RFX User Guide

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2. Introduction

The RFX-433, RFX-433EMC and RFX-868 are **delivered with USB software**.

The RFX-433(EMC) is equipped with a 433MHz transceiver.
The RFX-868 is equipped with a 868MHz transceiver.
Free RFXCOM software is available for these devices.
It can also have the RFM95 (433, 868 or 915MHz) installed for LoRa and used with open-source software.

For **MQTT** software see the pdf's: **RFX MQTT User Guide** and **RFX MQTT in Home Assistant**

2.1. RFX-433/868 software.

IMPORTANT: RFX-433/868 software for the RFX-433/868 transceiver is totally different from the firmware of the older RFXtrx, RFX433XL and RFX868XL transceivers!

The RFX transceiver with RFX-433 software has all the functionalities of the RFX433XL, and in addition, it has WIFI or LAN capability and is built for future extensions.
For the list of supported protocols see chapter RFX-433/868 software supported protocols.
The RFX-EMC (**E**xtended **M**otor **C**ontrol) is necessary for MQTT, W5500 LAN or Brel/Dooya bi-directional, Cherubini and OzRoll.

For the optimum receive sensitivity, enable only protocols you need to receive.
No protocol enabling is necessary for transmit.
Do not use "undec on" unless requested by RFXCOM.

Several types of "RFX-433" software for these transceivers are available for free.
For the RFX-433: USB and WiFi, both with support for P1,
For the RFX-433EMC: USB, WiFi, W5500 LAN and MQTT, all with support for P1.

Several types of RFX-868 software are available for free.
For the RFX-868: USB, WiFi, LAN and MQTT, all with support for P1.
Note that only one protocol can be enabled in the RFX-868 for receive because of the used transmission techniques at 868MHz.

2.2. RFX transceiver option board

The RFX-433 transceiver has a connection for 1 optional extension board:

- RFX-EMC extension board, for Brel/Dooya bi-directional, Cherubini and OzRoll.
  (The RFX-433EMC has this option built-in)

Use the P1 software version, if no option board connected or RFX-EMC is not used.

2.3. LED meaning

RED led: At start-up the LED is RED.
It stays RED if the access point 192.168.4.1 is active for configuring the ssid, password for station mode or if the configured station cannot connect the WiFi network.
Connect a terminal to the USB port (38400N81) to see status messages about the WiFi connection.
RED led blinking: No W5500 LAN connection
BLUE led: during initialization of the transceiver module.
RED-BLUE led: 3 seconds on during Init of the PIC-EMC option
BLUE led blinking: RFXCOM transceiver module problem.
GREEN led: the LED blinks green if a message is transmitted to WiFi, LAN or USB.

2.4. RFX-433/868 software for USB

RFX-433/868 USB is using 38400baud, no parity, 8 bits, 1 stop bit.
The interface protocol is compatible with the RFXtrx, RFX433 and RFX868 units.

2.5. RFX-433/868 software for WiFi or W5500 LAN

RFX-433/868 WiFi/W5500 LAN supports up to 2 connections at the same time and is using **port 10001**.
RFX-433/868 USB port is used for debugging messages or the Restore and ListIDS commands and is using 115200baud, no parity, 8 bits, 1 stop bit.
The RFXmngr program must be connected by Ethernet.

2.1. RFX-433EMC/RFX-868 software for MQTT

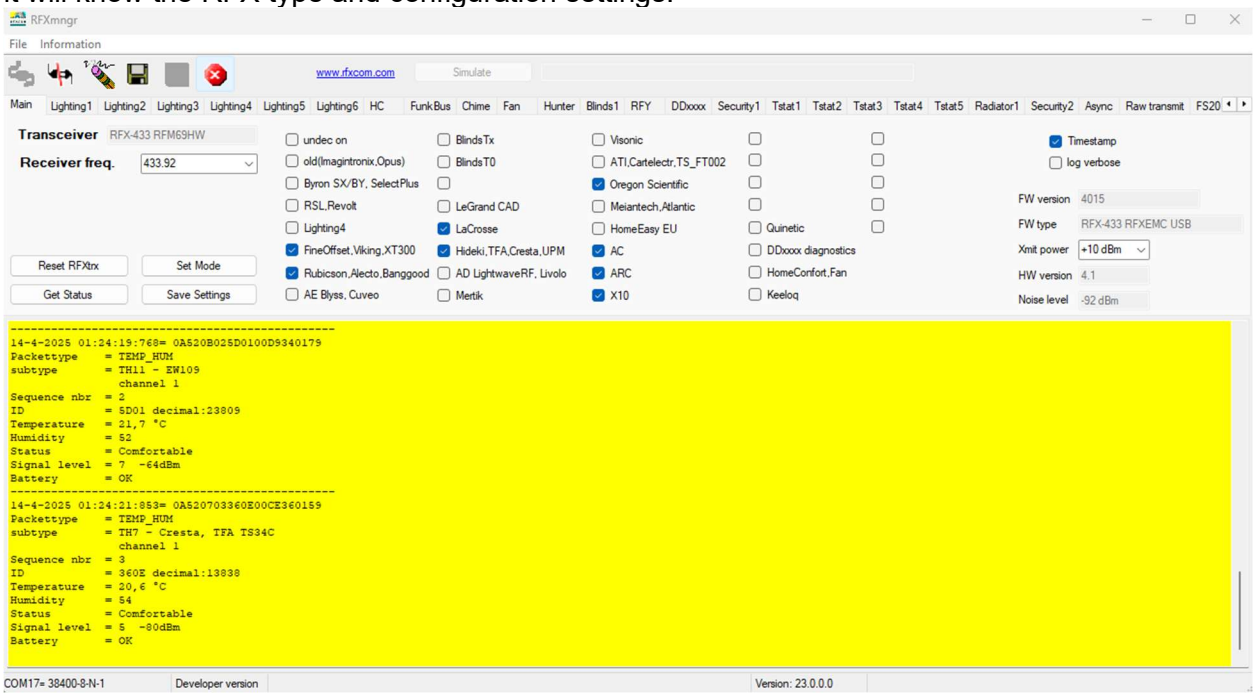
RFX-433EMC/868 can have the MQTT software with Automatic Discovery installed.
RFX-433EMC/868 USB port is used for debugging messages or the Restore command and is using 115200baud, no parity, 8 bits, 1 stop bit.
See the RFX MQTT User Guide.pdf how to use and configure MQTT.
The RFXmngr program cannot be used with this software.

3. RFXmngr test program

The RFXmngr Windows program supports decoding of received data and allows you to transmit commands.
RFXmngr can only be used with Windows!
A limited alternative on other OS systems is: https://github.com/ssjoholm/rfxcmd_gc

With USB software, connect to the COM port of the RFX.
With WiFi/LAN software, connect to the Local IP address configured by you at Network settings.and use port 10001.

After the connection the RFXmngr program transmits a Reset and Get Status command so that it will know the RFX type and configuration settings:



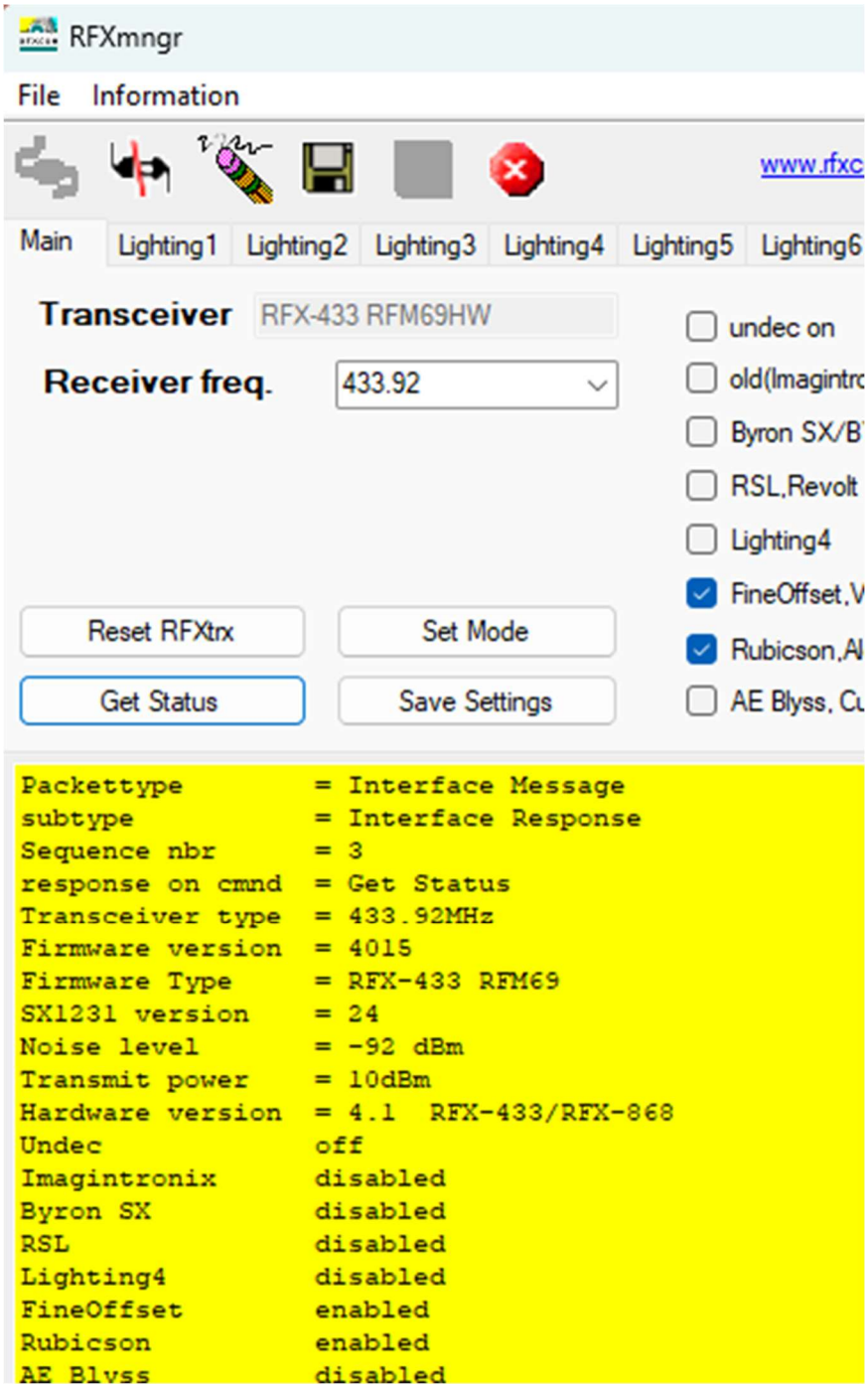
Transmitter protocols are always enabled but receiver protocols can be disabled. This is very useful because the receiver will become more sensitive when protocols not used are disabled. Select only the protocols to be used for receiving, click **Set mode** and click **Save Settings**.

3.1. Receiver

The RF protocols to be received can be configured on the Main tab at **Set Mode**.
Click **Save Settings** to save the selected protocols in non-volatile memory of the RFX.
This configuration is now restored every time after a power up.

Note: Protocol enabling is only necessary for receive. Transmit protocols are always enabled.

The received RF data is decoded and displayed in the yellow window.

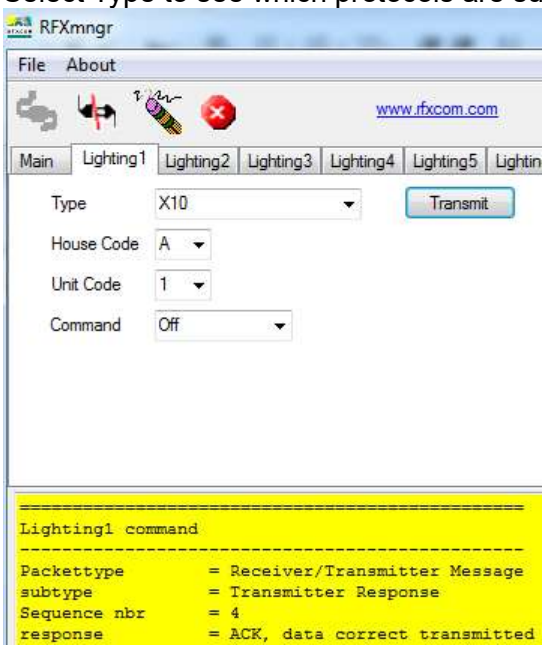


3.2. Transmitter

The tabs after the Main tab are used to send commands to the transmitter.
For example, Lighting1 is used to send X10, ARC and some more.

Note: Protocol enabling is only necessary for receive. Transmit protocols are always enabled.

Select Type to see which protocols are supported on the different tabs.



The transmitted commands are displayed in the yellow window including the acknowledge send by the RFX, in the example above “ACK, data correct transmitted “.

4. Flash update RFX software

Binary software RFXCOM protocol files are available for:
RFX-433 USB or WiFi
RFX-433EMC, RFX-868 USB or WiFi or LAN
Binary software MQTT protocol files are available for:
RFX-433EMC, RFX-868 WiFi or W5500 LAN

All versions support P1.

You can use a web tool to flash the RFX connected to USB and use these parameters:
0x0 = RFXS3.ino.bootloader.bin
0x8000 = **RFXS3.ino.partitions.bin**
0xE000 = boot_app0.bin
0x10000 = **RFXS3.ino.bin**

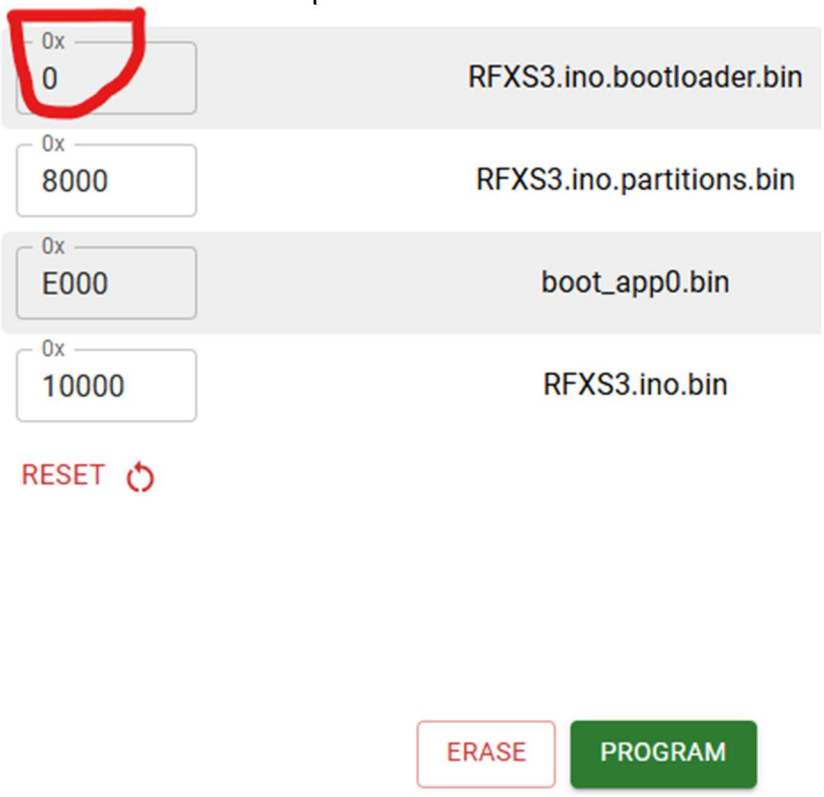
Use for example the solution as described here:
https://blog.spacehuhn.com/espwebtool

https://esp.huhn.me/

- Click Connect and select the correct USB COM port
- Select files **(note: enter 0 at ...ino.bootloader.bin**)
- Click Program

If connection reports a problem with the Program command:
Keep the RESET button pressed, click PROGRAM, release the RESET button.

version 4015/8002 and up



5. RFX-433 software supported protocols

Device	RFX-433	RFX-433EMC	Protocol
1byOne Driveway Alarm http://www.1byone.co.uk/Home-Security/Alarms/O00QH-0511	RT	RT	ByronSX
1byOne Easy Chime	RT	RT	ByronSX
1byOne QH A19 rev10 Chime	RT	RT	ByronSX
A-OK blind motors RF01 http://www.motorisationplus.com/	RT	RT	BlindsT2
A-OK blind motors AC114,AC123,AC127,AC129, ZC11 - http://www.motorisationplus.com/	RT	RT	BlindsT3
Aidebao security	R	R	Meiantech
Aldomo – http://www.aldomo.de/	RT	RT	BlindsT6
Alecto – SA30, SA33 smoke detector	RT	RT	Oregon
Alecto – WS1100 (needs correction -40°C)	R	R	FineOffset
Alecto – WS1200	R	R	FineOffset
Alecto – WS1700 and compatibles, WS3500, WS4500	R	R	Rubicson
Alecto – WSD10	R	R	Rubicson
Alfawise – https://www.gearbest.com/ip-cameras/pp_1693842.html?wid=1214279			ByronSX
Ambient Weather F007TH, WS14 pool sensor	R	R	Oregon
ANSLUT (learning mode)			AC
Aoke relay http://www.aliexpress.com/store/product/whose-sale-prices-DC12V10A-Learning-Code-Wireless-Remote-Control-Switch-System-1-Receiver-and-1-Transmitter/1211856_1774391429.html	RT	RT	Lighting5 Aoke or Lighting1 ARC
ASA ETR blind motors - http://www.asa-mingardi.org/en/home.php	T	T	RFY
ASP blind motors http://www.asp-distribution.com/site%20volet/voletrenovation.aspx	RT	RT	BlindsT11
ATI Remote Wonder			ATI
ATI Remote Wonder Plus			ATI
ATI Remote Wonder II (only available in hardware version 1.0)			ATI
Atlantic security	RT	RT	Meiantech
Auriol H13726	R	R	Rubicson

Device	RFX-433	RFX-433EMC	Protocol
Auriol Z31055B-TX	R	R	Rubicson
Avantek * receive Lighting4	RT	RT	Lighting5 *Lighting4
Banggood – SKU174397	R	R	Rubicson
Banggood DANIU			Rubicson
Blyss lighting http://www.castorama.fr/store/Prise-telecommandee-et-telecommande-BLYSS---Interieur-prod4470026.html	RT	RT	AE
Blyss temperature/humidity 630467			AE
BOFU EYB25 EY1612 blind motors - http://www.bofumotor.com/	RT	RT	BlindsT0
Brennenstuhl RCS2044N	RT	RT	Lighting4
Brennenstuhl RC2044	RT	RT	AC
Brel blind motors http://www.brel-motors.nl/webshop/motoren/	RT	RT	BlindsT6
Brel bi-directional		T	DD27xx
Bresser Temeo Hygro, 7009981, 7009994, 7009997	R	R	Rubicson
BTX blind motors, remote, part# 490.2076 http://www.btxinc.com	T	T	BlindsT9
ByeByeStandBy	RT	RT	ARC
Byron BY chime	RT	RT	ByronSX
Byron DBY22321/23510	R	R	ByronSX
Byron DBY23711B/23712	RT	RT	ByronSX
Byron SX chime http://www.chbyron.eu/Byron/ByronSXRange/68/89/	RT	RT	ByronSX
Byron MP001 chime			Chime Byron MP001
Cartelectronic TIC, Encoder, Linky https://www.cartelectronic.fr/index.php?id_product=124&controller=product			ATI/cartelectronic
Casafan	T	T	Fan Casafan
CasaFan Eco Aviatos RH787T	T	T	Fan LucciAir DCII
cent-a-meter	R	R	Oregon
Chacon (learning mode) http://www.chacon.be/	RT	RT	AC
Chacon (with address code wheels)	RT	RT	ARC
Chacon EMW200	T	T	Lighting1 EMW200

Device	RFX-433	RFX-433EMC	Protocol
Chacon 54660 (equal COCO GDR2)	T	T	Lighting1 COCO GDR2
Chacon KD101 smoke detector	RT	RT	always on
Chamberlain CS4330CN http ://www.chamberlain24.de/epages/es122868.sf/en_GB/ ?ObjectPath=/Shops/es122868/Products/RA4336	T	T	BlindsT8
Cherubini ID can be 10 30 00 to 10 3F FF	RT	RT	BlindsT18 (receive =BlindsTx + Keeloq)
Chuango * decoded as X10	R*	R*	Lighting4
CoCo (learning mode) http://www.coco-technology.com/en/home/	RT	RT	AC
CoCo (with address code wheels)	RT	RT	ARC
CoCo GDR2 (equal Chacon 54660)	T	T	Lighting1 COCO GDR2
Confexx CNF24-2435	T	T	BlindsT12
Conrad RSL2 http://www.conrad.com/ce/en/product/640466/FUNK-STECKDOSENSCHALTER-RSLR2	RT	RT	RSL
Conrad RSL sensors	R	R	RSL
Conrad RSL2 motion/door-window sensors	R	R	RSL
Cotech Smarthome	RT	RT	Lighting4 + AC,
Cotech weather sensor https://www.clasohlson.com/no/Ekstra-temperaturgiver-hygrometer/36-6726	R	R	Rubicson
Cranenbroek	T	T	Lighting1 Impuls
Cresta - TX-320, TS34C, anemometer, UV sensor, rain sensor	R	R	Hideki
Cuveo https://shop-m-e.de/produkte/cuveo-funk-system/?p=1	RT	RT	AE
dBell – https://www.webstore4ipcameras.nl/dbell_DB-HD-LIVE-B	RT	RT	ByronSX
DEA receivers (unencrypted) http://www.deasystem.com/en/accessory/7/receivers	RT	RT	KeeLoq
Digimax	R	R	X10
Digoo DG-R8H, DG-R8S https://www.banggood.com/Digoo-DG-R8H-433MHz-Wireless-Digital-Hygrometer-Thermometer-Weather-Station-Sensor-for-TH11300-8380-p-1178108.html			Rubicson
Digoo DG-SD10 self-powered doorbell	R	R	Lighting4
Digoo https://www.aliexpress.com/item/DIGOO-433MHz-New-Door-Window-Alarm-Sensor-for-HOSA-HAMA-Smart-Home-Security-System-Suit-Kit/32957905665.html			Lighting4 + Meiantech

Device	RFX-433	RFX-433EMC	Protocol
DI.O (learning mode) http://www.di-o.be/	RT	RT	AC
DI.O (with address code wheels)	RT	RT	ARC
Dolat DLM-1 controlled motors http://www.dolat.com.cn/product1.asp?id=538	T	T	BlindsT10
DomiaLite (with address code wheels)	RT	RT	ARC
Dooya blind motors, emulate remotes: DC305, DC306, DC307, DC313, DC1602, DC1650, DC1651, DC2700	RT	RT	BlindsT6
Dooya bi-directional		T	DD27xx
Ebode	RT	RT	X10
Electrisave	R	R	Oregon
ELRO AB400 http://www.elro.eu/en/products/cat/home-automation/home-control1	RT	RT	Lighting4
ELRO AB600	RT	RT	ARC
Ematronic RF01 http://www.ematronic.com/moteurs-volet-roulant/	RT	RT	BlindsT2
Ematronic AC114, AC123 http://www.ematronic.com/moteurs-volet-roulant/	RT	RT	BlindsT3
Eminent * decoded as X10	RT	RT	Lighting4
Energenie https://energenie4u.co.uk/ - ENER010 – 429.935, 5-gang 429.950	T	T	Lighting1 Energenie Energenie5
Envivo – Chime ENV1348			Chime + Lighting4
ESMO blind motors	RT	RT	BlindsT6
Etekcity – http://etekcity.com/p-300-5-pack-wireless-remote-control-outlet-switch-set-with-2-remote-controls-zap-5lx.aspx	T	T	Lighting1 Energenie5
Eurodomest (NL – Action) * ARC only	T	T	Lighting1 – ARC Or Lighting5 Eurodomest
Everflourish EMW100	T	T	Lighting5 EMW100
Falmec fan	T	T	Fan Falmec
Falmec Levante fan	T	T	Fan Falmec levante
Faro Barcelona fan – http://www.faro.es/	T	T	Fan LucciAir
Faro Barcelona DC fan For example : Airfusion Climate II 50 DC	T	T	Fan LucciAir DC
Faro Barcelona DCII fan For example : Airfusion Climate II 50 DC	T	T	Fan LucciAir DCII

Device	RFX-433	RFX-433EMC	Protocol
Faher blinds motor	RT	RT	BlindsT6
FineOffset – WH1285 (needs correction -40°C)	R	R	FineOffset
Flamingo	RT	RT	Lighting4
Flamingo FA500D FA500DSS	T	T	IT
Flamingo KD101 smoke detector FA20RF, FA21RF, FA22RF	RT	RT	always on
Flamingo Smartwares SF501	R	R	AC
Focus	RT	RT	Meiantech
Forest blind/curtain motors http://www.forestgroup.nl/index_nl.html	T	T	BlindsT7
Froggit – F007TH	R	R	Oregon
FT1211R fan controller	T	T	Fan FT1211R
FunkBus(Gira, Jung, Insta, Berker)	RT	RT	Funkbus
Gaposa QCTR ER motors 434.15MHz	RT	RT	BlindsT17
Gaviota	RT	RT	BlindsT6
Gaviota Elite bi-directional		T	DD27xx
Gazco heater RF290A	RT	RT	Mertik
Gumax	RT	RT	BlindsT3
HAMA EWS1500	R	R	Rubicson
Harrison curtain http://www.harrison.nl/home2.htm	T	T	Curtain Harrison
Hasta new blind motors http://www.hasta.se/	RT	RT	BlindsT0
Hasta old blind motors	RT	RT	BlindsT1
Hideki weather sensors	R	R	Hideki
Home Confort lighting http://www.home-confort.net/en	RT	RT	HomeConfort
HomeEasy EU (learning mode) http://www.elro.eu/en/products/cat/home-automation/	RT	RT	HE EU
HomeEasy UK – HE105 - http://www.homeeasy.eu/	T	T	Thermostat2 HE105
HomeEasy UK (learning mode)	RT	RT	AC
HomeEasy UK (with address code wheels)	RT	RT	ARC
Honeywell - TF-ATS34C	R	R	Hideki
Housegard Origo smoke detector	RT	RT	ARC
HQ COCO-20	T	T	Lighting1 HQ COCO20

Device	RFX-433	RFX-433EMC	Protocol
Hualite blinds	T	T	BlindsT14
Hunter TX36 fan https://www.hunterfan.com/	RT	RT	Fan
Ikea Koppla			Lighting3
Impuls (NL – Action)	T	T	Lighting1 Impuls
inblindz – https://www.inblindz.nl/	T	T	BlindsT13
Inovalley SM80 with plant probes http://www.inovalley.com/detail.php?item_id=289	R	R	Rubicson
Intertechno (learning mode) http://www.intertechno.at/	RT	RT	AC
Intertechno (with address code wheels)	RT	RT	ARC
JVS screens http://www.screen-discount.nl/	RT	RT	BlindsT6
Jysk HUGLO	RT	RT	BlindsT6
Kambrook RF3672 – http://www.bunnings.com.au/kambrook-4-piece-indoor-powerpoint-kit-with-remote-control_p7030054			Lighting2 Kambrook
Keeloq (unencrypted)	RT	RT	KeeLoq
Kerui security * decoded as X10 https://www.aliexpress.com/item/433-MHz-Wireless-Door-Windows-Sensors-for-KERUI-Alarm-System-Magnetic-Door-Sensor-Door-Open-reminder/32590916896.html	R*	R*	Lighting4 + X10*
Kerui siren xx xx x8 = on, xx xx x2 = off	T	T	Lighting4
Kimex projection screen https://www.kimexinternational.com/A-9162-ecran-de-projection-electrique-encastrable-3-00-x-1-69m-format-16-9.aspx	RT	RT	BlindsT3
Kingpin KP100 projection screen	T	T	Lighting4
KlikAanKlikUit (learning mode) http://www.klikaanklikuit.nl/home/	RT	RT	AC
KlikAanKlikUit (with address code wheels)	RT	RT	ARC
La Crosse - TX2, TX3, TX3P, TX4, TX7, TX17, WS2300	R	R	LaCrosse
La Crosse - rain sensor TX145R	R	R	Hideki
La Crosse - weather WS1652 - temp/hum TX141TH-Bv2, TX141W	R	R	LaCrosse
Legrand CAD radio	RT	RT	Lighting5 LeGrand CAD
Lexibook - SM883	R	R	Hideki

Device	RFX-433	RFX-433EMC	Protocol
LightwaveRF - http://www.lightwaverf.co.uk/	RT	RT	AD
Livolo - http://www.livolonederland.nl/ - http ://www.livolo-France.com/fr/ - http ://nl.aliexpress.com/w/wholesale-livolo-touch-switch.html	RT	RT	Lighting5 Livolo
Louvolite one touch motorised blinds (R1942 remote)	RT	RT	BlindsT0
Louvolite one touch Vogue vertical blinds (1144 remote)	RT	RT	BlindsT0
Lucci Air fan https://www.beaconlighting-europe.com/product-category/lucci-air-deckenventilatoren/	T	T	Fan LucciAir
Lucci Air DC fan For example : Airfusion Climate II 50 DC	T	T	Fan LucciAir DC
Lucci Air DCII fan For example : Airfusion Climate II 50 DC	T	T	Fan LucciAir DCII
Luxaflex –http://www.luxaflex.se/produkter/luxaflex/rullgardiner/	T	T	RFY
Maplin http ://www.maplin.co.uk/p/remote-controlled-mains-socket-set-single-n78ka	T	T	Lighting1 COCO GDR2
Marquant 943134			X10
Maverick ET-732/733 BBQ/Smoke temperature	R	R	Hideki
MCZ pellet stove	RT	RT	Thermostat4
Mdremote LED dimmer V106 www.ultraleds.co.uk			Lighting5 MDRemote V106
Mdremote LED dimmer V107 www.ultraleds.co.uk			Lighting5 MDRemote V107
Mdremote LED dimmer V108, EKAB-10KRF http://www.ledstripkoning.nl/accessoires/dimmers-wit/draadloze-dimmer-10-knops-rf/			Lighting5 MDRemote V108
Meade – TS33F-M, TS34C-M http://www.meade.com/products/weatherstations/sensors.html	R	R	Hideki
Media Mount Projector screen			Lighting4
Meiantech security	RT	RT	Meiantech
Mercury appliance modules http://mercury.avsl.com/product?range=ME5124	T	T	Lighting1 Energenie5
Mertik Maxitrol Fire Place controllers - G6R-H4T1, G6R-H4T5, G6R-H4TD, G6R-H4T16, G6R-H4TB, G6R-H4T21-Z22	RT	RT	Mertik
Mertik Maxitrol Fire Place controller – G6R-H3T1	RT	RT	Mertik
Mertik Maxitrol Fire Place controller – G6R-H4S	T	T	Mertik
Meteoscan W155,W160	R	R	Rubicson
mhz.de bi-directional		T	DD27xx

Device	RFX-433	RFX-433EMC	Protocol
Monaco – https://www.airam.fi/en/product/v8305-2988/7020500/monaco-wireless-doorbell-230v/140/1	RT	RT	Chime + Lighting4
Motionblinds bi-directional		T	DD27xx
Motiva blinds, remote BY-305	RT	RT	BlindsT0
Motolux blinds motor	T	T	BlindsT3
Motostar blinds	T	T	BlindsT15
mi.sol WH2 http://www.ebay.com/itm/Transmitter-for-Wireless-Weather-Station-wireless-temperature-sensor-/121664060899	R	R	FineOffset
NEXA (learning mode) - http://www.nexa.se/	RT	RT	AC
NEXA (with address code wheels)	RT	RT	ARC
NEXA KD101/LM101LC smoke detector	RT	RT	always on
Nexa NBA-001 temperature sensor	R	R	Hideki
NEXUS - I008T	R	R	Hideki
Nobily rolladenmotor http://www.nobily.de/rolladenmotor/funk-elektronisch/40mm-achtkantwelle/170/nobily-rolladenmotor-pre4?c=5	RT	RT	BlindsT6
Novy extractor hood https://www.novynederland.nl/	RT	RT	Fan
Oase Inscenio FM Master	T	T	Lighting1 Oase
Omnia Go blinds https://omniablinds.com/	RT	RT	BlindsT6
Opus XT300 /Imagintronix Soil sensor http://www.plantcaretools.com/en/webshop/wireless-moisture-sensor-en-detail http://www.ebay.co.uk/itm/Wireless-Soil-Moisture-Sensor-/251380900939 ?pt=UK_Home_Garden_Garden_Plants_Fertiliser_CV&hash=item3a8778244b	R	R	Fineoffset
ORNO	RT	RT	AC
Oregon Scientific / Huger BBQ and weather sensors - AW129, AW131, BTHGN129, BTHR918, BTHR918N, BTHR968, EW109, PCR800, RGR126, RGR682, RGR918, RGR928, RTGN318, RTGR328N, RTGR328N, RTGR368N, RTGR383, RTHN318, STR918, STR928, ,THGN800, THGN801, THC138, THC238, THC268, THGN122NX, THGN123N, THGN132ES, THGN132N, THGN500, THGR122(N/NX), THGR228(N/NF), THGR238, THGR268, THGR328N, THGR810, THGR918, THGR928, THGRN228NX, THN122N, THN129, THN132N, THR128, THR138, THR288(N/NF), THRN122N, THWR288A, THWR800, UV138, UVN128, UVN800, UVR128, WGR800, WGR918, WTGR800, WTGR800	R	R	Oregon
Oregon Scientific weighting scales - BWR101	R	R	Oregon
Oregon Scientific weighting scale BWR102	R	R	Oregon
Oregon MSR939 https://www.redealer.de/multimedia/home-living/wetterstationen/bewegungssensor-msr939/a-200667/	R	R	Oregon

Device	RFX-433	RFX-433EMC	Protocol
OTIO EHS5050	R	R	RSL
OTIO Lighting	RT	RT	RSL
Outlook Motion Blinds https://www.spotlightstores.com/curtains-blinds/indoor-blinds/roller-blinds/project-outlook-motion-motorised-roller-blind/p/BP80360543	RT	RT	BlindsT4
OWL – CM113	R	R	Oregon
OWL – CM119, CM160, CM180, CM180i http://www.theowl.com/	R	R	Oregon
Ozroll E-Trans	RT	RT	BlindsTx
Pearl NC-7159 http://www.pearl.de/a-NC7159-3041.shtml	R	R	Rubicson
Phenix	RT	RT	Lighting4
Philips SBC SP370 series	T	T	Lighting1 Philips SBC
Prego P-8426 http://www.sunmarket.fi/tuote.asp?TID=11990			X10 Pro1/ProXL1 = Rubicson
Profile Qnect 423000040,423000042	RT	RT	Lighting4 + AC Pro = AC
Profiles PAC-326R Belcanto	RT	RT	ByronSX
Profitec KD310T https://akkuplus.de/profitec-KD-310-T-Energiekosten-Messgeraet-Sender	R	R	RSL
Proluxx projection screen	T	T	Lighting4
PROmax	T	T	IT
Proove –TSS320 & TSS330 fridge/freezer thermometer & outdoor sensors 311346,311501	R	R	FineOffset
Quigg RC DS5 4001-A DE 3726	RT	RT	AC
Quinetic	RT	RT	Quinetic
Quotidom – http ://www.quotidom.com/moteur-tubulaire-radio-quotidom-10-ou-20-nm-volet-roulant-ou-store-banne.html (not the Solutio version)	RT	RT	BlindsT6
RAEX blind motor (YR1326 or YRL2016 controlled)			BlindsT4
Rain sensor - https://nl.aliexpress.com/item/4000761757290.html	RT	RT	BlindsT3
RAW data	RT	RT	undec on
Renkforce RF101 smoke detector	RT	RT	always on
Revolt NC5461 http://www.pearl.de/a-NC5462-5452.shtml			RSL
RFXSensor	R	R	X10
RFXMeter	R	R	X10
RGB LED strip driver dx.com - http://www.dx.com/ order nbr: 130913, **(new TRC02 NOT supported)** - http://www.dx.com/ order nbr: 67412			AD

Device	RFX-433	RFX-433EMC	Protocol
RGB432W LED controller			Lighting5 RGB432W
RisingSun			Lighting4
RUBiCSON - stektermometer 48659, 48695 -pool sensor p48019	R	R	Rubicson
RohrMotor24 RMF blind motors http://www.rohrmotor24.eu/rohrmotor24	RT	RT	BlindsT6
RollerTrol R-series blind motors - http://rollertrol.com/	RT	RT	BlindsT0
Rollertrol G-series blind motors	RT	RT	BlindsT6
Sartano	RT	RT	Lighting4
SAS SA-200 smoke detector	RT	RT	always on
Screenline motors - http://www.screenline.cz/en/ Remote- SL2392S159 - Pellini	T	T	BlindsT13
SEAV TXS4			FAN SEAV TXS4
SelectPlus200689101 & SelectPlus200689103 (Action NL)	RT	RT	ByronSX
Siemens SF01 LF959RA50/LF259RB50/LF959RB50 extractor hood	RT	RT	Homeconfort,Fan SF01
Siemens (UK)	RT	RT	AD
SilverCrest 91089	RT	RT	Lighting4
SilverCrest 60494, 284705	RT	RT	AC
Silverline Premium - http://www.aluparts.nl	RT	RT	BlindsT6
Simu Hz / RTS -http://www.simu.com/	T	T	RFY
Siro	RT	RT	BlindsT6
Smartwares radiator valve http://www.homewizard.nl/smartwares-draadloze-radiatorkraan.html			Radiator1 Smartwares
Smartwares RM174RF, RM175RF, SA41	RT	RT	Lighting4
Somfy / RTS http://www.somfy.co.uk/ To control Somfy Centralis use RFY2 commands.	T	T	RFY
Sonoff RF	RT	RT	Lighting4
Sunpery blind motors	T	T	BlindsT9
Sunvic TLX1206	RT	RT	X10
Sunvic TLX7506	R	R	X10
TechnoLine/Proficell http://www.elv.de/output/controller.aspx?cid=74&detail=10&detail2=27621 - TX95-TH, WS9180-TX104	R	R	Rubicson

Device	RFX-433	RFX-433EMC	Protocol
Telldus 312716,313159,313160 https://www.lohelectronics.se/hemautomation/433mhz/sensorer-1110/smart-inne-och-utetermometer-med-hygrometer-10396	R	R	FineOffset
TFA external temperature / humidity TS15C, TS34C, 30.3245.02, 30.3139 anemometer 30.3133, UV sensor 30.3149, rain sensor 30.3148, 30.3233, 30.3252 pool sensor 30.3160	R	R	Hideki
TFA - pool sensor 30.3056.10, 30.3216.20 - external temperature sensor 30.3208.02 - temperature sensor 30.504554	R	R	Oregon
TFA - weather Pro 35.1161.01 - temp/hum 30.3249.02, 30.3221.02 - anemometer 30.3222.02, 30.3251.10	R	R	LaCrosse
TFA - temp/hum 30.3247.02	R	R	Rubicson
TUBE roller motor	T	T	RFY
UPM/Esic (very short receiving range) WT260,WT260H,WT440H,WT450,WT450H,WDS500, RG700	R	R	Hideki
Unitec 48110 EIM 826	RT	RT	AC
Ventus WS155	R	R	Rubicson
Viking - 02035, 02038, 02811	R	R	FineOffset
Visonic CodeSecure	R	R	Visonic
Visonic PowerCode	R	R	Visonic
Wave Design extractor hood	T	T	Fan SF01
Waveman	T	T	Lighting1 Waveman
Westinghouse fan 7226640	T	T	Fan
WT0122 pool sensor	R	R	FineOffset
YOODA blind motors http://www.sukcesgroup.pl	RT	RT	BlindsT6
Yooda bi-directional		T	DD27xx
X10 Ninja/Robocam			X10
X10 PC Remote			X10
X10 RTS10 / RFS10	RT	RT	X10

Device	RFX-433	RFX-433EMC	Protocol
X10 lighting	RT	RT	X10
X10 security	RT	RT	X10
Xdom	RT	RT	X10
Xiron – EN6	R	R	Rubicson

6. RFX-868 software supported protocols

Protocol	RFX-868	Protocol
Alecto ACH2010	R	Alecto ACH2010
Alecto WS5500, FineOffset WH2900, Ventus W830	R	FineOffset
Davis Vantage Vue EU *	R	Davis EU
Ecowitt WH31,WN32,WH40,WH51,WH57,WS90,WH5360	R	FineOffset
Edisio	RT	Edisio
FS20	RT	FS20
Gaposa QCTX rollermotor	RT	Gaposa
Honeywell ActiveLink	RT	Honeywell
Itho CVE RFT	T	Itho CVE RFT
Itho CVE ECO RFT	RT	Itho CVE ECO RFT
Keeloq (unencrypted part only)	RT	Keeloq
Mi-Sol WH2900C	R	FineOffset
Orcon	RT	Orcon
Visonic CodeSecure (unencrypted part only)	R	Visonic
Visonic PowerCode	R	Visonic

* based on information available madscientistlabs.blogspot.com

Important: it is only possible to enable one protocol for receive in the RFX-868, RFX868, RFXtrx868X and RFXtrx868XL because of the used transmission techniques at 868MHz.

7. Power requirement

The RFX transceiver is powered by the USB-C connection.
When using WiFi it needs a good 5V DC power supply of at least 2A.
For example, the RE-LOAD 2-port wall charger available at Action.

8. USB

The RFX is connected by an USB-C cable to the TX and RX serial port.
The RFX transceiver can have the Silabs CP2102N or FTDI FT231XS USB interface chip installed.

The USB VCP drivers, depending on the type of USB chip used, are available at:
https://www.silabs.com/documents/public/software/CP210x_Universal_Windows_Driver.zip

http://www.ftdichip.com/Drivers/VCP.htm

9. WiFi

If the red LED is always on:
The RFX transceiver is in AP mode or the configured WiFi connection could not be made.

9.1. Restore Wifi settings inside the RFX transceiver

To reset the WiFi settings to factory settings:

RFXESP32_S3 old	RFXESP32_S3 new V1/V2/V3
Connect the IO20 pin to GND, Press the RESET button, Remove the connection IO20 – GND, Power cycle the RFX transceiver.	Press the RESTORE button, Press and release the RESET button, Release the RESTORE button, Power cycle the RFX transceiver.

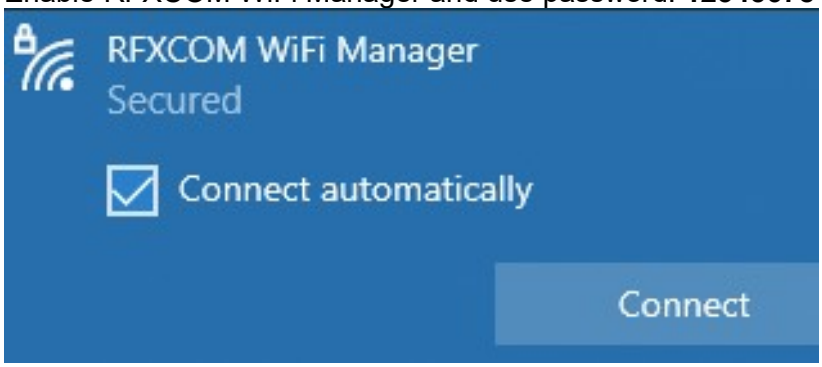
9.2. Restore Wifi settings with an USB command

The RFX transceiver must have WiFi software loaded.
Connect the **RFXCOM Terminal** program on the USB port.
(or use PuTTY or https://webserial.io/)
Select 115200 bd, 8 bits, no parity, 1 stop bit

Send the text **Restore** followed by an enter/transmit command.

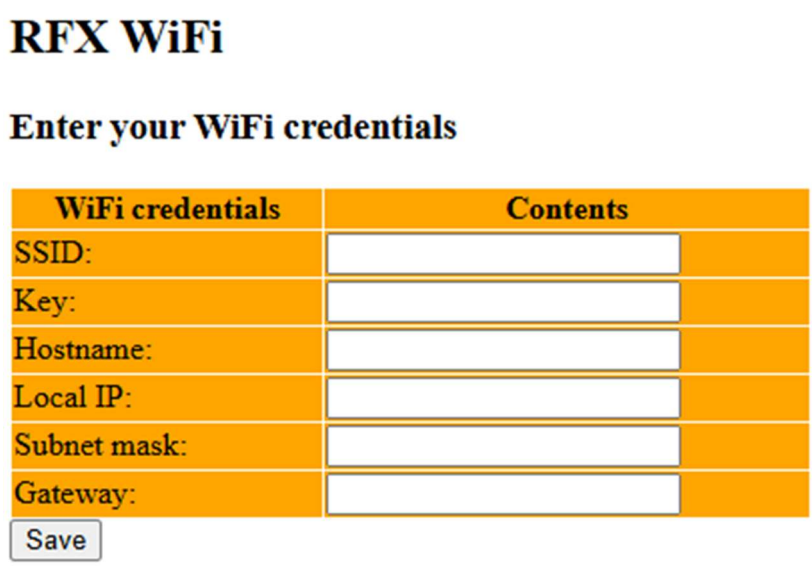
9.3. Configure the RFX WiFi transceiver.

Connect the RFX transceiver to an USB or the external 5V 2A power supply.
Open the Wifi network settings on your PC or mobile.
Connect the access point 192.168.4.1
Enable RFXCOM WiFi Manager and use password: **12345678**



Open a browser and open 192.168.4.1
Enter your WiFi credentials, SSID and password of your WiFi network.
Enter a Hostname, Local IP with Subnet Mask and Gateway, for example:
RFX433
192.168.1.150
255.255.255.0
192.168.1.1

Note: DHCP is used if no Local IP, Subnet Mask and Gateway info is entered.
It is preferred to use a fixed IP address as DHCP is not reliable.



Click Save and the RFX transceiver will restart and connect your WiFi network.

9.4. Show WiFi debug messages

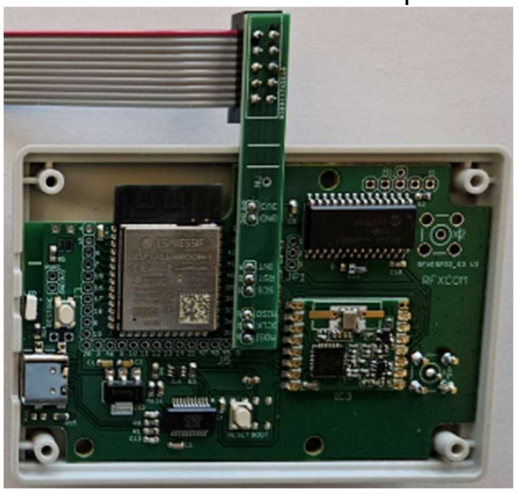
Connect the **RFXCOM Terminal** program on the USB port.
(or use PuTTY or https://webserial.io/)

Select 115200 bd, 8 bits, no parity, 1 stop bit
Press RESET and debug messages are shown.

10. W5500 LAN

10.1. Install the LAN option in the RFX-433EMC or RFX-868

- Open the enclosure.
- Insert the Push-To-Fit pins on the component side in the PCB.
  Check that the 2 pins are inserted at 3V3 and GND (see picture below)
- Insert the PCB in the top of the enclosure.



- Hold the top part on it and mark the points where the connection PCB is.
- Make a 1.6mm deep recess in the top part so that the enclosure can be closed.

- Remove this from the bottom part so that the enclosure can be closed.

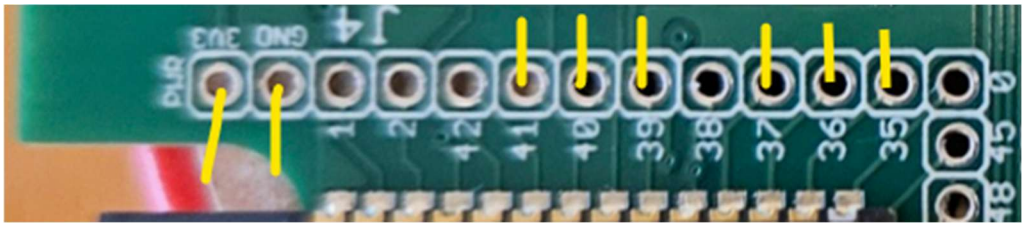
Note: This option can only be installed in the RFX-433EMC with the 28 pins RFX-EMC chip soldered on the PCB.

10.2. DIY W5500 installation

Connect the W5500 with the RFX:

W5500	RFX
5V	-
GND	GND
RST	40
INT	41
NC	-

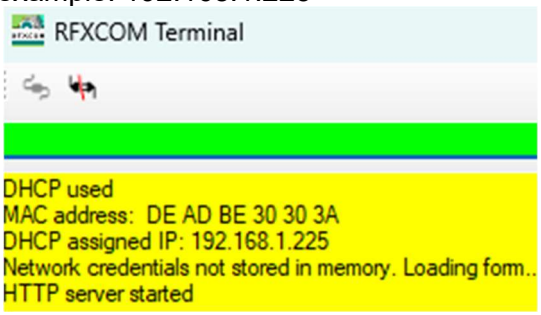
W5500	RFX
3.3V	3V3
MISO	37
MOSI	35
SCS	39
SCLK	36



10.3. Configure the W5500 LAN

Disconnect the LAN cable.
Connect the RFX transceiver to an USB port.
Connect the **RFXCOM Terminal** program on the USB port.
(or use PuTTY or https://webserial.io/)
Select 115200 bd, 8 bits, no parity, 1 stop bit
Connect the LAN cable.

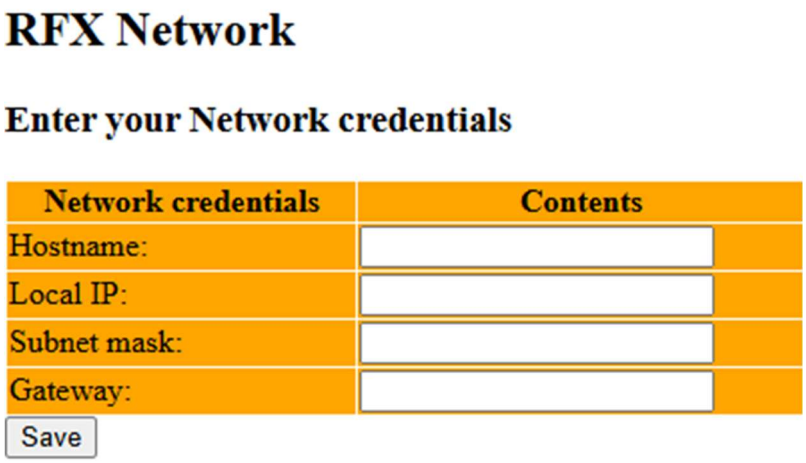
Connect a browser to the IP displayed on the terminal program:
In this example: 192.168.1.225



With a browser go to this address. In this example 192.168.1.225

Enter a Hostname, Local IP with Subnet Mask and Gateway, for example:
RFX433
192.168.1.150
255.255.255.0
192.168.1.1

Note: DHCP is used if no Local IP, Subnet Mask and Gateway info is entered.
It is preferred to use a fixed IP address as DHCP is not reliable.



Click Save and the RFX transceiver will restart and connect your LAN network.

10.4. Show W5500 LAN debug messages

Connect the **RFXCOM Terminal** program on the USB port.
(or use PuTTY or https://webserial.io/)

Select 115200 bd, 8 bits, no parity, 1 stop bit
Press RESET and debug messages are shown.

10.5. Use the RFX connected with the W5500 LAN

Connect the RFX transceiver to an USB or the external 5V 2A power supply.
Configure the RFXCOM protocols using RFXmngr or configure MQTT

10.6. Restore LAN settings inside the RFX transceiver

To reset the LAN settings to factory settings:
Press the RESTORE button,
Press and release the RESET button,
Release the RESTORE button,
Power cycle the RFX transceiver.

10.7. Restore LAN settings with an USB command

The RFX transceiver must have LAN software loaded.
Connect the **RFXCOM Terminal** program on the USB port.
(or use PuTTY or https://webserial.io/)
Select 115200 bd, 8 bits, no parity, 1 stop bit

Send the text **Restore** followed by an enter/transmit command.

11. RFX-P1

Use RFX-433 or RFX-433EMC software version 4012 or up.
For the RFX-868 use software version 8002 or up.

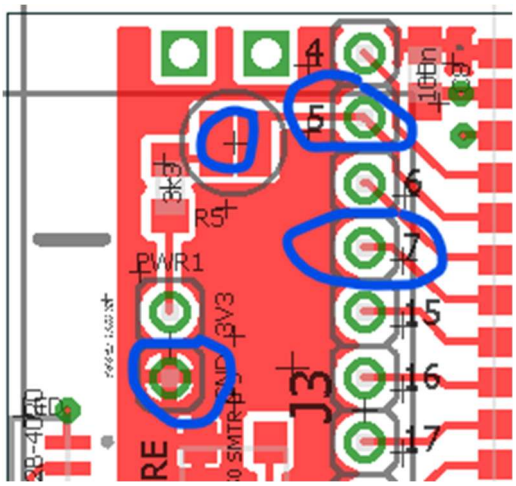
The RFX transceiver can be connection to the P1 bus of the smart meters.

- Connect the RFX-P1 option board to the RFX PCB.
- Or connect the RJ12 6P6C or RJ12 6P4C cable to the RFX.

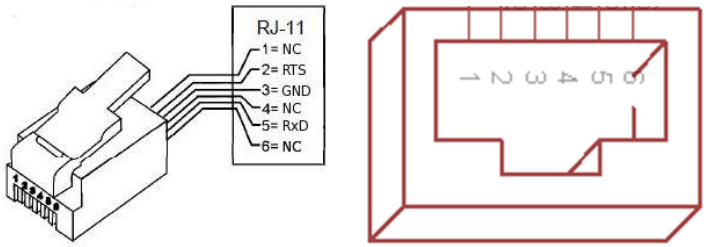
RJ12 connections to the RFX PCB:

- Pin 2 RTS/DR to IO7
- Pin 3 GND to GND
- Pin 5 RxD to IO5

- RJ12-pin 2 RTS/DR can be connected to IO7
  or +5V power (RJ12 Pin 1). If pin 2 is connected to +5V power connect GND power (pin 6) to GND (pin 3).
  If the RFX has a parallel connection with another device on the P1, do not connect RTS/DR and do not use a 3k3 pull-up on IO5.
- RxD - IO5 has a 3k3 pull-up resistor to +3V3 if the RFX is the only device connected to P1. On V3 PCB's Solder the bridge above R5. Older PCB versions solder a 3K3 resistor between IO5 and +3V3

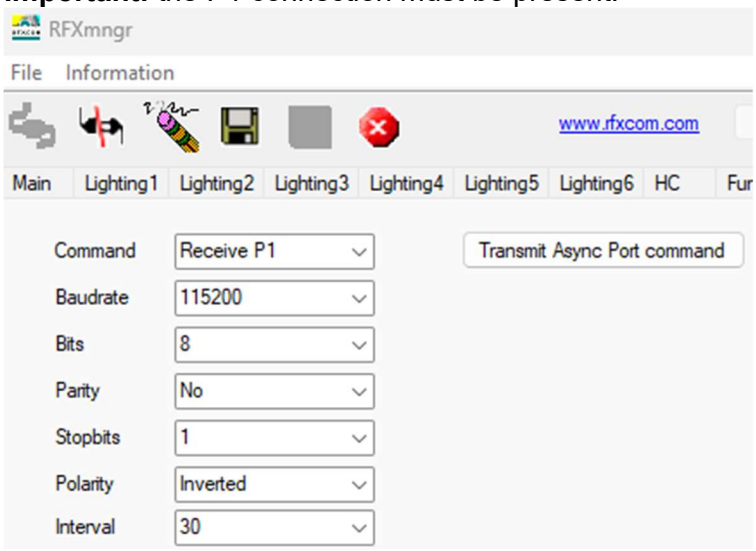


RJ12 and RJ11 connections:



Configure P1

The connection can be tested in RFXmngr.
Select the correct parameters and click Set Async port.
Important: the P1 connection must be present!



Important: Select an interval >= 30 seconds if USB software used.

Select the correct parameters for your smart meter:

Meter Brand	**DSMR version**	**ID**	**Baudrate**	**Bits**	**Parity**
Iskra ME382, MT382	2.2	/ISK5	9600	7	E
Iskra AM550	5.0	/ISK5	115200	8	N
Kaifa E0003,E0025,MA105,MA304	4.0	/KFM5	115200	8	N
Kamstrup 162,351,382	2.2	/KMP5	9600	7	E
Landis+Gyr E350 ZCF100,ZCF110,ZFF100,ZMF100	4.0	/XMX5LG	115200	8	N
Sagemcom XT210	4.0		115200	8	N

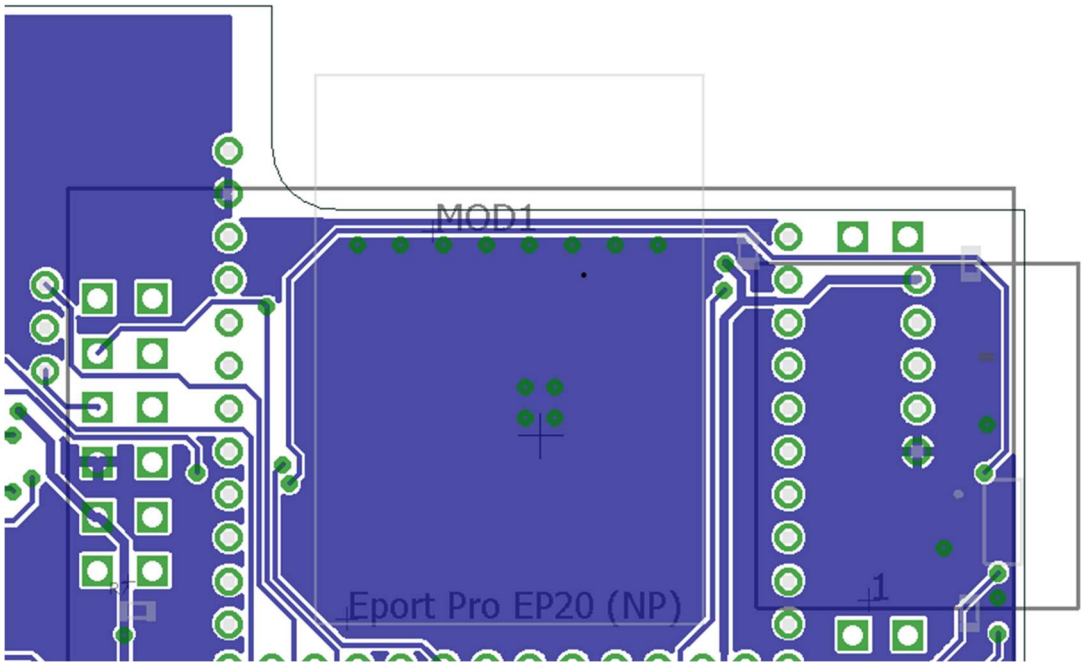
RJ12 Pin	ESP32 Pin	Wire color	Signal name	Description
1		wt - white	+ 5V power	Power supply (not used by the RFX)
2	IO7	zw - black	DR	Request to Send
3		rd - red	GND	Data GND
4		gn - green	NC	Not connected
5	IO5	gl - yellow	RxD	Data output to the RFX
6		bl - blue	GND power	Power GND (not used by the RFX)

12. Eport Pro-EP20 LAN option

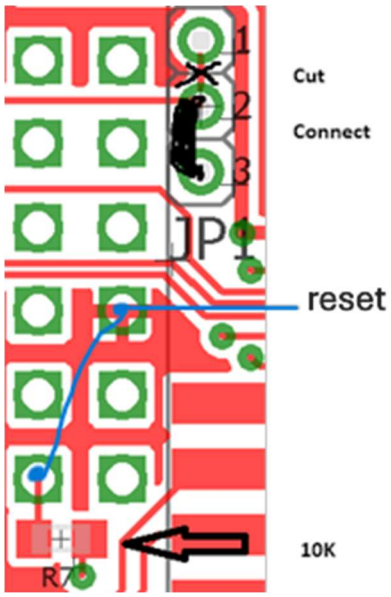
The RFX transceiver board has an option to connect an Eport Pro-EP20 LAN controller.
This solution will replace the USB connection.
Important: **use the USB software**.
MQTT is not supported on this LAN

To use the LAN controller: connect JP1 2-3 and disconnect JP1 1-2
To use the USB interface: connect JP1 1-2 and disconnect JP1 2-3

Solder the Eport LAN controller on the PCB.



If not present, solder a 10K resistor next to the LAN connector.
Cut the PCB connection at JP1 1-2,
Make a connection on JP1 2-3



12.1. Reset the Eport LAN controller

To reset the Eport LAN controller **to HF-Flying factory settings** connect the pin of the Eport that is connected to the 10K resistor for at least 3 seconds to GND.
After the reset you must configure the RFXCOM settings.

12.2. Eport LAN enclosure

The Hammond 1593NBK enclosure can be used with the Eport LAN controller installed.
A front panel that fits is not available.
For RFX-433 V2, the RFX-EMC module needs to be removed from the connector. Solder wires from the main board to the RFX-EMC module.

RFX transceiver with 433MHz and Eport LAN controller installed.

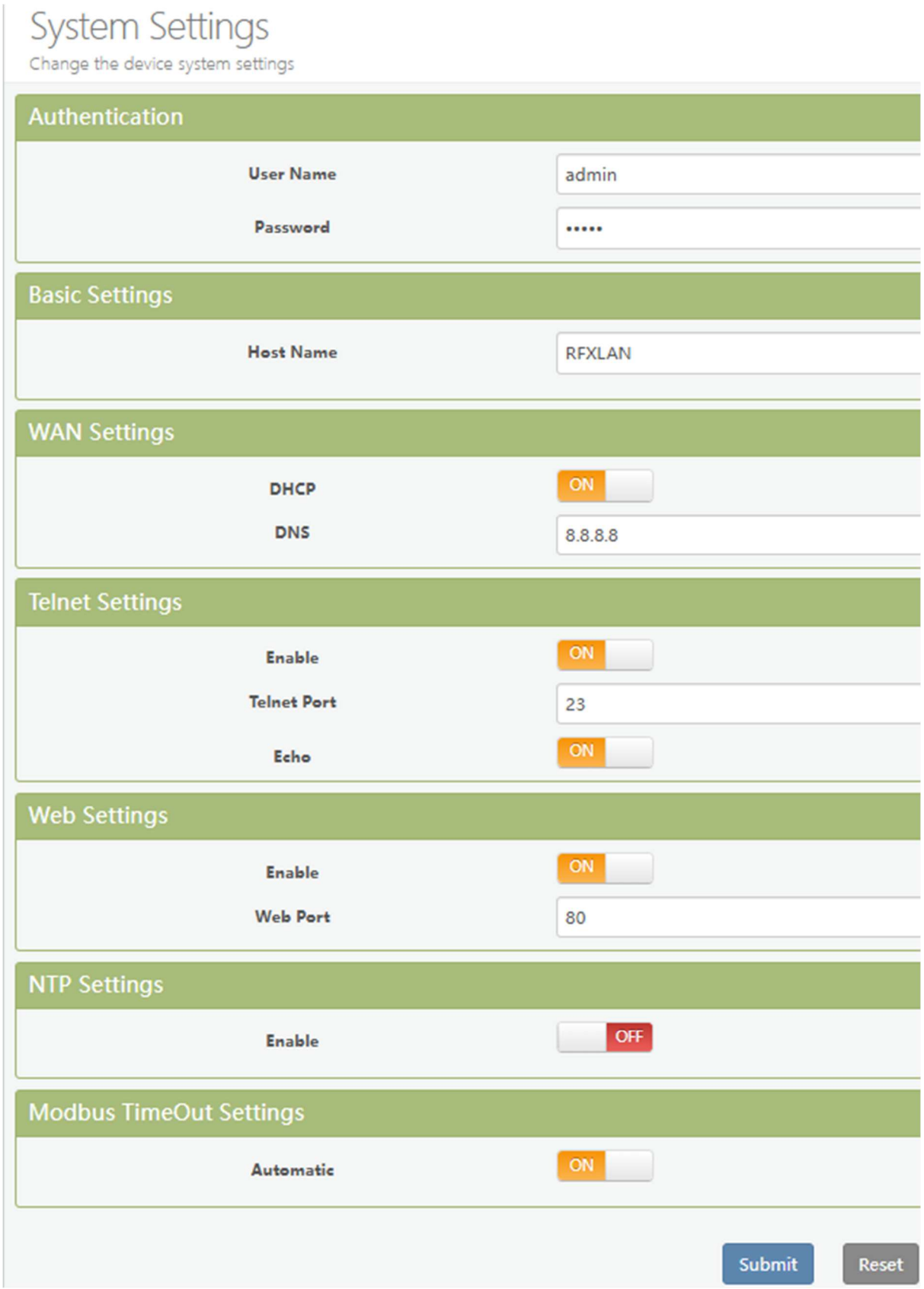
12.3. Configure the Eport TCP IP port

The Eport Pro-EP20 is delivered with RFXCOM settings.
To find the IP address, 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 RFX transceiver LAN, for example: http://192.168.1.237
Default Username / Password: admin admin
Set a fixed IP address for normal use. (select DHCP OFF) or configure the RFX transceiver LAN in your router.
The Hostname can be any but needs to be unique on your network.

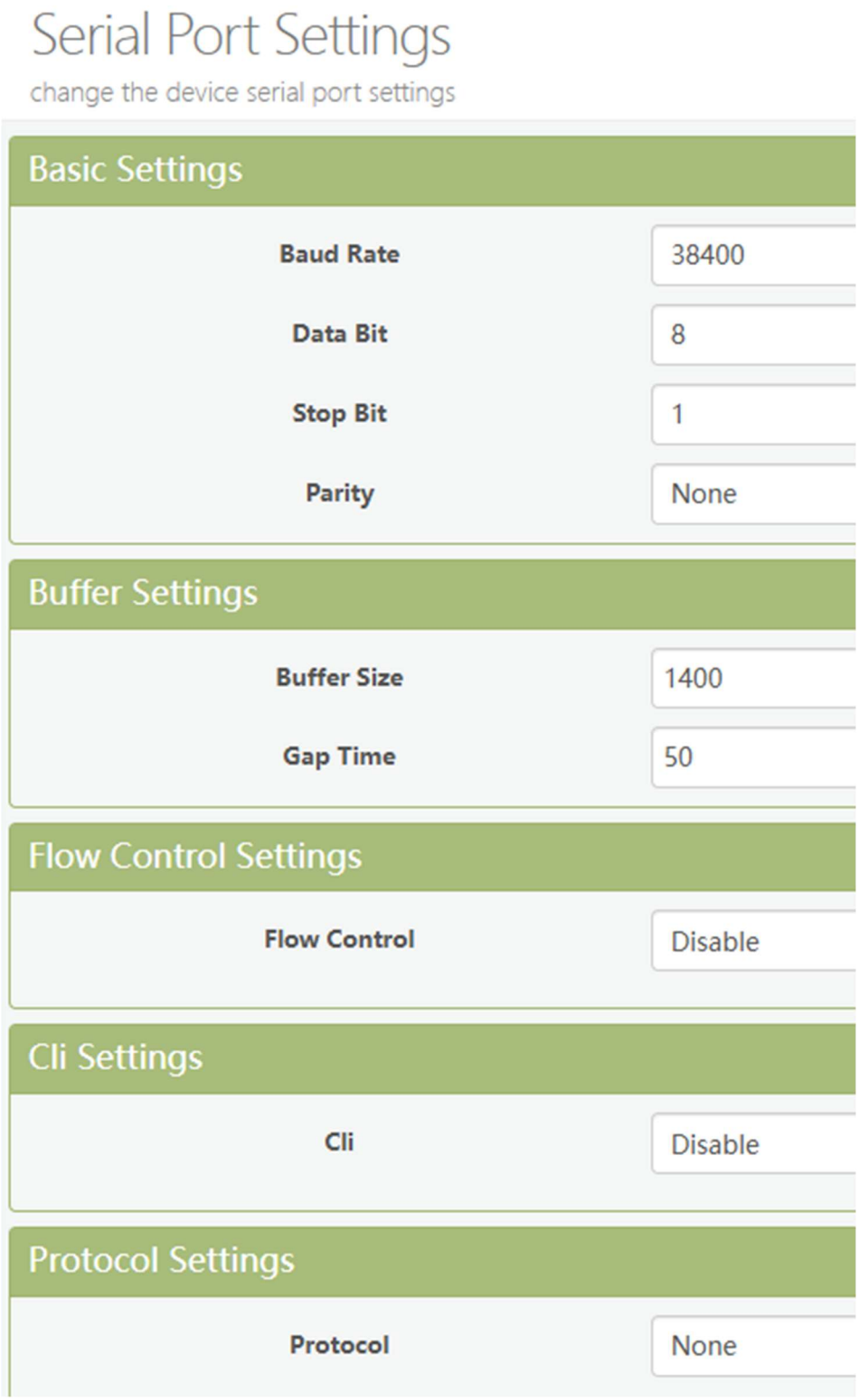
Advice: If you change the Username / Password, write it on a label and stick it on the RFX transceiver.

12.4. Disable contact with Chinese server

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

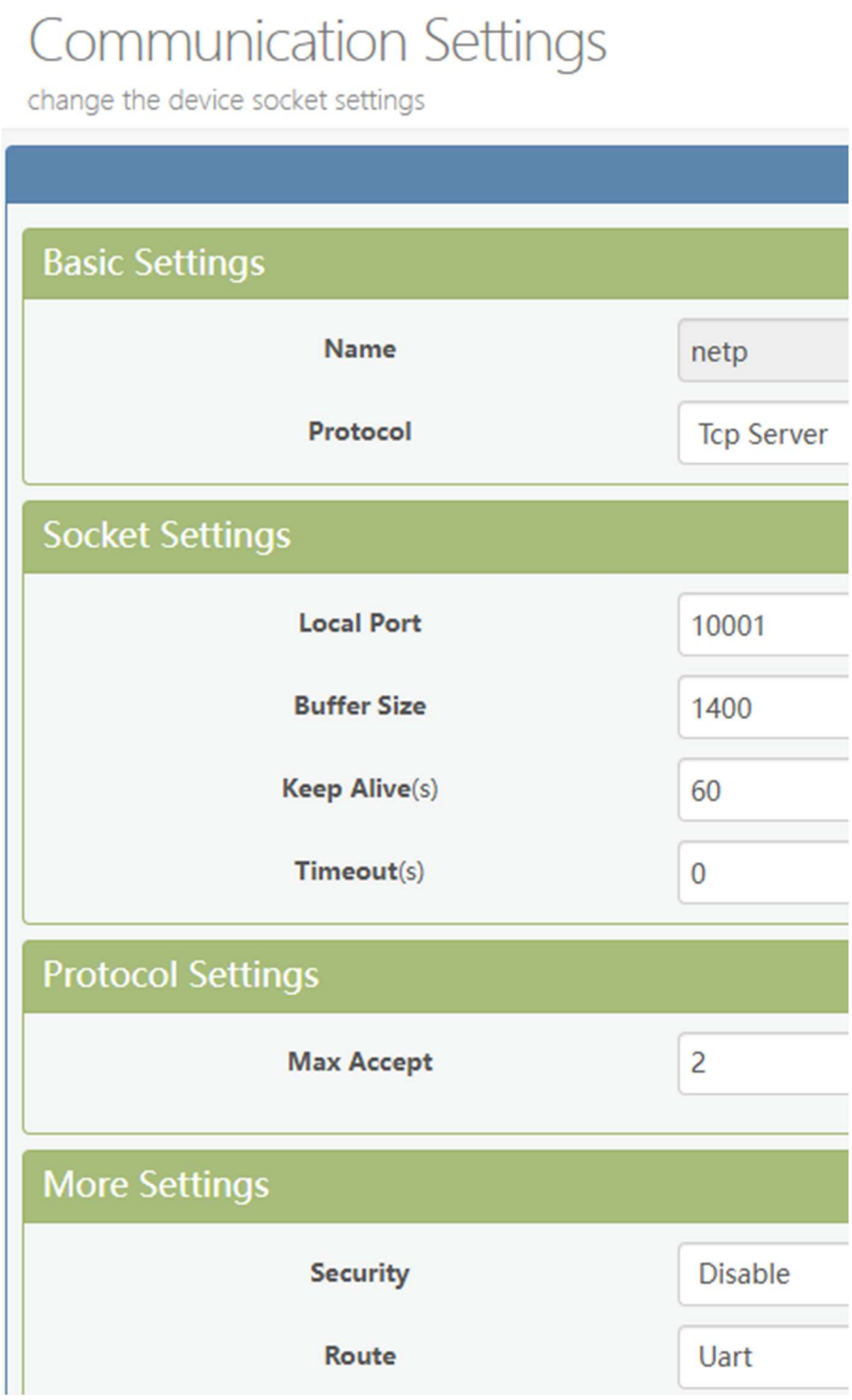

System Settings
Change the device system settings
Authentication
User Name
admin
Password
•••••
Basic Settings
Host Name
RFXLAN
WAN Settings
DHCP
ON
DNS
8.8.8.8
Telnet Settings
Enable
ON
Telnet Port
23
Echo
ON
Web Settings
Enable
ON
Web Port
80
NTP Settings
Enable
OFF
Modbus TimeOut Settings
Automatic
ON
Submit
Reset

12.5. Configure the serial port



12.6. Configure the TCP communication

Set the Local Port to 10001 and Max Accept if required.
With Max Accept > 1 you can connect multiple applications to the RFX transceiver.



13. RFY - Somfy RTS/ASA/Simu/TUBE

The RFXCOM RFY remote is registered in the RFX-433 by sending a Program command.
Up to 40 RFXCOM RFY remotes can be registered in the RFX-433.
Remotes can be erased from the RFX-433 using the Erase command in the RFXmngr program.

Somfy RTS/ASA/Simu operates at 433.42MHz. The RFX-433 is normally in receiving mode at 433.92MHz. The RFX-433 switches to 433.42MHz if a Somfy command is transmitted and back to receiving mode at 433.92MHz.
Note: Somfy IO at 868MHz is not supported by RFXCOM.
TUBE operates at 433.92MHz

The RFY device can be controlled by any application if the same ID and Unit Code is used. For example, if the RTS device is paired using RFXmngr with ID=1 02 03 and Unit Code 1, the RFY device can be controlled with Homeseer using ID=1 02 03 and Unit Code 1.

To pair the RFY device using RFXmngr:
- Select a unique ID and unitcode for the RFXCOM RFY device.
- Select the correct Somfy device on the Somfy remote.
- Press the Program button > 2 seconds on the original remote until the device responds.
- Transmit a Program command with the RFX-433. The device should respond indicating the pair command was successful.
- Test if the pairing was successful with an up/down command.

Usage:
To control Somfy Centralis modules use the RFY2 = > 2 seconds commands.

Somfy Tilt motors can be configured in 2 modes, US or European.
To toggle between modes, press the Reset/ Prog button 2 s. Repeat until the LED, according to the desired configuration, lights up. Store by pressing 2 s.

To control Venetian Blinds in US mode:
- up/down (transmit < 0.5 seconds): open or close
- up/down (transmit > 2seconds): change angle

To control Venetian Blinds in Europe mode:
- up/down (transmit < 0.5 seconds): change angle
- up/down (transmit > 2seconds): open or close

Somfy RTS motors have a limited number of memory locations for the remotes. Some have a max of 10 remotes. If you try to pair the 11th remote the motor reacts as if the pairing was successful but there is no response on an up/down command.
To solve this, reset the motor to remove all remotes.

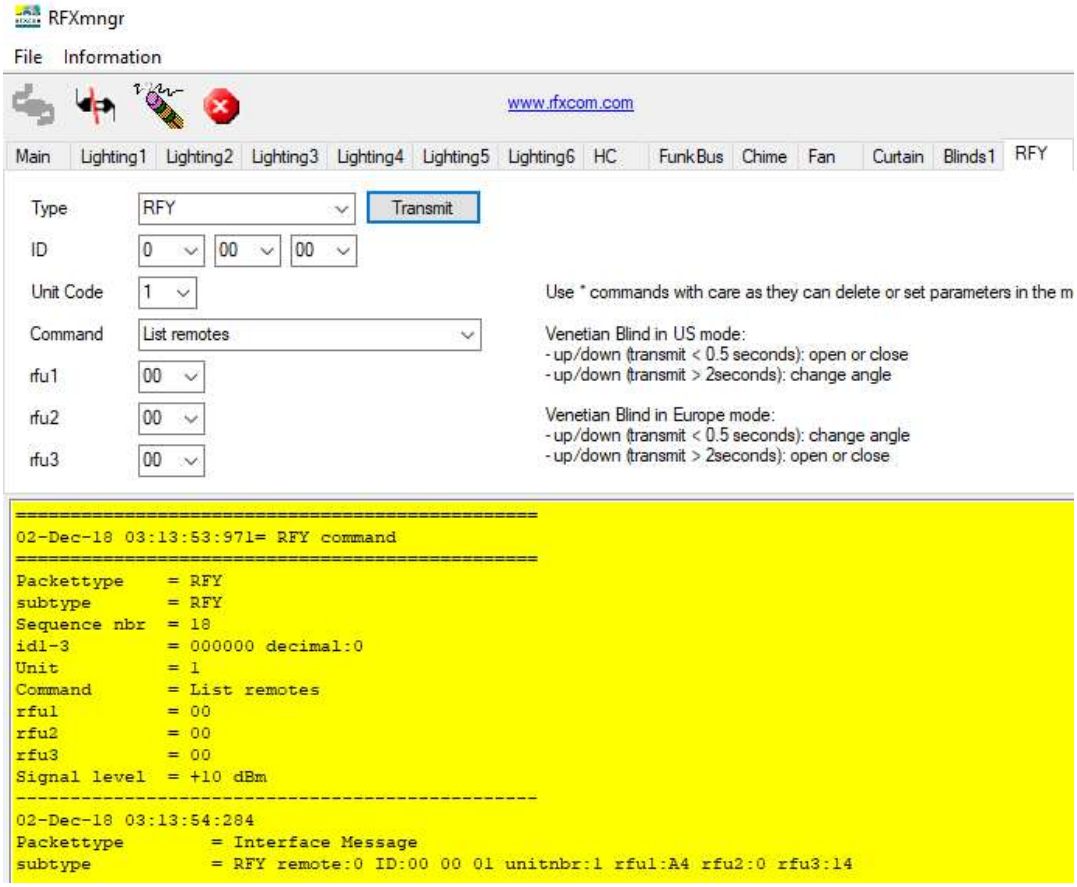
* Somfy RTS are registered trademarks of Somfy System, Inc.

14. Move RFY devices from the RFXtrx to the RFX-433

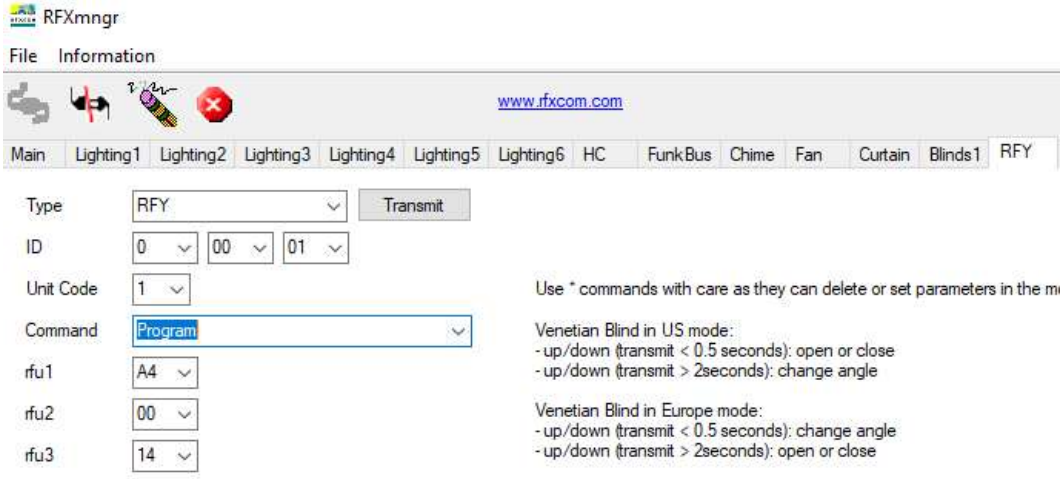
Important:

- If RFY devices are moved to the RFX-433 do not use the old RFXtrx to control the RFY devices, because the rolling code will become out of sync with the Somfy device.
- Use the latest RFXmngr and for the RFXtrx433E the latest Pro1 or Pro2 firmware and for the RFXtrx433XL the latest ProXL1 firmware and for the RFX-433 the latest RFX-433 firmware

Step 1: List all RFY devices in the “old” RFXtrx.



Step 2: Connect the “new” RFX-433.
Select the ID, Unit Code, rfu1, rfu2 and rfu3 values. (**select, do not enter values**)
Transmit a Program command. The values are now programmed in the “new” RFX-433 and the Somfy device can be controlled with this RFX-433.
Transmit an Up and Down command to be sure the motor is no longer in program mode!



15. Brel/Dooya and other compatibles

15.1. BlindsT6

To add an RFX-433 BlindsT6 device to the blinds motor:

1. press the "program" button twice on the original remote ==> 2 beeps
2. transmit the "confirm" command with the RFXtrx ==> 5 beeps

15.1.1. Dooya DT52E, DT82TV, DT82TN

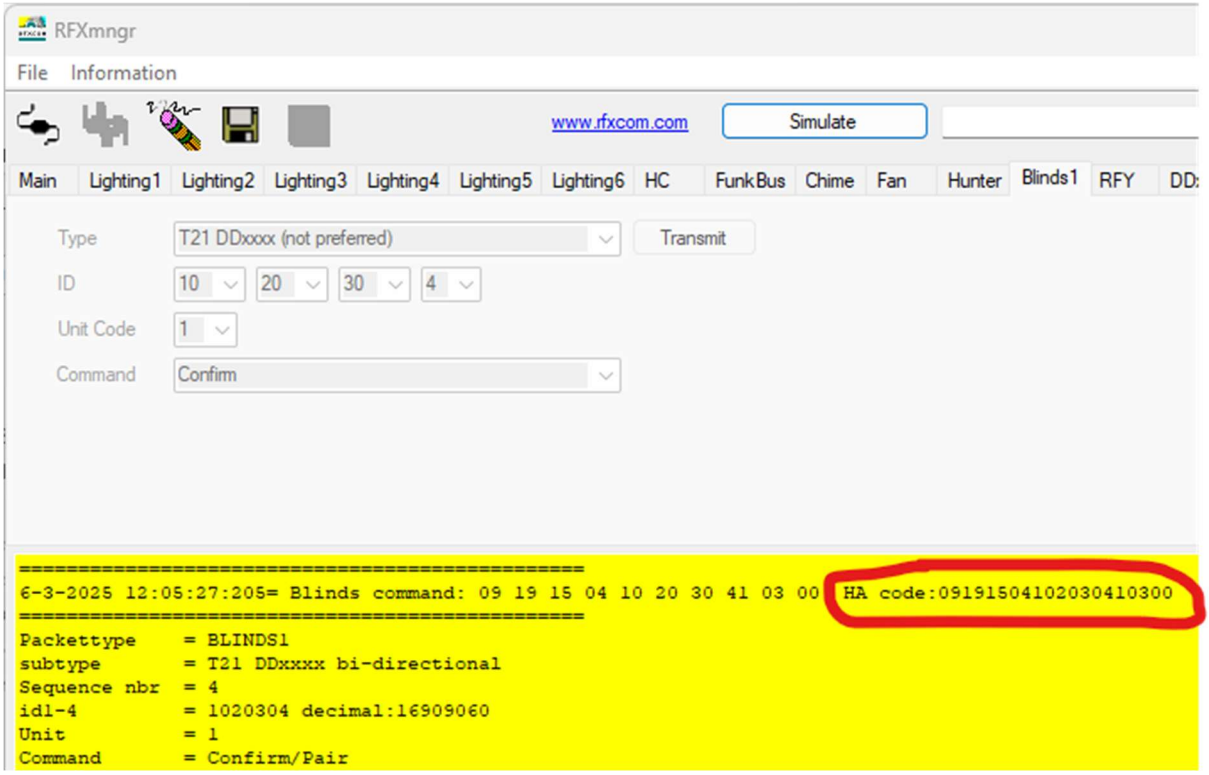
- Select a random ID different from all zeroes and a unit code 1 to 15
- Press the program button on the motor until the LED lights up
- Transmit a Confirm command.
- The LED on the motor starts blinking.
- Transmit again a Confirm command.
- The LED on the motor blinks 5 times
- The motor can be controlled now by the RFX-433

15.2. Bi-directional BlindsT21

Note: The preferred use is MQTT. But with the Home Assistant. RFXCOM integration use BlindsT21.

You can't use the ID of the bi-directional remote because the protocol uses a secret rolling code.
First you must pair the RFX-433EMC with each motor, as an additional remote, using a unique ID for each motor.

Pairing can be done using RFXmngr on a Windows system.
Set the motor in pairing mode (see the blinds user guide)
Transmit the Confirm command.



To configure this motor in Home Assistant use the command: 09191504102030410300.
Open the RFXCOM integration, click CONFIGURE and add the device in the RFXtrx options screen.

15.3. Bi-directional DD27xx

To add an RFX-433 DD27xx bi-directional device to the blinds motor:

1. Set the upper and lower limits in the motor using the original remote.
2. press the "P2" button twice on the original remote.
3. transmit the "P2 (pair)" command with the RFX-433EMC

The hex command structure that can be used:

```
0C 31 00 00 11 22 33 44 00 00 00 00 00
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  = always 00
|  |  |  |  |  |  |  |  |  |  |  ==== angle can be hex 00 to B4
|  |  |  |  |  |  |  |  |  |  ======= percent can be hex 00 to 64
|  |  |  |  |  |  |  |  |  ========== command
|  |  |  |  |  |  |  |  ============= unit code 00 to 10
|  |  |  |  |  |  |  ================ ID4 00 to FF (ID 00000001 to
                                                    FFFFFFFF)
|  |  |  |  |  |  ================== ID3 00 to FF
|  |  |  |  |  ====================== ID2 00 to FF
|  |  |  |  ======================== ID1 00 to FF
|  |  |  ============================ always 00
|  |  ============================== always 00
|  ================================== always 31
==================================== always 0C
```

Command:

Up	0x00
Down	0x01
Stop	0x02
P2 (pair)	0x03
Percent	0x04
Angle	0x05
Percent+Angle	0x06

Unit code:

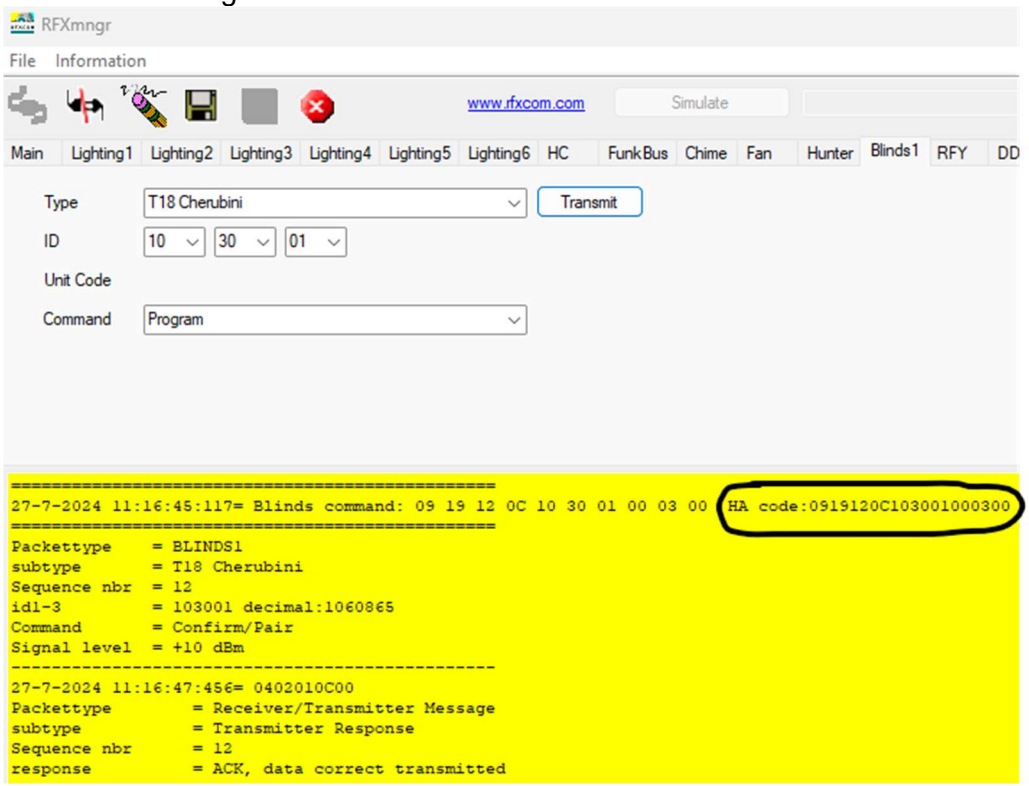
00 unit 1
01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E
0F unit 16
10 Group command, all units with the same ID.

Example, ID 11 22 33 44, unit 1, P2 (pair) command.
The hex command line without spaces to be used is:
0C31000011223344000300000

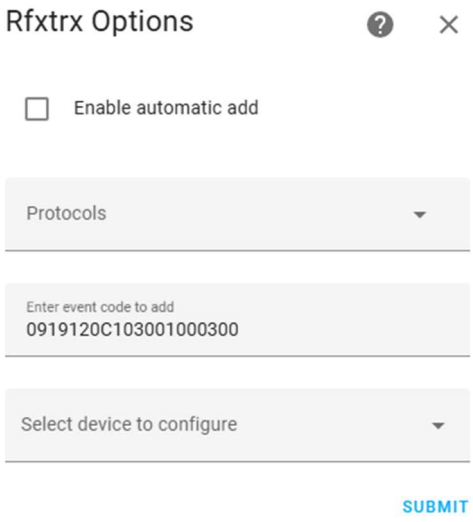
16. Cherubini

You can't use the ID of the Cherubini remote because the Cherubini protocol is using a rolling code.
First you must pair the RFX-433 with each motor, as an additional remote, using a unique ID for each motor.
For example:
motor 1: ID 10 30 01
motor 2: ID 10 30 02
motor 3: ID 10 30 03

Pairing must be done using RFXmngr on a Windows system or with MQTT.
Set the motor in pairing mode (see the Cherubini user guide)
Transmit the Program command.



To configure this motor in Home Assistant use MQTT or transmit the command: 0919120C103001000300.
Open the RFXCOM integration, click CONFIGURE and add the device:



17. ID switches Casafan and Lucci Air fans

Select the ID for switch settings:

ID	Remote switches			
	1	2	3	4
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
A	1	0	1	0
B	1	0	1	1
C	1	1	0	0
D	1	1	0	1
E	1	1	1	0
F	1	1	1	1

For LucciAir AC fan: 0 = ON
For Casafan and LucciAir DC fan: 1 = ON

18. MCZ pellet stove.

In RFXmngr select Receiver Freq 434.50 and enable MCZ

Transmit a command with the MCZ remote and you will receive the information.

The ID in this example is 81 3F 22

```
Packettype     = Thermostat4
subtype        = MCZ pellet stove 2 fans model
Sequence nbr   = 0
ID             = 0x813F22 decimal:8470306
Beep           = Yes
Fan1 speed     = 1
Fan2 speed     = 7
Flame power    = 1
Command        = Off
Signal level   = 6  -72dBm
```

Important: remove the batteries from the original remote before you start using the RFX-433 to control the MCZ stove!

19. Receive and Transmit RAW data

The RFX-433 can receive and transmit RAW data. This can be used to replay received data received from a remote. Note that this can only be used for a protocol with fixed code and rolling code cannot be used.

It is unknown if and how this is implemented in Home Automation applications!

Here an example of a packet received from an ARC remote in RFXmngr:

```
RAW Packet:
687F0000010108047201320467013404670414 01BB013004740131046801310 46E0131046D013104700133047 0012D
046B0133046C013004720132046E013104690132046A0133046D0138046C0130046A041401B901310471041701B701
33046A0133046F012E0000
Packettype    = RAW Packet
Packet Length = 104
subtype       = RAW packet
Sequence nbr  = 0
Repeat        = 1
Nbr of pulses = 25
264  1138  306  1127  308  1127  1044  443  304  1140  305  1128  305  1134  305  1133  305
1136  307  1136  301  1131  307  1132  304  1138  306  1134  305  1129  306  1130  307  1133
312  1132  304  1130  1044  441  305  1137  1047  439  307  1130  307  1135  302  0
```

The last value of zero indicates a gap timeout and the real gap is greater than 8000. To replay this packet, replace the last zero with a value greater than 8000.

To replay this in RFXmngr, create a text file with the content below and send it on the RAW transmit tab.

The first value is 0 which indicates it is a single packet
The next value (7 in this example) is the repeat count.
Do not set the repeat count too high to lower the risk to disturb other RF transmissions.

0
7
264
1138
306
1127
308
1127
1044
443
304
1140
305
1128
305
1134
305
1133
305
1136

the next values …..

307
1135
302
10000

If you receive multiple RAW packet with more than 62 pulses, try to find the gap. This is normally a higher value and smaller than 10000. Here an example with a gap value of 6600 and the next 6596.

```
RAW Packet:
FC7F00000001190491012C0491012A0492012A0490012A0492012704930128O1B7040601BC03FF01B903FF048F012C
0493012704930128O1B9040001BB03FF01BC040101BB03FF01BB040019C8013C0493012804910l2A04920129049201
270494012704940127O1BE040201BA03FF01BD03FE0492012A0492012904920129O1BB03FF01BC03FF01BB040401BB
03FF01BD040019C401400490012B048F012D048F012A0495012704930127049401270lBC040201BD03FF01BA03FF04
9301280492012804950126O1BB040001BC040001B8040601B903FF01BC03FF19C801400492012A0493012804920l2A
0495012704940128049501280lBA040501BD
Packettype    = RAW Packet
Packet Length = 252
subtype       = RAW packet
Sequence nbr  = 0
Repeat        = 0
Nbr of pulses = 62
281  1169  300  1169  298  1170  298  1168  298  1170  295  1171  296  439  1030  444  1023
441  1023  1167  300  1171  295  1171  296  441  1024  443  1023  444  1025  443  1023  443
1024  6600  316  1171  296  1169  298  1170  297  1170  295  1172  295  1172  295  446  1026
442  1023  445  1022  1170  298  1170  297  1170  297  443  1023  444  1023  443  1028  443
1023  445  1024  6596  320  1168  299  1167  301  1167  298  1173  295  1171  295  1172  295
444  1026  445  1023  442  1023  1171  296  1170  296  1173  294  443  1024  444  1024  440
1030  441  1023  444  1023  6600  320  1170  298  1171  296  1170  298  1173  295  1172  296
1173  296  442  1029  445
```

Create a text file to control this device in RFXmngr:

```
0
7
281
1169
300
1169
298
1170
298
1168
298
1170
295
1171
296
439
1030
444
1023
441
1023
1167
300
1171
295
1171
296
441
1024
443
1023
444
1025
443
1023
443
1024
6600
```

20. FAQ

20.1. Network connection not found

The RFX is delivered with USB software flashed.
Flash WiFi or MQTT software.
The red LED will stay on to indicate that the RFX is in Access Point mode.
Follow the instructions in chapter **Configure the RFX WiFi transceiver**.

20.2. USB not found

Are the correct USB drivers installed?
See chapter **USB.**

21. EC Declaration of Conformity

EC Declaration of Conformity CE

RFXCOM declares that the product:

RFX

Brand: RFXCOM Type: RFX-433, RFX-433EMC

conforms with the essential requirements and other relevant provisions of the following directives and complies with the following standards applied:

RED 2014/53/EU	EN 300 220-1 EN 300 220-2
EMC Directive 2004/108/EC	EN 301 489-1 EN 301 489-3
LVD 2014/30/EU	EN 62368-1 EN 62311
RoHS 2011/65/EU	EN 63000

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25. Revision history

Version 0.0 – December 4, 2024
Initial version.
Version 0.1 – December 6, 2024
USB info added.
Version 0.2 – December 10, 2024
Option PCB's, LoRa and LAN option info added.
How to move RFY devices from an older RFXtrx to the RFX-433
Version 1.0 – December 11, 2024
ASK/FSK transceiver info added
LAN enclosure added
Version 1.1 – December 13, 2024
Added: Program command problem with flash, press RESET
Introduction updated
Version 1.2 – December 16, 2024
Hostname added
Some text corrections
Version 1.3 – December 26, 2024
LAN settings updated for Eport Pro-EP20
Restore WiFi settings inside the RFX transceiver or with a Restore command.
Press the BOOT button at flash time.
Version 1.4 – December 31, 2024
Show WiFi debug messages added
Version 1.5 – January 4, 2025
Supported protocols added
Version 1.6– January 9, 2025
Device names corrected.
Version 1.7– January 20, 2025
Link USB drivers Silabs updated.
Chapters restructured
Version 1.8– February 3, 2025
Funkbus protocol RT
Maverick ET-732/733 added
Version 1.9– February 9, 2025
Silabs USB driver link updated
Version 1.10– February 18, 2025
Somfy RTS chapter added
Option boards EMC, P1, Modbus updated
FTDI USB added
Version 1.11– March 6, 2025
Brel/Dooya, Cherubini, Casafan/Lucci air and MCZ chapters added
Chapter Receive/Transmit RAW data added
Version 1.12– March 13, 2025
RFX-433EMC column added
P1 connection updated
Version 1.13– March 18, 2025
Disable LAN to contact Chinese server
Version 1.14– March 19, 2025
Reset LAN controller added
Version 1.15– April 5, 2025
Software filenames changed to RFXS3…
P1 connections explained
Version 1.16– April 14, 2025
Chapter RFXmngr added
Version 1.17– May 10, 2025
Falmec Levante added

Version 1.18– July 8, 2025
- RAW data, explained how to find packet
- DDxxxx changed to DD27xx

Version 1.19– July 27, 2025
- MQTT added

Version 1.20– August 10, 2025
- MQTT protocols moved to RFX MQTT User Guide
- RFXmngr connection explained.

Version 1.21– September 10, 2025
- TFA 30.3252.01 rain sensor added

Version 1.22 – October 29, 2025
- Livolo added

Version 2.00 – January 15, 2026
- BWR added
- W5500 LAN added.
- USB speed with WiFi or W5500 LAN is 115200bd
- Chapter FAQ added

Version 2.01 – March 30, 2026
- Configure W5500 LAN updated

Version 2.02 – April 1, 2026
- Install W5500 LAN updated

Version 2.03 – April 2, 2026
- Restore LAN settings added

Version 2.04 – April 29, 2026
- For MQTT see the RFX MQTT User Guide

Version 2.05 – May 9, 2026
- TUBE roller motor added