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SMS Machine HTTP / E-mail

SMS – Ethernet Gateway for Web and E-mail applications

User Manual

Firmware Version 2.13



Congratulation for choosing SMS Machine!

Area SX srl thanks You for the preference you gave us by choosing an SMS Machine device and is always available for any commercial or technical information.

Contacts

Updated information about SMS Machine devices and latest software release are available on our Web Site at the address <http://www.areasx.com>.

The screenshot displays the Area SX website interface. At the top, there's a navigation bar with links like 'ARTICOLI DIVULGATIVI', 'LISTINO PRODOTTI', 'Le ultime novità', 'CARRELLO ELETTRONICO', 'CONTATTI E SUPPORTO', and 'CERCA'. A prominent banner for 'PROMO €469' features the 'SMS LINE CONTROL EVO' device. Below this, a detailed description of the 'SMS Line Control Plus' system is provided, highlighting its capabilities for supervision, alarms, and remote control via Web, SMS, GPRS, and Email. The website also promotes a 'mini SMS MACHINE' with a 'PROMO €390' and lists various other products like 'RABBIT', 'SCHEDA DI IN/OUT', 'EZ-TCP', 'BX-24', 'IGROD', 'LIRUX', 'SX13', 'Telit', 'SX19', and 'FLYPORT'. A sidebar on the left contains links to 'AREA DOWNLOAD', 'SMS MACHINE', 'PROCESSORI RABBIT', 'PROCESSORI BASICX', and 'CONVERTITORI EzTCP'. The bottom right corner features a 'IN PROMOZIONE' section with a 'SMS Machine HTTP/EMAIL' for €390.00.

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Warnings

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Safety information

SMS Machine HTTP/E-mail usage may disturb or damage some nearest electronic equipments operations.

So it is recommended to avoid SMS Machine HTTP/E-mail installation close to:

- Biomedical electronic devices
- Aircraft onboard equipments
- Security devices
- Audio, radio and television systems

A complete Dual Band GSM Modem is part of SMS Machine HTTP/E-mail.

This device has the same technical characteristics as normal Dual Band cellular phone, so it is recommended the same usage precautions.

In particular it is recommended not to use SMS Machine HTTP/E-mail wherever it is explicitly forbidden the use of cellular phone or generic telecommunication equipment.

Introduction to this manual

This manual is intended for users who have to manage the following kind of SMS Machine:

SMS Machine HTTP/E-mail

Basic knowledge of informatics, in particular TCP/IP network, is necessary to read this manual. Please note that, for convenience, just the name “SMS Machine” may be used throughout this manual from now on.

Updated versions of this manual may be freely downloaded from our web site at the address <http://www.areasx.com>.

Table of content

Congratulation for choosing SMS Machine!	2
Contacts	2
Warnings	3
Contents and copyright	3
Safety information	3
Introduction to this manual	4
Product description	7
SMS Machine HTTP/E-mail installation	9
Package description	9
Installation requirements	10
Rear panel description	10
SIM card insertion	11
Ethernet connection	12
GSM antenna connection	12
Power supply connection	12
SMS Machine HTTP/E-mail ignition	13
Front panel	13
Meaning of the LEDs on the front panel	13
POWER LED	13
ERROR LED	13
STATUS LED	14
GSM LED	14
LEDs for GSM signal strength	14
SMS Machine HTTP/E-mail configuration	15
Network Configuration	15
Configuration WEB interface	15
Get ID Number	17
LAN Configuration	17
IP Address	17
Netmask	18
Gateway	18
DNS	18
New password – Repeat password	18
Main Configuration	18
SMS Machine mode	18
Message service center number	19
HTTP	19
Destination server Address	19
Destination server Page	19
TCP Port number	20
Security code	20
Enable TCP Server checking	20
Use HTTP HEAD for script checking	20
Send a notification message on incoming voice call	20
EMAIL SMTP	20
SMTP Server	21
SMTP User – SMTP Password	21
Mail From	21
Email Destination Address	21
Mail Subject Template	22
Mail Body Template	22
EMAIL POP	22
POP3 Server	22
POP3 User – POP3 Password	23
Check Email every ____ seconds	23
Destination Number	23

Advanced.....	23
Maximum server delivery tries	24
Timeout waiting for server answer	24
Incoming messages buffer length	24
Syslog enable	25
Syslog server address	25
Name of the communication parameters	25
Current Status.....	26
GSM Status.....	26
LAN Status.....	27
Delivery Status	27
Configuration Test.....	27
Send an RX simulation.....	28
Send Message.....	28
Logout.....	28
Restoring factory configuration	29
Technincal features	30
Performances.....	30
GSM modem characteristics	30
Network microprocessor characteristic.....	30
Power adapter electrical characteristics	30
SMS Machine HTTP/e-mail electrical characteristics	30
Technical support	31
SMS Machine Home Page	31
Firmware update.....	31
Appendix A) HTTP interface	32
SMS Machine identification	32
SMS reception.....	32
Extended SMS reception	32
SMS reception of delivery notification	33
SMS transmission.....	33
Request of delivery notification	34
SMS failed transmission	34
Configuration.....	35
Interrogazione dello stato di funzionamento	36
Interrogazione dei parametri di rete e di configurazione	37
Simulazione di ricezione SMS	38
Riavvio della SMS Machine HTTP/e-mail	38

Product description

SMS Machine HTTP/e-mail (or Dual Mode) is a telecommunication device that allows your Web or e-mail applications to be quickly integrated with SMS messaging over GSM network.

The innovation of this version is the complete change of the on-board microcontroller, which is now equipped with Ethernet 10/100Mb, of the hardware as a whole as well as the exterior aspect. Also the embedded modem is new in its range, but it's still a GSM Quad Band

Of course, other important innovation is the integration of the HTTP e-mail versions and in a single firmware! Now you will just have to configure a single device to get the functions you want, without choosing between two different products.

Even if the name of the SMS Machine doesn't mention it specifically, the WAP PUSH technology - that allows sending not only normal text SMS messages but also **active** SMS – is still supported.

In fact, the Push mode allows sending SMS messages formatted so they can directly interact with destination mobile device. In particular it is the parameter called **Destination Port** that determines the action to be taken on the terminal.

A typical example is the hyperlinks sending. An SMS Push message allows notifying directly the information on the destination mobile terminal with the option of immediate connection (if this option is enabled).

Another example needs a further and deeper level of interaction with terminals supporting Java J2ME applications or Apps. In this case, the SMS Push message can be handled directly by the application running and listening on a specific port so that a related action, according to the message content, may be executed. For example remote control applications, chat, games, etc.



SMS Machine HTTP/E-mail

In a 135 x 100 x 35 mm case, the SMS Machine HTTP/E-mail encloses all the technology for receiving and sending SMS over GSM network and interact with web or e-mail applications, regardless of the programming language and operating system in use.

In order to work properly, SMS Machine HTTP/E-mail needs an ordinary SIM card belonging to any Mobile Operator on 2G network (not UMTS SIM card) and enabled to send and receive SMS messages.

When configured as an HTTP gateway, the SMS Machine will work this way.

On reception, the SMS Machine receives the SMS addressed to SIM card in the modem and forwards the messages contents towards any Web script (.asp, .php, .pl, .cgi, .jsp, etc..) with an HTTP POST transaction. Some HTTP parameters will contain the message sender phone number, the message sending date and text. In the event of extended SMS reception (with more than 160 chars of the SMS standard), additional variables, which are needed for the reconstruction of the entire message, will be transmitted: a message identifier, the total number of parts and current part.

On transmission, the SMS Machine accepts HTTP transactions in POST mode, it extracts message text and addressee phone number from HTTP parameters and sends the SMS on GSM network. Of course, among these needed parameters, there is also the port related to the SMS that determines if it is text message or Wap Push message. As an option, also a notification of delivery to destination mobile equipment can be requested with the related parameter.



Connection between SMS Machine HTTP/E-mail and a Web Server

Using the SMS Machine HTTP/E-mail there is no need of modem connected on RS232 port and control software external to the Web Server but the only requirements are simply interface scripts developed in the same language used to manage your own web application.

When configured as an E-mail gateway, the SMS Machine will work this way.

On reception, the SMS Machine receives SMS on the SIM card inserted in the modem and it forwards the messages contents (sender phone number, message sending date and text) via e-mail to the configured addressee.

On transmission, the SMS Machine checks an e-mail account on a POP3 Mail Server for any new arrived message. In this case, SMS Machine extracts message body and subject and forwards them via SMS (up to 300 characters equal to two concatenated SMS messages) toward the configured addressees. Note that, since SMS Machine processor has a limited memory capacity, e-mail messages larger than 2KB (e.g. containing attachments or in HTML format) are managed with low performance. Also note that all the e-mail messages “read” and forwarded via SMS, are cancelled from the Mail Server otherwise they could not be distinguished among new messages during following checks.



Control of the Mail Server in reception (POP3) and SMS transmission

Because of several coding methods available for e-mail writing, please note that not all of them are supported by the SMS Machine. It's strongly recommended to use text format in the e-mail messages.

SMS Machine HTTP/E-mail installation

Package description

The SMS Machine is delivered inside its cardboard box, well protected from mechanical shocks that may occur during transport.

Once you opened the package, you will find the following parts:

1. The SMS Machine/E-mail
2. The GSM antenna with 90° SMA Connector
3. The 12V – 1000mA power adapter
4. The user manual in digital format on CD or USB Pendrive
5. A document of test and approval

As an option, is also available a GSM antenna with magnetic base and shielded cable with 2.5m length for an easier placing.



Content of SMS Machine HTTP/E-mail package

Each component has been accurately tested before delivery as stated by the document of test and approval that accompanies and certifies the product.

Please avoid to use third parties components which may damage the SMS Machine HTTP/E-mail.

Installation requirements

To succeed in SMS Machine HTTP/E-mail installation, you need:

1. **A SIM card** belonging to any GSM 2G mobile operator (**3G not supported**), both prepaid or not. Before inserting the SIM card into SMS Machine you should try it with an ordinary mobile phone to verify that it is able to send and receive SMS and PIN is disabled. You have also to cancel the mobile operator Service Centre number from the SIM: you will choose it during configuration.
2. **A good GSM field level**. Before inserting the SIM card into SMS Machine, you should use it with an ordinary mobile phone to verify that there is a good GSM field level where you will place the device. As mentioned before, is also available an optional GSM antenna with magnetic base and shielded cable with 2.5m length for an easier placing in search of good signal level which can guarantee a regular operation.
3. **An Ethernet connection**. SMS Machine has a 10/100Mbit Ethernet socket to be connected on your LAN by an Hub/Switch. Please be sure that your Hub/Switch socket is 10/100Mbit. Beyond physical connection to your network, you need some information about it (IP addresses, Netmask, Gateway, DNS Server) to configure SMS Machine. So you may need to refer to your network administrator to collect this kind of information.
4. A 220 VAC wall socket for the device power adapter .

Rear panel description

In the following picture, a view of the SMS Machine HTTP/E-mail rear panel is displayed.



Rear panel of the SMS Machine HTTP/E-mail

Starting from left to right we see:

1. SIM card slot
2. Ethernet 10/100Mbit socket with signalling LEDs
3. Button for factory reset

4. SMA Socket for the GSM antenna. Please note: in order to protect GSM modem from damage, avoid carefully to turn on SMS Machine without having already connected antenna cable to this socket.
5. Power supply socket. Use only the provided power adapter to protect SMS Machine internal components from damage due to third party accessories.

SIM card insertion

The SIM card must be inserted in the slot described in previous point 1.

Insert the SIM card in its slot with the golden electric contacts turned down and the shaped corner ahead, as showed in the next figure.



SIM card insertion

Push it to the bottom of its slot until you will feel a little click which means it reached its lock position. When it is necessary to unlock the SIM and release it, you need to slightly push on its edge in the same direction of insertion. An internal spring will push the SIM card outside enough to grab it.

Attention! Never lock or unlock the SIM card when the device is turned on but do this operation having turned off the power before.



SIM card insertion

Ethernet connection

Use an ordinary UTP cable with RJ45 plug to connect SMS Machine to a network Hub/Switch (see point 2 of the previous section).

Be sure that Hub/Switch socket supports 10/100Mbit Ethernet devices. After turning on SMS Machine check if the green LED next to the socket is correctly on.

GSM antenna connection

The SMS Machine is usually provided with the little “L” shaped GSM antenna already mounted. If it's not the case for technical or packaging reasons, you just need to connect it by screwing the threaded ring of SMA connects to its socket (see point 4 of the previous section).

Similarly, do the same if you must mount the optional GSM antenna with magnetic base and 2,5m long cable.

Attention! Avoid absolutely to turn on SMS Machine without having already connected the antenna. Otherwise irreparable damage may occur to the internal GSM modem.

Power supply connection

Plug the 220VAC – 12VDC power adapter into a power supply wall socket and then insert its jack connector into the SMS Machine socket on the rear part (see point 5 of the previous section).

The lighting of the **POWER** led on the front panel shows the correct supply of the device.

SMS Machine HTTP/E-mail ignition

Once all the connections are realized as previously described, the SMS Machine will be powered on and correctly working.

Front panel

On the SMS Machine front panel there are signalling LEDs which indicate the working status of the device. The following picture shows the part of the front panel and then the meaning and the lighting mode of each led will be described in detail.



SMS Machine HTTP/e-mail front panel

Meaning of the LEDs on the front panel

The operating conditions of the SMS Machine shown by frontal LEDs slightly differ depending on whether you chose the HTTP or EMAIL mode. We see in detail the meaning of these LEDs lighting, specifying from time to time which mode to referer.

POWER LED

This led shows obviously the correct working of the power supply section for both modes.

ERROR LED

This LED shows an error condition detected by the SMS Machine microprocessor. It is normal that Error Led is ON when you have just turned on SMS Machine and until the modem is not ready and not properly registered over GSM network but it goes OFF as soon as registration is completed.

A continuous blinking shows that the SIM card is not present or its block with PIN code.

Finally, a 3 times blinking and contemporary with the LED STATUS shows a failed SMS sending, for example, for credit exhausted or Service Centre incorrect. Also in this case no difference between the two modes.

STATUS LED

On the contrary, in this case there are differences between the two working modes.

In the case of **HTTP mode**, this LED indicates the communication status of the SMS Machine with the server / script for SMS reception (see the following sections for details).

- If the LED is off, there is no communication with the destination server.
- If the LED is blinking, there is communication with the server but the destination script was not found.
- Finally, if the LED is on, then it is correct the communication with destination server and script.

In the case of **EMAIL mode**, this LED indicates the communication status of the SMS Machine with the e-mail server (see the following sections for details).

- If the LED is on, there is no communication with the POP server.
- If the LED is blinking, there is no communication with the SMTP server needed for emails relay

Note that the check on the POP-Server is done at regular intervals set in the configuration (see the following sections for details) and then accordingly the LED is updated. The check of the SMTP server is instead made only when you receive an SMS to be sent via e-mail. Because the controls on the two servers are reported on the same LED, it may be possible that the status of the SMTP server is overwritten by that of the POP server which is checked at regular intervals.

As mentioned in the previous point, a blinking synchronously with the ERROR LED indicates an error when sending SMS (see previous section).

GSM LED

This LED indicates the current activities of the GSM modem. Rapid blinking indicates that the modem is trying to register to the GSM network. When the blinking becomes slower, it means that the modem has been registered and the SMS Machine can work properly.

This LED should never be turned off.

LEDs for GSM signal strength

These LEDs, three in total, visually indicate the strength of the available GSM signal. In particular the following four cases are possible:

- All off if the signal level is not available
- On-Off-Off if the signal level is up to -97 dBm
- On-On-Off if the signal level is between -97 and -77 dBm
- All On if the signal level is greater than -77 dBm

As mentioned before, after 10 -15 seconds the ERROR LED should turn off indicating the registration of the GSM modem to network. If this does not happen, try to move the SMS Machine (or move the antenna if the one with the 2.5m cable is used) to find better signal conditions and/or turn off and on the power.

If it still does not happen, check the used SIM card, which must be enabled and with no PIN code, and the quality of GSM signal where the Machine or the antenna is placed.

SMS Machine HTTP/E-mail configuration

Network Configuration

The first step to do for configuring the SMS Machine is connecting it to your network with a proper IP address and netmask. SMS Machine has a default network configuration with IP address **192.168.0.101** and netmask **255.255.0.0**.

Be sure that SMS Machine is connected on your LAN to your PC through an 10/100Mb Hub/Switch and the IP address of your PC is set between 192.168.0.1 and 192.168.0.254, except obviously 192.168.0.101 used by the SMS Machine, and netmask is 255.255.0.0 or 255.255.255.0.

You may connect your PC and SMS Machine not only through an Hub/Switch, but also directly with a network crossed cable (CROSS-OVER).

Once your PC is in this condition, you would have to reach SMS Machine by a simple *ping* towards its default address 192.168.0.101.

To execute a *ping* towards SMS Machine, you have to launch a DOS command prompt and type:

C:>ping 192.168.0.101

If the *ping* answer is correct, you may go ahead to configuration step.

Configuration WEB interface

Once connected on the same network, in order to work properly, SMS Machine must be configured with new parameters.

This operation is very simple, since no additional software is needed. In fact, the machine supports a micro web server with a front page developed in Macromedia Flash, so you have just to use your favourite browser from the PC and launch it toward the machine default IP address:

http://192.168.0.101

The main page you enter is shown in next picture. No operation is possible yet at this step, but only status monitor is allowed. In fact the home page summarizes the status of the SMS Machine and all the displayed parameters will be analysed in the following sections.



Home page of the SMS Machine Web Interface

Attention! It is now important to remind that the browser you use must support an appropriate Flash Player and no Proxy Server must be used.

From the home page you may enter the login page, that is needed to actually execute configuration operations, simply by clicking on **Go to configuration page**. The login page is shown in the following picture, the default password to type in is SMS1234 and then just click on **Login** button.



The login page features a dark grey background with an orange header. The header contains the 'SMS Machine' logo and the website 'WWW.AREASX.COM'. The main content area has the text 'Insert the configuration password (default = SMS1234)' in white. Below this is a label 'Configuration password' in orange, followed by a white text input field. A white 'Login' button is centered below the input field. At the bottom, a status bar shows 'Status data loaded'.

Login page

If the login is successful, you will enter the functions main menu page that you can see in the following picture. If it is not the case, then check the password or the network settings as described in the previous section.



The main menu page has a dark grey background with an orange header containing the 'SMS Machine' logo and 'WWW.AREASX.COM'. On the left is a vertical menu with circular icons and labels: 'LAN Configuration', 'Main Configuration', 'HTTP', 'EMAIL SMTP', 'EMAIL POP', 'Advanced', 'Current Status', 'Configuration Test', and 'Logout' (which is highlighted with a green icon). The main content area is titled 'Home Page' and contains a grey box with the text 'Machine ID Number (not detected yet)' and a 'Get ID Number' button. At the bottom, a status bar shows 'Configuration data loaded'.

Main menu of functions – Machine ID discover

Starting from this menu, it is possible to access the configuration of all the SMS Machine parameters. Each configuration interface has a button labeled **SAVE**, to actually load the new parameters. Please note that if this button is not clicked, SMS Machine will not be updated with the changes you made.

Description of each function and configuration parameter follows.

Get ID Number

As soon as you logged, SMS Machine identifier is not yet available, as shown in the windows in the middle of the web interface. Clicking on **Get ID Number** button, it is retrieved with a request to the SMS Machine. This ID is the Mac Address itself.

To come back to this function, you need to **logout** and **login** once again.

LAN Configuration

This interface allows the configuration of all parameters related to SMS Machine networking. Be careful in configuring correctly these parameters: in case of mistake, you would not be able to reach SMS Machine on your network anymore. If it happens, you may follow the procedure described ahead for factory configuration restoring.

The screenshot shows the 'LAN Configuration' web interface. At the top, there is an orange banner with the 'SMS Machine' logo and the website 'WWW.AREASX.COM'. Below the banner, the title 'LAN Configuration' is displayed. On the left side, there is a vertical menu with several options: 'LAN Configuration' (selected), 'Main Configuration', 'HTTP', 'EMAIL SMTP', 'EMAIL POP', 'Advanced', 'Current Status', 'Configuration Test', and 'Logout'. The main content area contains configuration fields for 'IP Address' (192.168.9.102), 'Netmask' (255.255.255.0), 'Gateway' (192.168.9.1), and 'DNS' (192.168.9.1). There are also fields for 'New password' and 'Repeat password'. A 'Save' button is located at the bottom right of the configuration area. At the bottom of the interface, a status bar shows 'FW Version: HTTP02.02-AX' and a message 'Configuration data loaded'.

Configuration data loaded
LAN: network configuration

IP Address

It is the new IP address you eventually want to assign to SMS Machine. In fact, if default IP address **192.168.0.101** doesn't fit to your network, you may choose whichever other address to assign to SMS Machine.

Attention: once changed the IP address or other network parameters, see also next sections Netmask-Gateway-DNS, SMS Machine notifies, with a message in the bottom status bar, that configuration has been changed and it reboots network interface. So it doesn't respond anymore to menu commands, except for the information stored in browser cache memory. For this reason you have to **logout** and link the browser to the new address assigned to the SMS Machine.

Netmask

It is the netmask of the network where you want to use SMS Machine. Default value is 255.255.0.0. As said before, changing the netmask you need to **login** once again.

Gateway

It is the IP address of a server able to route on the outside network all the packets not addressed to local network machines. This parameter must be configured only if SMS Machine needs to reach a server outside from the local network (e.g. on the Internet).

DNS

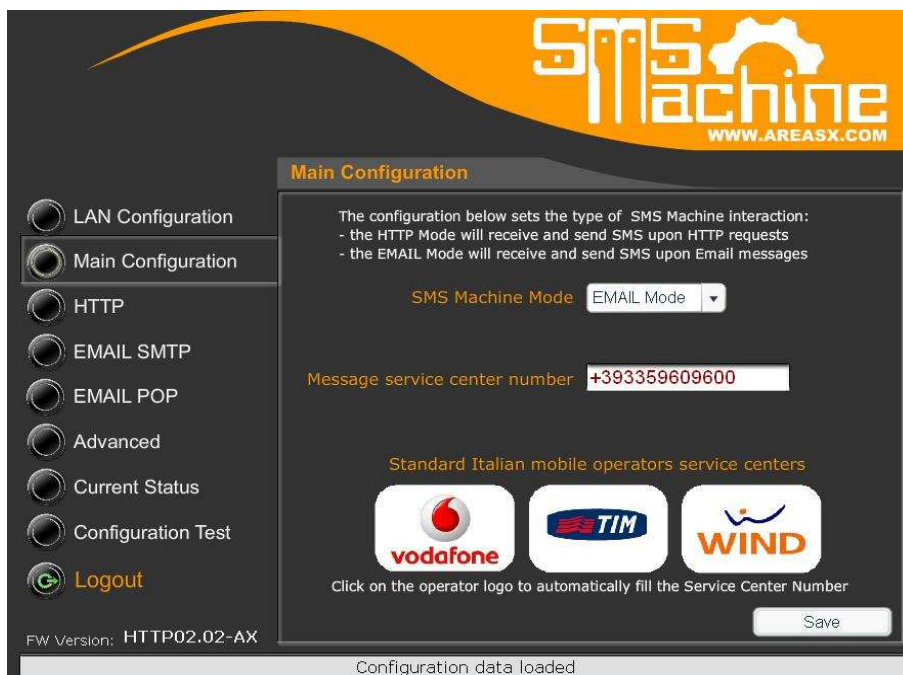
It is the IP address of an effective DNS server. This parameter must be configured only if server names are used instead of their IP address.

New password – Repeat password

These two fields have to be filled with the same string, if it is desired to change SMS Machine access password. If you forget this password, you may follow the procedure described ahead for factory configuration restoring.

Main Configuration

This page allows configuring the Service Centre of the Mobile Operator to which belongs the SIM card used in the SMS Machine and, most of all, its operation mode.

The screenshot shows the 'Main Configuration' page of the SMS Machine web interface. The top header is orange with the 'SMS Machine' logo and 'WWW.AREASX.COM'. On the left is a vertical menu with radio buttons for 'LAN Configuration', 'Main Configuration' (selected), 'HTTP', 'EMAIL SMTP', 'EMAIL POP', 'Advanced', 'Current Status', 'Configuration Test', and a 'Logout' button with a green arrow icon. The main content area has a title 'Main Configuration' and explanatory text: 'The configuration below sets the type of SMS Machine interaction: - the HTTP Mode will receive and send SMS upon HTTP requests - the EMAIL Mode will receive and send SMS upon Email messages'. Below this is a dropdown menu for 'SMS Machine Mode' set to 'EMAIL Mode'. A text field for 'Message service center number' contains '+393359609600'. Underneath, it says 'Standard Italian mobile operators service centers' and shows logos for 'vodafone', 'TIM', and 'WIND'. A note says 'Click on the operator logo to automatically fill the Service Center Number'. A 'Save' button is at the bottom right. At the bottom left, it says 'FW Version: HTTP02.02-AX' and at the bottom center, 'Configuration data loaded'.

Main Configuration: Service Center and operating mode configuration

SMS Machine mode

It's the main menu which defines the operating mode of the SMS Machine HTTP. The two modes are obviously:

- EMAIL Mode
- HTTP Mode


Message service center number

It is the Service Centre number for SMS sending and it is different from one Mobile Operator to another. Clicking one of the three major mobile operators logos, you will automatically fill this field.

HTTP

Of course, this configuration is valid just in case the HTTP Mode is set.

When an SMS is received, SMS Machine sends its information (message text, sending number, sending date and optionally an authentication code – in case of extended SMS also identifiers of the component parts of the messages) to a web server script and cancels it from the SIM card memory. In other words, the machine works as a browser does when it sends to a web script some data inserted in a form. So the Machine executes an HTTP/POST request and the parameters of this page define this communication mode.

The screenshot shows the 'HTTP Configuration' window of the SMS Machine software. On the left is a sidebar with navigation buttons: LAN Configuration, Main Configuration, HTTP (selected), EMAIL SMTP, EMAIL POP, Advanced, Current Status, Configuration Test, and Logout. The main area contains fields for 'Destination server Address' (192.168.9.56), 'Destination server Page' (/http/rxmsg.php), and 'TCP Port number' (80). There is also a 'Security code' field. Below these are three checked checkboxes: 'Enable TCP Server checking', 'Use HTTP HEAD for script checking', and 'Send a notification message on incoming voice call'. At the bottom, a note states 'This section is used only in HTTP Mode (see Main Configuration)' and a 'Save' button is present. The footer of the window shows 'FW Version: HTTP02.02-AX' and 'Configuration data loaded'.

HTTP: configuration of the script for SMS reception

Destination server Address

This parameter must be configured with the IP address or name of the web server where the SMS Machine sends the received SMS. Please note it must be typed without the http:// protocol, e.g. **www.areasx.com** or **192.168.0.1**.

Destination server Page

This parameter must be configured with the complete path and the name of the script listening on the Web Server where the SMS Machine sends the received SMS. Please note it must be typed with an initial slash / and with the classical nested path, e.g. /SMS_Machine/Received_SMS/rxsms.php.

In other words the two previous parameters joined together form the complete URL used by the SMS Machine at SMS messages reception.

TCP Port number

It is the port number on which the HTTP request is sent. Default value is 80, "HTTP well known port".

Security code

It is the key word that SMS Machine may use for its authentication to the reception web script. Of course this value must match the one used by the web script itself.

Enable TCP Server checking

SMS Machine checks for the availability of the web script destination of the received SMS, configured as described above. In fact, if the script were unavailable then it would be useless to start http transaction making the microprocessor and its network interface busy with no results.

This control may be carried out in two ways, depending on this parameter and following parameter setting.

If this checkbox is selected, then SMS Machine executes the control simply opening and closing a TCP/IP connection toward the server and its port, configured as described above.

Use HTTP HEAD for script checking

If this checkbox is selected too, then the control is deeper with the complete verification of the script and it is carried out using an HTTP/HEAD request.

Please note that for some web server implementation, this request causes the response of just the script header without the complete script code execution. For other versions this request may cause the complete script code execution, so you have to keep in mind and/or verify this aspect when the option is used.

Sometimes it may be useful disabling completely this check, in one of the two ways just described. To do so, just keep the checkboxes not flagged.

Please note that in this case the SMS Machine will always try to send to the Server the received messages.

Send a notification message on incoming voice call

The SMS Machine can manage also an incoming call, if the used SIM card is enabled for voice traffic. The behaviour of the Machine, in case of incoming call, is very similar to that when an SMS is received. For this reason, please see the next section dedicated to this function for further details.

At this moment, just note that the incoming call managing function is enabled or disabled according to the selection of this checkbox.

EMAIL SMTP

Of course, this configuration is valid just in case the EMAIL Mode is set.

The parameters to be inserted in this page, define the SMS Machine operation mode as a Gateway between GSM network and e-mail applications. In particular, they refer to SMS reception and define how SMS Machine forwards messages (SMS sender phone number, text and sending date and time) toward a Mail Server, acting as an e-mail client.

EMAIL: configuration for SMS forwarding via e-mail

SMTP Server

This field must be filled with the IP address or name of the Mail Server for outgoing messages (SMTP Server). Standard 'Well known' port is 25.

Please note that SMS Machine doesn't execute SMTP authentication with Mail Server unless the following two parameters are configured.

SMTP User – SMTP Password

These are the SMTP authentication username and password, leave blank if authentication is not used.

Mail From

This field content is used by SMS Machine/e-mail as message sender that is e-mail message 'From' field (e.g. SmsMachine@domain.it). Please note many SMTP servers don't accept messages if this field is left empty because of antispam policy.

Email Destination Address

This field content is the e-mail address to which SMS Machine will forward the received SMS contents, that is e-mail message 'To' field. Just one e-mail address is allowed.

Mail Subject Template

The setting of this field defines the subject composition of the e-mail message to be sent. By default, this is composed by a fixed text part, you can edit freely, and a parametric part. In particular, the label #NUMBER# will be replaced, from time to time, with the current number of the SMS sender.

Mail Body Template

The setting of this field defines the body composition of the e-mail message to be sent. By default, this is composed by a fixed text parts, you can edit freely, and parametric parts. In particular, the label #DATE# and #MESSAGE# will be replaced, from time to time, respectively with the current date / time and text of the received SMS .

Note that these labels can be used also in other sequence to compose the e-mail message.

EMAIL POP

Of course, this configuration is valid just in case the EMAIL Mode is set.

The parameters to be inserted in this page, define the SMS Machine operation mode as a Gateway between GSM network and e-mail applications. In particular, they refer to how the SMS Machine checks an e-mailbox on a POP Mail Server for new messages and how it relays them (subject and body) via SMS, of course with the limit of 300 available chars.

Remember once again that the SMS Machine deletes incoming messages from the Mail Server after having processed them.

EMAIL: configuration for email forwarding via SMS

POP3 Server

It is the name or IP address of reception Mail Server (POP 3) where is the e-mail account to be checked for incoming new messages.

POP3 User – POP3 Password

These fields must be filled with the username and password that SMS Machine will use for authentication with reception Mail Server (POP3). Username may or not coincide with the e-mail address that is under control, depending on Mail Server settings.

Check Email every ____ seconds

This parameter is the time interval, measured in seconds, between two consecutive checks executed by SMS Machine/e-mail on reception Mail Server (POP3).

Destination Number

It is the addressee phone number that will receive SMS related to the new messages just arrived on the controlled e-mailbox. It is possible to insert directly just **one** phone number or leave this field blank. In this case, the destination number must be in the **S subject** in each received email.

Advanced

Of course, this configuration is valid just in case the HTTP Mode is set.

Even if the parameters, configured as described in the previous sections, are sufficient to let the SMS Machine work properly, there are also other advanced parameters under the user control designed to optimized the http communication with the destination script. In this section they will be described in detail reminding also their default value.

The screenshot shows the 'Advanced Configuration' page of the SMS Machine web interface. The top header features the 'SMS Machine' logo and the website 'WWW.AREASX.COM'. On the left, a sidebar contains navigation links: LAN Configuration, Main Configuration, HTTP, EMAIL SMTP, EMAIL POP, Advanced (selected), Current Status, Configuration Test, and Logout. The main content area is titled 'Advanced Configuration' and includes a warning: '(Warning: wrong settings of the parameters in this page may cause incorrect behaviour of SMS Machine)'. It contains three configuration sections: 1. 'Maximum server delivery tries' with a value of '1' and a description: 'This parameter sets the number of tries that will be made by SMS Machine to transfer an incoming SMS to the server before discarding. If it's set to '0' the SMS transfer will be tried forever.' 2. 'Timeout waiting for server answer (millisec)' with a value of '5000' and a description: 'This parameter sets the number of milliseconds that SMS Machine will wait for the server to answer to the socket request.' 3. 'Incoming messages buffer length' with a value of '1' and a description: 'This parameter sets the maximum number of SMS messages that can be kept in the SMS Machine buffer waiting to be delivered to the server. A larger number can improve the SMS throughput but you will be exposed to buffered SMS losses if the power fails. If the parameter is set to '1' the throughput may be slower but you will not lose SMSs if a power failure happens.' Below these sections are checkboxes for 'Syslog Enable' and a text field for 'Syslog Server Address'. A 'Save' button is at the bottom right. At the bottom left, it says 'FW Version: HTTP02.02-AX'. A status bar at the very bottom indicates 'Configuration data loaded'.

Advanced: advanced parameters of HTTP communication

Maximum server delivery tries

This parameter means the maximum number of attempts that SMS Machine executes for transmitting the received SMS data toward the destination script. In fact, it is not ensured that the transaction is successful at the first attempt, for example for a temporary unavailability of the server, network traffic or, simply, because the script is not correctly configured. In these cases, the machine will discard the SMS message, after the number of attempts configured, and passes to manage next message.

On the contrary, if this parameter is set to 0, the default value, then the SMS Machine will never discard the message and try forever the transmission to the reception script.

So it is evident that in the first condition a higher speed in transmission of received SMS to the script can be obtained, but the risk is SMS loss in case of discarding for any transient reason of failed attempts. In the second case, no message will be lost, but the communication could slow down in difficult condition, for example for exceeding network traffic.

An extreme case is the definite unavailability of the reception script that can cause the overflow of SIM card memory reserved for received SMS. Then the Service Centre of the Mobile Operator will stop new delivery attempts, waiting for SIM card memory to be emptied by the SMS Machine, and save the exceeding messages for hours, as configured in mobile phone settings typically from 24h to 72h.

Timeout waiting for server answer

This parameter means the maximum time that can pass between an HTTP/POST request, carried out by the SMS Machine toward the reception script, and the related response with a 200OK. Once this timeout has expired, the machine assumes the transaction failed and executes the configured operations as described in previous section: so it tries a new attempt or discards the SMS message cancelling it from SIM card memory. The unit is millisecond and the default value is 5000 ms (5 sec).

The criteria in choosing this parameter needs the knowledge of the reception script behaviour in normal condition (e.g. elaboration delay, delay for database access, etc.) and the network traffic or the routing delay (e.g. over LAN to Internet).

In fact, note that low values for this timeout may speed up the communication, but the risk is that SMS Machine assumes as failed simply a slow transaction so causing useless new transmission attempts. Vice versa, high values for this timeout may slow down the communication since it takes much time in recognizing the failed ones, but on the other hand prevent from useless retransmission in case of elaboration/routing delay.

Incoming messages buffer length

The SMS Machine can search for new SMS messages received on the SIM card one by one or more. In this second case, they will be temporarily stored in a buffer waiting to be forwarded to the reception script. This parameter just defines the buffer length, default value is 1 and maximum value is 10.

A larger buffer can speed up reception operations since fewer accesses to SIM card memory are needed, but on the other hand the risk is messages loss since the buffer memory is cancelled, for example, if the machine is turned off. On the contrary buffer length value to 1 prevents from messages loss even in case of accidental machine power down, since they are stored in SIM card memory, but it could slow down reception operations.

Now it is clear that the reception operations may be speeded up or slowed down rather they may be more or less reliable, in terms of SMS loss, according to the modulation of three parameters described above. For this reason it is highly recommended their accurate evaluation according to the condition of the network where the SMS Machine will work and the service reliability features.

Syslog enable

Enabling this option, the SMS Machine will send on the network log information about its operation, with particular details about modem working. The communication mode of this log is a continuous flow of data over UDP/IP protocol which a dedicated software may collect on the network and make them suitable for subsequent analysis. You may find a version of this software available on the provided CD or USB drive.

Syslog server address

If the previous checkbox is enabled, in this field must be set the IP address of the PC or Server where the software is running and collecting the log sent on the network by the SMS Machine, as explained in previous section.

Once collected the log and saved in file, in case of particular problems it may be useful sending them using the e-mail account dirtecnica@areasx.com for analysis.

Name of the communication parameters

Even though the communication HTTP interface used by the Machine will be described in Appendix A, by now it can be already useful to describe, with a certain level of details, the http parameters for the communication between the Machine and the external application, both for sending and receiving SMS.

Anyway, please refer to the Appendix A for all the details about other functions such as: the reception of extended SMS (also known as chained message, with more than 160 chars), transmission of SMS with delivery notification request.

- Ordinary SMS reception (up to 160 chars)

Web script requested by SMS Machine must manage four parameters for each received SMS, using POST method. Name and meaning of these parameters are the following:

- **sms_num** is the sending phone number
- **sms_text** is the message text
- **sms_date** is the date and time of SMS registration on GSM network (i.e. transmission date) in format YYYY-MM-DD HH:MM:SS +GMT:XX where:
 - YYYY-MM-DD is the date in format year, month, day
 - HH:MM:SS is the time in format hour, minute, second
 - +GMT:XX is the offset from Greenwich time. Sometimes this information is not correctly managed by mobile operators
- **sms_code** may contain the key word for SMS Machine authentication upon the web script (see Security code in previous section)

- Incoming call reception

As briefly described in a previous section, when an incoming call is received by the SMS Machine then it hangs up and executes the same HTTP POST request toward the configured web script and sending the same parameters. Some further details are needed.

- **sms_num** is the calling phone number
- **sms_text** has always the content "INCOMING CALL RECEIVED"
- **sms_date** has always a null date as "00-00-00 00:00:00 +GMT:00"
- **sms_code** as described before

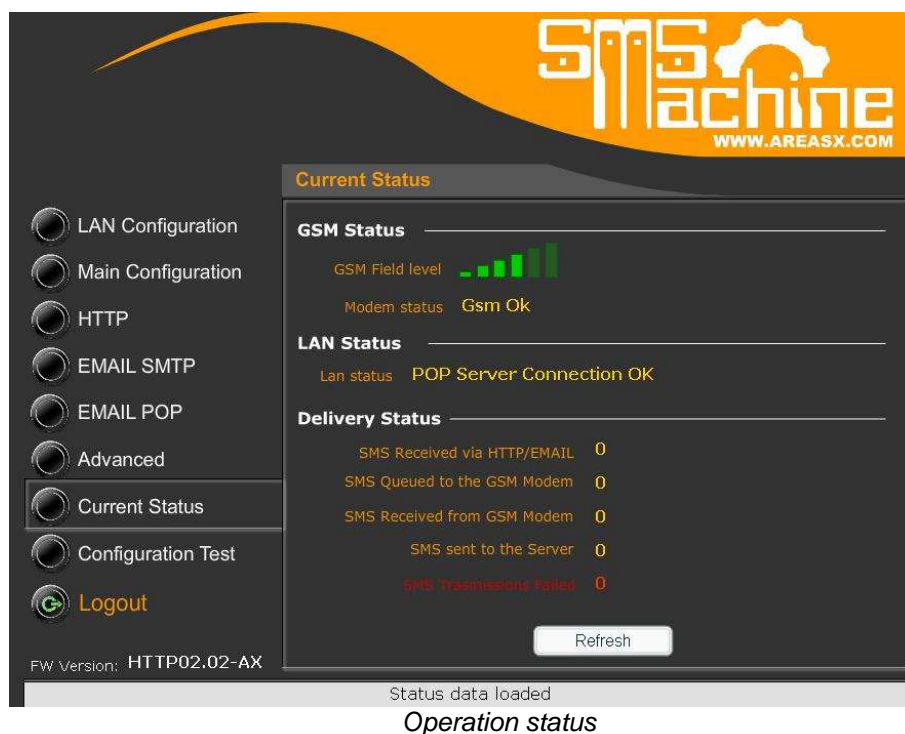
- Ordinary and extended SMS transmission (up to 300 chars)

For SMS sending, SMS Machine plays the role of a web server using its **smssend.cgi** script that accepts four parameters delivered in an HTTP POST transaction. Name and values of these parameters are the following:

- **num** is the addressee phone number
- **text** is the message text. 160 chars are available for ordinary SMS, up to 300 for extended SMS (or chained SMS). The exceeding chars are ignored.
- **Push** defines if the SMS message is the normal kind (Push=0) or Wap Push (Push=1 or other value different from 0). Wap Push kind messages are able to interact with the destination mobile phone, as already described in previous section. In particular with the value Push=1, the SMS delivers a hyperlink while different values can interact with J2ME application, for example. See following sections for the exact message format description when the SMS Wap Push kind is used
- **Pwd** is the script access password and it is the same you use with the login

Current Status

This page shows some global information about SMS Machine current operation status. **Refresh** button reloads and update this information which is valid for both operation modes. Practically it's the same page which is displayed at first access.



GSM Status

- **GSM Field Level**

It is an indicator of GSM signal level measured by SMS Machine modem. This value is shown with a graphical representation.

- **Modem Status**

It is a message sent by the modem which describes its operating status: e.g. registration over the GSM network, searching, SIM or PIN error, failed transmission, etc.

LAN Status

It is a message that describes SMS Machine status on the local network, that is the availability of the destination script for received SMS or of the Mail server, both for receiving and sending e-mail, depending on used mode (HTTP o EMAIL).

Delivery Status

In this section you find some counters related to SMS transmission and reception. All these parameters are not permanent, it means they are set to zero when the SMS Machine is turned off.

- **SMS Received via HTTP/EMAIL**

It is a counter of messages sent to the SMS Machine by mean of HTTP POST requests or related to e-mail read from the POP server and accepted in the Microcontroller sending queue.

- **SMS Queued to GSM Modem**

It is a counter of SMS messages that the SMS Machine actually sends to its modem, ready to be transmitted by the SIM card.

- **SMS Received from GSM Modem**

It is a counter of messages received by the SIM card inside the SMS Machine modem.

- **SMS sent to the Server**

It is a counter of messages forwarded successfully by the SMS Machine through HTTP POST requests to the configured script or as e-mail messages to the SMTP Server.

- **SMS Transmissions failed**

It is a counter of SMS messages that the SMS Machine wasn't actually able to delivery to the GSM network, for example because of no credit, wrong SMS Center or low field. These messages, after the sending attempts, are discarded from the queue.

Configuration Test

This page allows you to test SMS Machine settings, both for sending and receiving messages.

The screenshot shows the 'Configuration Test' page of the SMS Machine web interface. The page has a dark theme with orange accents. At the top, there is a logo for 'SMS Machine' and the website 'WWW.AREASX.COM'. On the left side, there is a vertical menu with several options: 'LAN Configuration', 'Main Configuration', 'HTTP', 'EMAIL SMTP', 'EMAIL POP', 'Advanced', 'Current Status', 'Configuration Test' (which is highlighted), and 'Logout'. The main content area is titled 'Configuration Test' and contains two sections. The first section is for sending a simulated SMS reception request, with a button labeled 'Send an RX simulation'. The second section is for sending an SMS from the SMS Machine SIM card via HTTP Request, with a form containing 'Message Text', 'Destination Number', and 'Push Destination Port' fields, and a 'Send Message' button. At the bottom of the page, there is a status bar showing 'FW Version: HTTP02.02-AX' and 'Status data loaded'.

Configuration test page

Send an RX simulation

This button makes the SMS Machine emulate the reception of an SMS and so it allows easy checking of HTTP or Email SMTP configuration.

If HTTP Mode is set, the SMS Machine makes an HTTP request to the web server and the script you set in HTTP page, using default parameters.

If EMAIL mode is set, similarly SMS Machine generates an e-mail message and forward it to Server set in the EMAIL SMTP page, using default parameters.

Send Message

This is the button to make the SMS Machine send a message and so it allows easy checking of the correct modem working, of the SIM card and of the mobile operator Service Centre setting.

- **Message Text**

If you want to send an ordinary SMS, then this field has to be filled with the message text, up to 300 chars available. The Push Destination Port parameter must be left blank or equal to 0 (see also following item).

If you want to send a Push SMS containing a web-link to the destination mobile phone, then this field has to be filled with the following format:

`www.areasx.com*This is a link to Area SX web site`

It means that the format must contain the destination URL (without the `http://` protocol) and the text displayed in the SMS, joined together by the character `*` without any space. Please note that the Push Destination Port parameter must be set to 1 (see also following item).

Finally, if you want to send a SMS formatted on a different destination port, then the text will be composed according with the specific features of the application that will manage it.

- **Destination number**

It is the phone number of the SMS addressee

- **Push Destination Port**

It is the option indicating the SMS message transmission mode.

If this parameter is set to 0 or it is missing (since 0 is the default value), then a ordinary text SMS will be sent.

If this parameter is set to 1, then a WAP PUSH SMS message will be sent, sending a hyperlink on the destination mobile terminal. Of course the text field has to be configured as described above.

Finally, if this parameter is set to other values, then you have to know first that just this port number is used by the application running on the mobile terminal (e.g. J2ME) and responsible for management of SMS messages sent with this format.

Logout

It is the exit of configuration interface and then the main page will be shown.

Note that in the below line the firmware version stored in SMS Machine is displayed. This information may be useful for communication or technical support with Area SX staff.

Restoring factory configuration

Whenever you want, it is possible to restore SMS Machine factory default configuration. This operation may be useful when it is impossible to access to SMS Machine because, for example, you forgot IP address or password.

In order to complete this operation follow this procedure:

- Turn off SMS Machine
- Find the reset button on the rear panel, as described in section “Rear panel description”
- With the help of a tip (clip, pen, small screwdriver, etc.) press this button and keep on pressing it while you turn on SMS Machine again
- Keep on pressing the button and wait until ERROR and STATUS LEDs blink at the same time (about 2 sec.)

This way SMS Machine will restart with all parameters default configuration, in particular you will access it again using IP address 192.168.0.101 (netmask 255.255.0.0) and password SMS1234.

Technincal features

Performances

- Transmission top speed: 300 SMS per hour
- Reception top speed: 300 SMS per hour

GSM modem characteristics

- Modem GSM Telit model GC864 QUAD

Network microprocessor characteristic

- Core module Rabbit Semiconductor RCM5700 50MHZ
- 128 KB SRAM data, 1 MB flash for firmware storage, 2 MB serial flash for data storage
- Ethernet RJ45 10/100Base-T interface

Power adapter electrical characteristics

- Wall plug
- Input voltage 230 Volt AC 50-60Hz
- Output voltage 12 Volt DC 1000mA

SMS Machine HTTP/e-mail electrical characteristics

- Average current consumption 300mA
- Operating temperature: 0 – 55 °C

Technical support

SMS Machine Home Page

At the URL <http://www.smsmachine.it> you will find all SMS Machine products official home page.

Starting from this page it is possible retrieve the following information:

- SMS Machine news
- User documentation and technical documentation
- Basic PHP, ASP and VB examples

If you have any technical or commercial question, you may contact us by mail, phone or fax. Our references are shown throughout this manual.

Firmware update

SMS Machine HTTP/e-mail firmware may be updated by Area SX technical staff in order to improve performances and functionalities or fix problems. Contact us for any information about firmware version and update.

The firmware update is performed through proprietary software Dynamic C and connecting the SMS Machine to PC with a mini-USB cable (the dedicated USB port is on the SMS Machine motherboard). Contact Area SX for detailed information about this procedure: dirtecnica@areasx.com

Finally remember that further information about Rabbit Network Processors, which are used on SMS Machine products, are available on web site <http://www.rabbitsemiconductor.it>

Appendix A) HTTP interface

In this section all the cgi scripts supported by the SMS Machine HTTP/E-mail will be described in detail when it acts like an http server, but also its behaviour as an http client.

SMS Machine identification

SMS Machine is identified not only by its IP address, that can be changed as you want, but also by its Mac Address that cannot be changed. Mac Address is a twelve hexadecimal chars string that can be retrieved by calling an SMS Machine CGI script with an http post request as in the following example:

```
http://address_smsmachine/queryid.cgi
```

and sending the parameter

- **Pwd** current password that allows SMS Machine to accept the transaction

The SMS Machine responds with a string, without any HTML tag but however displayable by a browser, that contains some pairs of parameter “**name=value**” concatenated together by the character **&**, as in the following example :

```
errno=0&desc=Machine ID Reported&MachineId=0090C2D3505A
```

- **errno** is the error code for the transaction, values are 0 if it is OK or 1 for wrong password
- **desc** describes shortly the transaction result, (e.g. “**Access denied**”)
- **Machineld** (e.g.. MachineId= 0090c2c68ab5) is the Mac Address that identifies definitively SMS Machine

SMS reception

If the HTTP mode is set, when SMS Machine receives an SMS, message data are sent towards a Web script in an HTTP POST transaction. This means that SMS Machine emulates a Web browser behaviour when the user fills a form and submits the data, as already shown in the configuration section dedicated to the HTTP setting. For example, if you use the following script:

```
http://www.areasx.com/sctest/rxmsg.php
```

for each incoming SMS, SMS Machine will request **rxmsg.php** script inside the **sctest** folder of **www.areasx.com** Web server sending four parameters:

- **sms_num** SMS sender phone number
- **sms_date** SMS sending date with the format YYYY-MM-DD HH:MM:SS +GMT:00
- **sms_text** message text
- **sms_code** Web script key code (if set during configuration)

SMS Machine waits for the standard success answer from the Web server: HTTP 200 OK

In other cases HTTP transaction is considered incomplete and SMS Machine will act as defined in the configurations section dedicated to **Advanced** parameters. Please refer to that section for details.

If EMAIL mode is set, an e-mail will be sent to the Server SMTP for relay.

Extended SMS reception

The SMS Machine is able to receive also extended messages, also know as chained, that means SMS with more than 160 chars allowed by the standard.

Anyway, each extended SMS message is actually divided in as much different SMS parts as needed

to fit the whole transmitted text. So the SMS Machine treats all the parts as single messages, executing an HTTP POST post for each of them, if HTTP mode is set. Obviously new parameters are needed for the “reconstruction” of original messages.

Therefore in the HTTP POST request, not only the former parameters just described are sent, but also the new ones used to identify and reconstruct the extended SMS starting from its component parts:

- **sms_id** identification number for the extended SMS
- **sms_totparts** total number of the extended SMS component parts
- **sms_thispart** identification number for the current SMS part

If EMAIL mode is set, for each part received an e-mail will be sent to the Server SMTP for relay. But the information about component parts will be lost. We recommend to avoid extended SMS when using the EMAIL mode.

SMS reception of delivery notification

If the HTTP mode is set, the SMS Machine can also send SMS message requesting the notification of delivery to the addressee. For this function please see next section. In this section, the reception of the notification itself will be described.

The reception of a delivery notification is managed as a normal SMS, but its text will be always “STATUS REPORT”. Anyway, also in this case, new parameters are needed within the HTTP POST request, in particular:

- **sms_id** identification number equal to the index retrieved with the SMS transmission (see also next section)
- **sms_status** status code returned by the GSM network

The expected value for this last parameter is **0x00** that means the status of “**SMS delivered**”.

Also other values for different network conditions are possible, the most common are the following ones:

0x01 Forwarded, but status unknown
0x20 Congestion, still trying
0x21 Recipient busy, still trying
0x22 No recipient response, still trying
0x23 Service rejected, still trying
0x24 QOS not available, still trying
0x25 Recipient error, still trying
0x42 Connection rejected
0x45 No internetworking available
0x46 Message expired
0x48 Message deleted by SMSC

SMS transmission

When transmitting messages, SMS Machine emulates a Web server behaviour listening on port 80, while your application has to emulate a Web browser behaviour calling a SMS Machine embedded CGI. This is the request:

```
http://address_smsmachine/smssend.cgi
```

This request must be carried out in POST mode for sending SMS message parameters which are:

- **Pwd** password that allows SMS Machine to accept the transaction
- **Push** destination port, 0 text SMS (default value if missing), 1 Wap Push, other values to be specified. Please refer to the section dedicated to SMS sending
- **num** phone number of the SMS addressee
- **text** SMS message text. 160 chars are available, up to 300 chars for extended SMS (also known as chained). The exceeding chars are ignored.

SMS Machine responds with a string, without any HTML tag but however displayable by a browser, that contains two pairs of parameters and their values concatenated together by the character &, as in the following example:

```
errno=0&desc=SMSQueued&SmsIndex=2
```

The first parameter is **errno**, followed by its description, and its values are:

- **errno=0&desc=SMS queued** (SMS successfully put in sending queue)
- **errno=1&desc=Access denied** (Wrong password)
- **errno=2&desc=Destination number missing** (SMS addressee phone number is missing)
- **errno=3&desc=SMS refused** (SMS refused because the sending queue is full)

The second parameter is **SmsIndex** and it is a progressive index that identifies the SMS successfully put in sending queue.

To verify if the message has been sent by SMS Machine, you may check the **SMS sent** counters increment on the Status page. Alternatively you may check the TxGsmCounter and TxServerCounter parameters retrieved with the **getstatus.cgi** (see following section).

Request of delivery notification

The SMS Machine can also send SMS message requesting the notification of delivery to the addressee, as mentioned in the previous section. In this case, the HTTP POST request to the `smssend.cgi` script must be modified adding the optional parameter:

- **notify** values 1 to enable the notification function, 0 or missing for ordinary SMS

If EMAIL mode is set, SMS messages related to receivedemail are sent without the delivery notification option.

SMS failed transmission

Messages that SMS Machine is not able to send (e.g. no GSM signal, wrong addressee phone number, etc) are cancelled from its queue to avoid a blocking status. The **SmsIndex** parameter allows tracing these failed messages by calling an SMS Machine CGI. This is the request:

```
http://address_smsmachine/smserror.cgi
```

This request must be carried out in POST mode for sending the following parameter which is:

- **Pwd** password that allows SMS Machine to accept the transaction

SMS Machine responds with a string, without any HTML tag but however displayable by a browser, that looks like the following:

```
errno=0&desc=Queue Transmitted&SmsTxErrIdx=2.0.0.0.0.
```

This string contains the following parameters:

- **errno** its values are **0** for successful request and **1&desc=Access denied** for wrong password
- **SmsTxErrIdx** is the dotted list of last five failed SMS index

Configuration

Also for parameters configuration and for some other support functions, SMS Machine offers some **cgi** scripts to be requested by an HTTP client on port 80. These scripts are the same used by the configuration web interface, developed in Macromedia Flash, that is just an HTTP client communicating with the SMS Machine.

Note that configuration scripts may be useful if you want to integrate SMS Machine configuration features in your own Web application. In all other cases it is sufficient to use the web interface.

Configuration script is available at the URL:

```
http://address_smsmachine/setconfig.cgi
```

Parameters name to send in HTTP POST mode are:

- General settings of the Machine
 - **Pwd** password that allows SMS Machine to accept the transaction, default SMS1234
 - **IpAddress** IP address of the SMS Machine
 - **Netmask** subnet mask of the SMS Machine
 - **Gateway** gateway IP address
 - **Nameserver** DNS server IP address
 - **NewPwd** new password to assign to the SMS Machine
 - **Servicecenter** number of the Service Centre for SMS sending
- Setting of the operation mode
 - **EmailVersion** value 0 for HTTP mode, 1 for EMAIL mode
- Basic setting of SMS forward in HTTP mode
 - **ServerAddress** IP address or name of the destination server for received SMS
 - **ServerPage** path of the destination script for received SMS, starting from the server root
 - **ServerPort** port for HTTP transaction, default value 80
 - **ServerCode** key code that SMS Machine will use for authentication to Web script
 - **ServerCheck** control of the reception server status, value 1 enables the control on the socket, value 0 disables it
 - **ScriptCheck** control of the reception script status, value 1 enables the control with HTTP HEAD, value 0 disables it
 - **RingEnabled** managing of incoming phone calls, value 1 enables the request, value 0 disables it
- Advanced setting of SMS forward in HTTP mode
 - **InBufferLen** number of SMS in the buffer for transaction to reception script, default value 1
 - **ServerTimeout** timeout of the HTTP/TCP connection to the script/server in millisecond, default value 5000ms
 - **MaxFailureIn** maximum number of attempts for received SMS forwarding to the script/server, default value 0 means endless attempts
- Log setting
 - **SyslogEnabled** 1 enables the function of log data transmission, value 0 disables it
 - **SyslogServer** IP address or o name of the destination server for collecting the log data

- Setting for e-mail forward of received SMS in EMAIL mode
 - **SmtptServer** IP address or name of the server for the outgoing email
 - **SmtptUser** username for the eventual authentication to the SMTP server
 - **SmtptPassword** password or the eventual authentication to the SMTP server
 - **MailFrom** sender, which is the value in the "From" field of the e-mail
 - **MailTo** destination email address
 - **MailSubject** defines the content of email subject, refer also to the configuration section
 - **MailBody** defines the content of email body, refer also to the configuration section
- Setting for SMS forward of received e-mail in EMAIL mode
 - **PopServer** IP address or name of the server for the incoming email
 - **PopUser** e-mail address or username for authentication to the POP server
 - **PopPassword** password for authentication to the POP server
 - **PopInterval** the time interval between two consecutive checks on reception POP server
 - **CatchAll** number of the SMS destination SIM card, refer also to the configuration section

SMS Machine responds with a string, without any HTML tag but however displayable by a browser, that contains **errno** parameter and its description, which values are:

- **errno=0&desc=Configuration_Accepted** (Configuration change OK)
- **errno=1&desc=Access denied** (Wrong password)

Operation status request

The SMS Machine supports also a **cgi** script to retrieve information about its general operating status, at the following URL:

```
http://address_smsmachine/getstatus.cgi
```

This request must be carried out in HTTP POST mode sending the following parameter:

- **Pwd** password that allows SMS Machine to accept the transaction

The SMS Machine responds with a string, without any HTML tag but however displayable by a browser, that is composed by the concatenation of pairs by & char: 'parameter name'='value'. Parameters are:

- **errno=0&desc=Configuration Sent** (Communication OK) or **errno=1&desc=Access denied** (Wrong password)
- **GsmFieldLevel** GSM signal level in dBm
- **LastGsmError** modem status or last detected error
- **TxGsmCounter** number of SMS sent by the modem
- **RxGsmCounter** number of SMS received by the modem
- **TxServerCounter** number of SMS in trasmission queued into the processor
- **RxServerCounter** number of SMS in reception forwarded to the server
- **Fversion** firmware version
- **FailedCounter** number of SMS not sent by the modem
- **EmailVersion** value 0 for HTTP mode, 1 for EMAIL mode, it defines also the kind of control described by the next parameter

- **ServerStatus** sstatus of the destination server or of the script for HTTP mode, status of the e-mail server for EMAIL mode

Information about eventual errors on the network or servers or on the GSM network are also encoded by different blinking mode of the LEDs on the front panel. See the configuration section for details.

Network and configuration parameters request

It is possible to retrieve configuration parameters current values by requesting this **cgi** script:

```
http://address_smsmachine/getconfig.cgi
```

It is also the script used at the login in web interface in order to load all the current parameters. An HTTP POST request must be used sending the following parameter:

- **Pwd** password that allows SMS Machine to accept the transaction

The SMS Machine responds with a string, without any HTML tag but however displayable by a browser, that is composed by the concatenation of pairs: 'parameter name'='value'. Parameters are:

- **errno=0&desc=Configuration Sent** (Correct parameter loading) oppure **errno=1&desc=Access denied** (Wrong password)
- **IpAddress** IP address of the SMS Machine
- **Netmask** subnet mask of the SMS Machine
- **Gateway** IP address of the gateway
- **Nameserver** IP address of the DNS server
- **Fversion** firmware version
- **Servicecenter** number of the Service Centre for SMS sending
- **ServerAddress** IP address or name of the destination server for received SMS
- **ServerPort** port for HTTP transaction, default value 80
- **ServerPage** path of the destination script for received SMS, starting from the server root
- **MaxFailureIn** maximum number of attempts for received SMS forwarding to the script/server
- **ServerTimeout** timeout of the HTTP/TCP connection to the script/server in millisecond
- **InBufferLen** number of SMS in the buffer for transaction to reception script
- **ServerCode** key code that SMS Machine will use for authentication to Web script
- **ScriptCheck** control of the reception script status, value 1 control with HTTP HEAD enabled, value 0 disabled
- **ServerCheck** control of the reception server status, value 1 control on the socket enabled, value 0 disabled
- **RingEnabled** managing of incoming phone calls, value 1 enabled, value 0 disabled
- **SyslogServer** valore 1 abilita la funzione di trasmissione dati di log, valore 0 disabilita
- **SyslogEnabled** value 1 log function enabled, value 0 disabled
- **EmailVersion** current set mode, 0 for HTTP and 1 for EMAIL
- **SmtptServer** IP address or name of the server for the outgoing email
- **SmtptUser** username for the eventual authentication to the SMTP server
- **SmtptPassword** password or the eventual authentication to the SMTP server
- **MailFrom** sender, which is the value in the "From" field of the e-mail

- **MailTo** destination email address
- **MailSubject** content of email subject, refer also to the configuration section
- **MailBody** content of email body, refer also to the configuration section
- **PopServer** IP address or name of the server for the incoming email
- **PopUser** e-mail address or username for authentication to the POP server
- **PopPassword** password for authentication to the POP server
- **PopInterval** the time interval between two consecutive checks on reception POP server
- **CatchAll** number of the SMS destination SIM card, refer also to the configuration section

Emulation of SMS reception

It is also available a **cgi** script that makes SMS Machine emulate SMS reception. This function may be very useful because it allows checking server configuration without sending any actual SMS.

This is the URL for the request:

```
http://address_smsmachine/srvtest.cgi
```

The parameter to be sent with an HTTP POST request is :

- **Pwd** password that allows SMS Machine to accept the transaction

Possible SMS Machine responses are:

- **errno=0&desc=SMS queued** (Emulated SMS successfully queued)
- **errno=1&desc=Access denied** (Wrong password)

SMS Machine HTTP/e-mail reboot

Two scripts for the reboot of the SMS Machine are available. These functions may be useful when you need, for example, restart the firmware and/or the modem making it register again to the GSM network refreshing the cell information.

In fact, first script just restart the firmware. The second one also restart the modem.

The first URL of the request is the following:

```
http://address_smsmachine/reboot.cgi
```

The second URL of the request is the following:

```
http://address_smsmachine/reboot.cgi
```

In both cases the parameter to be sent in POST mode is:

- **Pwd** password that allows SMS Machine to accept the transaction

and the SMS Machine restarts the firmware and/or the modem without any http response.

SMS Machine HTTP/e-mail is made by:



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