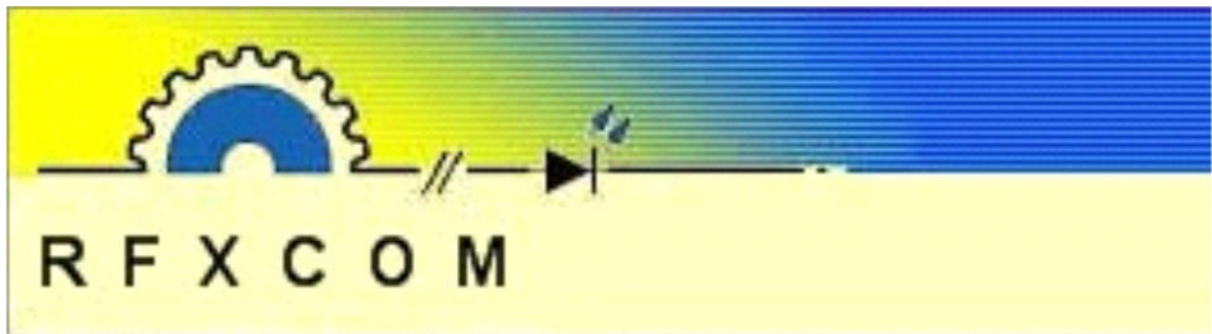




RFX User Guide



1. Table of Contents

1. Table of Contents	2
2. Introduction	4
2.1. RFX433/868 software.....	4
2.2. RFX transceiver option boards	4
2.3. LED meaning	4
2.4. RFX433/868 software for USB	5
2.5. RFX433/868 software for WiFi	5
3. RFXmngtr test program.....	5
3.1. Receiver.....	6
3.2. Transmitter	7
4. Flash update RFX software	8
5. RFX433 software supported protocols.....	9
6. RFX868 software supported protocols.....	21
7. Power requirement.....	22
8. USB.....	22
9. WiFi.....	22
9.1. Restore Wifi settings inside the RFX transceiver	22
9.2. Restore Wifi settings with an USB command.....	22
9.3. Configure the RFX transceiver WiFi.	23
9.4. Show WiFi debug messages	23
10. RFX-P1.....	24
10.1. RFX-MODBUS.....	25
11. Eport LAN option	26
11.1. Reset the LAN controller.....	26
11.2. LAN enclosure	27
11.3. Configure the Eport TCP IP port	27
11.4. Disable contact with Chinese server	27
11.5. Configure the serial port.....	29
11.6. Configure the TCP communication	30
12. Somfy RTS	31
13. Move RFX devices from the RFXtrx to the RFX-433	32
14. Brel/Dooya and other compatibles	33
14.1. BlindsT6	33
14.1.1. Dooya DT52E, DT82TV, DT82TN.....	33
14.2. Bi-directional BlindsT21	33
14.3. Bi-directional DDxxxx.....	34
15. Cherubini	35
16. ID switches Casafan and Lucci Air fans	36
17. MCZ pellet stove.....	36

18.	Receive and Transmit RAW data	37
19.	EC Declaration of Conformity.....	38
20.	Warning:	39
21.	License	39
22.	Copyright notice.....	39
23.	Revision history	40

2. Introduction

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

The RFX-433 is equipped with a 433MHz transceiver. This device can be used with open-source software or the free RFX433 software.

The RFX has the ESP32-S3 N8 installed and can also be used for user written software. It can also have the RFXM95 (433, 868 or 915MHz) installed for LoRa and used with open-source software.

2.1. RFX433/868 software.

IMPORTANT: RFX433/868 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 RFX433 software has all the functionalities of the RFX433XL, and in addition, it has WIFI capability and is built for future extensions.

For the list of supported protocols see chapter RFX433/868 software supported protocols.

The RFX-EMC (**E**xtended **M**otor **C**ontrol) option is necessary for 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.

Four types of “RFX433” software for the RFX transceiver are available for free:

USB with support for the RFX-P1 option,

USB with support for the RFX-EMC and RFX-P1 option.

WiFi with support for the RFX-P1 option,

WiFi with support for the RFX-EMC and RFX-P1 option.

The RFX433 software for MODBUS software will become available later.

Two types of RFX-868 software are available.

USB with support for the RFX-P1 option,

WiFi with support for the RFX-P1 option,

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 boards

The RFX 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.
- Or RFX-P1 extension board for a P1 connection.
- Or RFX-MODBUS extension board for a Modbus connection.

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.

BLUE led: during initialization of the transceiver module.

RED-BLUE: 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 or USB.

2.4. RFX433/868 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. RFX433/868 software for WiFi

RFX-433/868 WiFi supports up to 2 connections at the same time and is using **port 10001**.

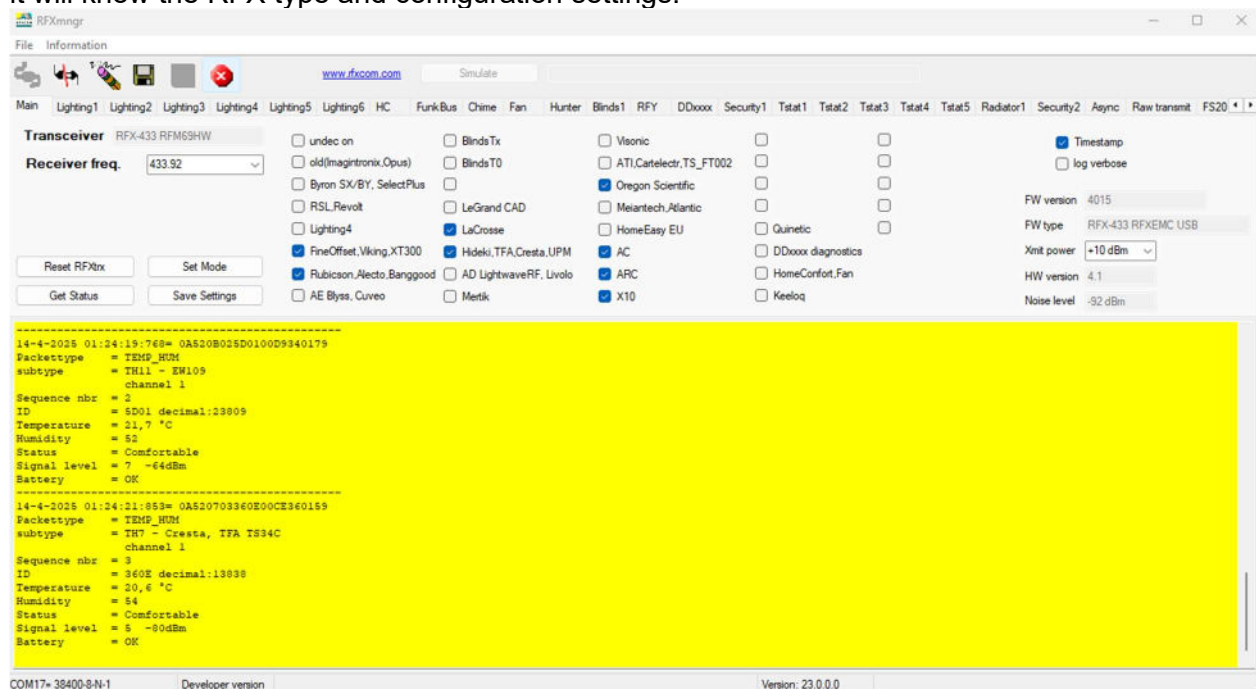
3. RFXmngnr test program

The RFXmngnr Windows program supports decoding of received data and allows you to transmit commands.

RFXmngnr can only be used with Windows!

A limited alternative on other OS systems is: https://github.com/ssjoholm/rfxcmd_gc

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



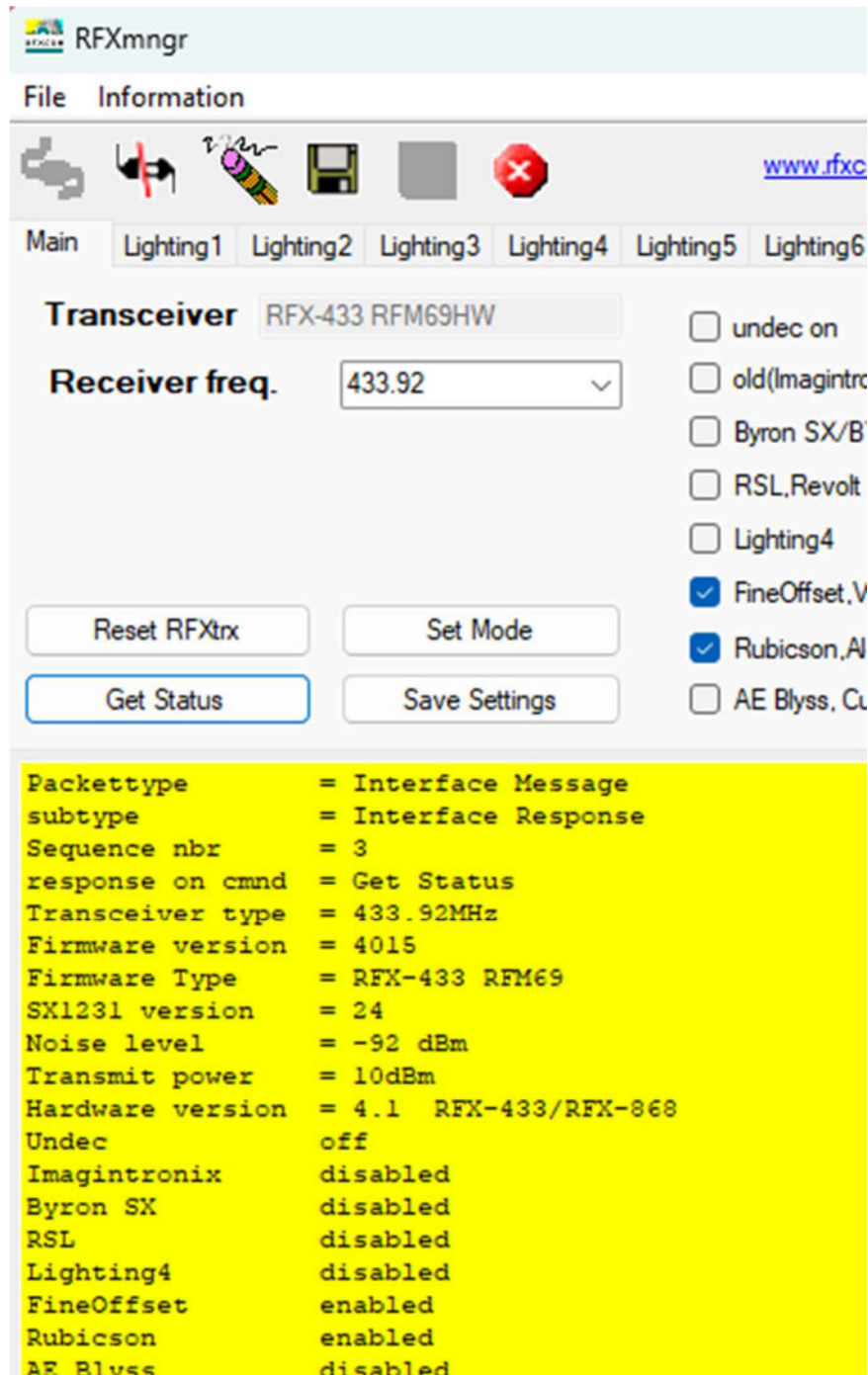
Transmitter protocols are always enabled but receiver protocols can be disabled. This is very useful because the receiver will become more sensitive when protocols not used are disabled. Select only the protocols to be used for receiving, click **Set mode** and click **Save Settings**.

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.

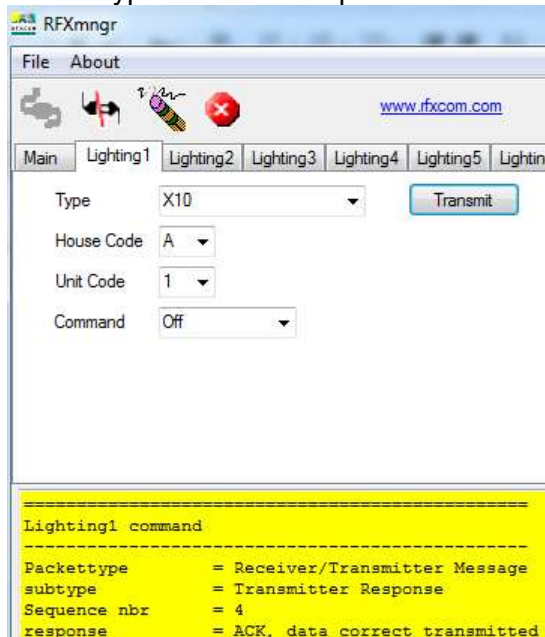


3.2. Transmitter

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 files are available for:

USB: RFX433USB_P1 and RFX433USB_RFXEMC,

WiFi: RFX433WiFi_P1 and RFX433WiFi_RFXEMC.

USB: RFX868USB_P1,

WiFi: RFX868WiFi_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.

Software version < 4015 / 8002

0	RFXESP32S3.ino.bootloader.bin
8000	RFXESP32S3.ino.partitions.bin
E000	boot_app0.bin
10000	RFXESP32S3.ino.bin

RESET 

version 4015/8002 and up

0	RFXS3.ino.bootloader.bin
8000	RFXS3.ino.partitions.bin
E000	boot_app0.bin
10000	RFXS3.ino.bin

RESET 

ERASE PROGRAM

ERASE PROGRAM

5. RFX433 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/ * = receive in Type2 only used to get the remote ID.	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	DDxxxx
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			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.webstore4ipcmeras.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	DDxxxx
Ebode	RT	RT	X10
Electrisave			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 ER motors 434.15MHz	RT	RT	BlindsT17
Gaviota	RT	RT	BlindsT6
Gaviota Elite bi-directional		T	DDxxx
Gazco heater RF290A	RT	RT	Mertik
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/ * = receive in Type2 only used to get the remote ID.	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

Device	RFX-433	RFX-433EMC	Protocol
			HQ COCO20
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-encastable-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	R	R	Hideki

Device	RFX-433	RFX-433EMC	Protocol
- SM883			
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	T	T	Lighting5 Livolo
Louvolite one touch motorised blinds * = receive in Type2 only used to get the remote ID.	RT	RT	BlindsT0
Louvolite one touch Vogue vertical blinds * = receive only used to get the remote ID.	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.ledstriptoning.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

Device	RFX-433	RFX-433EMC	Protocol
Meteoscan W155,W160	R	R	Rubicson
mhz.de bi-directional		T	DDxxxx
Monaco – https://www.airam.fi/en/product/v8305-2988/7020500/monaco-wireless-doorbell-230v/140/1	RT	RT	Chime + Lighting4
Motionblinds bi-directional		T	DDxxxx
Motiva blinds, remote BY-305 * = receive in Type2 only used to get the remote ID.	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			Oregon

Device	RFX-433	RFX-433EMC	Protocol
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
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

Device	RFX-433	RFX-433EMC	Protocol
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 * = receive only in Type2 used to get the RGB remote ID.			AD
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/ * = receive in Type2 only used to get the remote ID.	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
Sunperry blind motors	T	T	BlindsT9

Device	RFX-433	RFX-433EMC	Protocol
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
Telldus 312716,313159,313160 https://www.lohelectronics.se/hemautomation/433mhz/sensorer-1110/smart-inne-och-utermometer-med-hygrometer-10396	R	R	FineOffset
TFA - TS15C, TS34C, 30.3245.02, 30.3139 external temperature / humiditysensor 30.3133, anemometer 30.3149, UV sensor, rain sensor 30.3148, 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 - rain sensor 30.3233	R	R	Hideki
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
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

Device	RFX-433	RFX-433EMC	Protocol
Yooda bi-directional		T	DDxxxx
X10 Ninja/Robocam			X10
X10 PC Remote			X10
X10 RTS10 / RFS10	RT	RT	X10
X10 lighting	RT	RT	X10
X10 security	RT	RT	X10
Xdom	RT	RT	X10
Xiron – EN6	R	R	Rubicson

6. RFX868 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,WH57,WS90,WH5360	R	FineOffset
Edisio	RT	Edisio
FS20	RT	FS20
Gaposa 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 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 WE-LOAD 2-port wall charger 12W/2.4A 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

The red LED is always on if:
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:

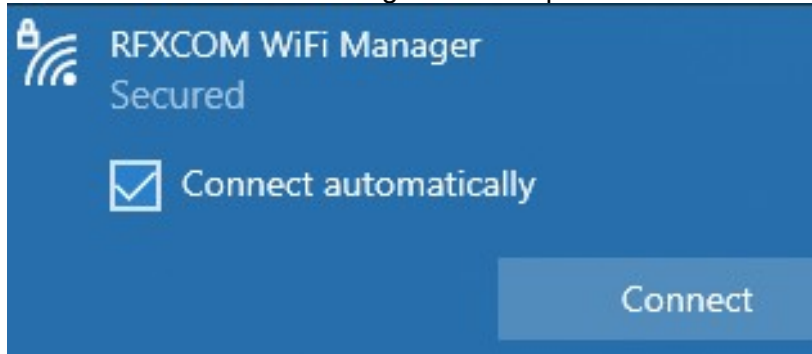
RFXESP32_S3	RFXESP32_S3 V1/V2/V3
Connect the IO20 pin to GND, Press the RESET button, Remove the connection IO20 – GND, Power cycle the RFX transceiver.	Press the RESTORE button, Press and release the RESET button, Release the RESTORE button, Power cycle the RFX transceiver.

9.2. *Restore Wifi settings with an USB command*

The RFX transceiver must have WiFi software loaded.
Connect a terminal, for example PuTTY, to the USB (serial 38400, 8N1)
Send the text **Restore** followed by an enter/transmit command.

9.3. Configure the RFX transceiver WiFi.

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.
Optional 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

Enter your WiFi credentials

for DHCP do not enter any value at Local IP, Subnet Mask and Gateway

SSID:	
Key:	
Hostname:	
Local IP:	
Subnet Mask:	
Gateway:	
Save	

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

9.4. Show WiFi debug messages

Connect a terminal program on the USB port, for example PuTTY
Select 38400 bd, 8 bits, no parity, 1 stop bit
Press RESET and debug messages are shown.

10. RFX-P1

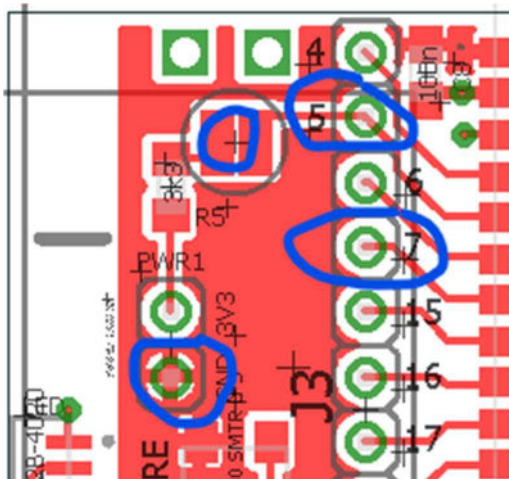
Use RFX-433 or RFX-433EMC software version 4012 or up.
For the RFX-868 use software version 8002 or up.

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

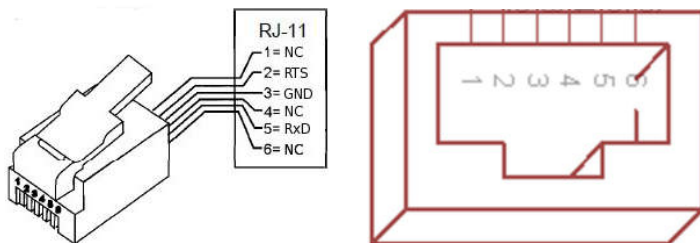
- Connect the RFX-P1 option board to the RFX PCB.
- Or connect the RJ12 6P6C or RJ12 6P4C cable to the RFX.

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:

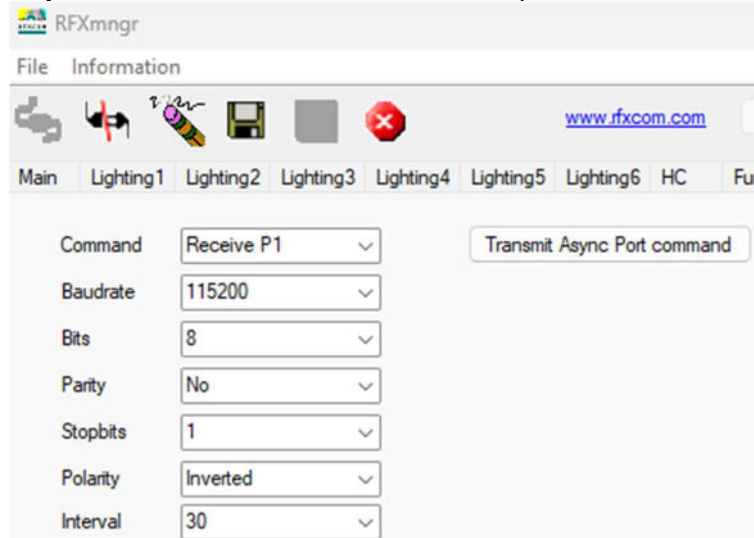


Configure P1

The connection can be tested in RFXmngnr.

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)

10.1. RFX-MODBUS

This board and RFX transceiver software is planned for later and not yet available.

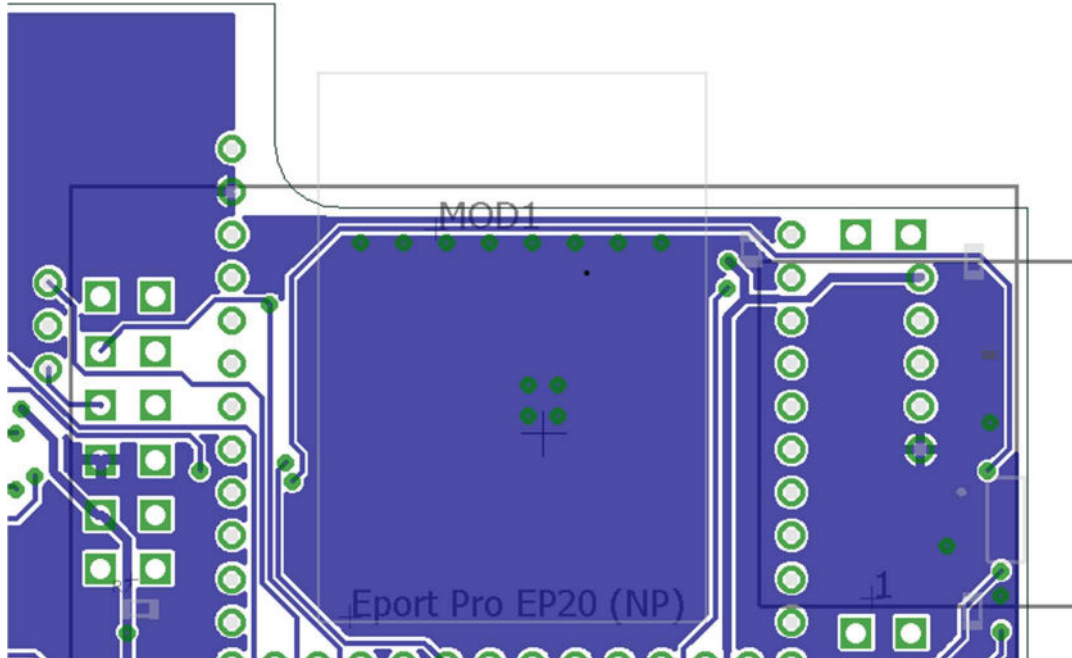
11. Eport LAN option

The RFX transceiver board has an option to connect an Eport Pro-EP20 LAN controller. Use the **RFX transceiver USB version of the software**.

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

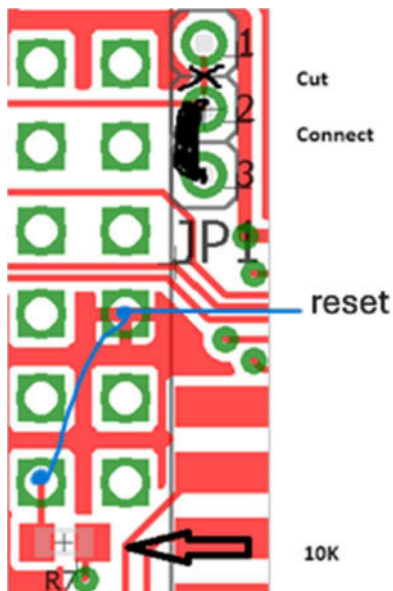
Solder the Eport LAN controller on the PCB.



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



11.1. Reset the LAN controller

To reset the 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.

11.2. 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.

11.3. 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.

11.4. 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

11.5. Configure the serial port

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	1400
Gap Time	50

Flow Control Settings	
Flow Control	Disable

Cli Settings	
Cli	Disable

Protocol Settings	
Protocol	None

11.6. 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.

Communication Settings

change the device socket settings

Basic Settings

Name

netp

Protocol

Tcp Server

Socket Settings

Local Port

10001

Buffer Size

1400

Keep Alive(s)

60

Timeout(s)

0

Protocol Settings

Max Accept

2

More Settings

Security

Disable

Route

Uart

12. Somfy RTS

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 RFXmngnr program.

Somfy RTS 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.

The Somfy RTS 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 RFXmngnr with ID=1 02 03 and Unit Code 1, the RTS device can be controlled with Homeseer using ID=1 02 03 and Unit Code 1.

To pair the Somfy RTS device using RFXmngnr:

- 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 Somfy remote until the Somfy device responds.
- Transmit a Program command with the RFX-433. The Somfy RTS 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.

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

Important:

- If RFY devices are moved to the RFX433 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 RFXmngnr and for the RFXtrx433E the latest Pro1 or Pro2 firmware and for the RFXtrx433XL the latest ProXL1 firmware and for the RFX433 the latest RFX433 firmware

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

 RFXmngnr

File Information

 www.rfxcom.com

Main Lighting1 Lighting2 Lighting3 Lighting4 Lighting5 Lighting6 HC FunkBus Chime Fan Curtain Blinds1 RFY

Type RFY Transmit

ID 0 00 00

Unit Code 1

Command List remotes

rfu1 00

rfu2 00

rfu3 00

Use * commands with care as they can delete or set parameters in the m

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

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

```
=====
02-Dec-18 03:13:53:971= RFY command
=====
Packettype = RFY
subtype = RFY
Sequence nbr = 18
idl-3 = 000000 decimal:0
Unit = 1
Command = List remotes
rfu1 = 00
rfu2 = 00
rfu3 = 00
Signal level = +10 dBm
=====
02-Dec-18 03:13:54:284
Packettype = Interface Message
subtype = RFY remote:0 ID:00 00 01 unitnbr:1 rfu1:A4 rfu2:0 rfu3:14
```

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!

 RFXmngnr

File Information

 www.rfxcom.com

Main Lighting1 Lighting2 Lighting3 Lighting4 Lighting5 Lighting6 HC FunkBus Chime Fan Curtain Blinds1 RFY

Type RFY Transmit

ID 0 00 01

Unit Code 1

Command Program

rfu1 A4

rfu2 00

rfu3 14

Use * commands with care as they can delete or set parameters in the m

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

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

14. Brel/Dooya and other compatibles

14.1. 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

14.1.1. 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

14.2. Bi-directional BlindsT21

Note: Use BlindsT21 in Home Assistant.with the RFXCOM integration

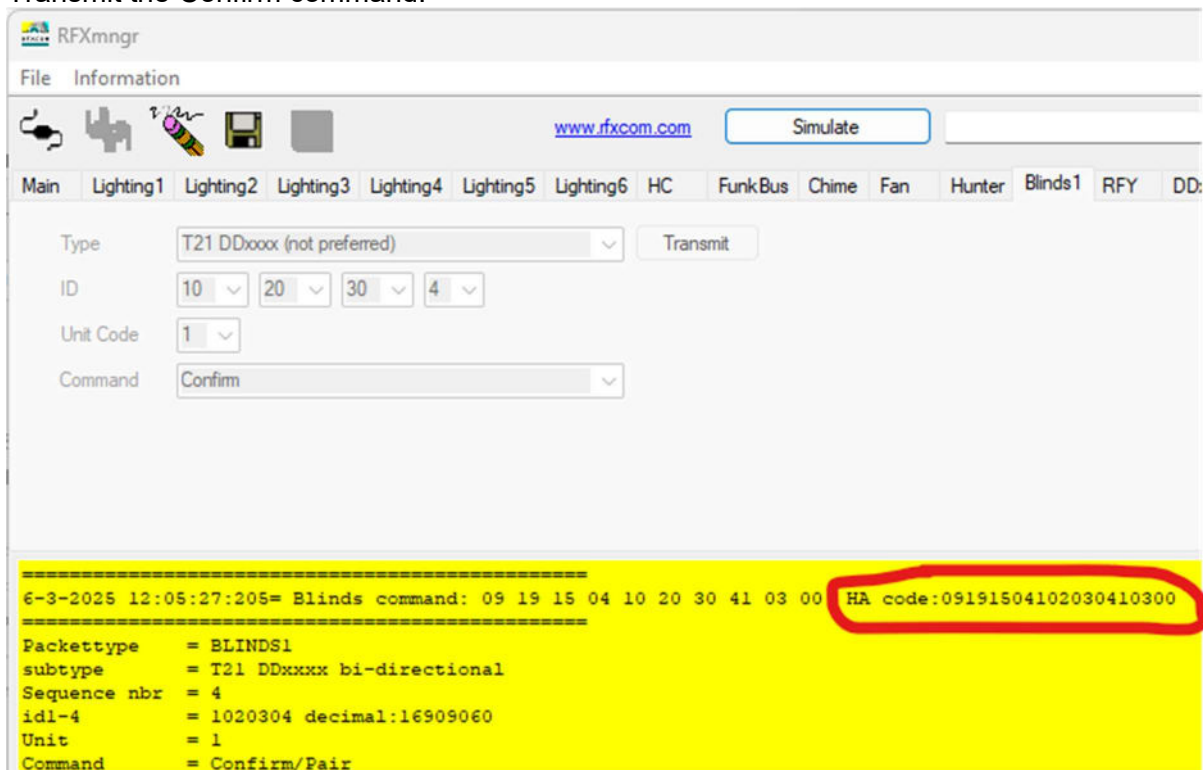
You can't use the ID of the bi-directional remote because the protocol uses a secret rolling code.

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 RFXmngn 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.

14.3. Bi-directional DDxxxx

- To add an RFX-433 DDxxxx 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-433

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:

0C310000112233440003000000

15. 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

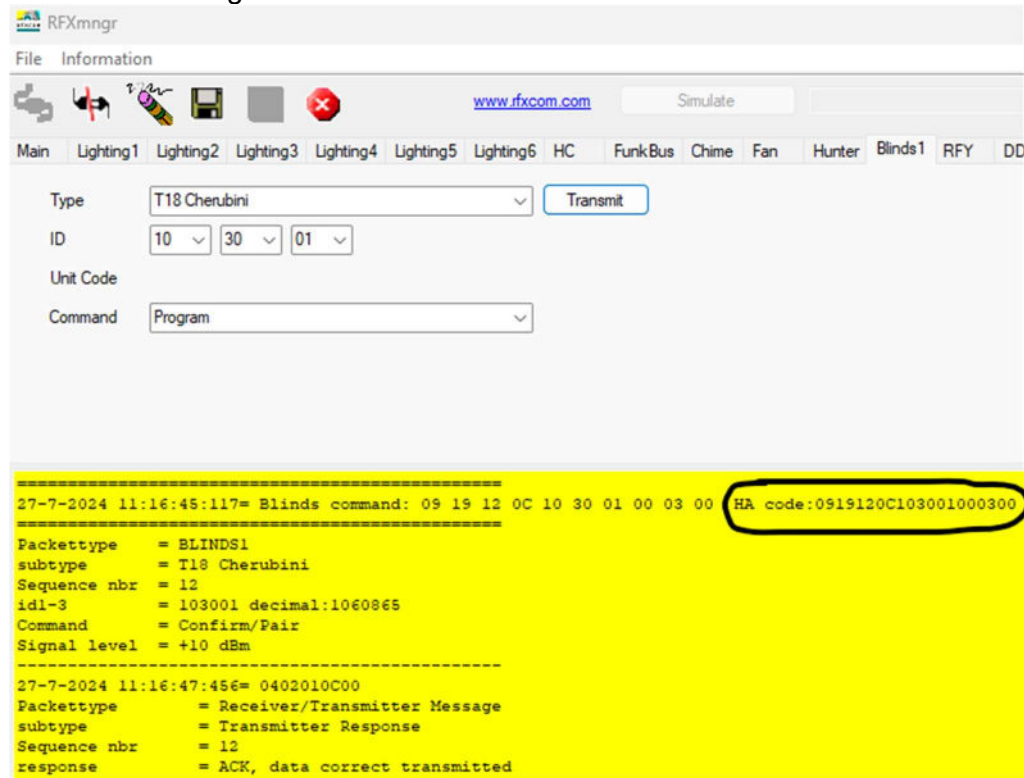
motor 2: ID 10 30 02

motor 3: ID 10 30 03

Pairing must be done using RFXmngnr on a Windows system.

Set the motor in pairing mode (see the Cherubini user guide)

Transmit the Program command.



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

Rfxtrx Options ? ×

☐ Enable automatic add

Protocols ▼

Enter event code to add
0919120C103001000300

Select device to configure ▼

SUBMIT

16. 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

17. 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!

18. 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 RFXmngnr:

```
RAW Packet:
687F000001010804720132046701340467041401BB01300474013104680131046E0131046D0131047001330470012D
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 RFXmngnr, 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
```

19. EC Declaration of Conformity

EC Declaration of Conformity

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

20. 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.

21. License

- You are allowed to use RFXCOM software, protocols and Written Materials with RFXCOM hardware only.
- All copyright and other proprietary notices associated with RFXCOM software, protocols and Written Materials shall be visible to all users.
- You may not sell, distribute, loan, rent, lease, license, sublicense or otherwise assign or transfer RFXCOM software or RFXCOM protocols or Written Materials unless expressly authorized in writing by RFXCOM.
- You may not use any RFXCOM device, software or protocol as part of an exclusive or patented product without the express prior written permission of RFXCOM.
- You may not alter, modify, adapt or create derivative works based on any part of RFXCOM software or protocols or Written Materials in any way, including translating, reverse engineering, disassembling or decompiling the software.

22. Copyright notice

- All RFXCOM hardware, software, protocols and Written Materials are protected by copyright laws, and may not be reproduced, republished, distributed, transmitted, displayed, broadcast or otherwise exploited in any manner without the express prior written permission of RFXCOM.
- Netherlands Copyright and international treaty provisions protect the SOFTWARE, HARDWARE, RFXCOM protocols and Written Materials and shall be subject to the exclusive jurisdiction of the Netherlands Courts
- RFXCOM reserves all rights not expressly granted herein.

23. 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 RFX devices from an older RFXtrx to the RFX433

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 RFXmngtr added

Version 1.17– May 10, 2025

Falmec Levante added