



# SMSEAGLE

## MHD-8100-3G

## MHD-8100-4G

User's Manual



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# Congratulations on purchasing **SMSEAGLE**

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# CONTENTS

SMSEagle Software Licensing Information .....	7
What's In The Box .....	13
Prepare for First Start.....	14
Get to know Connectors, Ports and LED's .....	19
Basic Operations .....	21
SMSEagle basic features.....	22
Compose SMS.....	23
Importing SMS from CSV and using placeholders.....	24
Folders.....	25
MMS.....	25
Cleanup Folders .....	26
Phonebook.....	27
Phonebook Contacts .....	27
Phonebook Groups .....	29
Phonebook Escalation Groups .....	30
Phonebook Working Shifts.....	30
Users .....	31
Multi-User Capabilities .....	32
Reporting Module.....	33
Statistics view.....	33
Multi-Factor Authentication.....	34
Settings .....	36
Application Settings .....	36
IP Settings.....	38
Failover.....	39
Date/Time .....	39
Maintenance.....	39
Email Alerts.....	40
Call Forward.....	42

MMS.....	42
Data connection.....	43
SNMP.....	44
SSL Certificate and HTTPS Redirection.....	44
Backup/Restore.....	45
SNMP.....	46
Updates.....	47
Failover (HA-cluster) feature.....	49
SMSEagle plugins.....	53
Network Monitoring plugin.....	53
Email to SMS plugin .....	57
Email to SMS Poller.....	61
SMS to Email plugin .....	64
SMS Forward .....	66
Callback URL plugin .....	68
Periodic SMS.....	70
Autoreply plugin.....	71
LDAP plugin .....	73
Blacklist .....	76
Multimodem features.....	79
Plugins and integration manuals for NMS & Auth systems .....	80
Extras.....	81
Delivery Reports .....	81
Connecting directly to SMSEagle database .....	81
Injecting short SMS using SQL .....	82
Injecting long SMS using SQL .....	83
Database cleaning scripts .....	85
SNMP agent.....	86
Setting up SNMP v3 access control.....	89
Failover (HA-cluster) feature .....	91

Forwarding logs to external server.....	94
Automatic software updates check.....	95
Knowledgebase & Support Portal.....	96
Troubleshooting.....	98
Verification of LEDs.....	98
Checking the device information.....	98
Device logs.....	98
When the device is not reachable .....	98
Restoring factory defaults .....	99
Service & Repair.....	101
Warranty .....	101
Service .....	101
Tech Specs & Safety Information .....	103
Technical Specification.....	103
Important Safety Information .....	106
Regulatory Statements .....	107
EU Declaration of Conformity .....	107
FCC Compliance Statement.....	107
FCC Supplier's Declaration of Conformity.....	108
Canadian Regulatory Statement .....	108
Avis de conformité à la réglementation d'Industrie Canada .....	109
UK Declaration of Conformity .....	109
RF Exposure Limits .....	109
Disposal and Recycling Information.....	109
Information gemäß § 4 Absatz 4 Elektroggesetz (DE).....	110
Restriction of Hazardous Substances Directive (RoHS) .....	110



GET READY  
TO START

### IMPORTANT – READ BEFORE OPERATING

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- 9.11** The provisions of this EULA do not prejudice the provisions on consumer protections and entrepreneur protection if You are a natural person who buys the device and conclude this EULA not connected directly with its business or professional activity or in case of entrepreneur being a natural person – not connected directly with its professional activity (applied to the EULA concluded from January 1<sup>st</sup>, 2021). If any provision of this EULA is inconsistent with mandatory consumer or individual entrepreneur's protection laws, the provision does not bind the consumer/individual entrepreneur and the provision of commonly binding law closest to that provision shall apply.

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[support@smseagle.eu](mailto:support@smseagle.eu)

# WHAT'S IN THE BOX

**Your SMSEagle box contains:**

- SMSEagle hardware SMS gateway
- 8x External omnidirectional antenna
- AC Power cable
- Rack mounting brackets
- Quick start guide



## PREPARE FOR FIRST START

---

Your SMSEagle is designed so that you can set it up quickly and start using it right away. Follow the steps below to get started.

### STEP 1: Install antennas

---

#### ANTENNA INSTALLATION GUIDELINES

- Install antennas in a location with access to a cellular network radio signal.
- Antennas must be installed such that it provides a separation distance of at least 23 cm (9 inches) from all persons and must not be co-located or operating in conjunction with antenna from any other transmitter.
- Antennas must not be installed inside metal cases.

Screw antennas to the antenna connector on the back of the enclosure of SMSEagle device.

### STEP 2: Insert SIM Card

---



**Please install SIM Card when the device is SWITCHED OFF.** SIM Card slots is located on the front panel of the device. SIM metal contacts should face down when inserting SIM into slot.

### STEP 3: Power the device

---

The device is powered with AC power cable delivered in the box. The device needs a power source of 100-240V AC.

## PREPARE FOR FIRST START

---

### STEP 4: Configure IP settings

---

**SMSEAGLE** DEFAULT NETWORK CONFIGURATION:

**DHCP CLIENT IS ON**

(IP ADDRESS WILL BE OBTAINED AUTOMATICALLY FROM YOUR DHCP SERVER)

#### A) CONNECT SMSEAGLE TO YOUR LAN AND **OBTAIN IP ADDRESS AUTOMATICALLY**

- connect the device to your LAN using Ethernet cable and ETH1 port
- SMSEagle will obtain IP address automatically from your DHCP
- read assigned IP address on your DHCP server

#### B) **OR** SET IP ADDRESS FOR SMSEAGLE MANUALLY

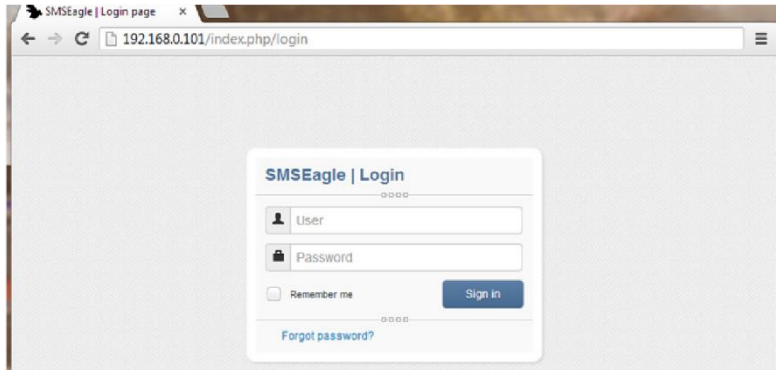
- connect a display using HDMI connector, connect a keyboard to USB port (note: cables are not provided)
- login to the terminal window using root credentials (these were provided with your device)
- edit configuration file with command:  
*nano /opt/smseagle/syscfg*  
change the following lines:  
ETH1\_HOST\_IP= *(set IP address for your device)*  
ETH1\_GW\_IP= *(default gateway IP address)*  
ETH1\_NET\_MASK= *(set subnet mask)*  
ETH1\_START\_DHCP=Y *(set to ETH1\_START\_DHCP=N to disable DHCP client)*
- save and exit the file
- shutdown the device
- now connect SMSEagle to your LAN using Ethernet cable

## PREPARE FOR FIRST START

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### C) LOG IN TO SMSEAGLE

Open an internet browser on your PC and go to the IP address assigned to your gateway



#### SMSEAGLE DEFAULT USER:

**Username:** admin

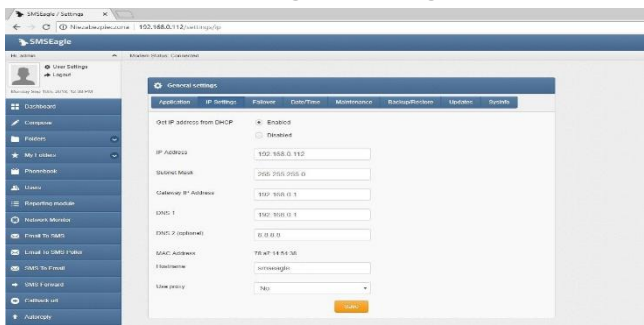
**Password:** password

*Login to application with above username and password.*

---

### D) CONFIGURE STATIC IP SETTINGS IN WEB-GUI (OPTIONAL)

Click on menu position "Settings" and navigate to tab "IP Settings".



Disable DHCP server. Enter your IP settings. > Press "Save" button.

Save



## PREPARE FOR FIRST START

---

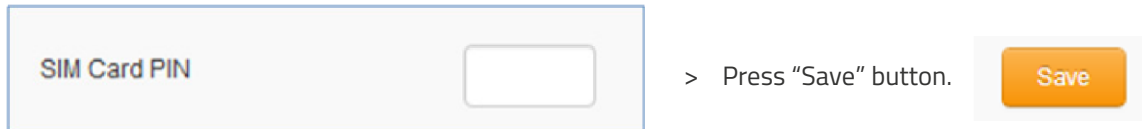
### STEP 5: Setting SIM Cards PIN

---

This step should ONLY be done if your SIM-cards requires PIN.

If your SIM-card requires PIN number at startup, go to Settings > **Maintenance Tab**.

Enter your PIN number in the field "SIM Card PIN"



The screenshot shows a light gray rectangular area containing a text input field with the placeholder text "SIM Card PIN" and a small empty box to its right. To the right of this area is a right-pointing chevron followed by the text "> Press 'Save' button.". Further to the right is a separate orange button with the word "Save" in white text.

### STEP 6: Installing custom SSL certificate and HTTPS-only (OPTIONAL)

---

#### Installing your own SSL certificate

SMSEagle device comes with a self-signed SSL certificate. Follow the instructions in the chapter SSL Certificate and HTTPS Redirection if you want to install your own SSL certificate or a free Let's Encrypt SSL certificate.

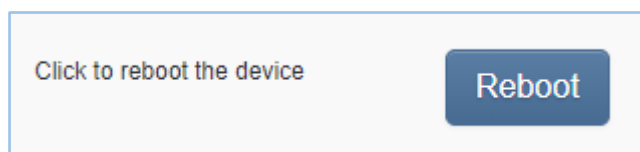
#### Using HTTPS only

By default, SMSEagle webGUI can be accessed via HTTP or HTTPS. For improved security we recommend using HTTPS. If you would like to redirect HTTP > HTTPS, follow instructions in the chapter SSL Certificate and HTTPS Redirection.

### STEP 7: Reboot the device

---

Go to Settings > Maintenance Tab. Press **Reboot** button.



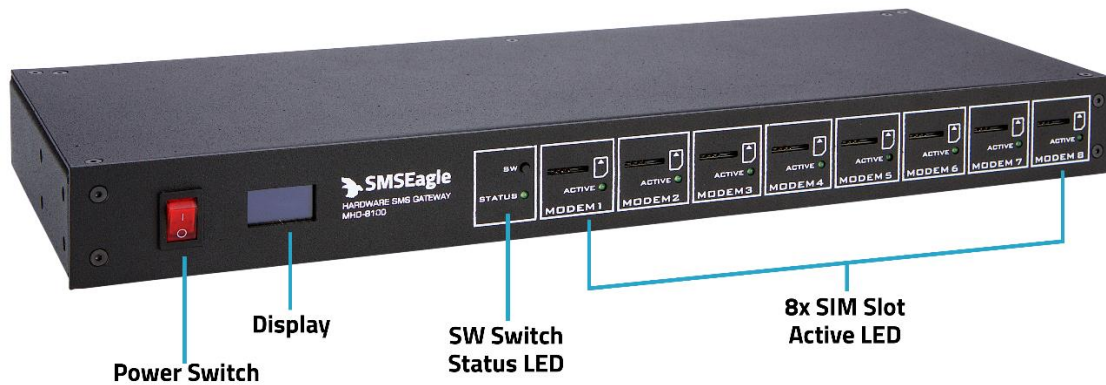
The screenshot shows a light gray rectangular area containing a text link "Click to reboot the device" and a blue button with the word "Reboot" in white text.



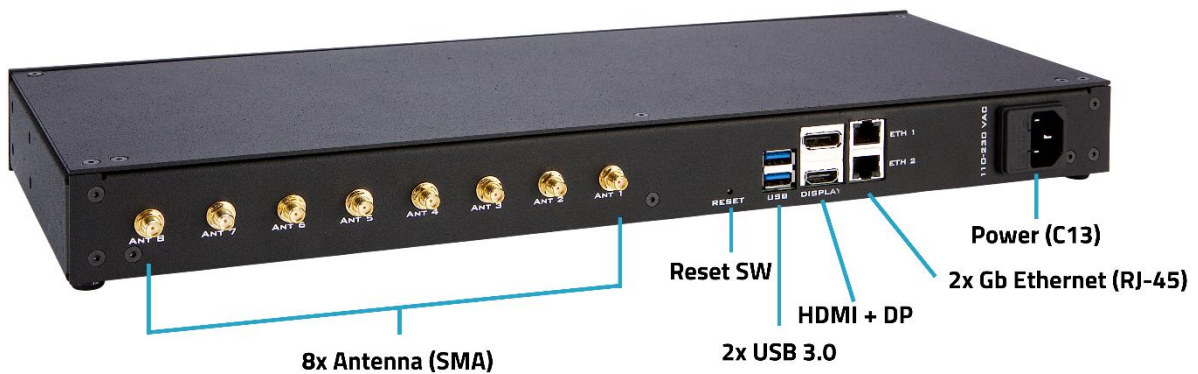
# USING OF SMSEAGLE

# GET TO KNOW CONNECTORS, PORTS AND LED'S

## Front Panel



## Back Panel



Element	Label	Description
<b>Power switch</b>	-	Power switch to turn on/off the device
<b>Display</b>	-	Display screen
<b>User Switch</b>	SW	Switch to toggle information on the display, restore settings to factory defaults
<b>Status LED</b>	STATUS	LED indicating device status
<b>SIM slot</b>	-	8x SIM slot - mini size
<b>SIM Active LED</b>	ACTIVE	8x LED indicator for modem status
<b>Antenna</b>	ANT1-8	Antenna socket (SMA)
<b>Reset</b>	RESET	Switch for rebooting the device
<b>USB</b>	USB	2x USB 3.0 port

<b>Display ports</b>	DISPLAY	HDMI & Display Port <a href="#">2.4.1.1. Sprawdzenie działania diod</a> out (for debugging purposes only)
<b>Ethernet ports</b>	ETH1-2	Gigabit Ethernet RJ45 ports
<b>Power socket</b>	110-230VAC	Power socket

## Display

MHD-8100 display has 5 screens with different information on each screen. Using SW switch, you can change screens of the display.

### Screen 1: SMSEagle Logo



### Screen 2: System Usage

1. Device power on time
2. CPU usage in %
3. CPU temperature in Celsius
4. RAM usage in Mb and %

```
System usage
Up time: 0:00:29
CPU usage: 1%
CPU temp: 32.0 °C
RAM usage: 186M 19%
```

### Screen 3: Networking IP list

```
Networking
enp3s0 ip: 192.168.0.114
enp2s0 ip: 192.168.0.116
```

### Screen 4: Dashboard Statistics list of messages in

1. Inbox
2. Outbox
3. Sent items
4. Sent Errors

```
Dashboard statistics
Inbox: 0
Outbox: 0
Sent items: 0
Sent Err: 0
```

### Screen 5: Modem signal strength list of all modems

```
Modem signal strength
T1: 📶      T5:
T2: 📶      T6:
T3: 📶      T7:
T4: 📶      T8:
```

## BASIC OPERATIONS

---

SMSEagle is capable to work in various screen resolutions, making it accessible for wide range of devices: computers, laptops, tablets, smartphones, etc.



Open a web browser on your device, type in SMSEagle's IP address (as set in previous chapter). At login screen type in your username/password. Default username and password is given in chapter **Prepare for First Start**.

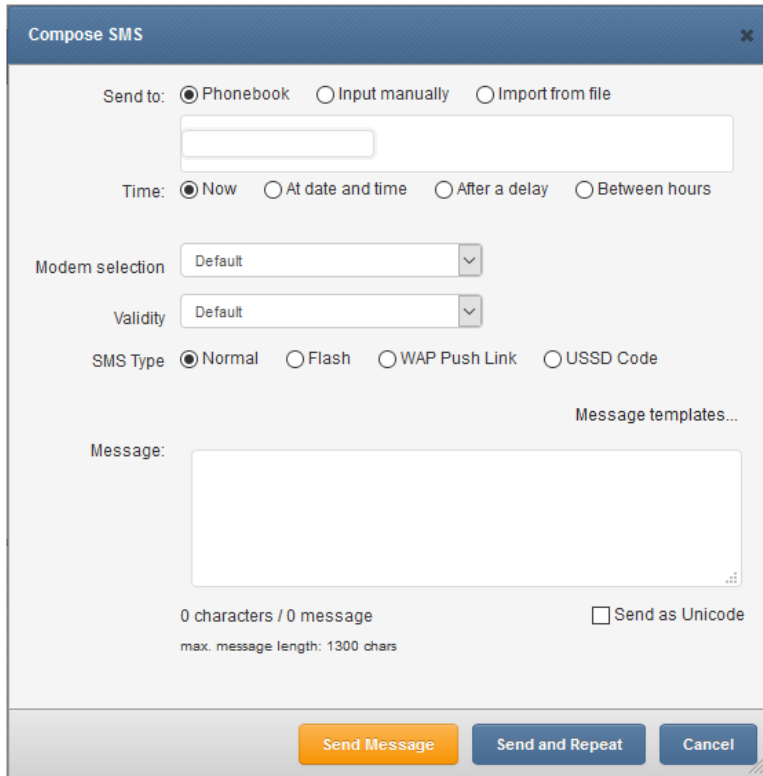
Important Notice: The Web-GUI requires a modern web browser with JavaScript support. Older web browsers (like Internet Explorer) are not supported and may not work properly.

## SMSEAGLE BASIC FEATURES

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- Sending & Receiving SMS (managing messages with Inbox, Outbox, Sent Items). Different message types (normal SMS, flash, WAP push, USSD codes)
- Sending & Receiving MMS (webGUI & API)
- Smartphone-like conversation mode (messages are nicely grouped by phone number). You can easily track history of what you send and receive
- Sending to single numbers, contacts or groups from phonebook
- Import messages for sending from CSV file
- SMS Scheduling by specified date and time or delay
- SMS sending within specified time window (between selected hours)
- Message templates (save & edit your own templates)
- Unicode support (support of national characters)
- Multiuser support (each user has access to a private Inbox, Outbox, Sent Items)

Here we show the various ways of sending an SMS form your device.



*Screenshot of default Compose SMS view*

In Compose SMS users can:

- Send SMS to contact from phonebook, input manually or import from file
- When importing from file each column can be used as a placeholder in the message. During sending the placeholder will be replaced by a unique value for each imported row from CSV file. This allows you to send a personalized message to each recipient.
- Set send date to now, at a date and time, after a delay, between selected hours or with high priority
- Set duration validity of SMS
- Type of SMS, normal, flash, MMS, WAP Push Link or USSD Code
- Set a message template to be saved and used at another time
- Send as Unicode (for special character use)
- Send message or Send and Repeat (window remains open, allowing modifications to next message)

## Importing SMS from CSV and using placeholders

SMSEagle software allows you to import SMS text from CSV file and (optionally) use special placeholders in a message body. Placeholders are special fields which are replaced with unique values for each message.

First a .csv file is needed like in the example below. Columns can be added and named as needed.

	A	B	C	D
1	Name	Number	ExtraColumn	
2	John Doe	123123123	asdasdasd	
3	John Kennedy	23123123	dsadsa	
4	John Kowalski	4215456456	qwerty	
5				

When composing an SMS using .csv file as a source, each column in the uploaded .csv file becomes a placeholder that will fill in the information from your file. Placeholders can be added to the message body by clicking the column name in the “Select field” as seen below.

The screenshot shows the 'Compose SMS' window with the following settings:

- Send to:**  Import from file
- File:** contact\_sample (1).csv
- Time:**  Now
- Modem selection:** Default
- Validity:** Default
- Message type:**  SMS
- Message:** [[Name]][[Number]][[ExtraColumn]]
- Character count:** 0 characters / 0 message (max. message length: 1300 chars)
- Select field:** ExtraColumn, Number, Name

Screenshot of “Compose SMS” with imported .csv file.



## Folders

Folders contain your messages. They are conveniently grouped into 5 categories:

- Inbox
- Outbox
- Sent Items
- Spam
- Trash

The view of conversations can be either of type “Balloons” (smartphone like conversation) or “Table” (tabular view). The view type can be changed in menu Settings > Application.

Balloons view type:

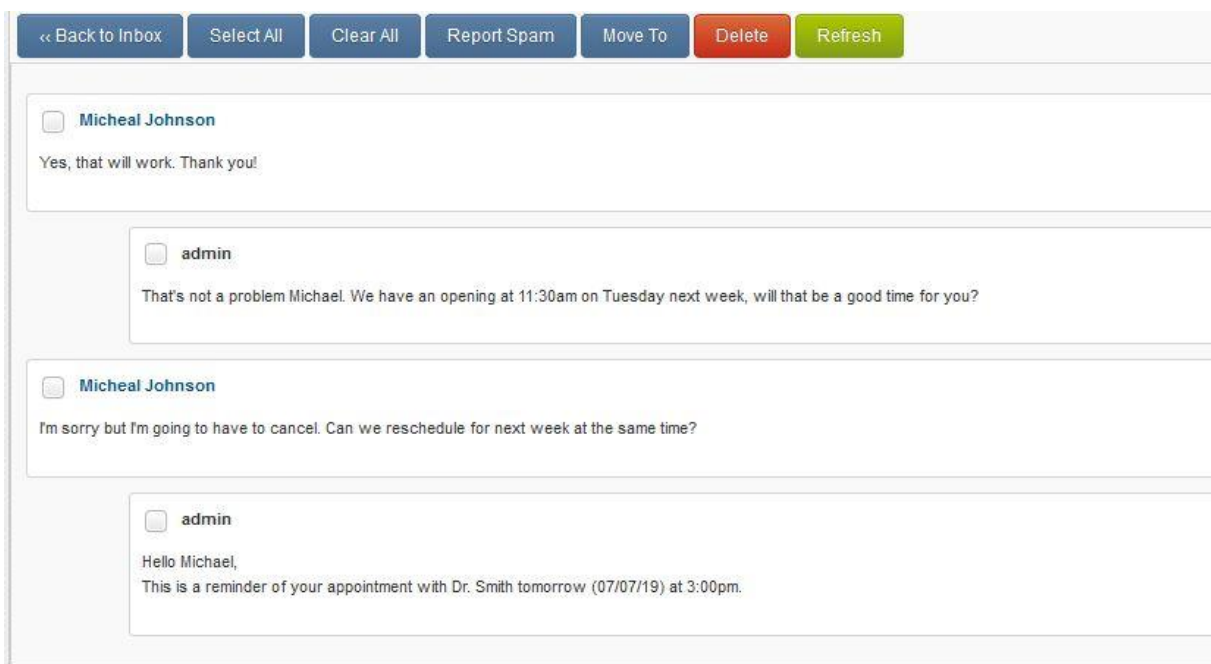
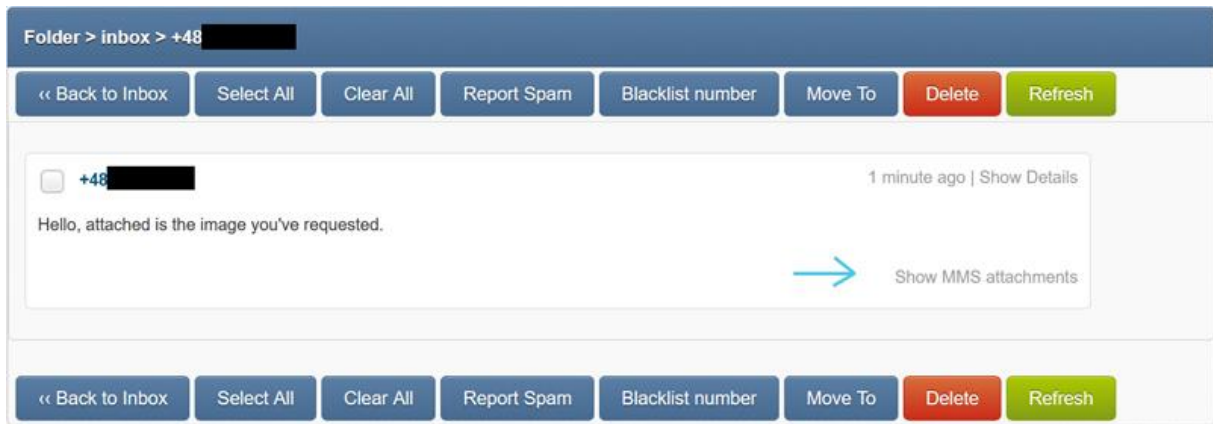


Table view type:

<input type="checkbox"/>	Date	From/To	Created by	Message
<input type="checkbox"/>	3 minute ago	Micheal Johnson ↓		- Yes, that will work. Thank you!
<input type="checkbox"/>	4 minute ago	Micheal Johnson ↑	admin	- That's not a problem Michael. We have an opening at 11:30am on Tuesday next week, will that be a ...
<input type="checkbox"/>	7 minute ago	Micheal Johnson ↓		- I'm sorry but I'm going to have to cancel. Can we reschedule for next week at the same time?
<input type="checkbox"/>	9 minute ago	Micheal Johnson ↑	admin	- Hello Michael, This is a reminder of your appointment with Dr. Smith tomorrow (07/07/19) at 3:00...

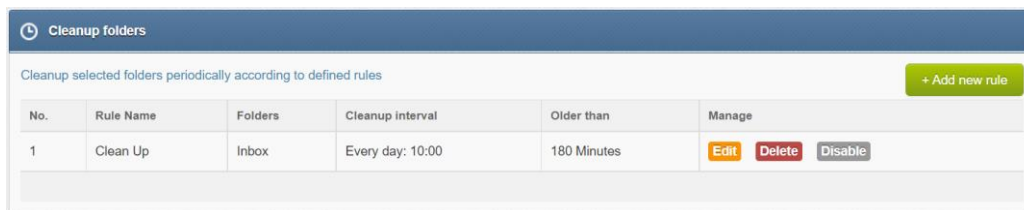
## MMS

To view an MMS attachment, you need to click “show MMS attachment” in the inbox message.

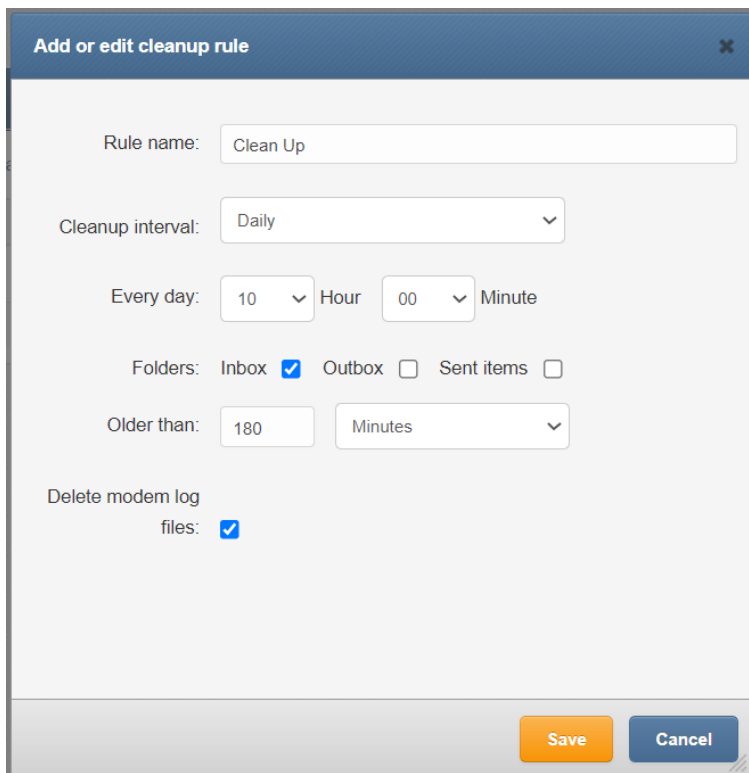


## Cleanup Folders

This function allows you to add rules on when to automatically clean up messages & logs in selected folders.



*Screenshot with example from Cleanup folders screen*



*Screenshot from Add or edit purging rule*

In adding or editing a cleanup rule you can set:

- Rule name
- Purging interval (daily, weekly, monthly or annually)

- Set the time
- Select the folder (Inbox, Outbox or Sent Items)
- Set time span of messages
- Select to delete modem log files

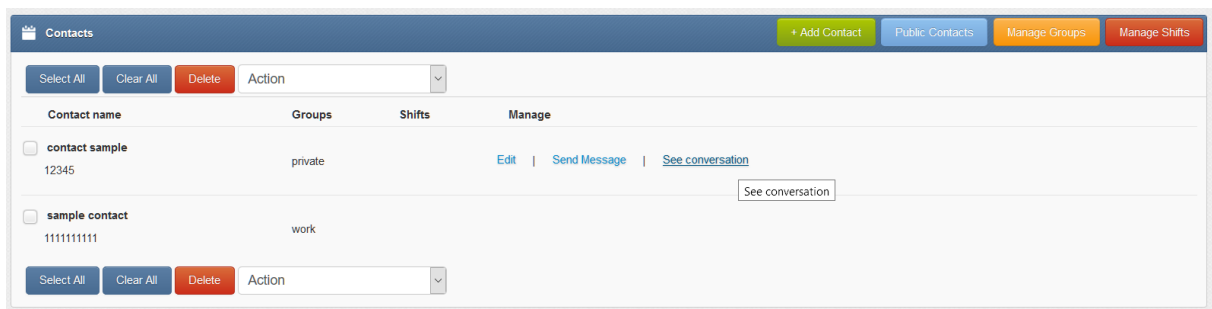
## Phonebook

---

Web-GUI of SMSEagle device is equipped with Phonebook for managing contacts, groups and shifts. Each user can create private and public contacts, gather contacts in private and public groups. Contacts can also be optionally assigned to working shifts. Contacts and groups from Phonebook allows users efficient sending of messages.

### Phonebook Contacts

Below we present a main Phonebook view, where user manages his Contacts.



*Screenshot of default phonebook view*

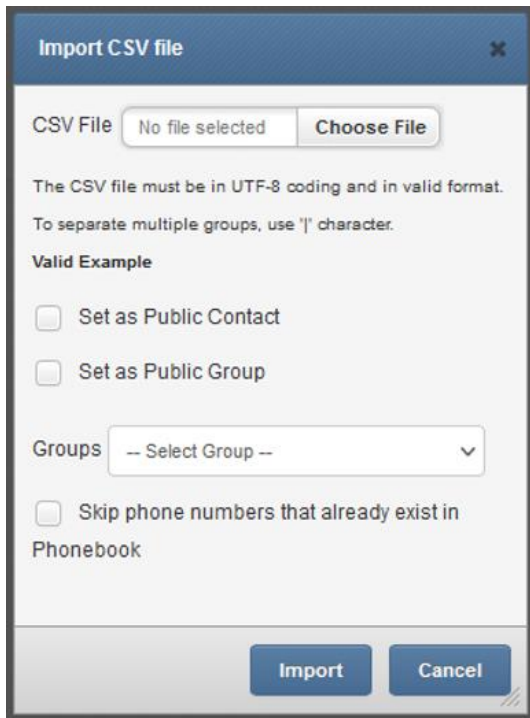
In Phonebook Contact Management users can:

- Add/edit/delete contacts via web-gui
- Import contacts from CSV file
- Set contact to public or private visibility
- Add contacts to groups
- Add contacts to working shifts
- Send message to a contact
- View message conversation of a contact

*Screenshot of Edit/Add Contact window*

In Phonebook Contact Edit/Add window users can:

- Define Contact name and Telephone number
- Choose if contact is Private/Public
- Assign a selected modem to the contact or leave default modem choice (according to global settings)
- Add contact to a Group
- Add contact to a Working Shift
- Enable/disable Vacation mode (messages are not sent when Vacation mode is enabled)



*Screenshot of Import CSV file*

In the Import CSV file window users can:

- Choose a CSV file to upload
- Set the uploaded contacts as a Public Contact
- Set the uploaded contacts as a Public Group
- Select which group to add the uploaded contacts to
- Choose to skip phone numbers that already exist in the Phonebook

## Phonebook Groups



*Screenshot taken from phonebook groups*

In Phonebook Group Management view users can:

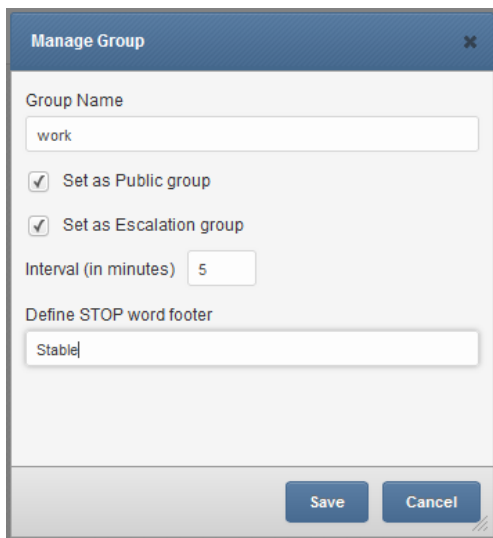
- Add/edit/delete groups
- Set groups to public or private visibility
- View group content (contacts belonging to the group)
- Send message to a group

## Public and Private Contacts/Groups

Public contacts/groups are visible to all users on the device. A public contact/group may only be edited by the owner (the user who created the contact/group) . Private contacts/groups are visible to a single user (the owner).

## Phonebook Escalation Groups

Escalation group is a special version of a Phonebook group. When a group is set as an “Escallation group” a single message sent to the group will be escalated to the group members. The message will be escalated with given time interval until a set STOP word is received.



Manage Group

Group Name  
work

Set as Public group

Set as Escalation group

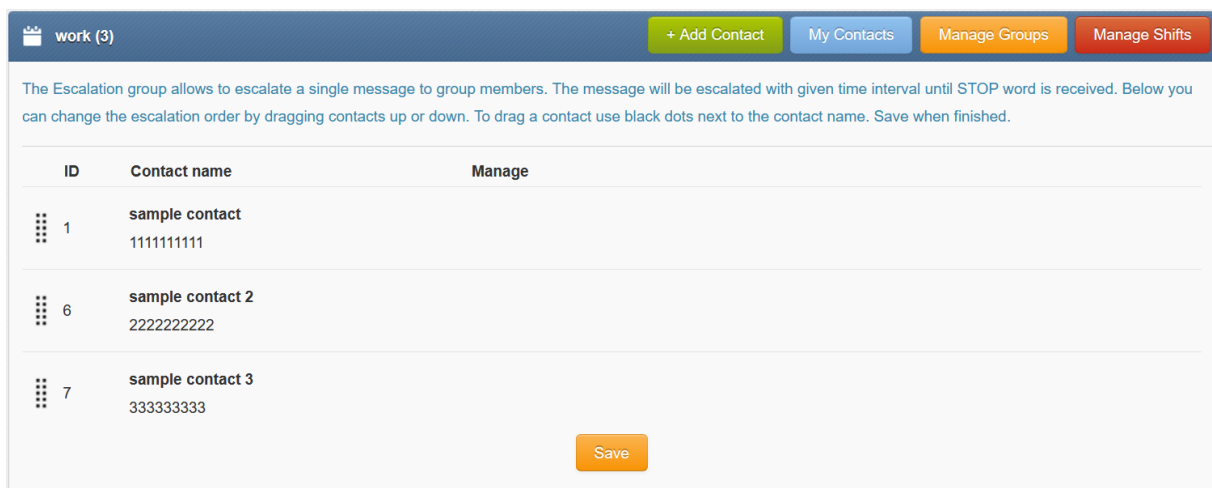
Interval (in minutes) 5

Define STOP word footer  
Stable

Save Cancel

*Screenshot from Manage Group view*

You can change the escalation order by dragging contacts up or down.



work (3) + Add Contact My Contacts Manage Groups Manage Shifts

The Escalation group allows to escalate a single message to group members. The message will be escalated with given time interval until STOP word is received. Below you can change the escalation order by dragging contacts up or down. To drag a contact use black dots next to the contact name. Save when finished.

ID	Contact name	Manage
1	sample contact 1111111111	
6	sample contact 2 2222222222	
7	sample contact 3 3333333333	

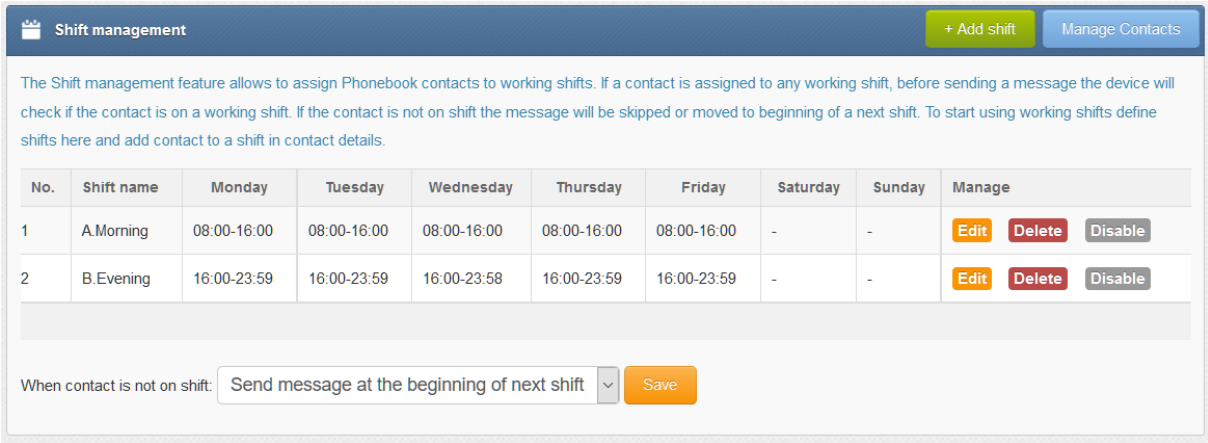
Save

*Screenshot from Manage Groups with set escalation*

## Phonebook Working Shifts

The Shift management feature allows to assign Phonebook contacts to work in shifts. If a contact is assigned to any working shift, before sending a message the device will check if the contact is on a working

shift. If the contact is not on shift the message will be skipped or moved to beginning of a next shift. To start using working shifts define shifts here and add contact to a shift in contact details.



Screenshot of shift management in phonebook

## Users

The Users function allows you to manage access to your device. It allows you to add, edit and remove users and set their permissions. There are two access levels for a user:

- User role "Administrator":

Allows full access & control of the device including settings and User management.

- User role "User":

Limits access only allowing to Compose, Folders, Phonebook and Reporting module.

**Add/Edit Users** ✕

Name

Phone access number (for password reminder)

Username

Password

Confirm Password

Level  
 ▾

Access to API  
 ▾

API Access token  
*User needs to be saved before generating access token.*

Limit modems:  
 ▾

Modem 1  
 Modem 2

*Screenshot of Edit/Add User window*

## Multi-User Capabilities

---

As described in the “Users” chapter, SMSEagle software allows to create multiple users with different access levels (Administrator or User). Those users may access the device simultaneously via Web-GUI or API. The following set of features is available in multi-user work scenario:

- Multiple users may access the device simultaneously via webGUI or API
- Each user can create private or public (shared) Phonebook contacts and groups (*see details in “Phonebook” chapter*)



- Administrator may restrict a user with “User” role to use only selected modems to send messages (see details in “Users” chapter)
- Users with “User” role has its own private sent items folder (they cannot see messages sent by other users). Users with “Administrator” role can see messages sent by all users.
- the content of inbox folder (incoming messages) may be visible: for everybody/only for “Administrator” role/only for modems assigned to a user (see details in “Application settings” chapter)

## Reporting Module

Reporting module is an extension of basic search feature. The module allows users to filter messages from Inbox/Sent items folders based on custom criteria and display filtered messages. Filtered list of messages can be exported to PDF or CSV file.

The screenshot shows the Reporting module interface with the following elements:

- Navigation:** Reports (active) and Statistics tabs.
- Date range:** From - to: 00:00 to 23:59.
- Folder:** Sent items.
- Sort by:** Default, Ascending.
- Created by:** (empty text field).
- Receiver number contains:** (empty text field).
- Message contains:** (empty text field).
- Choose output fields:**
  - Selectable item:** Delivery date, Receiver number, SMS Center Number, Status, Modem ID, Sending user.
  - Selected items:** Sending date, Message ID, Text.
- Options:**
  - Merge multipart messages
  - Include messages from My Folders
- Buttons:** Generate report, Export to PDF, Export to CSV.
- Message List:**

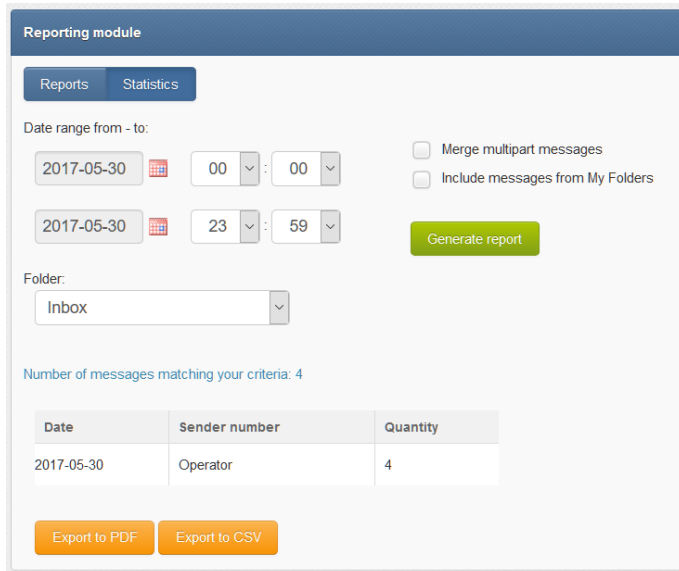
Number of messages matching your criteria: 1

Sending date	Message ID	Text
2022-01-18 11:08:58	740	Test

Screenshot of Reporting module

### Statistics view

The reporting module allows also to view daily statistics of sent/received messages. The statistics view displays number of messages per day and sender/receiver number.



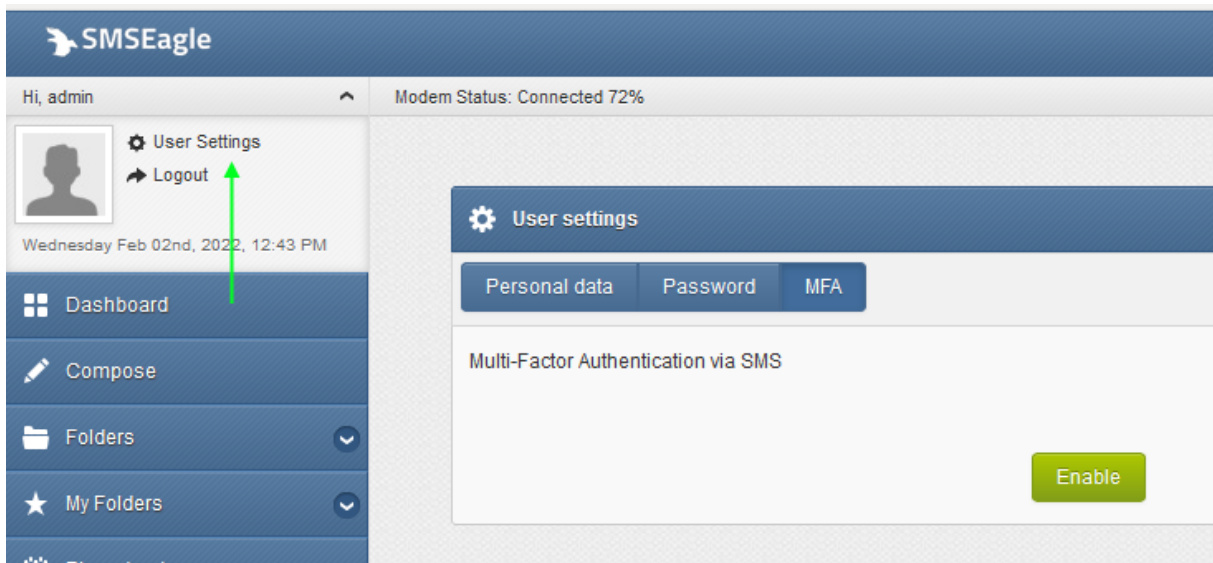
Screenshot of Statistics view in Reporting module

## Multi-Factor Authentication

**Multifactor Authentication (MFA)** adds a layer of protection to the sign-in process. When accessing Web-GUI accounts, users provide a username and a password plus additional identity verification, such as a code received via SMS text.

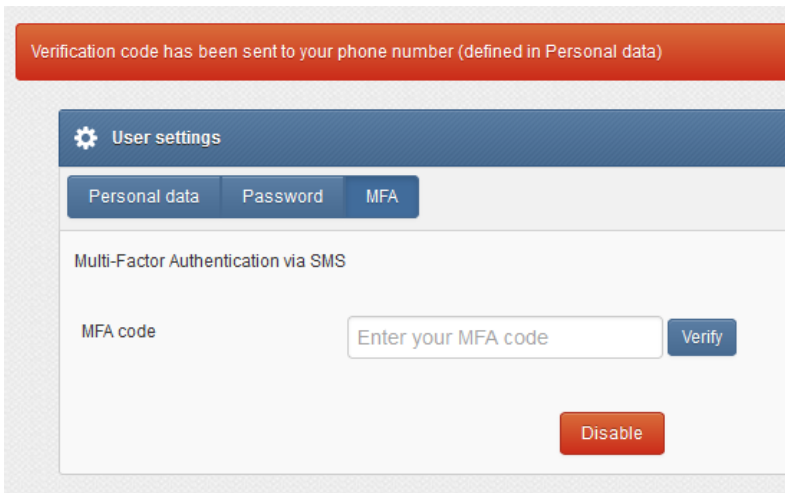
### ENABLE MFA FROM USER SETTINGS

MFA can be enabled by each user in User Settings menu > MFA tab.



Screenshot from User Settings > MFA.

After pressing **MFA > Enable button**, verification code is sent via SMS (text) to the number specified in Personal data tab. The code must be entered in User Settings > MFA code field to complete the process.



Screenshot from User Settings > MFA. Verification code request.

### USER LOGIN WITH MFA

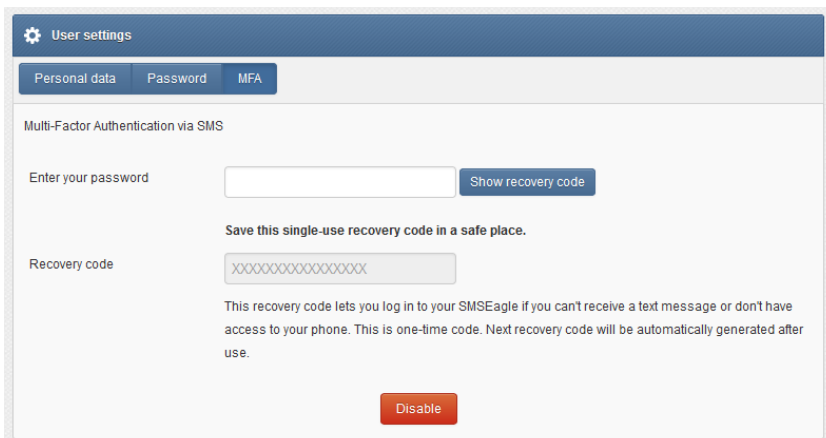
Once MFA is activated, the user must provide two factor authentication (user and password + one-time SMS token) every time he logs in to Web-GUI. One-time SMS token is valid for 10 minutes.



Screenshot from login process with enabled MFA.

### RECOVERY CODE

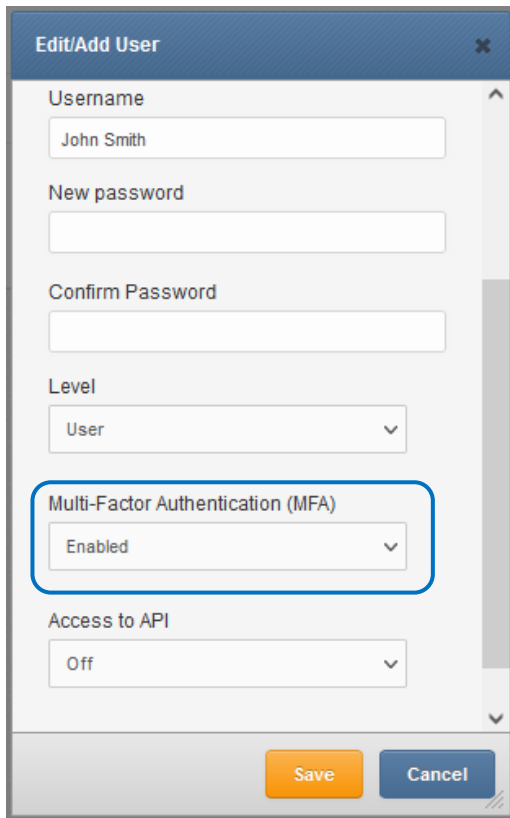
If for some reason a user can't receive a text message or don't have access to his phone, a recovery code can be used. The recovery code can be found in User Settings > MFA tab. **Remember to save the single-use recovery code in a safe place.** Recovery code is recreated after use.



*Screenshot from User Settings > MFA. Recovery code is revealed after entering password*

### ENABLE MFA BY ADMINISTRATOR

MFA can also be enabled by an administrator role for selected users. This is done in the menu Users > Edit User.



The screenshot shows a dialog box titled "Edit/Add User" with a close button in the top right corner. The dialog contains several input fields and dropdown menus. The "Username" field is filled with "John Smith". The "New password" and "Confirm Password" fields are empty. The "Level" dropdown menu is set to "User". The "Multi-Factor Authentication (MFA)" dropdown menu is set to "Enabled" and is highlighted with a blue border. The "Access to API" dropdown menu is set to "Off". At the bottom of the dialog, there are two buttons: "Save" (orange) and "Cancel" (blue).

*Screenshot from Edit/Add User*

## Settings

---

Settings menu is divided into several tabs for easier maintenance.

### Application Settings

Application settings can be changed under the Settings Tab > Application.

⚙️ General settings

Application IP Settings Failover Date/Time Maintenance Email alerts Call forward MMS Data conn. SNMP SSL Backup/Restore Updates

Sysinfo

Language:

Country dial code:

Conversation sort:

Conversation view type:

Data per Page:  Will be used for paging in message and phonebook

Permanent delete:  Permanent delete Off - Always move to Trash first  
 Permanent delete On

Delivery Report:

Inbox content visibility:

Reporting module accessible for:

Sending delay between SMS:  in seconds (0 = no delay)

Access to DB for external applications:

Password complexity verification:

Force MFA:

Save

- You can change the language of the application to English, French, German, Polish and Spanish
- You can change the country dial code to your country (this setting affects only correct assignment of phone numbers to phonebook entries)
- You can sort the conversation to show messages either “Newest First” or “Oldest First”
- You can change the conversation view to either “Table” (tabular view) or “Balloons” (smartphone-like view), as shown in Folders chapter
- You can adjust the amount of data displayed on one page to 10, 15, 20, 25, 50, 100, 250 or Show all
- You can set for the messages to be permanently deleted or be moved to Trash first
- You can set the receiving of delivery reports to Yes, No or Default (network carrier setting)
- You can set the visibility of the Inbox content to All users, Only admins or Only from assigned modems
- You can set access of the reporting module to All users or Only admins
- You can set a delay between SMS sending in seconds (this setting may be useful for cases where cellular operator blocks a number due to intensive traffic. Note: setting delay between SMS sending also introduces a delay time between receiving SMS)
- You can enable or disable access to database for external applications
- You can enable/disable Password complexity verification. When enabled user password must be at least 8 characters long and include at least one lowercase letter, uppercase letter, number and special character

- You can enable to force MFA (Multifactor Authentication) for user role: for all users, only new users, or leave users to choose their MFA settings (disable force)

## IP Settings

IP settings can be changed under the Settings tab > IP Settings.

The screenshot shows the 'General settings' page with the 'IP Settings' tab selected. The page is divided into two sections for 'Network interface #1' and 'Network interface #2'. Each section has a 'Get IP address from DHCP' option with radio buttons for 'Enabled' and 'Disabled'. Below this are input fields for 'IP Address', 'Subnet Mask', 'Gateway IP Address', 'DNS 1', and 'DNS 2 (optional)'. The 'MAC Address' field is partially filled with '00:07:'. At the bottom, there are fields for 'Hostname' (containing 'smseagle-mhd8100') and 'Use proxy' (set to 'No'), followed by an orange 'Save' button.

- You can enable or disable Get IP address from DHCP
- You can input the IP address
- You can input the Subnet Mast
- You can set the Gateway IP Address

- You can set DNS 1
- You can optionally set DNS 2
- You can view the MAC address of your device
- You can input Hostname
- You can choose to Use proxy

## Failover

Failover configuration has been described in chapter "[Failover \(HA-cluster\) feature](#)"

## Date/Time

Date/Time settings can be changed under the Settings Tab > Date/Time

The screenshot shows the 'General settings' page with the 'Date/Time' tab selected. The current date and time is 2021-01-14 11:31. The time zone is set to Europe/Warsaw. Automatic time synchronization with NTP timeserver is set to 'On, use external NTP server'. The NTP timeserver address is pl.pool.ntp.org. A 'Save' button is at the bottom.

General settings	
Application	IP Settings
Failover	Date/Time
Maintenance	Call forward
MMS	Data conn.
Backup/Restore	
Updates	Sysinfo
Current date and time	2021-01-14 11:31
Set time zone	Europe/Warsaw
Automatic time synchronization with NTP timeserver	On, use external NTP server
If you choose "create NTP server", date & time will be obtained from GSM/3G network and SMSEagle will serve as NTP-server	
NTP timeserver address	pl.pool.ntp.org
Save	

- You can check current device date and time
- You can set your time zone
- You can set automatic time synchronization with NTP timeserver, disable automatic time synchronization or create NTP server on SMSEagle device (date & time will be obtained from 3G/4G network)
- You can set NTP timeserver address

## Maintenance

Maintenance settings can be accessed under the Settings tab > Maintenance

General settings

Application IP Settings Failover Date/Time Maintenance Email alerts Call forward MMS Data conn. SNMP SSL Backup/Restore

Updates Sysinfo

**Device restart**

Reboot

**Multimodem settings**

Multimodem selection strategy Round-robin

Enable modem failover mechanism Yes

If this feature is enabled, when one modem stops working other will automatically take over his job. This feature requires at least two active SIM cards in the device.

**Modem #1**

Enable / Disable

SIM Card PIN  SIM Card PUK

Extended modem logs (for debugging only) No

**Modem #2**

Enable / Disable

SIM Card PIN  SIM Card PUK

Extended modem logs (for debugging only) No

Save

- You can reboot your device
- You can enable or disable the device modem
- You can input your SIM card PIN
- You can input your SIM card PUK
- You can enable extended modem logs for modem software (debug mode)

Multimodem settings are described in chapter Multimodem features.

### Email Alerts

Email Alerts feature allows to send email alert message to a selected email address once SMS sending errors occurs. When a defined error counter threshold is reached, alert email is triggered.

The feature can be accessed under Settings tab > Email Alerts.



⚙️ **General settings**

Application IP Settings Failover Date/Time Maintenance Email alerts Call forward MMS Data conn. SNMP SSL Backup/Restore

Updates Sysinfo

Send email alert when message sending errors occur Enable ▾

Send alert when error counter exceeds 10

Recipient email or emails separated with comma admin@company.com

Email subject Sending errors on your SMSEagle

Message content {IP}{MODEM}{TIMESTAMP}

Placeholders for message:  
 {MODEM} - modem number  
 {IP} - device IP address  
 {HOST} - host name  
 {TIMESTAMP} - error timestamp

Enter your SMTP server settings for sending emails (required):

SMTP Host smtp.company.com

SMTP Port 587

SMTP Connection encryption none ▾

Username admin@company.com  
Leave blank if SMTP authentication is not required

Password ●●●●●●●●  
Leave blank if SMTP authentication is not required

Sender email admin@company.com

Save debug information in system log (use only for troubleshooting)

Save
Test connection

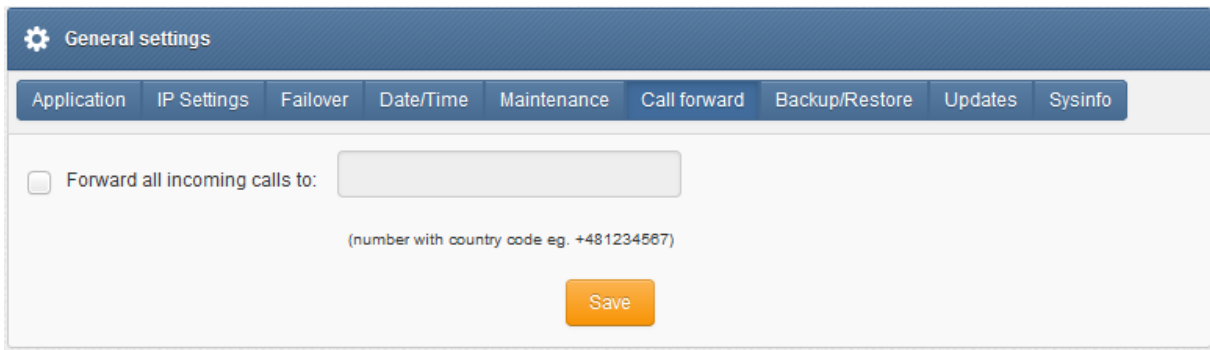
Mail settings must be saved before running a connection test.

- You can Enable/Disable sending of an email alert when message sending occurs
- You can set the number of errors before an alert is sent
- You can set the email/s of recipients
- You can set the email subject and content of the message including placeholders.
- You can enter your SMTP server settings for sending emails
- You can save debug information in system log (enable this only for troubleshooting)

**Notice: To prevent false alarms we recommend to set parameter "Send alert when error counter exceeds" to value > 2.**

## Call Forward

Call forward settings can be accessed under the Settings tab > Call forward.

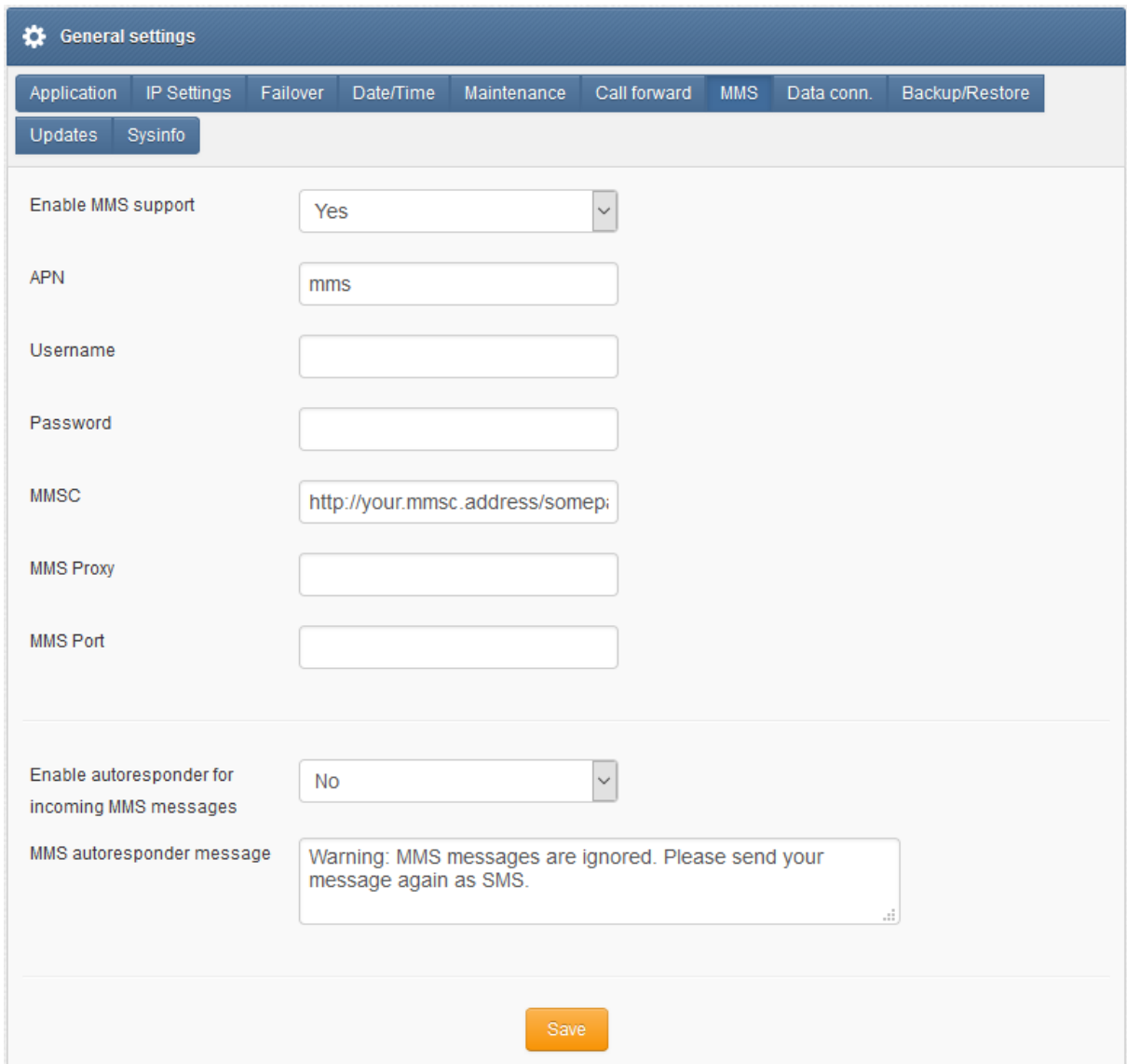


The screenshot shows the 'General settings' interface with the 'Call forward' tab selected. It features a checkbox for 'Forward all incoming calls to:' followed by a text input field. Below the input field is a note: '(number with country code eg. +481234567)'. An orange 'Save' button is positioned at the bottom center.

- You can choose to forward all incoming calls to a chosen number

## MMS

MMS Settings can be accessed under the Settings tab > MMS.



The screenshot shows the 'General settings' interface with the 'MMS' tab selected. It contains several configuration fields: 'Enable MMS support' (dropdown menu set to 'Yes'), 'APN' (text input 'mms'), 'Username' (text input), 'Password' (text input), 'MMSC' (text input 'http://your.mmsc.address/somep:'), 'MMS Proxy' (text input), and 'MMS Port' (text input). Below these is another dropdown menu for 'Enable autoresponder for incoming MMS messages' (set to 'No') and a text area for 'MMS autoresponder message' containing the warning: 'Warning: MMS messages are ignored. Please send your message again as SMS.' An orange 'Save' button is at the bottom center.

- You can enable MMS support
- You can set APN value
- You can input APN username
- You can input APN password
- You can set MMSC
- You can set MMS Proxy
- You can set MMS Port
- You can set autoresponder for incoming MMS messages
- You can input MMS autoresponder message

***\*The values for all fields can be found on the website of your SIM-card operator\****

### Data connection

Data connection settings can be accessed under the Settings tab > Data conn.

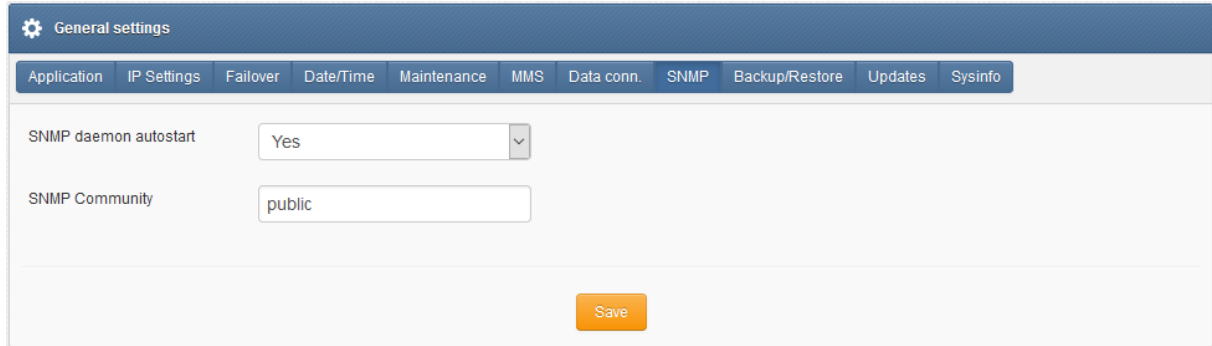
Here you can control a mobile data connection on your device. It can be used, for example, to utilize SMSEagle as a backup Internet source. **Data connection is NOT REQUIRED for normal operation of SMSEagle device.** Leave it disabled (OFF) if you don't want to use it.

- You can choose to autostart data connection
- You can input Internet APN
- You can input APN username
- You can input APN password
- You can input access number
- You can view the IP address of your device

**\*The values for all fields can be found on the website of your SIM-card operator\***

## SNMP

SNMP Settings can be accessed under the Settings tab > SNMP



The screenshot shows the 'General settings' interface with the 'SNMP' tab selected. The settings include:

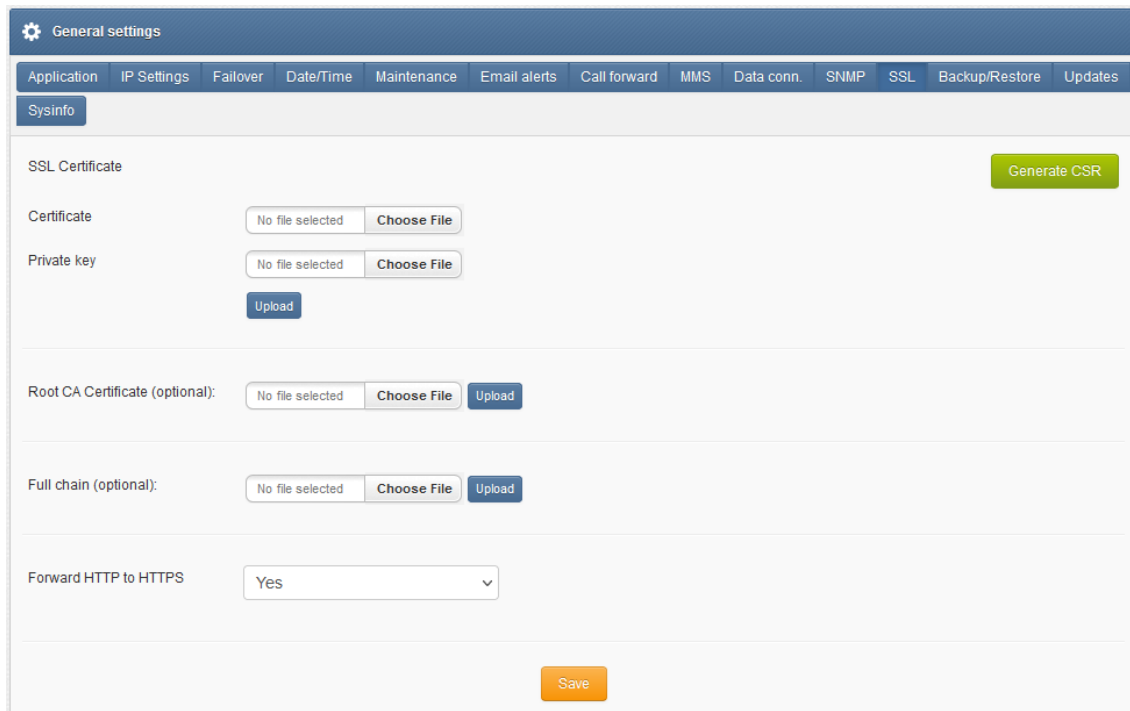
- SNMP daemon autostart:** A dropdown menu set to 'Yes'.
- SNMP Community:** A text input field containing the value 'public'.
- Save:** An orange button at the bottom right.

- You can enable/disable SNMP daemon
- You can set your SNMP community name (custom value)

SNMP daemon is required only when you want to monitor your device from external monitoring solutions like Network Monitoring Systems, etc. You can read more about custom SNMP metrics available on SMSEagle device in SNMP agent chapter.

## SSL Certificate and HTTPS Redirection

SSL settings can be accessed under the Settings tab > SSL. The settings allows you to upload an SSL certificate to your device and forward HTTP to HTTPS traffic.



The screenshot shows the 'General settings' interface with the 'SSL' tab selected. The settings include:

- SSL Certificate:** A section with a 'Generate CSR' button on the right.
- Certificate:** A file selection field with 'No file selected' and a 'Choose File' button.
- Private key:** A file selection field with 'No file selected' and a 'Choose File' button, followed by an 'Upload' button.
- Root CA Certificate (optional):** A file selection field with 'No file selected', a 'Choose File' button, and an 'Upload' button.
- Full chain (optional):** A file selection field with 'No file selected', a 'Choose File' button, and an 'Upload' button.
- Forward HTTP to HTTPS:** A dropdown menu set to 'Yes'.
- Save:** An orange button at the bottom right.

### **SSL Certificate**

BY default, SMSEagle device is equipped with a self-signed SSL certificate. If you want to install your own certificate on the device, please obtain a valid certificate file issued by a Certificate Authority. To upload the certificate, please provide the certificate file and private key in PEM format. The certificate cannot be password protected.

Notice: If you want to use Let's encrypt certificate, please follow [this guide in our knowledgebase](#).

### **Root CA & Full chain (optional)**

If you need to add root CA or full chain certificate, you may upload them using "Root CA Certificate" and "Full chain" controls.

### **Forward HTTP to HTTPS**

For optimal security, we recommend using HTTPS-only connections with your SMSEagle. You may easily forward HTTP to HTTPS traffic by setting "Forward HTTP to HTTPS" to "Yes".

### **Generate CSR**

This feature simplifies a process of obtaining SSL certificate. It creates two files:

- CSR file (Certificate Signing Request). It is needed in a SSL certification procedure. It is a file containing an encrypted text generated by the server on which the certificate is to run. It contains information that will be used in the certificate, such as: name of the organization, domain name, city, country. It also contains public key that is used to encrypt transmitted information.
- Private key. CSR file private key (decryption key) must be kept for exclusive information of the certificate owner. This file should be uploaded together with SSL certificate.

### [Backup/Restore](#)

Backup and restore settings can be accessed under the Settings tab > Backup/Restore

- You can create a backup of your device settings
- You can enable automatic backup to SFTP/FTP(S)
  - You can set automatic backup interval (daily/weekly/monthly) and time
  - You can select how many backups to keep (delete backups)
- You can restore device settings from a previously saved file
- You can choose to additionally restore the database

**\*WARNING\*** Restore backup settings only works with the same version of device and software

## SNMP

SNMP Settings can be accessed under the Settings tab > SNMP

- You can enable/disable SNMP daemon
- You can set your SNMP community name (custom value)

SNMP daemon is required only when you want to monitor your device from external monitoring solutions like Network Monitoring Systems, etc. You can read more about custom SNMP metrics available on SMSEagle device in [Błąd! Nie można odnaleźć źródła odwołania.](#) chapter.

## Updates

Update settings can be accessed under the menu Settings > Updates tab.

SMSEagle software is under process of continual improvement. We listen to our customers, and new releases are based on our customer's inputs/requests. Software updates are released frequently, and offer access to new features and fixes to reported issues. Web-GUI offers you a possibility to automatically check for new software updates. This can be done in two ways:

### MANUAL CHECK

In order to manually check for available software updates, go to menu Settings > tab Updates. Click on the button **"Check for software update now"**. At the top pops up a balloon in red with information if it is up-to-date.

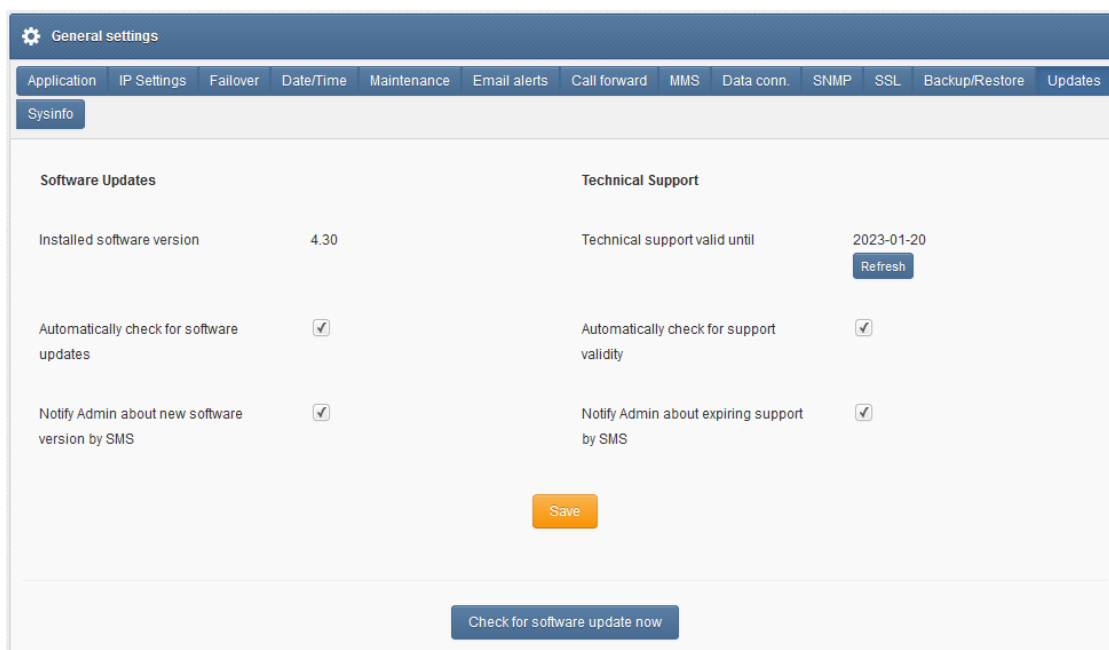
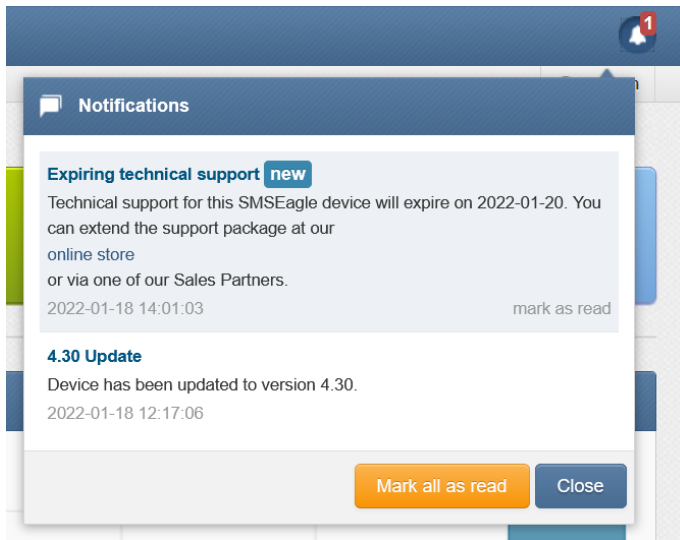
### AUTOMATIC CHECK

In order to start automatic checks for software updates go to menu Settings > tab Updates, and check the option "Automatically check for software updates". This will enable periodic checks (once a month) for available software updates. If a new update is available, a message "Update Available" will appear in menu Settings> Sysinfo – next to the current software version number.

If you select "Notify Admin about new software version by SMS", the device will additionally send SMS to the default admin account (if the phone number is entered in the account) with a notification about new software update.

### EXPIRING TECHNICAL SUPPORT NOTIFICATION

Similar to automatic software update checks, mechanism for technical support validity provides information about the technical support expiry date. A month before expiration of a support package your device will notify you about the upcoming expiration date and conveniently provide a link to our online store and sales partners where you can renew your package.



Screenshot from "General Settings-Updates"

**Notice: Your SMSEagle device must have a HTTPS connectivity with address [updates.smseagle.eu](https://updates.smseagle.eu) in order for this feature to work.**



## Failover (HA-cluster) feature

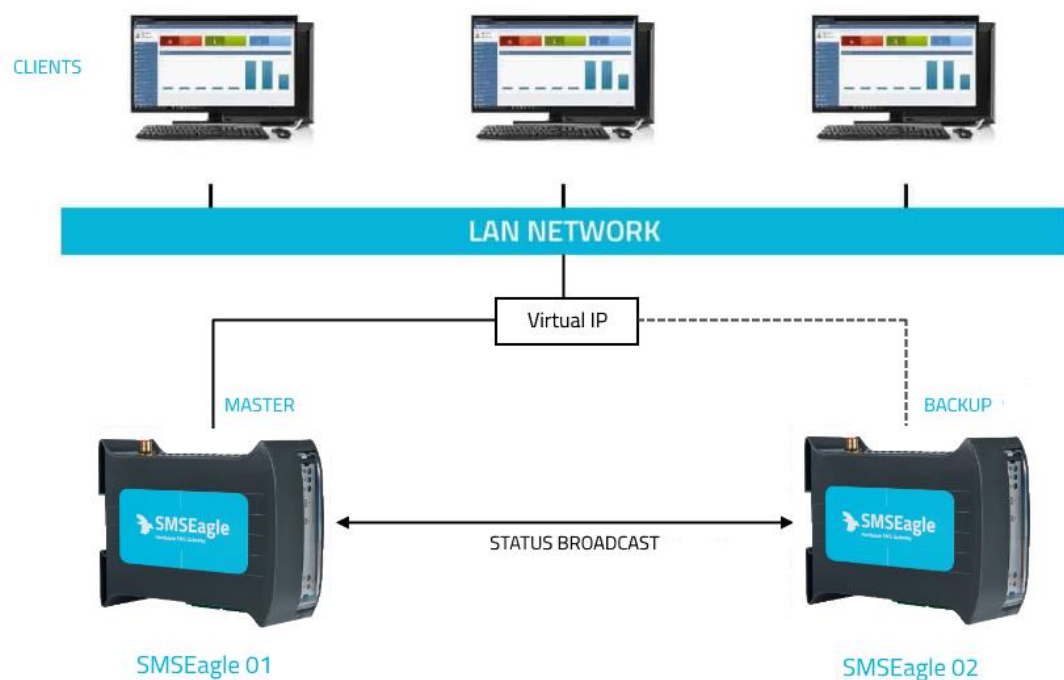
'High-availability clusters (also known as HA clusters or fail over clusters) are groups of computers (...) that can be reliably utilized with a minimum of down-time. They operate by using high availability software to harness redundant computers in groups or clusters that provide continued service when system components fail. Without clustering, if a server running a particular application crashes, the application will be unavailable until the crashed server is fixed. HA clustering remedies this situation by detecting hardware/software faults, and immediately restarting the application on another system or whole node without requiring administrative intervention, a process known as failover.' (source: Wikipedia)

SMSEagle NXS-family devices have their own failover mechanism based on HA-cluster. This feature allows you to assure high availability of SMSEagle devices in critical environments. To enable failover (HA-cluster) you need 2 devices ('aka' nodes). The failover feature monitors devices working in the cluster, and detects faults with the following services:

1. Apache2 WWW server
2. PostgreSQL database
3. SNMP agent
4. Modem software (Gammu-SMSD daemon)
5. Accessibility (response to ping) of whole node.

Every node in a cluster can have one of three states:

- **Master:** main healthy node in a cluster, by default accessible through Virtual IP
- **Backup:** second healthy node in a cluster, ready and waiting for replacing Master when needed
- **Fault:** node with detected service fault



In the cluster you have one MASTER device and one BACKUP device. **HA-cluster is accessed via Virtual IP address.** When the daemon running at MASTER device detects failure of at least one described feature it immediately automatically switches cluster's IP assignment to the BACKUP device (node) providing continuous usage of the SMSEagle HA-cluster for the user.

Devices (nodes) should see each other on the network. By default, HA-nodes use 224.0.0.18 multicast IP address for VRRP (Virtual Router Redundancy Protocol) for communication between two nodes. If nodes are on the same network (same subnet & IP range) there is no need for any network configuration. If two nodes are behind firewalls, make sure firewall is configured to accept multicast and VRRP protocol (IP Protocol #112).

#### HOW TO CONFIGURE FAILOVER (HA-CLUSTER):

Failover cluster can be easily configured using Web-GUI. Configuration can be done in menu "Settings" > tab "Failover". The configuration should be exactly the same on both devices in HA-cluster.

**Please configure first MASTER then BACKUP device.** For **each** device in failover cluster:

- enter virtual IP address in the field "Virtual IP Address"
- enter Master and Backup IP addresses (these should be physical addresses of your devices)
- set "Enable Failover cluster" to "Yes"
- optionally you can enable database replication between nodes (feature available only in devices with hardware Rev.2 and higher)

**Save** configuration. **Reboot** each device after saving.

**General settings**

Application | IP Settings | **Failover** | Date/Time | Maintenance | Backup/Restore | Updates | Sysinfo

Enable Failover cluster: Yes

Failover status: Enabled

Current device status: MASTER

Virtual IP Address: 192.168.0.250

Master IP: 192.168.0.139

Backup IP: 192.168.0.140

Enable database replication:

*Please note:*

- Failover (HA) cluster requires 2 devices for operation
- Both devices must have the same failover configuration
- Virtual IP address must be in the same subnet as the device's physical IP address
- Result of a proper work of a failover cluster is one MASTER device, and one BACKUP device
- You can enable database replication to synchronize Folders/Phonebook contacts/Users from MASTER to BACKUP node
- Enabling DB replication will allow external database access for IP addresses of master/backup nodes

Save

Screenshot from "General Settings-Failover"

## DATABASE REPLICATION

Database replication (optional) allows to automatically replicate database content between nodes from MASTER to BACKUP. In the current software version, the following content is replicated: Folders (with messages), Phonebook contacts, Users.

*Please note that this feature is only available in devices with hardware Rev.2 and higher. We recommend to use the same device models for seamless replication between nodes.*

After correct configuration of the HA-cluster **you should access the cluster via its Virtual IP address.**

## SNMP-monitoring of HA-cluster

Failover feature uses KEEPALIVED-MIB for SNMP monitoring.

### EXAMPLE OF READING DEVICE CLUSTER STATE VALUE USING NET-SNMP LIBRARY

a) Command for reading the result value:

```
snmpget -v 2c -c public ip-of-smseagle .1.3.6.1.4.1.9586.100.5.2.3.1.4.1
```

Result:

```
KEEPALIVED-MIB::vrrpInstanceState.1 = INTEGER: master (2)
```

*Comment: Current device state is master*



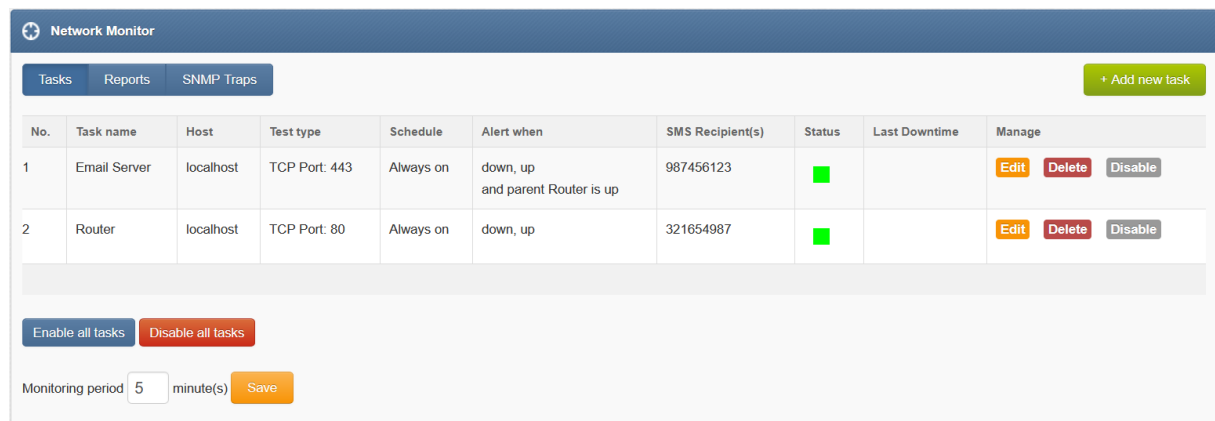
## SMSEAGLE PLUGINS

Basic features of SMSEagle software are extended by plugins that provide extra features to the software. Below you will find a description of plugins available in each SMSEagle device. All plugins are an integral part of SMSEagle software. That means that all described plugins are installed in a standard software of SMSEagle device and are available for free.

### Network Monitoring plugin

SMSEagle is equipped with network monitoring features. With that features you can monitor any device or service that operates ICMP, TCP, UDP or SNMP protocol. SMSEagle Network Monitoring plugin sequentially controls availability of defined hosts/services in Network Monitoring feature and sends defined SMS alert when host/service is unavailable/goes back to life or when SNMP return value reaches required criteria. Below you will find a brief overview of plugin capabilities.

#### Control status of all your defined tasks



The screenshot shows the 'Network Monitor' interface. It has a header with a plus icon and the text 'Network Monitor'. Below the header are three tabs: 'Tasks', 'Reports', and 'SNMP Traps'. A green button '+ Add new task' is in the top right. The main area contains a table with the following data:

No.	Task name	Host	Test type	Schedule	Alert when	SMS Recipient(s)	Status	Last Downtime	Manage
1	Email Server	localhost	TCP Port: 443	Always on	down, up and parent Router is up	987456123	■		Edit Delete Disable
2	Router	localhost	TCP Port: 80	Always on	down, up	321654987	■		Edit Delete Disable

Below the table are two buttons: 'Enable all tasks' and 'Disable all tasks'. At the bottom, there is a 'Monitoring period' field with the value '5' and the unit 'minute(s)', followed by a 'Save' button.

- see a settings' overview for all of your tasks
- check which server/service is currently unavailable
- see when a specific server/service was last down (last downtime)
- check what happened at last downtime (see server/service response)
- edit/delete your tasks
- disable tasks when needed (e.g. when doing a machine upgrades)

## Define what you want to monitor in each task

The screenshot shows the 'Add Monitoring Task' form with the following fields and values:

- Task name: Email Server
- Parent task:  Router
- Host: localhost (IP address or Hostname)
- Test type:  ICMP (ping),  port TCP,  port UDP,  SNMP
- Port number: 443
- Connect Timeout: 30 (In seconds, increase this for busy servers)

- choose a name for the task
- set parent task. If parent task is defined, network monitor will monitor child task health only if parent task is healthy
- enter a host (IP address or Hostname)
- choose ICMP (ping) to monitor a server with ICMP protocol
- or PORT (TCP/UDP) to monitor your service on a selected port (SMSEagle will check if port is open)
- or SNMP to monitor objects via SNMP protocol (supported return types: numeric, string)
- increase a default timeout value for busy servers (by default we set it to 30 seconds)
- test the connection of server

## Define a schedule

The screenshot shows the 'Add Monitoring Task' form with the following fields and values:

- Number of requests: 3
- Connect Timeout: 30 (In seconds, increase this for busy servers)
- Test connection:
- Active:  Always on,  Disable between specified hours
- Disable from: 00 : 00 to: 00 : 00
- SMS Recipient(s):  Phonebook public group(s),  Single number(s)
- Single number(s): 123456789
- SMS sent when:  host/service goes down,  host/service goes up after failure

- choose if task should be always enabled...
- ...or disable it at chosen times (during a night, when a machine goes through planned restarts, during resource intensive backups, etc.)
- enter a phone number or choose a group of users to send your SMS alert to
- select when to send SMS alert (when host/service goes down, when host/service goes up after failure)

## Define a SMS alert message

SMS Text:  
when service goes  
down

This is automatic alert from SMSEagle Network-monitor. Alert from task: {TASKNAME}. Error was: {RESPONSE} Time generated: {TIMESTAMP}

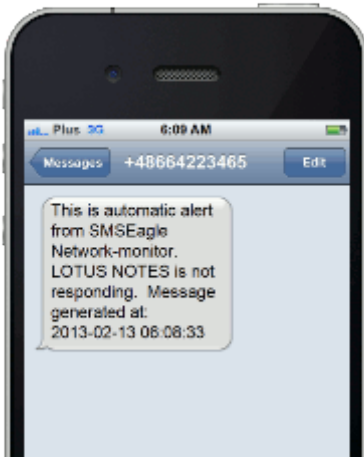
Placeholders for SMS Text:

- {TASKNAME} - name of monitoring task
- {HOST} - host
- {RESPONSE} - error response from server/service
- {TIMESTAMP} - error timestamp

Define your SMS messages when host or service becomes unavailable/comes back to life. Choose field placeholders for your SMS text:

- {TASKNAME} – puts a taskname inside SMS text
- {HOST} – hostname or IP address
- {RESPONSE} – message received (in case of no response from server/service)
- {TIMESTAMP} – timestamp of an error

## Receive SMS alerts

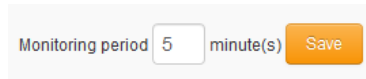


- be alerted when your services/servers go down (or go up after failure)
- give yourself a chance to react quickly

## MONITORING FREQUENCY

Monitoring tasks are performed in a parallel mode. Software automatically optimizes number of parallel tasks and frequency of tasks taking into account the performance of the device and adjusts monitoring period when needed.

You can manually increase/decrease monitoring period in Network Monitor settings:

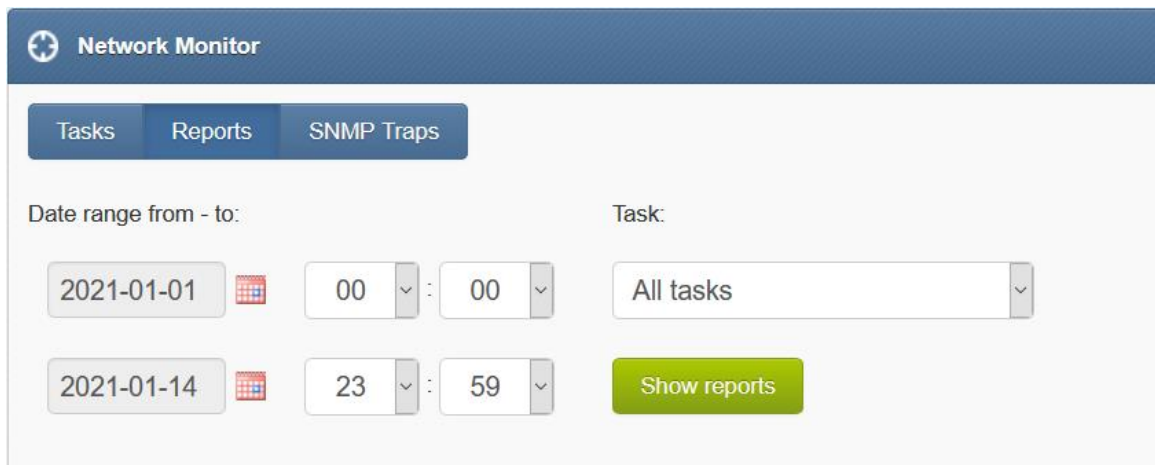


Monitoring period  minute(s)

If monitoring period value is too small (there are too many monitoring tasks to perform in parallel), the software will adjust the value to ensure optimal workload and performance of your device.

## REPORTS

This tab allows you to view reports of task errors in the Network Monitor for a selected period of time.



**Network Monitor**

Tasks Reports **SNMP Traps**

Date range from - to:

2021-01-01  00 : 00

2021-01-14  23 : 59

Task: All tasks

*Screenshot from Network Monitor > Reports window.*

## SNMP TRAPS

SNMP trap is a popular mechanism used to manage and monitor devices' activities via SNMP protocol. What makes the Trap unique is that they are triggered instantaneously by an agent, rather than waiting for a status request from SNMP get query.



**Network Monitor**

Tasks Reports **SNMP Traps**

No.	Rule Name	Rule Condition	SMS Recipient(s)	Manage
1	Device #1 power on	When incoming trap contains Object ID SNMPv2-MIB: snmpTrapOID.0 if SNMP return value is contains coldStart	sample contact	<input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Disable"/>
2	Signal quality	When request comes from IP 192.168.8.19 When incoming trap contains Object ID GSM_Signal if SNMP return value is lower than 20	sample contact	<input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Disable"/>

SNMP Traps daemon  Community

*Screenshot from Network Monitor > SNMP TRAPS window.*



**Add or edit SNMP Traps rule**

Rule Name: Signal quality

Send message: For specified IP / when trap contains

When incoming trap comes from IP:  
192.168.8.19

When incoming trap contains Object ID:  
GSM\_Signal

if SNMP return value is:  
lower than 20

Return value type: numeric

SMS Recipient(s): sample contact

Message: Warning! Signal strength on device #12 lower than 20%.

Save Cancel

Screenshot from Network Monitor > SNMP TRAPS Add or Edit window.

## Email to SMS plugin

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Email to SMS plugin allows you to convert an email to SMS message.

### BASIC USAGE

If the plugin is enabled, email sent to the email address:

**PHONE\_NUMBER@IP\_ADDRESS\_OF\_SMSEAGLE** will be converted to SMS message.

Where:

PHONE\_NUMBER - is a destination phone number

IP\_ADDRESS\_OF\_SMSEAGLE - is the IP address of your device.

The text of the email is the text of the SMS message (optionally you can append email subject at the beginning of SMS message).

*Example: email message sent to the address: 123456789@192.168.0.101 will be converted to SMS message and delivered to phone number 123456789.*

## SEND TO USERNAME/GROUP

Email sent to the email address:

**NAME\_IN\_PHONEBOOK@IP\_ADDRESS\_OF\_SMSEAGLE** will be converted to SMS message and will be sent to a user or users' group from SMSEagle's phonebook.

Where:

NAME\_IN\_PHONEBOOK - is a username or group name (must be a public group) from SMSEagle's phonebook

IP\_ADDRESS\_OF\_SMSEAGLE - is the IP address of your device.

The text of the email is the text of the SMS message (optionally you can append email subject at the beginning of SMS message).

*Example: email message sent to the address: db-admins@192.168.0.101 will be converted to SMS message and delivered to all members of db-admin group. The db-admin group must be defined in your SMSEagle phonebook.*

## SEND TO LDAP CONTACTS/GROUPS

If your company uses LDAP (Active Directory or OpenLDAP) for contacts management, you may use LDAP Contacts or Groups to send email to SMS text message.

*Example: email message sent to the address: myldap-admins1@192.168.0.101 will be converted to SMS message and delivered to all members of myldap-admins1 group. The myldap-admins1 group must be defined in your LDAP directory and LDAP plugin must be configured on your SMSEagle device.*

## USING FQDN IN EMAIL ADDRESS

It is also possible to use Fully Qualified Domain Name in an email address sent to SMSEagle box (eg.: 123456789@mydomain.com). Please refer to our FAQ article: [How do I configure Email2SMS plugin to accept FQDN email addresses](#) for more details.

## EMAIL SUBJECT - ADDITIONAL PARAMETERS (OPTIONAL)

It is possible to set additional flags for single converted message using email subject. Currently the following flags are available:

- date - date and time in format YYYYmmDDHHMM (YYYY – year, mm – month, DD – day, HH – hour, MM – minute). If this parameter is not null SMS will be scheduled for sending at the given date and time
- modemno - sets sending modem number (available only for multimodem devices)

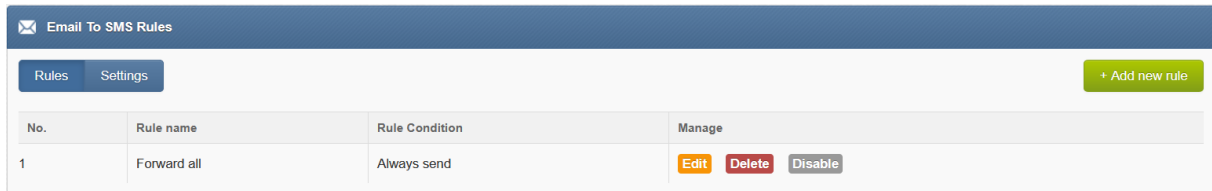
If you send email with subject containing FLAG=VALUE the flag will be set for this particular email2SMS message.

Example 1: email message with subject containing **modemno=2** will be converted to SMS message and sent via modem number 2.

Example 2: email message with subject containing **date=201801010005&modemno=2** will be converted to SMS message and sent on 2018-01-01 00:05 via modem number 2.

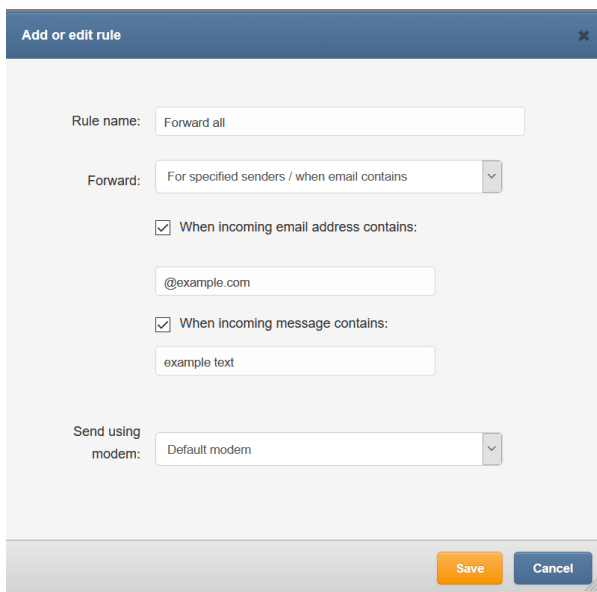
## PLUGIN CONFIGURATION

Plugin "Email To SMS" allows to add many forwarding rules. Each rule can be enabled or disabled by user.



No.	Rule name	Rule Condition	Manage
1	Forward all	Always send	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Disable</a>

*Screenshot from Email To SMS > Rules window*



**Add or edit rule**

Rule name:

Forward:

When incoming email address contains:

When incoming message contains:

Send using modem:

[Save](#) [Cancel](#)

*Screenshot from Email to SMS > Add new rule*

- You can name your rule
- You can set forwarding to Always or For specified senders / when email contains
- You can choose sending modem no.

✉ Email To SMS settings

Rules

Settings

Enable Email To SMS Yes

Email2SMS service status Disabled

What to do with email subject Use for authentication

If authentication is enabled provide SMSEagle user and password or access token in the email subject.  
Use the following syntax: login=john&pass=doe or access\_token=token  
(replace john doe / token with your own user and pass / token)

Maximum number of characters in SMS 1300

Value should be between 1 and 1300

Unicode encoding of SMS text No

This should be enabled only when you want to include special national chars (like аääöç€) in SMS message

Send as MMS Only when email contains at

Use LDAP contacts Yes

Before enabling this option make sure that your LDAP plugin is configured.

Phone number for LDAP errors 555-444-333

Define phone number to alert about errors with LDAP connection after 3 unsuccessful attempts. Leave empty for no alerts.

FQDN Hostname localhost.localdomain

Optional, do not change unless necessary.  
If changed - remember to configure domain yourdomain.com on your DNS server to point to SMSEagle device (A, MX entries).

NAT External IP

Optional, configure only if device works behind NAT (set its public IP address).  
If set - remember to adjust your firewall/router to forward traffic to the SMSEagle (at least TCP 25 port)

Save

*Screenshot from Email to SMS settings*

- if you want to use the plugin, set 'Email2SMS active' to 'Yes'
- if you want to include a subject of an email in SMS message, set 'What to do with email subject' setting to 'Include in SMS'. The email subject will be appended at the beginning of SMS message
- if you want to use user authentication, set 'What to do with email subject' setting to 'Use for authentication'. If user authentication is enabled, provide in a subject of an email your login and password in the following form: login=john&pass=doe OR provide API access token in the following form: access\_token=token
- if you want to include only a subject of an email in SMS message, set 'What to do with email subject' setting to 'Send only subject without email body'. Only the email subject will be inserted in the SMS message
- the text of an email will be cropped to the value 'Maximum number of characters. Maximum allowed length of SMS message is 1300 characters

- if you want to include in SMS message special national characters (like ääöß 我) set "Unicode encoding of SMS text" to 'Yes'
- if you want to send as MMS you can set as always or only when an email contains an attachment
- Choose if you want to use contacts from LDAP directory (Yes/No). LDAP plugin must be first configured to use this feature
- If you enabled contacts from LDAP, define Phone number for LDAP errors. Alerts about errors with LDAP connection will be sent to this phone number after 3 unsuccessful LDAP connection attempts. Leave this field empty for no alerts
- FQDN: Email2SMS Plugin can be configured to utilize alternative FQDN address instead of working with only device's IP in the email address. This requires configuring proper domain and DNS entries at your DNS server - both A and MX entries, pointing to the SMSEagle's IP. With this configured email sent to newly configured domain will reach the SMSEagle, and be properly processed by the plugin.
- NAT: If your device works in LAN behind NAT, and you want to be able to send emails to it from public internet, you need to configure here the public IP where it would be reachable. Have in mind that this would require additional configuration of your LAN/firewall, to forward traffic to the SMSEagle (at least forward TCP port 25).

## Email to SMS Poller

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Email2SMS Poller is an alternative for Email2SMS plugin for converting emails to SMS messages. This plugin should be used when you need to fetch emails from an existing mailbox on your mail server. The Email2SMS Poller plugin connects to a configured email account and polls it in specified periods of time for new emails. Once a new email is received, it is automatically converted to an SMS message.

The plugin supports POP3 and IMAP accounts. Plugin supports basic authentication for all mailboxes and Oauth2 for Office365 mailboxes.

To send an SMS using Email2SMS Poller you have to send an email to a specified email account, with the email subject containing a mobile number (or multiple phone numbers separated with comma) or phonebook contact/group name.

### BASIC EXAMPLE

For example, such email message:

TO: [smseagle@mycompany.com](mailto:smseagle@mycompany.com)

FROM: [john.doe@mycompany.com](mailto:john.doe@mycompany.com)

SUBJECT: +48333444555

BODY: Hello world!

In this case SMSEagle gateway will fetch an incoming email from [smseagle@mycompany.com](mailto:smseagle@mycompany.com) account and send its body as SMS message to +48333444555 mobile number.

## SEND TO USERNAME/GROUP

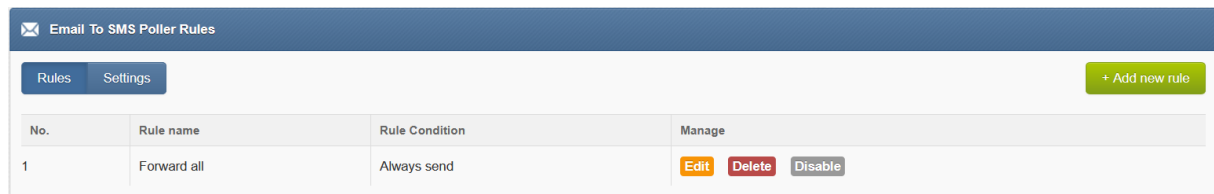
If you want to send SMS to a contact or group from SMSEagle phonebook, put the contact/group name in SUBJECT field.

### Notice:

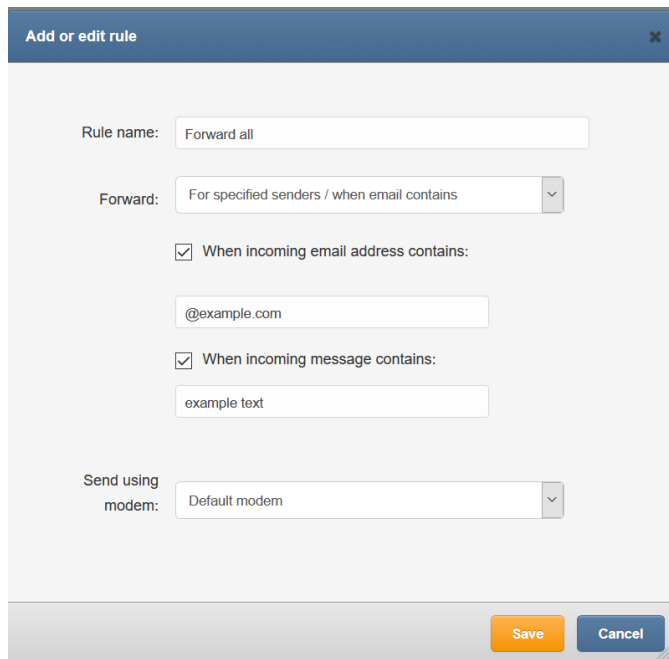
Messages that are processed by Email2SMS Poller (but not deleted) are marked in the mailbox as read. Software is based on flagging messages- Read/Unread. Marking a read message in the mailbox as unread will result in being processed again by Email2SMS Poller. We suggest using a separate email account to avoid situation with resending the same message (marking unread already processed read message).

## PLUGIN CONFIGURATION

Plugin "Email To SMS Poller" allows to add many forwarding rules. Each rule can be enabled or disabled by user.



Screenshot from Email to SMS Poller Rules



Screenshot from Email to SMS Poller > Add new rule

- You can name your rule
- You can set forwarding to Always or For specified senders / when email contains
- You can choose sending modem no.

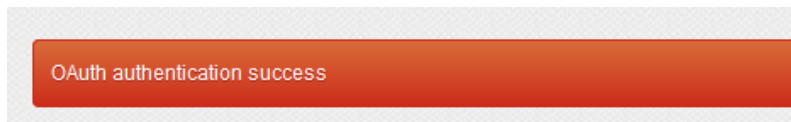
### Screenshot from Email to SMS Poller settings

- if you want to use the plugin, set 'Enable Email2SMS Poller' to 'Yes'
- Set email fetching interval (in seconds)
- the text of an email will be cropped to the value 'Maximum number of characters. Maximum allowed length of SMS message is 1300 characters.
- If you want to include special national characters, enable "Unicode encoding of SMS text"
- Choose protocol from IMAP or POP3
- Provide mailbox configuration (host, port, user, password, encryption settings)
- If you want to delete emails from the mailbox after they are fetched by Email2SMS Poller, please mark "Delete emails from server after processing"
- If you want to send as MMS, select always or only when email contains an attachment

### PLUGIN CONFIGURATION FOR OFFICE365 OAUTH2

- in Settings tab > parameter "Protocol" choose "IMAP + Oauth2 (Office 365)"
- Host: enter IMAP server for Office365 (default: outlook.office365.com)
- Username: enter email address of the mailbox which will be used for Email2SMS Poller

- follow the instructions in the knowledgebase article: [How to setup Office365 for Oauth2?](#) to get values for Client ID, Tenant ID, Client Secret from Microsoft Azure Portal
- Enter the values Client ID, Tenant ID, Client Secret in plugin settings
- press "Save" button to save settings
- press "Authenticate via Oauth" button and login with email and password of the mailbox which will be used for Email2SMS Poller
- If the process is completed successfully you should see "Oauth authentication success" message in SMSEagle webGUI



## SMS to Email plugin

SMS to Email plugin allows you to forward incoming SMS messages to email address.

The plugin can be used in two modes:

- forwarding of incoming SMS to email of last sender (so called **Two-way Email2SMS & SMS2Email**)  
In this mode, when SMSEagle receives incoming SMS, it checks if earlier anyone was sending SMS to the number from incoming SMS using Email2SMS. If last sender is found, the incoming SMS is forwarded to the email address of last sender. If no last sender is found, then the incoming message is forwarded to a default email address given in plugin settings.
- It forwards all the incoming messages to one fixed email address.  
In this mode incoming SMS messages are forwarded to always the same email address.

Plugin uses an external SMTP server for sending emails.

### PLUGIN CONFIGURATION

Plugin "SMS To Email" allows to add many forwarding rules. Each rule can be enabled or disabled by user.

No.	Rule name	Rule Condition	Send to	Manage
1	Default rule	Always forward	contact@example.com	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Disable</a>

*Screenshot from SMS to Email > Rules*



**Add or edit rule**

Rule name: Default rule

When message comes to: Any modem

Forward: From specified senders / with specified message

When incoming SMS comes from:  
sample contact (1111111111)

When incoming SMS text contains:  
example text

Type of email forwarding: To fixed email address

Forward to Email address: name@example.com

Email subject: Incoming SMS on SMSEagle

Save Cancel

*Screenshot from SMS to Email > Rules> Add or Edit rule*

In the rule definition you may choose to forward all incoming messages or just messages from specified senders/with specific text.

*Screenshot from SMS to Email settings*

- enter SMTP configuration for your SMTP server that will be used for sending emails

## EMAIL TEXT FROM PLUGIN

Email body from SMS To Email plugin contains:

- phone number from incoming SMS (and phonebook contact name if found)
- Date, time when SMS is received
- SMS message

*Example email text sent from plugin:*

*From: +483334455 (John Doe)*

*Received: 2017-06-01 14:38:12*

*Message: My SMS message*

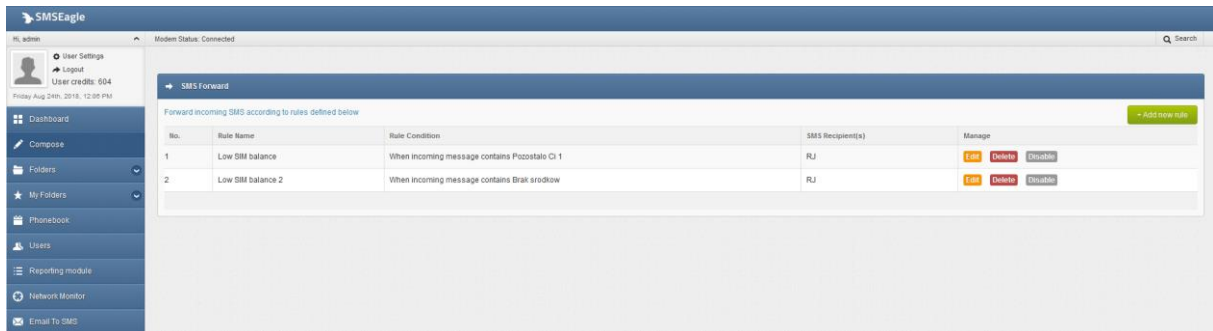
## SMS Forward

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The plugin “SMS forward” allows to forward incoming SMS messages to one/may recipients according to defined rules.

## PLUGIN CONFIGURATION

Plugin “SMS Forward” allows to add many forwarding rules. Each rule can be enabled or disabled by user.



*Screenshot from plugin main window*

For each rule user can define:

- When incoming SMS should be forwarded (Rule type) and to what number(s) the message should be forwarded (SMS Recipient).
- Whether or not include in SMS a sender number from which original SMS came from.
- When defining a rule user can choose SMS recipient (who gets the forwarded SMS). It can be either phone number or name of group from phonebook.
- User may define many forwarding rules in the plugin.
- Each rule is processed independently.
- There is a possibility to enable/disable each rule.

*Screenshot form "Add/edit forwarding rule"*

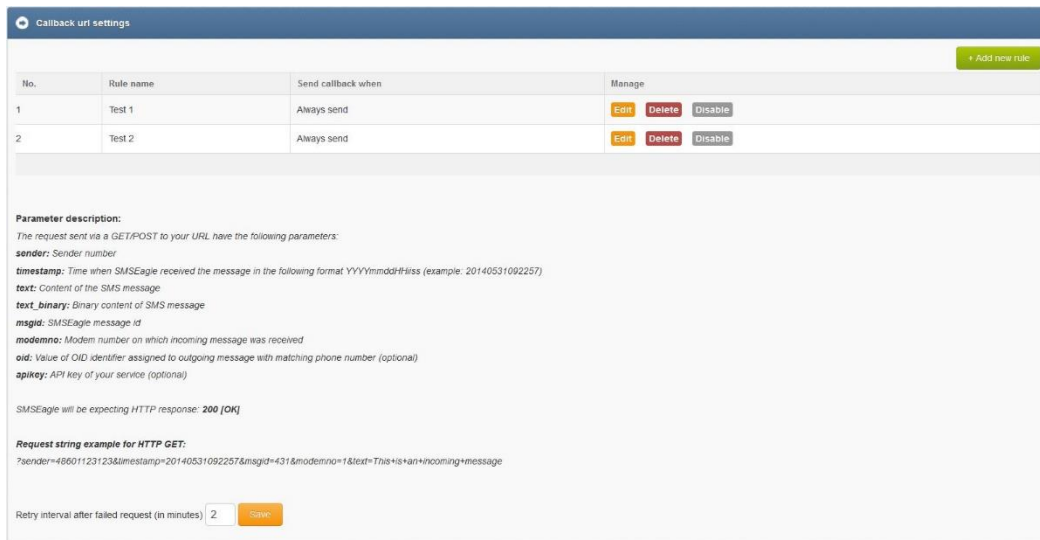
## Callback URL plugin

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Callback URL plugin allows you to forward incoming SMS message to a defined URL address. If the plugin is enabled, on each incoming SMS message SMSEagle will trigger HTTP(S) request to a defined URL. HTTP(S) request can be of type GET or POST.

### PLUGIN CONFIGURATION

Plugin "Callback URL" allows to add unlimited number of rules. Each rule can be enabled or disabled by user.



### Screenshot from Callback URL settings

For each new rule user has to fill in the requested fields:

- 'URL' field defines remote address of your callback script
- 'Test URL' button allows to test whether your Callback URL configuration is correct. SMSEagle will make a callback request with test parameters and will verify the response of remote server
- 'URL method' allows to choose whether callback to your URL is done with HTTP(S) GET or POST method
- "When message comes to" allows to choose a particular modem or all modems
- "Send request when" defines if the request is always sent, sent only when SMS sender belongs to a given contact/group or only when incoming message contains a given character string
- Optionally you can define "API key of your service" value. This will be passed to your callback URL in parameter 'apikey'. If you leave the field blank, 'apikey' parameter will not be passed to your callback URL
- User may also choose whether to enable support of self-signed SSL certificate

*Screenshot from Callback URL Add/Edit rule window*

After sending HTTP(S) GET/POST request to your callback URL, SMSEagle will be expecting HTTP response: 200 [OK]. If other or no response is received from your callback URL, SMSEagle will keep retrying every X minute for 24 hours. Retry interval can be set in main plugin Window:

## Periodic SMS

---

The plugin “Periodic SMS” allows to send SMS messages or USSD codes at a desired time interval. User may define many sending rules, and each rule will be processed independently.

### PLUGIN CONFIGURATION

Plugin “Periodic SMS” allows to add many sending rules. Each rule can be enabled or disabled by user.

Periodic SMS				
Send periodic SMS messages				+ Add new rule
No.	Rule Name	SMS Recipient(s)	Sending interval	Manage
1	Reminder	123 456 789	Every day: 12:00	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Disable</a>
2	Reminder	999 999 999	Mondays : 1:00	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Disable</a>
3	Reminder (Batteries)	123 456 789	Every year: 1/2, 10:00	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Disable</a>

Screenshot from main plugin window

For each rule the user can define:

- The rule name
- Sending interval (Hourly, Daily, Weekly, Monthly or Annually)
- Message type (SMS, USSD Code)
- The content of the SMS text
- The recipients (phone number(s) separated with comma or group(s) from phonebook)

**Add or edit sending rule** ✕

Rule name:

Sending interval:

Every year:   Month-Day

Minute

Modem selection:

Message type:

SMS Text:

Send as Unicode:

SMS Recipient(s):  Phonebook public group(s)  Single number(s)

[Save](#) [Cancel](#)

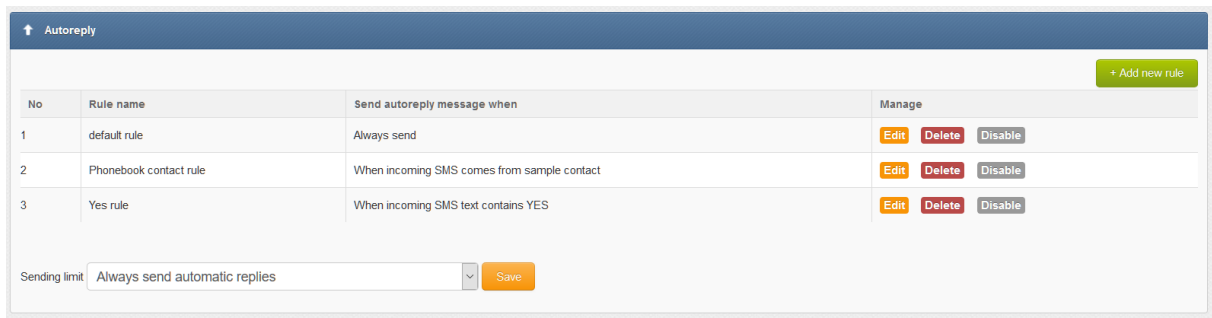
Screenshot from "Add new rule" window

## Autoreply plugin

Plugin allows to automatically respond to each received message with defined text response.

## PLUGIN CONFIGURATION

Plugin "Autoreply" allows to add many autoreply rules. Each rule can be enabled or disabled by user.

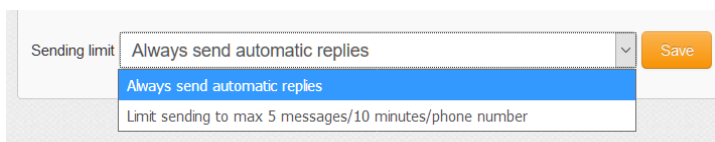


*Screenshot from plugin main window*

For each rule user can define:

- When autoreply message should be sent:
  - always,
  - when incoming message contains defined text,
  - and/or when message sender belongs to Phonebook contact/group
  - if incoming SMS text comes to a selected modem
- If autoreply message text should be sent as Unicode characters

Plugin also allows to define sending limit for autoreply messages. It is possible to set limitation of max 5 messages / 10 minutes / phone number.





*Screenshot form "Add/edit autoreply rule"*

## LDAP plugin

---

The LDAP plugin allows to access directory services: Active Directory (hereinafter referred to as "AD") and OpenLDAP. The plugin allows reading directory contacts and groups in SMSEagle web-GUI. Optionally, it allows to authenticate to SMSEagle device using directory services.

### PLUGIN CONFIGURATION

Choose "LDAP" from left side menu in SMSEagle web-GUI to access plugin configuration. After enabling the plugin, user needs to fill in all requested fields according to AD settings.

In the "AD phone attribute" field user needs to choose which phone attribute from AD will be shown in SMSEagle web-gui.

LDAP settings

Enable LDAP plugin: Yes

User: AD user

Password: .....

Domain name: mydapserver.com

Port: 389

Server:

if this is empty plugin will query DNS for a list of LDAP servers for the domain

Use separate DN for groups and users: Disabled

Object distinguished name: ou=Users,dc=smseagle,dc=local

Protocol type: Active Directory

AD phone attribute: Mobile number

Use SSL:

Allow authentication to SMSEagle via LDAP: Disabled

Save Test connection

LDAP settings must be saved before running a connection test.

*Screenshot from "LDAP settings" window*

Click "Save" and "Test connection" to make sure that SMSEagle is connected with AD server.

Connection to LDAP/Active Directory established.

LDAP settings

Enable LDAP plugin: Yes

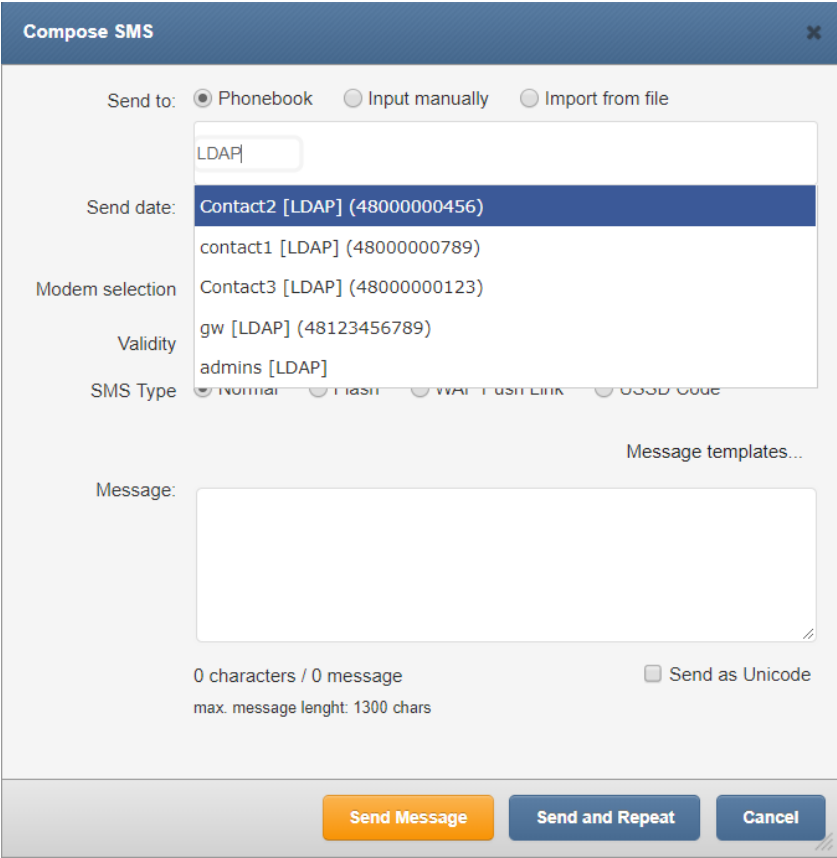
AD user: AD user

AD user password: .....

*Screenshot showing successful connection to AD server.*

With connection established, AD contacts/groups suggestions are shown in selected modules of Web-GUI. Start typing any part of contact/group name or number to show AD contact suggestions.

Type "LDAP" to check all contacts listed in AD directory.



Screenshot from "Compose" module with LDAP connection enabled

LDAP directory suggestions can be used in "Compose", "Autoreply", "Digital input/output", "Email To SMS" and "Email To SMS Poller" modules.

### AUTHENTICATION TO SMSEAGLE VIA LDAP (OPTIONAL)

This feature allows authentication to your SMSEagle device using LDAP. To start using it:

- create in your directory services a new group for SMSEagle admin role. Enter the created group name in SMSEagle webGUI > LDAP > "Admin group name in LDAP"
- create in your directory services a new group for SMSEagle user role. Enter the created group name in SMSEagle webGUI > LDAP > "User group name in LDAP"
- Set parameter "Allow authentication to SMSEagle via LDAP" to "Enable"
- press "Save" button"

- Depending on the directory structure of your LDAP server, for OpenLDAP you may also need to specify separate Distinguished Names for Users and Groups (if both are located under different paths)

Use separate DN for groups and users	Enabled
Object distinguished name	DC=smseagle,DC=local
Users DN	OU=Users,DC=smseagle,DC=loc
Groups DN	OU=Groups,DC=smseagle,DC=l

On the login screen user will be able to choose between "Local" or "LDAP" authentication.

Use one of these parameters as your user in SMSEagle login form:

- Common Name
- givenName
- sAMAccountName
- displayName
- userPrincipalName

The image shows the SMSEagle login interface. At the top, it says "SMSEagle | Login". Below this is a dropdown menu for "Authentication type:" with "Local (default)" selected. A secondary dropdown menu is open, showing "Local (default)" and "LDAP" as options. Below the dropdowns are input fields for "User" and "Password". A "Sign in" button is located to the right of the password field. At the bottom, there is a link for "Forgot password?".

During first login using LDAP authentication type, the system will create a new user on SMSEagle device, linked to the LDAP account. This account settings will be synchronized with LDAP during every login.

## Blacklist

---

This feature allows you to add a number to a Blacklist. When a number is on this list, the device automatically blocks any sent and received SMS from the number as well as deletes the messages from your inbox.

No.	Phone number	Reason	Manage
1	654781239	Landline	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Disable</a>
2	800546121	1800 number	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Disable</a>
3	987456321	SPAM	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Disable</a>

Screenshot from "Blacklist" feature

**Define STOP word**

Automatically add number to blacklist when:

Incoming message contains:

Autoreply message when number was added to blacklist

[Save Changes](#) [Cancel](#)

Screenshot from Blacklist > Define STOP word feature

In "Define STOP word" window:

- You may add a defined a STOP keyword. When incoming message contains the keyword then the sender number will be automatically added to exclude-list.

**Add number to blacklist**

All form fields are required

Phone number

Available patterns: NUMBER, \*NUMBER, \*NUMBER\*, NUMBER\* (where \* replaces any chars)

Reason

[Save](#) [Cancel](#)

Screenshot from Blacklist > Add number to blacklist

In "Add number to blacklist" window:

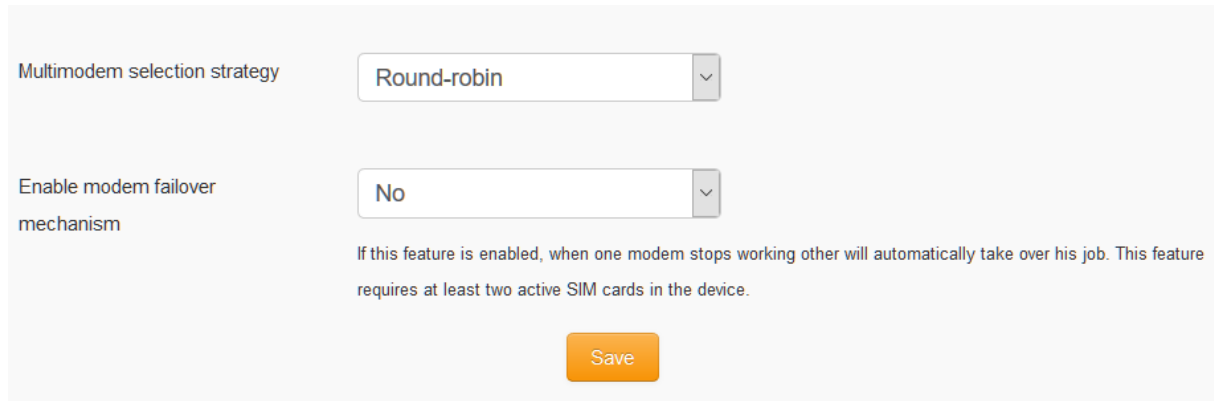
- You may add excluded phone number(s). The following wildcards may be used for multiple numbers: \*NUMBER, \*NUMBER\*, NUMBER\* (where \* replaces any chars)
- You may add a comment (a reason) for blacklisting the number



## MULTIMODEM FEATURES

---

SMSEagle MHD-8100 device is equipped with eight built-in modems. You can manage modem settings in web-gui menu Settings > Maintenance Tab. There are following options available for multimodem device:



Multimodem selection strategy: Round-robin

Enable modem failover mechanism: No

If this feature is enabled, when one modem stops working other will automatically take over his job. This feature requires at least two active SIM cards in the device.

Save

### Multimodem selection strategy

This setting is responsible for modem choice strategy when sending SMS messages from SMSEagle. The following options are possible:

- Round-robin  
In this strategy modems are selected sequentially one-by-one when sending out SMS messages. This means that device sends messages using modem1 > modem2 > modem3 > modem4, etc.
- SIMX as Master modem  
In this strategy modemX is always selected when sending out SMS messages. If failover is enabled (see below) other modems will be always used as a backup in failover strategy

### Enable modem failover mechanism

If this setting is enabled, when one modem stops working other will automatically take over his job. This feature requires at least two active SIM cards in the device. The health check for each modem is performed with 3 minutes frequency. If during a health check a modem is not connected to network the other will automatically take over his jobs (including messages waiting in Outbox folder).

## PLUGINS AND INTEGRATION MANUALS FOR NMS & AUTH SYSTEMS

---

SMSEagle has a number of ready-to-use plugins and integration manuals for an easy and quick integration of SMSEagle device with external software (Network Monitoring Systems, Authentication Systems and other). The list grows constantly and is published on SMSEagle website. For a complete and up to date list of plugins please go to: <https://www.smseagle.eu/integration-plugins/>

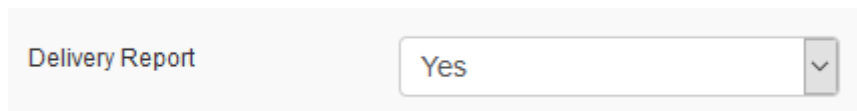


### Delivery Reports

---

SMSEagle software allows you to enable delivery reports for each sent SMS. Delivery reports is a feature that allows to receive a confirmation that SMS was received on recipients phone.

In order to enable delivery reports, please go to web-GUI > menu Settings and set "Delivery Reports" to "Yes"

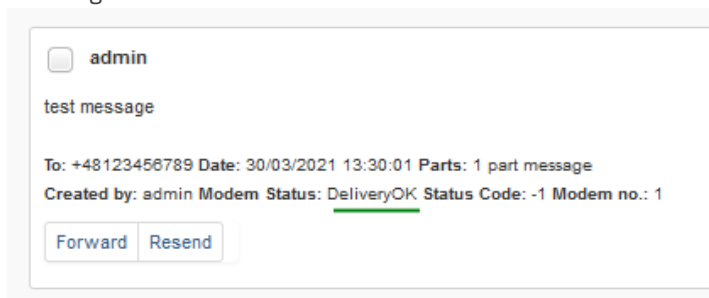


Delivery Report

Once delivery reports are enabled in in web-GUI, you may verify whether SMS was delivered to recipient:

- **In web-GUI**

In menu Folders > Sent items > open the message you want to check. Press "Show Details" in top-right corner of the message. Field "Modem Status" contains information on delivery status



admin  
test message  
To: +48123456789 Date: 30/03/2021 13:30:01 Parts: 1 part message  
Created by: admin Modem Status: DeliveryOK Status Code: -1 Modem no.: 1  
Forward Resend

- **Using API**

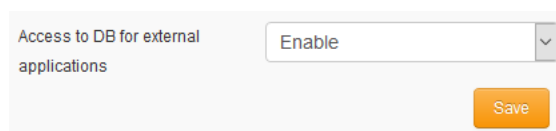
Use method "read\_sms" to fetch data for a selected SMS in sentitems folder. The data will contain columns "Status" and "DeliveryDateTime" contain information about delivery status of the message. For more information about possible values for "Status" column, please refer to chapter **Błąd! Nie można odnaleźć źródła odwołania.** table "Field Description Of Response Data – Sentitems Folder."

### Connecting directly to SMSEagle database

---

SMSEagle's database operates on PostgreSQL database engine. You may use a direct access to database for reading/writing SMS messages directly from/to database via SQL queries.

**The database access for external applications is disabled by default.** In order to enable it, go to webGUI > menu Settings and enable to following setting:



Access to DB for external applications   
Save

Once database access is enabled, it is possible to connect to the database from external application using the following credentials:

### POSTGRESQL DATABASE CREDENTIALS

Host: IP address of your device

Database name: smseagle

User: smseagleuser

Password: postgreeagle

## [Injecting short SMS using SQL](#)

---

The simplest example is short text message (limited to 160 chars):

```
INSERT INTO outbox (
  DestinationNumber,
  TextDecoded,
  CreatorID,
  Coding,
  Class,
  SenderID
) VALUES (
  '1234567',
  'This is a SQL test message',
  'Program',
  'Default_No_Compression',
  -1,
  'smseagle1'
);

INSERT INTO user_outbox (
  id_outbox,
  id_user
) SELECT CURRVAL(pg_get_serial_sequence('outbox','ID')), 1;
```

In the above example the message will belong to user with **id\_user** 1 (default 'admin'). You can find id\_user values for other users in table public."user". Field SenderID contains identification number of SMSEagle modem. For modem 1 SenderID = smseagle1, SenderID = smseagle2 for modem 2, etc.

## Injecting long SMS using SQL

---

Inserting multipart messages is a bit more tricky, you need to construct also UDH header and store it hexadecimally written into UDH field. Unless you have a good reason to do this manually, use API.

For long text message, the UDH starts with 050003 followed by byte as a message reference (you can put any hex value there, but it should be different for each message, D3 in following example), byte for number of messages (02 in example, it should be unique for each message you send to same phone number) and byte for number of current message (01 for first message, 02 for second, etc.).

For example, long text message of two parts could look like following:

```
INSERT INTO outbox (
    "DestinationNumber",
    "CreatorID",
    "MultiPart",
    "UDH",
    "TextDecoded",
    "Coding",
    "Class",
    "SenderID"
) VALUES (
    '1234567',
    'Program',
    'true',
    '050003D30201',
    'Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do
    eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad
    minim veniam, qui',
    'Default_No_Compression',
    -1,
    'smseagle1'
)

INSERT INTO outbox_multipart (
    "ID",
    "SequencePosition",
    "UDH",
    "TextDecoded",
    "Coding",
    "Class"
) SELECT
    CURRVAL(pg_get_serial_sequence('outbox','ID')),
    2,
    '050003D30202',
    's nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo
    consequat.',
    'Default_No_Compression',
    -1;

INSERT INTO user_outbox (
    id_outbox,
```

```
id_user
) SELECT
CURRVAL(pg_get_serial_sequence('outbox','ID')),
1;
```

*Note: Adding UDH means that you have less space for text, in above example you can use only 153 characters in single message.*

We have added some useful scripts which may be used to delete SMS messages from database through Linux CLI.

Scripts are located at following directory:

`/opt/scripts/`

- **db\_delete** – script for deleting SMS from folders Inbox, SentItems older than provided date.  
Usage:  
`./db_delete YYYYMMDDhhmm`
- **db\_delete\_7days** – script for deleting SMS from folders Inbox, SentItems older than 7 days.  
Usage:  
`./db_delete_7days`
- **db\_delete\_allfolders** – script for cleaning PostgreSQL database folders (Inbox, SentItems, Outbox). Specially designed to run periodically through *cron*. Usage:  
`./db_delete_allfolders`
- **db\_delete\_select** – script for deleting SMS from chosen database folder (Inbox, Outbox, SentItems, Trash). Usage:  
`./db_delete_select {inbox|outbox|sentitems|trash}`

### Adding script to system *cron* daemon

1) Create a file inside `/etc/cron.d/` directory with your desired name (eg. *pico db\_cleaner*)

2) Example content of this file:

```
0 0 1 * * root /opt/scripts/db_delete_allfolders
```

This will run cleaning script every 1<sup>st</sup> day of month.

“Simple Network Management Protocol (SNMP) is an Internet-standard protocol for managing devices on IP networks. It is used mostly in network management systems to monitor network-attached devices for conditions that warrant administrative attention” (source: Wikipedia).

SMSEagle device has a built-in Net-SNMP agent. The SNMP agent provides access to Linux Host MIB tree of the device, and additionally (using extension NET-SNMP-EXTEND-MIB) allows access to custom metrics specific to SMSEagle.

Available SNMP metrics that describe a state of a SMSEagle device are:

Metric name	Description	OID
<b>GSM_Signal1</b>	Returns 3G/4G signal strength in percent for modem 1. Value range: 0-100. If modem is disconnected from cellular network GSM_Signal returns 0.	.1.3.6.1.4.1.8072.1.3.2.3.1.2.11.71.83.77.95.83.105.103.110.97.108.49
<b>GSM_Signal[X]</b>	Returns 3G/4G signal strength in percent for modem X. Value range: 0-100. If modem is disconnected from cellular network GSM_Signal returns 0.	.1.3.6.1.4.1.8072.1.3.2.3.1.2.11.71.83.77.95.83.105.103.110.97.108.[48+X]
<b>GSM_NetName1</b>	Returns cellular network name on modem 1	.1.3.6.1.4.1.8072.1.3.2.3.1.2.12.71.83.77.95.78.101.116.78.97.109.101.49
<b>GSM_NetName[X]</b>	Returns cellular network name used on modem X	.1.3.6.1.4.1.8072.1.3.2.3.1.2.12.71.83.77.95.78.101.116.78.97.109.101.[48+X]
<b>FolderOutbox_Total</b>	Returns number of SMS messages in Outbox folder (outgoing queue length)	.1.3.6.1.4.1.8072.1.3.2.3.1.2.18.70.111.108.100.101.114.79.117.116.98.111.120.95.84.111.116.97.108
<b>FolderInbox_Total</b>	Returns number of SMS messages in Inbox folder	.1.3.6.1.4.1.8072.1.3.2.3.1.2.17.70.111.108.100.101.114.73.110.98.111.120.95.84.111.116.97.108
<b>FolderSent_Last24H</b>	Returns number of SMS messages sent from the device within last 24 hours	.1.3.6.1.4.1.8072.1.3.2.3.1.2.18.70.111.108.100.101.114.83.101.110.116.95.76.97.115.116.50.52.72
<b>FolderSent_Last1M</b>	Returns number of SMS messages sent from the device within last month	.1.3.6.1.4.1.8072.1.3.2.3.1.2.17.70.111.108.100.101.114.83.101.110.116.95.76.97.115.116.49.77

<b>FolderSent_Last24HSendErr</b>	Returns number of SMS messages sent with error within last 24h. Error occurs when 3G modem cannot send SMS message or message is rejected by 3G/4G carrier (mostly happens when a credit on pre-paid SIM card is over)	.1.3.6.1.4.1.8072.1.3.2.3.1.2.25.70.111.108.100.101.114.83.101.110.116.95.76.97.115.116.50.52.72.83.101.110.100.69.114.114
----------------------------------	--	--

## RESULT VALUES

- Using OID

Result values for each custom metric are available and can be fetched from OID given in table above.

- Using textual name

Alternatively result values for each custom metric can be fetched using textual names from OID tree under: NET-SNMP-EXTEND-MIB::nsExtendOutputFull."[METRIC NAME]"

*For example:*

*Result value for parameter **GSM\_Signal1**:*

*NET-SNMP-EXTEND-MIB::nsExtendOutputFull.'GSM\_Signal1'*

*If your chosen SNMP tool cannot access NET-SNMP-EXTEND-MIB objects, you can download MIB definitions from: <https://www.smseagle.eu/download/NET-SNMP-EXTEND-MIB.txt>*

## READING RESULT VALUES

In order to test-read the parameter values from SNMP agent you can use any tools available for SNMP protocol (for example: NET-SNMP library for Linux or iReasoning MiB-Browser for Windows).

### EXAMPLE OF READING **GSM\_SIGNAL1** VALUE USING NET-SNMP LIBRARY

a) Command for reading the result value:

```
snmpget -v 2c -c public localhost
.1.3.6.1.4.1.8072.1.3.2.3.1.2.11.71.83.77.95.83.105.103.110.97.108.49
```

Result:

```
NET-SNMP-EXTEND-MIB::nsExtendOutputFull."GSM_Signal1" = STRING: 54
```

*Comment: 3G/4G Signal strength value is 54%*

### EXAMPLE OF READING **GSM\_NETNAME1** VALUE USING NET-SNMP LIBRARY

a) Command for reading the result value:

```
snmpget -v 2c -c public localhost
.1.3.6.1.4.1.8072.1.3.2.3.1.2.12.71.83.77.95.78.101.116.78.97.109.101.49
```

Result:

```
NET-SNMP-EXTEND-MIB::nsExtendOutputFull."GSM_NetName1" = STRING: PLAY
```

*Comment: Currently used network at SIM card #1 is PLAY*

#### EXAMPLE OF READING **FOLDEROUTBOX\_TOTAL** VALUE USING NET-SNMP LIBRARY (AND TEXTUAL NAME OF METRIC)

a) Command for reading the result value:

```
snmpget -v 2c -c public ip-of-smseagle 'NET-SNMP-EXTEND-
MIB::nsExtendOutputFull."FolderOutbox_Total"'
```

Result:

```
NET-SNMP-EXTEND-MIB::nsExtendOutputFull."FolderOutbox_Total" = STRING: 0
```

*Comment: Number of SMS messages waiting in outbox queue is 0*

#### EXAMPLE OF READING **SYSTEMUPTIME** FROM LINUX HOST USING NET-SNMP LIBRARY

a) Command for reading the result value:

```
snmpget -v 2c -c public ip-of-smseagle system.sysUpTime.0
```

Result:

```
DISMAN-EVENT-MIB::sysUpTimeInstance = Timeticks: (216622) 0:36:06.22
```

*Comment: Linux system is up for 36 hours, 6.22 minutes*

#### EXAMPLE OF BROWSING SMSEAGLE EXTENSION PARAMETERS IN MIB TREE USING NET-SNMP LIBRARY

a) Command for reading the result value:

```
snmpwalk -v 2c -c public ip-of-smseagle .1.3.6.1.4.1.8072.1.3.2.3.1.2
```

Result:

```
NET-SNMP-EXTEND-MIB::nsExtendOutputFull."GSM_Signal1" = STRING: 54
```

```
NET-SNMP-EXTEND-MIB::nsExtendOutputFull."GSM_Signal2" = STRING: 54
```

...

```
NET-SNMP-EXTEND-MIB::nsExtendOutputFull."GSM_NetName1" = STRING: PLAY
```

```
NET-SNMP-EXTEND-MIB::nsExtendOutputFull."GSM_NetName2" = STRING: PLAY
```

...

```
NET-SNMP-EXTEND-MIB::nsExtendOutputFull."FolderInbox_Total" = STRING: 15
```

```
NET-SNMP-EXTEND-MIB::nsExtendOutputFull."FolderSent_Last1M" = STRING: 19
```

```
NET-SNMP-EXTEND-MIB::nsExtendOutputFull."FolderOutbox_Total" = STRING: 0
```



NET-SNMP-EXTEND-MIB::nsExtendOutputFull."FolderSent\_Last24H" = STRING: 0

NET-SNMP-EXTEND-MIB::nsExtendOutputFull." FolderSent\_Last24HSendErr" = STRING: 0

### EXAMPLE OF BROWSING SMSEAGLE EXTENSION PARAMETERS IN MIB TREE USING MIB-BROWSER

The screenshot shows the iReasoning MIB Browser interface. The left pane displays a tree view of the MIB hierarchy, with 'nsExtendOutputFull' selected. The right pane shows a 'Result Table' with the following data:

Name/OID	
nsExtendArgs.10.71.83.77.95.83.105.103.110.97.108	signal
nsExtendArgs.17.70.111.108.100.101.114.73.110.98.111.120.95.84.111.116.97.108	inbox
nsExtendArgs.17.70.111.108.100.101.114.83.101.110.116.95.76.97.115.116.49.77	sent1m
nsExtendArgs.18.70.111.108.100.101.114.79.117.116.98.111.120.95.84.111.116.97.108	outbox
nsExtendArgs.18.70.111.108.100.101.114.83.101.110.116.95.76.97.115.116.50.52.72	sent24h
nsExtendOutputFull.10.71.83.77.95.83.105.103.110.97.108	54
nsExtendOutputFull.17.70.111.108.100.101.114.73.110.98.111.120.95.84.111.116.97.108	74
nsExtendOutputFull.17.70.111.108.100.101.114.83.101.110.116.95.76.97.115.116.49.77	504
nsExtendOutputFull.18.70.111.108.100.101.114.79.117.116.98.111.120.95.84.111.116.97.108	0
nsExtendOutputFull.18.70.111.108.100.101.114.83.101.110.116.95.76.97.115.116.50.52.72	0

Below the tree view, a table provides details for the selected object:

Name	nsExtendOutputFull
OID	.1.3.6.1.4.1.8072.1.3.2.3.1.2
MIB	NET-SNMP-EXTEND-MIB
Syntax	DISPLAYSTRING
Access	read-only
Status	current
DefVal	
Augments	nsExtendConfigEntry

### Setting up SNMP v3 access control

By default, SMSEagle devices uses SNMP v2 access control. Using v3 can strengthen security, however is not mandatory. To easily switch to SNMP v3 access control we've prepared special shell script located at */opt/smseagle* directory.

1. Log in via SSH using root account
2. Navigate to:  
`cd /opt/smseagle/`
3. Configuration script:  
`./snmpv3`
4. Script can run with following parameters:
  - i. `add`
  - ii. `del`
  - iii. `enablev2`
  - iv. `disablev2`
5. To add v3 USER please run:  
`./snmpv3 add USERNAME PASSWORD ENCRYPTIONPASSWORD`

6. To delete USER please run:  
`./snmpv3 del`

7. To disable v2 access policy run:  
`./snmpv3 disablev2`

8. To enable v2 access policy run:  
`./snmpv3 enablev2`

## Failover (HA-cluster) feature

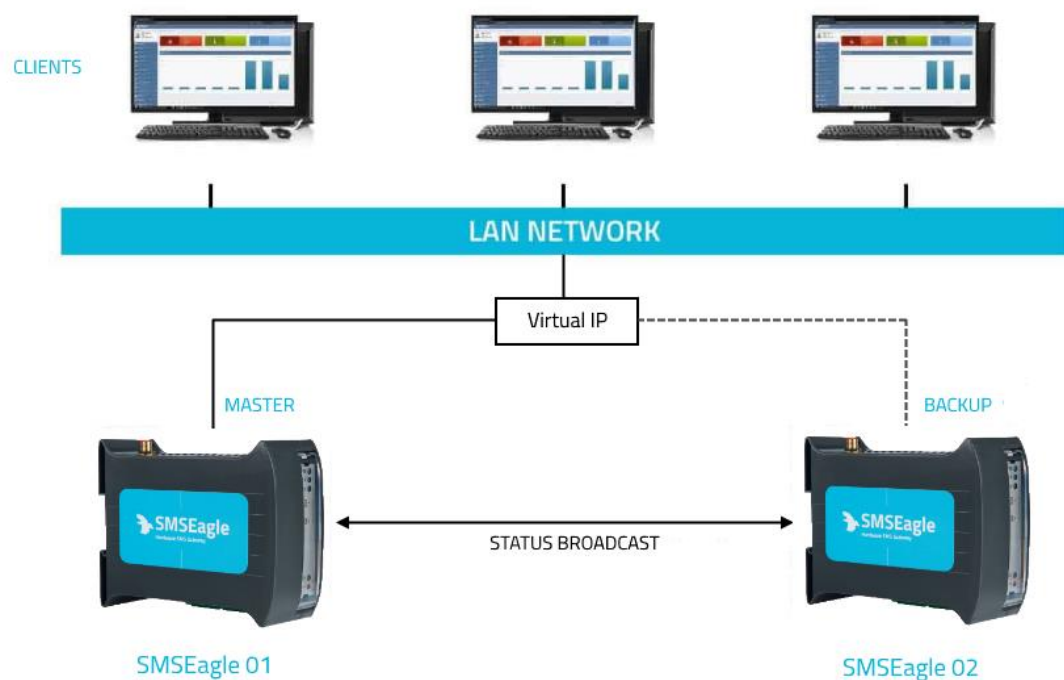
'High-availability clusters (also known as HA clusters or fail over clusters) are groups of computers (...) that can be reliably utilized with a minimum of down-time. They operate by using high availability software to harness redundant computers in groups or clusters that provide continued service when system components fail. Without clustering, if a server running a particular application crashes, the application will be unavailable until the crashed server is fixed. HA clustering remedies this situation by detecting hardware/software faults, and immediately restarting the application on another system or whole node without requiring administrative intervention, a process known as failover.' (source: Wikipedia)

SMSEagle NXS-family devices their own failover mechanism based on HA-cluster. This feature allows you to assure high availability of SMSEagle devices in critical environments. To enable failover (HA-cluster) you need at least 2 devices ('aka' nodes). The failover feature monitors devices working in the cluster, and detects faults with the following services:

6. Apache2 WWW server
7. PostgreSQL database
8. SNMP agent
9. Modem software (Gammu-SMSD daemon)
10. Accessibility (response to ping) of whole node.

Every node in a cluster can have one of three states:

- **Master:** main healthy node in a cluster, by default accessible through Virtual IP
- **Backup:** second healthy node in a cluster, ready and waiting for replacing Master when needed
- **Fault:** node with detected service fault



In the cluster you have one MASTER device and one BACKUP device. **HA-cluster is accessed via Virtual IP address.** When the daemon running at MASTER device detects failure of at least one described feature, it immediately automatically switches cluster's IP assignment to the BACKUP device (node) providing continuous usage of the SMSEagle HA-cluster for the user.

Devices (nodes) should see each other on the network. By default, HA-nodes use 224.0.0.18 multicast IP address for VRRP (Virtual Router Redundancy Protocol) for communication between two nodes. If nodes are on the same network (same subnet & IP range) there is no need for any network configuration. If two nodes are behind firewalls, make sure firewall is configured to accept multicast and VRRP protocol (IP Protocol #112).

#### HOW TO CONFIGURE FAILOVER (HA-CLUSTER):

Failover cluster can be easily configured using web-gui. Configuration can be done in menu "Settings" > tab "Failover". For **each** device in failover cluster:

- enter virtual IP address in the field "Virtual IP Address"
- enter Master and Backup IP addresses (these should be physical addresses of your devices)
- set "Enable Failover cluster" to "Yes"
- optionally you can enable database replication between nodes (feature available only in devices with hardware Rev.2 and higher)

**Save** configuration. **Reboot** each device after saving. The configuration should be exactly the same on both devices in HA-cluster.

General settings

Application IP Settings **Failover** Date/Time Maintenance Backup/Restore Updates Sysinfo

Enable Failover cluster Yes

Failover status Enabled

Current device status MASTER

Virtual IP Address 192.168.0.250

Master IP 192.168.0.139

Backup IP 192.168.0.140

Enable database replication

*Please note:*

- Failover (HA) cluster requires 2 devices for operation
- Both devices must have the same failover configuration
- Virtual IP address must be in the same subnet as the device's physical IP address
- Result of a proper work of a failover cluster is one MASTER device, and one BACKUP device
- You can enable database replication to synchronize Folders/Phonebook contacts/Users from MASTER to BACKUP node
- Enabling DB replication will allow external database access for IP addresses of master/backup nodes

Save

Screenshot from "General settings-Failover"

**Database replication** between nodes allows to automatically replicate database content from MASTER to BACKUP (one direction only). In the current software version, the following content is replicated: Folders (with messages), Phonebook contacts, Users. Please note that this feature is only available in devices with hardware Rev.2 and higher.

After correct configuration of the HA-cluster **you should access the cluster via its Virtual IP address.**

### SNMP-monitoring of HA-cluster

Failover feature uses KEEPALIVED-MIB for SNMP monitoring.

#### EXAMPLE OF READING DEVICE CLUSTER STATE VALUE USING NET-SNMP LIBRARY

a) Command for reading the result value:

```
snmpget -v 2c -c public ip-of-smseagle .1.3.6.1.4.1.9586.100.5.2.3.1.4.1
```

Result:

```
KEEPALIVED-MIB::vrrpInstanceState.1 = INTEGER: master(2)
```

*Comment: Current device state is master*

Our devices run rsyslog for log managing. Here we describe how to configure additional rules for rsyslog daemon: rsyslogd. This is only a brief excerpt from rsyslog manual website. Full information is available at: <https://www.rsyslog.com/>

Rsyslogd configuration is managed using a configuration file located at */etc/rsyslog.conf*

- At the bottom of the configuration file add:

```
*.* action(type="omfwd" target="SERVER_IP" port="PORT" protocol="PROTOCOL"
action.resumeRetryCount="10"
queue.type="linkedList" queue.size="10000")
```

where: SERVER\_IP – IP (or FQDN) address of receiving server  
PORT – port on receiving server  
PROTOCOL one of the values: tcp, udp

- Example:

```
*.* action(type="omfwd" target="192.168.0.250" port="10514" protocol="tcp"
action.resumeRetryCount="10"
queue.type="linkedList" queue.size="10000")
```
- SSL-encryption of your log traffic: please have a look at this article: [https://www.rsyslog.com/doc/v8-stable/tutorials/tls\\_cert\\_summary.html](https://www.rsyslog.com/doc/v8-stable/tutorials/tls_cert_summary.html)

## Automatic software updates check

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SMSEagle software is under process of continual improvement. We listen to our customers, and new releases are based on our customer's inputs/requests. Software updates are released frequently, and offer access to new features and fixes to reported issues. Web-GUI offers you a possibility to automatically check for new software updates. This can be done in two ways:

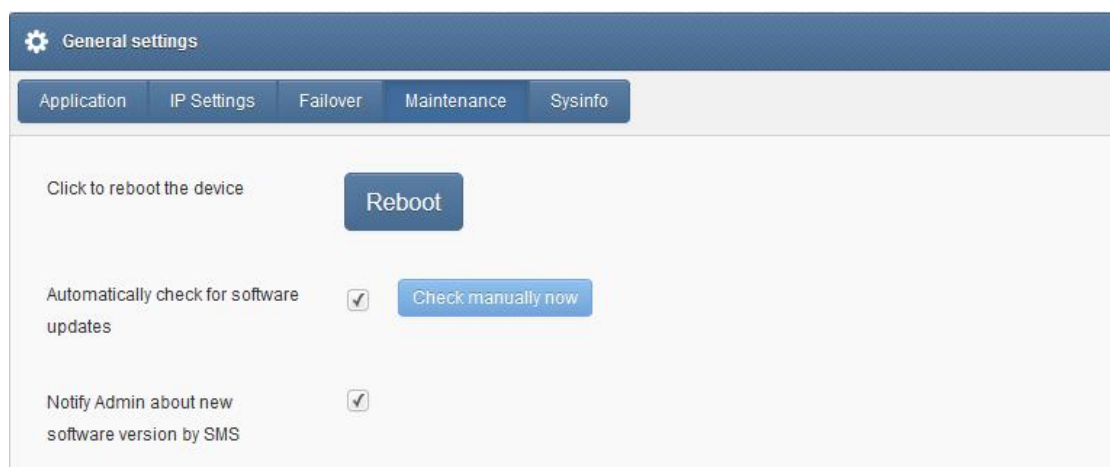
### MANUAL CHECK

In order to manually check for available software updates, go to menu Settings > tab Maintenance. Click on the button "Check manually now". At the top pops up a balloon in red with information if it is up-to-date.

### AUTOMATIC CHECK

In order to start automatic checks for software updates go to menu Settings > tab Maintenance, and check the option "Automatically check for software updates". This will enable periodic checks (once a month) for available software updates. If a new update is available, a message "Update Available" will appear in menu Settings> Sysinfo – next to the current software version number.

If you select "Notify Admin about new software version by SMS", the device will additionally send SMS to the default admin account (if the phone number is entered in the account) with a notification about new software update.



*Screenshot from "General settings-Maintenance"*

*Notice: Your SMSEagle device must have a HTTPS connectivity with address [www.smseagle.eu](https://www.smseagle.eu) in order for this feature to work.*

## Knowledgebase & Support Portal

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More information and useful hints about SMSEagle device configuration can be found in our online knowledgebase and support portal at: <https://support.smseagle.eu>





# TROUBLESHOOTING

## TROUBLESHOOTING

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To make sure that the device is working properly, follow the three steps:

1. Verification of LEDs
2. Checking the device configuration (IP Settings)
3. Check the device logs (description below)

### Verification of LEDs

Normal operation of the device is signaled by LEDs as follows:

LED	Correct operation
<b>Power (button light)</b>	Continuously lit
<b>STATUS</b>	Blinking
<b>ACTIVE1-8</b>	Slow flashing in stand-by mode, Quick flashing when modem 1 in use

### Checking the device information

The device information (device type, software version, modem IMEI, IMSI, network signal strength, network name) can be found under menu "Settings" > "Sysinfo".

### Device logs

Under menu "Settings" > "Sysinfo" you can find latest lines of device logs: modem log, database log and system log. In case of any problems with the device these logs are a valuable source of troubleshooting information.

Extended device logs can be downloaded via button "Download device logs" in menu "Settings" > "Sysinfo".

### When the device is not reachable

1. Check if the device is correctly connected to the network. Check LED status of RJ45 socket.
2. In the case when the device does not respond due to a malfunction or incorrect user settings please reboot the device by disconnecting and connecting power source (or pressing Reset switch).
3. If you still cannot connect with the device, it is possible to restore to factory IP settings by using the SW button.

## Restoring factory defaults

This action restores the following settings to default values: **IP settings, time zone settings, database content, Linux OS users/passwords**

In order to restore factory defaults, proceed with the following steps:

1. When the device is ready to operate (STATUS LED is blinking)
2. **Press and hold SW button for 10 seconds**
3. Release SW button after 10 seconds (you will see "Factory reset" on display)
4. Wait until system reboots.

*Please note, that after reboot the device will be finishing the process of factory reset, therefore it can take longer for the system to start.*

**IV**

**SERVICE & REPAIR**

## SERVICE & REPAIR

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### Warranty

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Your SMSEagle comes with a standard 1 year of technical support and hardware repair warranty coverage. The standard warranty can be extended during device purchase to 3-years coverage (check your purchase conditions). For a detailed information on warranty terms and conditions check warranty card that comes with your device or follow the link: [www.smseagle.eu/docs/general\\_warranty\\_terms\\_and\\_conditions.pdf](http://www.smseagle.eu/docs/general_warranty_terms_and_conditions.pdf)

### Service

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Before contacting with support team, be sure that you have read Troubleshooting section of this manual. SMSEagle Support Team is available by email or telephone.

Support Portal: <https://support.smseagle.eu>

Email: [support@smseagle.eu](mailto:support@smseagle.eu)

Phone: + 48 61 6713 413

The support service is provided by:

Proximus Sp. z o.o.

ul. Piątkowska 163,

60-650 Poznan, Poland

**WHEN CONTACTING SUPPORT TEAM, BE PREPARED TO PROVIDE THE FOLLOWING INFORMATION:**

#### **System Logs**

Go to menu Settings > Sysinfo > "Download device logs". Provide log package to support team when requested.

#### **MAC address**

Each SMSEagle device has its unique MAC address. MAC address is printed on the device body or can be found in menu Settings > IP Settings

**V**

**TECH SPECS  
& SAFETY  
INFORMATION**

## Technical Specification

---

### HARDWARE SPECIFICATION

- Processor type: Intel(R) Celeron(R) CPU N3350
- Operational memory (RAM): 2GB DDR4
- 32GB eMMC storage
- Network interface: Gigabit Ethernet 10/100/1000 TX (2xRJ45)
- HDMI+DP (for debugging purposes only)
- Other external ports: 2x USB 3.0
- Power consumption: 40W max
- Noise level: Fan-less
- Dimensions: (width x depth x height) 44 x 15.5 x 4.5 cm
- Weight: 1.8 kg
- Casing: metal (rack mount)
- Operating parameters:
  - Operating temperature: 32-140°F / 0~60°C
  - Humidity: 0%~90%RH (non-condensing)
- 8x Internal modem

#### MHD-8100-3G:

- Waveband: GSM, UMTS
- GSM/GPRS quad-band 850/900/1800/1900 MHz
- UMTS 800/850/900/AWS 1700/1900/2100 MHz
- Output power (Rated):
  - E-GSM 900: Class 4, DCS 1800: Class 1
  - EDGE 900: Class E2, EDGE 1800: Class E2
  - FDD I: Class 3, FDD VIII: Class 3

#### MHD-8100-4G:

- Wavebands: UMTS, LTE
- LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28
- LTE TDD: B38/B39/B40/B41

- UMTS: B1/B2/B4/B5/B6/B8/B19
- Output power (Rated):
  - Class 3 (24dBm+1/-3dB) for WCDMA bands
  - Class 3 (23dBm±2dB) for LTE-FDD bands
  - Class 3 (23dBm±3dB) for LTE-TDD bands
- SIM card standard: mini
- Antenna connector: 8x SMA
- Country of origin: European Union (Poland)

## POWER SUPPLY

AC line input

Voltage ranges: 100–240V alternating current (AC)

Frequency: 50–60Hz single phase

AC plug type: IEC13 (AC socket type: IEC14)

## ANTENNA

- Omnidirectional max. 2dBi
- Wavebands: UMTS, LTE
- Plug type: SMA
- Impedance: 50 Ohm

## SENDING/RECEIVING THROUGHPUT

- Incoming transmission rate: up to 8x 30 SMS/min
- Outgoing transmission rate: up to 8x 30 SMS/min

## SOFTWARE PLATFORM

- Operating system: Ubuntu 18.04
- built-in Apache2 web server
- built-in PostgreSQL database server
- built-in Postfix email server
- built-in SNMP agent
- built-in NTP-client
- built-in Failover (HA-cluster) service



- watchdog mechanism for built-in modems
- failover mechanism for built-in modems
- modern responsive web interface

## Important Safety Information

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This chapter provides important information about safety procedures. For your safety and that of your equipment, follow these rules for handling your device.

**WARNING:** Incorrect storage or use of your device may void the manufacturer's warranty. Failure to follow these safety instructions could result in fire, electric shock, or other injury or damage.

Always take the following precautions.

Disconnect the power plug from AC power source or if any of the following conditions exist:

- the power cord or plug becomes frayed or otherwise damaged
- you spill something into the case
- the device is exposed to rain or any other excess moisture
- the device has been dropped or the case has been otherwise damaged

Be sure about that the use of this product is allowed in your country and in the environment required. As with any other telecommunication equipment, the use of this product may be dangerous and has to be avoided in the following areas: where it can interfere with other electronic devices located in close proximity in environments such as hospitals, airports, aircrafts, etc.; where there is risk of explosion such as gasoline stations, oil refineries, etc.

It is responsibility of the user to enforce the country regulation and the specific environment regulation.

Do not disassemble the product; any mark of tampering will compromise the warranty validity.

Every device has to be equipped with a proper antenna with specific characteristics. The antenna has to be installed with care in order to avoid any interference with other electronic devices and has to be installed with the guarantee of a minimum 23 cm distance from the body. In case of this requirement cannot be satisfied, the system integrator has to assess the final product against the SAR regulation.

*DISCLAIMER: The manufacturer is not responsible for any damages caused by inappropriate installation, not maintaining the proper technical condition or using a product against its destination.*

## REGULATORY STATEMENTS

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### EU Declaration of Conformity

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Hereby, Proximus Sp. z o.o., owner of SMSEagle brand, declares that the radio equipment type SMSEagle MHD-8100-3G, MHD-8100-4G is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address:  
[www.smseagle.eu/certification](http://www.smseagle.eu/certification)

### FCC Compliance Statement

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This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

**Note:**

This equipment has been tested and found to comply with the limits for a Class B device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a business/commercial non-residential environment. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**Important:**

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense. The FCC regulations provide that changes or modifications not expressly approved by SMSEagle™ could void your authority to operate this equipment. This product has demonstrated EMC compliance under conditions that included the use of compliant peripheral devices (antennas) and shielded cables between system components. It is important that you use compliant peripheral devices and shielded cables between system components to reduce the possibility of causing interference to radios, televisions, and other electronic devices.



This Supplier's Declaration of Conformity is hereby issued according to Chapter 1, Subpart A, Part 2 of Title 47 of the Code of Federal Regulations by:

Proximus Sp. z o.o.  
ul. Piatkowska 163  
60-650 Poznan, Poland

The product MHD-8100-4G complies with the applicable requirements of FCC Rule Part 15B for the corresponding equipment classes of Unintentional Radiators.

RESPONSIBLE PARTY located in the United States:

Testing Partners LLC  
18200 SR 306  
Chagrin Falls, OH 44023  
info@testingpartners.com

The responsible party warrants that each unit of equipment marketed under this Declaration of Conformity will be identical to the unit tested and found acceptable with the standards and that the records maintained by the responsible party continue to reflect the equipment being produced under such Supplier's Declaration of Conformity continue to comply within the variation that can be expected due to quantity production and testing on a statistical basis.

## Canadian Regulatory Statement

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This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

This Class B digital apparatus meets the requirements of the Canadian Interference-Causing Equipment Regulations.

*CAN ICES-3 (B)/NMB-3(B)*

## Avis de conformité à la réglementation d'Industrie Canada

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Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage,
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Cet appareil numérique de classe B répond aux exigences du Règlement sur le matériel brouilleur du Canada.

*CAN ICES-3 (B)/NMB-3(B)*

## UK Declaration of Conformity

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Hereby, Proximus Sp. z o.o., owner of SMSEagle brand, declares that the radio equipment type SMSEagle MHD-8100-3G, MHD-8100-4G is in compliance with The Radio Equipment Regulations 2017.

The full text of the EU declaration of conformity is available at the following internet address:  
[www.smseagle.eu/certification](http://www.smseagle.eu/certification)

## RF Exposure Limits

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This device complies with radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the radio frequency exposure limits, human proximity to the antenna shall not be less than 23 cm (9 inches) during normal operation.

## Disposal and Recycling Information

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Your SMSEagle device contains lithium battery for RTC backup. Dispose of the device and/or battery in accordance with local environmental laws and guidelines.

*European Union—Disposal Information*



The symbol above means that according to local laws and regulations your product shall be disposed of separately from household waste. When this product reaches its end of life, take it to a collection point designated by local authorities. The separate collection and recycling of your product at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.

*For disposal in countries outside of the European Union*

This symbol is only valid in the European Union (EU). If you wish to discard this product please contact your local authorities or dealer and ask for the correct method of disposal.

### Information gemäß § 4 Absatz 4 Elektroggesetz (DE)

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Folgende Batterien bzw. Akkumulatoren sind in diesem Elektrogerät enthalten

Batterietyp	Chemisches System
CR2032	Lithium

Angaben zur sicheren Entnahme der Batterien oder der Akkumulatoren:

- Öffnen Sie die obere Abdeckung des Geräts
- Die Batterie ist auf der Rückseite des Geräts angebracht. Entnehmen Sie vorsichtig die Batterie
- Die Batterie und das Gerät können jetzt getrennt entsorgt werden

### Restriction of Hazardous Substances Directive (RoHS)

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#### **European Union RoHS**

SMSEagle devices sold in the European Union, on or after 3 January 2013 meet the requirements of Directive 2015/863 on the restriction of the use of certain hazardous substances in electrical and electronic equipment ("RoHS 3").



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[www.smseagle.eu](http://www.smseagle.eu)