

RFXtrx

USB RF transceiver

User guide



www.rfxcom.com

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2. RFXtrx general information

The RFXtrx transceivers and RFXrec receivers are communicating over an USB port with the Home Automation application. The RFXtrx/rec is powered by the USB port.

At startup the RFXtrx enters for 2 seconds the boot loader (red LED is on) and after this it starts the receive/transmit firmware. If valid (decode-able) packets are received the yellow LED will blink.

The RFXtrx315 and the RFXrec433 are mainly for use in the US. The RFXtrx315 can receive US X10 lighting and security sensors **or** US Visonic PowerCode sensors at 315MHz.

The RFXrec433 can receive weather sensors of different brands at 433.92MHz.

The RFXtrx433 is a transceiver (transmitter+receiver) and can receive and control a large number of sensors and other devices.

The RFXtrx433E is an extended RFXtrx433 transceiver.

Note: the listed protocols and brands are supported!

2.1. RFXtrx315 supported protocols

2.1.1. RFXtrx315 configured for 310MHz

Protocol	Protocol	receive	transmit
US X10 lighting	X10	Y	Y
US X10 security	X10	Y	Y

2.1.2. RFXtrx315 configured for 315MHz

Protocol	Protocol	receive	transmit
Aoke relay	Lighting5	-	Y
PT2262, EV1527 and compatibles	Lighting4	Y	Y
Keeloq (unencrypted part only)	Keeloq	Y	-
Visonic CodeSecure (unencrypted part only)	Visonic	Y	-
Visonic PowerCode	Visonic	Y	Y

2.1.3. RFXtrx868X

Protocol	Protocol	receive	transmit
Alecto ACH2010	Alecto	Y	-
FS20	FS20	Y	Y
Itho CVE RFT	Itho	-	Y
Keeloq (unencrypted part only)	Keeloq	Y	Y
Visonic CodeSecure (unencrypted part only)	Visonic	Y	-
Visonic PowerCode	Visonic	Y	-

2.2. RFXrec433, RFXtrx433, RFXtrx433E supported protocols

2.2.1. By function

Curtains, shades, projection screen, awning, gate openers
A-OK blind motors (RF01,AC114,AC123,AC127,AC129 controlled) - http://www.motorisationplus.com/
ASA ETR blind motors - http://www.asa-mingardi.org/en/home.php
ASP blind motors - http://www.asp-distribution.com/site%20volet/voletrenovation.aspx
BOFU EY1612 blind motors - http://www.bofumotor.com/
BTX blind motors, remote, part# 490.2076 – http://www.btxinc.com
Brel blind motors - http://www.brel-motors.nl/webshop/motoren/
Chamberlain CS4330CN http://www.chamberlain24.de/epages/es122868.sf/en_GB/?ObjectPath=/Shops/es122868/Products/RA4336
Confexx CNF24-2435
Dolat DLM-1 controlled motors - http://www.dolat.com.cn/product1.asp?id=538
Dooya blind motors, remotes tested: DC305,DC306,DC307,DC313,DC1650,DC1651,DC2700
Ematronic - http://www.ematronic.com/moteurs-volet-roulant/
ESMO blind motors
Forest blind/curtain motors - http://www.forestgroup.nl/index_nl.html
Harrison curtain – http://www.harrison.nl/home2.htm
Hasta blind motors - http://www.hasta.se/
JVS screens - http://www.screen-discount.nl/
Kingpin KP100 projection screen
Louvolite one touch motorised blinds
Luxaflex (RFXtrx433E only) - http://www.luxaflex.se/produkter/luxaflex/rullgardiner/
Media Mount Projector screen
Motolux - http://www.motolux.com.au/
Outlook Motion Blinds - https://www.spotlightstores.com/curtains-blinds/indoor-blinds/roller-blinds/project-outlook-motion-motorised-roller-blind/p/BP80360543
Proluxx projection screen
Quotidom - http://www.quotidom.com/moteur-tubulaire-radio-quotidom-10-ou-20-nm-volet-roulant-ou-store-banne.html
RAEX blind motor (YR1326 controlled)
RohrMotor24 RMF blind motors - http://www.rohrmotor24.eu/rohrmotor24
RollerTrol blind motors - http://rollertrol.com/
Screenline motors - http://www.screenline.cz/en/
Silverline Premium - http://www.aluparts.nl
Simu (RFXtrx433E only) – http://www.simu.com/
Somfy (RFXtrx433E only) – http://www.somfy.co.uk/
Sunpery blind motors
YOODA blind motors – http://www.sukcesgroup.pl

Temperature, humidity, weather sensors
Alecto – WSD10,WS1200, WS1700, WS3500, WS4500
Auriol – H13726
Ambient Weather - F007TH
Banggood – SKU174397 http://www.banggood.com/433MHz-Wireless-Weather-Station-Digital-Thermometer-Humidity-Sensor-p-965559.html
Blyss 630467
Cresta
Digimax
Digoo DG-R8H
Froggit - F007TH
Hama – EWS1500
Hideki weather sensors
Honeywell – TF-ATS34C
Inovalley SM80 with plant probes - http://www.inovalley.com/detail.php?item_id=289
La Crosse
Lexibook – SM883
Marquant 943134
Maverick ET-732, ET-733 BBQ/Smoke temperature
Meade – TS33F-M, TS34C-M http://www.meade.com/products/weatherstations/sensors.html
Meteoscan – W155, W160
NEXUS – I008T
mi.sol WH2 http://www.ebay.com/itm/Transmitter-for-Wireless-Weather-Station-wireless-temperature-sensor-/121664060899
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
Oregon Scientific / Huger
Pearl NC-7159 http://www.pearl.de/a-NC7159-3041.shtml
Prego P-8426 http://www.sunmarket.fi/tuote.asp?TID=11990
Proove –TSS320 & TSS330 fridge/freezer thermometer & outdoor sensors 311346,311501
RFXSensor
RUBICSON – stektermometer 48659, 48695 -pool sensor p48019
Sunvic TLX1206
Sunvic TLX7506
TechnoLine/Proficell http://www.elv.de/output/controller.aspx?cid=74&detail=10&detail2=27621 - TX95-TH, WS9180-TX104
TFA
UPM/Esic (very short receiving range)
Ventus – WS155
Viking
WT0122 pool thermometer
Xiron –EN6

Door/window, smoke and other security sensors
Aidebao security
Alecto – SA30, SA33 smoke detector
AliExpress sensors with EV1572 or PT2262 (PT2262 is preferred)
Atlantic security
Chacon KD101 smoke detector
Chuango security
Eminent security
Flamingo KD101 smoke detector FA20RF, FA21RF
Focus
Housegard Origo smoke detector
Kerui security https://www.aliexpress.com/item/433-MHz-Wireless-Door-Windows-Sensors-for-KERUI-Alarm-System-Magnetic-Door-Sensor-Door-Open-reminder/32590916896.html
Meiantech security
NEXA KD101 smoke detector
Renkforce RF101 smoke detector
Smartwares RM174RF smoke detector
Oregon MSR939 https://www.redealer.de/multimedia/home-living/wetterstationen/bewegungssensor-msr939/a-200667/
Visonic CodeSecure
Visonic PowerCode
X10 security

Appliance modules, dimmers, relays, LED controllers

ANSLUT (learning mode)
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
Avantek
ByeByeStandBy
Blyss lighting – http://www.castorama.fr/store/Prise-telecommandee-et-telecommande-BLYSS---Interieur-prod4470026.html
Brennenstuhl RC2044, RCS2044N
Chacon – http://www.chacon.be/
CoCo – http://www.coco-technology.com/en/home/
Conrad RSL2 – http://www.conrad.com/ce/en/product/640466/FUNK-STECKDOSENSCHALTER-RSLR2
Cotech Smarthome
Cranenbroek
DI.O – http://www.di-o.be/
DomiaLite
Ebode
ELRO AB400/AB600 – http://www.elro.eu/en/products/cat/home-automation/home-control1
Energenie ENER010 – 429.935, 5-gang 429.950 - https://energenie4u.co.uk/
Etekcitcity – http://etekcity.com/p-300-5-pack-wireless-remote-control-outlet-switch-set-with-2-remote-controls-zap-5lx.aspx
Eurodomest NL – Action
Everflourish EMW100
Flamingo
Flamingo FA500D FA500DSS
Flamingo Smartwares SF501
Home Confort – http://www.home-confort.net/en
HomeEasy EU – http://www.elro.eu/en/products/cat/home-automation/
HomeEasy UK (including HE105 relay) – http://www.homeeasy.eu/
HQ COCO-20
Ikea Koppla
Impuls – NL – Action
Intertechno – http://www.intertechno.at/
Kambrook RF3672 – http://www.bunnings.com.au/kambrook-4-piece-indoor-powerpoint-kit-with-remote-control_p7030054
KlikAanKlikUit – http://www.klikaanklikuit.nl/home/
Legrand CAD radio – http://docdif.fr.grleg.com/general/legrand-fr/NP-FT-GT/FA181DFR.pdf
LightwaveRF – http://www.lightwaverf.co.uk/
Livolo - http://www.livolo-france.com/fr/ http://nl.aliexpress.com/w/wholesale-livolo-touch-switch.html
Maplin http://www.maplin.co.uk/p/remote-controlled-mains-socket-set-single-n78ka (use Lighting1 – COCO GDR2)
MDremote LED dimmer V106, V107, V108, EKAB-10KRF - www.ultraleds.co.uk - http://www.ledstripkoning.nl/accessoires/dimmers-wit/draadloze-dimmer-10-knops-rf/
Mercury appliance modules – http://mercury.avsl.com/product?range=ME5124
NEXA – http://www.nexa.se/
ORNO
OTIO
Phenix
Philips SBC SP370 series
Profile Qnect 423000040,423000042
PROmax
Proove - http://proove.se/
Quigg
RGB LED strip driver dx.com - http://www.dx.com/ order nbr: 130913 (new TRC02 not supported) , 67412
RisingSun
Sartano
Siemens (UK)
SilverCrest 91089, 60494, 284705
Unitec 48110 EIM 826
Waveman
X10 RTS10 / RFS10

X10 lighting
Xdom

Remotes
ATI Remote Wonder
ATI Remote Wonder Plus
ATI Remote Wonder II
SEAV TXS4
X10 PC Remote

Chimes
1byOne Easy Chime
Byron SX chime - http://www.chbyron.eu/Byron/ByronSXRRange/68/89/
Byron MP001
Chacon
Envivo – ENV1348
HomeEasy
KlikAanKlikUit
Profiles PAC-326R Belcanto
SelectPlus200689101 & SelectPlus200689103 (Action NL)

Power, gas water metering
Cartelectronic TIC, Encoder, Linky - https://www.carteselectronic.fr/index.php?id_product=124&controller=product
cent-a-meter
Electrisave
OTIO EHS5050
OWL CM113, CM180, CM119, CM160, CM180, CM180i - http://www.theowl.com/
Revolt NC5461 - http://www.pearl.de/a-NC5462-5452.shtml
RFXMeter

Specials
1byone Wireless Home Security Driveway Alarm http://www.1byone.co.uk/Home-Security/Alarms/O00QH-0511
DEA receivers http://www.deasystem.com/en/accessory/7/receivers (unencrypted only)
Lucci Air Fan - http://www.lucciair.com/
MCZ pellet stove
Mertik Maxitrol – Fire Place controllers
Oregon Scientific Body weight scales – BWR101, BWR102, GR101
Prego P-8426 – sauna temperature sensor http://www.sunmarket.fi/tuote.asp?TID=11990
Smartwares radiator valve http://www.homewizard.nl/smartwares-draadloze-radiatorkraan.html
Siemens SF01 - LF959RA50/LF259RB50/LF959RB50 extractor hood
Wave Design extractor hood
X10 Ninja/Robocam – camera motor

2.2.2. Alphabetic list

Important notes:

- Ext and Ext2 firmware will not operate in the RFXtrx433.
- RFXrec firmware is equal to RFXtrx433 – Type1 firmware without the transmit functions.
- Protocol enabling is only necessary for receive. Transmit protocols are always enabled.

Device	Type 1	Type 2	Ext	Ext2	Protocol	rec	xmit
1byone Driveway Alarm - http://www.1byone.co.uk/Home-Security/Alarms/O00QH-0511	-	Y	Y	Y	ByronSX	Y	Y
1byone Easy Chime	-	Y	Y	Y	ByronSX	Y	Y
A-OK blind motors RF01 - http://www.motorisationplus.com/	Y	Y	-	Y	BlindsT2	Y	Y
A-OK blind motors AC114,AC123,AC127,AC129 - http://www.motorisationplus.com/	Y	Y	-	Y	BlindsT3	Y	Y
Aidebao security	Y	Y	Y	Y	Meiantech	Y	Y
Alecto – SA30, SA33 smoke detector	Y	-	Y	-	Oregon	Y	Y
Alecto – WS1200	Y	Y	Y	Y	LaCrosse	Y	-
Alecto – WS1700 and compatibles, WS3500, WS4500	-	-	Y	Y	Rubicson	Y	-
Alecto – WSD10	-	-	-	Y	Rubicson	Y	-
Ambient Weather - F007TH	-	-	-	Y	Oregon	Y	-
ANSLUT (learning mode)	Y	Y	Y	Y	AC	Y	Y
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	Y	Y	Y	Y	Lighting5 Aoke or Lighting1 ARC	N	Y
ASA ETR blind motors - http://www.asa-mingardi.org/en/home.php	-	-	Y	Y	RFY	N	Y
ASP blind motors - http://www.asp-distribution.com/site%20volet/voletrenovation.aspx	Y	Y	-	Y	BlindsT11	Y	Y
ATI Remote Wonder	Y	-	-	-	ATI	Y	Y
ATI Remote Wonder Plus	Y	-	-	-	ATI	Y	Y
ATI Remote Wonder II (only available in hardware version 1.0)	Y	-	-	-	ATI	Y	-
Atlantic security	Y	Y	Y	Y	Meiantech	Y	Y
Auriol H13726	-	-	Y	Y	Rubicson	Y	-
Auriol Z31055B-TX	-	-	-	Y	Rubicson	Y	-
Avantek	-	-	Y	Y	Lighting5 *Lighting4	Y*	Y
Banggood – SKU174397	-	-	Y	Y	Rubicson	Y	-
Banggood DANIU	-	-	Y	-	Rubicson	Y	-
ByeByeStandBy	Y	Y	Y	-	ARC	Y	Y
Byron SX chime - http://www.chbyron.eu/Byron/ByronSXRRange/68/89/	Y	Y	Y	Y	ByronSX	Y	Y
Byron MP001 chime	-	-	Y	Y	Chime Byron MP001	N	Y
Blyss lighting - http://www.castorama.fr/store/Prise-telecommandee-et-telecommande-BLYSS---Interieur-prod4470026.html	Y	Y	Y	-	AE	Y	Y
Blyss temperature/humidity 630467	Y	Y	Y	-	AE	Y	-
BOFU EY1612 blind motors - http://www.bofumotor.com/ * = receive only in Type2 used to get the remote ID.	Y	Y	Y	Y	BlindsT0	Y*	Y
Brennenstuhl RCS2044N	Y	Y	Y	Y	Lighting4	Y	Y
Brennenstuhl RC2044	-	-	-	Y	Lighting4 + AC	Y	Y
Brel blind motors – http://www.brel-motors.nl/webshop/motoren/	Y	Y	Y	Y	BlindsT6	N	Y
BTX blind motors, remote, part# 490.2076 - http://www.btxinc.com	-	Y	-	-	BlindsT9	N	Y
Cartelectronic TIC, Encoder, Linky https://www.cartelectronic.fr/index.php?id_product=124&controller=product	-	Y	-	Y	ATI/cartelectronic	Y	N

cent-a-meter	Y	Y	Y	-	Oregon	Y	-
Chacon (learning mode) - http://www.chacon.be/	Y	Y	Y	Y	AC	Y	Y
Chacon (with address code wheels)	Y	Y	Y	Y	ARC	Y	Y
Chacon EMW200	Y	Y	Y	-	Lighting1 EMW200	N	Y
Chacon 54660 (equal COCO GDR2)	Y	Y	Y	Y	Lighting1 COCO GDR2	N	Y
Chacon KD101 smoke detector	Y	Y	Y	Y	always on	Y	Y
Chamberlain CS4330CN http://www.chamberlain24.de/epages/es122868.sf/en_GB/?ObjectPath=/Shops/es122868/Products/RA4336	-	-	Y	-	BlindsT8	N	Y
Chuangou * decoded as X10 in Ext2 firmware	Y	Y	Y	Y*	Lighting4	Y	Y
CoCo (learning mode) - http://www.coco-technology.com/en/home/	Y	Y	Y	Y	AC	Y	Y
CoCo (with address code wheels)	Y	Y	Y	Y	ARC	Y	Y
CoCo GDR2 (equal Chacon 54660)	Y	Y	Y	Y	Lighting1 COCO GDR2	N	Y
Confexx CNF24-2435	-	-	-	Y	BlindsT12	N	Y
Conrad RSL2 - http://www.conrad.com/ce/en/product/640466/FUNK-STECKDOSENSCHALTER-RSLR2	Y	Y	-	Y	RSL	Y	Y
Conrad RSL sensors	-	Y	-	-	RSL	Y	Y
Conrad RSL2 motion/door-window sensors	-	Y	-	-	RSL	Y	Y
Cotech Smarthome	-	-	-	Y	Lighting4 + AC	Y	Y
Cranenbroek	Y	Y	Y	Y	Lighting1 Impuls	N	Y
Cresta - TX-320, TS34C, anemometer, UV sensor, rain sensor	Y	Y	Y	Y	Hideki	Y	-
DEA receivers (unencrypted) http://www.deasystem.com/en/accessory/7/receivers	-	-	Y	-	KeeLoq	Y	Y
Digimax	Y	Y	Y	-	X10	Y	-
Digoo DG-R8H https://www.banggood.com/Digoo-DG-R8H-433MHz-Wireless-Digital-Hygrometer-Thermometer-Weather-Station-Sensor-for-TH11300-8380-p-1178108.html						Y	-
DI.O (learning mode) - http://www.di-o.be/	Y	Y	Y	Y	AC	Y	Y
DI.O (with address code wheels)	Y	Y	Y	Y	ARC	Y	Y
Dolat DLM-1 controlled motors - http://www.dolat.com.cn/product1.asp?id=538	-	Y	-	-	BlindsT10	N	Y
DomiaLite (with address code wheels)	Y	Y	Y	Y	ARC	Y	Y
Dooya blind motors, emulate remotes: DC305,DC306,DC307,DC313,DC1650,DC1651,DC2700	Y	Y	Y	Y	BlindsT6	N	Y
Ebode	Y	Y	Y	Y	X10	Y	Y
Electrisave	Y	Y	Y	-	Oregon	Y	-
ELRO AB400 - http://www.elro.eu/en/products/cat/home-automation/home-control1	Y	Y	Y	-	Lighting4	Y	Y
ELRO AB600	Y	Y	Y	Y	ARC	Y	Y
Ematronic RF01 - http://www.ematronic.com/moteurs-volet-roulant/	Y	Y	-	Y	BlindsT2	Y	Y
Ematronic AC114, AC123 - http://www.ematronic.com/moteurs-volet-roulant/	Y	Y	-	Y	BlindsT3	Y	Y
Eminent * decoded as X10 in ext firmware	Y	Y	Y	Y*	Lighting4	Y	Y
Energenie - https://energenie4u.co.uk/ - ENER010 – 429.935, 5-gang 429.950	Y	Y	Y	-	Lighting1 Energenie Energenie5	N	Y
Envivo – Chime ENV1348	-	-	Y	-	Chime Envivo	N	Y
ESMO blind motors	Y	Y	Y	Y	BlindsT6	N	Y
Etekcitey – http://etekcity.com/p-300-5-pack-wireless-remote-control-outlet-switch-set-with-2-remote-controls-zap-5lx.aspx	Y	Y	Y	-	Lighting1 Energenie5	N	Y
Eurodomest (NL – Action) * ARC only	Y*	Y	Y*	Y*	Lighting1 ARC	N	Y

					Or Lighting5 Eurodomest		
Everflourish EMW100	Y	Y	Y	-	Lighting5 EMW100	N	Y
Flamingo	Y	Y	Y	Y	Lighting4	Y	Y
Flamingo FA500D FA500DSS	-	-	-	Y	IT	N	Y
Flamingo KD101 smoke detector FA20RF, FA21RF	Y	Y	Y	Y	always on	Y	Y
Flamingo Smartwares SF501	Y	Y	Y	Y	Lighting2 - AC	Y	Y
Focus	Y	Y	Y	Y	Meiantech	Y	Y
Forest blind/curtain motors - http://www.forestgroup.nl/index_nl.html	Y	Y	Y	Y	BlindsT7	N	Y
Froggit - F007TH	-	-	-	Y	Oregon	Y	-
HAMA EWS1500	-	-	Y	Y	Rubicson	Y	-
Harrison curtain - http://www.harrison.nl/home2.htm	Y	Y	Y	Y	Curtain Harrison	N	Y
Hasta new blind motors - http://www.hasta.se/ * = receive only in Type2 used to get the remote ID.	Y	Y	Y	Y	BlindsT0	Y*	Y
Hasta old blind motors	Y	Y	-	-	BlindsT1	Y	Y
Hideki weather sensors	Y	Y	Y	Y	Hideki	Y	-
Home Confort lighting - http://www.home-confort.net/en	-	-	Y	-	HomeConfort	Y	Y
HomeEasy EU (learning mode) - http://www.elro.eu/en/products/cat/home-automation/	Y	Y	Y	Y	HE EU	Y	Y
HomeEasy UK – HE105 - http://www.homeeasy.eu/	Y	Y	Y	Y	Thermostat2 HE105	N	Y
HomeEasy UK (learning mode)	Y	Y	Y	Y	AC	Y	Y
HomeEasy UK (with address code wheels)	Y	Y	Y	Y	ARC	Y	Y
Honeywell - TF-ATS34C	Y	Y	Y	Y	Hideki	Y	-
Housegard Origo smoke detector	-	-	-	Y	ARC	Y	Y
HQ COCO-20	-	-	Y	Y	Lighting1 HQ COCO20	N	Y
Ikea Koppla	Y	-	-	-	Lighting3	N	Y
Impuls (NL – Action)	Y	Y	Y	Y	Lighting1 Impuls	N	Y
Inovalley SM80 with plant probes - http://www.inovalley.com/detail.php?item_id=289	-	-	Y	Y	Rubicson	Y	-
Intertechno (learning mode) - http://www.intertechno.at/	Y	Y	Y	Y	AC	Y	Y
Intertechno (with address code wheels)	Y	Y	Y	Y	ARC	Y	Y
JVS screens - http://www.screen-discount.nl/	Y	Y	Y	Y	BlindsT6	N	Y
Kambrook RF3672 – http://www.bunnings.com.au/kambrook-4-piece-indoor-powerpoint-kit-with-remote-control_p7030054	-	Y	Y	-	Lighting2 Kambrook	N	Y
Kerui security * decoded as X10 in Ext2 firmware https://www.aliexpress.com/item/433-MHz-Wireless-Door-Windows-Sensors-for-KERUI-Alarm-System-Magnetic-Door-Sensor-Door-Open-reminder/32590916896.html	Y	Y	Y	Y*	Lighting4 + X10*	Y	Y
Kingpin KP100 projection screen	Y	Y	Y	Y	Lighting4	N	Y
KlikAanKlikUit (learning mode) - http://www.klikaanklikuit.nl/home/	Y	Y	Y	Y	AC	Y	Y
KlikAanKlikUit (with address code wheels)	Y	Y	Y	Y	ARC	Y	Y
La Crosse - TX2, TX3, TX3P, TX4, TX7, TX17, WS2300	Y	Y	Y	Y	LaCrosse	Y	-
Legrand CAD radio	-	-	Y	-	Lighting5 LeGrand CAD	-	Y
Lexibook - SM883	Y	Y	Y	Y	Hideki	Y	-
LightwaveRF - http://www.lightwaverf.co.uk/	Y	Y	Y	Y	AD	Y	Y
Livolo - http://www.livolonederland.nl/ - http://www.livolo-France.com/fr/ - http://nl.aliexpress.com/w/wholesale-livolo-touch-switch.html	Y	Y	Y	Y	Lighting5 Livolo	N	Y
Louvolite one touch motorised blinds * = receive only in Type2 used to get the remote ID.	Y	Y	Y	Y	BlindsT0	Y*	Y

Lucci Air fan – http://www.lucciair.com/	-	-	Y	-	Fan LucciAir	N	Y
Luxaflex – http://www.luxaflex.se/produkter/luxaflex/rullgardiner/	-	-	Y	Y	RFY	N	Y
Maplin http://www.maplin.co.uk/p/remote-controlled-mains-socket-set-single-n78ka	Y	Y	Y	Y	Lighting1 COCO GDR2	N	Y
Marquant 943134	-	Y	-	-	X10	Y	-
Maverick ET-732/733 BBQ/Smoke temperature	Y	Y	Y	Y	Hideki	Y	-
MCZ pellet stove	-	Y	Y	-	Thermostat4	-	Y
MDremote LED dimmer V106 - www.ultraleds.co.uk	Y	Y	Y	Y	Lighting5 MDRemote V106	N	Y
MDremote LED dimmer V107 - www.ultraleds.co.uk	Y	Y	Y	Y	Lighting5 MDRemote V107	N	Y
MDremote LED dimmer V108, EKAB-10KRF - http://www.ledstriponing.nl/accessoires/dimmers-wit/draadloze-dimmer-10-knops-rf/	Y	Y	Y	Y	Lighting5 MDRemote V108	N	Y
Meade – TS33F-M, TS34C-M http://www.meade.com/products/weatherstations/sensors.html	Y	Y	Y	Y	Hideki	Y	-
Media Mount Projector screen	-	Y	-	-	Lighting4	N	Y
Meiantech security	Y	Y	Y	Y	Meiantech	Y	Y
Mercury appliance modules - http://mercury.avsl.com/product?range=ME5124	Y	Y	Y	Y	Lighting1 Energenie5	N	Y
Mertik Maxitrol Fire Place controllers - G6R-H4T1, G6R-H4T5, G6R-H4TD, G6R-H4T16, G6R-H4TB, G6R-H4T21-Z22	Y	Y	Y	Y	Mertik	Y	Y
Mertik Maxitrol Fire Place controller - G6R-H4S	Y	Y	Y	Y	Mertik	N	Y
Meteoscan W155,W160	-	-	Y	Y	Rubicson	Y	-
Motorlux blinds motor	Y	Y	-	Y	BlindsT3	-	Y
mi.sol WH2 http://www.ebay.com/itm/Transmitter-for-Wireless-Weather-Station-wireless-temperature-sensor-/121664060899	Y	Y	Y	Y	FineOffset	Y	-
NEXA (learning mode) - http://www.nexa.se/	Y	Y	Y	Y	AC	Y	Y
NEXA (with address code wheels)	Y	Y	Y	Y	ARC	Y	Y
NEXA KD101 smoke detector	Y	Y	Y	Y	always on	Y	Y
NEXUS - I008T	Y	Y	Y	Y	Hideki	Y	-
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	Y	Y	Y	Y	XT300	Y	-
ORNO	Y	Y	Y	Y	AC	Y	Y
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	Y	Y	Y	Y	Oregon	Y	-
Oregon Scientific weighting scales - BWR101, BWR102, GR101 US BWR101, BWR102 in RFXrec	Y	-	Y	Y	Oregon	Y	-
Oregon MSR939 https://www.redealer.de/multimedia/home-living/wetterstationen/bewegungssensor-msr939/a-200667/	-	-	Y	-	Oregon	Y	-
OTIO EHS5050	-	Y	-	-	RSL	Y	-
OTIO Lighting	Y	Y	-	Y	RSL	Y	Y

Outlook Motion Blinds - https://www.spotlightstores.com/curtains-blinds/indoor-blinds/roller-blinds/project-outlook-motion-motorised-roller-blind/p/BP80360543	-	Y	-	-	BlindsT4	Y	Y
OWL – CM113	Y	Y	Y	-	Oregon	Y	-
OWL - http://www.theowl.com/ - CM119, CM160, CM180, CM180i	Y	Y	Y	Y	Oregon	Y	-
Pearl NC-7159 http://www.pearl.de/a-NC7159-3041.shtml	-	-	Y	Y	Rubicson	Y	-
Phenix	Y	Y	Y	Y	Lighting4	Y	Y
Philips SBC SP370 series	-	Y	-	-	Lighting1 Philips SBC	N	Y
Prego P-8426 http://www.sunmarket.fi/tuote.asp?TID=11990	Y	Y	Y	-	X10	Y	-
Profile Qnect 423000040,423000042	-	-	-	Y	Lighting4 + AC	Y	Y
Profiles PAC-326R Belcanto	Y	Y	Y	Y	ByronSX	Y	Y
Proluxx projection screen	Y	Y	Y	Y	Lighting4	N	Y
PROmax	-	-	-	Y	IT	N	Y
Proove –TSS320 & TSS330 fridge/freezer thermometer & outdoor sensors 311346,311501	Y	Y	Y	Y	FineOffset or Rubicson	Y	-
Quigg RC DS5 4001-A DE 3726	-	-	-	Y	Lighting4 + AC	Y	Y
Quotidom – http://www.quotidom.com/moteur-tubulaire-radio-quotidom-10-ou-20-nm-volet-roulant-ou-store-banne.html	Y	Y	Y	Y	BlindsT6	N	Y
RAEX blind motor (YR1326 or YRL2016 controlled)	-	Y	-	-	BlindsT4	Y	Y
Renkforce RF101 smoke detector	Y	Y	Y	Y	always on	Y	Y
Revolt NC5461 - http://www.pearl.de/a-NC5462-5452.shtml	-	Y	-	-	RSL	Y	-
RFXSensor	Y	Y	Y	Y	X10	Y	-
RFXMeter	Y	Y	Y	Y	X10	Y	-
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.	Y*	Y	Y*	-	AD	Y*	Y
RGB432W LED controller	Y	Y	Y	-	Lighting5 RGB432W	N	Y
RisingSun	Y	Y	Y	Y	Lighting4	Y	Y
RUBICSON - stektermometer 48659, 48695 -pool sensor p48019	Y	-	Y	Y	Rubicson	Y	-
RohrMotor24 RMF blind motors - http://www.rohrmotor24.eu/rohrmotor24	Y	Y	Y	Y	BlindsT6	N	Y
RollerTrol R-series blind motors - http://rollertrol.com/ * = receive only in Type2 used to get the remote ID.	Y	Y	Y	Y	BlindsT0	Y*	Y
Rollertrol G-series blind motors	Y	Y	Y	Y	BlindsT6	N	Y
Sartano	Y	Y	Y	Y	Lighting4	Y	Y
Screenline motors - http://www.screenline.cz/en/	-	-	-	Y	BlindsT13	N	Y
SEAV TXS4	-	-	-	Y	FAN SEAV TXS4	N	Y
SelectPlus200689101 & SelectPlus200689103 (Action NL)	-	Y	Y	Y	ByronSX	Y	Y
Siemens SF01 LF959RA50/LF259RB50/LF959RB50 extractor hood	-	Y	-	-	Fan SF01	N	Y
Siemens (UK)	Y	Y	Y	Y	AD	Y	Y
SilverCrest 91089	Y	Y	Y	-	Lighting4	Y	Y
SilverCrest 60494, 284705	-	-	-	Y	Lighting4 + AC	Y	Y
Silverline Premium - http://www.aluparts.nl	Y	Y	Y	Y	BlindsT6	N	Y
Simu / RTS (RFXtrx433E only) – http://www.simu.com/	-	-	Y	Y	RFY	N	Y
Smartwares radiator valve - http://www.homewizard.nl/smartwares-draadloze-radiatorkraan.html	-	-	Y	Y	Radiator1 Smartwares	N	Y
Smartwares RM174RF	-	-	-	Y	ARC	Y	Y
Somfy / RTS - http://www.somfy.co.uk/ To control Somfy Centralis use RFY2 commands.	-	-	Y	Y	RFY	N	Y

Sonoff RF	Y	Y	Y	Y	Lighting4	Y	Y
Sunperry blind motors	-	Y	-	-	BlindsT9	N	Y
Sunvic TLX1206	Y	Y	Y	-	X10	Y	Y
Sunvic TLX7506	Y	Y	Y	-	X10	Y	-
TechnoLine/Proficell http://www.elv.de/output/controller.aspx?cid=74&detail=10&detail2=27621 - TX95-TH, WS9180-TX104	Y	-	Y	Y	Rubicson	Y	-
TFA - TS15C, TS34C, external temperature sensor 30.3133, anemometer 30.3149, UV sensor, rain sensor 30.3148, pool sensor 30.3160	Y	Y	Y	Y	Hideki	Y	-
TFA - pool sensor 30.3056.10, 30.3216.20	-	-	-	Y	Oregon	Y	-
TFA external temperature sensor 30.3208.02	-	-	-	Y	Hideki	Y	-
UPM/Esic (very short receiving range) - WT260, WT260H, WT440H, WT450, WT450H, WDS500, RG700	Y	-	-	-	Hideki	Y	-
Unitec 48110 EIM 826	-	-	-	Y	Lighting4 + AC	Y	Y
Ventus WS155	-	-	Y	Y	Rubicson	Y	-
Viking - 02035, 02038, 02811	Y	Y	Y	Y	FineOffset	Y	-
Visonic CodeSecure	Y	Y	Y	Y	Visonic	Y	-
Visonic PowerCode	Y	Y	Y	Y	Visonic	Y	-
Wave Design extractor hood	Y	Y	Y	Y	Fan SF01	N	Y
Waveman	Y	Y	Y	Y	Lighting1 Waveman	N	Y
Westinghouse fan 7226640	-	-	-	Y	Fan	N	Y
WT0122 pool sensor	-	-	Y	-	FineOffset	Y	-
YOODA blind motors - http://www.sukcesgroup.pl	Y	Y	Y	Y	BlindsT6	N	Y
X10 Ninja/Robocam	-	Y	-	-	X10	Y	Y
X10 PC Remote	Y	-	-	-	X10	Y	Y
X10 RTS10 / RFS10	Y	Y	Y	Y	X10	Y	Y
X10 lighting	Y	Y	Y	Y	X10	Y	Y
X10 security	Y	Y	Y	Y	X10	Y	Y
Xdom	Y	Y	Y	Y	X10	Y	Y
Xiron – EN6	Y	-	Y	Y	Rubicson	Y	-

2.3. *undec on*

This parameter is for internal use by RFXCOM only!!!

If new sensor types are released they will most probably not be decoded by the RFXtrx firmware. For this reason we have added the option to enable receive of undecoded messages. This function is only to enable RFXCOM to add this new sensor type in the firmware if possible. If “undec on” is enabled in normal use the application will receive a lot of undecoded messages mostly as a result of RF noise or disturbed RF packets.

Important: For normal use “undec on” should be disabled

2.4. Sensitivity influenced by enabled protocols

The sensitivity of the receiver part is highly influenced by the number of protocols enabled. Lesser protocols enabled will make the receiver more sensitive for the enabled protocols.

There are a few protocols that will reduce or even eliminate receiving of other protocols if enabled.

For example:

If the AD (LightwaveRF, Siemens) protocol is enabled it can stop receiving of Meiantech / Atlantic, Oregon 3.0, Visonic and Mertik.

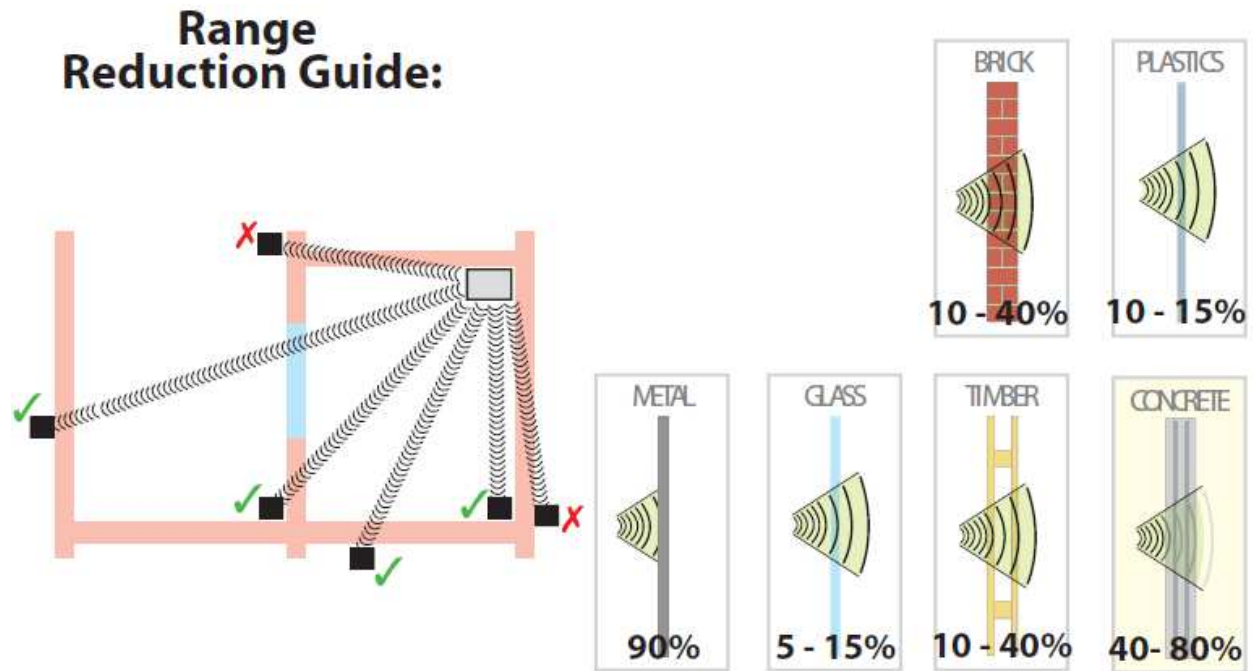
All other protocols are disabled if BlindsT0 is enabled.

	X10	ARC	AC	HomeEasy EU	Meiantech/Atlantic	Oregon 1.0	Oregon 2.1	Oregon 3.0 / OWL	ATI	Visonic/Keeloq	Mertik	AD (LWRF)	Hideki/UPM	La Crosse	FS20	ProGuard	BlindsT0	BlindsT1/T2/T3/T4	AE (Blyss)	Rubicson/Alecto	FineOffset/Viking	Lighting4	RSL/Revolt	Byron SX	Imagintronix/Opus	HomeConfort
X10																										
ARC																										
AC																										
HomeEasy EU																										
Meiantech/Atlantic																										
Oregon																										
ATI																										
Visonic/Keeloq																										
Mertik																										
AD (LWRF)																										
Hideki/UPM																										
La Crosse																										
FS20																										
ProGuard																										
BlindsT0																										
BlindsT1/T2/T3																										
AE (Blyss)																										
Rubicson																										
FineOffset/Viking																										
Lighting4																										
RSL																										
Byron SX																										
Imagintronix																										
HomeConfort																										

Green = enabled by default

2.5. RF range reduction

The RF signals operating distance is reduced when the signal has to pass through walls.



2.6. Home Automation software

For the list of Home Automation software that supports the RFXtrx see the web site www.rfxcom.com

2.7. Dimensions

The dimensions of the RFXtrx/RFXrec are: 83.5 x 42 x 15 mm
Total height from bottom to antenna top is 122mm

The dimensions of the RFXtrx433E are: 83 x 59 x 22 mm
Total height from bottom to antenna top is 130mm

2.8. Electrical

The RFXtrx is powered by the 5 Volt of the USB interface.

Operating current;

Receive mode: 28 mA (0.14Watt)
Transmit mode: 45 mA

The RFXtrx Radiated RF power is 10dBm max.

2.9. Environmental conditions

Normal operating: 15°C to 35°C
Absolute min-max temperature: -10°C to 55°C

3. Install the USB driver

The RFXtrx has the FTDI FT232R USB interface chip installed.

The USB drivers are available at <http://www.ftdichip.com/Drivers/VCP.htm>

4. Run RFXflash on Linux under Mono

Open a Terminal screen in Linux (Ctrl-Alt-T)

Execute once:

Install Mono:

```
[sudo] apt-get install mono-runtime
```

Install VisualBasic support under Mono:

```
[sudo] apt-get install libmono-microsoft-visualbasic8.0-cil
```

If the USB device is created as ttyACMx you will need to create a link between /dev/ttyACMx and a serial port /dev/ttySx.

This is not necessary if the device is created as /dev/ttyUSBx !!

```
[sudo] ln -sf /dev/ttyACM1 /dev/ttyS3
```

Note: sudo must be entered without brackets []. sudo is required if not running as super user.

Launch the RFXflash.exe program.

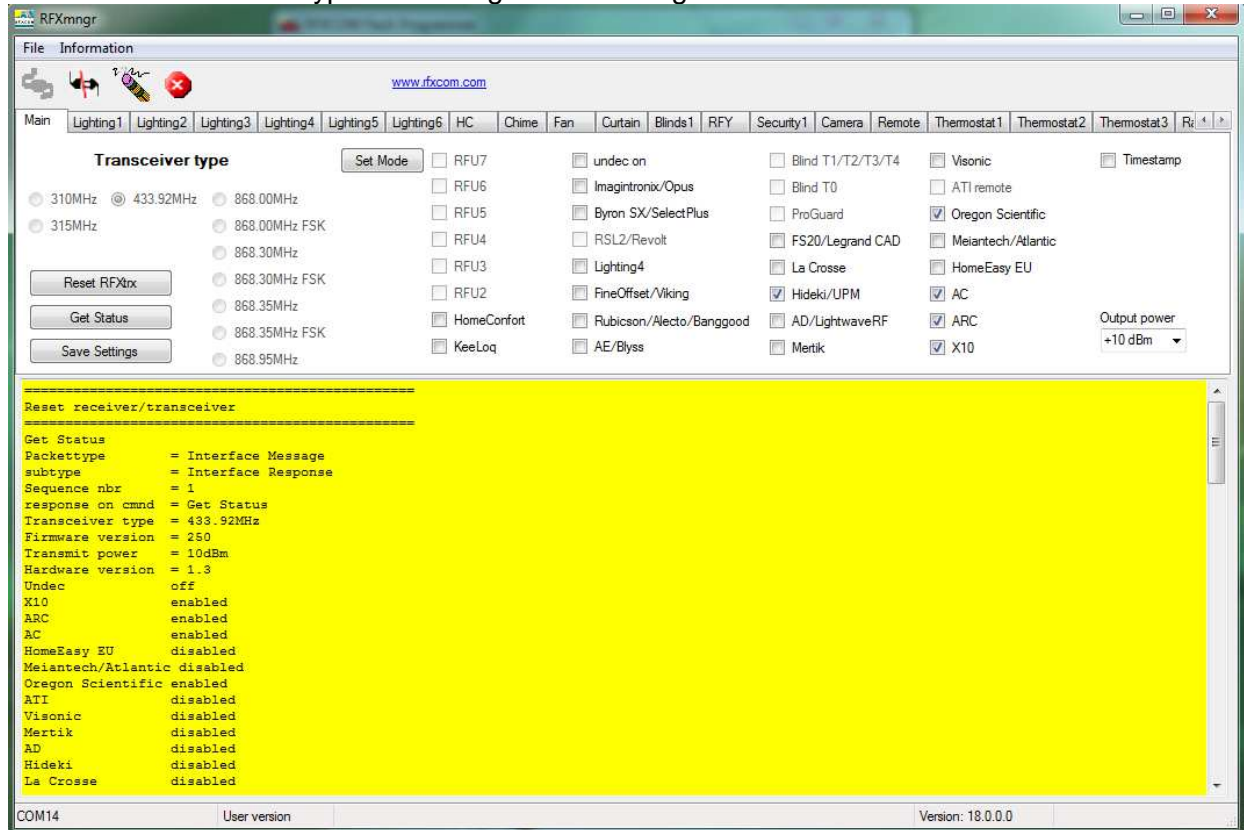
```
[sudo] mono RFXflash.exe
```

Note: RFXmngnr does not operate under mono!

5. RFXmngtr test program

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

After the connection the RFXmngtr program transmits a Reset and Get Status command so that it will know the RFXtrx 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. So select only the protocols to be used, click **Set mode** and click **Save Settings**.

Note that these settings are lost in Type1 and Type2 firmware after an update and need to be set again.

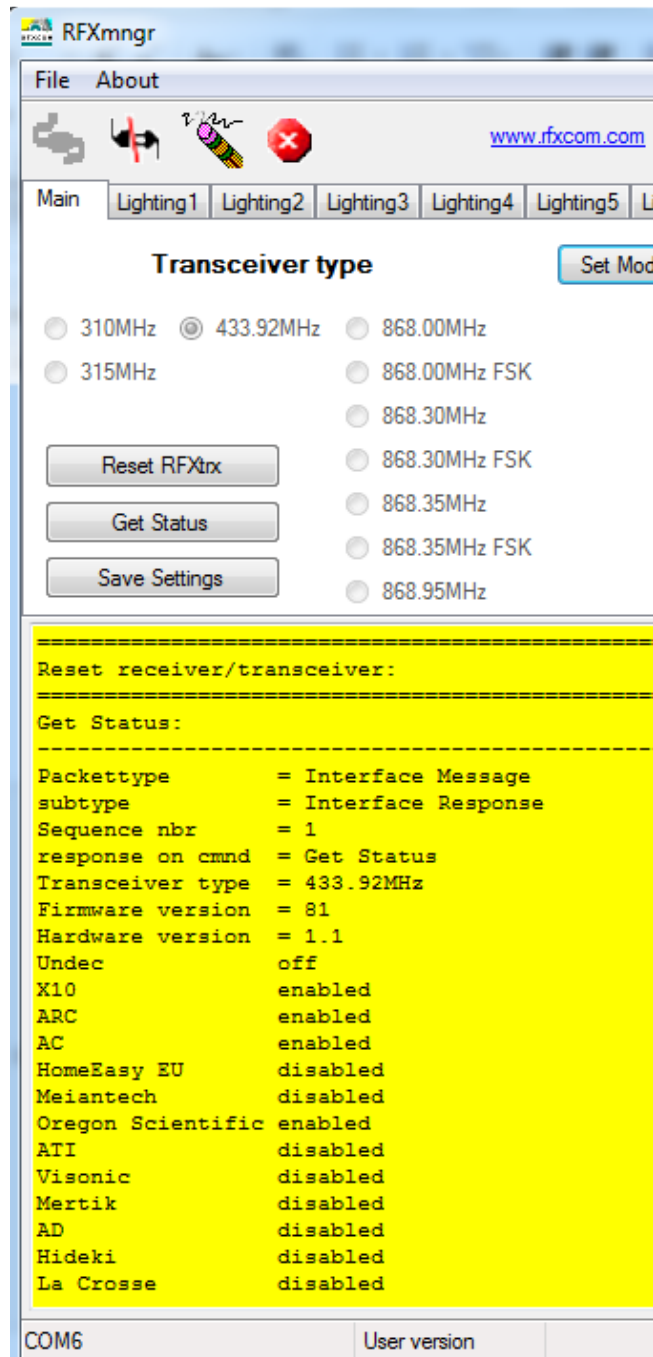
5.1. Receiver

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 RFXtrx. This configuration is now restored every time after a power up.

Note that these settings are lost after a firmware update and need to be set again.

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.



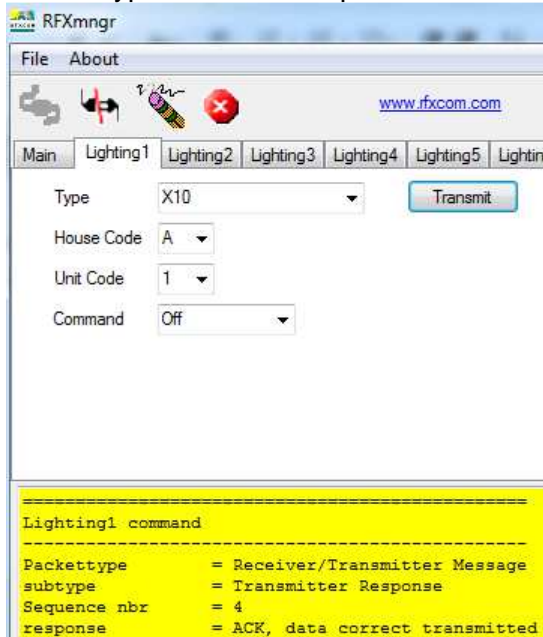
5.2. Transmitter

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 RFXtrx, in the example above “ACK, data correct transmitted“.

6. Flash update of the RFXtrx

6.1. Update firmware in the RFXtrx

Firmware is flashed in the RFXtrx using this procedure:

1. Depending on the RFXtrx type download the latest RFXtrx315_yy.hex, RFXrec433_yy.hex or RFXtrx433_yy.hex firmware file.
2. Connect the RFXtrx to a Windows system or Linux under MONO
3. Stop any program that is connected to the RFXtrx.
4. Start the RFXflash program (version 4.0.0.0 or higher)
5. Select the USB RFXtrx COM port or TCP/IP port and click the CONNECT button, (the red LED on the RFXtrx should switch on now)
6. Load the correct.hex firmware file for your RFXtrx,
7. Click the WRITE button,
8. Click the Normal Execution mode button.

IMPORTANT:

1. Do not interrupt the flash procedure when started.
2. It can happen that the flash procedure ends with a pop-up screen indicating errors. Just disconnect the RFXtrx and start again at step 5 until the flash procedure is finished without errors.

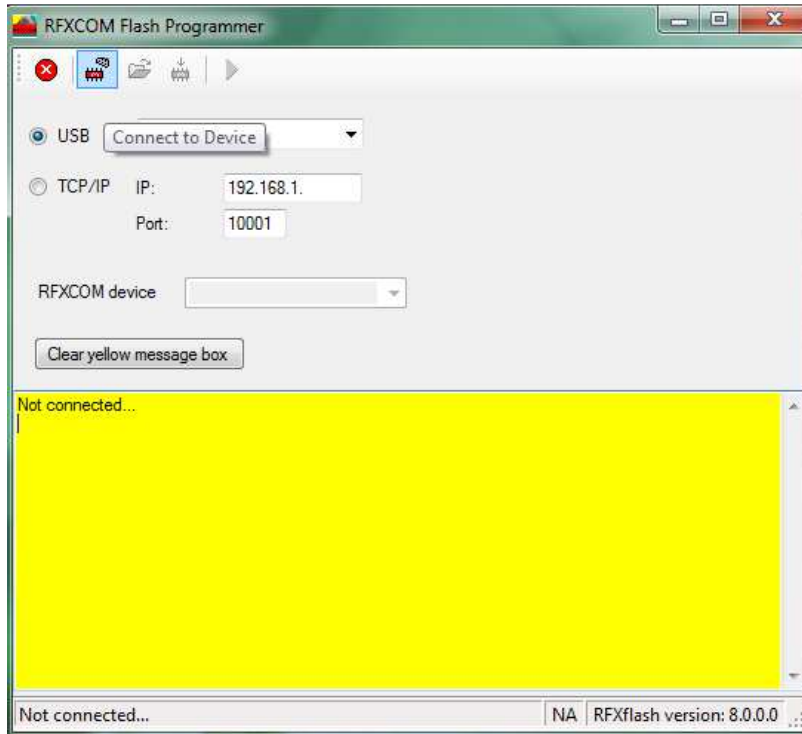
If the red LED does not switch on if you click the CONNECT button:

1. Check if you have selected the correct USB COM port.
2. If you have flashed the RFXtrx before and interrupted the flash procedure it is possible that the RFXtrx does not enter the flash state. Contact support@rfxcom.com for help.

Note: Receiver Settings are lost in Type1 and Type2 firmware after an update and have to be set again.

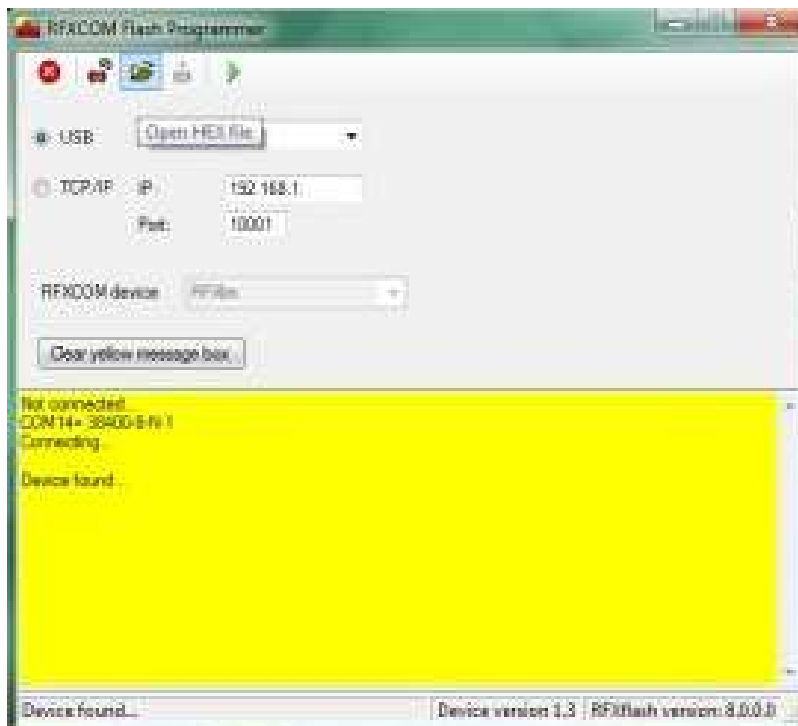
6.2. Update firmware in the RFXtrx step by step

- Click the Connect to Device button.

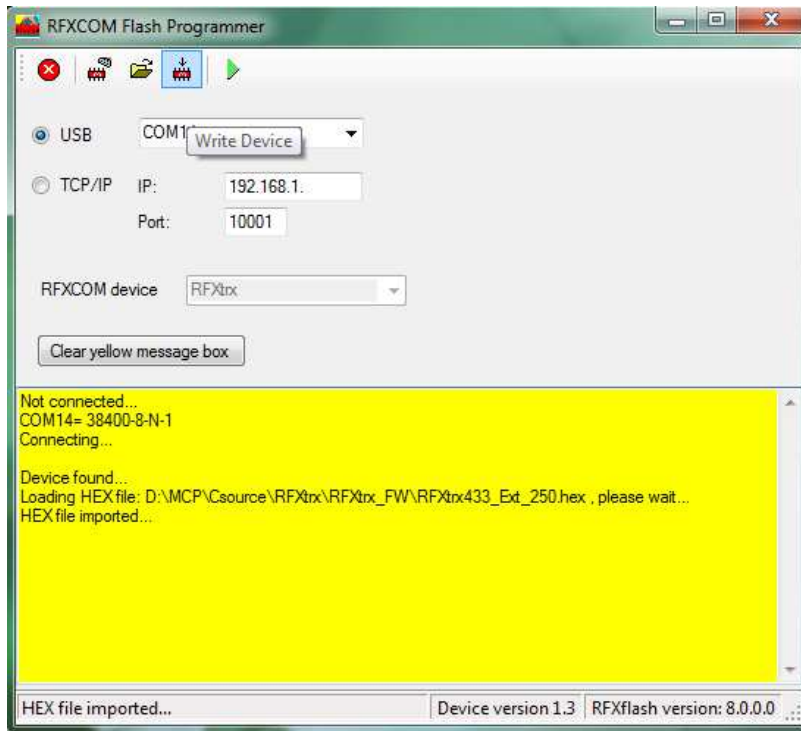


The RFXtrx will automatically switch from normal mode to the bootloader now.

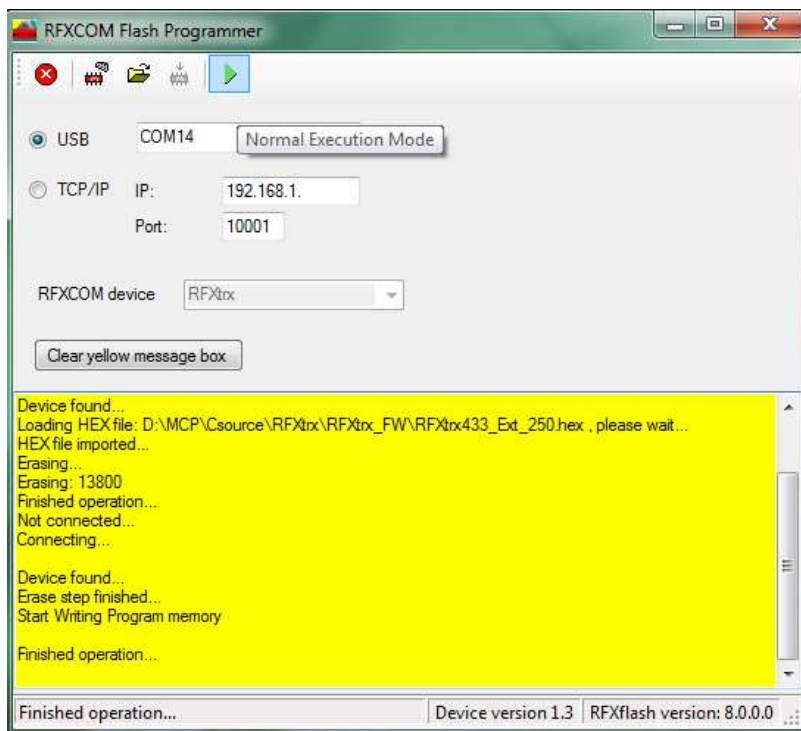
- Click the Open HEX file button and load the RFXtrx yyy_xx .hex file
Be sure to load the latest firmware file for the RFXtrx.
 yyy indicates the RFXtrx frequency, so load the RFXtrx433 for an RFXtrx433!
 xx indicates the firmware version.



- Click the Write device button and the RFXtrx is flashed.



- Click on the Normal Execution Mode button to set the RFXtrx to running mode.



Note: Receiver Settings are lost in Type1 and Type2 firmware after an update and have to be set again.

7. RFXtrx433 special device codes

7.1. Remote commands

7.1.1. X10 RF Remote

Dec	Hex	Button
2	02	0
18	12	8
34	22	4
56	38	Rewind
58	3A	Info
64	40	CHAN+
66	42	2
82	52	Ent
96	60	VOL+
98	62	6
99	63	Stop
100	64	Pause
112	70	Cursor-left
113	71	Cursor-right
114	72	Cursor-up
115	73	Cursor-down
116	74	Cursor-up-left
117	75	Cursor-up-right
118	76	Cursor-down-right
119	77	Cursor-down-left
120	78	left mouse
121	79	left mouse-End
123	7B	Drag
124	7C	right mouse
125	7D	right mouse-End
130	82	1
146	92	9
160	A0	MUTE
162	A2	5
176	B0	Play
182	B6	Menu
184	B8	Fast Forward
186	BA	A+B
192	C0	CHAN-
194	C2	3
201	C9	Exit
209	D1	MP3
210	D2	DVD
211	D3	CD
212	D4	PC / Shift-4
213	D5	Shift-5
214	D6	Shift-Ent
215	D7	Shift-Teletext
216	D8	Text
217	D9	Shift-Text
224	E0	VOL-
226	E2	7
242	F2	Teletext
255	FF	Record

7.1.2. ATI Remote Wonder

Dec	Hex	Button	57	39	Full screen
0	00	A	58	3A	DVD Audio
1	01	B	112	70	Cursor-left
2	02	power	113	71	Cursor-right
3	03	TV	114	72	Cursor-up
4	04	DVD	115	73	Cursor-down
5	05	?	116	74	Cursor-up-left
6	06	Guide	117	75	Cursor-up-right
7	07	Drag	118	76	Cursor-down-right
8	08	VOL+	119	77	Cursor-down-left
9	09	VOL-	120	78	V
10	0A	MUTE	121	79	V-End
11	0B	CHAN+	124	7C	X
12	0C	CHAN-	125	7D	X-End
13	0D	1			
14	0E	2			
15	0F	3			
16	10	4			
17	11	5			
18	12	6			
19	13	7			
20	14	8			
21	15	9			
22	16	txt			
23	17	0			
24	18	snapshot ESC			
25	19	C			
26	1A	^			
27	1B	D			
28	1C	TV/RADIO			
29	1D	<			
30	1E	OK			
31	1F	>			
32	20	<-			
33	21	E			
34	22	v			
35	23	F			
36	24	Rewind			
37	25	Play			
38	26	Fast forward			
39	27	Record			
40	28	Stop			
41	29	Pause			
44	2C	TV			
45	2D	VCR			
46	2E	RADIO			
47	2F	TV Preview			
48	30	Channel list			
49	31	Video Desktop			
50	32	red			
51	33	green			
52	34	yellow			
53	35	blue			
54	36	rename TAB			
55	37	Acquire image			
56	38	edit image			

7.1.3. ATI Remote Wonder Plus

Dec	Hex	Button	Dec	Hex	Button
0	00	A	35	23	F
1	01	B	36	24	Rewind
2	02	power	37	25	Play
3	03	TV	38	26	Fast forward
4	04	DVD	39	27	Record
5	05	?	40	28	Stop
6	06	Guide	41	29	Pause
7	07	Drag	42	2A	TV2
8	08	VOL+	43	2B	Clock
9	09	VOL-	44	2C	TV
10	0A	MUTE	45	2D	VCR
11	0B	CHAN+	46	2E	RADIO
12	0C	CHAN-	47	2F	TV Preview
13	0D	1	48	30	Channel list
14	0E	2	49	31	Video Desktop
15	0F	3	50	32	red
16	10	4	51	33	green
17	11	5	52	34	yellow
18	12	6	53	35	blue
19	13	7	54	36	rename TAB
20	14	8	55	37	Acquire image
21	15	9	56	38	edit image
22	16	txt	57	39	Full screen
23	17	0	58	3A	DVD Audio
24	18	Open Setup Menu	112	70	Cursor-left
25	19	C	113	71	Cursor-right
26	1A	^	114	72	Cursor-up
27	1B	D	115	73	Cursor-down
28	1C	FM	116	74	Cursor-up-left
29	1D	<	117	75	Cursor-up-right
30	1E	OK	118	76	Cursor-down-right
31	1F	>	119	77	Cursor-down-left
32	20	Max/Restore Window	120	78	Left Mouse Button
33	21	E	121	79	V-End
34	22	v	124	7C	Right Mouse Button
			125	7D	X-End

7.1.4. Medion Remote

Dec	Hex	Button	55	37	Acquire image
0	00	Mute	56	38	edit image
1	01	B	57	39	Full screen
2	02	power	58	3A	DVD Audio
3	03	TV	112	70	Cursor-left
4	04	DVD	113	71	Cursor-right
5	05	Photo	114	72	Cursor-up
6	06	Music	115	73	Cursor-down
7	07	Drag	116	74	Cursor-up-left
8	08	VOL-	117	75	Cursor-up-right
9	09	VOL+	118	76	Cursor-down-right
10	0A	MUTE	119	77	Cursor-down-left
11	0B	CHAN+	120	78	V
12	0C	CHAN-	121	79	V-End
13	0D	1	124	7C	X
14	0E	2	125	7D	X-End
15	0F	3			
16	10	4			
17	11	5			
18	12	6			
19	13	7			
20	14	8			
21	15	9			
22	16	txt			
23	17	0			
24	18	snapshot ESC			
25	19	DVD MENU			
26	1A	^			
27	1B	Setup			
28	1C	TV/RADIO			
29	1D	<			
30	1E	OK			
31	1F	>			
32	20	<-			
33	21	E			
34	22	v			
35	23	F			
36	24	Rewind			
37	25	Play			
38	26	Fast forward			
39	27	Record			
40	28	Stop			
41	29	Pause			
44	2C	TV			
45	2D	VCR			
46	2E	RADIO			
47	2F	TV Preview			
48	30	Channel list			
49	31	Video Desktop			
50	32	red			
51	33	green			
52	34	yellow			
53	35	blue			
54	36	rename TAB			

7.2. Harrison address conversion to switch settings

The address used is converted to the address selected in the Harrison curtain motor using the table below.

switch	1	2	3	4		5	6	7	8
	H	H	H	H		X	X	X	X
A	0	1	1	0	1	0	0	0	0
B	0	1	1	1	2	0	0	0	1
C	0	1	0	0	3	0	0	1	0
D	0	1	0	1	4	0	0	1	1
E	1	0	0	0	5	0	1	0	0
F	1	0	0	1	6	0	1	0	1
G	1	0	1	0	7	0	1	1	0
H	1	0	1	1	8	0	1	1	1
I	1	1	1	0	9	1	0	0	0
J	1	1	1	1	10	1	0	0	1
K	1	1	0	0	11	1	0	1	0
L	1	1	0	1	12	1	0	1	1
M	0	0	0	0	13	1	1	0	0
N	0	0	0	1	14	1	1	0	1
O	0	0	1	0	15	1	1	1	0
P	0	0	1	1	16	1	1	1	1

H H H H = House code

X X X X = device code

Switch position in the motor:

Up = 1

Middle = not used!!!!

Down = 0

Examples:

If you assign the address E7 (1000 0110) to the curtain motor then set the switches to: 1=up, 2=down, 3=down, 4=down, 5=down, 6=up, 7=up, 8=down

If you assign the address A2 (0110 0001) to the curtain motor then set the switches to: 1=down, 2=up, 3=up, 4=down, 5=down, 6=down, 7=down, 8=up

7.3. Flamingo, AB400, IMPULS, Sartano, Brennenstuhl, SilverCrest 91089, Cranenbroek switch settings

Use type ELRO AB400D

Note that the HC (House Code A-P) is the house code used in programs and has no direct relation with the A,B,C,D,E buttons on the remotes!

```

      1 2 3 4   <== switches
HC=====
A   0 0 0 0
B   0 0 0 1
C   0 0 1 0
D   0 0 1 1
E   0 1 0 0
F   0 1 0 1
G   0 1 1 0
H   0 1 1 1
I   1 0 0 0
J   1 0 0 1
K   1 0 1 0
L   1 0 1 1
M   1 1 0 0
N   1 1 0 1
O   1 1 1 0
P   1 1 1 1

      5 A B C D E           5 A B C D E   <== switches
      5 6 7 8 9 10         5 6 7 8 9 10 <== OR switches
DC=====DC=====
1   0 0 0 0 0 0   33   0 0 0 0 0 1
2   0 0 0 1 0 0   34   0 0 0 1 0 1
3   0 0 1 0 0 0   35   0 0 1 0 0 1
4   0 0 1 1 0 0   36   0 0 1 1 0 1
5   0 1 0 0 0 0   37   0 1 0 0 0 1
6   0 1 0 1 0 0   38   0 1 0 1 0 1
7   0 1 1 0 0 0   39   0 1 1 0 0 1
8   0 1 1 1 0 0   40   0 1 1 1 0 1
9   1 0 0 0 0 0   41   1 0 0 0 0 1
10  1 0 0 1 0 0   42   1 0 0 1 0 1
11  1 0 1 0 0 0   43   1 0 1 0 0 1
12  1 0 1 1 0 0   44   1 0 1 1 0 1
13  1 1 0 0 0 0   45   1 1 0 0 0 1
14  1 1 0 1 0 0   46   1 1 0 1 0 1
15  1 1 1 0 0 0   47   1 1 1 0 0 1
16  1 1 1 1 0 0   48   1 1 1 1 0 1
17  0 0 0 0 1 0   49   0 0 0 0 1 1
18  0 0 0 1 1 0   50   0 0 0 1 1 1
19  0 0 1 0 1 0   51   0 0 1 0 1 1
20  0 0 1 1 1 0   52   0 0 1 1 1 1
21  0 1 0 0 1 0   53   0 1 0 0 1 1
22  0 1 0 1 1 0   54   0 1 0 1 1 1
23  0 1 1 0 1 0   55   0 1 1 0 1 1
24  0 1 1 1 1 0   56   0 1 1 1 1 1
25  1 0 0 0 1 0   57   1 0 0 0 1 1
26  1 0 0 1 1 0   58   1 0 0 1 1 1
27  1 0 1 0 1 0   59   1 0 1 0 1 1
28  1 0 1 1 1 0   60   1 0 1 1 1 1
29  1 1 0 0 1 0   61   1 1 0 0 1 1
30  1 1 0 1 1 0   62   1 1 0 1 1 1
31  1 1 1 0 1 0   63   1 1 1 0 1 1
32  1 1 1 1 1 0   64   1 1 1 1 1 1

```

Examples:

```

A1   0000000000
A15  0000111000
N2   1101000100
N11  1101101000

```

0 = switch off

1 = switch on

7.4. Energenie 5-gang 429.950

To know the codes to use open the remote and check the 1 to 5 jumpers connected. If a jumper connection is open it is a 1. If connected it is a 0 (zero)

	1	2	3	4	jumper setting in the remote
HC=====					
A	0	0	0	0	
B	0	0	0	1	
C	0	0	1	0	
D	0	0	1	1	
E	0	1	0	0	
F	0	1	0	1	
G	0	1	1	0	
H	0	1	1	1	
I	1	0	0	0	
J	1	0	0	1	
K	1	0	1	0	
L	1	0	1	1	
M	1	1	0	0	
N	1	1	0	1	
O	1	1	1	0	
P	1	1	1	1	

If jumper 5 is open (1) than add 5 to the remote code.

Examples:

Jumper	Button Code	
1 2 3 4 5		
1 0 0 0 0	1	I1
1 0 0 0 1	1	I6

7.5. Phenix, IDK YC-4000S switch settings

Use type ELRO AB400D

Note that the HC (House Code A-P) is the house code used in programs and has no direct relation with the A,B,C,D,E buttons on the remotes!

```
HC  switch
   1 2 3 4
=====
A   0 0 0 0
B   0 0 0 1
C   0 0 1 0
D   0 0 1 1
E   0 1 0 0
F   0 1 0 1
G   0 1 1 0
H   0 1 1 1
I   1 0 0 0
J   1 0 0 1
K   1 0 1 0
L   1 0 1 1
M   1 1 0 0
N   1 1 0 1
O   1 1 1 0
P   1 1 1 1
```

```
DC  switch
   5 A B C D
=====
1   0 0 0 0 0
2   0 0 0 1 0
3   0 0 1 0 0
4   0 0 1 1 0
5   0 1 0 0 0
6   0 1 0 1 0
7   0 1 1 0 0
8   0 1 1 1 0
9   1 0 0 0 0
10  1 0 0 1 0
11  1 0 1 0 0
12  1 0 1 1 0
13  1 1 0 0 0
14  1 1 0 1 0
15  1 1 1 0 0
16  1 1 1 1 0
17  0 0 0 0 1
18  0 0 0 1 1
19  0 0 1 0 1
20  0 0 1 1 1
21  0 1 0 0 1
22  0 1 0 1 1
23  0 1 1 0 1
24  0 1 1 1 1
25  1 0 0 0 1
26  1 0 0 1 1
27  1 0 1 0 1
28  1 0 1 1 1
29  1 1 0 0 1
30  1 1 0 1 1
31  1 1 1 0 1
32  1 1 1 1 1
```


7.6. HE105 switch settings

Unitnr	HE105 switches				
	1	2	3	4	5
0	0	0	0	0	0
1	0	0	0	0	1
2	0	0	0	1	0
3	0	0	0	1	1
4	0	0	1	0	0
5	0	0	1	0	1
6	0	0	1	1	0
7	0	0	1	1	1
8	0	1	0	0	0
9	0	1	0	0	1
10	0	1	0	1	0
11	0	1	0	1	1
12	0	1	1	0	0
13	0	1	1	0	1
14	0	1	1	1	0
15	0	1	1	1	1
16	1	0	0	0	0
17	1	0	0	0	1
18	1	0	0	1	0
19	1	0	0	1	1
20	1	0	1	0	0
21	1	0	1	0	1
22	1	0	1	1	0
23	1	0	1	1	1
24	1	1	0	0	0
25	1	1	0	0	1
26	1	1	0	1	0
27	1	1	0	1	1
28	1	1	1	0	0
29	1	1	1	0	1
30	1	1	1	1	0
31	1	1	1	1	1

7.7. HQ COCO-20

Note that the HC (House Code A-P) is the house code used in programs and has no direct relation with the A,B,C,D,E buttons on the remotes!

6 7 8 9 <== switches in module

HC=====

```
A 0 0 0 0
B 0 0 0 1
C 0 0 1 0
D 0 0 1 1
E 0 1 0 0
F 0 1 0 1
G 0 1 1 0
H 0 1 1 1
I 1 0 0 0
J 1 0 0 1
K 1 0 1 0
L 1 0 1 1
M 1 1 0 0
N 1 1 0 1
O 1 1 1 0
P 1 1 1 1
```

10 1 2 3 4 5

10 1 2 3 4 5 <== switches in module

DC=====DC=====

```
1 0 0 0 0 0 0 33 1 0 0 0 0 0
2 0 0 0 0 0 1 34 1 0 0 0 0 1
3 0 0 0 0 1 0 35 1 0 0 0 1 0
4 0 0 0 0 1 1 36 1 0 0 0 1 1
5 0 0 0 1 0 0 37 1 0 0 1 0 0
6 0 0 0 1 0 1 38 1 0 0 1 0 1
7 0 0 0 1 1 0 39 1 0 0 1 1 0
8 0 0 0 1 1 1 40 1 0 0 1 1 1
9 0 0 1 0 0 0 41 1 0 1 0 0 0
10 0 0 1 0 0 1 42 1 0 1 0 0 1
11 0 0 1 0 1 0 43 1 0 1 0 1 0
12 0 0 1 0 1 1 44 1 0 1 0 1 1
13 0 0 1 1 0 0 45 1 0 1 1 0 0
14 0 0 1 1 0 1 46 1 0 1 1 0 1
15 0 0 1 1 1 0 47 1 0 1 1 1 0
16 0 0 1 1 1 1 48 1 0 1 1 1 1
17 0 1 0 0 0 0 49 1 1 0 0 0 0
18 0 1 0 0 0 1 50 1 1 0 0 0 1
19 0 1 0 0 1 0 51 1 1 0 0 1 0
20 0 1 0 0 1 1 52 1 1 0 0 1 1
21 0 1 0 1 0 0 53 1 1 0 1 0 0
22 0 1 0 1 0 1 54 1 1 0 1 0 1
23 0 1 0 1 1 0 55 1 1 0 1 1 0
24 0 1 0 1 1 1 56 1 1 0 1 1 1
25 0 1 1 0 0 0 57 1 1 1 0 0 0
26 0 1 1 0 0 1 58 1 1 1 0 0 1
27 0 1 1 0 1 0 59 1 1 1 0 1 0
28 0 1 1 0 1 1 60 1 1 1 0 1 1
29 0 1 1 1 0 0 61 1 1 1 1 0 0
30 0 1 1 1 0 1 62 1 1 1 1 0 1
31 0 1 1 1 1 0 63 1 1 1 1 1 0
32 0 1 1 1 1 1 64 1 1 1 1 1 1
```

Examples:

Switch 6 7 8 9 0 1 2 3 4 5

```
=====
A1 0 0 0 0 0 0 0 0 0 0
A15 0 0 0 0 1 1 1 0 0 0
N2 1 1 0 1 0 0 0 1 0 0
N11 1 1 0 1 1 0 1 0 0 0
```

0 = switch off

1 = switch on

7.8. MDREMOTE V106, V107

This MDREMOTE has been tested.

<http://www.ultraleds.co.uk/mini-dimmer-with-rf-remote-control-12-or-24v-dc-12a-maximum.html>

The RFXtrx433 can only transmit MDREMOTE commands.

Procedure to find the ID of the MDREMOTE: In RFXmngnr enable the X10 protocol and enable "Undec on". Press a button on the MDREMOTE remote.

The undecoded message contains the ID in the 2nd and 3rd byte, for example:

UNDECODED NEC:20AF6801D1

The 2 bytes after 20 is the MDREMOTE ID, in this example AF 68

7.9. MDREMOTE V108, EKAB-10KRF

This MDREMOTE has been tested.

- <http://www.ledstripkoning.nl/accessoires/dimmers-wit/draadloze-dimmer-10-knops-rf/>

Procedure to find the ID of the MDREMOTE: In RFXmngnr enable the Lighting4 protocol and enable "Undec on". Press a button on the MDREMOTE remote.

The undecoded message contains the ID in the 2nd and 3rd byte, for example:

UNDECODED ARC:201A0703FCFC

The 2 bytes after 20 is the MDREMOTE ID, in this example 1A 07

7.10. Aoke relay

The Aoke 12V DC - 315MHz or 433.92MHz 1 channel relay is available at www.aliexpress.com store No.110758. Indicate clearly the required frequency when ordering!

The 1 channel learning relays can be used, see the picture below.

For example, for 1 relay:

http://www.aliexpress.com/store/product/DC12V-1CH-wireless-switch-remote-control-system-remote-control-switch-for-guard-door-window-curtain/110758_936534863.html

or for 6 relays:

http://www.aliexpress.com/store/product/ak-DC12V-1CH-RF-rocker-switch-livolo-switch-system-in-china-j-12a-108d-smart-house/110758_1007306574.html



The jumper next to the learning button defines to operating mode:
Open = momentary
1-2 = toggle mode
2-3 = on/off mode (to be used with the RFXtrx)

7.11. SEAV TXS4

The ID can be found using RFXmngr and enable only ByronSX and undec on.

Or calculate the ID:

A SW1 switch on = 1

```
|-----SW1-----|
 1 2 3   4 5 6 7   8 9 10
0 x x x | x x x x | x x x 0 | 0 1 0 1
```

For example SW1 = **on off on off on off on off on off**

The ID will become:

```
|-----SW1-----|
 1 2 3   4 5 6 7   8 9 10
0 1 0 1 | 0 1 0 1 | 0 1 0 0 | 0 1 0 1 this is hex: 5 5 4 5
```

7.12. How to find the dx.com RGB LED strip driver ID

Valid for the TRC02 remote with 2 batteries.

Flash the RFXtrx433 with Type2 firmware to be able to receive the remote ID in RFXmngr. In RFXmngr enable only the LightwaveRF (AD) protocol.

```
-----
Packettype    = Lighting5
subtype       = RGB TRC02
Sequence nbr  = 5
ID          = FCC48B
Command       = On
Signal level  = 8
The ID is: FC C4 8B
```

If necessary flash the RFXtrx433 back to Type1 or ext if Type2 does not support devices you need. (See chapter 2.2)

7.13. How to find the dx.com RGB LED strip driver ID (rev. 2)

Valid for the TRC02 remote with 3 batteries and ebay.com 191481664563.

In RFXmngr enable only the Lighting4 protocol.

```
-----
Packettype    = Lighting4
subtype       = PT2262
Sequence nbr  = 29
Code         = 161C84
The ID is: 16 1C
```

7.14. How to find the Eurodomest ID

You can assign a random ID to the Eurodomest. If you want to use the same ID as the remote you can find the ID of the remote using RFXmngr.

Start RFXmngr and enable only the Lighting4 protocol.

Press a button on the remote and you will receive a message like:

```
-----
Packettype    = Lighting4
subtype       = PT2262
Sequence nbr  = 12
Code         = 6DFE0F
The ID is: 6 DF E0
```

Note: Eurodomest can also be controlled using ARC.

7.15. How to find the Screenline ID

You can assign a random ID to the Screenline. If you want to use the same ID as the remote you can find the ID of the remote using RFXmng.

Start RFXmng and enable only the Lighting4 protocol and undec on.

Press a button on the remote and you will receive a message like:

```
-----  
Packettype = UNDECODED RF Message  
UNDECODED ARC:4000F7BD1D2AF04B7
```

The ID starts at the 7th character, in this example the ID = 7B D1

7.16. How to find the Avantek remote ID

You can find the ID of the remote using RFXmng.

Start RFXmng and enable only the Lighting4 protocol.

Press a button on the remote and you will receive a message like:

```
Packettype      = Lighting4  
subtype         = PT2262  
Sequence nbr   = 3  
Code            = 122336 decimal:1188662  
S1- S24        = 0001 0010 0010 0011 0011 0110  
Pulse          = 280 usec  
Signal level    = 7 -64dBm
```

The ID to be used is 1 22 33

8. Blyss commands

Some Blyss devices, like the Blyss motors, require a special command sequence number. To simplify it; 0,1,2,3,4,0,1,...

This sequence number is normally created by the Blyss remote but now also by the RFXtrx433.

If you use a Blyss remote and the application (Domoticz, DomotiGa, Homeseer...) does not sync with the received Blyss command you will see that you need to send multiple commands with the RFXtrx433 before the Blyss device will respond.

For example,

The Blyss remote transmits with the sequence numbers 0,1,2

If the RFXtrx433 transmits now with sequence number 0 it will not be seen by the Blyss device as a valid command and at the time the RFXtrx433 transmits the commands 1,2,3 the command will be detected as valid when it receives the command with sequence number 3.

The same is true for the remote. If you transmit commands with the RFXtrx433 and after that with a Blyss remote you need to transmit several commands with the remote before the Blyss device responds.

I guess the same behaviour will show if you use multiple Blyss remotes.

9. Somfy RTS

Somfy RTS* devices can only be controlled by the RFXtrx433E. (not with the RFXtrx433)
The RFXtrx433E version is an RFXtrx433 with additional hardware to enable the RFY protocol used to control Somfy RTS.

The 433.42MHz transmitter in the RFXtrx433E is used for a reliable control of the Somfy RTS devices over a large distance and through walls.

The RFXtrx433E 433.92MHz transmitter is used to control all other devices.

To pair the Somfy RTS device:

- Select a unique ID and unitcode for the RFXCOM RFY device.
- Disconnect power from all Somfy RTS devices except the device to pair.
- Press the Program button > 2 seconds on the original Somfy remote until the Somfy device responds.
- Transmit a Program command with the RFXtrx433E. The Somfy RTS device should respond indicating the pair command was successful.

The RFXCOM RFY remote is registered in the RFXtrx433E by sending a Program command.
Up to 40 RFXCOM RFY remotes can be registered in the RFXtrx433E.

Remotes can be erased from the RFXtrx433E using the RFXmngr program.

The Somfy RTS device can be controlled by any application as long as the same ID and Unit Code are used.

For example if the RTS device is paired using RFXmngr with ID=1 02 03 and Unit Code 1, the RTS device can be controlled with Homeseer using the same ID and unit code.

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 (can be a RFXtrx433E ID-unit) 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.

10. BlindsT6

To add a RFXtrx433(E) 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 RFXtrx433(E) ==> 5 beeps

10.1. 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 RFXtrx433(E)

11. Lucci Air fan

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

0 = ON

12. Transmit undecoded ARC commands.

Plug-in modules or other equipment with a PT2262 can be controlled using Lighting4. There are a lot of brands using the PT2262 and some of them use the same timing (350) as used by the ARC devices but a different protocol definition.

Messages will be received as undecoded ARC messages if the protocol definition does not match the definition of the ARC protocol. Remote commands are received as ARC commands with a wrong house and device code and/or command code or as undecoded ARC messages if "undec on" is enabled. Decoding of these remotes is therefore not possible because they overlap the ARC protocol partly.

But transmitting these commands is possible using the Lighting4 command.

So if we receive this command UNDECODED ARC:18014403:
(18 is not used)

hex to binary table

```

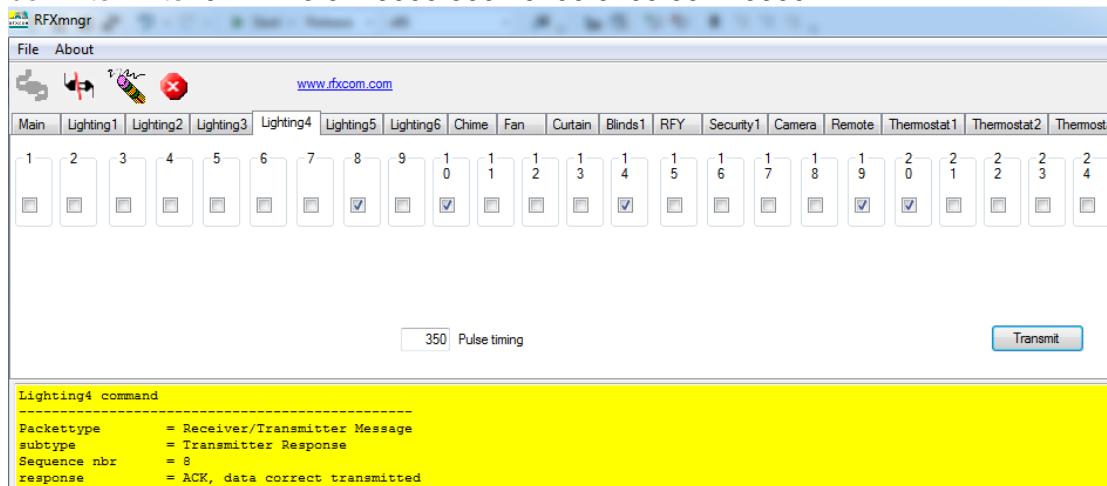
0=0 0 0 0
1=0 0 0 1
2=0 0 1 0
3=0 0 1 1
4=0 1 0 0
5=0 1 0 1
6=0 1 1 0
7=0 1 1 1
8=1 0 0 0
9=1 0 0 1
A=1 0 1 0
B=1 0 1 1
C=1 1 0 0
D=1 1 0 1
E=1 1 1 0
F=1 1 1 1
  
```

0 1 4 4 0 3 = selection box 0000 0001 0100 0100 0000 0011
Not selected = 0, box selected = 1

And the Lighting4 command contains the same "undec code" 01 44 03:
Lighting4 command:09 13 00 04 **01 44 03** 01 5E 00
pulse timing is 350 = hex 015E

Another example:

For this command UNDECODED ARC:18014430 set on the Lighting4 tab in RFXmng selection box 1 to 24 to 0 1 4 4 3 0 = 0000 0001 0100 0100 0011 0000



13. MCZ pellet stove.

In the Type2 firmware zip file which is available on the downloads page you will find a special firmware RFXtrxMCZ.hex that enables you to know the ID of the your MCZ remote.

Flash the RFXtrxMCZ.hex firmware in your RFXtrx433(E) and start RFXmngn.
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
```

Flash now Type2 or Ext firmware in your RFXtrx433(E) and you can control your MCZ stove using the received ID.

Important: remove the batteries from the original remote before you start using the RFXtrx433 to control the MCZ stove!

14. Known Lighting4 devices

14.1. Proluxx projection screen

Use Lighting4 with a pulse timing of 360

UP	1110	1101	0101	1001	0101	0010	ED	59	52
STOP	1110	1101	0101	1001	0101	1000	ED	59	58
DOWN	1110	1101	0101	1001	0101	0100	ED	59	54
RESET	1110	1101	0101	1001	0101	0001	ED	59	51

14.2. Kingpin (KP100) projection screen

Use Lighting4 with a pulse timing of 1040

UP	1110	0001	0100	0010	0010	0010	E1	42	22
STOP	1110	0001	0100	0010	0010	0100	E1	42	24
DOWN	1110	0001	0100	0010	0010	1000	E1	42	28
PROGRAM	1110	0001	0100	0010	0010	0001	E1	42	21

14.3. Mercury remote control mains sockets

<http://mercury.avsl.com/product?range=ME5124>

Use Lighting4 with a pulse timing of 188

1 OFF	01000100010101010011	1100
1 ON	01000100010101010011	0011
2 OFF	01000100010101011100	1100
2 ON	01000100010101011100	0011
3 OFF	01000100010101110000	1100
3 ON	01000100010101110000	0011
4 OFF	01000100010111010000	1100
4 ON	01000100010111010000	0011
5 OFF	01000100011101010000	1100
5 ON	01000100011101010000	0011

14.4. Conrad 034911 sockets

<http://www.conrad.nl/ce/nl/product/034911/Draadloze-schakelaarset-5-delig>

Use Lighting4 with a pulse timing of 425

Off = last 2 digits: 00

ON = last 2 digits: 01

Group	Unit											
I	1 OFF	00	01	01	01	00	01	01	01	01	01	00
II	1 OFF	01	00	01	01	00	01	01	01	01	01	00
III	1 OFF	01	01	00	01	00	01	01	01	01	01	00
IV	1 OFF	01	01	01	00	00	01	01	01	01	01	00
I	1 OFF	00	01	01	01	00	01	01	01	01	01	00
I	2 OFF	00	01	01	01	01	00	01	01	01	01	00
I	3 OFF	00	01	01	01	01	01	00	01	01	01	00
I	4 OFF	00	01	01	01	01	01	01	00	01	01	00
I	1 OFF	00	01	01	01	00	01	01	01	01	01	00
I	1 ON	00	01	01	01	00	01	01	01	01	01	01

14.5. Sonoff

All Sonoff 433MHz RF receiver devices can be controlled by the RFXtrx433 and RFXtrx433E using Lighting4 with a pulse timing of 370usec.

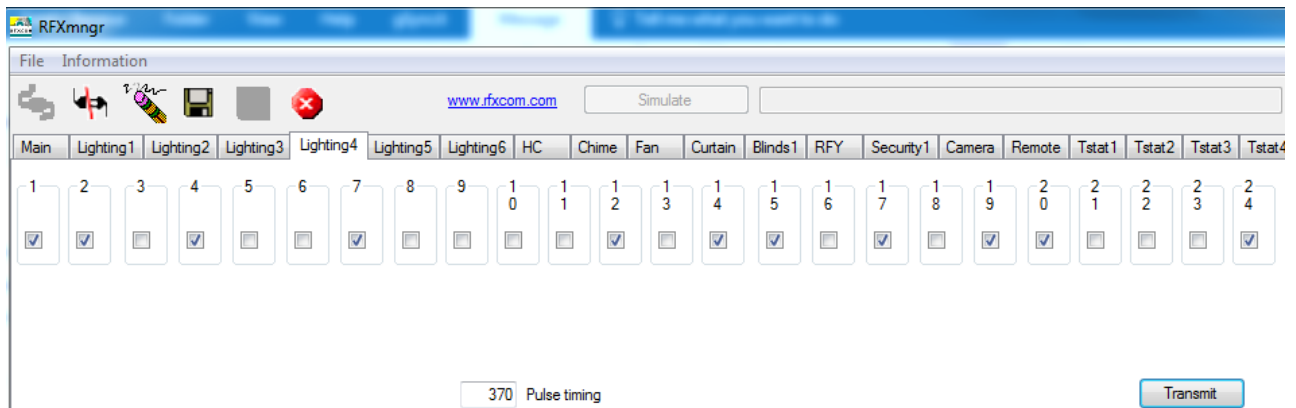
The 4 button Sonoff Lighting4 remote code:

The last digit indicates the button:

A	0001	hex 1
B	0010	hex 2
C	0100	hex 4
D	1000	hex 8

The first 5 digits are the ID. Here an example of ID=D216B button=A

Packettype = Lighting4
subtype = PT2262
Sequence nbr = 1
Code = D216B1 decimal:13768369
S1- S24 = 1101 0010 0001 0110 1011 0001
Pulse = 370 usec
Signal level = 8 -56dBm



The Lighting4 commands can be used for example to control the 4 relays in a Sonoff 4CH Pro https://www.banggood.com/SONOFF-4CH-Pro-10A-2200W-2_4Ghz-433MHz-RF-InchingSelf-LockingInterlock-Smart-Home-p-1153324.html

15. FAQ

15.1. Receive has stopped suddenly but transmit works.

Most probably a sensor is transmitting constantly. This could be for example an X10 MS13 motion sensor or weather sensor with almost empty battery. Or an outside weather sensor filled with water. Or a remote with a button pressed.

Test the RFXtrx with a remote or sensor on another location (> 1km away) using RFXmngn on a Windows system or laptop.

15.2. Can I increase the receive/transmit range of the RFXtrx?

First check chapter 2.5 for the best place for the RFXtrx antenna.

The switch board is not the best place for the RFXtrx because of all metal objects that will absorb or reflect the RF signals.

It is also advised to place the RFXtrx far away from PC's, routers, Raspberry PI ... because of the RF noise those products produce and this will reduce the receive range very much.

You can connect another 50ohm 70cm/433MHz antenna with more gain.

For example <http://www.ebay.com/itm/290979680030>

Install this antenna on a metal plate of at least 30 cm for optimum result.

15.3. The RFXtrx USB connection disconnects sometimes.

This happens mostly on Raspberry PI with a low quality power supply. Solution is to use a powered USB hub with a good quality power supply.

It can also happen if the USB cable is running along a power cable and a power device is switched on that produces a high power spike like TL. Solution is to separate the USB cable from all other cables and/or use a powered USB hub with a good quality power supply.

15.4. I have a 433.92MHz sensor/remote but this device is not received.

Besides the frequency the used protocol and modulation type is also important.

See chapter 2 for the list of supported devices.

15.5. The wall plug is switched by the remote. The remote is received but the RFXtrx does not switch the module.

The remote transmits several protocols. The protocol used by the wall plug is not received by the RFXtrx but some other protocols are received.

Solution:

For the HomeEasy EU- HE8xx series: reset the module to remove all paired remotes and pair the module with the RFXtrx433E and one of remote codes that is received.

For IT modules FA500/PROmax: Pair the RFXtrx433E with the module using an IT device and select a random ID. The received remote code can be used to know if the module is switched by the remote.

16. EC Declaration of Conformity

EC Declaration of Conformity



RFXCOM declares that the product:

RFXtrx

Brand: RFXCOM Type: RFXtrx433E

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

R&TTE Directive 99/5/EC	EN 300 220-1 V2.4.1 (2012-05) EN 300 220-2 V2.4.1 (2012-05)
Low-voltage Directive 2006/95/EC	IEC 60950-1 (2005-12)
EMC Directive 2004/108/EC	EN 301 489-1 V1.9.2 (2011-09) EN 301 489-3 V1.4.1 (2002-08)

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20. Revision history

- Version 0.0 – August 18, 2011
Initial version.
- Version 1.0 – October 30, 2011
RFXflash under Mono added.
- Version 2.0 – December 30, 2011
Updated for the production version with FTDI USB chip
- Version 2.1 – January 18, 2012
Link for ACM to serial port added in Linux instruction.
EC Declaration of Conformity added
- Version 2.2 – February 8, 2012
Protocols overview added
Screen dumps updated
- Version 2.3 – February 16, 2012
Novatys planned
- Version 2.4 – February 25, 2012
General information updated
- Version 2.5 – March 1, 2012
Chapter added how to run RFXmng or RFXflash on Linux.
- Version 2.6 – March 14, 2012
Code tables added
Cresta, UPM added
- Version 2.7 – March 15, 2012
Flash procedure updated
- Version 2.8 – March 31, 2012
Phenix table added
- Version 2.9 – March 31, 2012
AB400 and Phenix address extended
- Version 2.10 – April 16, 2012
Linux USB - tty configuration updated
- Version 2.11 – May 14, 2012
List of supported protocols updated.
- Version 2.12 – June 8, 2012
Chapter added how to run RFXmng or RFXflash on Mac OS
- Version 2.13 – July 15, 2012
List of supported protocols updated
- Version 2.14 – August 4, 2012
List of enabled protocols influence added
RFXtrx315 added
- Version 2.15 – August 18, 2012
Enabled protocols table changed
- Version 2.16 – August 26, 2012
Rubicon stektermometer added
ATI Remote Wonder II added
- Version 2.17 – August 28, 2012
Table “sensitivity influenced” updated
- Version 2.18 – September 18, 2012
Chapter 2.3 updated: BlindsT0 disables all other protocols
- Version 2.19 – September 25, 2012
RFXFlash version required changed to 4.0.0.0
- Version 2.20 – September 28, 2012
RF range reduction guide added
- Version 2.21 – October 18, 2012
BlindsT2 and BlindsT3 added
- Version 2.22 – October 24, 2012
Sartano added
- Version 2.23 – October 31, 2012

Sensitivity table updated

Version 2.24 – November 7, 2012
 Protocol table extended with the protocols to enable for receive

Version 2.25 – November 14, 2012
 HE105 switch settings added

Version 2.26 – November 28, 2012
 undec on explained

Version 2.27 – December 4, 2012
 Use of Lighting4 commands for undec ARC
 Brennenstuhl added

Version 2.28 – December 18, 2012
 Receiver tab removed from RFXmngnr

Version 2.29 – December 27, 2012
 Lighting4 receive added

Version 2.30 – January 1, 2013
 Raex motor added

Version 3.00 – January 4, 2013
 RFXtrx433 Type1/Type2 firmware added

Version 3.01 – February 4, 2013
 Supported protocols list updated

Version 4.00 – February 21, 2013
 Chapter 8 - Lighting4 screen updated for RFXmngnr 11.0.0.0
 Known Lighting4 chapter added

Version 4.01 – March 13, 2013
 Receive of LaCrosse sometimes influenced by enabled Hideki

Version 4.02 – June 8, 2013
 MDREMOTE LED dimmer added
 Conrad RSL2 added
 Energenie added

Version 4.03 – September 27, 2013
 How to find the MDREMOTE ID (chapter 7.6)
 WS1200 added
 Byron SX Chime added

Version 4.04 – November 15, 2013
 Maverick ET-732 added
 Alecto SA30 added
 Oregon EW109 added
 Revolt added

Version 4.05 – December 5, 2013
 Blyss command explanation added.
 Lighting4 - Mercury added
 Lighting5 – dx.com RGB LED controller added

Version 4.06 – December 27, 2013
 Chapter 2.2 updated

Version 4.07 – February 10, 2014
 Chapter 7.8 added: how to find the dx.com RGB LED strip driver ID

Version 4.08 – March 20, 2014
 ARC and Oregon3.0 updated in table 2.4.
 Energenie 5-gang 429.950 added

Version 4.09 – April 4, 2014
 BlindsT6 - DC106, YOODA, Röhrlmotor24 RMF added

Version 4.10 – April 7, 2014
 BlindsT7 - Forest added

Version 4.11 – April 28, 2014
 RGB LED – clarified AD is LightwaveRF

Version 4.12 – May 21, 2014
 Kambrook RF3672 added
 RFY protocol added

Somfy programming instructions added
 Supported protocol list RFXtrx433 updated.
 Protocol list by function added
 Version 4.13 – May 31, 2014
 Opus TX300/Imagintronix Soil sensor added
 Version 4.14 – June 18, 2014
 Prega sensor added
 Conrad 34911 Lighting4 coding added
 Version 4.15 – June 25, 2014
 Kambrook, Rubicson, Viking supported in ext firmware
 Number of RFY remotes increased from 16 to 30
 Version 4.16 – June 29, 2014
 RFXmngn cannot be used on Linux
 Version 4.17 – July 3, 2014
 CoCo GDR2 added
 Version 4.18 – July 14, 2014
 Opus TX300 link added
 Version 4.19 – July 25, 2014
 Aoke relay added
 Version 4.20 – August 25, 2014
 Enabling protocols clarified.
 Version 4.21 – September 5, 2014
 Meade sensors added
 Oregon BTHGN129 sensor added
 Version 4.22 – September 18, 2014
 Eurodomest added (NL - Action)
 Byron MP001 added
 WT0122 added
 Procedures added to find the Eurodomest and TRC02 ver2 ID
 Version 4.23 – September 24, 2014
 Proove TSS330 fridge/freezer sensor added
 Version 4.24 – October 9, 2014
 BlindsT0 added in ext firmware
 Alecto WS1700 and compatibles added
 Version 4.25 – December 13, 2014
 Smartwares radiator valve added
 Proove TSS320 sensor added
 Version 4.26 – January 2, 2015
 SelectPlus200689101 White Chime (Action NL) added
 Version 4.27 – January 6, 2015
 SelectPlus200689103 Black Chime (Action NL) added
 Version 4.28 – January 7, 2015
 Proove outdoor sensors 311346 & 311501 added
 Etekcity Wireless Remote Control Outlet Switch (US)
 Version 5.00 – January 10, 2015
 Copyright message updated
 License chapter added
 RFXmngn information updated
 Version 5.01 – February 27, 2015
 Chapter 2.5 Lighting4 receive is reduced with HomeEasy EU enabled.
 Chamberlain tubular motor added
 Sunperly blind motors added
 DEA Systems receivers added
 Envivo ENV-1348 chime added
 Alecto WS4500 added

Version 5.02 – March 18, 2015
1byOne Easy Chime added
BTX blind motors added
Dolat DLM-1 blind motors added
OTIO added

Version 5.03 – March 19, 2015
TFA 30.3160 pool sensor added

Version 5.04 – April 14, 2015
Chapter 4 updated with restrictions on Lighting4
Siemens SF01 LF959RA50/LF259RB50/LF959RB50 extractor hood added
Maplin N78KA added

Version 5.05 – May 2, 2015
Dooya blind motors added
Louvolute one touch motorised blinds added
Alecto WS3500 added

Version 5.06 – May 4, 2015
Current dx.com TRC02 LED drivers have a different protocol and are not supported.

Version 5.07 – June 1, 2015
WH2 temperature humidity sensor added
RGB LED controller <http://www.ebay.com/itm/191481664563> (maybe dx.com 227892)

Version 5.08 – July 31, 2015
Oregon MSR939 added
ESMO blind motors added
Brel blind motors added
Blinds T6 type motors now also supported in Ext firmware
Supported devices table 2.2.2. updated

Version 5.09 – Aug 12, 2015
Luxaflex blind motors added

Version 5.10 – Aug 17, 2015
JVS screen motors added
Livolo NL link added

Version 5.11 – Aug 31, 2015
ASA motors added

Version 5.12– Sept 14, 2015
Home Confort added

Version 5.13– Oct 2, 2015
Oregon GR101 received in Type1 firmware
Conrad RSL sensors received in Type2 firmware

Version 5.14– Oct 7, 2015
Quotidom blinds motor added

Version 5.15– Nov 06, 2015
Banggood temp-hum sensor added
Legrand CAD radio added

Version 5.16– Nov 26, 2015
Proluxx codes corrected

Version 5.17– Dec 24, 2015
RFXflash procedure updated
Rubicon pool sensor 48.019 added
Inovalley SM80 plant sensor added
Lucci Air fan added

Version 5.18– Jan 1, 2016
1byone Drive Way alarm added

Version 5.19– Feb 6, 2016
Avantek added
ASP blinds motors BlindsT11 added
Maverick ET-733 added
Profiles PAC-326R Belcanto chime added
HQ COCO-20 added

Version 5.20– Feb 18, 2016
BlindsT12 Confexx CNF24-2435 added
IT FA500, PROmax... added
Ext2 firmware overview added in chapter 2
Auriol Z31055B-TX added
Chuangou, Eminent security sensors added

Version 5.21– May 6, 2016
Cartelectronic TIC and Encoder added
FAQ chapter added

Version 5.22– May 14, 2016
Corrected: TX95 is using the Rubicson protocol
MDRemote V108 added

Version 5.23– June 10, 2016
Motolux blinds motor added
Auriol H13726, Hama EWS1500, Meteoscan W155/W160, Ventus WS155 added
FAQ updated

Version 5.24– June 21, 2016
Seav TXS4 added

Version 5.25– Aug 6, 2016
ORNO added

Version 5.26– Sept 6, 2016
Added: How to find the SEAV TXS4 ID

Version 5.27– Oct 09, 2016
Westinghouse fan 7226640 added
THN129 added
TFA 30.3056 pool sensor added

Version 5.28– Oct 19, 2016
MCZ pellet stove added
Alecto SA33 added
Smartwares RM174RF smoke detector added

Version 5.29– Nov 27, 2016
SilverCrest 91089 added
Mertik G6R-H4S added
Marquant 943134
MCZ pellet stove instructions added

Version 5.30– Dec 6, 2016
Kerui security sensors added
Screenline added

Version 5.31– Dec 15, 2016
Flamingo smartwares SF501 added

Version 5.32– Jan 02, 2017
Kangtai, Cotech added

Version 5.33– Feb 01, 2017
Cranenbroek added
Unitec 48110 EIM 826 added
SilverCrest 60494 added
WSD10 added

Version 5.34– March 08, 2017
Housegard Origo smoke detector added
Pearl NC-7159 added
Ambient Weather & Froggit F007TH added
TFA 30.3208.02 sensor added

Version 5.35– March 20, 2017
Silverline Premium motor added
Dooya DT82 instructions added

Version 5.36– April 25, 2017
Quigg added
OTIO EHS5050 added
Blyss temperature/humidity sensor 630467 added
Outlook Motion Blinds added
Version 5.37– May 5, 2017
Cartelectronic TIC in Type2 and Ext2
Version 5.38– May 22, 2017
BBSB not in Ext2
Profile Qnect added
Version 5.39– July 28, 2017
Banggood DANIU sensor added
Somfy usage remarks added
Brennenstuhl RC2044 added
Version 5.40– Sept 18, 2017
Blyss temp/hum added in Ext
Cartelectronic Linky added
Version 5.41– Sept 24, 2017
Sonoff RF added
Rollertrol G series added
Version 5.42– Oct 26, 2017
Dooya DC2770, DT52E added
Version 5.43– Nov 1, 2017
A-OK AC127,AC129 added
Version 5.44– Nov 11, 2017
Digoo DG-R8H added
Version 5.45– Nov 23, 2017
SilverCrest 284705 added