





SMS-GW3 LTE - User manual

Safety information

The device complies with regulations and industrial standards in force in the Czech Republic and the European Union. The device has been tested and is supplied in working order. To keep the device in this condition, it is necessary to adhere to the following safety and maintenance instructions.

Never remove the device cover if the relay terminals are connected to the electrical network!

Using the device in a manner other than prescribed by the manufacturer may cause its safeguards to fail!

The power supply outlet or disconnection point must be freely accessible.

The device must not be used in particular under any of the following conditions:

- The device is noticeably damaged
- The device does not function properly
- Unfastened parts can move inside the device
- The device has been exposed to moisture or rain
- The device has been serviced by unauthorized personnel

- The power adapter or power supply cable are noticeably damaged
- If the device is used in a manner other than designed for, the protection provided by the device may fail.
- The local electrical system must include a power switch or a circuit breaker and overcurrent protection.

The manufacturer warrants the device only if it is powered by the supplied power adapter or an approved power supply.

If you have any problems with installing or operating the device, please contact technical support:

HW group s.r.o.

http://www.hw-group.com Formanská 296
E-mail: support@HWg.cz Prague, 149 00
Phone: +420 222 511 918 Czech Republic

When contacting technical support, please keep at hand the exact type of your device (at the type plate) and, if possible, the firmware version (see later in this manual).

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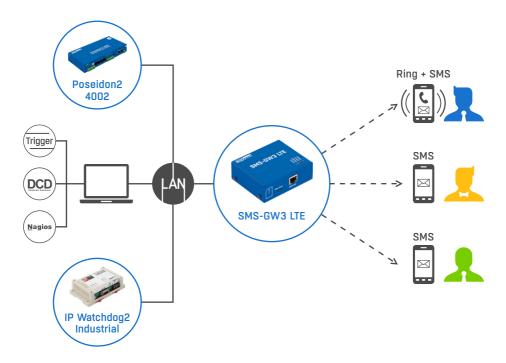
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Recommended connection

SMS-GW3 LTE allows sending of alarm SMS messages from any number of connected HW group devices via a single GSM modem with netGSM.



Setting up SMS-GW3 LTE with devices that support it:



- 1) Insert a SIM card.
- 2) Launch HWg Config and get the assigned IP address (DHCP).
- 3) Try to send a SMS from the web interface.



- 4) Enter IP address of the unit SMS-GW3 LTE + port (80 in default).
- 5) Enter 2× phone number of an SMS messages recipient and try sending a test SMS.

Note: SMS-GW3 LTE is compatible with the following devices: Damocles2, HWg-PWR, HWg-WLD, IP Watchdog2, Poseidon2, STE2, WLD2.

Technical parameters

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, some parts of the ver. 2.0 implemented

Connection	
Interface	FDD LTE bands: B1/B3/B5/B7/B8/B20 WCDMA bands: B1/B5/B8 GSM bands: 900/1800 GPRS multi-slot class 12 Class 4 (33 dBm ±2 dB) for GSM900 Class 1 (30 dBm ±2 dB) for DCS1800 Class E2 (27 dBm ±3 dB) for GSM900 8-PSK Class E2 (26 dBm ±3 dB) for DCS1800 8-PSK Class 3 (24 dBm ±1/-3 dB) for WCDMA bands Class 3 (23 dBm ±2 dB) for LTE FDD bands
Antenna connector	SMA male

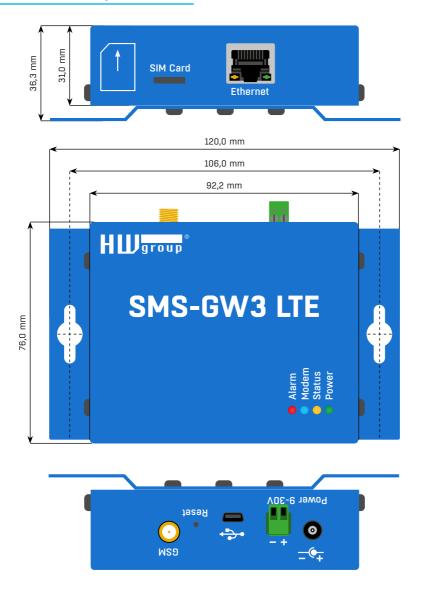
Power input	
Port	Power 9-30V DC
Туре	Main device power input (typically 400 mA + external devices)
Connector	1× barrel jack (2.1mm, outer diameter 5.5mm) 1× terminal block

LED status indicators	
Power	Green – power OK
Modem	Blue – activity on GPRS
Status	Yellow – blinking if device is OK
Alarm	Red – error on device
LINK & Activity	Yellow – ethernet connectivity

Physical parameters	
Temperature range	Operating: -10 to 65°C/Storage: -25 to 85°C
MTBF	> 90 000 hours
Dimensions / Weight	92×76×31[mm]/300g
EMC	FCC Part 15, Class B, CE - EN 55022, EN 55024, EN 61000

Technical parameters HWg-SMS-GW3

Mechanical parameters



Restarting into the default settings (Load to defaults)

 Restarting into the default settings via HWg Config – right-click the MAC address of the device in HWg Config. Within the first 60 seconds after powering up the device the factory settings can be restored through HWg Config.

First start

Connecting the cables

- Note down the MAC address of the device, printed on the side of the unit.
- · Connect HWg-SMS-GW to the Ethernet network.
- Plug the power adapter and connect it to a connector on the device.
- · Green POWER LED will light up.
- If the connection to Ethernet network is working, LINK LED will light up (orange light on RJ45 connector) and it then flashes during the data transmission (Activity signalisation).

Connectors

- Power connect the power adapter (9-30 V).
- USB a connector for service purposes.
- Ethernet network/data connector.
- GSM SIM a SIM card socket.
- GSM an SMA connector for connecting an external antenna.
- Reset reset button for restoring the factory default settings.

LED indication

- Power (green) power supply connected.
- Status (yellow) flashes slowly if the device is working correctly.
- Alarm (red) device / modem error. Lights up if out of signal, flashes in case of SIM card errors (incorrect PIN entered, etc.).
- Modem (blue) flashes during SMS sending.
- · Link Activity (yellow LED on the Ethernet connector) flashes during network activity.
- Link OK (green LED on the Ethernet connector) light on when connected to Ethernet.

IP address settings - HWg Config

The software HWg-Config can be downloaded from http://www.HW-group.com Software -> HWg-Config.

- Start HWg-Config by clicking on its icon software will automatically search for connected devices.
- Search for the devices by clicking the Find Devices icon (Start search).

HWg Config searches for devices in your LAN. Clicking on a MAC address of the device opens a window with basic network parameters settings.

Network parameters of the device

- · DHCP is enabled by default.
- Set IP address / HTTP port (80).
- Set the mask of your network.
- · Gateway IP address for the local network.

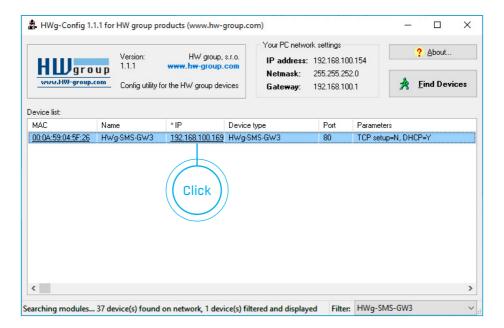
Save the settings with Apply Changes button.

First start HWg-SMS-GW3

Open the WEB setup of the device

Enter IP address of the device directly into an internet browser.

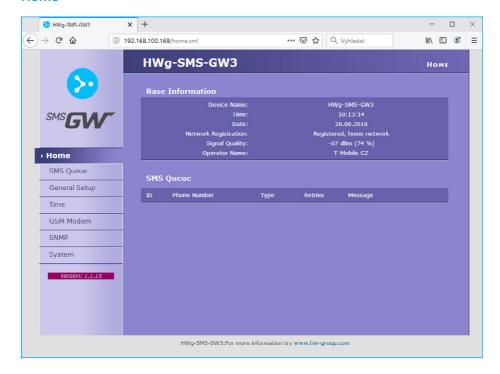
Or open the web setup via HWg-Config. Click the underlined IP address, or through the context menu (as shown on the picture).



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WEB interface

Home



Base Information

- Device name User-defined name. This can be set on the General Setup tab.
- Time Unit time settings can be changed on the Time tab. Correct time is usually obtained from an online server.
- Date Unit date settings can be changed on the Time tab. Correct date is usually obtained from an online server.
- Network registration information on registration of the unit to an operator's GSM network.
- Signal Quality GSM signal level. This information can be used for resolving network problems.
- Operator Name name of the operator to which the GSM modem is connected.

SMS Oueue

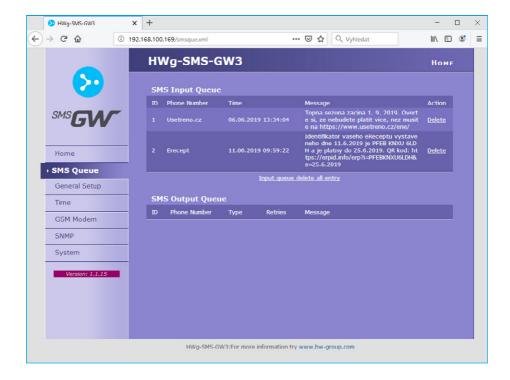
An overview of messages queued for sending. Sent messages are not shown here anymore.

- ID ID of the outgoing message.
- Phone Number recipient's phone number.
- Type message type (SMS or dialing the number).
- Retries number of unsuccessful retries.
- Message message text.

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SMS Queue

Displays the queues of incoming and outgoing messages. Messages already sent are not shown here.



SMS Input Queue

Displays the incoming message queue.

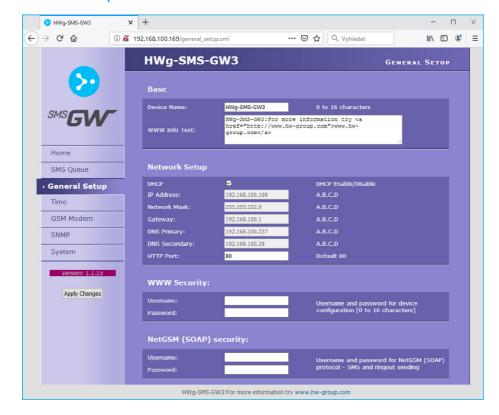
- ID ID of the incoming message.
- Phone Number sender's phone number.
- Time delivery time of the incoming message.
- · Message incoming message text.
- Action the message can be deleted by pressing Delete.
- Input queue delete all entry link to delete all queued incoming messages.

SMS Output Queue

Displays the outgoing message queue.

- ID ID of the outgoing message.
- Phone Number recipient's phone number.
- Type message type (SMS or dialing the number).
- · Retries number of unsuccessful retries.
- Message message text.

General Setup



Base

- Device Name Custom-selected name (HWg-SMS-GW3) helps to distinguish between different SMS-GW3 LTEs in one network.
- WWW Info Text text of a footer in WWW interface useful for example for entering data centre administrator's contact details.

Network Setup

- DHCP enables automatic setting of an IP address by a DHCP server, if available enabling and disabling this function depends on actual requirements of the network users and administrators.
- IP Address IP address of the SMS-GW3 LTE assigned by the network administrator.
- Network Mask assigned by the network administrator.
- Gateway IP address of a default gateway assigned by the network administrator.
- DNS Primary / DNS Secondary IP address of a DNS server assigned by the network administrator.
- HTTP Port port number where the built-in WWW server listens changing the port number
 is necessary for example if more devices are accessible from outside the network through
 a router. Please consult any changes in this setting with your network administrator. Port set
 to 80 in default.

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WEB interface HWg-SMS-GW3

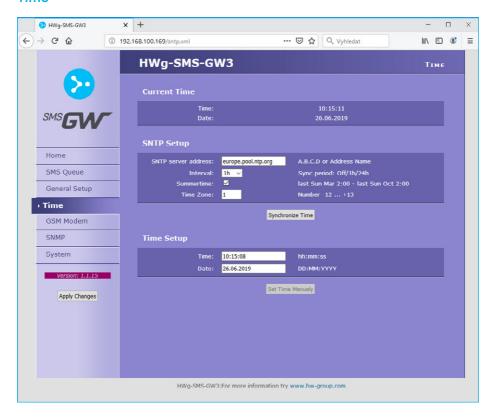
WWW Security

Username / Password - login details used for accessing SMS-GW3 LTE settings.

NetGSM (SOAP) security

Username / Password - username and password for sending text messages over SOAP.

Time



Current Time

- Time shows actual time.
- Date shows actual date.

SNTP Setup

- SNTP server address IP address or a domain address of a time server in default time.nist.gov.
- Interval interval of a time synchronisation with a server.
- Summertime allows DST switching required for correct logging of the measured values and events. Necessary for correct data logging.

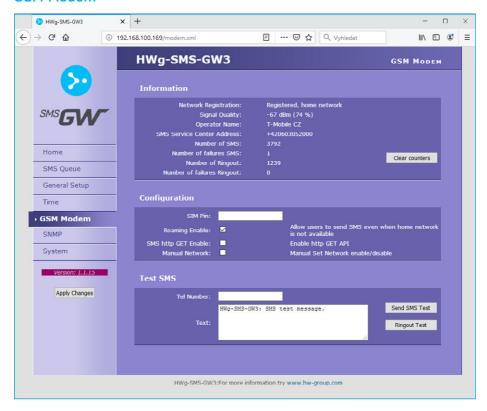
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- Time Zone sets the time zone where the SMS-GW3 LTE is located used for setting the correct system time. Necessary for correct data logging.
- Synchronize Time used for an immediate synchronisation with a time server. Can be also used
 to test the entered settings.

Time Setup

Time Setup section allows you to enter actual time and date manually, in case you cannot use the synchronisation with a time server. This information is erased after loosing the power supply.

GSM Modem



Information

- Network registration information on registration of the unit to an operator's GSM network.
- Signal Quality GSM signal level. This information can be used for resolving network problems.
- Operator Name name of the operator to which the GSM modem is connected.
- SMS Service Center Address information obtained from the SIM card. Used for verifying the communication with the SMS centre

Number of SMS – number of messages sent.

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- Number of failures SMS number of unsent messages (invalid phone number etc.).
- Number of Ringout number of dialed calls.
- Number of failures Ringout number of unsuccessfully dialed calls (invalid phone number etc.).

Configuration

- SIM PIN if the SIM is protected with a PIN, enter it here.
- Roaming enable enables or disables SMS-GW3 operation in roaming. With roaming disabled, the gateway only works in the home carrier's network; this avoids undesired roaming costs. Enabled roaming may increase stability e.g. near country borders.
- SMS http GET Enable enables the sending of SMS over HTTP GET. Using HTTP GET is a security
 risk, consider it carefully.

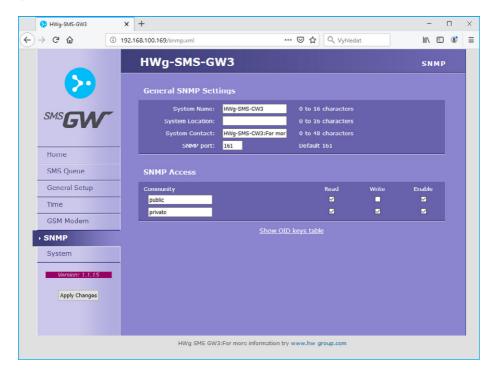
For details, see: https://www.hw-group.com/support/how-to-send-sms-via-hwg-sms-qw3

• Manual network - allows manual selection of the mobile network to use.

Test SMS

- Tel Number test message recipient's phone number.
- Text test message text.
- Send SMS Test button to send a test SMS to the specified phone number.
- Ringout Test button to try to dial the specified phone number.

SNMP



(14) HWg-SMS-GW3 WEB interface

General SNMP Settings

- System Name device name, corresponds with the device name set on the General setup tab.
- System Location system location, for instance "IT room, 2nd floor".
- System Contact system administrator contact details, for instance his email address.
- SNMP port port settings for communication with SNMP protocol [161].

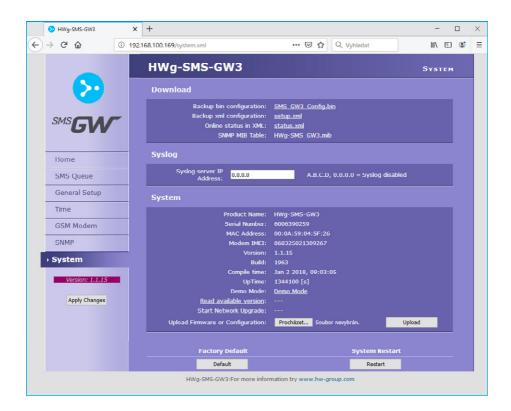
SNMP Access

Defines authorisation and user group names for work with a Poseidon device.

- Community text name of the group, to which the rights are assigned to (Public and Private
 in default).
- Read assigns to a community the rights to read the variables over SNMP.
- Write assigns to a community the rights to write into the variables over SNMP.
- Enable enables or disables a certain group.
- Show OID keys table lists all available SNMP OIDs including their use.

System

System tab offers access to main system details such as uptime and firmware version. It also offers restart options or tools for firmware update.



WEB interface HWg-SMS-GW3

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Download

- Backup bin configuration by clicking the link you can save the actual SMS-GW3 LTE configuration and later restore this configuration.
- Backup xml configuration by clicking the link you can save the actual SMS-GW3 LTE configuration and later restore this configuration.
- Online staus in XML current device state in XML format.
- SNMP MIB Table SNMP MIB file address of a MIB file, containing definition of SNMP variables.

Syslog

Syslog server IP Address - address of the Syslog server.

System

- Product Name name (type) of the device.
- Serial Number device's serial number.
- MAC Address device's MAC address for wired connections.
- Modem IMEI IMEI address of the modem for GSM connection.
- Version firmware version. Diagnostic information for troubleshooting.
- Build assembly diagnostic information for troubleshooting.
- Compile time firmware compilation time. Diagnostic information for troubleshooting.
- UpTime uptime since last power-on or reset of the device. Diagnostic information for troubleshooting.
- Demo mode activated demo mode disables changes in configuration of your device. Visitors
 can freely browse all pages of the WWW interface in this mode but they cannot make any
 changes. The device can be then made available on a public network without any risk of problems with settings.
- Read available version displays the latest firmware version available at the HW group upgrade server.
- Start Network Upgrade initiates firmware upgrade from the HW group upgrade server.
- Upload Firmware or Configuration allows users to upload new firmware or a configuration file.
 Uploaded configuration may not be compatible in case the difference between firmware releases is too large.

Factory Default

Restores the factory default settings. The default IP address is 192.168.10.20 and both login and password are not set.

System Restart

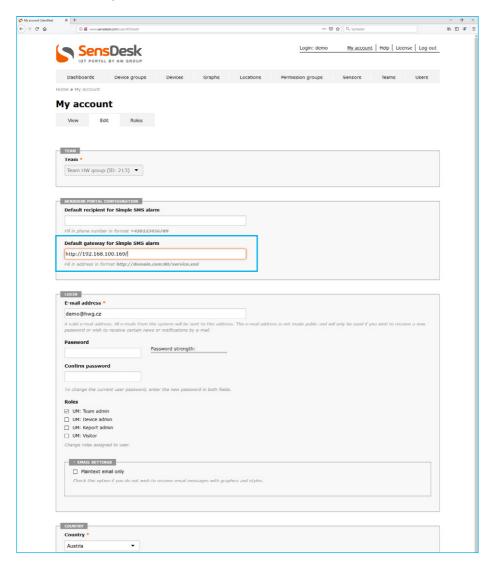
Resets the device.

6) HWg-SMS-GW3 WEB interface

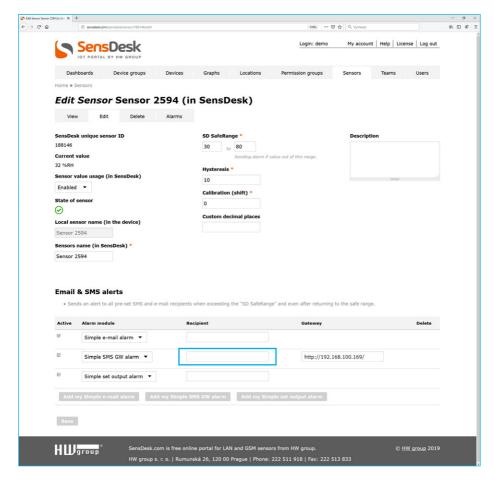
Using SensDesk.com service

SensDesk.com service is an online portal for HW group IP sensors monitoring. SensDesk.com can send email notifications in case an alarm is detected. SMS-GW3 LTE can be used for sending SMS notifications.

1 Set IP address of your HWg-SMS-GW in the account settings: SensDesk.com: My Account >> Edit



2 Set the recipient phone number for each single sensor, for sending alarm SMS messages from: SensDesk.com: Sensors >> Edit

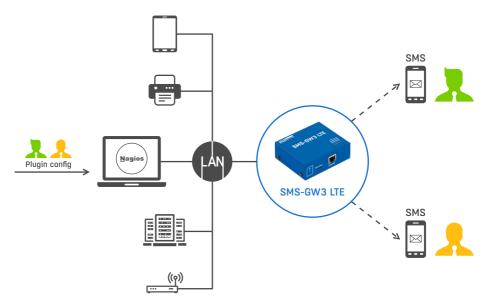


Note: SMS-GW3 LTE must be accessible on a public IP address in order to send SMS alarms from your SensDesk.com account.

Using SMS gateway with Nagios

Sending notifications from Nagios using SMS gateway SMS-GW3 LTE.

A plug-in for SMS-GW3 LTE, created in cooperation with Netways, allows sendong SMS messages from Nagios system.



Nagios plug-in notify-poseidon-sms.pl takes notifications about changes on the monitored devices and transfers them via HTTP protocol to HWg-SMS-GW, which then sends an SMS message.

Installation

The following steps are based on standard Ubuntu server installation process Some folders or commands can vary due to different Linux distribution used.

1 Download the notify-poseidon-sms.pl plug-in from https://www.netways.org/projects/plugins/files do adresáře /www.netways.org/projects/plugins/files do adresáře <a href="https://www.netways.org/projects/plugins/files do adresáře <a href="https://www.netways.org/projects/files/files do adresáře <a href="https://www.netways.org/proje

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 Send a test SMS to verify the functions of the plug-in and SMS-GW3 LTE. Parametr -H specifies an IP address of the SMS-GW3 LTE device designated for sending the SMS messages. Enter the recipients phone number for receiving the message using the -D parameter.

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

In case the plug-in start fails and an error message shows Can't locate LWPpm, it is necessary to install a Perl module LWP for HTTP protocol support. This can be done on Ubuntu or Debian by a command:

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

Nagios settings

Document recommended for basic Nagios setup:

https://www.hw-group.com/support/how-to-send-sms-via-hwg-sms-gw3

1 A support for sending SMS messages with the notify-poseidon-sms.pl plug-in can be added by creating a file /etc/nagios3/notify-poseidon-sms.cfg:

```
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: The whole command_line definition text has to be in one line in order to work correctly.

Note, do not forget to change the -H parameter to an actual IP address (eventually to a DNS name) of your HWg-SMS-GW device.

SMS text is assembled by the -M parameter. A list of supported variables (macros) can be found on http://nagios.sourceforge.net/docs/3_0/macrolist.html

2 Define contacts and contact groups for SMS messaging in a file: /etc/nagios3/conf.d/contacts nagios.cfg.

```
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
                                                  +420777888999
         pager
}
define contactgroup {
         contactgroup_name
                                                  sms
         alias
                                                  Notifications via SMS
         memhers
                                                  peter-gsm
}
```

Note: In case you want to send notifications to multiple phone numbers, create a contact for every phone number and enter each contact into a members parameters in a contactgroup (divided with ,).

In case you are using a standard Nagios configuration and want to add SMS sending for all devices and services, do not create a contactgroup and add only peter-gsm to the admins group. The setup is then complete and the notifications will be sent also via SMS after restarting the Nagios service (points 3 and 4).

3 Adding SMS notification options to selected sevices and services can be done in their definition, by adding a contact_groups parameter, for example:

```
define host {
         use
                                                  generic-host
                                                  localhost
         host name
                                                  Incalhost
         alias
         address
                                                  127.0.0.1
         contact_groups
                                                  admins,sms
define service {
         use
                                                  generic-service
                                                  localhost
         host name
         service_description
                                                  Disk Space
         check_command
                                                  check_all_disks!20%!10%
         contact_groups
                                                  admins,sms
}
```

Note: Contacts are usually defined in the device's or service's templates, adding contact_groups parameters will rewrite the pre-set template. This example is based in a standard settings of an admins contact group, which uses e-mails for sending notifications. Only SMS messages will be sent after adding "contact_groups sms" parameter.

4 A restart of Nagios needed to activate the changes.

nagios-server:~# service nagios3 restart

Using the product with your application

HWg-SMS-GW communicates over LAN via a netGSM protocol built on HTTP. In case you want to use this product with your application, use the HWg-SDK (Software Development Kit). The SDK kit cotnains commented examples of the source codes for various programming languages.



https://www.hw-group.com/product-version/netgsm https://www.hw-group.com/support/netgsm-how-does-it-work-with-hw-group-devices

Other HW group devices from Monitoring category



Poseidon2 3266/3268

The basic unit for monitoring temperature, humidity and other environmental conditions across LAN.



Poseidon2 4002

Unit designed for demanding monitoring applications, e.g. in data centers and industry.



HWg-WLD

Unit for detecting flooding with detection over the entire length of the sensing cable.



Poseidon2 3468

Remote monitoring of temperature, humidity and other environmental conditions in industrial design.



Damocles2 2404

Secure industrial I/O with PoE and telco -48V power options.



HWg-PWR 3/12/25

Measures power consumption using external M-Bus meters.



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