

NG-Gateway – Tutorial 5

Modbus TCP slave mode configuration

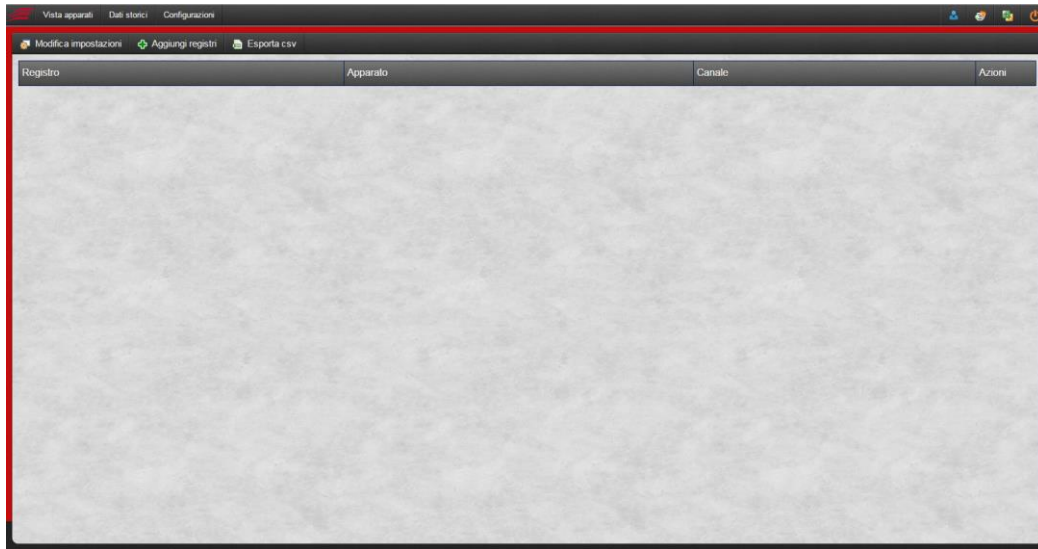
1. Introduction

Thanks to the Modbus tcp slave mode, NG-Gateway assumes the same functions of any other Modbus tcp slave device. In this modality, NG-gateway can be integrated in to external monitoring platforms.

Let's have a closer look on Modbus tcp slave configuration procedure.

2. Configuration

Access the NG-Gateway web interface with administration privileges proceed with this configuration; click on *Modbus TCP slave* from the *Configurations* drop down menu.



The main area of the page represents a summary table of configured modbus registers. The first time you access the page, the table will be empty. In the toolbar above the table, there are three buttons, *Modify settings*, *Add registers* and *Csv export*.

Clicking on *Modify settings* will open the basic parameters configuration window of the selected modbus TCP port.

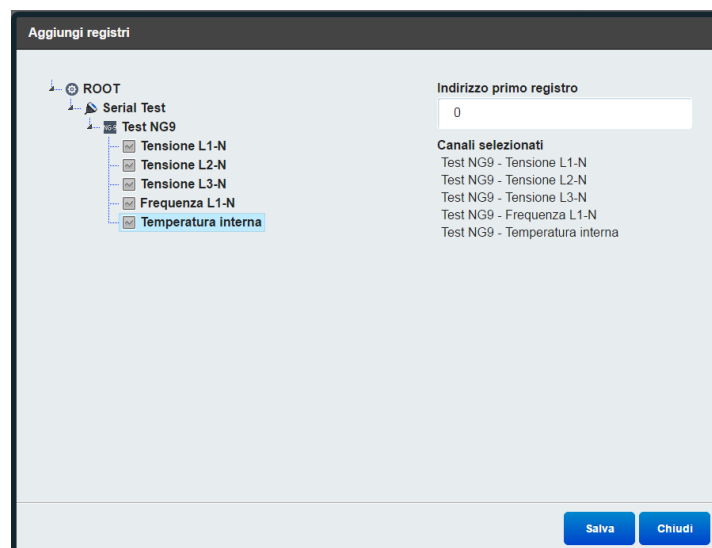
Modifica impostazioni

Porta tcp	<input type="text" value="502"/>
Ip consentiti	<input type="text"/>
Timeout ricezione (ms)	<input type="text" value="100"/>
Tempo massimo validazione (ms)	<input type="text" value="10000"/>

- In the *TCP port* field insert the tcp port you have chosen for this purpose (it's necessary to choose a free tcp port); Modbus TCP port is usually 502;
- In *Allowed IPs* area, it is possible to insert a list of IP addresses allowed to access the TCP port. This is a security system, used to deny access to unknown host on the defined TCP port; to insert more than one IP address, use comma or semicolon as separators;
- In the *Receive timeout* field insert the amount of time in milliseconds defining the time that has to pass before the Modbus tcp master request expires; default parameter is 100 ms;
- Use *Max realtime values age*, to insert the amount of time in milliseconds that describe the maximum period of time the TCP port will spend waiting for a valid reply; at the end of this period of time, the entire request will expire; default value is 10000 ms.

It's advisable to leave all the default parameters untouched, unless you need a specific configuration. Once the configuration is complete click save to apply changes.

Click on *add registers*.



This window contains the “modbus tcp slave” register configuration page. It's divided into two columns. In the one on the left hand side there is the device tree, from which we can choose a measure channel to export in modbus protocol. It is necessary to have at least one channel in the device tree. If you double click on a channel, it will appear on the right column inside the *selected channels* list. Above the list on the right column, we find the *Start register address* field box. In this area, you need to enter the number of the first register you want to use. The system will automatically assign the registers to the other selected channels. If you want to manually assign every register to each channel, you need to repeat the operation selecting one channel at the time.

Registro	Apparato	Canale	Azioni
0	Test NG9	Tensione L1-N	
2	Test NG9	Tensione L2-N	
4	Test NG9	Tensione L3-N	
6	Test NG9	Frequenza L1-N	
8	Test NG9	Temperatura interna	

At the end of the configuration process, selected channels will populate the summary table that shows *register number*, device type, channel name and possible action. The only possible action in this case is to eliminate the channel.

The *CSV export* button will generate a .csv file containing the modbus register list that will be automatically downloaded from your browser.

Registro	Apparato	Canale		
0	Test NG9	Tensione L1-N		
2	Test NG9	Tensione L2-N		
4	Test NG9	Tensione L3-N		
6	Test NG9	Frequenza L1-N		
8	Test NG9	Temperatura interna		

This file is helpful when you need to furnish external monitoring platform and share the register list with other technician. Data format is *Float IEEE 754 byte and word swap*.