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MTX-Router-Q

Software User Manual

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Index

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Important Information

This technical description contains important information for the commissioning and use of MTX-Router-Titan devices.

Please read it carefully before you start working with Titan router devices. The warranty will be void in the event that damage occurs due to non-compliance with these instructions. We cannot accept liability for related losses.

Revision

VERSION: 4.01.4.17, release: April 2020

1. Introduction

The MTX-Router-Q belongs to the Titan family of 2G/3G/4G routers with advanced Gateway capabilities.

To better understand what you can do with these routers, we strongly recommend you read chapter 2 of this manual, the FAQ section. After reading all this information, you will have a much better idea of what you will actually be able to do. After reading the FAQ, it is recommended to have a general look at the examples in the Appendix. These examples will give you a much clearer picture of the possibilities offered by these routers. Finally, Appendix A contains the technical features and connection diagrams of the devices.

We provide free, fast and efficient support to all users of MTX modems and routers when required. If you still have questions after reading this manual, do not hesitate to let us know using the following email address: iotsupport@mtxm2m.com. Similarly, if you need a feature that is not included in our routers, or if you need customisation, please let us know and we will look into it.

2. FAQ: basic concepts

We advise you to read the following FAQ. It explains in detail everything you need to know about the main features of the MTX-Router-Q devices in the Titan router family.

What do MTX-Router-Q devices physically look like?

MTX-Router-Q with DIN rail

MTX-Router-Q

What can I do with the MTX-Router-Q?

Essentially, you can do exactly the same things as with a standard 2G/3G/4G router, but with the addition of a number of advanced gateway features. For example, they can provide Internet connectivity to devices that are connected to their Ethernet port, as well as perform NAT to connect via the Internet to devices connected to the Ethernet port.

I want a 2G/3G/4G router, but I need to be able to send AT commands directly to the router, in order to send SMS messages, check coverage, etc. Does the MTX-Router-Q router allow this?

Yes, in several ways. You can send AT commands from a “Telnet type” connection via SSH or even by SMS.

Web configuration environment?

Yes. The devices can be entirely configured via web configuration, i.e. through the equipment’s internal webserver.

Is it possible to read/upload a complete configuration to MTX-Router-Q routers? This facilitates the production process when there are a lot of devices to configure.

It can indeed do full configuration backups/restores.

You mention time. Do MTX-Router-Q routers have a clock?

Yes, synchronised via NTP over the Internet.

Can MTX devices be configured via SMS?

Yes, you can send AT commands by SMS, to reboot the device, change configuration, find out IP, check coverage, etc.

I would like to customise the web configuration environment with my company logos and images. Is there a way to customise the equipment to make it look like mine?

Yes. Any user is free to customise the configuration web environment with their logos, footers and page titles, etc. You can even choose which menus your end customer can see/touch.

Finally, are there any additional features of the MTX-Router-Q router that differentiate it from conventional routers?

Yes, it has 1 or 2 backup batteries (chosen by the customer) depending on the autonomy the router needs in case the equipment loses power.

3. Step-by-Step Configuration

As mentioned in previous sections, the Titan family of routers is configured through a web environment.

What is required?

- A PC with a web browser (Chrome, IExplorer, Firefox, etc.) and an Ethernet port.
- An Ethernet cable to connect the PC to the MTX.

Steps to access the configuration environment.

- Connect an Ethernet cable between the PC and the MTX.
- The PC must have a fixed IP address, within the range 192.168.1.X, as the IP address is 192.168.1.2
- Open a browser with the address http://192.168.1.2 . The following window should appear:

- Use the default username and password: admin and admin.

4. Configuration

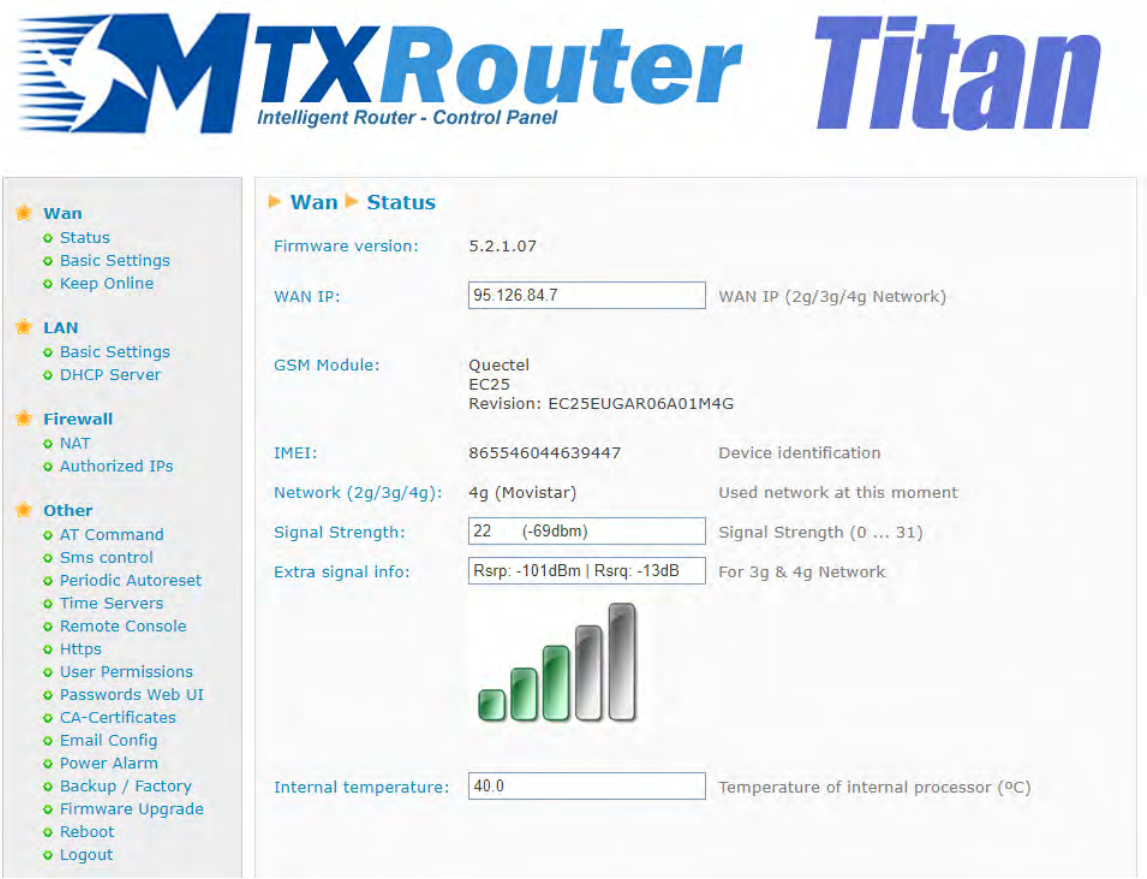
4.1 WAN

The WAN section covers all aspects related to the router's 2G/3G/4G configuration, including the connection status, network configuration parameters and connection monitoring.

4.1.1 WAN: Status

This screen shows the general status of the router:

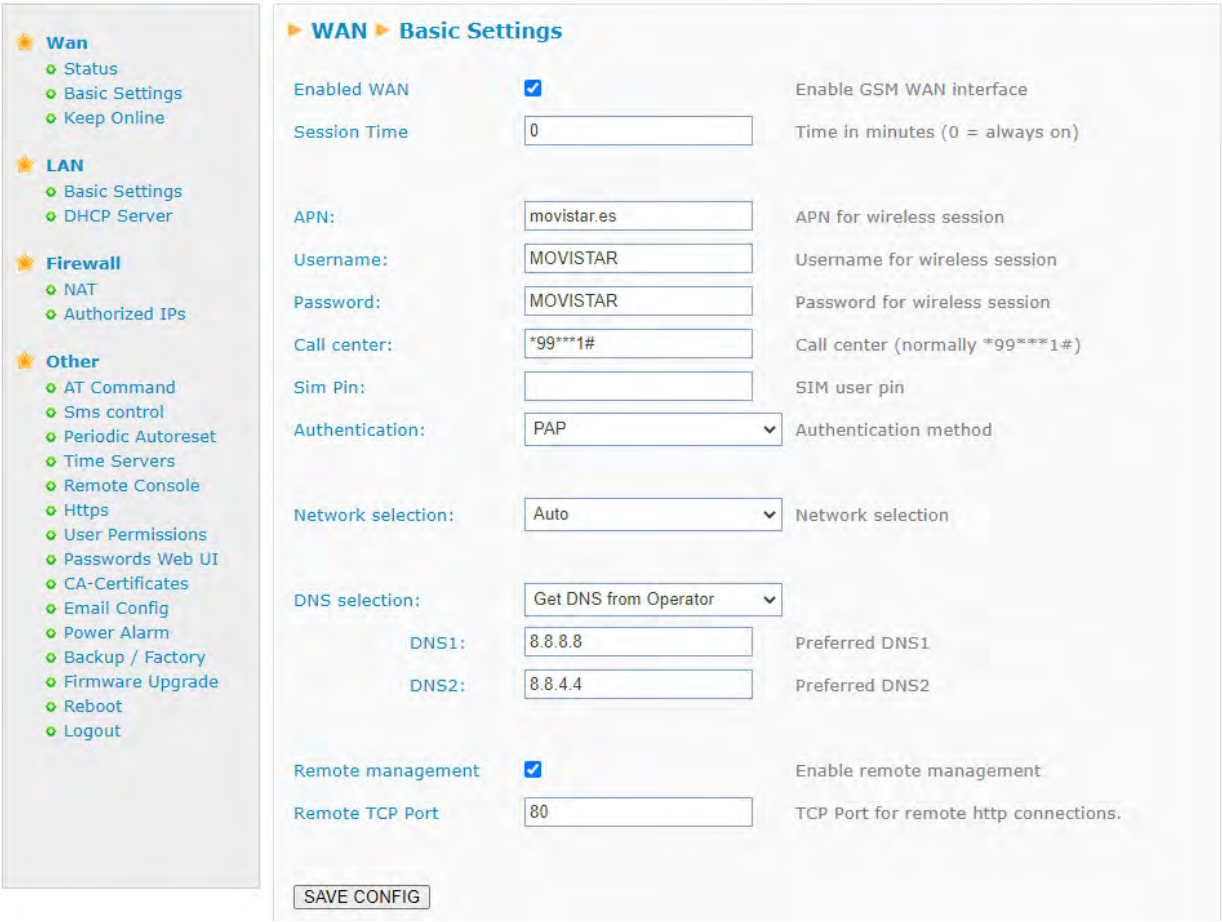
- Firmware Version: FW version of the router
- WAN IP: WAN IP address (IP address assigned to the 2G/3G/4G connection) if this is available.
- GSM Module: indicates the manufacturer and model of the router's internal GSM module.
- IMEI: device identifier.
- Network (2G/3G/4G): indicates whether the current WAN connection is using the 2G (GPRS), 3G or 4G network.
- Signal Strength: indicates the strength of the signal. 0=none, 31=maximum
- Extra signal info: additional information for 3G and 4G networks.
- Internal Temperature: displays the internal temperature of the processor. (This does not indicate the ambient temperature).



4.1.2 WAN: Basic Settings

This section covers the configuration of the WAN connection (2G/3G/4G) parameters. You will need to know about your SIM card, including the APN, username and password. Your provider must give them to you:

- Enabled WAN: check the box to allow the MTX-Router-Q to enable the 2G/3G/4G connection.
- Session Time: indicates the number of minutes that the 2G/3G/4G connection must remain active. “0” means that the connection will always be active. If you specify a number greater than 0, the connection will remain active for the specified minutes after an event such as receipt of an SMS message or a missed call. Go to the configuration menu “Other > SMS Control” to activate and configure these events if you are specifying a number> 0.
- APN: Operator APN. Ask your GSM provider.
- Username: operator username. Ask your GSM provider.
- Password: operator password. Ask your GSM provider.
- Call center: Call center number Usually `*99***1#`
- Sim card Pin: if your SIM card has a PIN you must enter it here.
- Authentication: you must indicate the authentication method. Usually PAP.
- Network selection:
  - auto: the router will use 4G if there is coverage, or 3G and 2G otherwise.
  - 4G: the device will use the 4G network in all cases. If there is no 4G coverage, the router will not switch to 2G or 3G
  - 3G: the device will use the 3G network in all cases. If there is no 3G coverage, the device will not switch to 2G.
  - GPRS: the device will use the 2G network in all cases.
- DNS1 and DNS2: DNS servers for domain name resolution. We recommend using Google's 8.8.8.8 and 8.8.4.4, or those indicated by your provider.
- Remote management: if you check the box, you will be able to access the router’s web configuration page remotely, through its public IP address (the one indicated in WAN>Status).
- Remote TCP Port: indicates the remote configuration TCP port. For example, if you specify 8080, the configuration URL will be http://x.x.x.x:8080. By default, the standard port is 80, but if you wish to perform an NAT to the TCP80 port of an internal ETH device (IP camera, PLC), you will need to change it, for example, to 8080.



Additional Notes:

- Once the configuration process is finished, click on the “SAVE CONFIG” button to save the changes. Remember that you must restart the router for the new changes to take effect.

4.1.3 WAN: Keep Online

On this screen you can configure a PING to check the router's connectivity. If the PING fails three times, the 2G/3G/4G connection will be restarted. We recommend you use this feature.

- Enabled: check the box to allow the MTX-Router-Q to send a PING to periodically check connectivity.
- Ping Server: indicates the IP address of the server to PING.
- Period: indicates the number of minutes between each PING.

Additional Notes:

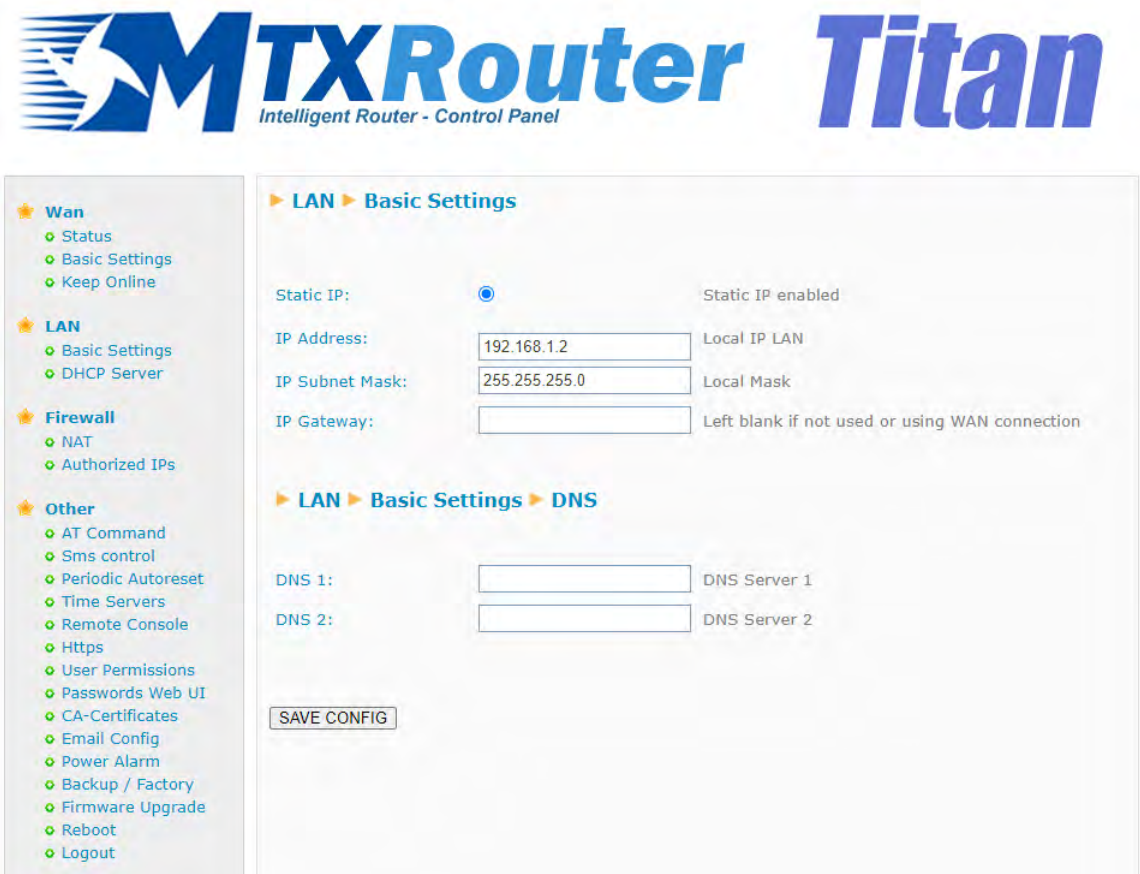
- Once the configuration process is finished, click on the "SAVE CONFIG" button to save the changes. Remember that you must restart the router for the new changes to take effect.

4.2 LAN

The “LAN” configuration section refers to the Ethernet configuration part

4.2.1 LAN: Basic Settings

This section lets you configure the basic network parameters of the Ethernet connection.



- Static IP: a static IP address will be assigned.
- IP Address: local IP address of the Ethernet interface (by default 192.168.1.2).
- IP Subnet Mask: subnet mask.
- IP Gateway: IP address of Gateway. Blank if 2G/3G/4G connectivity is to be used. For example, it is useful to provide Internet connectivity to Wifi devices, but redirecting the output not via 2G/3G/4G, but via Ethernet to the IP address of an ADSL/Fibre router.
- DNS1: primary DNS server.
- DNS2: secondary DNS server.

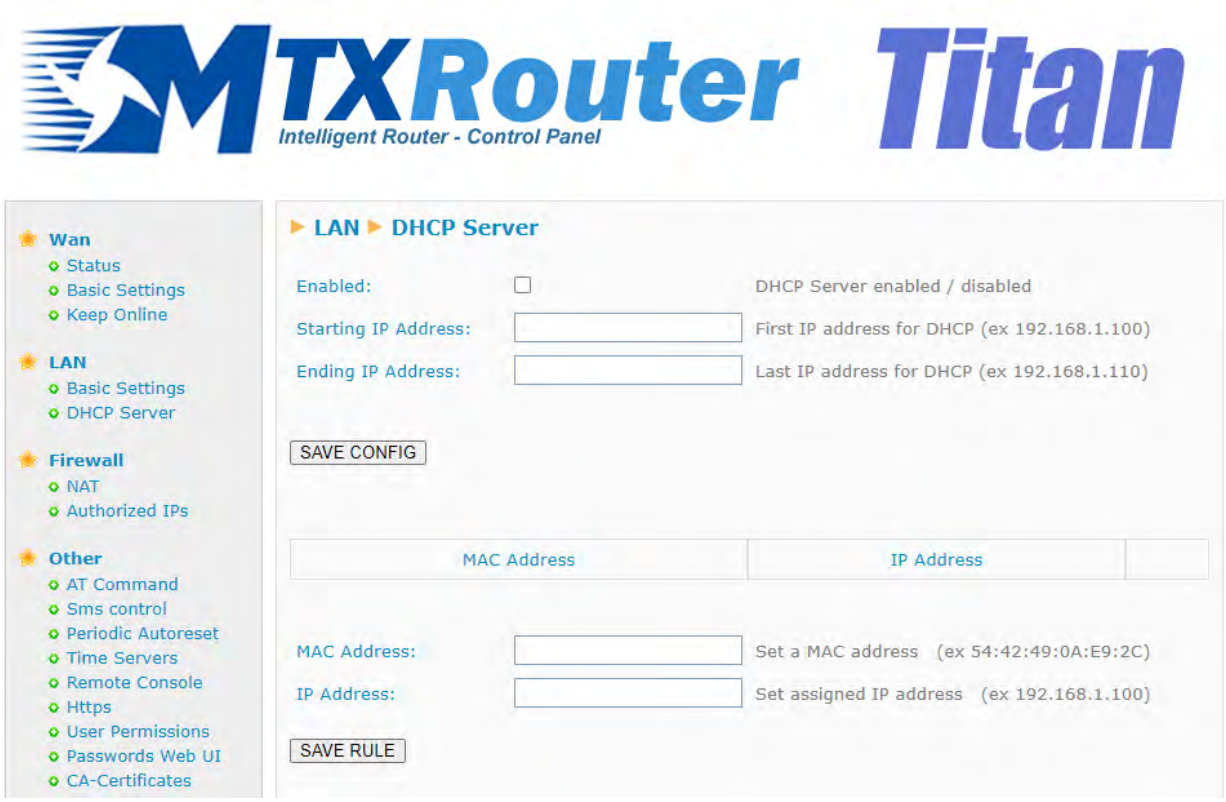
Additional Notes:

- Once the configuration process is finished, click on the “SAVE CONFIG” button to save the changes. Remember that you must restart the router for the new changes to take effect.

4.2.2 LAN: DHCP Server

This section covers the enabling and configuration of the DHCP server assigned to the router's Ethernet interface:

- Enabled: checking the box will enable the DHCP server on the Ethernet interface.
- Starting IP Address: indicates the first IP address to be assigned by the DHCP server.
- Ending IP Address: indicates the last IP address to be assigned by the DHCP server.
- MAC Address / IP Address: these two parameters allow the DHCP server to always assign the same IP address to a given MAC address.



Additional Notes:

- Once the configuration process is finished, click on the "SAVE CONFIG" button to save the changes. Press the "SAVE RULE" button for each MAC / IP pair you wish to create. You can create up to 10.
- Remember that you must restart the router for the new changes to take effect.

4.3 Firewall

Section for configuring the router's security features.

4.3.1 Firewall: NAT

Section from which ports can be mapped for access, from external devices, to internal devices connected to the router. For example, if you have an IP camera connected to the Ethernet port of the MTX-Router-Q router and you wish to access the camera from a remote computer, this section must be configured appropriately. You can create up to a total of 10 rules.

- Service name: descriptive name of a mapping rule
- Protocol: indicates the port mapping protocol. TCP, UDP or both.
- Input port: indicates the "listening" port of the MTX-Router-Q router.
- Output port: indicates the "listening" port of the device connected to the MTX-Router-Q router that is to be controlled externally. In other words, data received at the router's "Input port" is redirected to this internal "Output Port".
- Server IP Address: IP address of the device to be externally controlled (e.g. IP address of a camera).

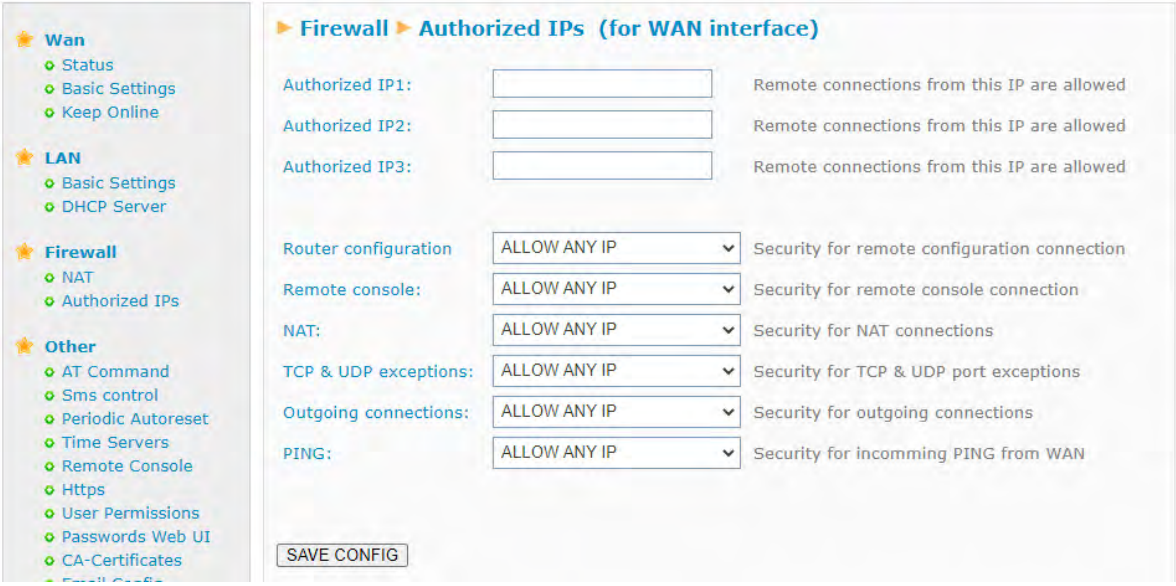
Additional Notes:

- Once the configuration process is finished, click on the “SAVE CONFIG” button to save the changes. Remember that you must restart the router for the new changes to take effect.
- You must also remember that in order to perform a NAT correctly:
  - the LAN IP address of the device to be controlled must be within the network range of the LAN IP address of the TITAN-based device.
  - The Gateway IP address of the device to be controlled must be the LAN IP address of the MTX-Router-Q router. See the examples in the Appendix for more information.
- It is possible to specify the interface for NAT. If you are unfamiliar with the feature, please use the “auto” option. This option, for example, could be useful for OpenVPN if you wish to access devices connected to the Ethernet port via NAT (and thus have the same).

4.3.2 Firewall: Authorized IPs

This screen allows you to define, if you wish, up to 3 IP addresses authorised for WAN connections (on the 2G/3G/4G interface) for the router’s different services. For example, if an authorised IP address of 90.166.108.200 is specified (for instance that of your office), certain services will only be accessible from that IP address.

- Authorized IP1: authorised IP address number 1.
- Authorized IP2: authorised IP address number 2.
- Authorized IP3: authorised IP address number 3.
- Router configuration: specifies whether remote connections to the web configuration environment are accepted from any IP, or only from authorised IP addresses.
- Remote console: specifies whether to accept remote connections to the remote console service from any IP, or only from authorised IP addresses.
- NAT: specifies whether to accept remote connections to the device's mapped ports from any IP, or only from authorised IP addresses.
- Outgoing Connections: lets you specify whether the MTX-Router-Q router can provide Internet access to all IP addresses or only to authorised IP addresses. For example, imagine you only want Ethernet devices connected to the MTX-Router-Q to be able to send data to your server, preventing the router from being misused for other actions (Internet browsing, etc.).
- PING: will only respond to PING requests made from authorised IPs.



Additional Notes:

- Once the configuration process is finished, click on the “SAVE CONFIG” button to save the changes. Remember that you must restart the router for the new changes to take effect.
- If you use restrictions on “Outgoing connections”, remember that you also need to specify the IP address of the DNS server, so that it can be used in the event that domain names are employed rather than IP addresses.
- If you need more than 3 authorised IP addresses, you can specify more than one IP address in any box, separating them by a comma “,” as shown in the example in the previous figure.

4.4 Other

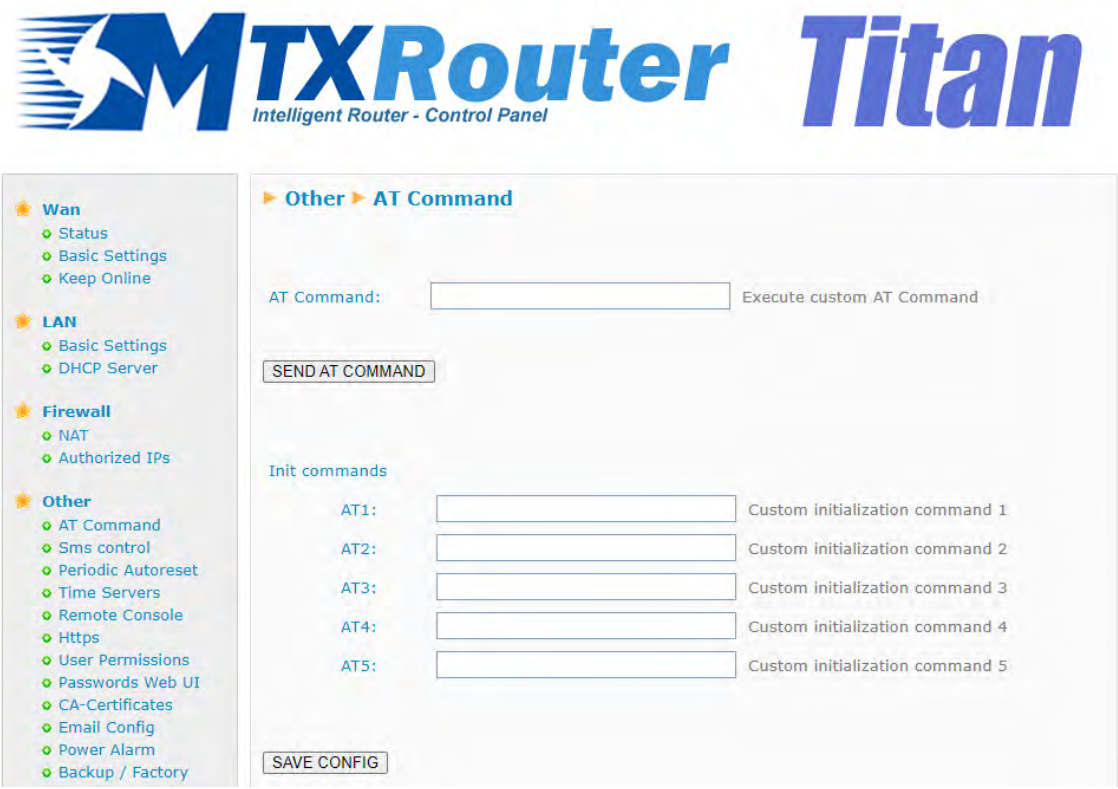
This section refers to the configuration of other aspects and functionalities for the MTX-Router-Q router.

4.4.1 Other: AT Command

In this section, you can send an AT command directly to the router's internal modem. For example, you may wish to check the coverage or to identify nearby telephone cells, etc.

It is also possible to configure up to 5 special AT commands through which to configure the device at start-up.

- AT Command: AT command for real-time execution (e.g. AT+CSQ). Once you click on the "SEND AT COMMAND" button, the AT command will be executed.
- AT1, ... AT5: initialisation AT commands.



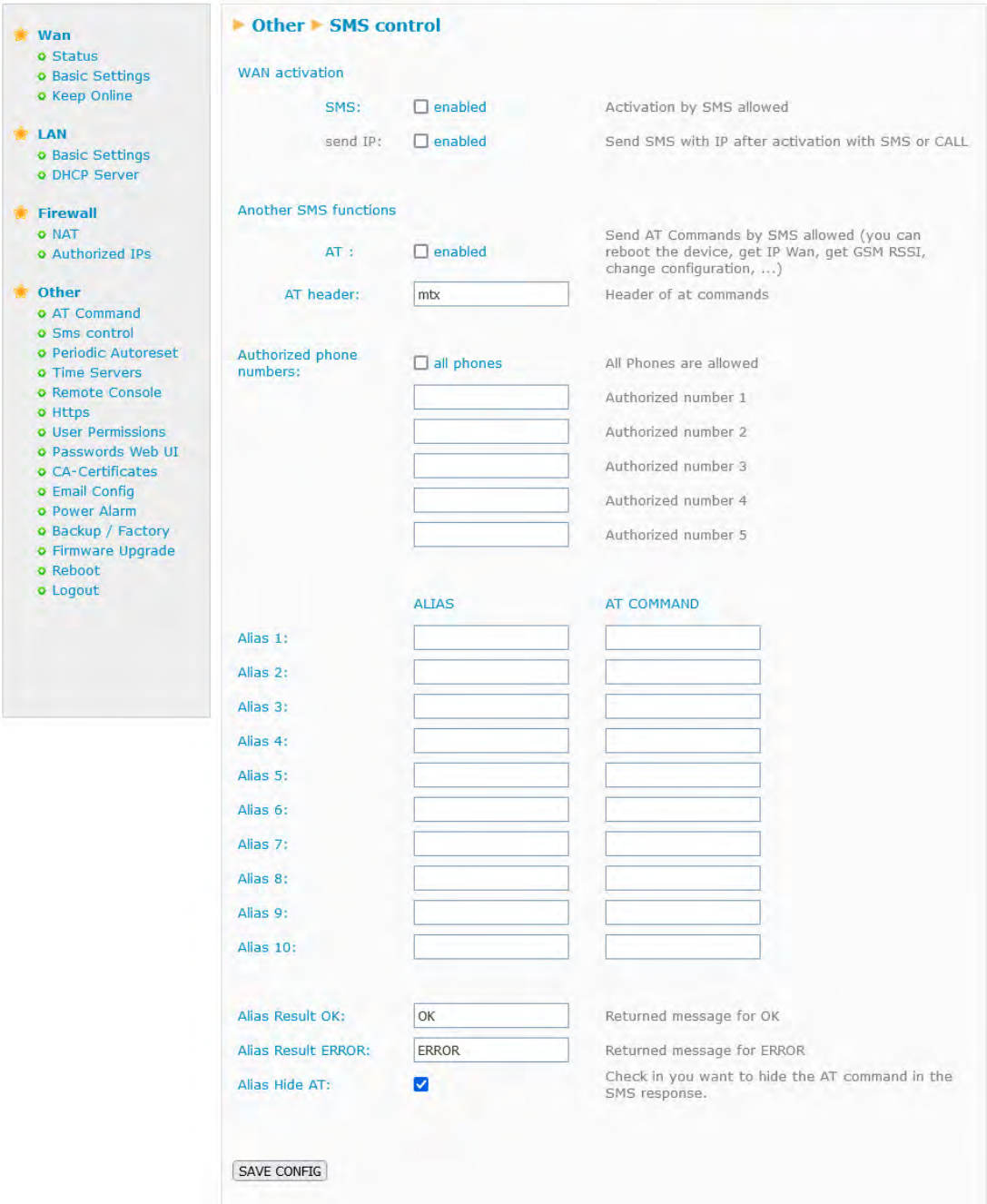
Additional Notes:

- Once the configuration process is finished, click on the "SAVE CONFIG" button to save the changes. Remember that you must restart the router for the new changes to take effect.

4.4.2 Other: SMS Control

This section lets you configure control of the router using SMS messages or missed calls. For example, you can configure it so that the router connects to 3G when an SMS is received, or specify the telephone numbers authorised for this purpose:

- SMS enabled: check the box if you want to be able to activate the router's 2G/3G connection temporarily, when an SMS message is sent. The SMS message you have to send to the router to activate the connection is "ROUTER ON", in capital letters.
- Send IP: check the box if you want the router to send back an SMS message with the IP address
- AT enabled: check this box if you want to be able to send AT commands by SMS to the router, e.g. to find out the coverage remotely, to perform a reset or to change the configuration, etc.
- AT header: here you can enter the header text for SMS command messages. For example, if you type "mtx" in this box, when an AT command is sent by SMS, for instance the ATI command to find out the router's internal module, you would need to send an SMS message with the text "mtx ATI".
- All phones: check this box if you want all telephones to be able to send AT commands to the router. Do not check this box if you want to specify a set of authorized phone numbers.
- Authorized Number X: in these boxes you can specify up to 5 authorised telephone numbers.
- Alias/ATCommand: Up to 10 aliases can be entered to execute SMS commands. Imagine you want to send an SMS to get the IP. For example, you can configure an ALIAS so that when the MTX receives the text "get ip", it will in fact execute the AT command: AT^MTXTUNNEL=GETIP.
- Alias Result OK: text that is sent in response when the execution of an ALIAS command is successful. If you wish, you can return a personalised response for each ALIAS, indicating the response between tags: <a1>Ok</a1><a2>Perfect</a2>...
- Alias Result ERROR: text that is sent in response when the execution of an ALIAS command has failed. If you wish, you can return a personalised response for each ALIAS, indicating the response between tags: <a1>Error</a1><a2>Upssss</a2>...
- Alias Hide AT: check this box if you want to hide the AT command in SMS responses.



Additional Notes:

- Once the configuration process is finished, click on the “SAVE CONFIG” button to save the changes. Remember that you must restart the router for the new changes to take effect.
- See Application Note 3: ALIAS SMS for more information and examples. You will also see how to add parameters to the ALIAS.

4.4.3 Other: Periodic Autoreset

In this section you can configure a scheduled router autoreset.

- Autoreset not enabled: enable the option if you do not want the router to restart automatically.
- Autoreset every X hours: enable the option if you want the router to autoreset every X hours.
- Number of hours: if you select Autoreset every X hours, you must specify X, i.e. the number of hours after which the reset takes place, in this box. Specify 24 for a daily reset.
- Autoreset at specific time: select this option if you want the router to autoreset at a certain time of the day.
- Time for autoreset: specific time for daily autoreset.
- Reset if router can't obtain IP after X minutes: highly recommended for context loss situations. For example, it lets you specify the number of minutes after which the MTX-Router-Q router will reset itself if it cannot obtain an IP address.

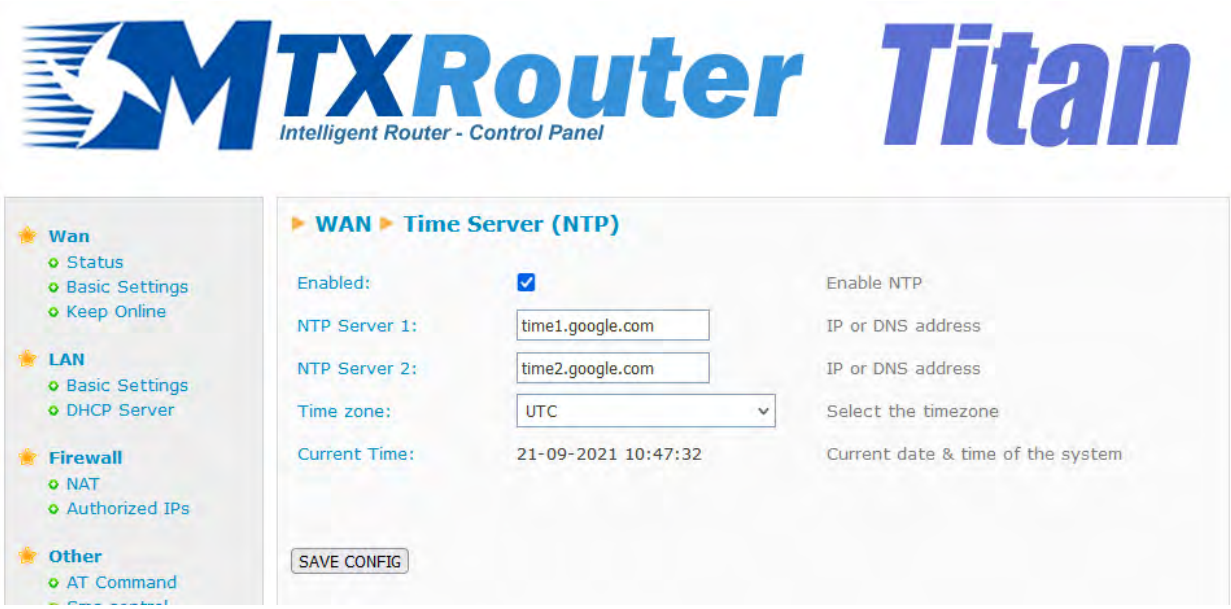
Additional Notes:

- Once the configuration process is finished, click on the "SAVE CONFIG" button to save the changes. Remember that you must restart the router for the new changes to take effect.

4.4.4 Other: Time Servers

The router has a real-time clock that enables it to keep time even if power is lost. This built-in clock must be synchronised periodically with time servers via the NTP protocol.

- Enabled: check this box if you want to use NTP time servers.
- NTP Server 1: IP or DNS address of time server 1.
- NTP Server 2: IP or DNS address of time server 2.
- Time Zone: lets you specify the time zone.
- Current Time: current date and time of the router.



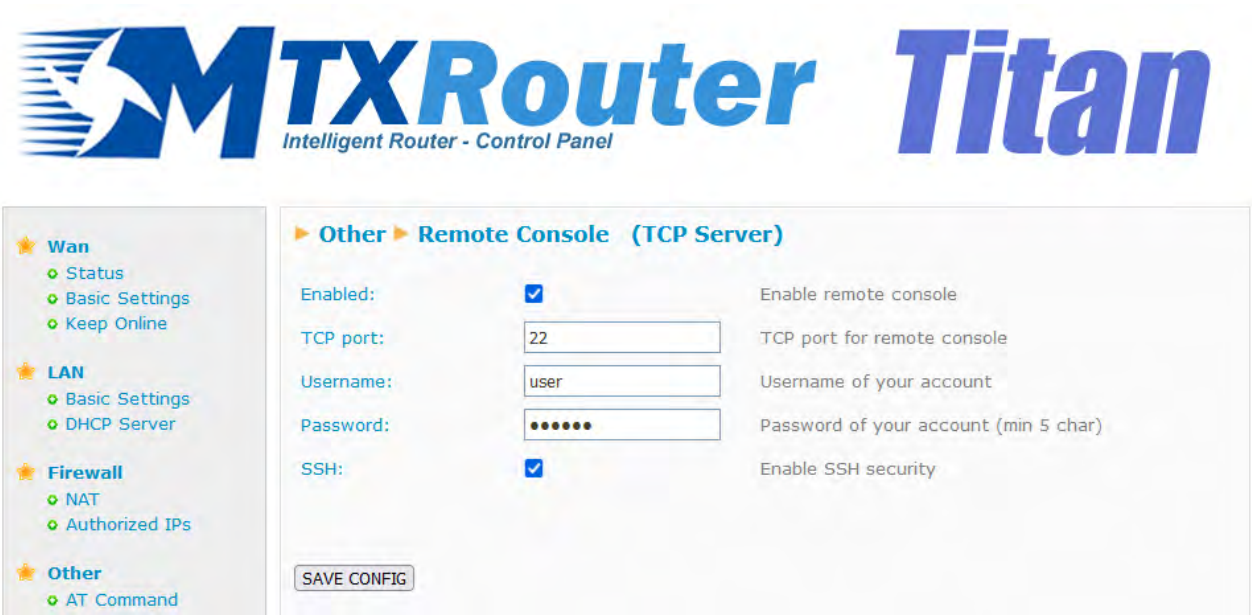
Additional Notes:

- Once the configuration process is finished, click on the “SAVE CONFIG” button to save the changes. Remember that you must restart the router for the new changes to take effect.
- You can specify your time zone.

4.4.5 Other: Remote Console

If at any time you need to perform a special operation on the router using a “Telnet type” connection, you can do so by configuring this section. With this special connection you can, by sending AT commands via a Telnet connection, send an SMS, make a router configuration change, switch a relay, etc. See section 5 of this manual for a list of available AT commands.

- Enabled: check this box if you want to use this special connection.
- TCP Port: listening TCP port of the router where the connection must be made.
- Username: username that will be requested after establishing the connection.
- Password: user password that will be requested after entering the username.
- SSH: check the box if you want to use SSH instead of Telnet.



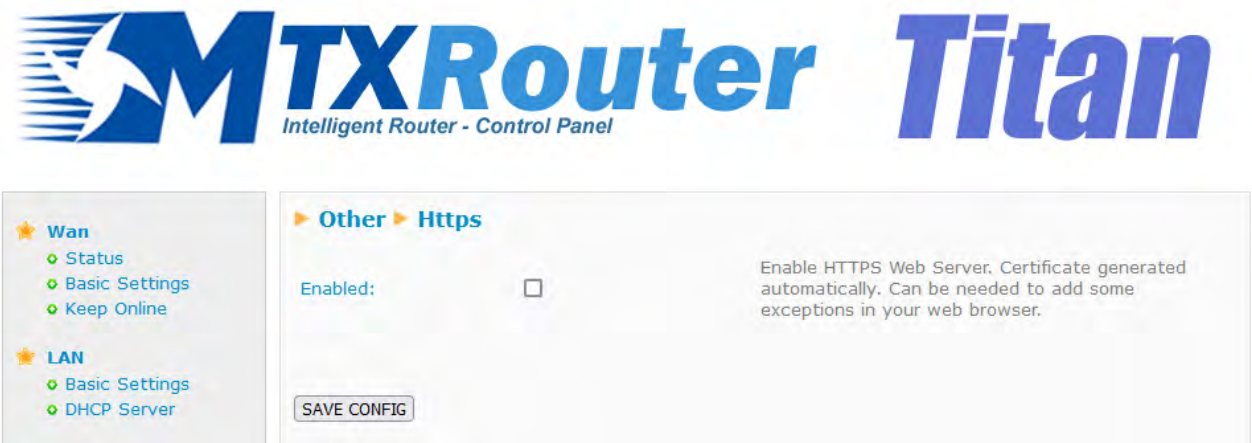
Additional Notes:

- Once the configuration process is finished, click on the “SAVE CONFIG” button to save the changes. Remember that you must restart the router for the new changes to take effect. If you check/uncheck the SSH box, you will also need to re-enter the password.
- The remote console can be accessed both locally (Ethernet) and remotely via a 2G/3G/4G connection.

4.4.6 Other: HTTPS

MTX-Router-Q routers allow HTTPS to be enabled in the configuration environment if required.

- Enabled: enables the HTTPs service (certificates are generated automatically after rebooting).



Additional Notes:

- Once the configuration process is finished, click on the "SAVE CONFIG" button to save the changes. Remember that you must restart the router for the new changes to take effect.
- When trying to connect to the MTX-Router-Q router via HTTPS, the browser will probably show a warning message about the self-signed digital certificate. This is normal.

4.4.7 Other: User Permissions

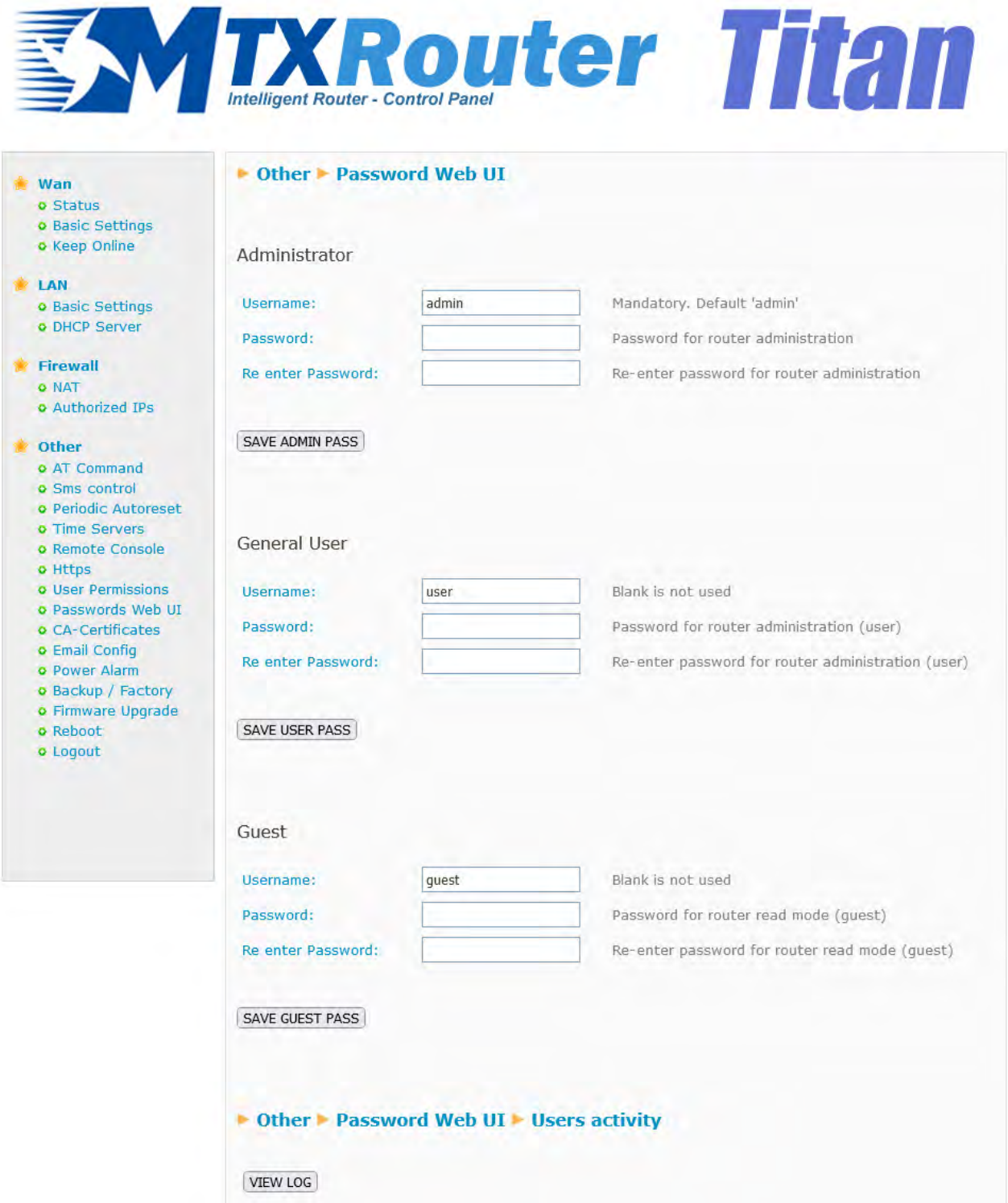
In this section the user can configure the permissions to which the “user” will have access. Configuration options that are not selected will not appear in the left-hand menu of the configuration environment when logging in to the router as “user”.

Additional Notes:

- Once the configuration process is finished, click on the “SAVE CONFIG” button to save the changes. Remember that you must restart the router for the new changes to take effect.

4.4.8 Other: Passwords Web UI

There are two usernames for accessing the router configuration. The “admin” user, from which you will have access to the entire device configuration, and “user", from which you will have access to the configurations you select (very useful if you customise the device with your logos). In this section you can change the Password of both users. There is also a “guest” user, which will allow you to access the same menus as the “user” user, but without being able to make configuration changes.

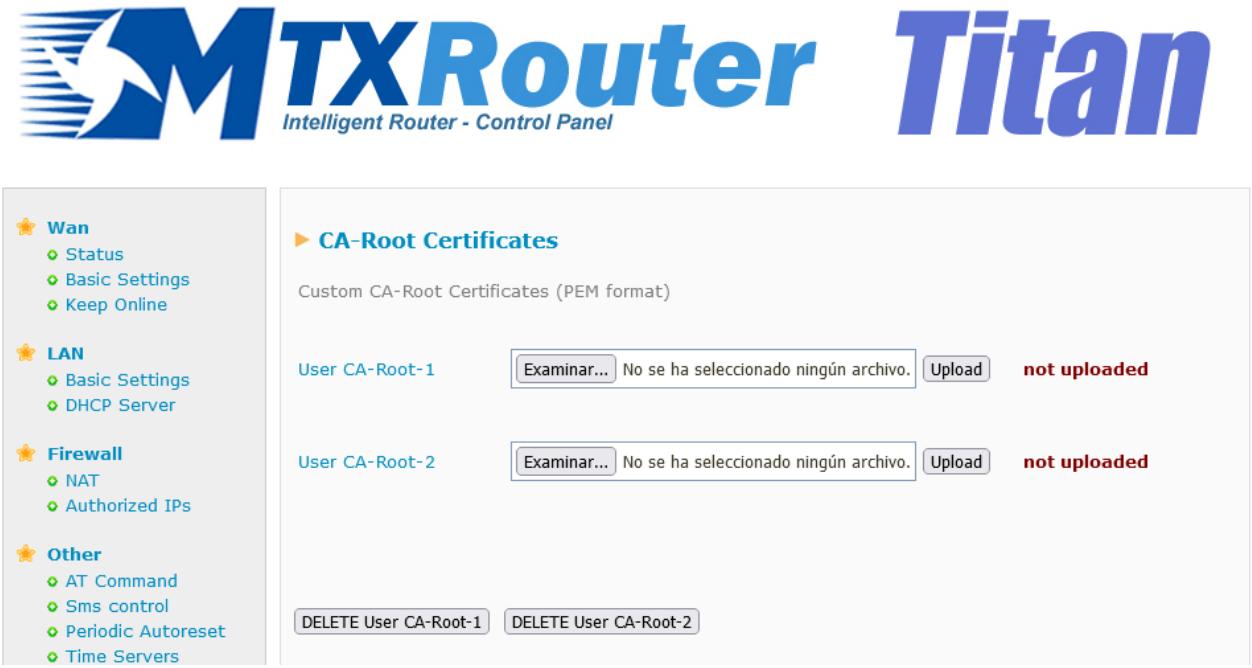


Additional Notes:

- To save the changes, once configuration is complete, press the “SAVE...” button depending on whether you are an admin, a user or a guest. Remember that you must restart the router for the new changes to take effect.
- You can view user activity using the “VIEW LOG” button.

4.4.9 Other: CA-Root Certificates

Up to two CA Root certificates can be imported into the MTX-Router-Q router.



Additional Notes:

- To delete any of the previously uploaded CA-Root certificates, use the corresponding “DELETE...” button depending on whether it is certificate 1 or 2.

4.4.10 Other: Email Config

MTX-Router-Q routers allow email notifications to be sent. They also allow emails to be sent via AT commands (see "AT commands" section). The router must be pre-configured to be able to send emails. That is, you must configure the SMTP server from this section.

- Enabled: select if you want to enable this option.
- Smtp Server: address/dns smtp server, e.g. smtp.gmail.com, smtpout.secureserver.net
- Smtp Port: TCP port of the SMTP server
- Authentication: select whether the SMTP server requires authentication (usually yes)
- TLS: select whether the SMTP server requires TLS
- User: username of the source email account
- Password: password of the source email account
- Email address: source email address from which the emails will be sent

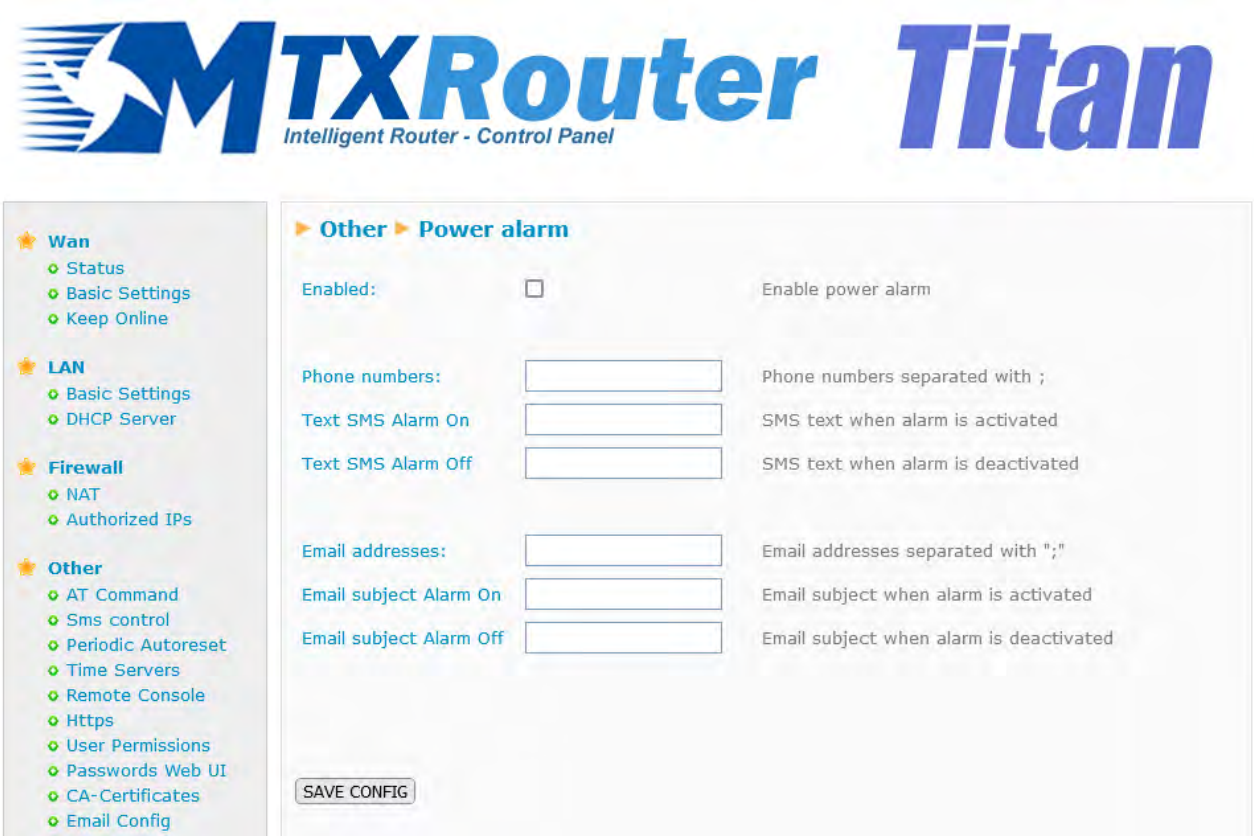
Additional Notes:

- Once the configuration process is finished, click on the "SAVE CONFIG" button to save the changes. Remember that you must restart the router for the new changes to take effect.
- Please note that if you are using the Gmail SMTP server, you may need to enable certain settings in your account to be able to send emails from an IOT device. To do this, log in to your Gmail account from your computer and:
  - Enable the option: http://www.google.com/settings/security/lesssecureapps.
  - Enable: http://www.google.com/accounts/DisplayUnlockCaptcha.

4.4.11 Other: Power Alarm

In the event that the MTX-Router-Q router loses external power supply and is powered exclusively by battery, it is possible to send an alarm via SMS or email:

- Enabled: enables/disables the power alarm.
- Phone numbers: telephone number where the SMS will be sent. If there is more than one number, numbers should be separated by ";".
- Text SMS Alarm ON: text to be sent in the SMS when the alarm is activated.
- Text SMS Alarm OFF: text to be sent in the SMS when the alarm is deactivated.
- Email addresses: email address where the email will be sent. If there is more than one address, these must be separated by ";".
- Email subject Alarm On: text to be sent in the email when the alarm is activated.
- Email subject Alarm Off: text to be sent in the email when the alarm is deactivated.



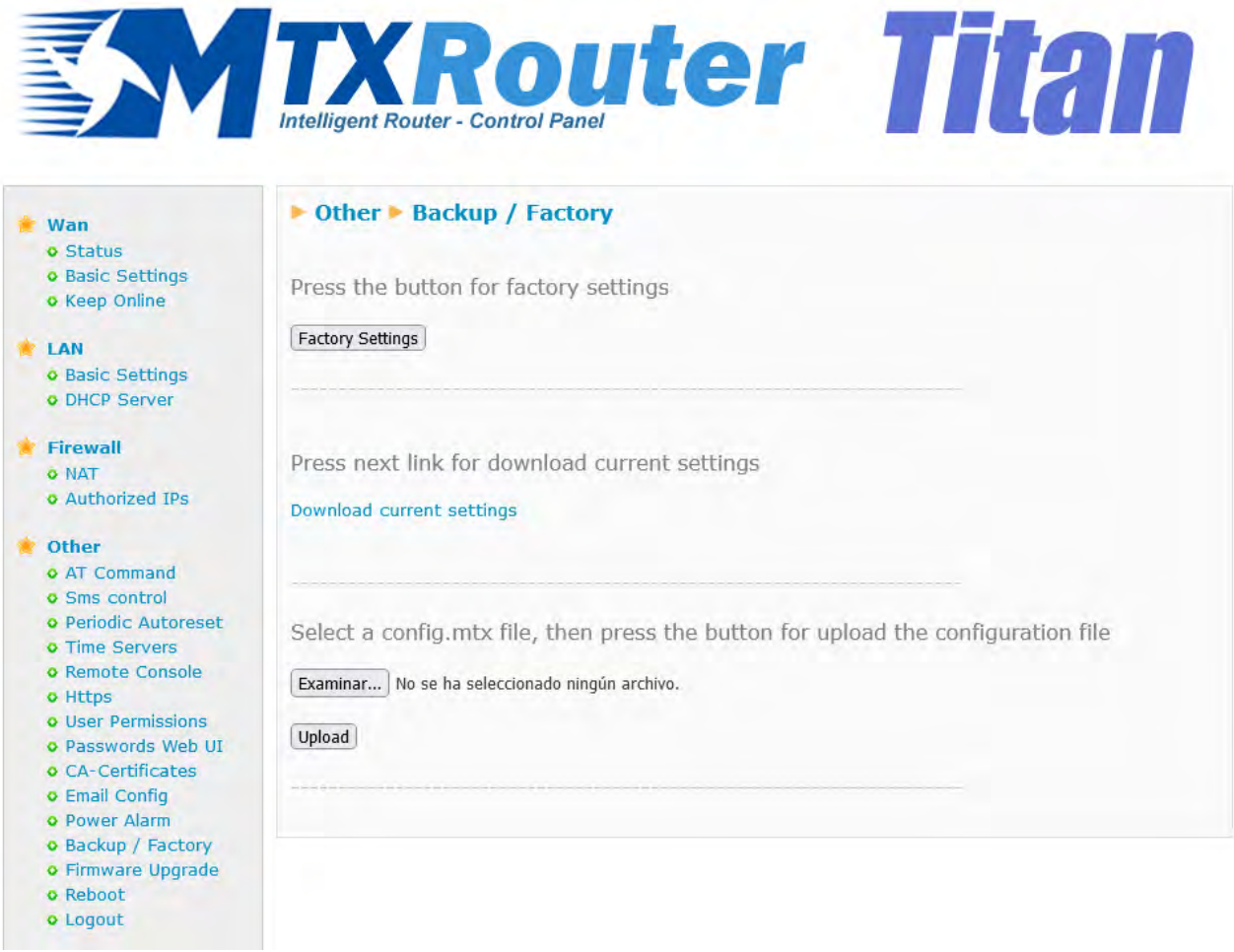
Additional Notes:

- Once the configuration process is finished, click on the "SAVE CONFIG" button to save the changes. Remember that you must restart the router for the new changes to take effect.

4.4.12 Other: Backup/Factory

You can make a full backup of the router configuration in this menu. You can save the configuration to a file and restore it back to the router when needed. You can also reset the router to factory settings.

- "Factory Settings" button: press to restore the router to factory settings.
- Link "Download current settings": click the link to download the router's configuration to a file named "config.mtx".
- "Browse" button: to restore a saved configuration, after indicating the configuration file to be used, press the "Upload" button to upload the file.

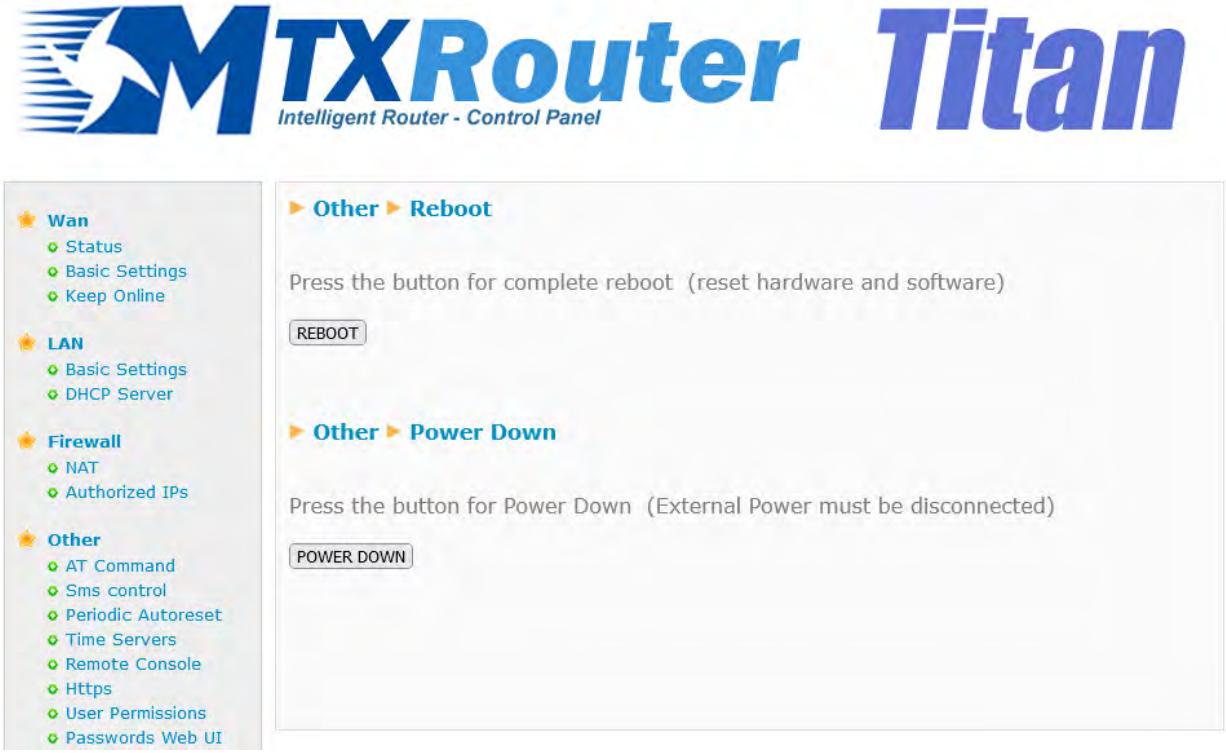


4.4.13 Other: Firmware Upgrade

The MTX-Router-Q firmware can be updated with an image file with extension ".img". Select it via the "Browse" button and press the "Upload" button to upload the file.

4.4.14 Other: Reboot

From this section it is possible to reboot or shut down the MTX-Router-Q router.



Additional Notes:

- To switch off the equipment, there must be no external power supply and the equipment must be powered exclusively by the battery. The "POWER DOWN" functionality is implemented in order to prevent the batteries from discharging. Once the equipment is switched off, when external power is available again, the equipment will automatically switch on.

5. AT commands

The MTX-Router-Q routers have a Quectel brand internal modem, model EC25-EU. The router's firmware allow AT commands to be sent directly to the internal modem through multiple interfaces:

- Via SMS
- Via Telnet (Remote Console, via 3G or Ethernet)
- Via Webserver (via 3G or Ethernet)

You can therefore send AT commands to the router at your own risk. The accepted AT commands are those listed in the AT commands manual for the Quectel EC25-EU module, plus the additional ones listed below:

- AT^MTXTUNNEL=REBOOT

  Action: restart the MTX-Router-Q router.

- AT^MTXTUNNEL=VERSION

  Action: returns the MTX-Router-Q router's firmware version.

- AT^MTXTUNNEL=GETIP

  Action: returns the WAN IP address (2G/3G/4G)

- AT^MTXTUNNEL=SMS,telephoneNumber,message

  Action: allows you to send an SMS message to a specific telephone number.

  Example: AT^MTXTUNNEL=SMS,+34677123456,burglar alarm

- AT^MTXTUNNEL=EMAIL,destinationAddress,Subject

  Action: allows you to send an email (subject only) to a specific email address. To send the email, you must have previously configured the "Other > Email Configuration" section.

  Example: AT^MTXTUNNEL=EMAIL,jgallego@matrix.es,Alarm temperature

- AT^MTXTUNNEL=GETTIME

  Action: return the current time. Useful for devices connected to the device, which can use this command to synchronise their time.

  Example:

AT^MTXTUNNEL=GETTIME

AT^MTXTUNNEL=GETTIME

21/05/2016 10:56:52

OK

- AT^MTXTUNNEL=GETPARAM,paramName

  Action: lets you read the value of a configuration parameter of the MTX-Router-Q router. For example, you can consult the configuration of each parameter of the MTX-Router-Q router from a web platform, or from a device connected to the Ethernet port of the MTX-Router-Q router. Contact Matrix Electrónica on iotsupport@mtxm2m.com if you want to use this command, as you will need the list of available parameters.

- AT^MTXTUNNEL=SETPARAM,paramName,paramValue

  Action: lets you change the value of a configuration parameter of the MTX-Router-Q router. For example, you can change the configuration of almost any parameter of the MTX-Router-Q router from a web platform, or from a device connected to the Ethernet port of the MTX-Router-Q router. Contact Matrix Electrónica on iotsupport@mtxm2m.com if you want to use this command, as you will need the list of available parameters.

- AT^MTXTUNNEL=ROUTERON,numMinutes

  Action: if the router is not configured for a permanent Internet connection, this command allows you to activate the connection at a time of your choice for the time specified in “numMinutes”, which can be from 1 to 1,440. Similarly, if you want to terminate the Internet connection before the time runs out, you can do so with the same command by setting the “numMinutes” parameter to 0.

For the rest of the standard commands, please refer to the Quectel AT commands manual for the exact format and functionality of each of the EC25-EU module’s commands. If you do not have this documentation, please send an email to iotsupport@mtxm2m.com.

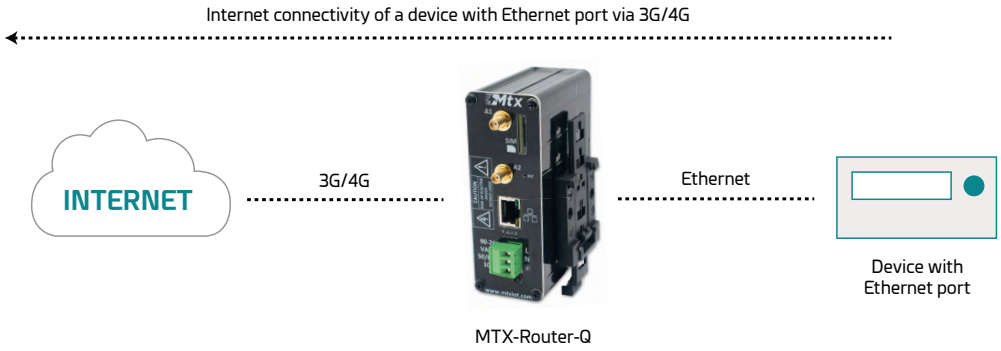
1. APPENDIX: Basic example scenarios and configurations

1.1 Example scenario: Configuration to give Internet access to a device with Ethernet

Example scenario details:

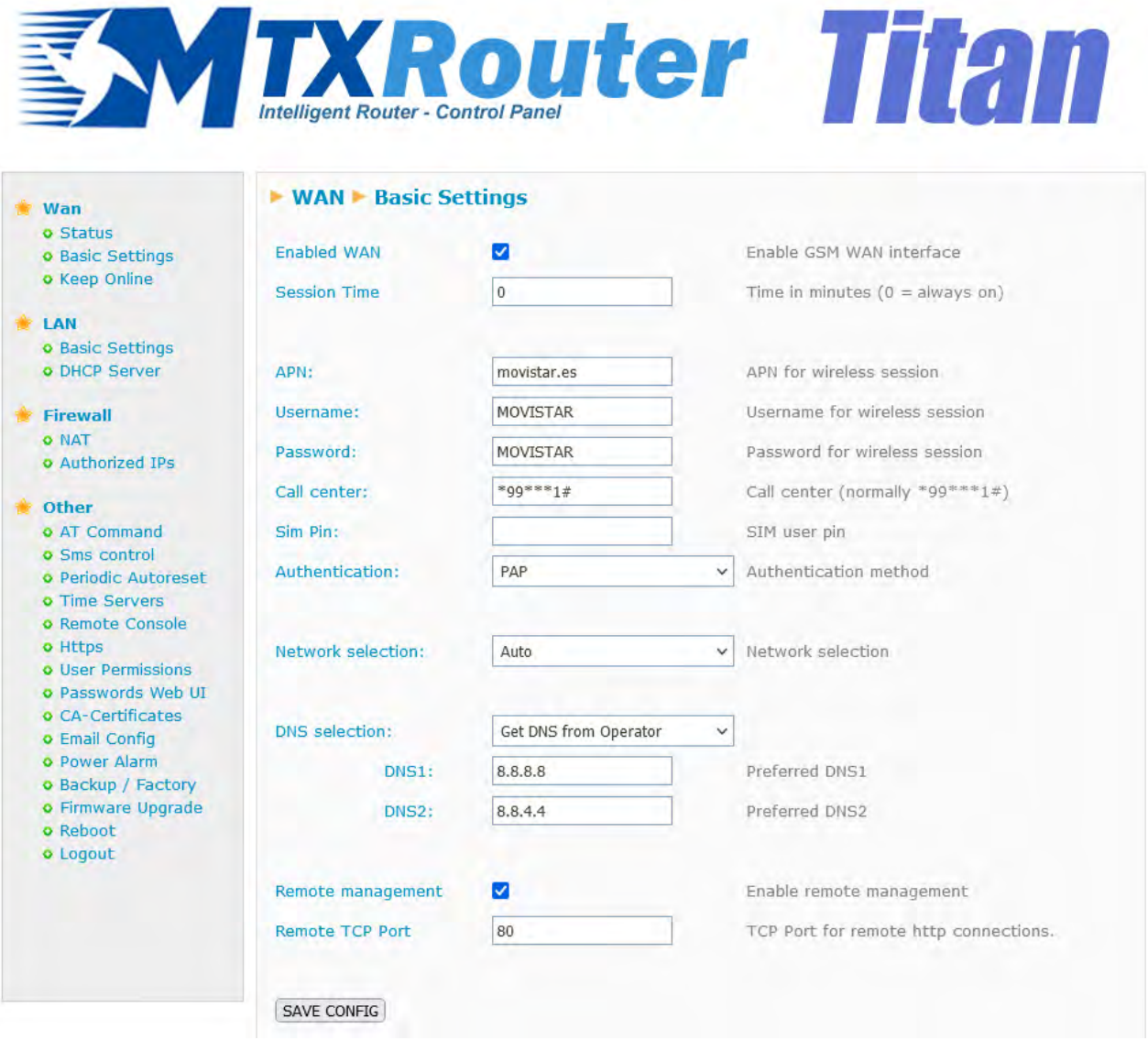
- You have a device with an ETH port to which you want to give Internet access to send data to the cloud. The PLC has local IP address 192.168.1.70.
- It must be possible to access the router configuration remotely on the standard port TCP 80.
- SIM telephone cards with fixed IP addresses will be used.

Solution: MTX-Router-Q



Details:

- After the configuration has been loaded into your router, you can access the router's configuration with the default username and password: "admin" and "admin" and IP address "192.168.1.2".
- Check mainly the settings in the "Wan>Basic Settings" menus.
- Remember that for this to work, the IP address of the equipment must be within the range of the router's LAN IP address and that you must specify the Gateway IP address of the equipment with the router's LAN IP address, i.e. 192.168.1.2 in this example.

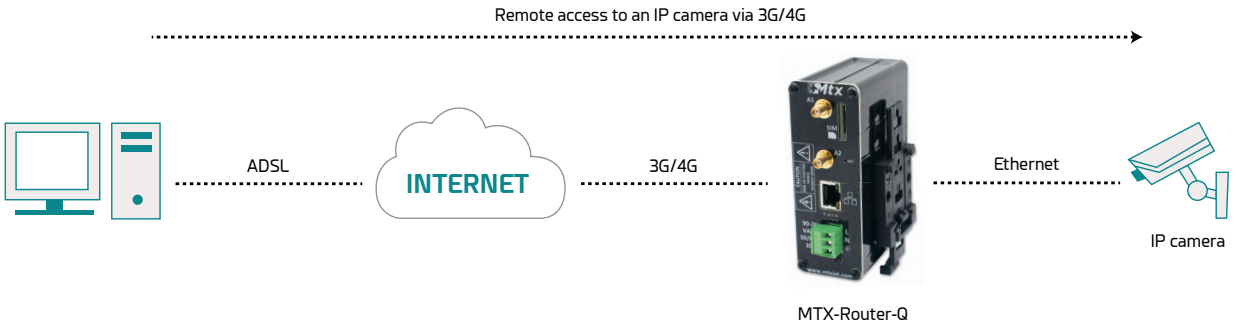

MTXRouter Titan
Intelligent Router - Control Panel
Wan
Status
Basic Settings
Keep Online
LAN
Basic Settings
DHCP Server
Firewall
NAT
Authorized IPs
Other
AT Command
Sms control
Periodic Autoreset
Time Servers
Remote Console
Https
User Permissions
Passwords Web UI
CA-Certificates
Email Config
Power Alarm
Backup / Factory
Firmware Upgrade
Reboot
Logout
WAN Basic Settings
Enabled WAN
Enable GSM WAN interface
Session Time
0
Time in minutes (0 = always on)
APN:
movistar.es
APN for wireless session
Username:
MOVISTAR
Username for wireless session
Password:
MOVISTAR
Password for wireless session
Call center:
*99***1#
Call center (normally *99***1#)
Sim Pin:
SIM user pin
Authentication:
PAP
Authentication method
Network selection:
Auto
Network selection
DNS selection:
Get DNS from Operator
DNS1:
8.8.8.8
Preferred DNS1
DNS2:
8.8.4.4
Preferred DNS2
Remote management
Enable remote management
Remote TCP Port
80
TCP Port for remote http connections.
SAVE CONFIG

1.2 Example scenario: Configuration for remotely connecting to an IP camera with Ethernet port via 3G/4G network.

Example scenario details:

- You have an IP camera with Ethernet port to which you want to give access to the Internet. The camera has local IP address 192.168.1.70.
- The IP camera has an internal webserver through which it is possible to access the video being captured by the camera. The TCP port used by the camera is TCP80 and cannot be changed. As remote access to the router is also required to access the configuration, the TCP port for remote configuration must be changed from port TCP 80 to port TCP 8080, so that there is no conflict with the camera port.
- Access to the remote configuration of the router is also required via the Internet from any IP address. On the other hand, the IP camera should only be accessible from IP addresses 200.1.2.3 and 200.1.2.4 corresponding to the central offices.
- SIM telephone cards with fixed IP addresses will be used.

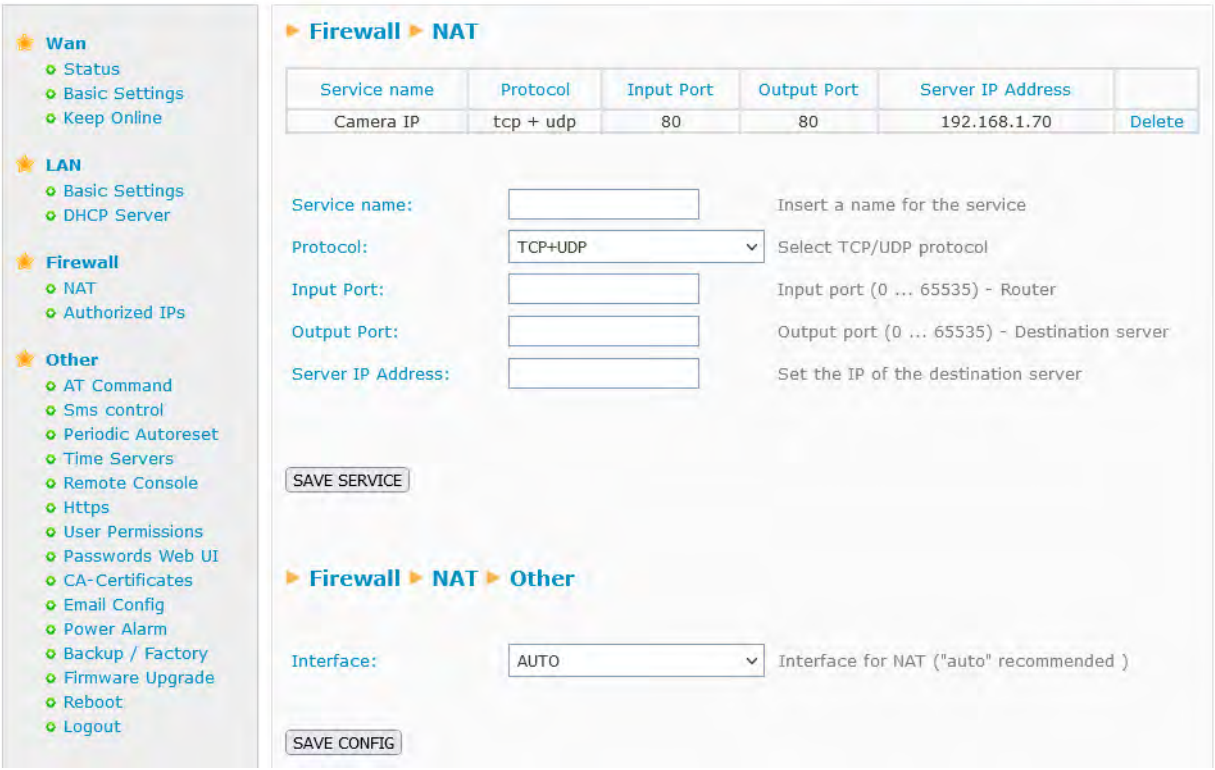
Solution: MTX-Router-Q

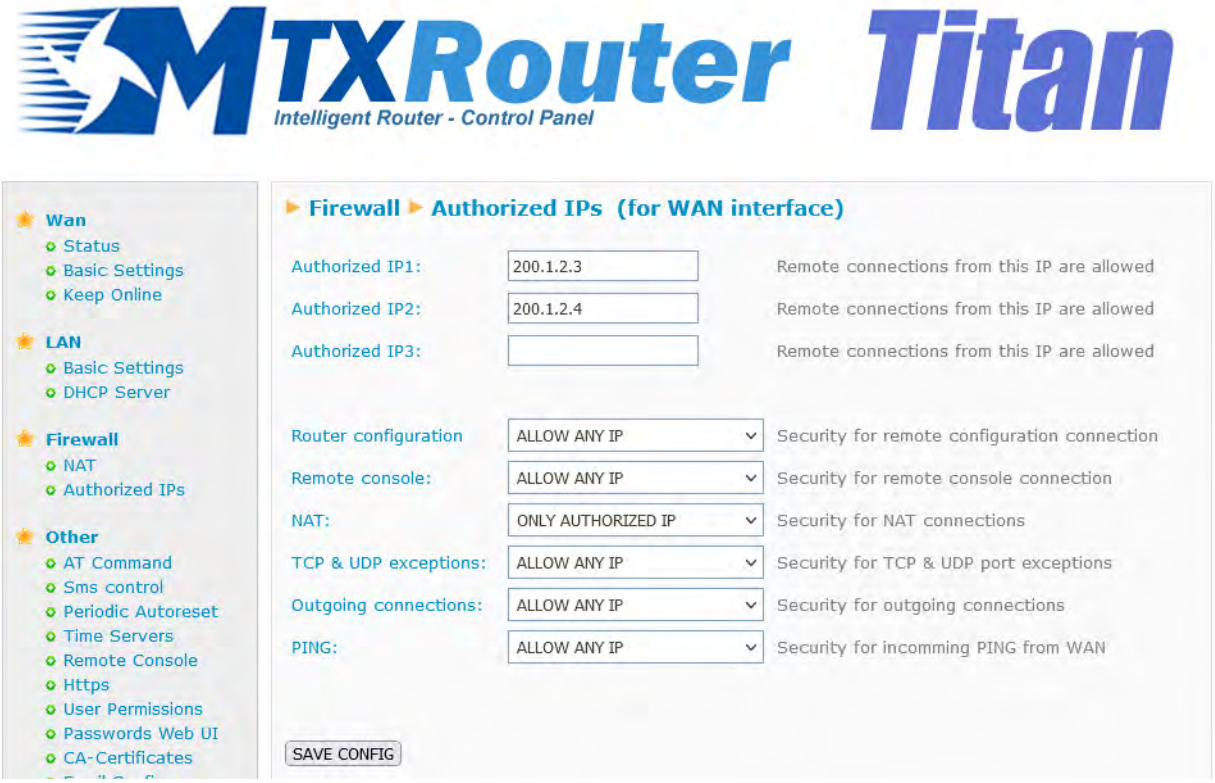


Details:

- After the configuration has been loaded into your router, you can access the router's configuration with the default username and password: "admin" and "admin" and IP address "192.168.1.2"
- Check mainly the settings in the menus "Wan>Basic Settings", "Firewall > NAT", "Firewall > Authorized IPs"
- In order to access the camera's port TCP 80, it is necessary to perform a NAT, i.e. redirect the traffic that arrives on the router's TCP80 port to the camera's internal IP address and TCP port, i.e. IP 192.168.1.70
- Remember that for this to work, the IP address of the camera must be within the range of the router's LAN IP address and that you must specify the Gateway IP address of the camera with the router's LAN IP address, i.e. 192.168.1.2 in this example.


MTXRouter Titan
Intelligent Router - Control Panel
Wan
Status
Basic Settings
Keep Online
LAN
Basic Settings
DHCP Server
Firewall
NAT
Authorized IPs
Other
AT Command
Sms control
Periodic Autoreset
Time Servers
Remote Console
Https
User Permissions
Passwords Web UI
CA-Certificates
Email Config
Power Alarm
Backup / Factory
Firmware Upgrade
Reboot
Logout
WAN Basic Settings
Enabled WAN
Enable GSM WAN interface
Session Time
0
Time in minutes (0 = always on)
APN:
movistar.es
APN for wireless session
Username:
MOVISTAR
Username for wireless session
Password:
MOVISTAR
Password for wireless session
Call center:
*99***1#
Call center (normally *99***1#)
Sim Pin:
SIM user pin
Authentication:
PAP
Authentication method
Network selection:
Auto
Network selection
DNS selection:
Selected DNS Servers
DNS1:
8.8.8.8
Preferred DNS1
DNS2:
8.8.4.4
Preferred DNS2
Remote management
Enable remote management
Remote TCP Port
80
TCP Port for remote http connections.
SAVE CONFIG


MTXRouter Titan
Intelligent Router - Control Panel
Wan
Status
Basic Settings
Keep Online
LAN
Basic Settings
DHCP Server
Firewall
NAT
Authorized IPs
Other
AT Command
Sms control
Periodic Autoreset
Time Servers
Remote Console
Https
User Permissions
Passwords Web UI
CA-Certificates
Email Config
Power Alarm
Backup / Factory
Firmware Upgrade
Reboot
Logout
Firewall ▸ NAT
Service name
Protocol
Input Port
Output Port
Server IP Address
Camera IP
tcp + udp
80
80
192.168.1.70
Delete
Service name:
Insert a name for the service
Protocol:
TCP+UDP
Select TCP/UDP protocol
Input Port:
Input port (0 ... 65535) - Router
Output Port:
Output port (0 ... 65535) - Destination server
Server IP Address:
Set the IP of the destination server
SAVE SERVICE
Firewall ▸ NAT ▸ Other
Interface:
AUTO
Interface for NAT ("auto" recommended)
SAVE CONFIG

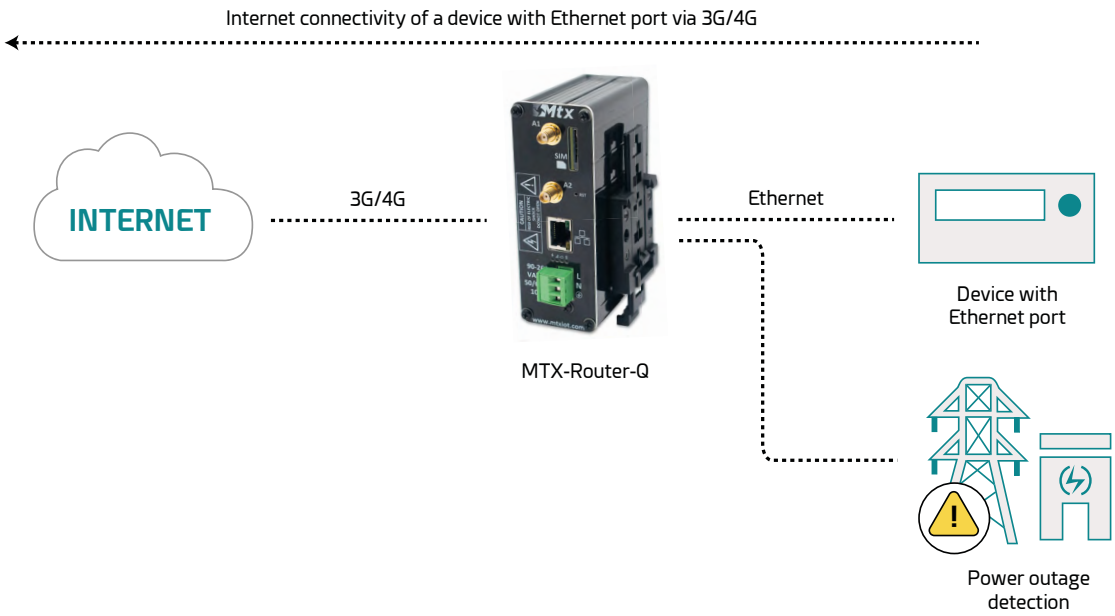

MTXRouter Titan
Intelligent Router - Control Panel
Wan
Status
Basic Settings
Keep Online
LAN
Basic Settings
DHCP Server
Firewall
NAT
Authorized IPs
Other
AT Command
Sms control
Periodic Autoreset
Time Servers
Remote Console
Https
User Permissions
Passwords Web UI
CA-Certificates
Firewall ▸ Authorized IPs (for WAN interface)
Authorized IP1:
200.1.2.3
Remote connections from this IP are allowed
Authorized IP2:
200.1.2.4
Remote connections from this IP are allowed
Authorized IP3:
Remote connections from this IP are allowed
Router configuration
ALLOW ANY IP
Security for remote configuration connection
Remote console:
ALLOW ANY IP
Security for remote console connection
NAT:
ONLY AUTHORIZED IP
Security for NAT connections
TCP & UDP exceptions:
ALLOW ANY IP
Security for TCP & UDP port exceptions
Outgoing connections:
ALLOW ANY IP
Security for outgoing connections
PING:
ALLOW ANY IP
Security for incomming PING from WAN
SAVE CONFIG

1.3 Example scenario: Alarm configuration via SMS and email in the event of loss of external power supply.

Example scenario details:

- You have a device with an ETH port, which has access to the Internet thanks to the MTX-Router-Q.
- You want to detect when there is a power cut in the electricity supply. For this purpose, you want to receive the alarm notification by SMS as well as by email. Subsequently, you want to switch off the MTX-Router-Q router in order not to drain the batteries.
- When the external power supply returns, you want to be notified accordingly.
- SIM telephone cards with fixed IP addresses will be used.

Solution: MTX-Router-Q

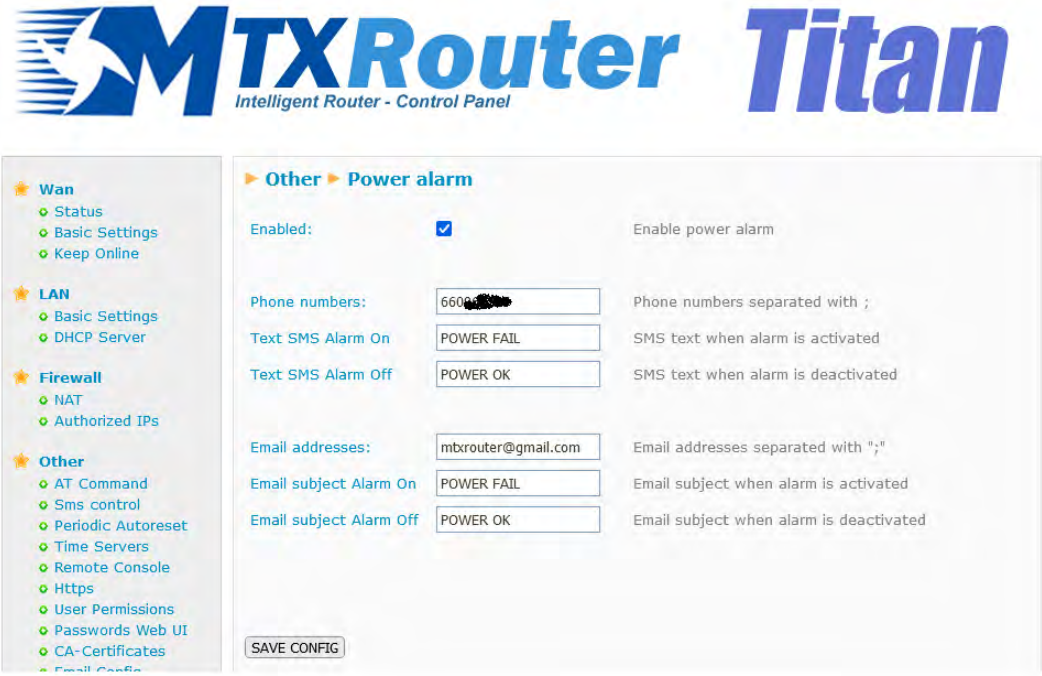


Details:

- After the configuration has been loaded into your router, you can access the router's configuration with the default username and password: "admin" and "admin" and IP address "192.168.1.2".
- Check mainly the settings in the "Wan>Basic Settings" menus.


MTXRouter Titan
Intelligent Router - Control Panel
Wan
Status
Basic Settings
Keep Online
LAN
Basic Settings
DHCP Server
Firewall
NAT
Authorized IPs
Other
AT Command
Sms control
Periodic Autoreset
Time Servers
Remote Console
Https
User Permissions
Passwords Web UI
CA-Certificates
Email Config
Power Alarm
Backup / Factory
Firmware Upgrade
Reboot
Logout
WAN Basic Settings
Enabled WAN
Enable GSM WAN interface
Session Time
0
Time in minutes (0 = always on)
APN:
movistar.es
APN for wireless session
Username:
MOVISTAR
Username for wireless session
Password:
MOVISTAR
Password for wireless session
Call center:
*99***1#
Call center (normally *99***1#)
Sim Pin:
SIM user pin
Authentication:
PAP
Authentication method
Network selection:
Auto
Network selection
DNS selection:
Selected DNS Servers
DNS1:
8.8.8.8
Preferred DNS1
DNS2:
8.8.4.4
Preferred DNS2
Remote management
Enable remote management
Remote TCP Port
80
TCP Port for remote http connections.
SAVE CONFIG

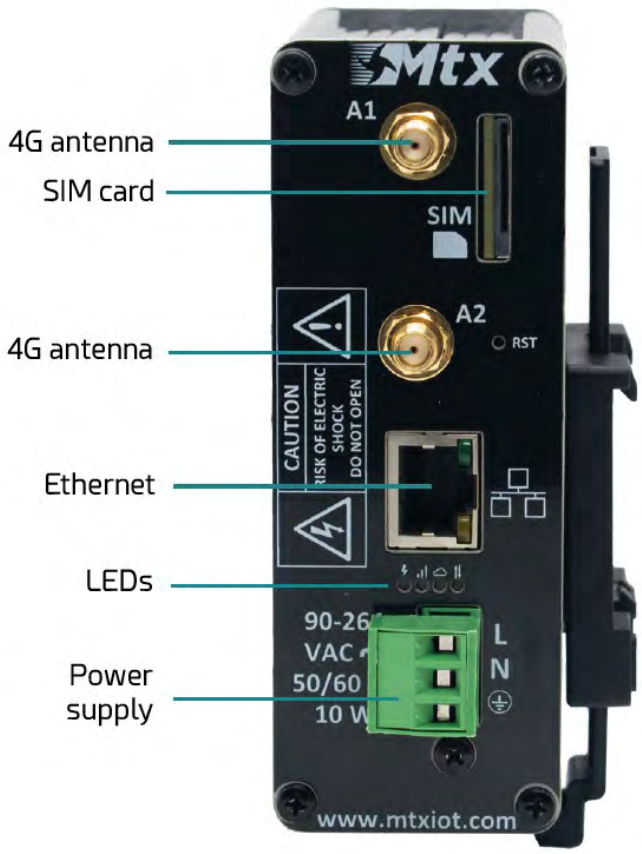

MTXRouter Titan
Intelligent Router - Control Panel
Wan
Status
Basic Settings
Keep Online
LAN
Basic Settings
DHCP Server
Firewall
NAT
Authorized IPs
Other
AT Command
Sms control
Periodic Autoreset
Time Servers
Remote Console
Https
Other ▸ Email configuration
Enabled:
Enable Email
Smtp Server:
smtp.gmail.com
Ex: smtp.gmail.com, smtpout.se, cureserver.net , ...
Smtp Port:
25
TCP port for SMTP Server (25, 465, 587, ...)
Authentication:
Check if authentication is required
TLS:
Check if TLS is required
User:
mtxrouter
User of email account
Password:
Password of email account
Email address:
mtxrouter@gmail.com
Email address for sending emails (Ex: myemail@gmail.com)
SAVE CONFIG


MTXRouter Titan
Intelligent Router - Control Panel
Wan
Status
Basic Settings
Keep Online
LAN
Basic Settings
DHCP Server
Firewall
NAT
Authorized IPs
Other
AT Command
Sms control
Periodic Autoreset
Time Servers
Remote Console
Https
User Permissions
Passwords Web UI
CA-Certificates
Other ▸ Power alarm
Enabled:
Enable power alarm
Phone numbers:
Phone numbers separated with ;
Text SMS Alarm On
POWER FAIL
SMS text when alarm is activated
Text SMS Alarm Off
POWER OK
SMS text when alarm is deactivated
Email addresses:
mtxrouter@gmail.com
Email addresses separated with ";"
Email subject Alarm On
POWER FAIL
Email subject when alarm is activated
Email subject Alarm Off
POWER OK
Email subject when alarm is deactivated
SAVE CONFIG

2. APPENDIX A: Hardware connection overview

2.1 Hardware overview

Below you will find a basic connection diagram of the connection terminals of the MTX-Router-Q. VAC can have a value between 90 and 260 VAC.



The following table shows the connections available on the green connector of the MTX-Router-Q router.

GREEN CONNECTOR	FUNCTION
1	Earth
2	N (Neutral)
3	L (Live)

Offices and support

SPAIN

C/ Alejandro Sánchez 109
28019 Madrid

Phone: +34.915602737
Email: contact@webdyn.com

FRANCE

26 Rue des Gaudines
78100 Saint-Germain-en-Laye

Phone: +33 139042940
Email: contact@webdyn.com

INDIA

803-804 8th floor, Vishwadeep Building
District Centre, Janakpurt, 110058 Delhi

Phone: +91.1141519011
Email: contact@webdyn.com

PORTUGAL

Av. Coronel Eduardo Galhardo 7-1ºC 1170-105 Lisbon

Phone: +351.218162625
Email: comercial@lusomatrix.pt

TAIWAN

5F, No. 4, Sec. 3 Yanping N. Rd.
Datong Dist. Taipei City, 103027

Phone: +886.965333367
Email: contact@webdyn.com

SUPPORT

Madrid Offices

Phone: +34.915602737
Email: iotsupport@mtxm2m.com

Saint-Germain-en-Laye Offices

Phone: +33.139042940
Email: support@webdyn.com

Delhi Offices

Phone: +91.1141519011
Email: support-india@webdyn.com

Taipei City Offices

Phone: +886.905655535
Email: iotsupport@mtxm2m.com