

RFXtrxLAN



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1. Introduction

The RFXtrxLAN 433 contains the RFX433 transceiver.

The RFXtrxLAN 868 contains the RFX868 transceiver.

The RFXtrxLAN can have the RFXtrx433XL or RFXtrx868XL transceiver installed.

The RFXtrxLAN is not designed for the RFXtrx433E but can be used if you have soldering experience.

The transceiver is accessed using TCP/IP.

The default settings are:

- TCP port 10001 and DHCP
- Username/Password: admin / admin

Important:

The USB connection of the RFXtrx must not be used!!

It can't be used because the data connection is not present, and the USB power is connected to the 5V power adapter.

2. Contents of the kit.

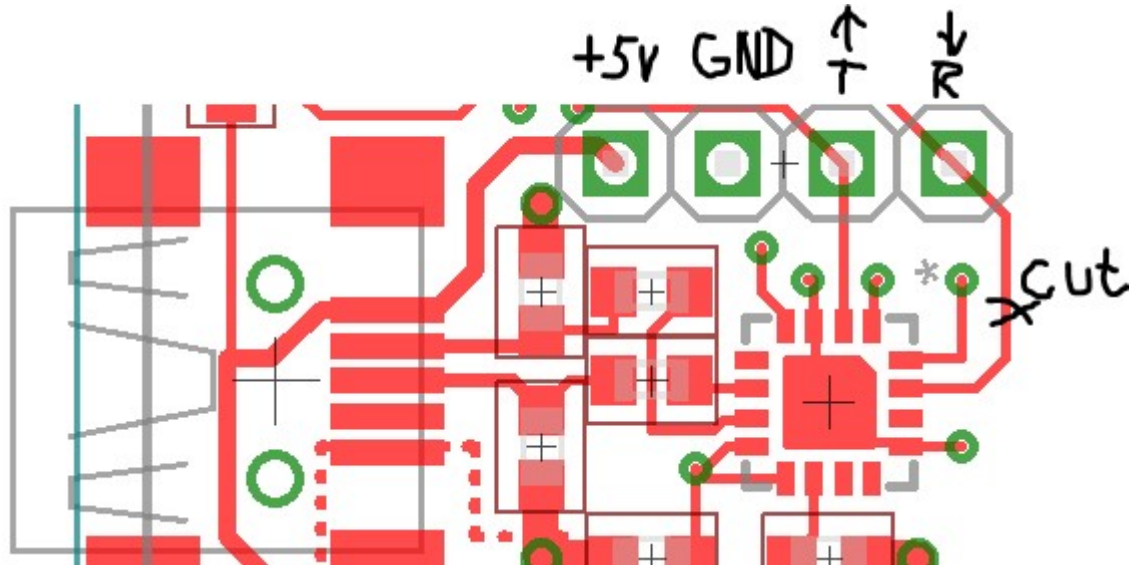


3. Install the RFXtrx433XL or RFXtrx868XL in the RFXtrxLAN.

The RFXtrxLAN 433 and RFXtrxLAN 868 have the transceiver included and no installation is necessary.

Important:

First thing to do is cut the PCB trace between the connection point R and the FT230X pin 15.



With a PTF (PressToFit) connector in the RFXtrxLAN:

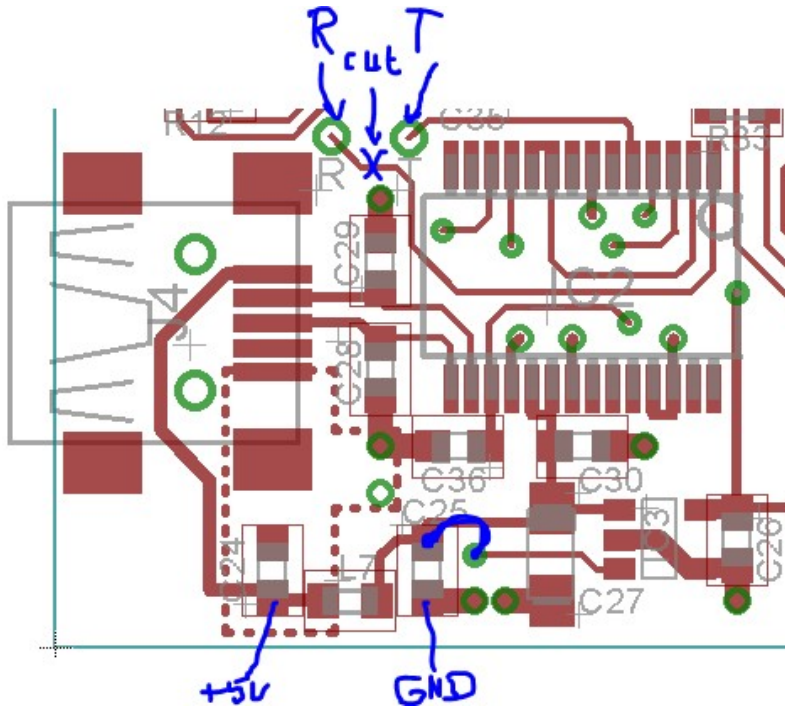
- Press the RFXtrx on the PTF with the antenna connector upwards.

4. Install the RFXtrx433E in the RFXtrxLAN.

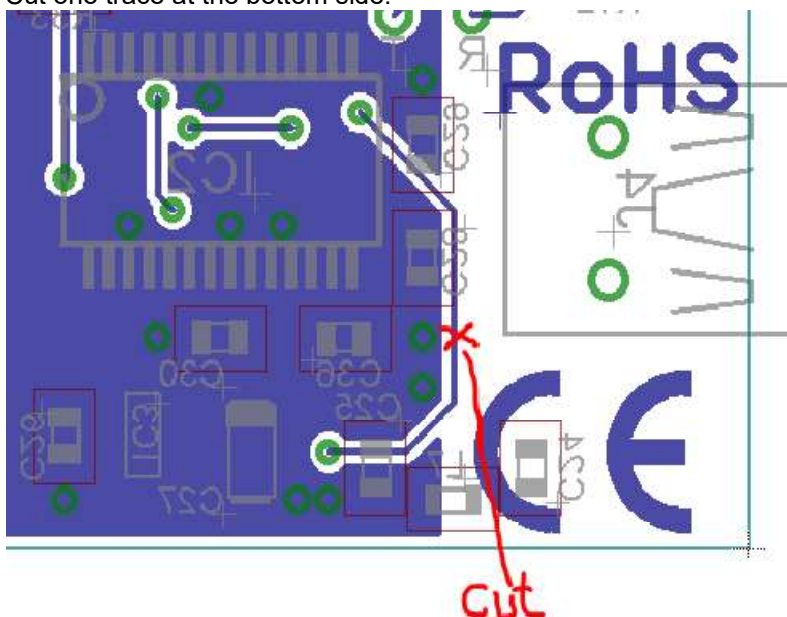
The RFXtrxLAN is not developed to have the RFXtrx433E installed in the RFXtrxLAN in an easy way but it is possible with some solder and glue work.

It is not advised for people without soldering experience.

1. Cut one trace at the top side.
2. Solder a wire from C25 to the enable pin of U3
3. Remove the 4 pins header from the RFXtrxLAN PCB. (or request RFXCOM to deliver the RFXtrxLAN without the 4 pins header)
4. Solder 4 wires between the RFXtrxLAN PCB and the RFXtrx433E.
5. Fix a small 5mm bar with double sided tape next to IC2 (FT232 chip) and position the RFXtrx433E on the RFXtrxLAN PCB so that the USB connector fits in the front panel and the antenna connector is correct positioned in the case.



Cut one trace at the bottom side.

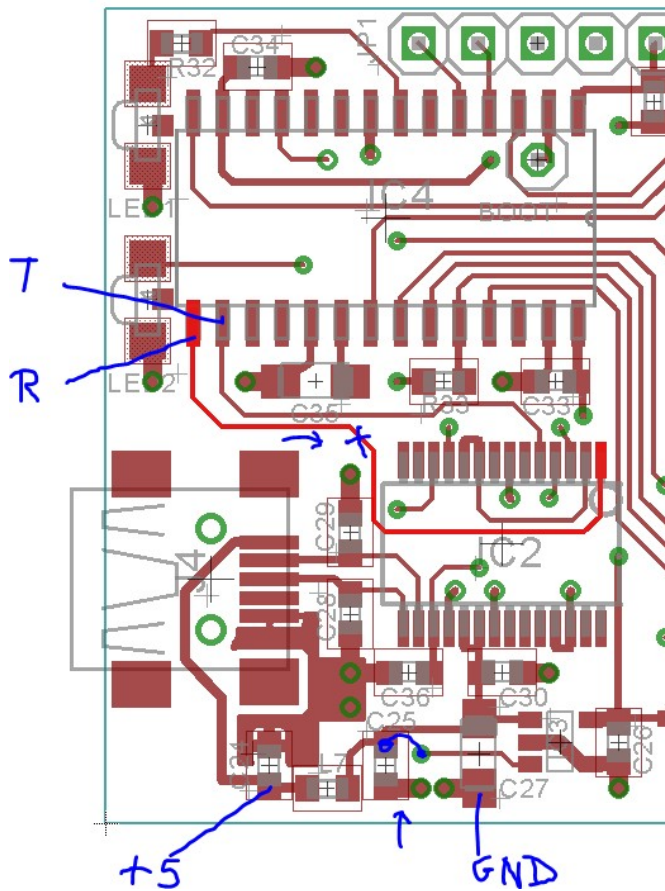


5. Install the RFXtrx433 in the RFXtrxLAN.

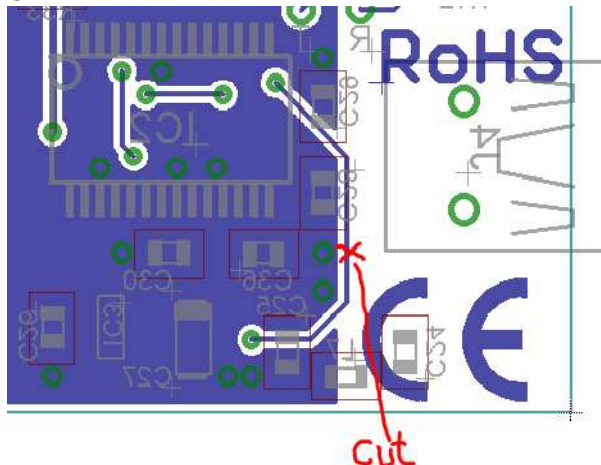
The RFXtrxLAN is not developed to have the RFXtrx433 installed in the RFXtrxLAN in an easy way but it is possible with some solder and glue work.

It is not advised for people without soldering experience.

1. Cut one trace at the top side.
2. Solder a wire from C25 to the enable pin of U3
3. Remove the 4 pins header from the RFXtrxLAN PCB. (or request RFXCOM to deliver the RFXtrxLAN without the 4 pins header)
4. Solder 4 wires between the RFXtrxLAN PCB and the RFXtrx433. (+5 G T R)
5. Fix a small 5mm bar with double sided tape next to IC2 (FT232 chip) and position the RFXtrx433 on the RFXtrxLAN PCB so that the antenna connector is correct positioned in the case.



Cut one trace at the bottom side.



6. Installation of the RFXtrxLAN

Connect the antenna.

Connect the 5V/1Amp DC power supply and the Ethernet cable.

The red LED of the RFXtrx should be on for about 3 seconds followed by a short blink of the green/yellow LED. And the right LED on the Ethernet connector should blink and the left LED should be on.

Note: Do not locate the RFXtrxLAN close to metal objects, electronic equipment or power lines.

7. LAN version

7.1. Configure the LAN controller

The RFXtrxLAN is delivered with DHCP.

To find the IP address of the RFXtrxLAN use for example the free NetScan tool

<https://www.netscantools.com>

Use a browser to configure the LAN-controller and enter the IP address of the RFXtrxLAN, for example: <http://192.168.1.237> or use the Host Name <http://rfxtrxlan>

Default Username / Password: admin admin

Set a fixed IP address for normal use. (select DHCP OFF) or configure the RFXtrxLAN in your router. If multiple RFXtrxLAN devices are in use set the Host Name unique.

Advice: If you change the Username/Password write it down on a label inside the RFXtrxLAN

The screenshot shows the 'System Settings' web interface for the RFXtrxLAN. The page title is 'System Settings' with a subtitle 'Change the device system settings'. The interface is divided into several sections, each with a green header:

- Authentication:** Contains fields for 'User Name' (set to 'admin') and 'Password' (masked with dots).
- Basic Settings:** Contains a 'Host Name' field set to 'RFXtrxLAN'.
- WAN Settings:** Contains a 'DHCP' toggle set to 'ON' and a 'DNS' field set to '10.10.100.254'.
- Telnet Settings:** Contains an 'Enable' toggle set to 'ON', a 'Telnet Port' field set to '23', and an 'Echo' toggle set to 'ON'.
- Web Settings:** Contains an 'Enable' toggle set to 'ON' and a 'Web Port' field set to '80'.
- NTP Settings:** Contains an 'Enable' toggle set to 'OFF'.

7.2. Configure the Serial Port

The COM port is delivered with the correct settings.

Serial Port Settings

change the device serial port settings

Basic Settings	
Baud Rate	38400
Data Bit	8
Stop Bit	1
Parity	None

Buffer Settings	
Buffer Size	512
Gap Time	50

Flow Control Settings	
Flow Control	Disable

Cli Settings	
Cli	Disable

Protocol Settings	
Protocol	None

7.3. Configure the TCP communication

The RFXtrxLAN is delivered with the correct configured TCP Server with port 10001
You can change the Local Port and Max Accept if required.
Set Max Accept to 1 unless you want to connect the RFXtrxLAN with multiple applications

Communication Settings
change the device socket settings

Basic Settings	
Name	netp
Buffer Size	512
Keep Alive(s)	60
Timeout(s)	0

Protocol Settings	
Protocol	Tcp Server
Local Port	10001
Max Accept	5

Security Settings	
Security	Disable

Route Settings	
Route	Uart

7.4. Disable contact with Chinese server

```
Login with Telnet, enter SYS, enter NAT Disable  
EPORT>SYS  
EPORT/SYS>NAT Disable  
SET-OK
```

8. WiFi version

Not available for the RFXtrxLAN 433 and RFXtrxLAN 868.
In this case select the RFX433XL / RFX868XL with the Wifi module.

8.1. Configure the WiFi module

For the first time you connect the RFXtrxLAN using a laptop.
Power the RFXtrxLAN and connect the WiFi network with SSID HF-A11x_AP
When the wireless connection is OK, open a web browser and access <http://10.10.100.254>
Connect with username / password: admin / admin

8.2. Set STA (station) mode

Working Mode Configuration

You may configure the Uart-WIFI module wifi mode and data transfer mode.

AP Mode:
Access Point

STA Mode:
Station Mode

Data Transfer Mode:

8.3. Configure the STA settings

Configure the AP to be used, click on Search and select your WiFi network.
Set the fixed IP address for the TCP server, for example
192.168.1.100
255.255.255.0
192.168.1.255
8.8.8.8

STA Interface Setting

You could configure STA interface parameters here.

STA Interface Parameters	
AP's SSID	<input type="text" value="YourWiFi"/> <input type="button" value="Search..."/> ←
MAC Address (Optional)	<input type="text"/>
Security Mode	<input type="text" value="WPA2PSK"/> ←
Encryption Type	<input type="text" value="AES"/> ←
Pass Phrase	<input type="text" value="????????"/> ←

WAN Connection Type:

Static Mode	
IP Address	<input type="text" value="0.0.0.0"/> ←
Subnet Mask	<input type="text" value="0.0.0.0"/> ←
Default Gateway	<input type="text" value="0.0.0.0"/> ←
DNS	<input type="text"/> ←

8.4. Configure the UART.

Select 38400,8, None, 1, Disable

Set MAX TCP num to 1 unless you want to connect the RFXtrxLAN with multiple applications.

Set TCP Time out to 0



Wifi-Uart Setting

You could configure the Uart parameters and network parameters of the wifi-uart application.

Uart Setting	
Baudrate	38400
Data Bits	8
Parity	None
Stop	1
CTSRTS	Disable

Apply Cancel

UART AutoFrame Setting	
UART AutoFrame	Disable

Apply Cancel

Network Setting	
Mode	Server
Protocol	TCP
Port	10001
Server Address	10.10.100.100
MAX TCP Num. (1~32)	1
TCP Time out (MAX 600 s)	0

Apply Cancel

9. Restore factory settings

9.1. RFXtrxLAN for RFXtrx433XL/RFXtrx868XL

Version without Restore button:

- Make a connection for at least 3 seconds between pin 6 and 10 of the LAN controller.

Version with Restore button:

- To restore the module to factory settings, press the reload button for at least 3 seconds.

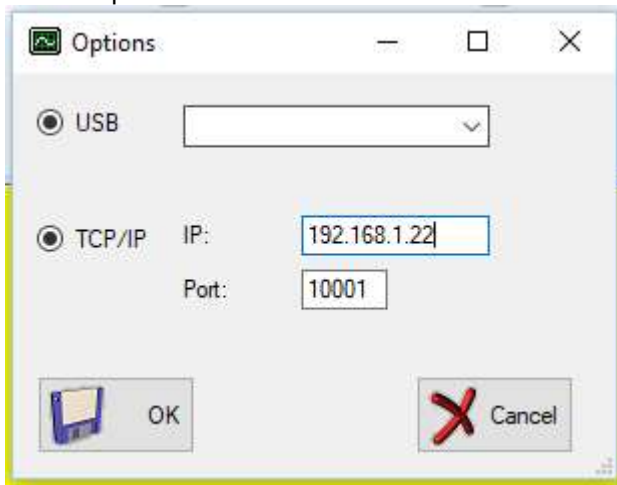
9.2. RFXtrxLAN 433 / RFXtrxLAN 868

The reload button is behind the very small hole in the front panel next to the antenna connector.

To restore the module to factory settings, press the reload button with a needle for at least 3 seconds.

10. Configure the transceiver

The transceiver can be tested and configured with the RFXmng program. Set the IP address of the RFXtrxLAN or use the Host Name. Connect port 10001:

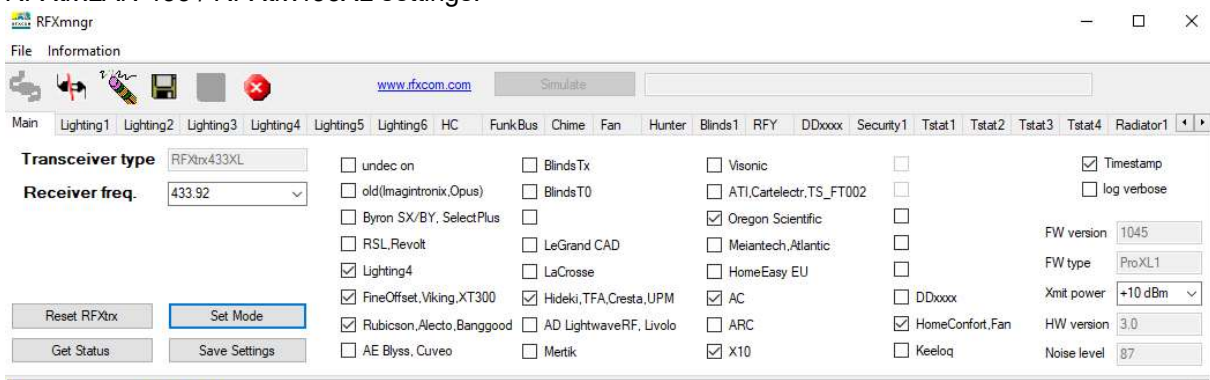


Select the protocols necessary for receive and click Set Mode followed by Save Settings.

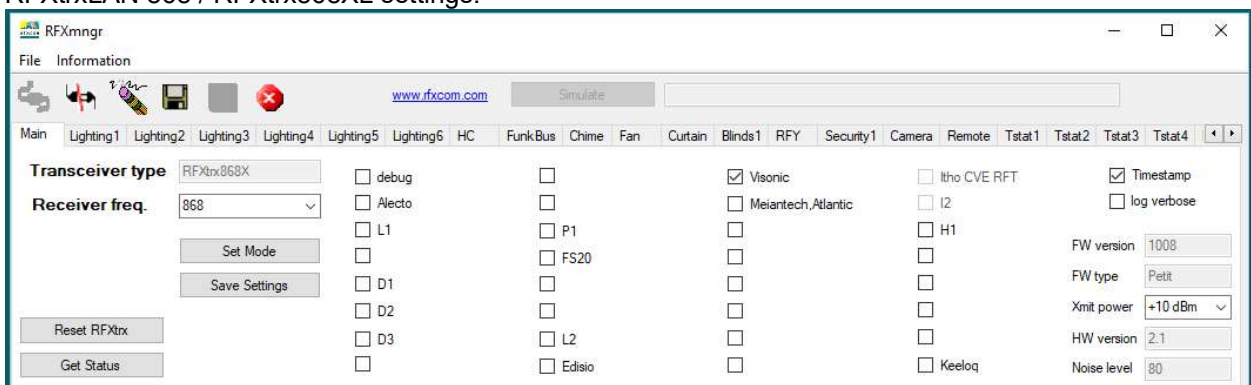
No need to select protocols for transmit!

Note that you can only select 1 protocol for receive in the RFXtrx868XL because each protocol uses different frequencies and modulation!!!

RFXtrxLAN 433 / RFXtrx433XL settings:



RFXtrxLAN 868 / RFXtrx868XL settings:

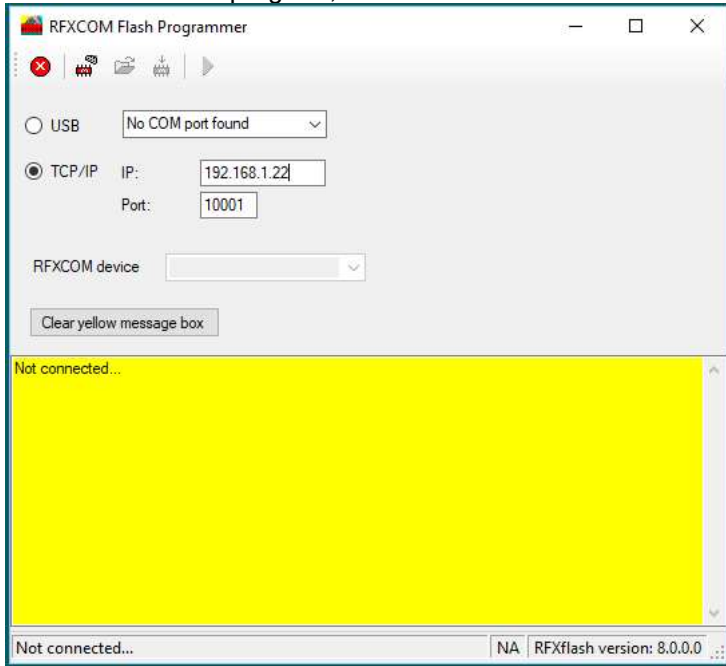


11. Update transceiver firmware

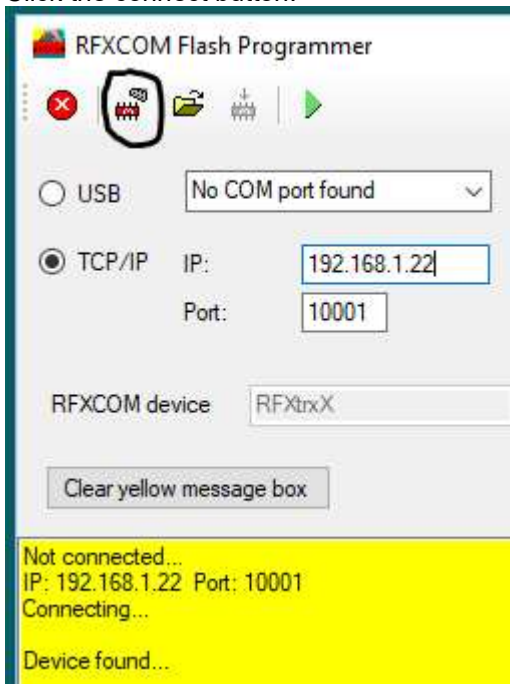
If required, the transceiver firmware can be updated with the RFXflash program.

Stop all connections with the transceiver and be sure that no other program connects the transceiver during flash of the transceiver!

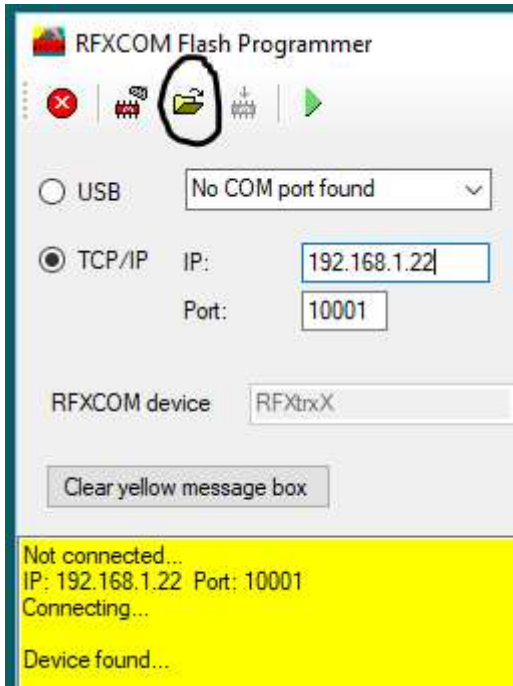
Start the RFXflash program, select the IP address and select the port (normally 10001).



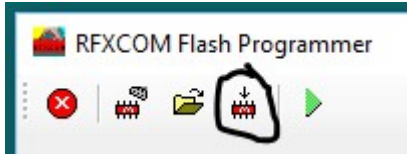
Click the connect button:



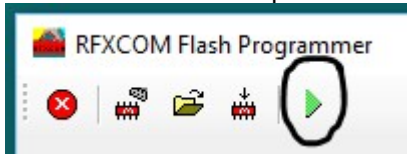
Click the Open HEX file and select the correct firmware file.



Click the Write device button. The firmware will be flashed in about one minute:



At the end of the flash procedure click the Normal Execution Mode button:



Test the RFXtrx with RFXmngr.

12. Warning:

- RF signals are possible disturbed, and it has not been justified for this equipment at uses in circumstances where life-threatening or dangerous situations are possible.
- RFXCOM HARDWARE AND SOFTWARE IS NOT INTENDED FOR USE IN THE OPERATION OF NUCLEAR FACILITIES, AIRCRAFT NAVIGATION OR COMMUNICATION SYSTEMS, AIR TRAFFIC CONTROL SYSTEMS, LIFE SUPPORT MACHINES OR OTHER EQUIPMENT IN WHICH THE FAILURE OF THE SOFTWARE COULD LEAD TO DEATH, PERSONAL INJURY, OR SEVERE PHYSICAL OR ENVIRONMENTAL DAMAGE.

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15. Revision History

Version 0.0 October 7, 2021

Initial version

Version 1.0 October 25, 2021

Installation of RFXtrx433E added

Version 2.0 November 5, 2021

Don't use USB added

Restore factory setting text added

Version 2.1 December 13, 2021

PTF version only

Version 2.2 January 28, 2022

Wifi UART setting - TCP Time out = 0

Version 2.3 August 20, 2022

Installation of RFXtrx433 added

Version 2.4 January 2, 2023

Wire to enable the regulator for RFXtrx433 and RFXtrx433E

Version 3.0 June 10, 2023

RFXtrxLAN 433 and RFXtrxLAN 868 added.

Version 3.1 March 18, 2025

Added: Disable contact with Chinese server