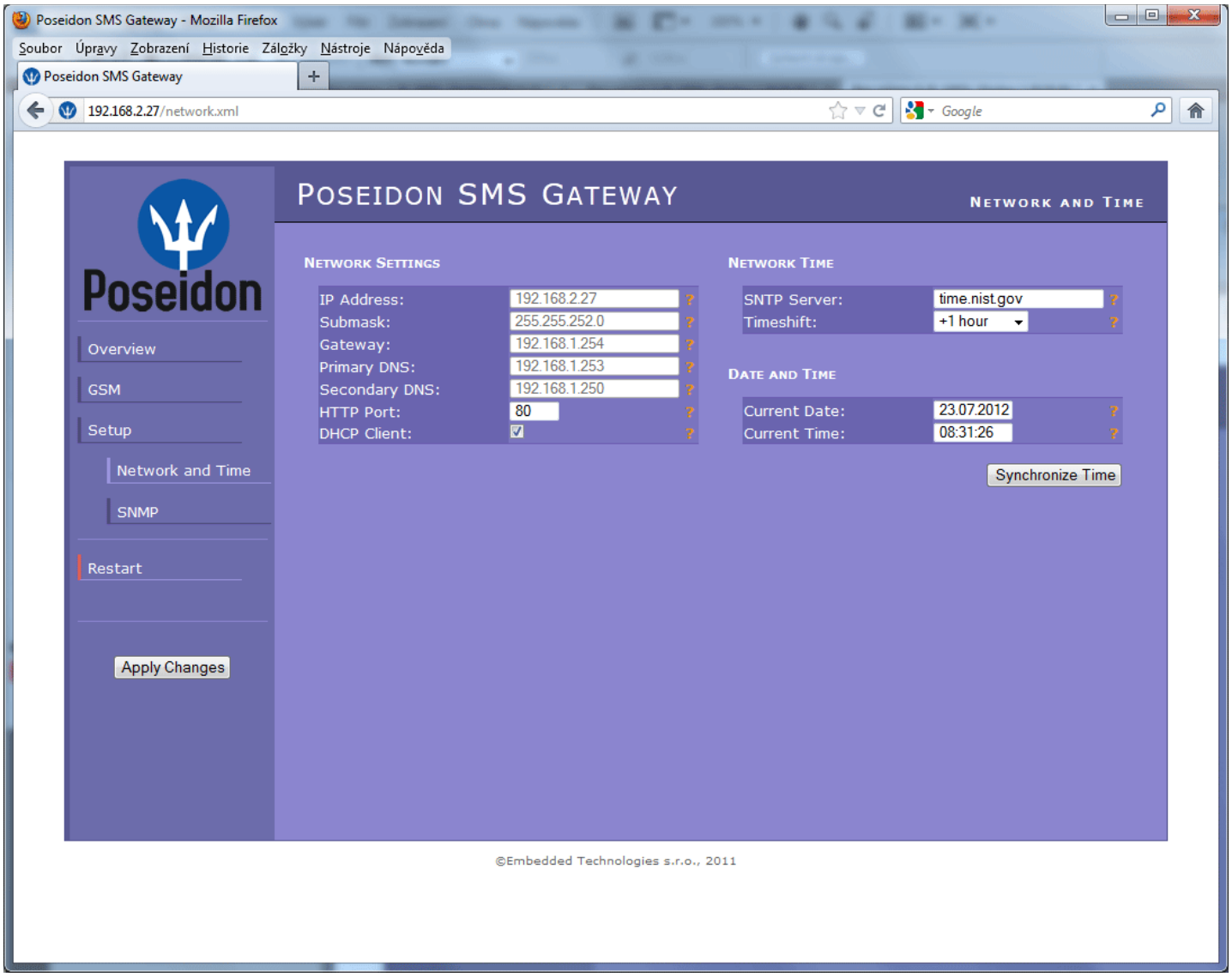
Protects the HWg-SMS-GW settings with a username and a password. It is possible to define separate credentials for read-only (user) access and for configuration changes (admin access).

The SMS transmission (netGSM protocol) **is NOT password-protected.**

Firmware Upload

Used to upload a new firmware version if available.

Web interface – Network and Time

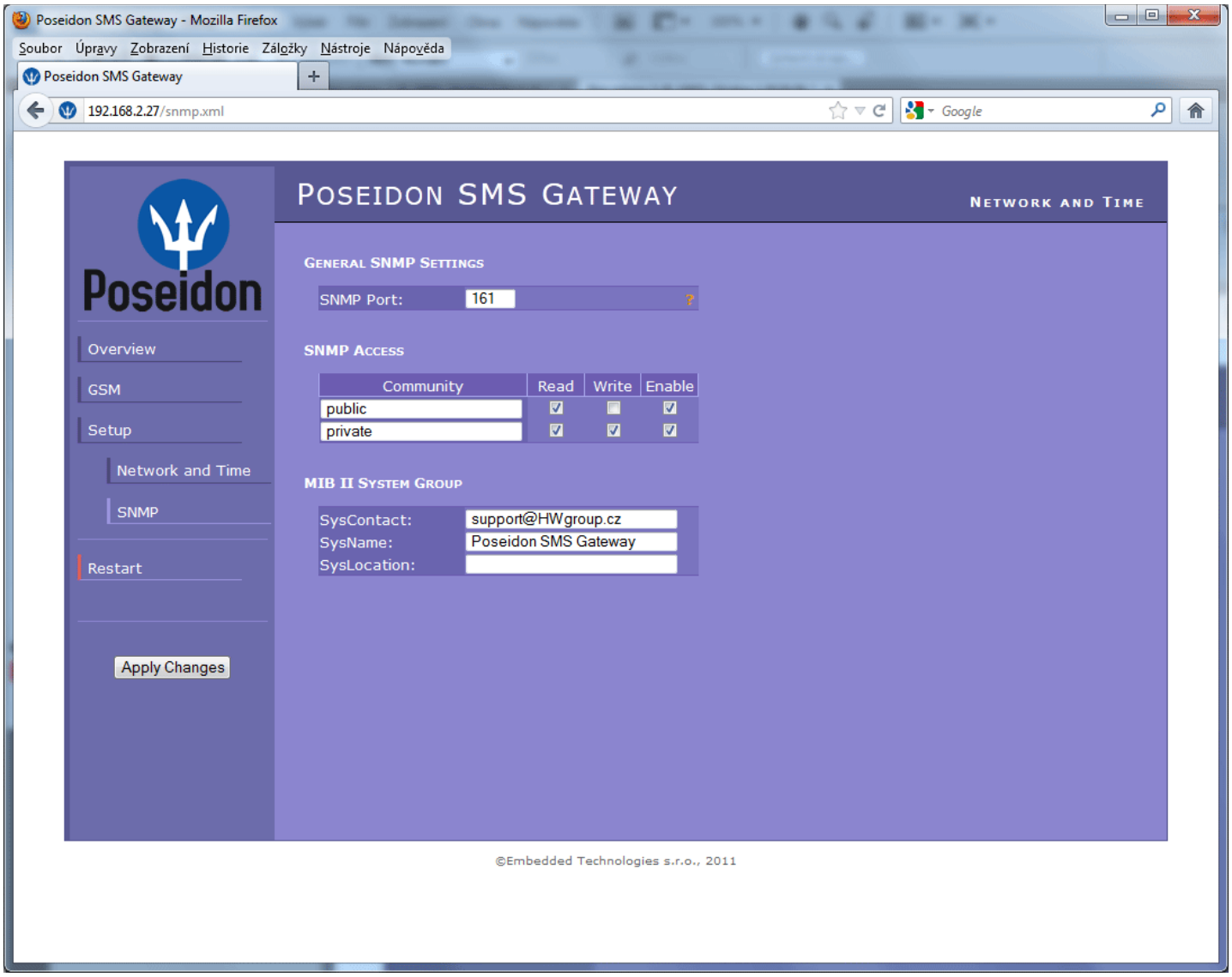


- **IP Address** – IP address of the device. Assigned by your network administrator.
- **Submask** – Subnet mask. Assigned by your network administrator.
- **Gateway** – IP address of the default gateway. Assigned by your network administrator.
- **Primary DNS / Secondary DNS** – IP address of your DNS server. Assigned by your network administrator.
- **HTTP Port** – Port number for the embedded web server. The default is 80. Useful when accessing several devices via the same IP address. For details, see your network administrator.
- **DHCP Client** – Enables automatic IP assignment via DHCP, if available. Ask your network administrator if unsure about the correct setting.

- **SNTP server** – Address of the SNTP server for synchronizing time.
- **Timeshift** – Time zone configuration.

- **Current Date** – Current date, DD.MM.YYYY format.
- **Current Time** – Current time, HH:MM:SS format.
- **Synchronize Time** – Performs one-time clock synchronization using the configured server.

Web interface – SNMP



The SNMP interface can only read the status of HWg-SMS-GW. It cannot be used to send SMS.

General SNMP Settings

- **SNMP port** – Port number for SNMP communication. The default is 161.

SNMP Access

- **Community** – Two different SNMP communities for access to the device.
  For each *Community*, the Read, Write and Enable permissions can be set.

MIB II System Group

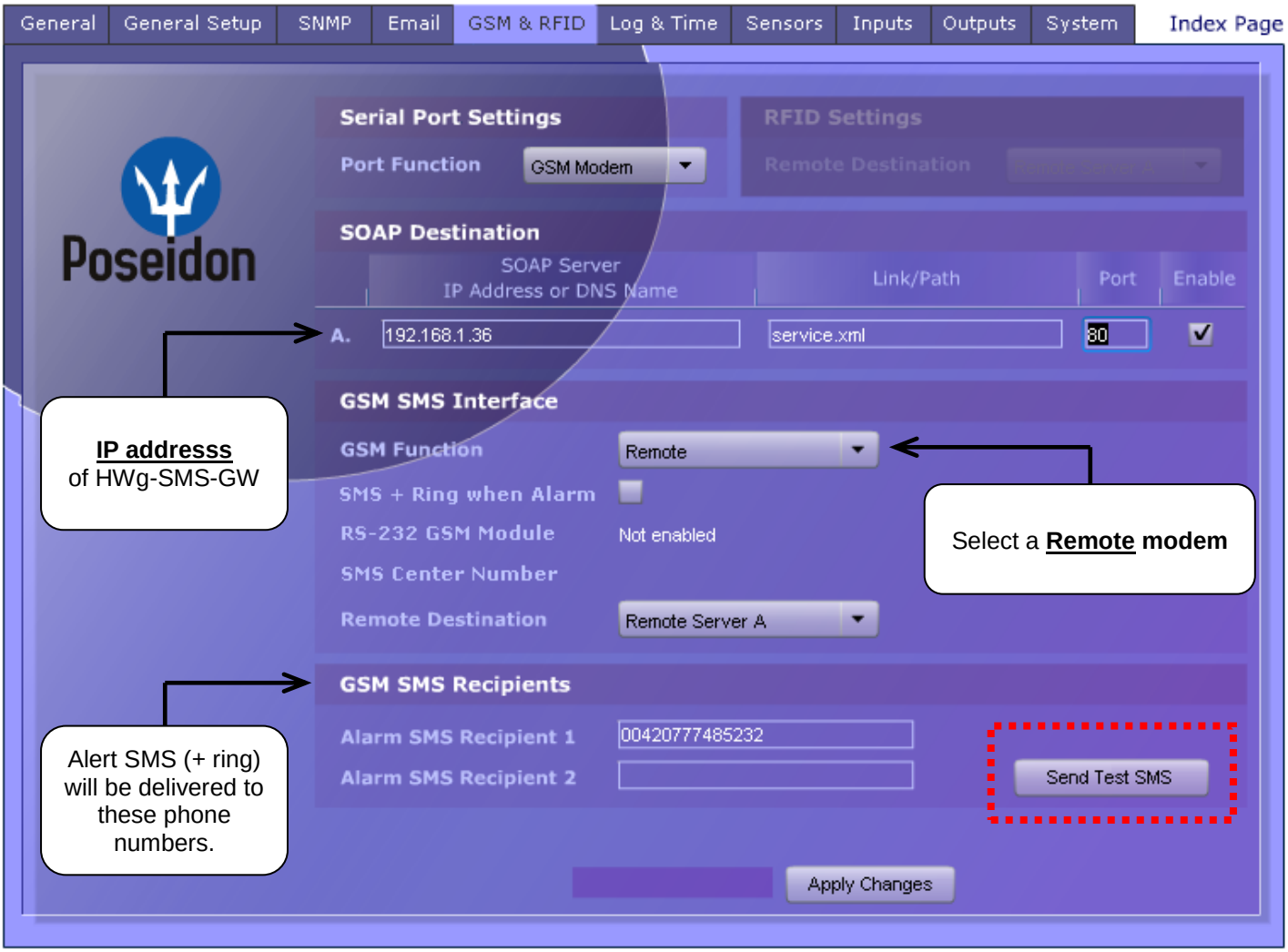
- **System Name** – Name of the device within SNMP.
- **System Location** – Location of the device within SNMP.
- **System Contact** – Contact info of the device administrator within SNMP.

Using HWg-SMS-GW with Poseidon 4002

Poseidon 4002 configuration

To send a SMS from a **Poseidon 4002** using the **HWg-SMS-GW**, both devices must be able to access each other over LAN. In case of problems, double-check the following:

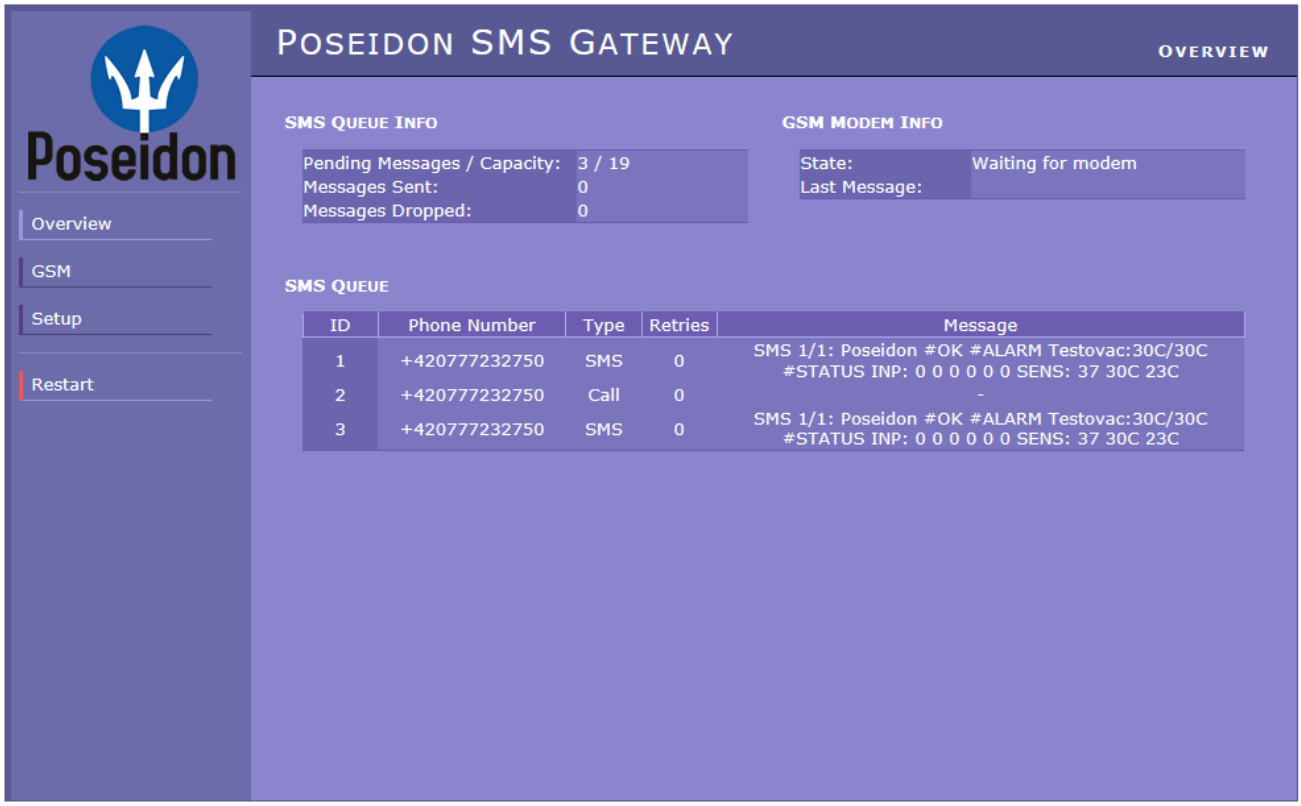
1) IP address + port
2) NetMask setting in both devices



Settings to configure at the GSM & RFID tab:

1) **IP Address** of the remote HWg-SMS-GW + link (**service.xml**) + Port (**80**)
2) GSM Function: **Remote**
3) Remote Destination: **Remote Server A**
4) Alarm SMS Recipient: **Recipients' phone numbers**
5) Click **Apply Changes**
6) Click **Send Test SMS**

The Web interface of HWg-SMS-GW shows:



The Web interface indicates if the HWg-SMS-GW received requests to send SMS.

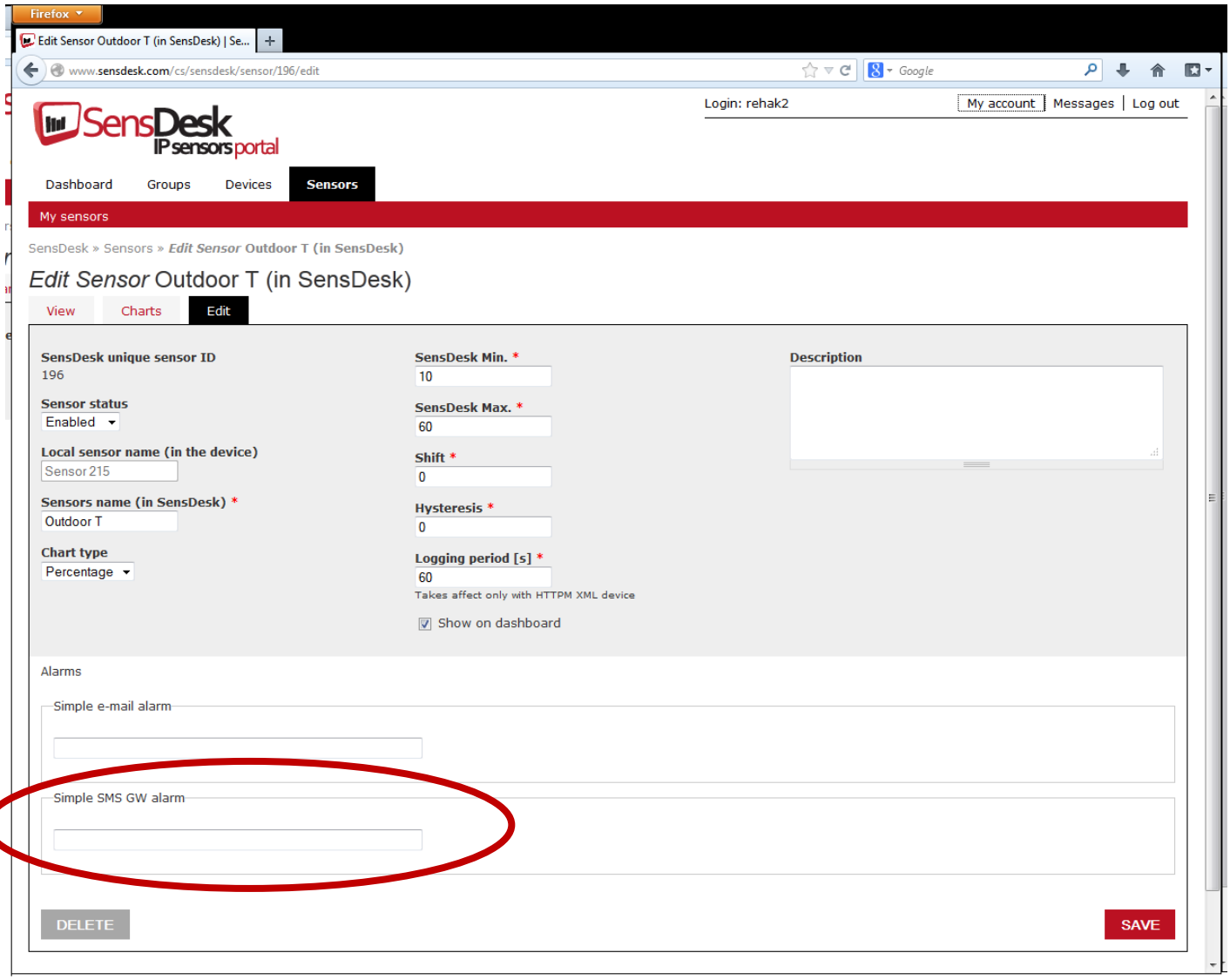
Notes / FAQ

- Outgoing messages are not lost. HWg-SMS-GW stores the outgoing message queue in its memory. SOAP protocol is used for communication. If the connection is not established or is refused, Poseidon tries to send the SMS again.
- Speed of SMS delivery depends on the configuration and conditions of the particular GSM network. HWg-SMS-GW can send more SMS per minute than a modem connected to the Poseidon unit.
- In order to send alerts from a Poseidon unit to more than 2 recipients, we recommend to use the HWg-Trigger software. The HWg-SMS-GW is still used to send the messages, and the number of recipients is only limited by the number of conditions.

Using HWg-SMS-GW with SensDesk.com

SensDesk.com is an online portal for monitoring IP sensors by HW group.
SensDesk.com can send e-mail alarm alerts. HWg-SMS-GW can be used to send SMS alerts.

1) Set the IP address of your HWg-SMS-GW in your account settings:
   SensDesk.com: My Account >> Edit
2) Set the SMS alert recipient's phone number for each individual sensor:
   SensDesk.com: Sensors >> Edit

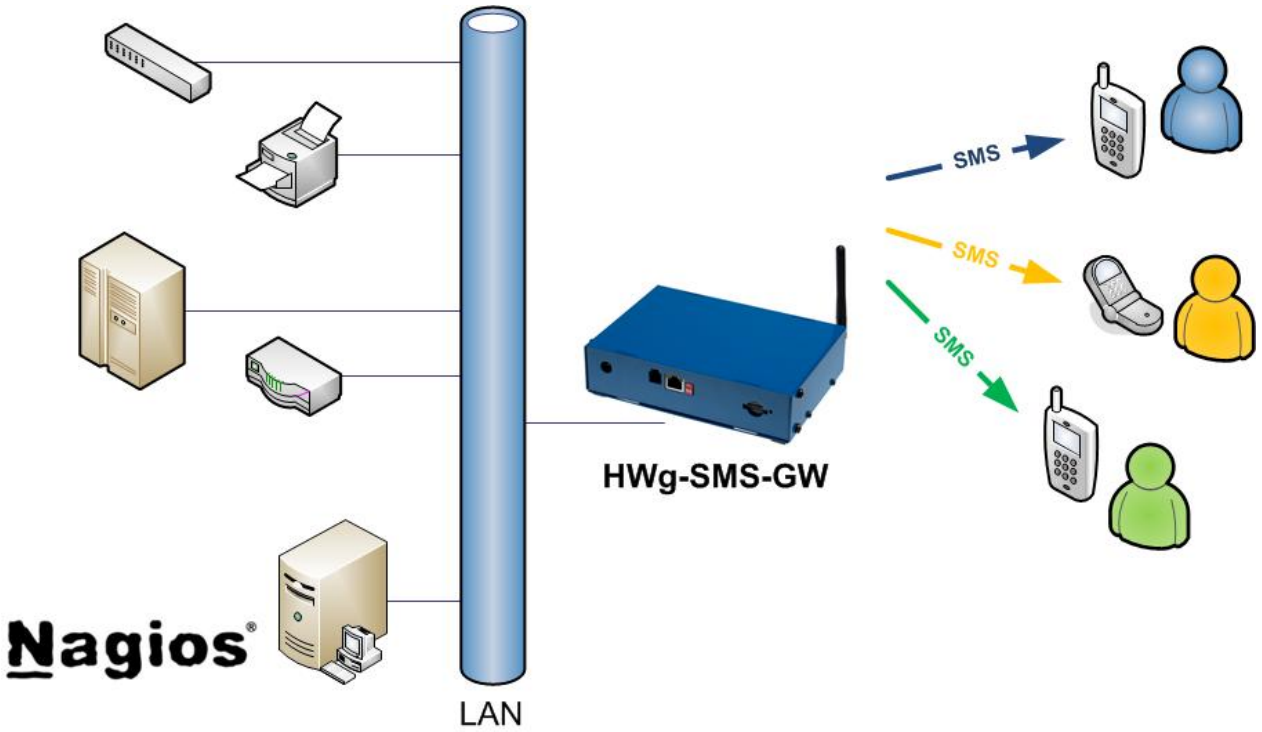


Note:
In order to send SMS alarms from your SensDesk.com account, your HWg-SMS-GW must be accessible at a public IP address and port.

Using HWg-SMS-GW with Nagios

Nagios notifications can be send using the HWg-SMS-GW text message gateway.

A Nagios plugin for sending text messages using HWg-SMS-GW has been developed in cooperation with Netways.



The notify-poseidon-sms.pl plugin takes messages about state changes of monitored devices from Nagios and forwards these messages to the HWg-SMS-GW, which in turn sends the SMS message.

Installation

The following installation steps assume a standard Ubuntu Server installation. In other Linux distributions, some directories or commands may be different.

2.1) Download the notify-poseidon-sms.pl plugin from https://www.netways.org/projects/plugins/files to the /usr/lib/nagios directory and grant the “execute” permissions.

```
nagios-server:~# cd /usr/lib/nagios
nagios-server:~# wget https://www.netways.org/attachments/download/262/notify-poseidon-sms.pl
nagios-server:~# chmod a+x notify-poseidon-sms.pl
```

2.2) Send a test SMS to verify correct operation of the plugin and the HWg-SMS-GW unit. The -H flag specifies the IP address of the gateway to use for sending the SMS. Use the -D flag to specify the test message recipient's phone number.

```
nagios-server:~# cd /usr/lib/nagios
nagios-server:~# ./notify-poseidon-sms.pl -M "Test message" -H 192.168.1.1 -D +420777888999
```

If the plugin fails to start with the “Can't locate LWP.pm” message, you need to install the Perl LWP module for HTTP support. In Ubuntu or Debian distributions, this is done with this command:

```
nagios-server:~# apt-get install libio-all-lwp-perl
```

Configuring Nagios

For basic Nagios configuration, we recommend this document:
http://www.hw-group.com/support/an38/index_en.html

3.1) To add text message (SMS) support via the notify-poseidon-sms.pl plugin, create a **/etc/nagios3/notify-poseidon-sms.cfg** file with the following contents:

```
define command {
    command_name notify-host-by-sms
    command_line /usr/bin/perl /usr/lib/nagios/notify-poseidon-sms.pl -H 192.168.1.1 -D
$CONTACTPAGER$ -M "$HOSTALIAS$ $HOSTOUTPUT$"
}

define command {
    command_name notify-service-by-sms
    command_line /usr/bin/perl /usr/lib/nagios/notify-poseidon-sms.pl -H 192.168.1.1 -D
$CONTACTPAGER$ -M "$HOSTALIAS$ $SERVICEOUTPUT$"
}
```

Note: Do not wrap the command_line definition over multiple lines. For the plugin to work correctly, the entire command_line statement must be on a single line.

Remember to change the -H parameter to the actual IP address (or DNS name) of your HWg-SMS-GW unit.

The SMS text is composed using the -M parameter. For a list of available variables (macros), see:
http://nagios.sourceforge.net/docs/3_0/macrolist.html

3.2) In **/etc/nagios3/conf.d/contacts_nagios.cfg**, define the contact(s) and contact group for sending the text messages.

```
define contact {
        contact_name                    peter-gsm
        alias                           Peters GSM phone
        service_notification_period     24x7
        host_notification_period        24x7
        service_notification_options    w,u,c,r
        host_notification_options       d,r
        service_notification_commands   notify-service-by-sms
        host_notification_commands      notify-host-by-sms
        pager                           +420777888999
}

define contactgroup {
        contactgroup_name       sms
        alias                   Notifications via SMS
        members                 peter-gsm
}
```

Note: To send notifications to multiple phone numbers, create a contact for each number and list the individual contacts (comma-separated) in the "members" parameter of the contactgroup.

If you use a standard Nagios configuration and want to add SMS notifications to all hosts and services, simply add *peter-gsm* to the *admins* group, without creating a contactgroup. The configuration is done. After restarting the Nagios service (see point 3.4), notifications will be also sent via text messages.

```
define contactgroup {
        contactgroup_name       admins
        alias                   Nagios Administrators
        members                 root,peter-gsm
}
```

3.3) To add SMS notification for individual hosts and services, add a contact_groups parameter to their definitions, for example:

```
define host {
        use                     generic-host
        host_name               localhost
        alias                   localhost
        address                 127.0.0.1
        contact_groups          admins,sms
}

define service {
        use                     generic-service
        host_name               localhost
        service_description     Disk Space
        check_command           check_all_disks!20%!10%
        contact_groups          admins,sms
}
```

Note: Contacts are usually defined in host and service templates. The added contact_groups parameter overrides the value in the template. This example is based on the standard configuration of the "admins" contact group that uses e-mail notifications. When the "contact_groups sms" parameter is added, notifications will be sent by SMS only.

3.4) Restart Nagios to activate the changes.

```
nagios-server:~# service nagios3 restart
```

Using the product in your own software

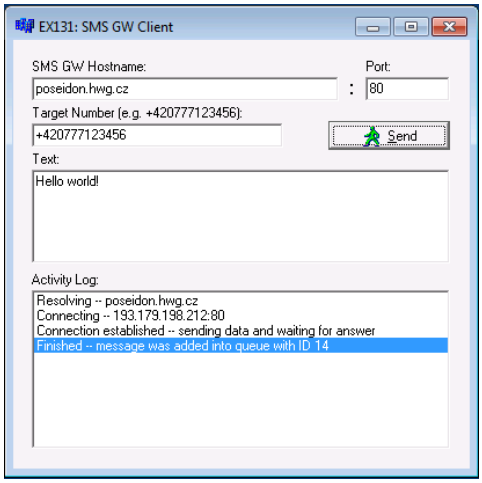
HWg-SMS-GW communicates over the LAN using the http-based **netGSM** protocol.

In order to take advantage of this product in your program, use the **HWg-SDK** (Software Development Kit). The SDK provides commented examples of source code for various programming languages.

Or, contact HW group for documentation about the netGSM protocol.

www.HW-group.com

EX131: SMS GW Client (Borland C++ Builder)

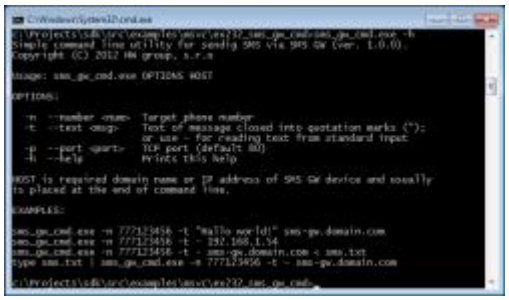


- **Supported devices:** Poseidon 2250, Poseidon 4002, SMS-GW-GW
- **Project file:** sms_gw.bpr
- **Win EXE version:** sms_gw.exe
- **Screenshot:** EX31_screen.png
- **Used:** TSession class of library C++ SDK Classes

Some HWg devices can send SMS via a connected GSM modem. In this case, the device works as a SOAP Web Service and this example demonstrates how to make a simple client with a graphical user interface. Written in Borland C++ Builder using the HWg SDK.

- Easy to use with simple GUI
- Sends SMS via remote GSM modem

EX232: SMS GW Client CMD (Microsoft Visual C++)



- **Supported devices:** Poseidon 2250, Poseidon 4002, HWg-SMS-GW
- **Project file:** sms_gw_cmd.bpr
- **Win EXE version:** sms_gw.exe
- **Screenshot:** EX32_screen.png
- **Used:** TSession class of library C++ SDK Classes

Some HWg devices can send SMS via a connected GSM modem. In this case, the device works as a SOAP Web Service and this example demonstrates how to make a simple client with a command-line user interface. Written in Borland C++ Builder using the HWg SDK.

- Sends SMS via remote GSM modem
- This is a command-line tool, it can be used in BAT scripts
- Message text is entered as a command-line parameter or read from the standard input