

TITAN

Application Note 5

Basic 4G/3G/2G-RS232/RS485 Gateways

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1. Scenario Details

TITAN-based devices have all the typical functionalities of 4G/3G/2G routers, as well as a series of added features that make them one of the most feature-packed routers on the market.

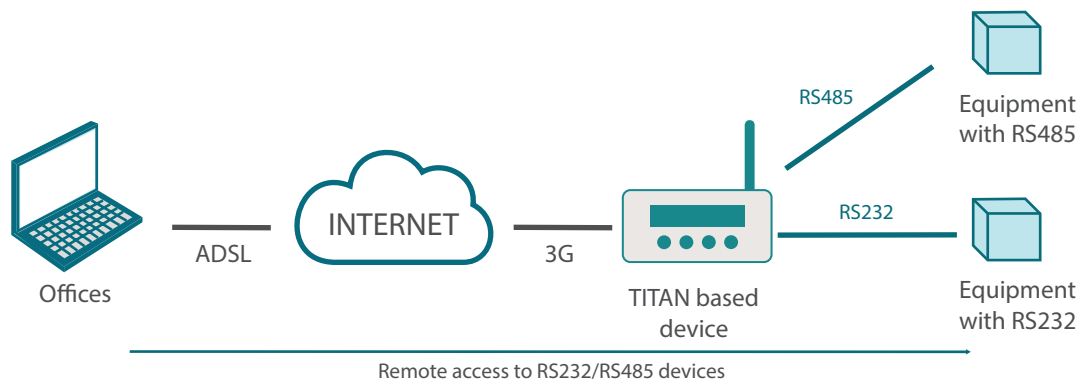
One of the added features is its ability to create simultaneous IP – RS232/RS485 gateways. TITAN-based devices can implement gateways of the following types:

- Ethernet <> RS232 / RS485
- Wi-Fi <> RS232 / RS485
- 4G/3G/2G <> RS232 / RS485

This means that if you have one or more remote RS232 devices, RS485 will be able to access them remotely as if they were local.

2. Description of the Example

In this example, we will configure a TITAN-based device to enable a single 4G/3G/2G-RS232 gateway to access a remote PLC with an RS232 port. We will use the COM1 port, the listening TCP port will be TCP 20010. We also want to access another device simultaneously, this time using RS485 connectivity. For the latter we will choose TCP port 20011.



3. Configuring the Associated RS232 Port

As we are going to use the COM1 port to access the RS232 device, we will need to access the following configuration screen: “Serial Settings > Serial Port1-232/485” and configure the screen as follows. It assumes that the PLC has a configuration of 115200,8,n,1. Next select the TCP Server gateway, choosing port 20010 as the listening TCP port.

Intelligent Router

No es seguro | 192.168.1.2/serial-settings.php?id=1

webdyn powered by TITAN flexitron group

Serial Gateway > Com1 Settings

Baudrate: 9600 Baudrate of serial port

Data bits: 8 Number of data bit

Parity: none Parity

Stop bits: 1 Number of stop bits

Flow Control: none Flow control of serial port

Timeout ms: 0 msec without serial data before sending (default: 50)

☐ Allow local embedded AT commands Ex.: <MTXTUNNEL>AT</MTXTUNNEL>

☐ Allow remote embedded AT commands Ex.: <MTXTUNNELR>AT</MTXTUNNELR>

☒ Allow incoming GSM call (CSD Data Call) Only TCP Server and TCP Client functions or Nothing

☐ Function: Nothing or used by External Device or Script

☒ Function: Serial - IP Gateway (TCP Server)

TCP Local Port: 20010 Listening TCP Port (1 ... 65535)

Temporal client RS232 ☐ Check if you need a temporal TCP Client when data is present at serial port.

4. Configuring the Associated RS485 Port

The process is exactly the same for the RS485 port. The configuration is completely analogous to that of the RS232 port and must be done from the Serial Settings > Serial Port2-485 menu. The configuration would look like this:

The screenshot shows the webdyn Intelligent Router configuration interface. The browser address bar indicates the URL `192.168.1.2/serial-settings.php?id=2`. The page title is "Intelligent Router". The webdyn logo and "powered by TITAN flexitron group" are at the top. A left sidebar contains navigation links for Mobile, Ethernet, Wifi, Firewall, Serial Settings, and External Devices. The main content area is titled "Serial Gateway > Com2 Settings". It features a red-bordered box containing the following settings:

- Baudrate: 9600 (dropdown)
- Data bits: 8 (dropdown)
- Parity: none (dropdown)
- Stop bits: 1 (dropdown)
- Timeout ms: 0 (text input)

Below these settings are three checkboxes:

- ☐ Allow local embedded AT commands (Ex.: <MTXTUNNEL>AT</MTXTUNNEL>)
- ☐ Allow remote embedded AT commands (Ex.: <MTXTUNNELR>AT</MTXTUNNELR>)
- ☐ Allow incoming GSM call (CSD Data Call) (Only TCP Server and TCP Client functions or Nothing)

Below these is a radio button option: ☐ Function: Nothing or used by External Device or Script.

At the bottom, another red-bordered box contains the following settings:

- ☒ Function: Serial - IP Gateway (TCP Server)
- TCP Local Port: 20011 (text input)

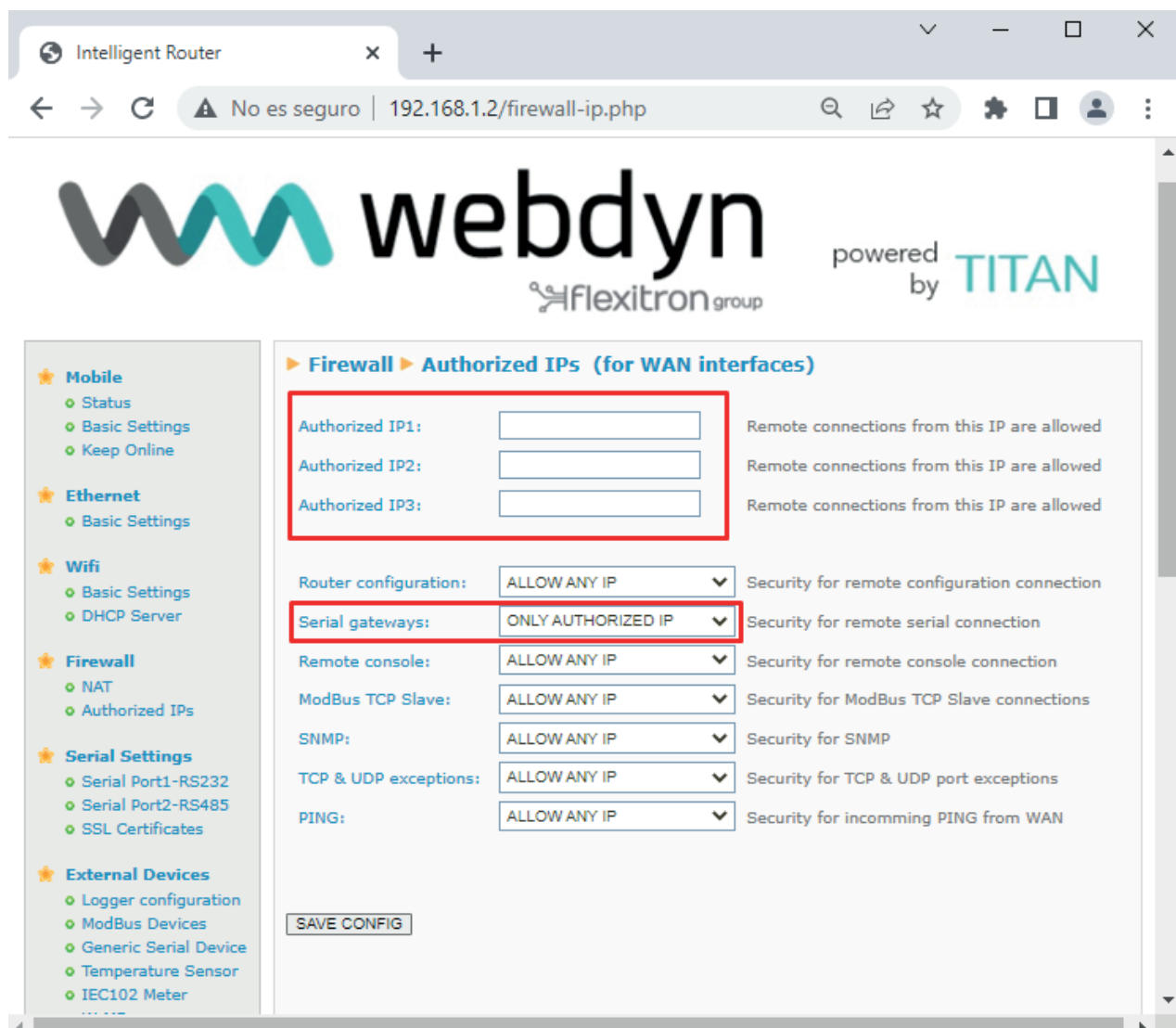
Below these are two checkboxes:

- Temporal client RS232 ☐
- Temporal client

On the right side of the form, there are descriptive labels for each setting, such as "Baudrate of serial port", "Number of data bit", "Parity", "Number of stop bits", "msec without serial data before sending (default: 50)", "Listening TCP Port (1 ... 65535)", and "Check if you need a temporal TCP Client when data is present at serial port. DDHHMM. Example: XX2200 starts a temporal".

5. Other Considerations

- For a scenario like this, in which both gateways are in server mode, either a SIM card with a fixed IP address or DynDNS must be used (also compatible with TITAN-based devices). The DynDNS settings can be configured in the menu: Other > DynDNS
- If you do not have a fixed IP SIM card, or your operator uses NAT (providing you with (private) IP addresses of the type 10.x.x.x), and therefore you cannot use DynDNS either, you can activate the OpenVPN option (VPN > OpenVPN Client). If you use OpenVPN you will not need a fixed IP or DynDNS, although you will have to set up an OpenVPN server in your company. An application note is available on how to set up an OpenVPN with TITAN-based devices.
- If you want your serial gateways to be accessible only from authorized IPs, you can configure this in the Firewall > Authorized IPs section, specifying the authorized IPs and applying them to “Serial gateways”.



- In this example, 4G/3G/2G to RS232/RS485 gateways have been configured, but TITAN-based devices can be used to configure Ethernet – RS232/RS485 and Wi-Fi – RS232/RS485 gateways in the same way.