WIRELESS ELECTRO-INSTALLATION

ELKO ep®

iNELS® RF Control
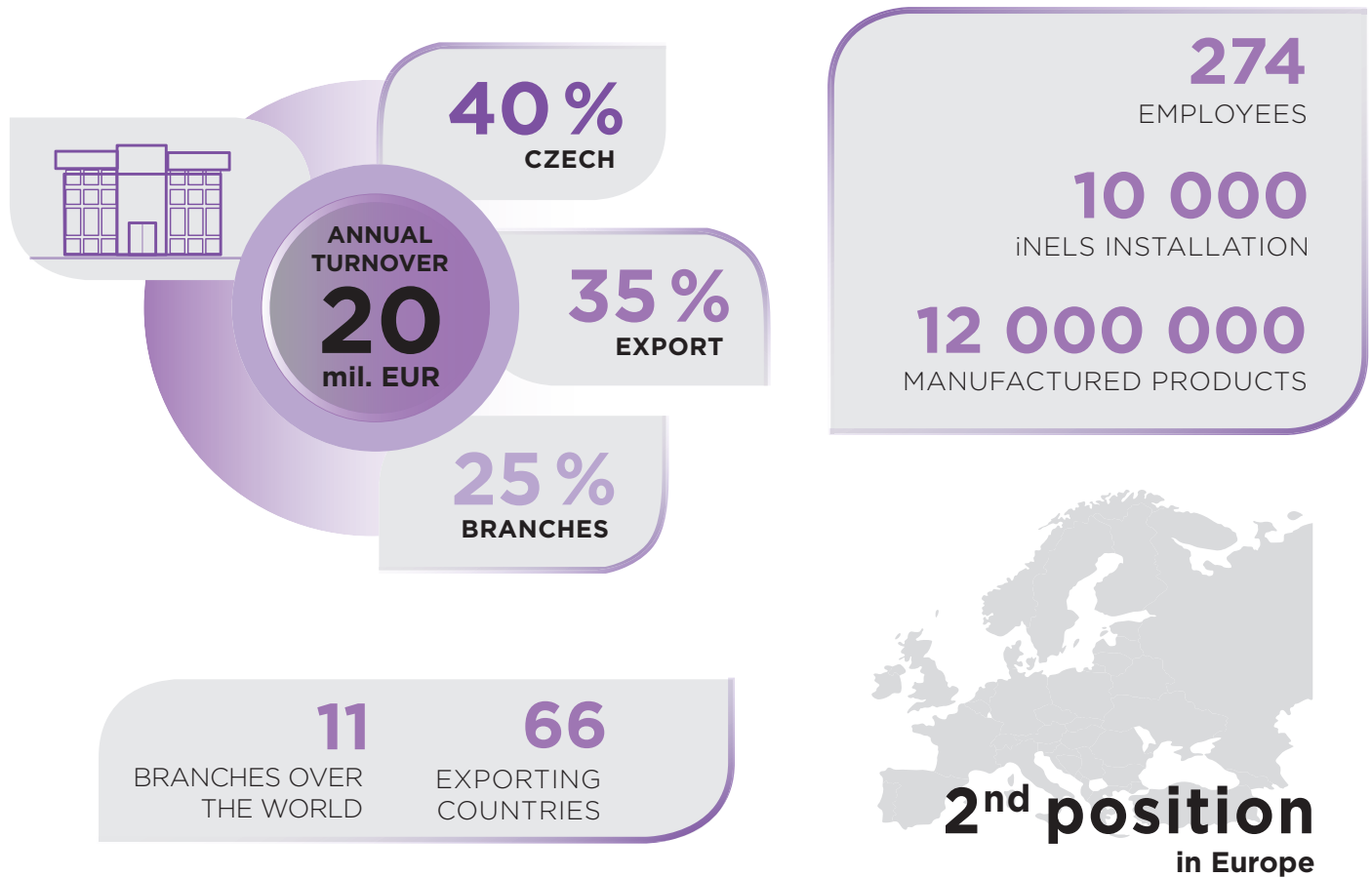
TECHNICAL CATALOGUE

www.elkoep.com

ELKO EP

We are traditional, innovative and purely Czech development manufacturer of electronic devices and we have been your partner in the field of electroinstallations for 27 years.

ELKO EP employs about 274 people, exports its products to more than sixty six countries, and has representatives in eleven foreign branches. Company of the Year of the Zlín Region, Visionary of the Year, Global Exporter of the Year, Participation in the Czech TOP 100, these are just some of the awards received. Still, we are not finnished. We are constantly striving to move forward in the field of innovation and development. That's our primary concern.

Millions of relays, thousands of satisfied customers, hundreds of our own employees, twenty seven years of research, development and production, eleven foreign branches, one company. ELKO EP, innovative- a purely Czech company based in Holešov, where development, production, logistics, service and support go hand in hand. We primarily focus on developing and manufacturing systems for building automation in the residential, commercial and industrial sector, a wide range of Smart city facilities and the so-called Internet of Things (IoT).

Facts and stats

ANNUAL TURNOVER 20 mil. EUR

40 % CZECH

35 % EXPORT

25 % BRANCHES

11 BRANCHES OVER THE WORLD

66 EXPORTING COUNTRIES

274 EMPLOYEES

10 000 iNELS INSTALLATION

12 000 000 MANUFACTURED PRODUCTS

2nd position in Europe

WE ARE

DEVELOPERS

In the new R&D center, more than 30 engineers develop new products and extend the functionality of existing products.

PRODUCERS

modern antistatic spaces, 2x fully automated SMD production lines, 2 shift operations.

SUPPORT

24 hours / 7 days / 360 days we not only provide technical support but also logistics.

SELLERS

personal access to more than 70 sales representatives in ELKO EP Holding provides impeccable services and superior products at an affordable price.

CLASSIC ELECTRO-INSTALLATION

www.elkoep.com/relay-modular-electronic-devices

Electricity is our everyday guide. In our range you will find electronic modular devices from time relays to thermostats. We build on solid foundations and have been developing and manufacturing for more than 27 years.

Price: Savings:

Controlling appliances	Dimming lights	Controlling blinds	Heating regulation	Wireless controller	Detectors	Smartphone Smart watch	Touch panel

Controlling household appliances	Door communicator	Weather station	Video cameras (outdoor/indoor)	Audio Zone (music playback)	PC/Laptop	Tablet	Video Zone (controlling via TV)

WIRELESS ELECTRO-INSTALLATION

www.elkoep.com/rf-control

An ideal solution for completed houses, when it is no longer possible to intervene in the structure. Communication works wirelessly through the central brain, the RF Touch unit. From this unit you control thermostats and can control up to a range of 200 m.

Price: Savings:

Controlling appliances	Dimming lights	Controlling blinds	Heating regulation	Wireless controller	Detectors	Smartphone Smart watch	Touch panel

Controlling household appliances	Door communicator	Weather station	Video cameras (outdoor/indoor)	Audio Zone (music playback)	PC/Laptop	Tablet	Video Zone (controlling via TV)

WIRED ELECTRO-INSTALLATION

www.elkoep.com/inels-bus

If you are building a new house, this electrical installation is tailor-made for you. The data wire (bus) is routed in the walls through the entire house. The advantage is the possibility of expansion with a multimedia superstructure or connection of third parties (appliances, cameras, etc.)
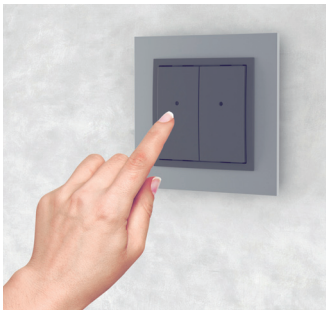
Price: Savings:

Ovládání spotřebičů	Dimming lights	Controlling blinds	Heating regulation	Wireless controller	Detectors	Smartphone Smart watch	Touch panel

Controlling household appliances	Door communicator	Weather station	Video cameras (outdoor/indoor)	Audio Zone (music playback)	PC/Laptop	Tablet	Video Zone (controlling via TV)

It does not matter what you control, but how easily you control it. With us you can control the devices and appliances in many ways, one at a time or combine them at will.

For those conservatives amongst us, there are buttons in the form of switches exactly as we know and are used to them, for those of us who often move around the house In the garden, the RF Pilot remote control in your pocket will surely be appreciated. Touch unit is again designed for those who like everything in one place with a – 3.5 „display securely holding all the necessary buttons within the frame. An interesting and often preferred option is the driver's smartphone – which most of us already have in our pocket.
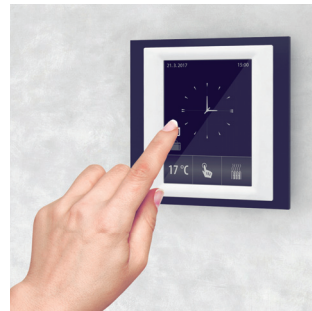
YOU CAN CONTROL iNELS WITH:

Wireless wall controller

- 2 or 4 buttons
- simple installation – can be attached or fixed anywhere
- in LOGUS^{90} design (natural materials and colour combinations)

Glass wall controller

- wall controller in elegant glass design
- 2 or 4 buttons
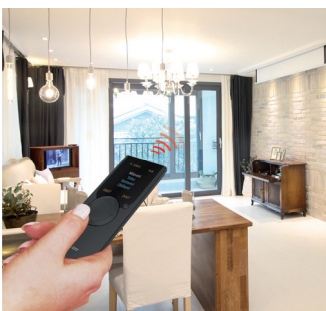- two side tape installation or wall box installation
- signal range up to 200 m

Wireless touch unit RF Touch

- wireless touch unit for wall box installation
- it will become a central, wireless intuitively controlled home
- coloured 3,5" TFT display

Keychain

- 4 button controller
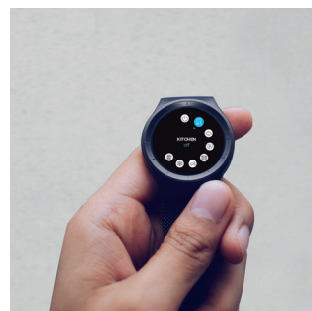- pocket controller for every day
- in colour white or black

Wireless remote controller with display

- here marks the start of home automation
- the remote controller with OLED colour display offers control of up to 40 household appliances
- lights, sockets, garage doors, sprinklers, blinds, awnings, etc.

Smartphone

- the only controller that comes free
- your home under control thanks to Android application
- you no longer have to worry about unpleasant surprises after downloading the Android or iOS application for free

Smart watch

- the only controller that comes free
- your home under control thanks to Android application
- you no longer have to worry about unpleasant surprises after downloading the Samsung Gear app
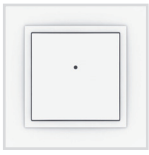
Smart TV
SAMSUNG

- first application in the world for controlling iNELS in Samsung TV
- free download on Samsung Hub
- comfortably control not only the elements in individual rooms, but also outdoor cameras
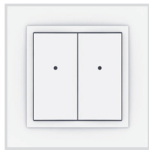
Wireless control system

Controllers

NEW SHARP NEW SHARP NEW ROUND

RFWB-20/G
On-wall button controller
- 2 buttons

RFWB-40/G
On-wall button controller
- 4 buttons

RFGB-20/W - white glass
RFGB-20/B - black glass
Glass touch controller
- 2 buttons, SHARP

RFGB-40/W - white glass
RFGB-40/B - black glass
Glass touch controller
- 4 buttons, SHARP

RFGB-220/W - white glass
RFGB-220/B - black glass
Glass touch controller
- 2 buttons, ROUND

Switches

RFSA-11B
Switch unit, 1× 16 A
single function

RFSA-61B
Switch unit, 1× 16 A
multi-function

RFSA-62B
Switch unit, 2× 8 A
multi-function

RFSAI-62B
Switch unit, 2× 8 A with
external inputs
– multi-function

RFJA-32B
Switch unit for shutters
– 2× 8 A

Dimmers

RFDAC-71B
Analog controller, 0(1)-10 V
– multi-function

RFDEL-71B
Universal dimmer
– 1x 160 VA
– R, L, C, LED, ESL

RFDEL-71M
Universal dimmer
– 1x 600 VA
– R, L, C, LED, ESL

RFDA-73M/RGB
Three channels dimmer
for LED (RGB) strips

RFDSC-71
Dimming socket-plug
– 1x 300 VA
– R, L, C, LED, ESL

Temperature control

RFTC-10/G
System temperature
controller

RFTC-50/G
Autonomous temperature
controller

RFSTI-11B
Switch unit with a external
temperature sensor

RFTI-10B
Temperature sensor
(internal + external)

TC   TZ
Temperature sensor

Lighting

RFIM-20B
Input contacts converter
– 2x permanent contacts

RFIM-40B
Input contacts converter
– 4x instantaneous contacts

RFSG-1M
Input contact converter
–1x permanent or
instantaneous contact

NEW ROUND   SHARP   **NEW** ROUND

RFGB-240/W - white glass
RFGB-240/B - black glass
Glass touch controller
- 4 buttons, ROUND

RFDW-71/W - white glass
RFDW-71/B - black glass
Glass touch controller
with dimmer, SHARP

RFDW-271/W - white glass
RFDW-271/B - black glass
Glass touch controller
with dimmer, ROUND

RF Key/W - white
RF Key/B - black
Keychain
- 4 buttons

RF Pilot/W - white
RF Pilot/A - anthracite
Remote RF controller with
display

RFSA-61M
Switch unit, 1× 16 A
– multi-function

RFSA-66M
Switch unit, 6× 8 A
– multi-function

RFUS-61
Switch unit, 1× 12 A
– multi-function

RFSC-61
Switching socket plug,
– 1× 16 A, multi-function

RFATV-1
Wireless thermovalve

Telva
Thermodrive
ON/OFF, 0-10V

Detectors

RFSF-1B
Level switch

FP-1
Liquid probe

RFSF-100
Flood detector

RFSOU-1
Twiilight switch

RFSD-100
Smoke detector

System units

RF Touch-B

RF Touch-W
Wireless touch unit
– an installation box
– surface mounted

eLAN-RF-003
Smart RF box

RFRP-20
Repeater to extend
the range

RFPM-2M
Energy gateway

RFTM-1
Pulse converter

CT50
Current transformer

LS
LED sensor for
RFTM-1 (pulse
converter)

MS
Magnetic sensor
for RFTM-1 (pulse
converter)

WS
Magnetic sensor
water meter for
RFTM-1 (pulse
converter)

Hotel Room Energy Saving Kit

RFTC-150/G
Temperature
controller

RFPCR-31/G
Multifunctional card
reader

RFGCR-31/W - white glass
RFGCR-31/B - black glass
Multifunctional card reader

RFGCH-31/W - white glass
RFGCH-31/B - black glass
Smart Card Holder

RFSAI-161B
Switch unit with
external input

Příslušenství

RFAF/USB
Service Key

AN-I
Internal antenna
sensitivity 1 dB

AN-E
External antenna
sensitivity 5 dB

RFSD-101
Smoke detector
(+ temperature + humidity
+ lighting)

RFWD-100
Window/Door detector

RFMD-100
Motion detector

RFSTI-111B
Switch unit with external
temperature sensor

RFSA-166M
Six channel switch unit
for fancoil

Supported video cameras

Axis   D-Link   HIK VISION

Supported intercoms

2N   HIK VISION   DAHUA

iNELS RF Control Wireless System

RF - radiofrequency protocol

Wi-Fi

LAN

Outdoor camera

Indoor camera

Wi-Fi

Wi-Fi

Weather station

WiFi

RF

Energy gate

L3
L2
L1
PEN

RF

Smart IR Box
eLAN-IR

Wireless pulse converter

Video door-phone

Electricity panel meter

IR

IR

Audio/ Video

Home appliances

Water meter

RF

Wireless pulse converter

To the gate

RF

Wireless pulse converter

Gas meter

Air-conditioning

External Controllers:

| Smartphone | PC application | Smart TV application | Voice assistants | Smart watch |

ELKO CLOUD **API**

SAMSUNG Smart TV

amazon alexa

Google Home

Internal Controllers:

| Radio & Intercom | Touch unit | Wall controller | Glass controller | Thermostat | Wireless dimmer switch | RF Pilot / Keychain |

RF

Smart RF Box
eLAN-RF

Detectors:

| Smoke | Door/window | Motion | Flood |

Sensors:

| Temperature | Twilight |

Elements:

| Switch unit – 6 outputs | Switch unit to installation box | Switching socket | Switch unit for shutters | Thermovalve for radiator | Switch unit – 1 channel | Dimmer for LED strips |

iNELS®
RF Control

The wireless iNELS RF system offers you a unique chance to breathe life into your home.

Controlling appliances, dimming lights, creating light scenes, security - we need all these functions in our daily lives. iNELS RF is a building kit that you build just the way you like. The result will be one system that takes complete care of the running of your home. It will become an indispensable part of your family. You can fully adjust iNELS based on what you do or where you are, whether on vacation or at work, with family at home or with friends, or whether you are waking up or going to sleep.

- On-wall button controller is used to control switches and dimmers (lights, gate, garage door, blinds, etc.).
- **RFWB-20/G:** two buttons enable control of two units independently.
- **RFWB-40/G:** four buttons enable control of four units independently.
- The flat design with level base makes it ideal for fast installation on any surface (fixation with adhesive or screws in the installation box).
- When pressing the button, it sends a set signal (ON/OFF, dimming, time switching OFF/ON, blinds up/down).
- Sending a command is indicated by a red LED.
- In LOGUS⁹⁰ switch frame design (plastic, glass, wood, metal, stone).
- Option of setting light scenes, where with a single press, you can control units of iNELS RF Control.
- Battery power supply (3 V CR 2032 battery - included in the supply) with battery life of around 5 years based on frequency of use.
- Range up to 200 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO.

16 mm

Technical parameters	RFWB-20/G	RFWB-40/G
Supply voltage:	3 V CR 2032 battery	
Battery life:	around 5 years based on frequency of use	
Transmission indication	red LED	
Number of buttons:	2	4
Communication protocol:	RFIO	
Frequency:	866–922 MHz (for more information see p. 80)	
Signal transmission method:	unidirectionally addressed message	
Range:	in open space up to 200 m	
Other data		
Operating temperature:	-10 to +50 °C	
Operating position:	any	
Mounting:	glue/screws	
Protection:	IP20	
Contamination degree:	2	
Dimensions frame		
- plastic:	85 x 85 x 16 mm	
- metal, glass, wood, granite:	94 x 94 x 16 mm	
Weight (plastic):*	38 g	39 g
Related standards:	EN 60669, EN 300 220, EN 301 489 R&TTE Directive, Order. No 426/2000 Coll. (Directive 1999/EC)	

* Comes with plastic frame. No installation into multi-frames.

RFWB-40/G

Device description

Transmitter indication

Control buttons

Base   Frame   Electronics   Cover

LOGUS⁹⁰

Choose your own style
Flat wireless switches that can be mounted on glass, tile, furniture ... Such a quick change of location when you're moving.

AQUARELLA

ARBORE

ANIMATO

PETRA

CRYSTAL

METALLO

BASE

RFGB-20/W, RFGB-20/B, RFGB-40/W, RFGB-40/B | Glass touch controller

SHARP

8 mm

- The glass touch controller is a design RF (wireless) Control unit and is available in elegant black and white variants.
- Only 8 mm thick.
- **RFGB-20:** 2 capacitive buttons allows to control 2 devices.
- **RFGB-40:** 4 capacitive buttons allows to control 4 devices.
- When pressing the button, it sends a set signal (ON/OFF, dimming, time switching OFF/ON, blinds up/down). Sending a command is indicated by a red LED.
- Option of setting light scenes, where with a single press, you can control units of iNELS RF Control.
- The rear base allows to be attached to installation using screws, double-sided tape or keeping controller on the table.
- Battery power supply (2x 3 V CR 2032 batteries - included in the supply) with battery life of around 2 years based on frequency of use.
- Range up to 200 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO.

Technical parameters	RFGB-20	RFGB-40
Supply voltage:	2x 3 V CR 2032 batteries	
Battery life:	around 2 years based on frequency of use	
Transmission indication:	red LED	
Number of capacitive buttons:	2	4
Communication protocol:	RFIO	
Frequency:	866–922 MHz (for more information see p. 80)	
Signal transmission method:	unidirectionally addressed message	
Range:	in open space up to 200 m	
Other data		
Operating temperature:	-10 to +50 °C	
Operating position:	any	
Mounting:	glue/screws	
Protection:	IP20	
Contamination degree:	2	
Dimensions:	94 x 94 x 8 mm	
Weight:	122 g	122 g
Related standards:	EN 60669, EN 300 220, EN 301 489 R&TTE Directive, Order. No 426/2000 Coll. (Directive 1999/EC)	

Device description

Control buttons

Control buttons

RFGB-40/W

60 mm

'CLICK'

PUSH

2x CR 2032

PULL

Variants

RFGB-20/W

RFGB-40/W

RFGB-20/B

RFGB-40/B

ROUND

8 mm

Technical parameters	RFGB-220	RFGB-240
Supply voltage:	2x 3 V CR 2032 batteries	
Battery life:	around 2 years based on frequency of use	
Transmission indication:	red LED	
Number of capacitive buttons:	2	4
Communication protocol:	RFIO	
Frequency:	866–922 MHz (for more information see p. 80)	
Signal transmission method:	unidirectionally addressed message	
Range:	in open space up to 200 m	
Other data		
Operating temperature:	-10 to +50 °C	
Operating position:	any	
Mounting:	glue/screws	
Protection:	IP20	
Contamination degree:	2	
Dimensions:	100 x 100 x 8 mm	
Weight:	122 g	122 g
Related standards:	EN 60669, EN 300 220, EN 301 489 R&TTE Directive, Order. No 426/2000 Coll. (Directive 1999/EC)	

- The glass touch controller is a design RF (wireless) Control unit and is available in elegant black and white variants.
- Only 8 mm thick.
- **RFGB-220:** 2 capacitive buttons allows to control 2 devices.
- **RFGB-240:** 4 capacitive buttons allows to control 4devices.
- When pressing the button, it sends a set signal (ON/OFF, dimming, time switching OFF/ON, blinds up/down). Sending a command is indicated by a red LED.
- Option of setting light scenes, where with a single press, you can control units of iNELS RF Control.
- The rear base allows to be attached to installation using screws, double-sided tape or keeping controller on the table.
- Battery power supply (2x 3 V CR 2032 batteries - included in the supply) with battery life of around 2 years based on frequency of use.
- Range up to 200 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
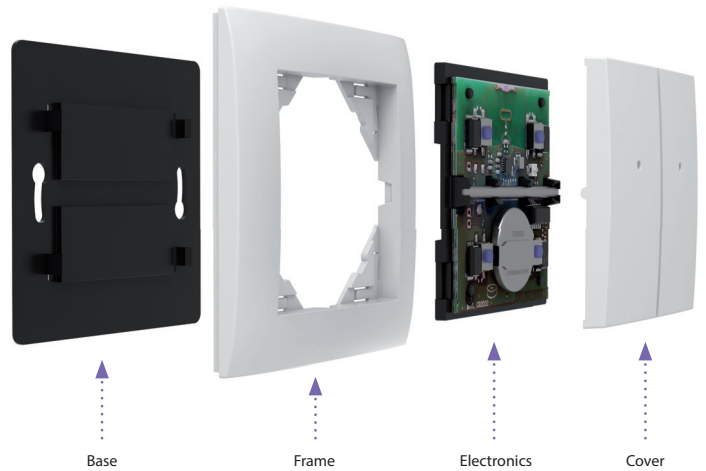- Communication frequency with bidirectional protocol RFIO.

Device description

Control buttons   Control buttons

RFGB-240/W

'CLICK'

PUSH

2x CR 2032

PULL

Variants

RFGB-220/W   RFGB-240/W   RFGB-220/B   RFGB-240/B

Controllers

SHARP

25 mm

Technical parameters	RFDW-71/230V	RFDW-71/120V
Supply voltage:	230 V AC / 50 Hz	120 V AC / 60 Hz
Apparent power:	1.1 VA	1.1 VA
Dissipated power:	0.8 W	0.8 W
Supply voltage tolerance:	±10 %	
Dimmed load:	R,L,C, LED, ESL	
Input		
Temperature measuring:	YES, built-in temperature sensor	
Scope and accuracy of temp. measurement:	0.. +55°C; 0.3°C from the range	
Output		
Contactless:	2 x MOSFET	
Load capacity:*	max. 160 W	max. 80 W
Control		
Wireless:	up to 25 channels (buttons)	
Communication protocol:	RFIO2	
Frequency:	866–922 MHz (for more information see p. 80)	
Repeater function:	yes	
Manual control:	4 touch keys, button PROG	
Indications touch keys:	red/green LED	
Indications PROG:	colour adjustable prog. mode	
Range:	in open space up to 160 m	
Connection		
Terminals:	0.5 - 1 mm²	
Other data		
Operating temperature:	-20 to + 35°C	
Storing temperature:	-30 to +70°C	
Protection degree:	IP20	
Overvoltage category:	II.	
Pollution degree:	2	
Operation position:	any	
Installation:	into installation box	
Dimensions:	94 x 94 x 36 mm	
Weight:	155 g	

* See page 79 for the load chart for each light source.

- Glass touch controller with integrated dimming component which serves to regulate light sources:
  R – classic lamps (resistive load)
  L – halogen lamps with wound transformer (inductive load)
  C – halogen lamps with electronic transformer (capacity load)
  ESL – dimmable energy-efficient fluorescent lamps
  LED – LED light sources (230 V) equipped with LED.
- 4 channel switch version allows you to control the integrated dimmer as well as other components of the installation.
- They can be combined with detectors, controllers, iNELS RF Control or system components.
- 6 light functions - smooth increase or decrease with time setting 2 s - 30 min. Function description can be found on page 79.
- When switched off, the set level is stored in the memory, and when switched back on, it returns to the most recently set value.
- Thanks to setting the min. brightness by potentiometer, you will eliminate flashing of the LED and ESL light sources.
- The universal dimmer may be controlled by up to 25 channels.
- The programming button on the controller is also used for manual control of the output.
- Memory status can be pre-set in the event of a power failure.
- Range up to 160 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO2.

Colour variants

RFDW-71/B   RFDW-71/W

Connection

The output can be controlled by up to 25 separate buttons (external RF Controller).

The buttons can control an umlimited number of RF devices.

RFDW-71

ROUND

25 mm

- Glass touch controller designed which serves to regulate light sources:
  R – classic lamps (resistive load)
  L – halogen lamps with wound transformer (inductive load)
  C – halogen lamps with electronic transformer (capacity load)
  ESL – dimmable energy-efficient fluorescent lamps
  LED – LED light sources (230 V) equipped with LED.
- 4 channel switch version allows you to control the integrated dimmer as well as other components of the installation.
- They can be combined with detectors, controllers, iNELS RF Control or system components.
- 6 light functions - smooth increase or decrease with time setting 2 s - 30 min. Function description can be found on page 79.
- When switched off, the set level is stored in the memory, and when switched back on, it returns to the most recently set value.
- Thanks to setting the min. brightness by potentiometer, you will eliminate flashing of the LED and ESL light sources.
- The universal dimmer may be controlled by up to 25 channels.
- The programming button on the controller is also used for manual control of the output.
- Memory status can be pre-set in the event of a power failure.
- Range up to 160 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO2.

Technical parameters	RFDW-271/230V	RFDW-271/120V
Supply voltage:	230 V AC / 50 Hz	120 V AC / 60 Hz
Apparent power:	1.1 VA	1.1 VA
Dissipated power:	0.8 W	0.8 W
Supply voltage tolerance:	±10 %	
Dimmed load:	R,L,C, LED, ESL	
Input		
Temperature measuring:	YES, built-in temperature sensor	
Scope and accuracy of temp. measurement:	0.. +55°C; 0.3°C from the range	
Output		
Contactless:	2 x MOSFET	
Load capacity:*	max. 160 W	max. 80 W
Control		
Wireless:	up to 25 channels (buttons)	
Communication protocol:	RFIO2	
Frequency:	866–922 MHz (for more information see p. 80)	
Repeater function:	yes	
Manual control:	4 touch keys, button PROG	
Indications touch keys:	red/green LED	
Indications PROG:	colour adjustable prog. mode	
Range:	in open space up to 160 m	
Connection		
Terminals:	0.5 - 1 mm^2	
Other data		
Operating temperature:	-20 to +35 °C	
Storing temperature:	-30 to +70 °C	
Protection degree:	IP20	
Overvoltage category:	II.	
Pollution degree:	2	
Operation position:	any	
Installation:	into installation box	
Dimensions:	100 x 100 x 36 mm	
Weight:	155 g	

* See page 79 for the load chart for each light source.

Colour variants

RFDW-271/B   RFDW-271/W

Connection

LED, ESL, R resistive load   **L** - inductive load
coil transformer   **C** - capacity load
electronic transformer

The output can be controlled by up to 25 separate buttons (external RF Controller).

RFWB

RF KEY

The buttons can control an umlimited number of RF devices.

RFJA

RFSC

RFDW-271

RFDW-271/B | **Glass touch controller**

Glass touch controller | RFGB-40/W

RFGB-40/W | **Glass touch controller**

Controllers

- The key alarm is used to control switches and dimmers (lights, gate, garage door, blinds, etc.).
- When pressing the button, it sends a set signal (ON/OFF, dimming, time switching OFF/ON, blinds up/down).
- Sending a command is indicated by a red LED.
- Four buttons enable control of four units independently.
- Option of setting light scenes, where with a single press, you can control units of iNELS RF Control.
- Battery power supply (3 V CR 2032 battery - included in the supply) with battery life of around 5 years based on frequency of use.
- Range up to 200 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Designed in black and white with laser printing.

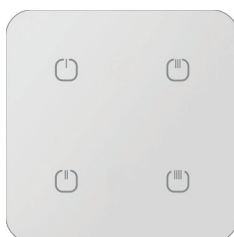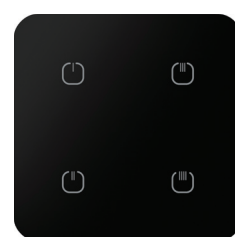| Technical parameters	RF KEY/W	RF KEY/B
Supply voltage:	3 V CR 2032 battery	
Transmission indication:	red LED	
Number of buttons:	4	
Transmitter frequency:	866–922 MHz (for more information see p. 80)	
Signal transmission method:	unidirectionally addressed message	
Range:	in open space up to 200 m	
Other data		
Operating temperature:	-10 to +50 °C	
Operating position:	any	
Colour design:	white	black
Protection:	IP20	
Contamination degree:	2	
Dimensions:	64 x 25 x 10 mm	
Weight:	16 g	
Related standards:	EN 60669, EN 300 220, EN 301 489 R&TTE Directive, Order. No 426/2000 Coll. (Directive 1999/EC)	

Device description

Transmitter indication
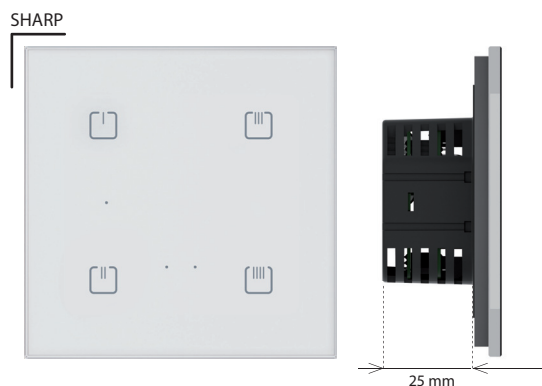
Control buttons

RF Pilot/W, RF Pilot/A | Remote RF controller with display

- The Remote RF controller with display is a central controller for switching electrical appliances and equipment, dimming lights, controlling blinds, etc.
- Designed in white and anthracite with colour OLED display.
- 4 directional joystick + 2 buttons for intuitive operation.
- Option of setting light scenes, where with a single press, you can control up to 40 units at once.
- Display of room temperature, battery status, date and time directly on display.
- The Favorites mode lets you preset the most frequently used devices on the home screen.
- Bidirectional communication, transmits and receives commands and displays the status of units.
- Thanks to the function of measuring the signal between the controller and unit, you can use it for testing the range and signal quality.
- Battery power (2x 1.5 V AAA batteries - included in supply) with battery life of around 3 years based on frequency of use and type of batteries.
- Range up to 200 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO.

Technical parameters	RF Pilot/W	RF Pilot/A
Display		
Type:	colour OLED	
Resolution:	128 x 128 pixels	
Side ratio:	1:1	
Visible surface:	26 x 26 mm	
Backlighting:	self-illuminating text	
Diagonal:	1.5"	
Control:	direction button, control buttons	
Power supply		
Power supply:	2 x 1.5 V AAA batteries/R03	
Battery life:	approx. 3 years, according to the frequency of use and battery type	
Control		
Range:	in open space up to 200 m	
Communication protocol:	RFIO	
Frequency:	866–922 MHz (for more information see p. 80)	
Other data		
Operating temperature:	0 to +55 ℃	
Storage temperature:	-20 to +70 ℃	
Colour design:	white	anthracite
Protection:	IP20	
Operating position:	any	
Dimensions:	130 x 41 x 18 mm	
Weight:	61 g	
Related standards:	EN 60730-1	

Device description

- Display
- Control button
- Direction button (joystick)
- Control button

RF Pilot

Display description

Colour LED display

- Date
- Battery indication
- Time
- Quick control options
- Enter menu
- Indicative current temperature display

RF KEY

RANGE UP to 400 m

RFDEL-71B

RFRP-20

Serves to extend the RF signal range

RFSA-61B

RFJA-32B

Socket 1
Socket 2
Socket 3
Socket 4
Socket 5
Socket 6

RFSA-66M

6-channel switching actuator

3 M

20.01.2018   12:54
Rooms
Scenes
Favorite
EXIT   SELECT

RF PiLOT
ELKO

Two-way communication

Garage door opening

Group control of devices with a single command ("SCENE" mode)

Command to execute function
Function execution feedback

RFDEL-71B	RFJA-32B	RFSA-61B	RFDAC-71B
Dim lights to 20%	Pull down window shutters	Ventilation off	Shut down heating

SCENES

• serves to control actuators as a group with a single touch
• possibility to set up scenes; on activation, for example, window shutters are pulled down and the light will adjust to the required brightness

WINDOW SHUTTERS

• controlling window shutters, blinds, garage door, etc.
• window shutters are controlled separately or as a group
• the window shutter receivers are powered by either 230 V or 24 V DC (shutters between windows)

FAVOURITE

• serves to select the most frequently used devices
• on display activation, the "Favourite" menu pops up automatically to provide you with a quick access to controlling devices

SWITCHING

• this function serves to switch on/off lights, sockets, electrical appliances and devices
• intuitive control thanks to customized name options
• switching actuator function selections: switch on/off, impulse relay, button, delayed ON/OFF (time of delay from 2 seconds to 60 minutes)

DIMMING

• the regulation of light intensity (light bulbs, LED strips, halogen lights with electrical or coil transformer, fluorescent tubes with dimmable ballast 1–10 V)
• customizable names of individual dimmed circuits (such as "lights" or "living room")
• "sunrise/sunset" imitation - light gradually goes on or off during the preset period between 2 seconds and 30 minutes

Switches

RFSA-11B, RFSA-61B | Switch unit, 1 channel

- The switching unit with 1 output channel 16 A is used to control appliances, lights (easy to integrate it to control garage doors or gates).
- They can be combined with detectors, controllers, iNELS RF Control or system components.
- **RFSA-11B:** single-function design - switch on/off.
- **RFSA-61B:** multi-function design – button, impulse relay and time function of delayed ON or OFF with time setting of 2 s - 60 min. Function description can be found on page 78.
- The switching unit may be controlled by up to 25 channels.
- The programming button on the unit is also used for manual control of the output.
- Memory status can be pre-set in the event of a power failure.
- Range up to 200 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
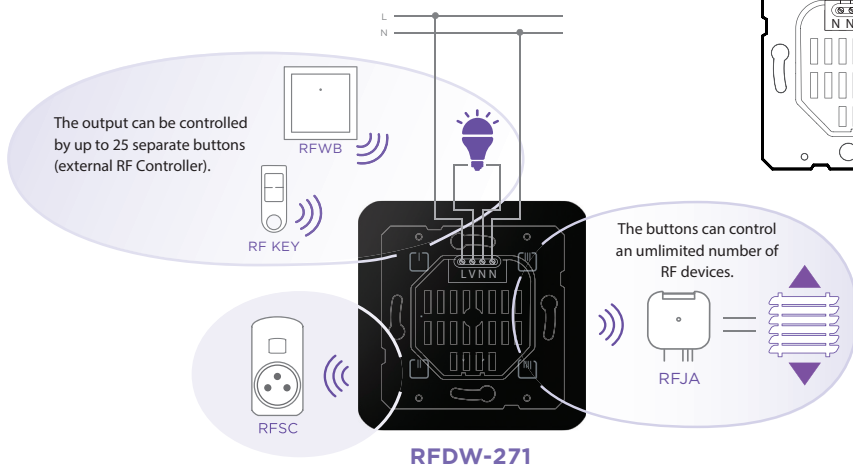- Communication frequency with bidirectional protocol RFIO2.
- The BOX design lets you mount it right in an installation box, a ceiling or controlled appliance cover.

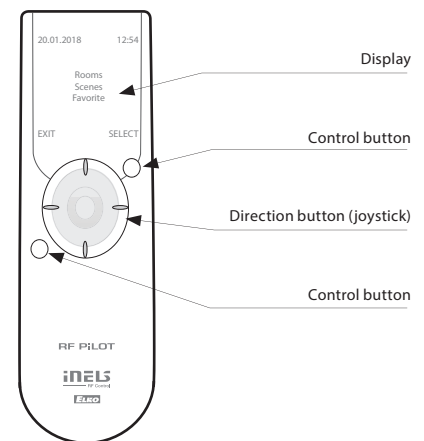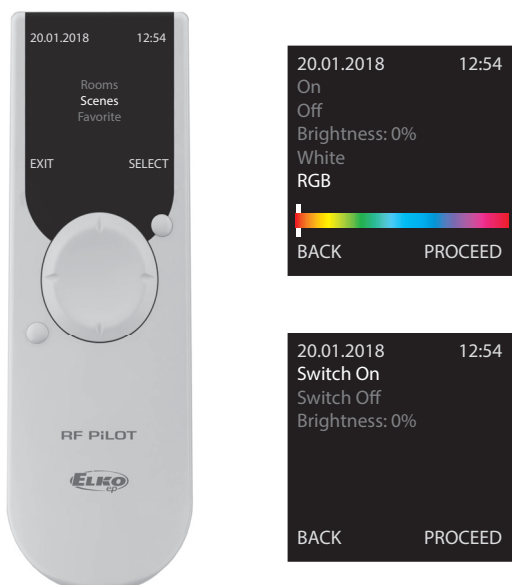| Technical parameters	RFSA-11B/230V RFSA-61B/230V	RFSA-11B/120V RFSA-61B/120V	RFSA-11B/24V RFSA-61B/24V
Supply voltage:	230 V AC	120 V AC	12-24 V AC / DC
Supply voltage frequency:	50-60 Hz	60 Hz	50-60 Hz
Apparent input:	7 VA / cos φ = 0.1	7 VA / cos φ = 0.1	-
Dissipated power:	0.7 W	0.7 W	0.7 W
Supply voltage tolerance:	+10 %; -15 %		
Output			
Number of contacts:	1x switching (AgSnO$_2$)		
Rated current:	16 A / AC1		
Switching power:	4000 VA / AC1, 384 W / DC		
Peak current:	30 A / <3 s		
Switching voltage:	250 V AC1 / 24 V DC		
Max. DC switching power:	500 mW		
Mechanical service life:	$3x 10^7$		
Electrical service life (AC1):	$0.7x 10^5$		
Control			
Wireless:	up to 25 channels (buttons)		
Communication protocol:	RFIO2		
Frequency:	866–922 MHz (for more information see p. 80)		
Repeater function:	yes		
Manual control:	button PROG (ON/OFF)		
Range:	in open space up to 200 m		
Other data			
Operating temperature:	-15 to + 50 °C		
Operating position:	any		
Mounting:	free at lead-in wires		
Protection:	IP30		
Overvoltage category:	III.		
Contamination degree:	2		
Terminals (CY wire, cross-section):	2x 0.75 mm^2, 2x 2.5 mm^2		
Length of terminals:	90 mm		
Dimensions:	49 x 49 x 21 mm		
Weight:	46 g		
Related standards:	EN 60669, EN 300 220, EN 301 489 R&TTE Directive, Order. No 426/2000 Coll. (Directive 1999/EC)		

Device description

Program button
(ON/OFF manual
control)

Indication of operating
and programming mode

Neutral conductor

Phase conductor

Output relay contacts

Connection

RFSA-11B/230V, RFSA-61B/230V
RFSA-11B/120V, RFSA-61B/120V

RFSA-61B/24V

- The switching unit with 2 output channels 8A used to control two independent appliances.
- They can be combined with detectors, controllers, iNELS RF Control or system components.
- Function: button, impulse relay and time function of delayed start and return with time setting range of 2 s - 60 min. Function description can be found on page 78.
- Each of the channels may be controlled by up to 12 channels.
- The programming button on the unit is also used for manual control of the output.
- Memory status can be pre-set in the event of a power failure.
- Range up to 100 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO2.
- The BOX design lets you mount it right in an installation box, a ceiling or controlled appliance cover.

Technical parameters	RFSA-62B/320V	RFSA-62B/120V	RFSA-62B/24V
Supply voltage:	230 V AC	120 V AC	12-24 V AC / DC
Supply voltage frequency:	50-60 Hz	60 Hz	50-60 Hz
Apparent input:	7 VA / cos φ = 0.1	7 VA / cos φ = 0.1	-
Dissipated power:	0.7 W	0.7 W	0.7 W
Supply voltage tolerance:	+10 %; -15 %		

Output

Number of contacts:	2 x switching (AgSnO$_2$)
Rated current:	8 A / AC1
Switching power:	2000 VA / AC1
Peak current:	10 A / <3 s
Switching voltage:	250 V AC1
Max. DC switching power:	500 mW
Mechanical service life:	1x10^7
Electrical service life (AC1):	1x10^5

Control

Wireless:	each of the outputs up to 12 channels (buttons)
Communication protocol:	RFIO2
Frequency:	866–922 MHz (for more information see p. 80)
Repeater function:	yes
Manual control:	button PROG (ON/OFF)
Range:	in open space up to 100 m

Other data

Operating temperature:	-15 to + 50 °C
Operating position:	any
Mounting:	free at lead-in wires
Protection:	IP30
Overvoltage category:	III.
Contamination degree:	2
Terminals (CY wire, cross-section):	1x 2.5 mm^2, 3x 0.75 mm^2 / 1x2.5, 4x0.75mm^2
Length of terminals:	90 mm
Dimensions:	49 x 49 x 21 mm
Weight:	46 g
Related standards:	EN 60669, EN 300 220, EN 301 489 R&TTE Directive, Order. No 426/2000 Coll. (Directive 1999/EC)

Device description

Indication of operating and programming mode

Program button (ON/OFF manual control)

Indication of operating and programming mode

Neutral conductor

Output relay contacts

Phase conductor

Connection

RFSA-62B/230V
RFSA-62B/120V

OUT2 OUT1

RFSA-62B/24V

12-24V AC/DC

28 18 15   A2 A1

RFSAI-62B | Switch unit, 2 channels with external input

- The switch with 2 output 8 A contacts is used to control 2 independent appliances. Is equipped with inputs for connecting to external buttons for local control.
- They can be combined with detectors, controllers, iNELS RF Control or system components.
- Function: button, impulse relay and time function of delayed start or return with time setting range of 2 s - 60 min. It is possible to assign any function to each output relay. Function description can be found on page 78.
- External button is programmed as a wireless button.
- Input is not galvanic isolated!
- Each output can be controlled by up to 12 channels.
- Memory status can be pre-set in the event of a power failure.
- Range up to 200 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO2.
- The BOX design lets you mount it right in an installation box, a ceiling or controlled appliance cover.

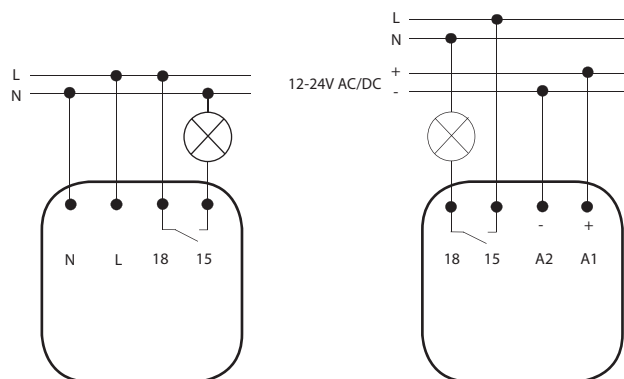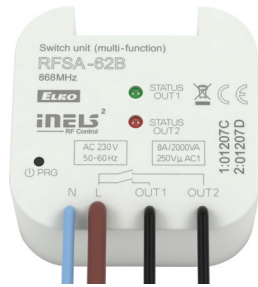| Technical parameters	RFSAI-62B/230V	RFSAI-62B/120V
Supply voltage:	230 V AC	120 V AC
Supply voltage frequency:	50-60 Hz	60 Hz
Apparent power:	7 VA / cos φ = 0.1	
Dissipated power:	0.7 W	
Supply voltage tolerance:	+10 %; -15 %	
Output		
Number of contacts:	2x switching (AgSnO$_2$)	
Rated current:	8 A / AC1	
Switching power:	2000 VA / AC1, 192 W / DC	
Peak current:	10 A / <3 s	
Switching voltage:	250 V AC1 / 24 V DC	
Min. switching power DC:	500 mW	
Mechanical service life:	1x10^7	
Electrical service life (AC1):	1x10^5	
Controlling		
Wireless:	each of the outputs up to 12 channels (buttons)	
Communication protocol:	RFIO2	
Frequency:	866–922 MHz (for more information see p. 80)	
Repeater function:	yes	
Manual control:	button PRG (ON/OFF)	
External button:	max. 12 m wire	
Range:	in open space up to 200 m	
Other data		
Voltage of open contact:	2.5 V	
Resist. of connection for closed contact:	<1 kΩ	
Resist. of connection for open contact:	>10 kΩ	
Galvanic isolation of input:	no	
Operating temperature:	-15 to + 50 °C	
Working position:	any	
Mounting:	free at lead-in wires	
Protection:	IP30	
Overvoltage category:	III.	
Contamination degree:	2	
Terminals (CY wire, Cross-section):	3x 0.75 mm^2, 1x 2.5 mm^2	4x 0.75 mm^2, 1x 2.5 mm^2
Terminal length:	90 mm	
Dimensions:	49 x 49 x 21 mm	
Weight:	46 g	
Related standards:	EN 60669, EN 300220, EN 301489 R&TTE Directive, Order. No 426/2000 Coll. (Directive 1999/EC)	

⚠ The external button inputs are at the potential of the main supply voltage.

Device description

Terminal for connecting an external button 1

Terminal for connecting an external button 2

Programming button (manual control ON/OFF)

Device status indication for channel 1

Device status indication for channel 2

Neutral conductor

Phase conductor

Output contact relay

Connection

RFSAI-62B/230V
RFSAI-62B/120V

- The switching unit for blinds has 2 output channels used to control garage doors, gates, blinds, awnings, etc.
- It can be combined with Control or System units iNELS RF Control.
- **RFJA-32B/230V (120V):** relay contacts 2x 8 A (2x 2000 W), with the possibility of connecting external buttons. The relays block each other (only one direction of movement at a time).
- **RFJA-32B/24VDC:** contactless quiet switching with the ability to connect existing buttons. The drive is controlled by changing the polarity.
- Short presses (<2 s) of the controller enable tilting of lamellas, and a long press (>2 s) enables you to draw the blinds up or down to the end position.
- Each of the units may be controlled by up to 25 channels.
- The programming button on the unit is also used for manual control of the output.
- Range up to 100 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO2.
- The BOX design lets you mount it right in an installation box, a ceiling or motor drive cover.

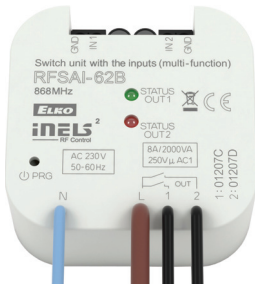| Technical parameters	RFJA-32B/230V	RFJA-32B/120V	RFJA-32B/24V
Supply voltage:	230 V AC	120 V AC	5 - 24V DC
Supply voltage frequency:	50 - 60 Hz	60 Hz	x
Apparent input:	7 VA / cos φ = 0.1	7 VA / cos φ = 0.1	x
Dissipated power:	0.7 W	0.7 W	x
Power without load:	x		0.5 W
Power under load:	x		20 W
Supply voltage tolerance:	+10 %; -15 %		
Input			
Input:	2x switch or GND		
Output			
Number of contacts:	2 x switching (AgSnO$_2$)		contactless
Rated current:	8 A / AC1		1 A
Switching power:	2000 VA / AC1		x
Peak current:	10 A / <3 s		1.5 A / <3 s
Switching voltage:	250 V AC1		5-24 V DC*
Mechanical service life:	1x10^7		x
Electrical service life (AC1):	1x10^5		x
Control			
Wireless:	up to 25 channels (buttons)		
Communication protocol:	RFIO2		
Frequency:	866–922 MHz (for more information see p. 80)		
Repeater function:	yes		
Manual control:	PROG (STOP, ▲, STOP, ▼)		
Range:	in open space up to 100 m		
Other data			
Operating temperature:	-15 to + 50 °C		
Operating position:	any		
Mounting:	free at lead-in wires		
Protection:	IP30		
Overvoltage category:	III.		
Contamination degree:	2		
Terminals:	0.5 - 1 mm^2		
Terminals (CY wire, cross section):	4 x 0.75 mm^2		
Length of terminals:	90 mm		
Dimensions:	49 x 49 x 21 mm		49 x 49 x 13 mm
Weight:	46 g		22 g
Related standards:	EN 60669, EN 300 220, EN 301 489 R&TTE Directive, Order. No 426/2000 Coll. (Directive 1999/EC)		

* Identical with supply voltage.

Device description

Program button (manual control)

Neutral conductor

Phase conductor

Device status indicator – LED

Output relay contacts

Function description

1. Short presses (<2 s) of the control allow the slats to be tilted.
2. When the control button is pressed >2 s shutters move up (▲) or down (▼) until reaching the final position. The travel time of the blinds is set with the programming button.

Connection

RFJA-32B/230V, RFJA-32B/120V

RFJA-32B/24VDC

RFSA-61M, RFSA-66M | Switch unit, multi-function

RFSA-61M
1 output

RFSA-66M
6 outputs

- **RFSA-61M:** the switching unit with 1 output channel 16 A is used for controlling appliances, sockets or lights.
  - the one-module design of the unit into a switchboard.
  - the switching unit may be controlled by up to 25 channels.
- **RFSA-66M:** the switching unit with 6 output channels 8 A is used for independent control of up to 6 appliances, sockets or lights.
  - the three-module design of the unit into a switchboard).
  - each of the channels may be controlled by up to 25 channels.
- They can be combined with detectors, controllers, iNELS RF Control or system components.
- Function: button, impulse relay and time function of delayed start or return with time setting range of 2 s - 60 min. Function description can be found on page 78.
- The programming button on the unit is also used for manual control of the output.
- The package includes an internal antenna AN-I, in case of locating the element in a metal switchboard, you can use the external antenna AN-E for better signal reception.
- Memory status can be pre-set in the event of a power failure.
- Range up to 200 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO2.

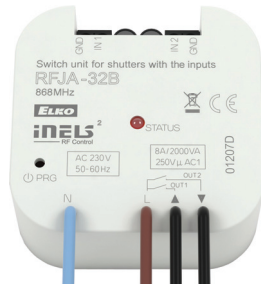| Technical parameters	RFSA-61M/230 V	RFSA-66M/ 230 V	RFSA-66M/ 24 V
Supply voltage:			12-24V
	110-230 V AC	110-230 V AC	AC/DC SELV
Supply voltage frequency:	50-60 Hz	50-60 Hz	
Apparent input:		min. 2 VA /	
	2.7 VA / cos φ = 0.6	max. 5 VA	-
Dissipated power:		min. 0.5W /	
	1.62 W	max. 2.5W	max. 1.8 W
Supply voltage tolerance:	+10% / -25 %		
Output			
Number of contacts:		3x changeover (AgSnO$_2$);	
	1x changeover (AgSnO$_2$)	3x switching (AgSnO$_2$)	
Rated current:	16 A / AC1	8 A / AC1	
Switching power:	4000 VA / AC1, 384 W / DC	2000 VA / AC1	
Peak current:	30 A / <3 s	10 A / <3 s	
Switching voltage:	250 V AC1 / 24 V DC	250 V AC1	
Max. DC switching power:	500 mW	500 mW	
Mechanical service life:	3x10^7	1x10^7	
Electrical service life (AC1):	0.7x10^5	1x10^5	
Control			
Wireless:	up to 25 channels (buttons)		
Communication protocol:	RFIO2		
Frequency:	866–922 MHz (for more information see p. 80)		
Repeater function:	yes		
Manual control:	PROG (ON/OFF) button		
Range:	in open space up to 200 m		
IR Antenna:	AN-I included (SMA connector*)		
Other data			
Operating temperature:	-15 °C to + 50 °C		
Operating position:	any		
Mounting:	DIN rail EN 60715		
Protection:	IP20 from the front panel		
Overvoltage category:	III.		
Contamination degree:	2		
Connecting conductor cross-section (mm^2):	max. 1x 2.5, max. 2x 1.5 / with a hollow max. 1x 2.5		
Dimensions:	90 x 17.6 x 64 mm	90 x 52 x 65 mm	
Weight:	74 g	264 g	
Related standards:	EN 60669, EN 300 220, EN 301 489 R&TTE Directive, Order. No 426/2000 Coll. (Directive 1999/EC)		

* Max Tightening Torque for antenna connector is 0.56 Nm.

Device description

Power supply terminals

Power supply indication

RFSA-61M

STATUS

Device status indicator

ANT.

Antenna connector (SMA)

PROG

Program button (manual control)

Output relay contacts

Connection

RFSA-61M/230V

Un

A1 A2

15 16 18

RFSA-66M/230V

L
N

A1 A2   18 15 28 25 38 35

45 46 48 55 56 58 65 66 68

RFSA-66M/24V

12-24V +
AC/DC -

A1 A2   18 15 28 25 38 35

45 46 48 55 56 58 65 66 68

- The switching unit with 1x 12 A output channel is used for controlling appliances, sockets or lights.
- They can be combined with detectors, controllers, iNELS RF Control or system components.
- Multi-function design – button, impulse relay and time function of delayed ON or OFF with time setting of 2 s - 60 min. Function description can be found on page 78.
- The switching unit may be controlled by up to 25 channels.
- The programming button on the unit is also used for manual control of the output.
- Range up to 200 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO2.
- The increased IP 65 protection is suited to mounting on the wall or in harsh environments such as the cellar, garage or bathrooms.

Technical parameters	RFUS-61/230V	RFUS-61/120V
Supply voltage:	230 V AC	120 V AC
Supply voltage frequency:	50-60 Hz	60 Hz
Apparent power:	5 VA / cos φ = 0.1	5 VA / cos φ = 0.1
Dissipated power:	0.6 W	0.6 W
Supply voltage tolerance:	+10 %; -15 %	
Output		
Rated current:	1x switching (AgSnO$_2$)	
Number of contacts:	12 A / AC1	
Switching power:	3000 VA / AC1, 384 W / DC	
Peak current:	30 A / <3 s	
Switching voltage:	250 V AC1 / 24 V DC	
Min. switching power DC:	500 mW	
Mechanical service life:	3x10^7	
Electrical service life (AC1):	0.7x10^5	
Control		
Wireless:	up to 25 channels (buttons)	
Communication protocol:	RFIO2	
Frequency:	866–922 MHz (for more information see p. 80)	
Repeater function:	yes	
Manual control:	PROG (ON/OFF) button	
Range:	in open space up to 200 m	
Other data		
Operating temperature:	-15 to + 50 °C	
Operating position:	any	
Mounting:	screws	
Protection:	IP65	
Overvoltage category:	III.	
Contamination degree:	2	
Cross-section of connecting wires (mm²):	max. 1x 2.5, max. 2x 1.5 / with a hollow max. 1x 2.5	
Recommended power cord:	CYKY 3x1.5 (CYKY 4x1.5)	
Dimensions:	136 x 62 x 34 mm	
Weight:	146 g	
Related standards:	EN 60669, EN 300 220, EN 301 489 R&TTE Directive, Order. No 426/2000 Coll. (Directive 1999/EC)	

Device description

Antenna

Opening for wall mounting Ø 4.3 mm

Programming button (manual control)

STATUS

PROG

Indication of operating and programming mode

Neutral conductor

N
L

18
15
16

Phase conductor

Output contact relay

Opening for wall mounting Ø 4.3 mm

Bushing M16x1.5 for connecting cable with max. diameter of 10 mm

Connection

3 - wire connection

N
L

18
15
16

L
N

4 - wire connection

N
L

18
15
16

L
N

galvanically separated contact

RFSC-61 | Switching socket-plug

- The switched socket with 16 A output channel is used to control fans, lamps, heaters and appliances, which are connected by a 16 A power cord.
- They can be combined with detectors, controllers, iNELS RF Control or system components.
- Multi-function design – button, impulse relay and time function of delayed ON or OFF with time setting of 2 s - 60 min. Function description can be found on page 78.
- The switched socket may be controlled by up to 32 channels .
- Thanks to the socket design, installation is simple by direct insertion into the existing socket.
- The programming button on the socket is also used for manual control of the output.
- Memory status can be pre-set in the event of a power failure.
- Range up to 200 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
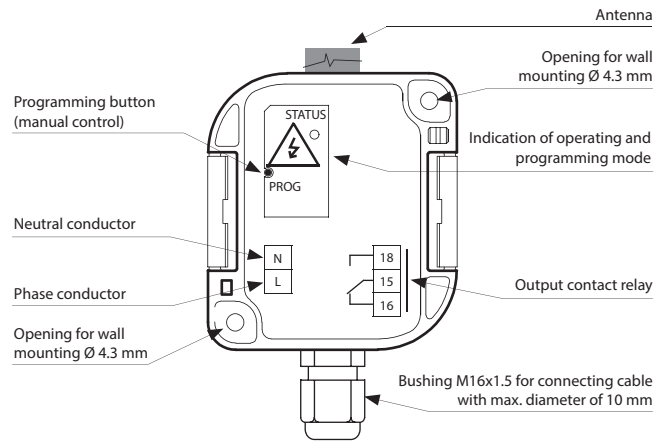- Communication frequency with bidirectional protocol RFIO.

Technical parameters	RFSC-61/230V	RFSC-61/120V
Supply voltage:	230 - 250 V	120 V AC
Supply voltage frequency:	50-60 Hz	60 Hz
Apparent power:	6 VA	
Dissipated power:	0.7 W	
Supply voltage tolerance:	+10 %; -15 %	
Output		
Number of contacts:	1x switching (AgSnO$_2$)	
Rated current:	16 A / AC1	
Switching power:	4000 VA / AC1, 384 W / DC	
Peak current:	30 A / <3 s	
Switching voltage:	250 V AC1 / 24 V DC	
Min. switching power DC:	500 mW	
Mechanical service life:	3x10^7	
Electrical service life (AC1):	0.7x10^5	
Control		
Wireless:	up to 32 channels (buttons)	
Communication protocol:	RFIO	
Frequency:	866–922 MHz (for more information see p. 80)	
Repeater function:	NO	
Manual control:	button PROG (ON/OFF)	
Range:	in open space up to 200 m	
Other data		
Operating temperature:	-15 to + 50 °C	
Working position:	any	
Mounting:	plug into a socket	
Protection:	IP30	
Overvoltage category:	III.	
Contamination degree:	2	
Dimensions:	60 x 120 x 80 mm	
Weight:	195 g	
Related standards:	EN 60669, EN 300 220, EN 301 489 R&TTE Directive, Order. No 426/2000 Coll. (Directive 1999/EC)	

Produced in 5 designs of sockets/plugs:

French   Schuko   British

Device description

Device status indication
Supply voltage indication
Program button

- The universal built-in dimmer is used to regulate light sources:
  R – classic lamps (resistive load)
  L – halogen lamps with wound transformer (inductive load)
  C – halogen lamps with electronic transformer (capacity load)
  ESL – dimmable energy-efficient fluorescent lamps
  LED – LED light sources equiped with LED.
- They can be combined with detectors, controllers, iNELS RF Control or system components.
- 6 light functions - smooth increase or decrease with time setting 2 s - 30 min. Function description can be found on page 79.
- Thanks to setting the min. brightness by potentiometer, you will eliminate flashing of the LED and ESL light sources.
- The universal dimmer may be controlled by up to 25 channels.
- Connection of the existing button on the control input „S" enables combination of wireless control with classic (wired) control.
- The programming button on the controller is also used for manual control of the output.
- Memory status can be pre-set in the event of a power failure.
- Range up to 160 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
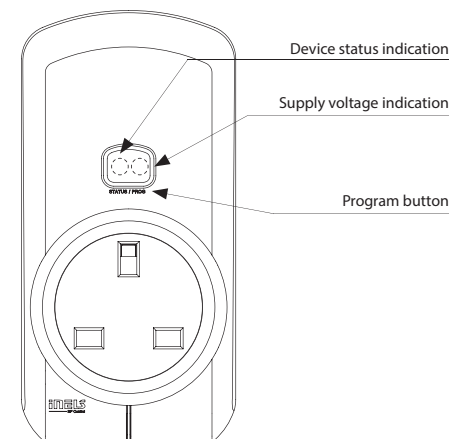- Communication frequency with bidirectional protocol RFIO2.
- The BOX design lets you mount it right in an installation box, a ceiling or light cover.

Technical parameters	RFDEL-71B/230V	RFDEL-71B/120V
Supply voltage:	230 V AC	120 V AC
Supply voltage frequency:	50 Hz	60 Hz
Apparent power:	1.1 VA	1.1 VA
Dissipated power:	0.8 W	0.8 W
Supply voltage tolerance:	+10 / -15 %	
Connection:	4-wire, with "NEUTRAL"	
Output		
Dimmed load:	R,L,C, LED, ESL	
Contactless:	2 x MOSFET	
Load capacity:*	max. 160 W	max. 80 W
Control		
Wireless:	up to 25 channels (buttons)	
Communication protocol:	RFIO2	
Frequency:	866–922 MHz (for more information see p. 80)	
Repeater function:	yes	
Range:	in open space up to 160 m	
Manual control:	button PROG (ON/OFF), external button	
Glow lamp connection:	NO	
Other data		
Operating temperature:	-20 to + 35°C	
Storage temperature:	-30 to +70°C	
Operating position:	any	
Mounting:	free at lead-in wires	
Protection:	IP30 under normal conditions	
Overvoltage category:	III.	
Contamination degree:	2	
Terminals (CY wire, Cross-section):	4 x 0.75 mm²	
Terminal length:	90 mm	
Dimensions:	49 x 49 x 21 mm	
Weight:	40 g	
Related standards:	EN 607 30-1 ED.2	

Device description

Potentiometer for setting minimum brightness

Switch for selecting the light source

Button Prog

Device status indication

External button

Output to appliance

Neutral conductor

Phase conductor

Connection

LED, ESL, R resistive load

L - inductive load
coil transformer

C - capacity load
electronic transformer

RFDAC-71B | Analog controller

- The device with analog output 0(1) -10 V is used to control devices, luminaires, thermal actuators and thermal heads - which are equipped with such an input.
- They can be combined with detectors, controllers, iNELS RF Control or system components.
- Potential free analog output 0(1) -10 V, contact relay 16 A.
- 6 light functions - smooth increase or decrease with time setting 2 s - 30 min. Function description can be found on page 79.
- The analog controller may be controlled by up to 25 channels.
- The programming button on the controller is also used for manual control of the output.
- Memory status can be pre-set in the event of a power failure.
- Range up to 200 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO2.
- The BOX design lets you mount it right in an installation box, a ceiling or light cover.

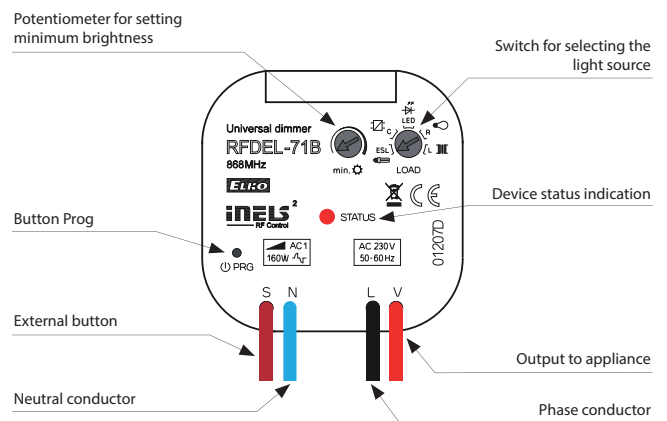| Technical parameters	RFDAC-71B
Supply voltage:	110 - 230 V AC
Supply voltage frequency:	50 - 60 Hz
Apparent input:	3 VA
Dissipated power:	1.2 W
Supply voltage tolerance:	+10 / -15 %
Control	
Potential-free analog output / max. current:	0(1)-10 V / 10 mA
Rated current:	1x AgSnO$_2$, switches the phase conductor
Switching power:	16 A / AC1
Switching power:	4000 VA / AC1
Switching voltage:	250 V AC1
Mechanical service life:	$3x10^7$
Electrical service life:	$0.7x10^5$
Indication:	red LED/green LED
Output selection:	0(1)-10V / PROG button
Control	
Wireless:	up to 25 channels (buttons)
Communication protocol:	RFIO2
Frequency:	866–922 MHz (for more information see p. 80)
Repeater function:	yes
Manual control:	button PROG (ON/OFF)
Range:	in open space up to 200 m
Minimal control distance:	20 mm
Other data	
Operating temperature:	-15 to + 50 °C
Operating position:	any
Mounting:	plug into a socket
Protection:	IP30
Overvoltage category:	III.
Contamination degree:	2
Terminals (CY wire, cross-section):	3 x 0.75 mm^2, 2 x 2.5 mm^2
Length of terminals:	90 mm
Dimensions:	49 x 49 x 21 mm
Weight:	52 g
Related standards:	EN 60669, EN 300 220, EN 301 489 R&TTE Directive, Order. No 426/2000 Coll. (Directive 1999/EC)

Device description

Connection

Connection example: dimming of fluorescent tubes with dimmable ballast

Connection example: with thermo valve

Technical parameters	RFDEL-71M/230V	RFDEL-71M/120V
Supply voltage:	230 V AC	120 V AC
Supply voltage frequency:	50 Hz	60 Hz
Apparent power:	2.5 VA	1.1 VA
Dissipated power:	0.8 W	0.6 W
Supply voltage tolerance:	+10 / -15 %	
Output		
Dimmed load:	R,L,C, LED, ESL	
Contactless:	2 x MOSFET	
Load capacity:*	max. 600 W	max. 300 W*
Control		
Wireless:	up to 32 channels (buttons)	
Communication protocol:	RFIO2	
Frequency:	866–922 MHz (for more information see p. 80)	
Repeater function:	yes	
Range:	in open space up to 160 m	
Manual control:	SW (ON/OFF) button	
External button:	max. 50 m cable	
Glow lamps connection:	NO	
Analog control:	potentiometer or 0 (1) - 10 V	
RF Antenna:	AN-I included (SMA connector**)	
Other data		
Operating temperature:	-20 to + 35 °C	
Storage temperature:	-30 to +70°C	
Operating position:	vertical	
Mounting:	DIN rail EN 60715	
Protection:	IP20 under normal conditions	
Overvoltage category:	II.	
Contamination degree:	2	
Cross-section of connecting wires:	max. 1x 2.5, max. 2x 1.5 / with a hollow max. 1x 2.5	
Dimensions:	90 x 52 x 65 mm	
Weight:	125 g	
Related standards:	EN 607 30-1 ed.2	

* See page 79 for the load chart for each light source.

** Max. Tightening Torque for antenna connector is 0.56 Nm.

- The universal modular dimmer is used to regulate light sources:
  R – classic lamps (resistive load)
  L – halogen lamps with wound transformer (inductive load)
  C – halogen lamps with electronic transformer (capacity load)
  ESL – dimmable energy-efficient fluorescent lamps
  LED – LED light sources equiped with LED.
- Control can be performed by:
  a) detectors, Controllers and System units iNELS RF Control
  b) by control signal 0(1)-10 V
  c) potentiometer
  d) existing button in the installation.
- 6 light functions - smooth increase or decrease with time setting 2 s -30 min. Function description can be found on page 79.
- Thanks to setting the min. brightness by potentiometer, you will eliminate flashing of the LED and ESL light sources.
- The universal dimmer may be controlled by up to 32 channels.
- The programming button on the controller is also used for manual control of the output.
- The package includes an internal antenna AN-I , in case of locating the unit in a metal switchboard, you can use the external antenna AN-E for better signal reception.
- Memory status can be pre-set in the event of a power failure.
- Range up to 160 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO2.
- The unit's three-module design with switchboard mounting.

Device description

Connection and external control options

RFDA-73M/RGB | Three channels dimmer for LED (RGB) strips

- The dimmer for LED strips is used for independent control of 3 single-colour LED strips or one RGB LED strip.
- The expanded selection of control modes enables it to be combined with:
  a) detectors, controllers and system units iNELS RF Control
  b) device with output signal 0 (1) -10 V
  c) potentiometer.
- The unit's three-module design with switchboard mounting enables connection of dimmed load 3x 5 A, which represents:
  a) single-colour LED strip 7.2 W – 3x 8 m
  b) RGB LED strip 14.2 W – 10 m.
- 6 light functions - smooth increase or decrease with time setting 2 s - 30 min. Function description can be found on page 79.
- The dimmer may be controlled by up to 32 channels.
- The power supply of the unit is in the range of 12-24 V DC, and is indicated by a green LED.
- The package includes an internal antenna AN-I , in case of locating the unit in a metal switchboard, you can use the external antenna AN-E for better signal reception.
- Memory status can be pre-set in the event of a power failure.
- Range up to 160 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO2.

Technical parameters	RFDA-73M/RGB
Supply terminals:	Un+, GND
Supply voltage:	12-24 V DC stabilized
Maximum power without load:	0.8 W
Output	
Dimmed load:	LED strip 12 V,24 V with common anode
	RGB LED strips 12 V, 24 V with common anode
Number of channels:	3
Rated current:	3x5 A
Peak current:	3x10 A
Switching voltage:	Un
Control	
Wireless:	up to 32 channels (buttons)
Communication protocol:	RFIO2
Frequency:	866–922 MHz (for more information see p. 80)
Repeater function:	yes
Load capacity of output +10V:	10 mA
Ext. signal:	0-10 V, 1-10 V
Range:	in open space up to 160 m
RF Antenna:	AN-I included (SMA connector*)
Other data	
Operating temperature:	-20 to + 50 °C
Storage temperature:	-30 to + 70 °C
Working position:	any
Mounting:	DIN rail EN 60715
Protection:	IP20 from front panel
Contamination degree:	2
Cross-section of connecting wires (mm²):	max. 1x 2.5, max. 2x 1.5 / with a hollow max. 1x 2.5
Dimensions:	90 x 52 x 65 mm
Weight:	130 g
Related standards:	EN 60730-1; EN 60730-2-11

* Max Tightening Torque for antenna connector is 0.56 Nm.

Device description

Output variations and external control options

Control modes

RF RGB
Switch settings in MODE:

TERM 1-10V
TERM 0-10V
RF WHITE
RF COLOR
RF RGB
MODE

R - red
G - green

B - blue
MASTER

1 3
2 4
RF KEY

RF RGB mode for controlling RGB LED strips.
In the RF RGB programming mode, colours are automatically assigned to individual transmitter buttons.

Note: The mode can be controlled by RF Touch, RF Pilot, RFWB-40/G, RF KEY, RFIM-40B and eLAN-RF-003.

RF Colour
Switch settings in MODE:

TERM 1-10V
TERM 0-10V
RF WHITE
RF COLOR
RF RGB
MODE

1
2

3
MASTER

1 3
2 4
RF KEY

RF COLOUR mode for controling RBG LED strips, where you can choose the colour for individual transmitter buttons. A long press of the button starts the colour search mode. After releasing the button, the current colour is set for the given button.

Note: The mode can be controlled by RF Touch, RF Pilot, RFWB-40/G, RF KEY RFIM-40B and eLAN-RF-003.

RF WHITE
Switch settings in MODE:

TERM 1-10V
TERM 0-10V
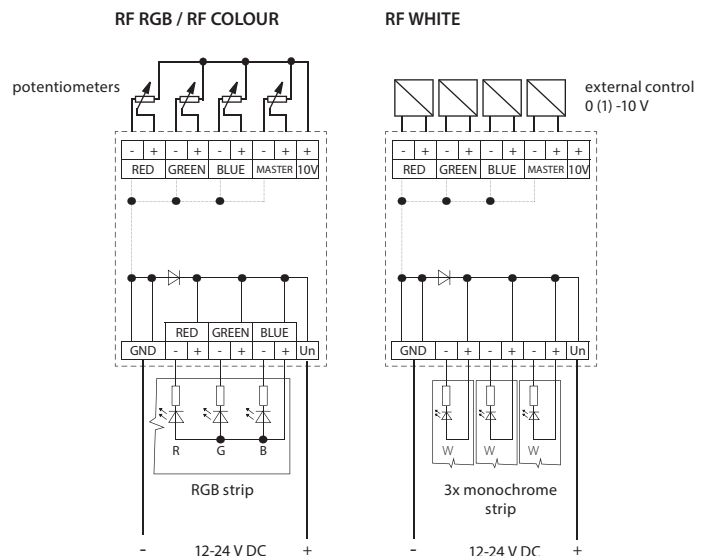**RF WHITE**
RF COLOR
RF RGB
MODE

This works in a mode where it acts like three independent dimmers for 12-24 V. Each channel can be programmed independently of one another and has its own address.

Note: The mode can be controlled by RF Touch, RF Pilot, RFWB-20/G, RFWB-40/G, RF KEY, RFIM-20B, RFIM-40B and eLAN-RF-003.

TERM 0-10 V and TERM 1-10 V
Switch settings in MODE:

TERM 1-10V
TERM 0-10V
RF WHITE
RF COLOR
RF RGB
MODE

TERM 1-10V
TERM 0-10V
RF WHITE
RF COLOR
RF RGB
MODE

Modes TERM 0 -10 V and TERM 1-10 V.
Inputs 0-10 V and 1-10 V used to control one RGB LED strip or three independent single-colour LED strips (see modes above) from the iNELS BUS System. For controlling, you can use the application iMM on the TV screen or the application iHC for smartphones and tablets.

Control options

TERM 0(1)-10 V DC
- monochrome LED strips

DAC3-04B
01207D   RUN
iNELS
Bus system

BUS+ BUS+ BUS- BUS- TIN TIN

OUT1 GND OUT2 GND OUT3 GND OUT4

- + - + - + - + +
RED GREEN BLUE MASTER 10 V

RED GREEN BLUE
GND - + - + - + Un

W
+ 12-24 V DC

LED strips

TERM 0(1)-10 V DC
- RGB LED strips

DAC3-04B
01207D   RUN
iNELS
Bus system

BUS+ BUS+ BUS- BUS- TIN TIN

OUT1 GND OUT2 GND OUT3 GND OUT4

- + - + - + - + +
RED GREEN BLUE MASTER 10V

RED GREEN BLUE
GND - + - + - + Un

R G B
+ 12-24 V DC

RGB LED strips

RFDSC-71 | Dimming socket-plug

Technical parameters	RFDSC-71/230V	RFDSC-71/120V
Supply voltage:	230 - 250 V	120 V AC
Supply voltage frequency:	50-60 Hz	60 Hz
Apparent power:	1.1 VA	
Dissipated power:	0.8 W	
Supply voltage tolerance:	+10/ -15 %	
Output		
Contactless:	2 x MOSFET	
Load capacity:*	max. 300 W	max. 150 W
Dimming load:	R, L, C, LED, ESL	
Control		
Wireless:	up to 32 channels (buttons)	
Communication protocol:	RFIO	
Frequency:	866–922 MHz (for more information see p. 80)	
Repeater function:	yes	
Range:	in open space up to 160 m	
Manual control:	button PROG (ON/OFF)	
Other data		
Operating temperature:	-20 to + 35 °C	
Storage temperature:	-30 to +70°C	
Working position:	any	
Mounting:	plug into a socket	
Protection:	IP30	
Overvoltage category:	III.	
Contamination degree:	2	
Dimensions:	60 x 120 x 80 mm	
Weight:	129 g	
Related standards:	EN 60669, EN 300 220, EN 301 489 R&TTE Directive, Order. No 426/2000 Coll. (Directive 1999/EC)	

* See page 79 for the load chart for each light source.

- The dimmed socket is used to control light sources that are connected by power cord - especially lamps:
  R – classic lamps (resistive load)
  L – halogen lamps with wound transformer (inductive load)
  C – halogen lamps with electronic transformer (capacity load)
  ESL – dimmable energy-efficient fluorescent lamps
  LED – LED light sources equipped with LED.
- Multi-function 6 light functions - smooth increase or decrease with time setting 2 s - 30 min.
- Thanks to setting the min. brightness by potentiometer, you will eliminate flashing of the LED and ESL light sources.
- The universal dimmer may be controlled by up to 32 channels.
- The programming button on the socket is also used for manual control of the output.
- Memory status can be pre-set in the event of a power failure.
- Range up to 160 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
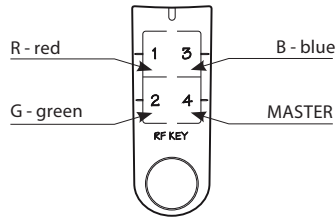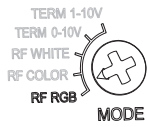- Communication frequency with bidirectional protocol RFIO.

Produced in 5 designs of sockets/plugs:

French   Schuko   British

Device description

Potentiometer for setting minimum brightness

Device status indication

Switch for light source selection

Supply voltage indication

Program button

Socket for connecting a light source

- RFTC-10/G is used for temperature measurement (in the range of 0 to 55 ° C) and correction of the pre-set temperature in RF Touch or eLAN-RF system devices in the range of ± 5 ° C. The temperature correction is valid until the next program change in the given system device.
- The backlit LCD display displays the current and set temperature, status (ON/OFF), battery status, etc.
- Range up to 100 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO.
- Colour combination of heating unit in design of frames LOGUS⁹⁰ (plastic, glass, wood, metal, stone).

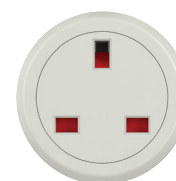| Technical parameters	RFTC-10/G
Supply voltage:	2 x 1.5 V AAA batteries
Battery life:	1 year based on frequency of use
Temperature correction:	2 buttons ∨ / ∧
Temperature offset:	± 5 °C
Display:	LCD, characters/see Display description
Backlighting:	active 10 s after pressing
Transmission indication/function:	symbols
Temperature measurement:	1x internal sensor
Temp. measurement range and accuracy:	0 to +55 °C; 0.3 °C of the range
Control	
Communication protocol:	RFIO
Frequency:	866–922 MHz (for more information see p. 80)
Repeater function:	NO
Signal transmission method:	bidirectionally addressed message
Range:	in open space up to 100 m
Minimum control distance:	20 mm
Other data	
Max. number of control. RFSA-6x:	1
Program:	x
Operating temperature:	0 to +55 °C
Operating position:	wall-mounted
Mounting:	glue/screws
Protection:	IP30
Contamination degree:	2
Dimensions frame	
- plastic:	85 x 85 x 20 mm
- metal, glass, wood, granite:	94 x 94 x 20 mm
Weight:	66 g (without batteries)
Related standards:	EN 60669, EN 300 220, EN 301 489 R&TTE Directive, Order. No 426/2000 Coll. (Directive 1999/EC)

Compatibility				
RF Touch	eLAN-RF	RFSA-6 x	RFSTI-11B	RFATV-1
✓	✓	✓	–	–

Device description

Base   Frame   Electronics   Cover

Display description

Signal strength
Circuit temperature set
Circuit temperature measured
Circuit status indicator
Temperature/time indication
Battery status indication
Locked for adjustment
Temperature measured in °C/°F

heating cable
RFSA-61B
convector
RFUS-61
boiler
RFSC-61
eLAN-RF-003
RF Touch

- RFTC-50/G is a separate thermostat that allows wireless control of up to 4 multifunctional switching components, e.g. RFSA-6x, RFUS-61, RFSTI-11B.
- Temperature measurement with built-in sensor in the range of 0.55 ° C, temperature setting in the range of 0 to + 55 ° C in the weekly program.
- The backlit LCD display displays the current and set temperature, status (ON/OFF), battery status, day of the week, current time, etc.
- Battery power (2x 1.5 V AAA batteries - included in supply) with battery life of around 1 year based on frequency of use.
- Range up to 100 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO.
- Colour combination of temperature unit in design of frames LOGUS[90] (plastic, glass, wood, metal, stone).

Technical parameters	RFTC-50/G
Supply voltage:	2x 1.5 V AAA batteries
Battery life:	1 year based on frequency of use
	according to the number of controlling actuators
Temperature correction:	2 buttons ∨ / ∧
Temperature offset:	± 5 °C
Display:	LCD, characters / see Display description
Backlighting:	active 10 s after pressing
Transmission indication/function:	symbols
Temperature measurement:	1x internal sensor
Temp. measurement range and accuracy:	0 to +55 °C; 0.3 °C of the range
Control	
Communication protocol:	RFIO
Frequency:	866–922 MHz (for more information see p. 80)
Repeater function:	NO
Signal transmission method:	bidirectionally addressed message
Range:	in open space up to 100 m
Minimum control distance:	20 mm
Other data	
Max. number of control. RFSA-6x:	4
Program:	Weekly
Operating temperature:	0 to + 55 °C
Operating position:	on the wall
Mounting:	by gluing/screwing
Protection:	IP30
Contamination degree:	2
Dimensions frame	
- plastic:	85 x 85 x 20 mm
- metal, glass, wood, granite:	94 x 94 x 20 mm
Weight:	66 g (without batteries)
Related standards:	EN 60669, EN 300 220, EN 301 489 directive R&TTE
	Directive, Order. No 426/2000 Coll. (Directive 1999/EC)

Compatibility				
RF Touch	eLAN-RF	RFSA-6 x	RFSTI-11B	RFATV-1
–	–	✓	✓	–

Device description

Base   Frame   Electronics   Cover

Display description

Displaying the day of the week

Displaying the time

Indication of manual mode

Displaying the temperature

The heating function switched output

Indicates the state of connection with actuators

Temperature units °C

heating cable

RFSA-61B

convector

RFUS-61

boiler

RFSTI-11B

- The temperature unit measures the temperature by external sensor, and controls the heating circuit (electric underfloor heating, air conditioning, boiler, etc.).
- These can be combined with system units: smart RF box eLAN-RF, wireless controller RFTC-50/G or touch unit RF Touch.
- It measures temperature in a range of -20..50 °C and sends it to the system unit in regular 5 min. intervals. It sends a signal upon sudden temperature change.
- Setting the heat/cool function, hysteresis and offset is performed in the system unit or application.
- It enables connection of the switched load up to 16 A (4 000 W).
- Range up to 160 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO2.
- The BOX design lets you mount it right in an installation box, a ceiling or controlled appliance cover.
- External sensor TC (-20 to +80 °C) or TZ (-40 to +125 °C) for length of 3 m, 6 m, 12 m. For more information see „Accessories" on page 41.

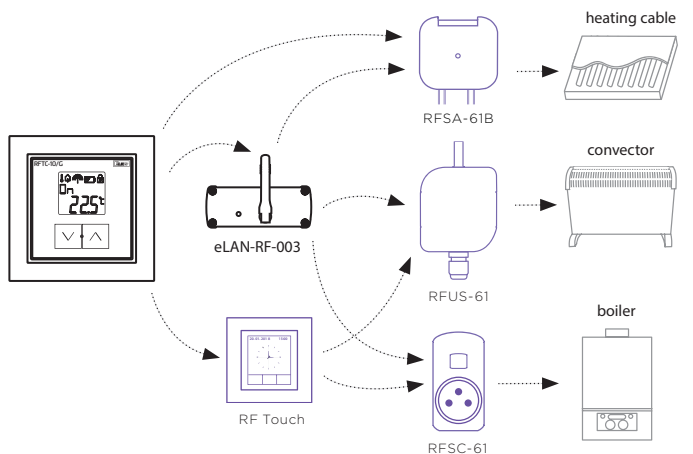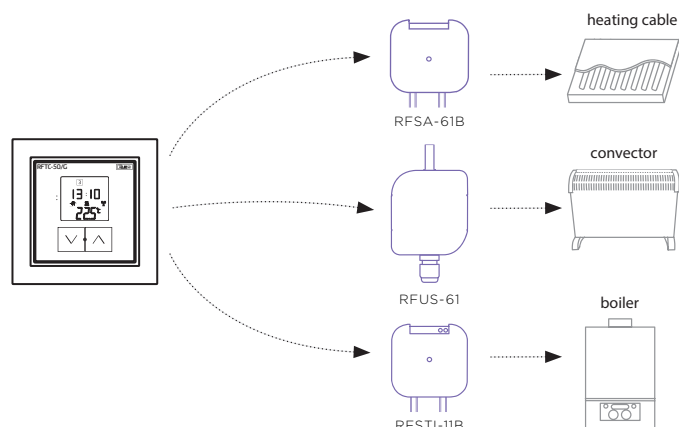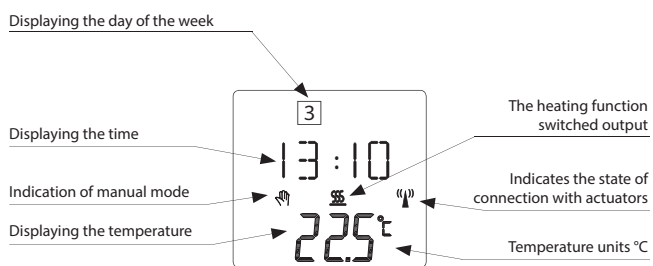| Technical parameters	RFSTI-11B/230V	RFSTI-11B/120V	RFSTI-11B/24V
Supply voltage:	230 V AC	120 V AC	12-24 V AC/DC
Supply voltage frequency:	50-60 Hz	60 Hz	50-60 Hz
Apparent input:	7 VA / cos φ = 0.1	7 VA / cos φ = 0.1	-
Dissipated power:	0.7 W	0.7 W	0.7 W
Supply voltage tolerance:	+10 %; -15 %		
Temperature measurement input:	1x external TZ/TC temperature sensor input $\boxed{4}$		
Temp. measurement range and accuracy:	-20 to +50 °C; 0.5 °C of the range		
Output			
Number of contacts:	1x switching (AgSnO$_2$)		
Rated current:	16 A / AC1		
Switching power:	4000 VA / AC1, 384 W / DC		
Peak current:	30 A / <3 s		
Switching voltage:	250 V AC1 / 24 V DC		
Max. DC switching power:	500 mW		
Mechanical service life:	3x10^7		
Electrical service life (AC1):	0.7x10^5		
Control			
Communication protocol:	RFIO2		
Frequency:	866–922 MHz (for more information see p. 80)		
Repeater function:	yes		
Range:	in open space up to 160 m		
Other data			
Operating temperature:	-15 to + 50 °C		
Status indication:	red LED		
Operating position:	any		
Mounting:	free at lead-in wires		
Protection:	IP30		
Overvoltage category:	III.		
Contamination degree:	2		
Outlets (CY wire, cross-section, length):	2 x 0.75 mm^2, 2 x 2.5 mm^2, 90 mm		
Dimensions:	49 x 49 x 21 mm		
Weight:	46 g		
Related standards:	EN 60669, EN 300 220, EN 301 489 R&TTE Directive, Order. No 426/2000 Coll. (Directive 1999/EC)		

$\boxed{4}$ Temperature sensor input is at the supply voltage potential.

Device description

Connection to TC/TZ external temperature sensor

Device status indicator

Neutral conductor

Phase conductor

Output relay contacts

Connection

RFSTI-11B/230 V
RFSTI-11B/120 V

RFSTI-11B/24 V

external sensor TC/TZ

external sensor TC/TZ

Temperature control

- It measures temperature in a range of -20 to 50 °C with internal or external sensor and sends it to the system unit (eLAN-RF, RF-Touch) in regular 5 min. intervals.
- It sends a signal upon sudden temperature change within 1 min.
- Option of connecting an external sensor to the terminals THERM.
- Battery power (1x 3 V CR 2477 battery - included in supply) with battery life of around 1 year based on frequency of use.
- Range up to 160 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency 868 MHz with bidirectional protocol RFIO.
- External sensor TC (-20 to +80 °C) or TZ (-40 to +125 °C) for length of 3 m, 6 m, 12 m. For more information see „Accessories" on page 41.

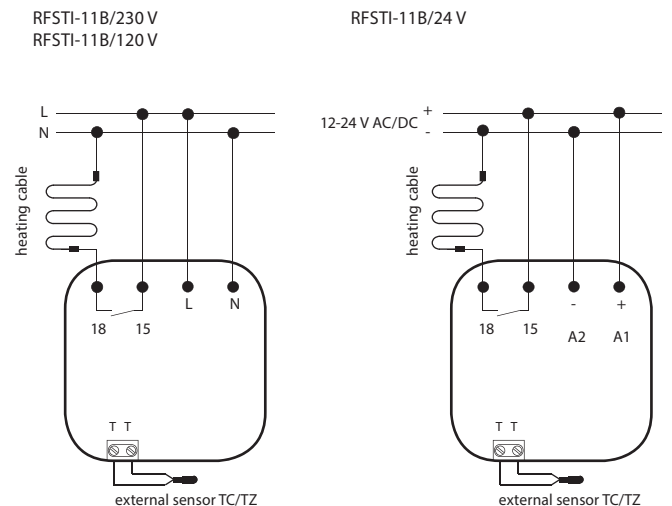| Technical parameters	RFTI-10B
Supply voltage:	1x 3 V CR 2477 battery
Battery life:	1 year based on frequency of use
Transmission indication / function:	red LED
Temperature measurement:	1x internal NTC thermistor
	1x external TZ/TC temperature sensor input
Temp. measurement range and accuracy:	-20 to +50°C ; 0.5 °C in the range
Output	
Communication protocol:	RFIO
Frequency:	866–922 MHz (for more information see p. 80)
Repeater function:	NO
Signal transmission method:	unidirectionally addressed message
Range:	in open space up to 160 m
Other data	
Operating temperature:	-10 to +50 °C
Operating position:	any
Mounting:	glued/free-standing
Protection:	IP30
Contamination degree:	2
Dimensions:	49 x 49 x 13 mm
Weight:	45 g
Related standards:	EN 60669, EN 300 220, EN 301 489 R&TTE Directive,
	Order. No 426/2000 Coll. (Directive 1999/EC)

Device description

Internal sensor

Terminal for the connection of external sensor TC/TZ

Device status indicator

Sensor location

on a wall	in a box	in a panel

in a pipe	in a tank

TC, TZ | Temperature sensors

- Thermister temperature sensors are made of Negative Temperature Coefficient (NTC) embedded in a PVC or metal sleeve with a thermally-conductive sealer.
- **Sensor TC**
  - lead-in cable to sensor TC is made of wire CYSY 2D x 0.5 mm/ 0.02".
- **Sensor TZ**
  - cable VO3SS-F 2D x 0.5 mm/0.02" with silicone insulation for use in high temperature applications.
  - silicone insulation for use in high temperature applications.
- Temperature sensors can be connected directly to the terminal block
- cable lengths can not be changed, connected or modified.

Technical parameters	TC	TZ
Range:	-20°C to +80 °C	-40°C to +125°C
Scanning element:	NTC 12K	NTC 12K
Tolerance:	± (0.15°C + 0.002|t|)	± (0.3°C + 0.005|t|)
In air/ in water:	(τ0.5) ≤ 18 s	(τ65) 62 s / 8 s
In air/ in water:	(τ0.9) ≤ 48 s	(τ95) 216 s / 23 s
Cable material:	PVC unshielded, 2x 0.25 mm²	Silicone
Terminal material:	polyamid	nickel plated copper
Protection degree:	IP67	IP67
Electrical strength:	2500 VAC	2500 VAC
Insulation resistance:	> 200 MΩ at 500 VDC	> 200 MΩ at 500 VDC
Types of temperature sensors:		
	TC-0	TZ-0
- length:	100 mm	110 mm
- weight:	5 g	4.5 g
	TC-3	TZ-3
- length:	3 m	3 m
- weight:	70 g	106 g
	TC-6	TZ-6
- length:	6 m	6 m
- weight:	130 g	216 g
	TC-12	TZ-12
- length:	12 m	12 m
- weight:	250 g	418 g

τ65 (95): time, which sensor needs to heat up on 65 (95) % of ambient temperature of environment, in which is located.

Resistive values of sensors in dependance on temperature

Temperature (°C)	Sensor NTC (kΩ)
20	14.7
30	9.8
40	6.6
50	4.6
60	3.2
70	2.3

Tolerance of sensor NTC 12 kΩ is ± 5% by 25 °C / 77°F.

Diagramm of sensor warm up via air

PVC -reaction to water temperature from 22.5°C to 58°C.
Silicone - reaction to water temperature from 22.5°C to 63.5°C.

Design and dimensions

TC

25 mm
ø 8 mm

TZ

22.65 mm
ø 5.8 mm

RFATV-1 | Wireless thermovalve

- The wireless thermostat measures room temperature by internal sensor; based on a set program in the system unit, it opens/closes the radiator valve.
- It can be combined with Smart RF box eLAN-RF or touch unit RF Touch.
- It measures temperature in a range of 0 to +32°C and sends it to the system unit in regular 5 min. intervals.
- Monitoring function "Open window", where upon a sudden change in temperature, it shuts the valve for a preset period.
- Setting the hysteresis and offset is performed in the system unit or application.
- Low battery indicator on the display of the system unit or in the application.
- Mounting directly on the valve of the heater (radiator).
- Battery power (2x 1.5 V AA batteries - included in supply) with battery life of around 1 year based on frequency of use.
- Range up to 100 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO.
- Package includes: adapters Danfoss RAV, RA, RAVL; 2x 1.5 AA batteries key.

Technical parameters	RFATV-1
Supply voltage:	2x 1.5 V AA batteries
Battery life:	1 year based on frequency of use
Control	
Communication protocol:	RFIO
Frequency:	866–922 MHz (for more information see p. 80)
Repeater function:	NO
RF command from the transmitter:	RF Touch, eLAN-RF
Range:	in open space up to 100 m
Other data	
Operating temperature:	0 to +50 °C
Working position:	any
Protection:	IP40
Dimensions:	65 x 65 x 48 mm
Thermostat end:	M 30 x 1.5
Piston stroke:	max. 4 mm
Controlling force:	max. 100 N
Related standards:	EN 60730

Device description

Adapters (is included)

Type of valve	Type of adapter
Danfoss RAV (the valve plunger must be fitted with the enclosed pin):	
Danfoss RA:	
Danfoss RAVL:	

- The thermoregulation drive TELVA is used to control underfloor and radiator hot-water heating.
- It is known for its quiet operation. It has a built-in valve position indicator.
- By mounting using the VA valve adapter, the thermo-regulation drive TELVA is applicable for a wide range of thermostatic valves available on the market.
- Design:
  - without voltage open (NO)
  - without voltage closed (NC)

- Type of use:

  Underfloor heating - wireless controller RFTC-50/G measures the room temperature, and based on the set program, sends a command to the switching unit RFSA-66M to open/close the thermo-regulation drive TELVA at the distribution.

Technical parameters	TELVA 230V	TELVA 24V
Operating voltage:	230 V, 50 / 60 Hz	24 V, 50 / 60 Hz
Switching current max:	300 mA for max. 2 min	250 mA for max. 2 min
Operating current:	8 mA	75 mA
Closing / opening time:	cca 3 min.	cca 3 min.
Power input:	1.8 W	1.8 W
Protection:	IP54/II	IP54/II
Settings:	4 mm	4 mm
Stopping force:	100 N ±5 %	100 N ±5 %
Cable length:	1 m	1 m
Connecting wire:	2 x 0.75 mm²	2 x 0.75 mm²
Media temperature:	0 to +100 °C	0 to +100 °C
Colour:	white RAL 9003	white RAL 9003
Dimensions h/w/d:	55+5 x 44 x 61 mm	55+5 x 44 x 61 mm

RFIM-20B, RFIM-40B | Input contacts converter

- • **RFIM-20B:** the wireless contact converter changes your existing wired button/switch to a wireless one.
  - two inputs enable control of two units independent.
  - battery power supply (1x 3 V CR 2477 battery - included in the supply) with battery life of around 5 years based on frequency of use.
  - contact can be permanently closed (does not drain on the battery).
- • **RFIM-40B:** the wireless contact converter changes your existing wired button to a wireless one.
  - four inputs enable control of four units independently.
  - battery power supply (2x 3 V CR 2032 batteries) with battery life of around 5 years based on frequency of use (included in the supply).
  - button control (input must not be permanently closed)
- • It can be used to transmit information on switching on the contact (detector, button, technology, logic output).
- • When pressing the button, it sends a set signal (ON/OFF, dimming, time switching OFF/ON, blinds up/down).
- • Option of setting light scenes, where with a single press, you can control multiple units of iNELS RF Control.
- • Range up to 200 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- • Communication frequency with bidirectional protocol RFIO.
- • The BOX design lets you mount it right in an installation box under the button or switch.

Technical parameters	RFIM-20B	RFIM-40B
Supply voltage:	1x 3 V CR 2477 battery	2x 3 V CR 2032 batteries
Battery life:	5 years based of frequency use	
Transmission indication / function:	orange LED	red LED
Number of inputs:	2	4
Input switching time:	Permanent input connection (contact)	Short-tem input connection (button)
Control		
Communication protocol:	RFIO	
Frequency:	866–922 MHz (for more information see p. 80)	
Repeater function:	NO	
Signal transmission method:	unidirectionally addressed message	
Range:	in open space up to 200 m	
Other data		
Operating temperature:	-10 to +50 °C	
Operating position:	any	
Terminals (CY wire, cross-section):	4 x 0.75 mm²	6 x 0.75 mm²
Length of terminals:	90 mm	
Resist.of connection between terminals		
- for switched on button:	< 300 Ω	
- for disconnected contact:	> 10 kΩ	
Mounting:	free at lead-in wires	
Protection:	IP30	
Contamination degree:	2	
Dimensions:	49 x 49 x 13 mm	
Weight:	45 g	50 g
Open contact voltage:	pulse 12 V	3 V
Length of cable to contact:	max. 100 m of parallel lines	max. 5 m
Related standards:	EN 60669, EN 300 220, EN 301 489 R&TTE Directive, Order. No 426/2000 Coll. (Directive 1999/EC)	

Device description

RFIM-20B

Transmitter indication

Control inputs

RFIM-40B

Transmitter indication

GND

Control inputs

Connection

RFIM-20B

permanent contact

IN22 IN2 IN11 IN1

RFIM-40B

Buttons

IN4 IN3 IN2 IN1 GND GND

- This wireless contact converter is especially appropriate for wireless transmission of information on switching HDO.
- Thanks to the permanent power supply, it can also be used for partial transmission of information for control of an appliance or device.
- After leading in power to the "S" terminals, it periodically transmits the command switch on in an interval of 10 min. When disconnecting the power supply, immediately switch off.
- The button TEST on the controller is used to assign to a switching unit.
- The package includes an internal antenna AN-I , in case of locating the converter in a metal switchboard, you can use the external antenna AN-E for better signal reception.
- Range up to 160 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20.
- Communication frequency with bidirectional protocol RFIO.
- One-module design of the unit with mounting into switchboard.

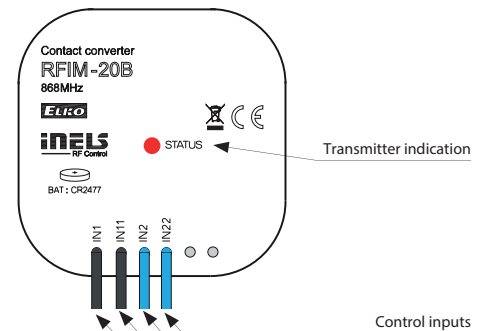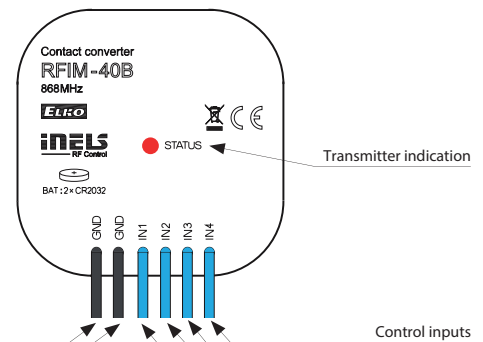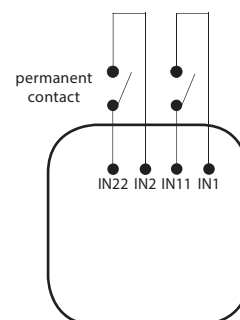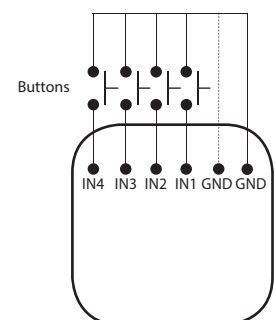| Technical parameters	RFSG-1M
Supply voltage:	110-230 V AC
Supply voltage frequency:	50-60 Hz
Apparent input:	2 VA
Dissipated power:	0.2 W
Supply voltage tolerance:	+10 % / -25 %
Power supply indication:	green LED
Input	
Control voltage:	AC 12-230 V / DC 12-230 V
Control input power:	AC 0.025 VA / DC 0.1 W
Control terminals:	S - S
The length of control impulse:	min. 25ms (max. unlimited)
Transmission indication/function:	red LED
Control	
Communication protocol:	RFIO
Frequency:	866–922 MHz (for more information see p. 80)
Repeater function:	NO
Signal transmission method:	unidirectionally addressed message
Range:	in open space up to 160 m
Minimum control distance:	20 mm
RF antenna:	AN-I included (SMA connector)*
Other data	
Operating temperature:	-15 to + 50 °C
Operating position:	any
Mounting:	DIN rail support EN 60715
Protection:	IP20 from the front panel
Overvoltage category:	III.
Contamination degree:	2
Connecting conductor cross--section: (mm^2):	max. 1x 2.5, max. 2x 1.5 / with a hollow max. 1x 2.5
Dimensions:	90 x 17.6 x 64 mm
Weight:	62 g
Related standards:	EN 60669, EN 300 220, EN 301 489 R&TTE Directive, Order. No 426/2000 Coll. (Directive 1999/EC)

* Max Tightening Torque for antenna connector is 0.56 Nm.

Device description

Power supply terminals

Power supply indication

Transmitter indication

Antenna connector

Test button

Control input

RFSG-1M

Un STATUS

ANT.

TEST

ELKO

A1 A2

S S

Connection

110 - 230 V AC

A1 A2

galvanic separation

S S

button or permanent contact

voltage input

RFSF-1B | Level switch

- Monitors areas (e.g. bathrooms, basements, shafts or tanks) to provide flood warning.
- Upon detecting water, the flood detector immediately sends a signal to the switched unit, which further switches on a pump, GSM gate or closes a pipe valve.
- The programming button on the detector is used to:
  a) setting the function with switching unit
  b) ascertaining battery status
  c) ascertaining signal quality between the unit and detector.
- Battery power supply (1x 3 V CR 2477 battery - included in the supply) with battery life of around 1 year based on frequency of use.
- The detector can be placed anywhere thanks to battery power.
- Range up to 160 m (in open space); if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2, that support this feature.
- Communication frequency with bidirectional protocol RFIO.
- Option of connecting an external probe FP-1 (not included in supply - max. wire length 30 m.

Technical parameters	RFSF-1B
Supply voltage:	1x 3 V CR 2477 battery
Battery life:	1 year based on frequency use
Indications / transfer function:	red LED
Reset after flooding:	JUMPER - Manual/Automatic
Programming:	with Prog button/based batteries
Measuring input:	terminal 0.5-1mm^2
Voltage measuring input:	3 V
Resistance measuring input for detecting flooding:	≤20 kΩ
Resistance measuring input for flushing detection:	≥40kΩ
Probe cable length:	max. 30 m
Control	
Communication protocol:	RFIO
Frequency:	866–922 MHz (for more information see p. 80)
Repeater function:	NO
Signal transmission method:	two-way addressed message
Range:	in open space up to 160 m
Other data	
Working temperature:	-10 to +50 °C
Operating position:	any
Mounting:	glue/freely
Protection:	IP30
Degree of pollution:	2
Dimensions:	49 x 49 x 13 mm
Weight:	45 g
Standards:	EN 60730-1, EN 300 220, EN 301 489 directive R&TTE Directive, Order. No 426/2000 Coll. (Directive 1999/EC)

Device description

Jumper to select the alarm reset mode

Device status indication

Terminal for connection level probe

Program button

Location of the detector and probe

In an installation box

On the wall

Freely

FP-1 | Liquid probe

Technical parameters	FP-1
Working temperature:	-10 to +40 °C
Mounting:	glue/screws
Length of cable:	1 m
Dimensions:	18 x 8 x 26 mm

- The flood detector is used to detect water leakage - the activation occurs the moment the flooding of the contacts located on the underside of the detector occurs.
- Upon detecting water, the flood detector immediately sends a signal to the switched unit, which further switches on a pump, GSM gate or closes a pipe valve.
- Flood detection is signalled by vibration, optical and acoustic signalling.
- Range up to 160 m (in open space); if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO.

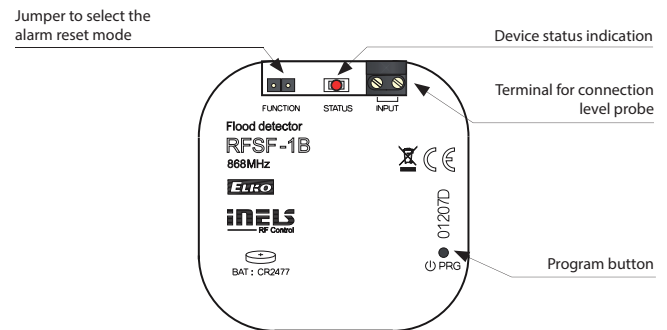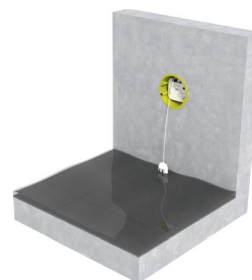| Technical parameters	RFSF-100
Power supply	
Battery power:	2x 1.5 V AAA batteries
Battery life by frequency 1x 12 hours:	3 years
Setting	
Alarm Detection:	vibration, optical and audible alarm
Battery status view:	low battery is indicated by flashing 1x in 3 s or display in the system element
Acoustic signal:	greater than 45 dB / 1m
Detection	
Sensor:	contacts for flooding
Detection principle:	contact between the sensor sensed liquid
Response Time:	2 s after connecting the scanning contacts
Measurement accuracy:	99.8 %
Sensitivity:	in the range 0.03 - 20 kΩ
Control	
Communication protocol:	RFIO
Frequency:	866–922 MHz (for more information see p. 80)
Repeater function:	NO
Signal transmission method:	two-way addressed message
Range:	in open space up to 160 m
Other parameters	
Working temperature:	0 to +50°C (Pay attention to the operating temperature of batteries)
Storage temperature:	-20 to +60°C
Operation position:	capture contacts for flooding downwards
Mounting:	loose
Protection degree:	IP62
Dimension:	Ø 89 x 23 mm
Weight:	92 g

Descritption

Sensor contacts

Function

When the scanning contact is connected, the detector sends the message and starts alarm.

Conductivity of liquids

Liquids suitable for detection

Type of liquid	Resistivity [Ωcm]*
Drinking water	5-10 kΩ
Well water	2-5 kΩ
River water	2-15 kΩ
Rain water	15-25 kΩ
Waste water	0.5-2 kΩ
Seawater	~0.03 kΩ
Salt water	~2.2 kΩ
Natural / hard water	~5 kΩ
Chlorinated water	~5 kΩ
Condensed water	~18 kΩ
Milk	~1 kΩ
Milk serum	~1 kΩ
Fruit juices	~1 kΩ
Vegetable Juices	~1 kΩ
Broths	~1 kΩ
Wine	~2.2 kΩ
Beer	~2.2 kΩ
Coffee	~2.2 kΩ
Soap toam	~18 kΩ

Inadmissible liquids

Demineralised water
Deionised water
Bourbon
Gasoline
Oil
Liquid gases
Paraffin
Ethylene glycol
Paints
High alcohol-content liquids

* Resistivity characterizes the local conductivity or resistive properties of materials which conduct electric current.

RFSOU-1 | Twilight switch

- The twilight switch measures the light intensity and based on a set value, it sends the command to switch on the lights or pull the blinds up or down.
- It can be combined with multifunctional switching units and blind switches.
- Integrated sensor for measuring illumination, settable in 3 ranges 1-100,000 lx.
- Selection of function:
  a) twilight switch – automatically switches on upon a decrease in ambient light intensity, switches off upon an increase (appropriate for garden lights, advertisements, public lighting, etc.).
  b) light switch – automatically switches on upon an increase in ambient light intensity, switches off upon a decrease (appropriate for offices, restaurants, rooms, etc.).
- Settable delay up to 2 minutes to eliminate unwanted switching caused by surrounding influences.
- The twilight switch may control up to 32 units in the installation.
- The programming button on the regulator is used for:
  a) setting a function with a switching or blind unit
  b) ascertaining battery status
  c) ascertaining signal quality between the unit and dimmer.
- Battery power (2x 1.5 V AAA batteries - included in supply) with battery life of around 2 years based on the number of controlled units.
- Range up to 160 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO.
- The increased IP65 protection is suited to mounting on the wall or into the rural environment.

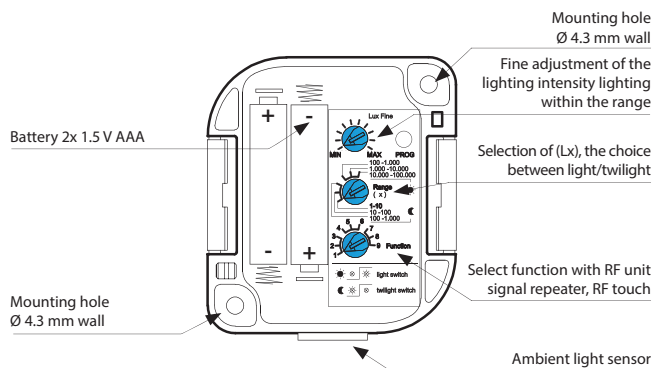| Technical parameters	RFSOU-1
Power supply:	2 x 1.5 AAA batteries
Battery Life:	Appr. 2 years,
	according to the number of controlled units
Setting the range of light levels	
Function ☾ (twilight switch)	
- Range 1:	1 ... 10 lx
- Range 2:	10 ... 100 lx
- Range 3:	100 ... 1.000 lx
Function ☀ (light switch)	
- Range 1:	100 ... 1 000 lx
- Range 2:	1 000 ... 10 000 lx
- Range 3:	10 000 ... 100 000 lx
Function setting:	rotary switch
The level of lighting gently:	0.1 ... 1 x range
Fine adjustment of lighting levels:	potentiometer
The time delay t:	0 / 1 min. / 2 min.
Setting the delay time t:	rotary switch
Control	
Communication protocol:	RFIO
Frequency:	866–922 MHz (for more information see p. 80)
Repeater function:	NO
Range:	in open space up to 160 m
Other data	
Working temperature:	-20 to +50°C
Storage temperature:	-30 to +70°C
Operating position:	sensor side down
Protection:	IP65
Degree of pollution:	2
Dimension:	72 x 62 x 34 mm
Weight:	104 g
Standards:	EN 60730-1, EN 300 220, EN 301 489 R&TTE Directive,
	Order. No 426/2000 Coll. (Directive 1999/EC)

Device description

Mounting hole Ø 4.3 mm wall

Fine adjustment of the lighting intensity lighting within the range

Selection of (Lx), the choice between light/twilight

Battery 2x 1.5 V AAA

Select function with RF unit signal repeater, RF touch

Mounting hole Ø 4.3 mm wall

Ambient light sensor

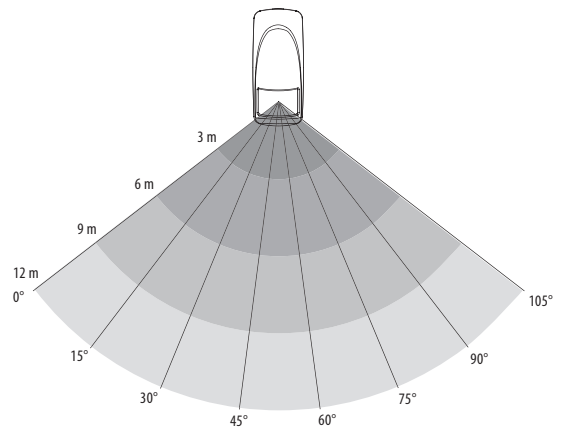| Technical parameters	RFMD-100
Power supply:	2x 1.5 V AA batteries
Battery life:	up to 1 year, according to the number of activations
Drained battery indicator:	yes
Control	
Communication protocol:	RFIO
Frequency:	866–922 MHz (for more information see p. 80)
Repeater function:	NO
Detection angle:	105°
Detection distance:	max. 12 m
Recommended working height:	max. 2.4 m
Other data	
Working temperature:	-10 to +50°C
Protection:	IP20
Colour:	white
Dimension:	46 x 105 x 43 mm
Weight:	57 g

- The motion detector PIR is used to detect persons moving inside the building interior.
- Use:
  - in combination with a switching unit for automatic control of lighting or triggering an alarm.
  - by means of the Smart RF box, detection can be displayed on your smart phone in the form of a notification; alarms are stored in the history, which is visualized in the application iHC.
- Sensitivity settings of the PIR detector for eliminating unwanted triggering.
- Integrated lighting sensor, thanks to which you can set the detector's reaction time.
- Option of activation/deactivation of the LED indicator on the detector cover.
- Anti-tamper function: an alarm is triggered if there is an unauthorized interference to detector.
- Power supply: 2x 1.5 V AA batteries, the battery life is around 1 year.
- "Low Battery" Alerts by double LED flashing or on iHC App.
- The detectors are compatible with switching components marked with the RFIO2 communication protocol and the eLAN-RF system components.
- Communication frequency with bidirectional protocol RFIO.

Detection field

Technical parameters	RFSD-100	RFSD-101
Power supply:	4x 1.5 V AA batteries	
Low battery indication:	ano	
Detectors		
Smoke detection:	built-in sensor	
Detection:	smoke from burning	
Detection principle:	optical-smoke scanning technology	
Response time:	a few seconds after contact with the smoke	
Temperature measuring:	x	built-in sensor
Range:	x	-25 to 70 °C
Accuracy:	x	± 3 °C
Humidity measuring	x	built-in sensor
Sensitivity:	x	0 to 90 % RH
Accuracy:	x	± 4 %
Light intensity measurement:	x	built-in sensor
Range:	x	0.045 - 188 000 Lx
Setting		
Button SET:	test/setting/signalling	
DIP switch:	position 1 Turn off LED signalling	
Control		
Detection area:	max. 40 m³	
Recommended installation height:	max. 4 m	
Acoustic signal:	greater than 85 dB at 3 metres	
Test button:	yes	
Communication protocol:	RFIO	
Frequency:	866–922 MHz (for more information see p. 80)	
Repeater function:	NO	
Other data		
Humidity:	up to 92% relative humidity(RH) / 10% až 85% RH, no condensation or frost	
Working temperature:	0 to +40°C (Pay attention to the operating)	
Storage temperature:	-30 to +70°C	
Operation position:	horizontal (ceiling)/vertical (wall)	
Mounting:	srews	
Protection degree:	IP20	
Colour:	white	
Dimension:	Ø 120 x 36 mm	
Weight:	176 g (without battery)	

- The smoke detector is used for timely warning against a fire started in residential and commercial buildings.
- Use:
  - autonomous fire detector with internal siren
  - in combination with a switching unit for external signaling (light, appliance, siren)
  - by means of the Smart RF box, detection can be displayed on your smart phone, in the form of a notification; alarms are stored in the history, which is visualized in the application iHC.
- Anti-tamper function: an alarm is triggered if there is an unauthorized interference to detector.
- Power supply: 4x 1.5 V AA batteries, the battery life is around 1 year, thanks to the ability to turn off the LED indicator it is possible to extend up to 3 years.
- "Low Battery" Alerts by double LED flashing or on iHC App.
- The detectors are compatible with switching components marked with the RFIO2 communication protocol and the eLAN-RF system components.
- Communication frequency with bidirectional protocol RFIO.

Funkce

An internal, battery-powered smoke detector combines the timely detection of smouldering and open fires from which smoke escapes. It is equipped with an optical smoke detector for smoke detection. An example of a smouldering fire is a burning cigarette on a couch or bedding, which is a common cause of fires.
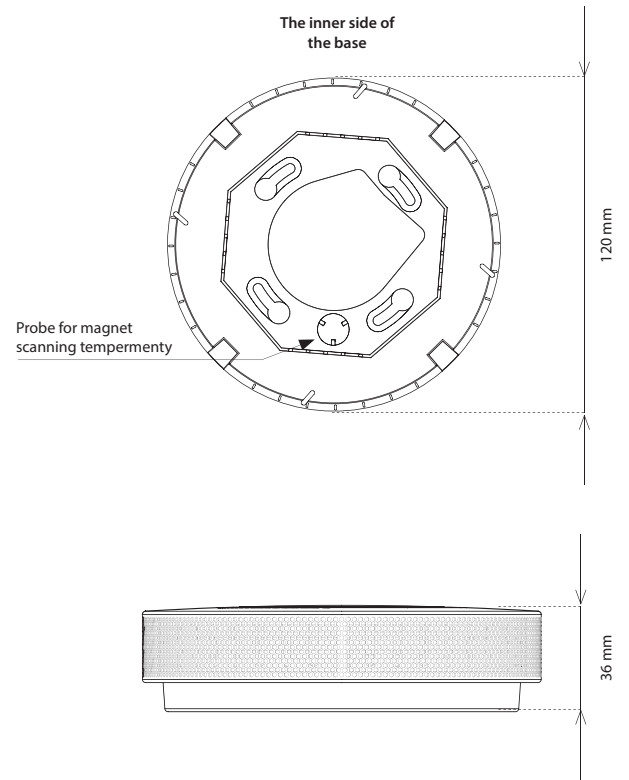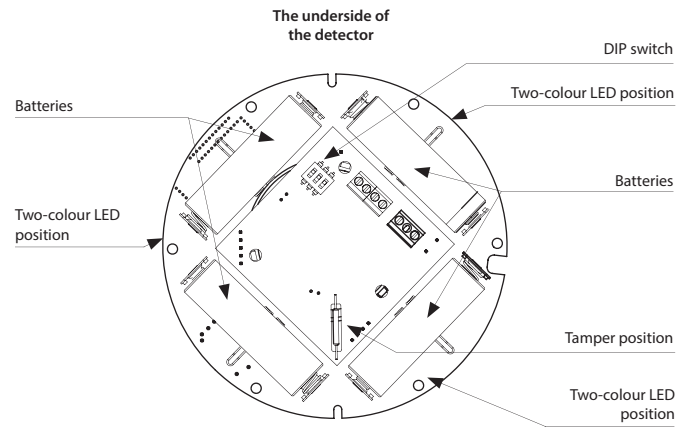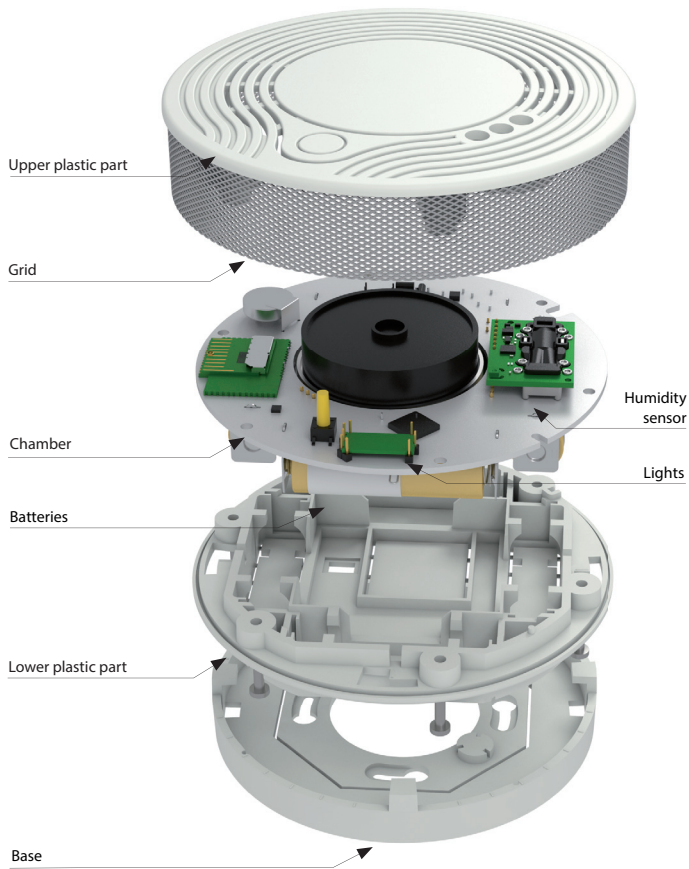
Indication and detector states:
After inserting the batteries, the detector sends an introductory message containing the measured temperature, humidity, light intensity, optical-smoke sensor status, and firmware version of the device.

- The detector scans for smoke every 10 seconds, the green LED blinks at the same time (the LED signalling can be switched off by the DIP switch). Every 10 minutes the detector senses temperature, humidity and light intensity. Displays the measured data report at six hourly intervals. In the case of smoke detection or rapid temperature change it is displayed immediately.
- Alarm - the sensor detects smoke, the red LED blinks within 1 second, the detector emits a loud, intermittent „beep". Terminate the alarm by scattering the smoke. The audible alarm can be switched off by the test button, in the case of positive smoke detection; the audible alarm is restored after 5 minutes.
- Dead battery:
  - sending a message to the server
  - every 50 s 3 times the red LED lights up on the detector.
  - every 7 min the detector beeps.

- Removed from base:
  - sending a message to the server
  - every 3 seconds the red LED lights up on the detector.

Device decay

Upper plastic part

Grid

Chamber

Batteries

Lower plastic part

Base

Humidity sensor

Lights

Description

The underside of the detector

Batteries

Two-colour LED position

DIP switch

Two-colour LED position

Batteries

Tamper position

Two-colour LED position

The inner side of the base

Probe for magnet scanning tempermenty

120 mm

36 mm

Assembly

a)

wall

min. 15 cm

corner of the room

min. 50 cm – max. 600 cm

AirSD-100

AirSD-100

wall

b)

min. 150 cm

min. 30 cm

min. 30 cm

fluorescent lamp

lighting

AirSD-100

min. 15 cm

max. 30 cm

AirSD-100

AirSD-100

- The Window/Door detector is used to detect opening where activation occurs when the magnet and the sensor become separated.
- Use:
  - in combination with the switching unit for automatic light control (cellar, garage, etc.), or switching on a GSM gate
  - by means of the Smart RF box, detection can be displayed on your smart phone in the form of a notifi cation; alarms are stored in the history, which is visualized in the application iHC.
- Anti-tamper function: an alarm is triggered if there is an unauthorized interference to detector.
- Power supply: 1x 3 V CR 2032 battery, the battery life is around 1 year, thanks to the ability to turn off the LED indicator it is possible to extend up to 3 years.
- "Low Battery" Alerts on Your iHC App.
- The detectors are compatible with switching components marked with the RFIO2 communication protocol and the eLAN-RF system components.
- Communication frequency with bidirectional protocol RFIO.

Technical parameters	RFWD-100
Power supply:	1x 3 V CR 2032 battery
Drained battery indicator:	yes
Control	
Communication protocol:	RFIO
Frequency:	866–922 MHz (for more information see p. 80)
Repeater function:	NO
Other data	
Working temperature:	-10 to +50°C
Protection:	IP20
Colour:	white
Dimension:	25 x 75 x 16 mm
Magnet dimension:	15 x 75 x 14 mm

Window/Door detector | RFWD-100

Smoke detector | RFSD-100

Flood detector | RFSF-100

RF Touch | Wireless touch unit

RF Touch- B

RF Touch-W

- The Wireless touch unit RF Touch is a central controller for heating, switching electrical appliances and equipment, dimming lights, controlling blinds, etc.
- It transmits and receives commands from units and processes set programs for automatic control.
- Thanks to bidirectional communication, it visualizes the current status of individual units.
- Automatic control based on weekly program.
- It is possible to combine up to 40 units of iNELS RF Control + 30 Oasis detectors (you can gradually expand the installation from 1 unit).
- Power to the touch unit is in the range 100-230 V AC, (RF Touch/W also supplied via adapter 12 V DC included in the supply).
- Range up to 100 m (in open space), if the signal is insufficient between the RF Touch and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
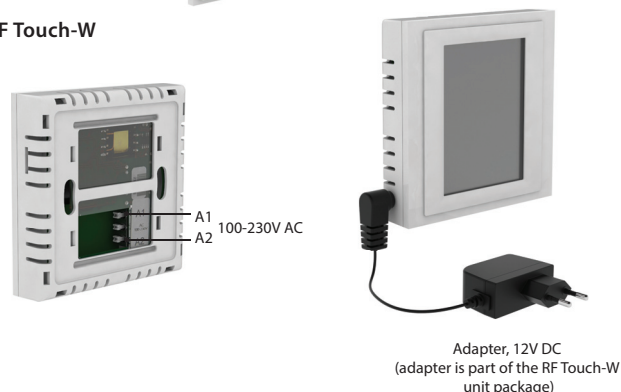- Communication frequency with bidirectional protocol RFIO.

Technical parameters	RF Touch-B	RF Touch-W
Display		
Type:	colour TFT LCD	
Resolution:	320 x 240 pixels / 262,144 colours	
Side proportion:	3:4	
Visible surface:	52.5 x 70 mm	
Backlighting:	active (white LED)	
Touch area:	resistive 4-conductor	
Diagonal:	3.5"	
Control:	touch	
Power supply		
Supply voltage:	100 -230 V AC	from the back 100 – 230 V AC, from the side 12 V DC
Input power:	max. 5W	
Power supply terminals:	A1 - A2	
Control		
Communication protocol:	RFIO	
Frequency:	866–922 MHz (for more information see p. 80)	
Range:	in open space up to 100 m	
Min. distance RF Tiouch - Actuator:	1 m	
Connection		
Connection:	terminal box	no-screw push-in terminal box or jack ∅ 2.1 mm jack connector
Cross-section of connecting wires:	max. 2.5 mm²/1.5 mm² with a hollow	
Operating conditions		
Operating temperature:	0 to +50°C	
Storage temperature:	- 20 to +70°C	
Protection:	IP20	
Overvoltage category:	III.	
Contamination degree:	2	
Operating position:	any	
Installation:	an installation box	anywhere indoor
Dimensions:	94 x 94 x 36 mm	94 x 94 x 24 mm
Weight:**	127 g	175 g
Related standards:	EN 60730-1	

Power supply

RF Touch-B

A2 A1 100-230V AC

RF Touch-W

A1
A2 100-230V AC

Adapter, 12V DC
(adapter is part of the RF Touch-W unit package)

Colour combinations

black / white

chrome / grey

white / pearly

glass / grey

red / aluminum

aluminum / dark grey

titanium / ice

Window shutter control

RFJA-32B

RF Pilot

Transmitter communication with actuators

RFSA-62B

Heating

RFTC-10/G

Measures temperature in the space and sends the data to RF Touch

RFSA-61B

RFSC-61

DETECTORS

The detector senses movement and switches on alarm

RFSA-61B

up to 200 m

range 400 m

RFDEL-71B

Serves to extend the RF signal range

RFRP-20

RFDSC-71

up to 200 m

Command to execute function
Function execution feedback

HEATING

• control of heating devices (boilers, thermo valve 0–10 V...)
• temperature regulation in the entire house or in individual rooms
• information about outdoor temperature (wireless temperature sensor)
  - terraces
• possibility to set your own heating program for the whole week
• holiday mode will interrupt the heating program when you are on holiday
• room temperature correction (during the heating program) is performed with a digital thermal regulator command

DIMMING

• the regulation of light intensity
• customizable names of individual dimmed circuits (such as "living room lights")
• "sunrise/sunset" imitation - light gradually goes on or off during the preset period between 2 s and 30 min

DETECTORS

• RF Touch communicates with detectors - window, door, movement...
• possible to combine with switching actuators
• clear control over the entire house

SWITCHING

• this function serves to switch on/off lights, sockets, electrical appliances and devices
• intuitive control thanks to customized name options
• switch clock enabling you to switch appliances in real time, even during your absence (simulation of the presence of persons, etc.)
• switching actuator function selections: switch on/off, impulse relay, button, delayed ON/OFF (time of delay from 2 s to 60 min)

WINDOW SHUTTERS

• controlling window shutters, sunblinds, blinds, garage door, etc.
• window shutters are controlled separately or as a group
• setting an independent time schedule for pulling up/down
• the window shutter receivers are powered by either 230 V or 24 V DC (shutters between windows, etc.)

QUICK CONTROL

• serves to control group of actuators with a single touch
• possibility to set up scenes; on activation, for example, window shutters are pulled down and lights are adjusted to required intensity
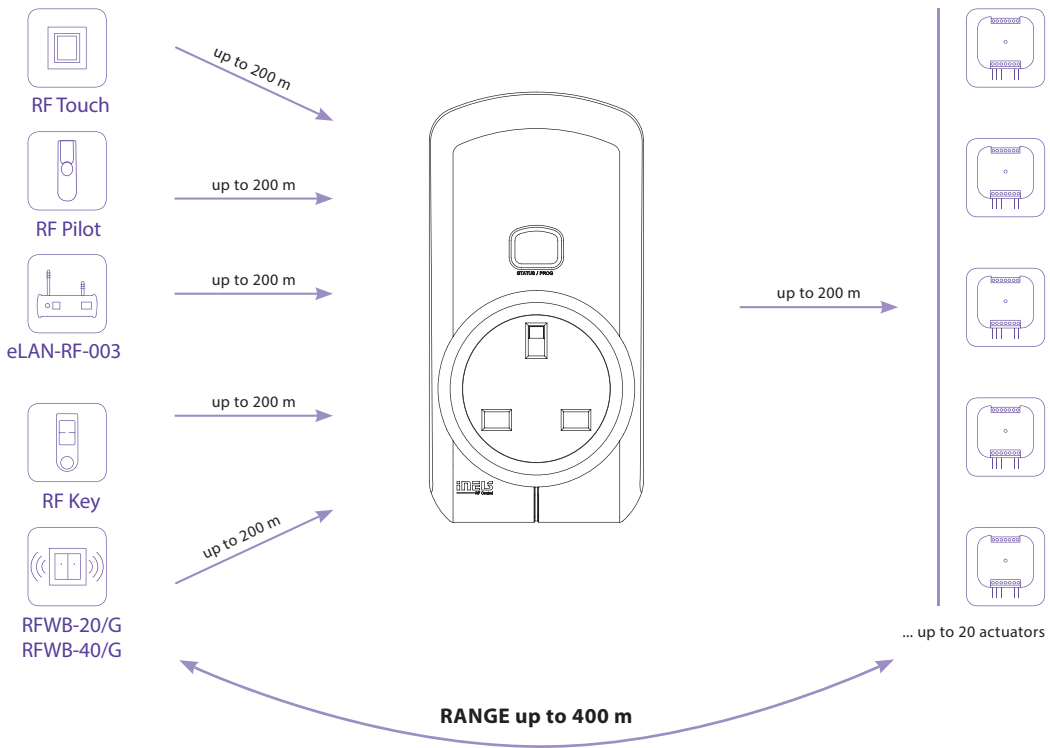
System units

- This signal repeater is used to extend the range between the controller and unit by up to 200 meters.
- It is designed to transmit a signal to up to 20 units.
- Indication:
  - green LED - supply voltage
  - red LED - active status (receiving and transmitting an RF signal)
- Programming is performed by a button.
- Communication frequency with bidirectional protocol RFIO.
- Thanks to the socket design, installation is simple by direct insertion into the existing socket, the throughsocket function remains unchanged.

Technical parameters	RFRP-20/230V	RFRP-20/120V
Supply voltage:	230 - 250 V	120 V AC
Supply voltage frequency:	50-60 Hz	60 Hz
Apparent input:	6 VA	
Dissipated power:	0.7 W	
Control		
Communication protocol:	RFIO	
Frequency:	866–922 MHz (for more information see p. 80)	
Range:	in open space up to 200 m	
Minimum control distance:	20 mm	
Programming:	button - green LED/red LED	
Other data		
Operating temperature:	-20 to +55 °C	
Storage temperature:	-30 to +70°C	
Mounting:	plug into a socket	
Protection:	IP20 Device	
Dimensions:	60 x 120 x 80 mm	
Weight:	225 g	
Related standards:	EN 607 30-1 ED.2	

Produced in 5 designs of sockets/plugs:

French   Schuko   British

Signal transmission and extension for up to 20 components.

RF Touch

up to 200 m

RF Pilot

up to 200 m

eLAN-RF-003

up to 200 m

up to 200 m

RF Key

up to 200 m

STATUS / PROG

up to 200 m

RFWB-20/G
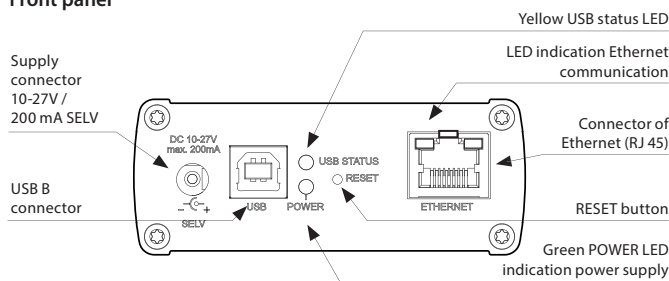RFWB-40/G

... up to 20 actuators

RANGE up to 400 m

- The smart RF box allows you to connect to a LAN network and then subsequently control the installation of iNELS RF from a smartphone, tablet, watch, Samsung TV, voice assistant (Google Home and Alexa), another device or third-party SW.
- It transmits and receives commands of up to 40 units, and it processes set programs for automatic control.
- Thanks to bidirectional communication, it visualizes the current status of individual units.
- The smart RF box eLAN-RF-003 is connected by network cable LAN to the home network (router).
- Power supply via 10-27 V DC (included) or PoE 24 V DC.
- Option of setting via web interface or directly in the application iHC.
- The package includes an internal antenna AN-I , in case the Smart RF box is located in a metal switchboard, you can use the external antenna AN-E for better signal reception.
- Range up to 100 m (in open space) , if the signal is insufficient between the Smart RF box and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO2.

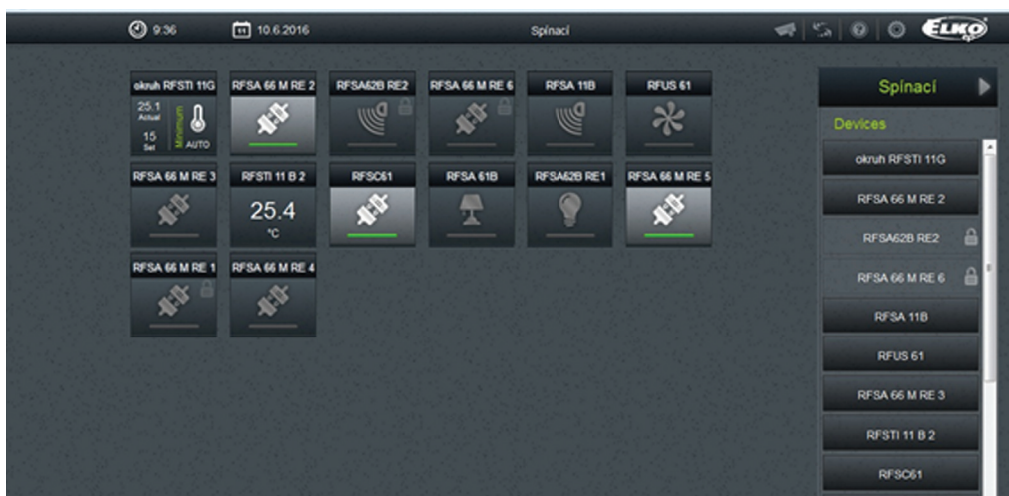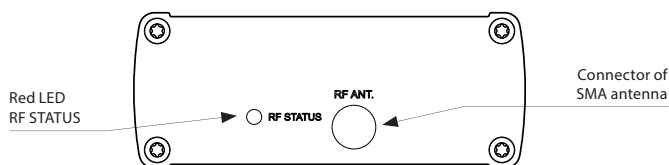| Technical parameters	eLAN-RF-003
Interface RF Control	
Communication protocol:	RFIO
Broadcasting frequency:	866–922 MHz (for more information see p. 80)
Signal transfer method:	two-way addressed message
Output for antenna:	SMA connector*
Antenna RF:	1 dB (part of supply)
Indications RF communications:	1 x red RF status LED
Range:	in open space up to 100 m
Interface Ethernet	
ETH operating status indicator:	green LED
ETH communication indicator:	yellow LED
Communications interface:	100 Mbps (RJ45)
Preset IP address:	192.168.1.1 or DHCP
Power	
Supply voltage/current:	10-27 V DC / 200 mA SELV
Power:	adapter with connector Jack Ø 2.1 mm (part of supply), Poe 24 V DC or connector USB-B
Supply voltage indication:	green LED POWER
Button RESET:	settings to their defaults
Power source:	230 VAC / 12 V DC part of supply of device
Other data	
Operating temperature:	-20 to +50 °C
Storage temperature:	-25 to +70 °C
Protection:	IP20
Contamination degree:	2
Working position:	any
Dimensions:	90 x 52 x 65 mm
Weight:	136 g

* Max Tightening Torque for antenna connector is 0.56 Nm.

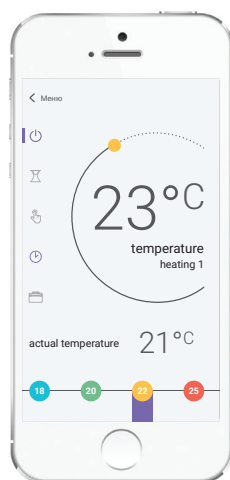### Device description

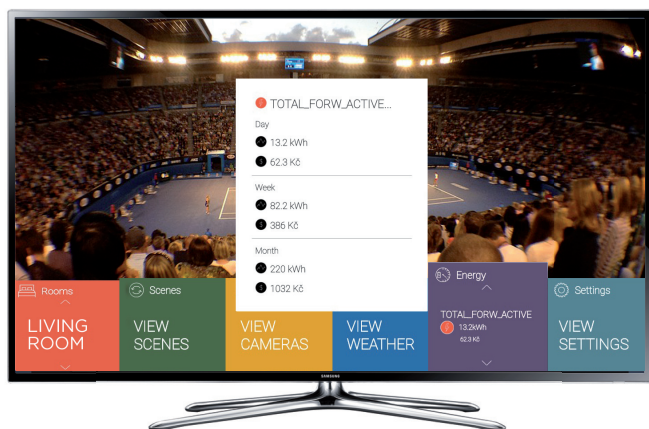**Front panel**

Back panel

Applications

Smartphones

iHC-MAIRF **iHC-MIIRF**

- Control application for smart phones with Android operating system - iHC-MAIRF and pfor smart phones iPhone - iHC-MIIRF.
- The application iHC-MAIRF/iHC-MIIRF allows you to control your home easily by smartphone.
- The user-friendly and intuitive application environment offers central control from one place.
- iHC-MAIRF/iHC-MIIRF enables control of RF units by smart phone via a smart RF box, which is connected to the home Internet network.
- The smart RF box controls up to 40 units of iNELS RF Control, (you can gradually expand control from 1 unit of iNELS RF Control).
- If you don't have a permanently set IP address, the application supports its automatic obtaining from the DHCP server.
- Functions of the application iHC-MAIRF/iHC-MIIRF:
  - regulation of hot water or electric underfloor heating (setting a weekly program)
  - measuring temperature (e.g. by wireless sensors)
  - switching appliances (garage door, blinds, fans, sprinklers, sockets, etc.)
  - dimming lights (LED, energy-saving, halogen lamps or classic light bulbs)
  - time switching (delayed switching off of light when leaving room)
  - integration of video cameras
  - light scenes (one press to perform multiple commands simultaneously)
  - remote control (switch on heating before returning from vacation).
- The application iHC-MAIRF supports Android versions from 2.3 in your smartphone.

Smart TV

- eLAN-RF allows to control appliances using Smart TV application called iHC-SMTV which can be easily installed to your TV.
- Operation with conventional control of TV.
- Any Smart TV using Tizen OS made in 2015 or earlier is compatible with application.
- Functionality:
  - switching ON/OFF, automatic timing
  - dimming ON/OFF, smooth start/stop, change colour
  - scenes
  - form of heating temperature indication (to make changes directly in the smart phone application)
  - camera (possibility to stream live images if it is supported by a Web browser on the SMART TV).
- Form control is free and is not licensed.
- App download:

Smart watch Samsung GEAR S2 / S3

TIZEN iHC-WTRF

- Applications to control appliances via smart watches Samsung Gear S2/S3.
- Smart watches are associated with the controlled appliances through RF smart box eLAN-RF.
- Functionality:
  - switching appliances, sockets
  - automatic timing
  - dimming the lights, adjust the colour
  - control garage doors, gates, gates and shutters
  - features scenes for group commands.
- Intuitive and easy to control in many combinations, touching the display and moving wheels on Samsung Gear S2/S3.
- The setting is done by applying iNELS Home Control iHC-MAIRF directly or via a web interface RF smart box eLAN-RF.
- It is not necessary to carry a smart phone to control, the watch functions independently.
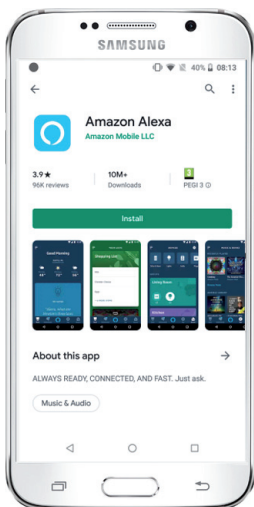
Amazon Alexa

amazon alexa

- With Alexa Artificial Intelligence, you can simplify your daily life by setting an alarm, notifications, creating new items, or reminders in your calendar.
- The voice assistant can answer questions and control individual devices and smart homes.
- It is available on mobile phones, TVs, smart speakers and other devices.
- The voice assistant is designed to comfortably control the RF Control wiring by voice using your mobile phone.
- As a complement to RF Control, iNELS Smart Home Solution blends in with every modern home.
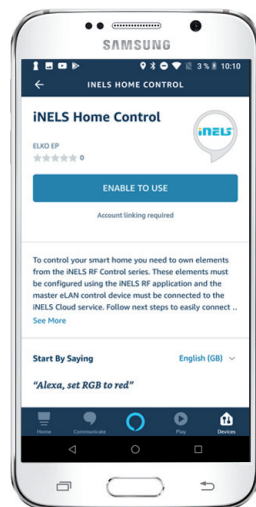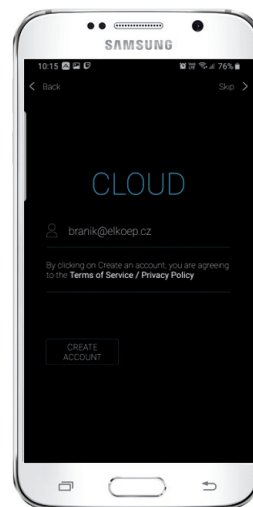
Google Home Voicea

Google HOME

- Google Home can become a member of your smart home family.
- It communicates with the smart eLAN-RF box via the Cloud connection.
- This allows you to control, for example, the temperature setting or the light intensity by voice.
- The voice assistant is designed to conveniently control the RF Controlled electro-installations by voice using your mobile phone or smart speaker.
- As a complement to RF Control, iNELS Smart Home Solution blends in with every modern home.
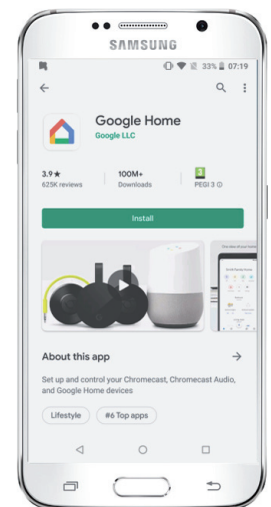

Register to the Cloud via email and set a password.

Preview the Google home app on Google Play.

Preview the Amazon Alexa app on Google Play.
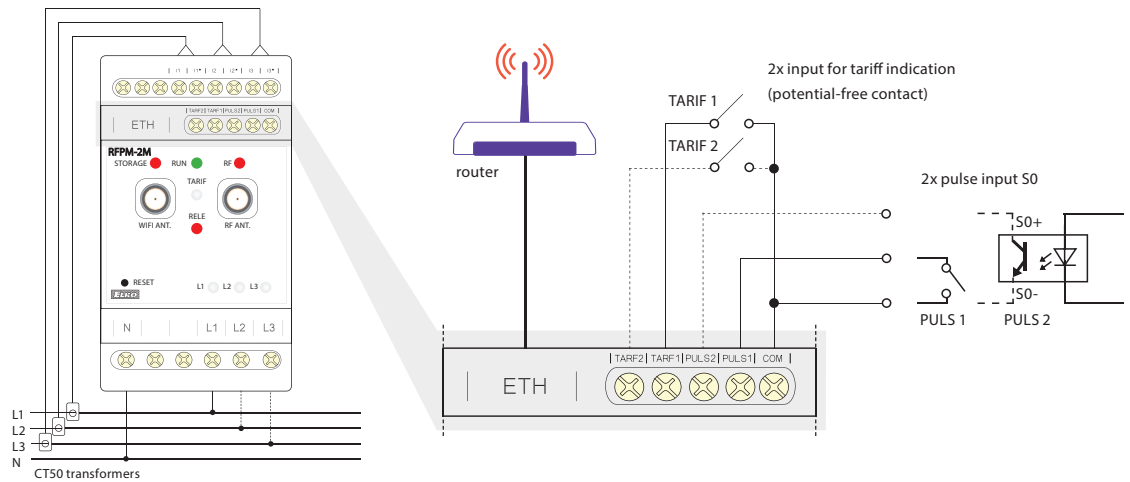
Setting up products in iNELS Home Control.

Application iHC-MAIRF-Cloud / iHC-MIIRF-Cloud:

- Designed for iOS 10+ and Android 5.0+.
- Optimized for devices with 800x480 screen resolution.
- The language of the application changes automatically according to the language set in Android / iOS.
- You can create a cloud account using the Setup Wizard or the login button in the main menu. The recommended minimum speed for connecting the eLAN-RF to the Cloud should be in the order of megabytes per second (3G - 1Mbit / s and higher).
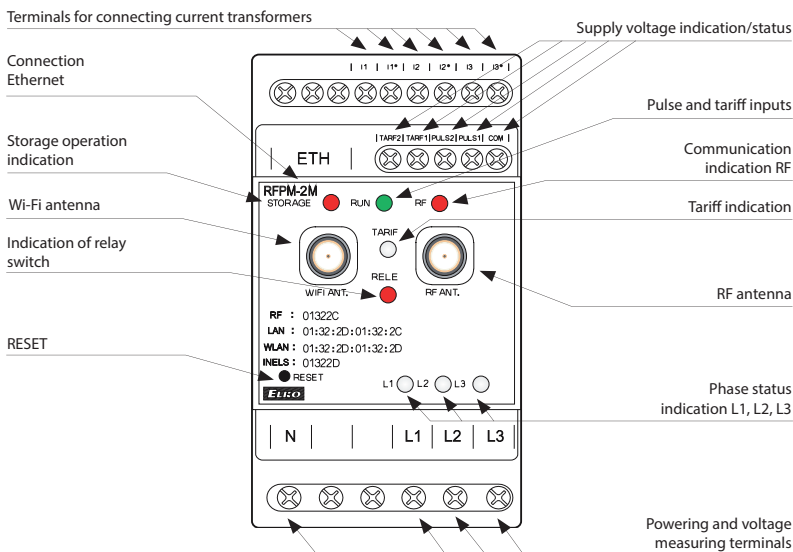
RFPM-2M | Energy gateway

- The energy gateway is a central device for assessing energy consumption (electricity, water, gas, heating).
- The Energy Gateway receives data in the following ways:
  a) Pulse inputs (2 inputs) for direct connection to 50 meter outputs
  b) Wireless RFTM-1 converters (up to 8 pcs), which read pulses from meters, either directly (outputs S0) or by scanning measurement indicators (dial, flashing LED, magnetic tag and wirelessly transmits them to RFPM-2M. Suitable probes (LS, WS, MS) are used, which are part of the RFTM-1 offer.
  c) Through current transformers CT-50 (up to 3 inputs), through which the phase conductors are passed.
  d) Potential-free contact of the tariff (2 inputs = 4 tariffs).
- Connection to the data network is made by means of LAN Ethernet connector or wirelessly via a Wi-Fi network.
- Monitored data is stored on internal memory storage.
- By means of the application iHC and cloud connection, it is possible to maintain online access to data and monitoring history.
- Possibility to set the response to the set level - closes the relay.
- The power supply of the device is provided from the monitored phase L1.
- Range up to 100 m (in open space), if the signal between the controller and the user is weak, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO.
- 3-module design, mounted on a DIN rail into the switchboard.

Connection

Device description

Tariff indication - RGB LED	
TARIF 1:	red
TARIF 2:	green
TARIF 3:	blue
TARIF 4:	yellow

Phase status indicator L1, L2, L3 - R/G LED	
failure (outage):	red
active phase:	green
unmonitored phase:	LED off

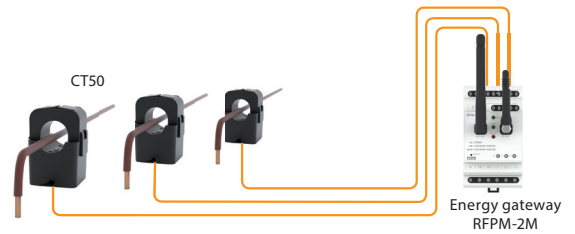| Technical patameters	RFPM-2M
Supply/measured voltage:	230 V AC / 50-60 Hz, 1f / 3f +N
Supply voltage tolerance:	+15/-20%
Closed relay power input:	5 VA
Switching voltage level:	140 V, +10/-20%
RF Control interface	
Communication protocol:	RFIO
Frequency:	866–922 MHz (for more information see p. 80)
Signal transfer method:	two-way addressed message
Output for antenna:	SMA - FEMALE*
Antenna RF:	1 dB (part of suply)
Range:	in open space up to 100 m
Control	
Controlling:	Blootloader (press >2 s)
Button Reset:	Unit reset (press >10 s)
Interface Wi-Fi	
Wi-Fi mode:	AP Bridge / AP LAN / Client
Standard:	IEEE 802.11 b/g/n / 2.4 GHz
Wi-Fi Security:	WEP, WPA-PSK, WPA2-PSK
Frequency range Wi-Fi:	RP - SMA - FEMALE*
Antenna Wi-Fi:	1 dB (part of suply)
Range:	up to 20 m
Interface Ethernet	
Connection:	static IP / DHCP Client
Transfer speed:	10 / 100 Mbit / s
Connector:	RJ45
Preset IP address/IP address of bootloader:	192.168.1.2
Measuring	
Pulse inputs:	PULS1 (S0), PULS2 (S0)
Tariff inputs:	TARF1, TARF2 - binary combination
Option of switching inputs:	switching by contact / opening by collector
Separation by isolation of power and control circuits:	reinforced Insulation (Cat. II surges by EN 60664-1)
Probes measuring current:	3x CT50
Wireless consumption sensor:	RFTM-1
Measuring circuit	
Network:	1f-3f
Frequency:	50 - 60 Hz /±10 %
Accuracy:	Class 1.0
Current measuring coil:	max. 50 A (current transformer CT50)
Wire diameter:	max. 16 mm
Other data	
Working temperature:	-20 to + 35°C
Storage temperature:	-30 to +70°C
Operating position:	vertical
Mounting:	DIN rail EN60715
Protection:	IP20 from front panel / IP40 in cover
Overvoltage category:	II.
Degree of pollution:	2
Cross-section of connecting wires (mm^2):	max. 1x 2.5, max. 2x 1.5 / with a hollow max. 1.5
Dimension:	90 x 52 x 65 mm
Weight:	125 g

* Max Tightening Torque for antenna connector is 0.56 Nm.
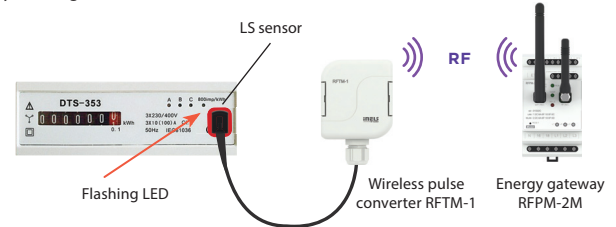
Methods of sensing meters

CT (Current transformer)

Opening pliers open/close on the existing wire of the measured circuit, most frequently at the main supply at the electricity meter.
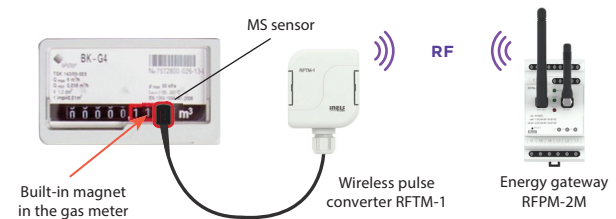

CT50

Energy gateway
RFPM-2M

LS (LED sensor)

The LED sensor scans LED impulses on the meter, which indicates consumption by flashing.

LS sensor
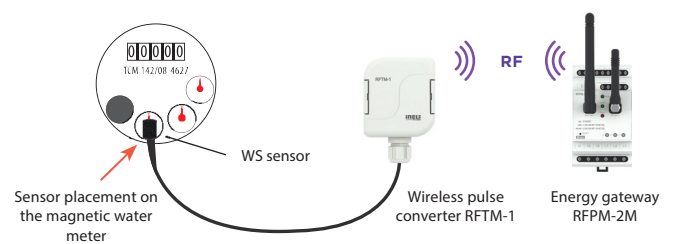
RF

Flashing LED

Wireless pulse converter RFTM-1

Energy gateway
RFPM-2M

MS (Magnetic sensor)

The magnetic sensor scans movement of the numeral, upon which a permanent magnet is placed.

MS sensor

RF

Built-in magnet in the gas meter

Wireless pulse converter RFTM-1

Energy gateway
RFPM-2M

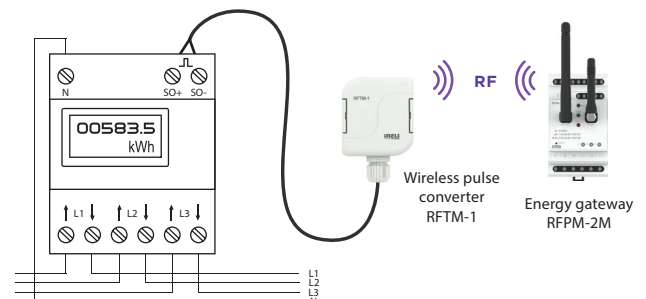### WS (Magnetic sensor for water meter)

The magnetic sensor detects the pulse that is created with each rotation of the magnet placed on the unit dial.

RF

WS sensor

Sensor placement on the magnetic water meter

Wireless pulse converter RFTM-1

Energy gateway
RFPM-2M

IMP (Output „S0")

Meters with impulse output indicated as „S0" connected by wires to terminals GND and DATA1 on the sensor RFTM-1.

RF

Wireless pulse converter RFTM-1

Energy gateway
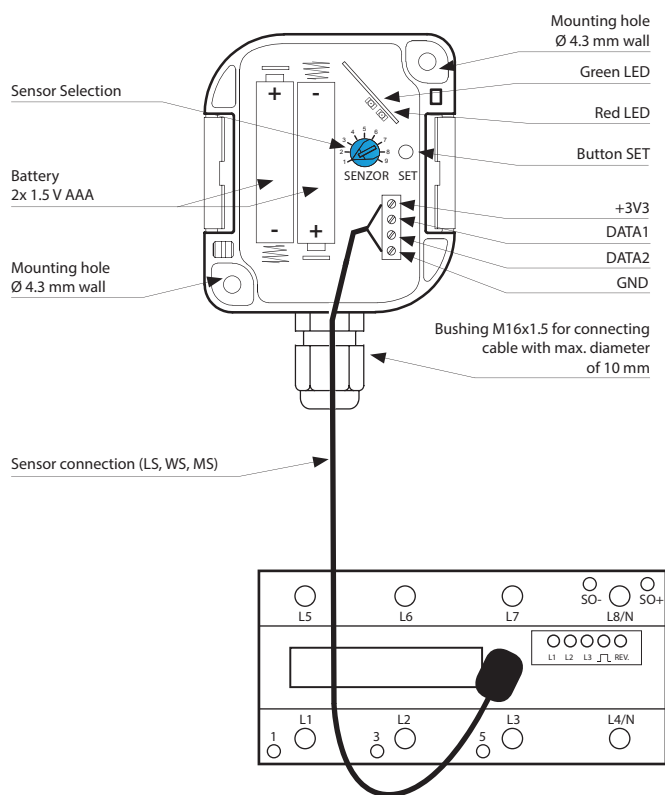RFPM-2M

RFTM-1 | Pulse converter

- The wireless pulse converter detects home energy meters (electric, water, gas) by means of sensors, and sends them to the wireless unit RFPM-2M.
- The energy gateway RFPM-2M acts as an interface between the meter and a smartphone.
- Measured values are displayed in the application iHC-MAIRF/iHC-MIIRF, in daily, weekly or monthly overview in graphs.
- The sensor is designed for use on existing meters and even without the impulse output "S0" (The gauge must support scan).
- RFTM-1 transfers consumption from meters using sensors - LS (LED sensor), WS (Magnetic sensor for meter), MS (Magnetic sensor) or by impulse output ("S0").
- For each consumption meter, it is necessary to have one pulse converter RFTM-1.
- Battery power (2x 1.5 V AAA batteries - included in package) with average battery life of around 2 years (according to the type of scan, frequency of transmissions and pulses).
- Range up to 100 m (in open space), if the signal between the controller and the user is weak, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO.
- The increased IP65 protection is appropriate for mounting in risers, switchboards and other demanding environments.

Technical parameters	RFTM-1
Power supply:	2x 1.5 AAA batteries
Battery Life:	Appr. 2 years, (depending on the type of sensor, frequency of transmissions and pulses)
Indication	
Setting mode:	Green LED flashes - active
	Red LED - flashes during impulse sensor registration
Communications Test	Green LED - communication OK
- RF STATUS:	Red LED - communication ERR
Normal operation:	no indication
Control	
Manual control:	button SET
Sensor Selection:	rotary potentiometer
Supported sensors	LS (LED sensor)
(not included in the package):	MS, WS (magnetic sensor)
	S0 (Contact, open collector,
	reed magnetic contacts)
Output	
Communication protocol:	RFIO
Frequency	866–922 MHz (for more information see p. 80)
Range:	in open space up to 100 m
Other data	
Working temperature:	-20 to +50 °C *
Storage temperature:	-30 to +70°C
Operating position:	any
Protection:	IP65
Cross-section of connecting wires:	max. 0.5 - 1 mm^2
Dimension:	72 x 62 x 34 mm
Weight:	104 g

* Pay attention to the operating temperature of batteries.

Device description

CT50 | Current transformer

- Current Transformer - CT50 has open clips, which can be opened and closed. This design allows a current transformer to be placed on the existing measuring circuit wire, usually at the main flow of the meter.

Technical parameters	CT50
Current:	50 A
Output:	16.66 mA
Conversion ratio:	3000:1
Accuracy:	1 %
Dielectric strength, Ferrite cores/secondary winding:	2000 V AC / 1 min
Frequency:	50 - 60 Hz
Other data	
Operating temperature:	-15 to 60 °C
Storing temperature:	-30 to 90 °C
Flammability:	UL 94 - V$_0$
Max. diameter through the conductors:	16 mm
Dimension (w x h x d)/ cable leads:	31 x 46 x 32 mm / 1 m
Weight:	86 g

MS | Magnetic sensor

- The LED sensor scans LED impulses on the meter, which indicates consumption by flashing.
- The LED sensor is particularly suitable for power meters that support LED pulse sensing (the LED on the meter is marked "imp").
- The sensor's scanner is affixed with glue above the LED diode of the meter signaling indication of consumption.
- The sensor is connected to the internal terminal of the RFTM-1 converter.

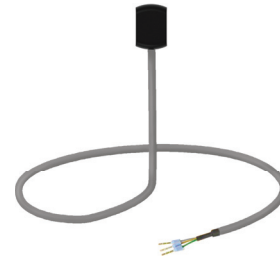| Technical parameters	MS
Voltage range:	1.6 to 3.6 V
Consumption	7uA *
Output load:	max. 3mA
Scanning period:	100ms
Switch sensing sensitivity (output L):	±(2.3 to 4.7)mT
Opening detectioning sensitivity (output->H):	±(0.9 to 3.8)mT
Hysteresis:	1mT
Working temperature:	-40 to 80 °C
Other data	
Cross-section of connecting wires:	max. 3.5 mm
Wire length:	1.5 m
Protection:	IP20

LS | LED sensor

- The LED sensor scans LED impulses on the meter, which indicates consumption by flashing.
- The LED sensor is particularly suitable for power meters that support LED pulse sensing (the LED on the meter is marked "imp").
- he sensor's scanner is affixed with glue above the LED diode of the meter signaling indication of consumption.
- The sensor is connected to the internal terminal of the RFTM-1 converter.

Technical parameters	LS
Voltage range:	2.5 to 3.7V
Minimum consumption (idle mode):	0.5uA *
Maximum power consumption (pulses 100Hz):	max. 2uA *
Working temperature:	-20 to 50 °C
Other data	
Cross-section of connecting wires:	max. 3.5 mm
Wire length:	1.5 m
Protection:	IP20

Sensor LS responds only to light pulses, i.e. it does not detect static state LEDs.

WS | Magnetic sensor for water meter

- A magnetic sensor that detects the pulse that is created by each rotation of the magnet placed on the unit dial meter.
- The WS sensor is especially suitable for water meters that support magnetic sensing.
- The sensing sensor is glued over the circular unit face of the gauge (the scanning dial is different from the other indicators, e.g. the white arrow wheel).
- The sensor is connected to the internal terminal of the RFTM-1 converter.

Technical parameters	WS
Voltage range:	1.65 to 5.5V
Consumption:	1.5uA *
Output load:	max. 150uA
Switch sensing sensitivity:	±(0.3 to 1.1)mT
Opening detection sensitivity:	±(0.2 to 0.9)mT
Hysteresis:	0.2mT
Working temperature:	-40 to 80 °C
Other data	
Cross-section of connecting wires:	max. 3.5 mm
Wire length:	1.5 m
Protection:	IP20

* Measured at 3V, no load output.

Energy management

The Energy Gateway RFPM-2M web interface now has a completely new and cleaner visualization. This makes displaying and evaluating energy consumption even more convenient and easy.
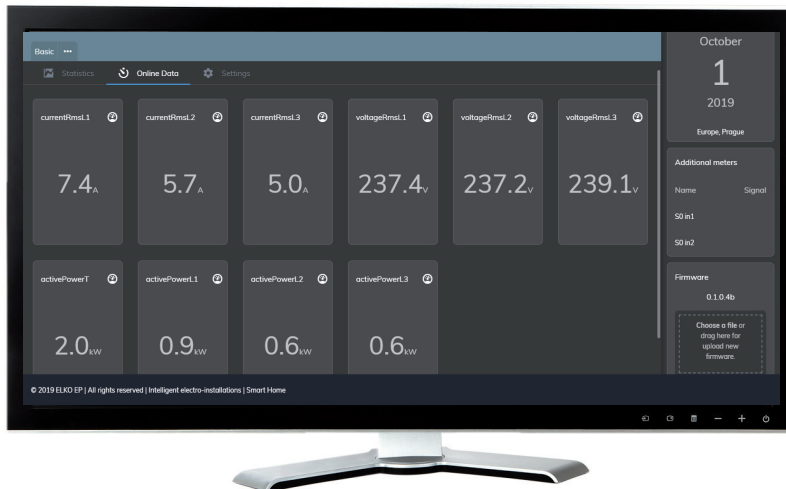
DEMO web interface   **http://217.197.144.56:2130/**
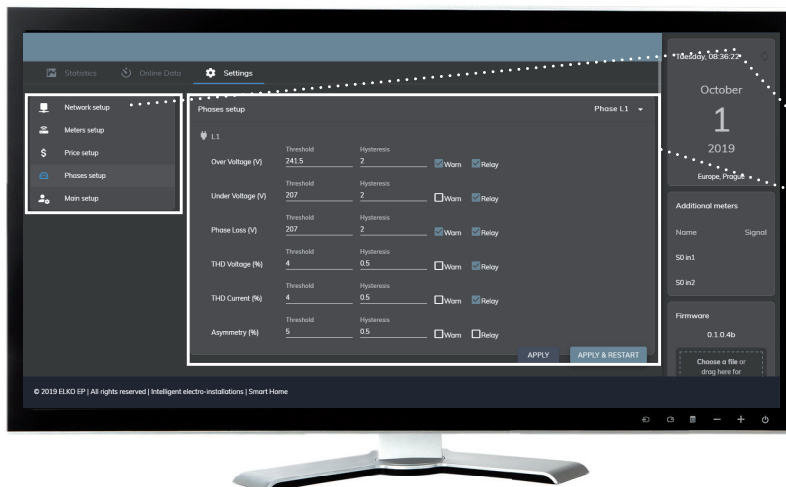
Login and password: **admin**

STATISTICS

- Sample overview of electricity consumption (today, yesterday, this week, this month)
- Consumption converted to finance costs
- Graphical visualization of consumption (by hours, days, months)

ONLINE DATA

The Energy Gateway evaluates the following indicators in the network:

- Phase current/voltage
- Phase overvoltage/ undervoltage
- Asymmetry
- Distortion of the sine wave signal
- Distortion of sine wave signal flow

- Frequency
- Active performance
- Reactive power
- Apparent performance
- Power factor
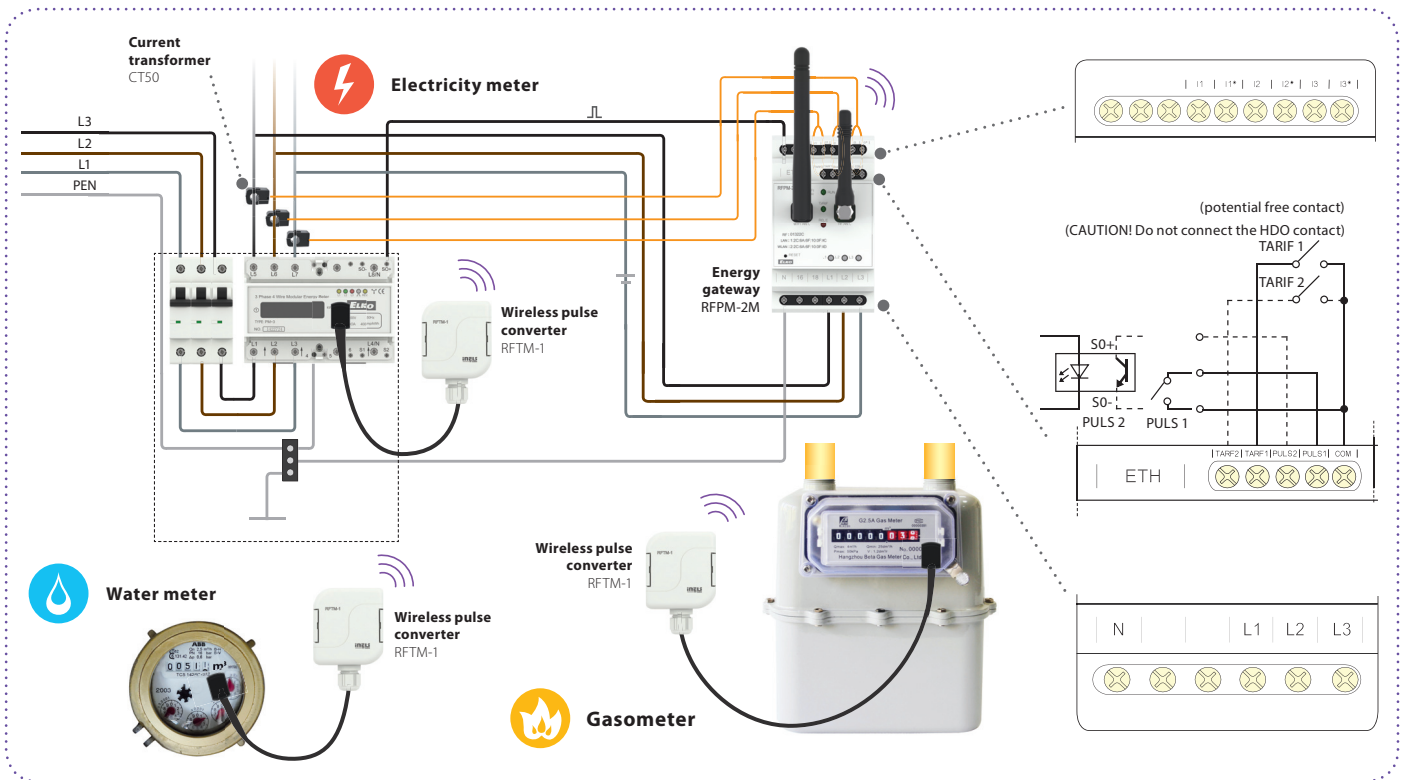- Phase voltage shift between phases

SETTINGS

- Main SETTINGS menu
- Example of "Phase settings" submenu

All basic and advanced settings are made simply, quickly and intuitively. If you have any questions, a telephone/ e-mail technical support is available.
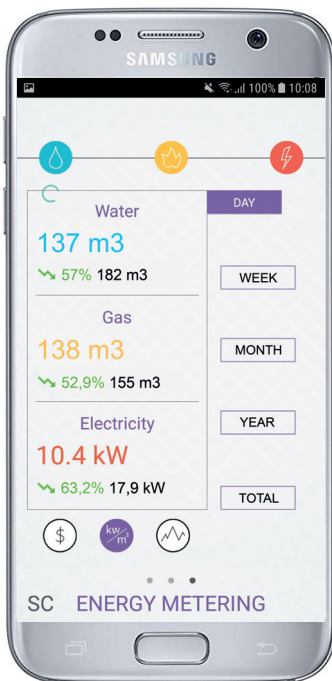
Measured data can be displayed not only through the web interface on the PC, but also in iNELS Home Control (iHC). The measured values of all quantities can be monitored, but above all archived and analysed in many selected time periods (daily, weekly, monthly and yearly). Consumption can be quantified in consumed units or directly in financial costs. Another advantage is the possibility of measuring electricity consumption in up to 4 tariffs.
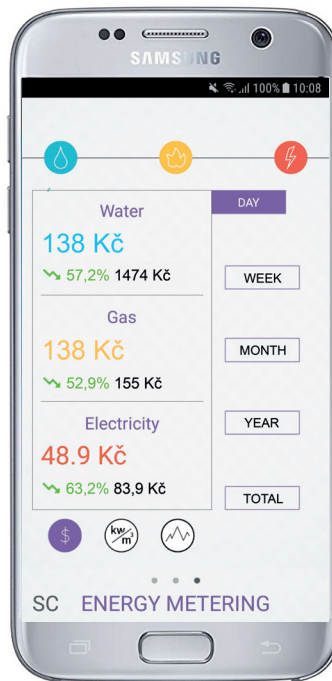
PROMO APP available

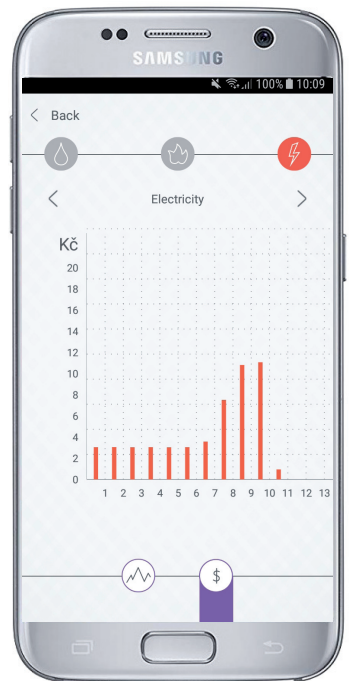
Login and password: **admin**

Current consumption can be displayed as a bar graph.

You can choose to display the consumption in units.

One click to switch to power consumption in your currency.

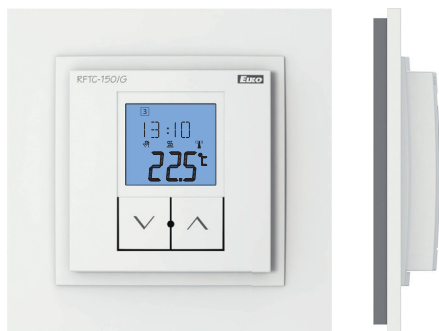Significant savings can be achieved by analysing data.

Hotel Room Energy Saving Kit

Costs saving, Increased comfort

www.inels.com
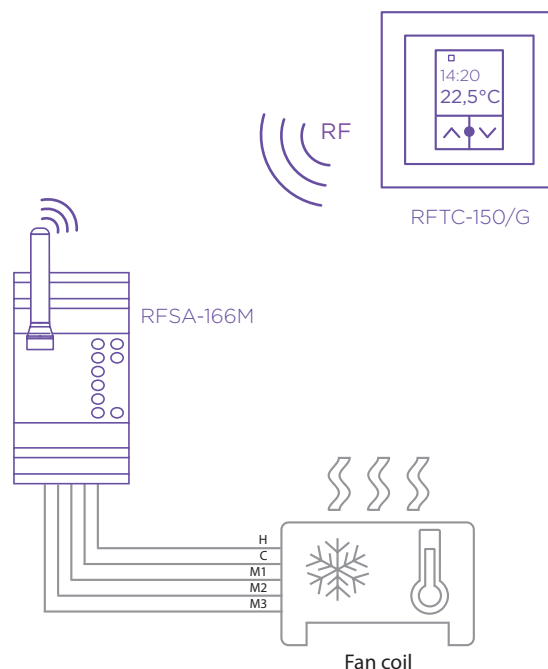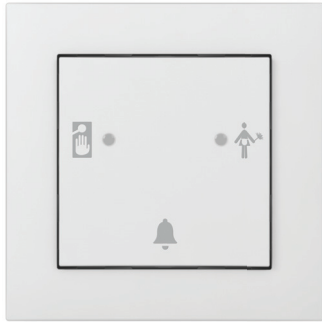
iNELS®

- The wireless controller RFTC-150/G measures the room temperature by internal sensor. On the basis of a set program it sends commands to the switching component RFSA-166M Switching fan coil.
- It is possible to set automatic or manual mode.
- Range of measured temperature 0 to 55 °C.
- The backlit LCD display displays the current and set temperature, status (ON/OFF), battery status, day of the week, current time, etc.
- Battery power (2x 1.5 V AAA batteries - included in supply) with battery life of around 1 year based on frequency of use.
- The flat rear side of the device enables its placement anywhere in the room.
- Components support communication with RF detectors.
- Range up to 100 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO.
- Colour combination of temperature unit in design of frames LOGUS[90] (plastic, glass, wood, metal, stone).

Technical parameters	RFTC-150/G
Supply voltage:	2x 1.5 V AAA batteries
Battery life:	up to 1 year based on frequency of use
Temperature correction:	2 buttons ∨ / ∧
Temperature offset:	± 5 °C
Display:	LCD, characters
Backlighting:	active 10 s after pressing
Transmission indication/function:	symbols
Temperature measurement input:	1x internal sensor
Temp. measurement range and accuracy:	0 to + 55 °C ; 0.3 °C of the range
Control	
Communication protocol:	RFIO
Frequency:	866–922 MHz (for more information see p. 80)
Repeater function:	NO
Signal transmission method:	bidirectionally addressed message
Range:	in open space up to 100 m
Minimum control distance:	20 mm
Other data	
Max. number of controlling actuators RFSA-166M:	1
Program:	Weekly
Operating temperature:	0 to + 55 °C
Operating position:	on the wall
Mounting:	by gluing/screwing
Protection:	IP30
Contamination degree:	2
Dimensions - plastic:	85 x 85 x 20 mm
- metal, glass, wood, granite:	94 x 94 x 20 mm
Weight:	66 g (without batteries)
Related standards:	EN 60669, EN 300 220, EN 301 489 directive RTTE Directive, Order. No 426/2000 Coll. (Directive 1999/EC)

Connection

RFTC-150/G

RFSA-166M

Fan coil

RFPCR-31/G | Multifunctional card reader

- RFPCR-31/G is a wall-mounted card reader that is designed for read contactless media (smart cards, key chains, etc.), which are used for controlling access to buildings or their parts.
- The reader sends a wireless command to switch, signaling, bell, etc. This makes it suitable for reconstruction, where the main benefit is the installation speed.
- RFPCR-31/G reader can be used to control the security system (locking/unlocking) access system (opening doors, gates, etc.) or appliances (based on assigned rights).
- RFPCR-31/G supports RFID media with the carrier frequency of 13.56 MHz. Supported card types MIFARE Ultralight, DESFire 2K (EV1), DESFire 4K (EV1) .
- RFPCR-31/G is also equipped with 8 A relay output with changeover contact $AgSnO_2$, by which controlled devices can be switched directly.
- Range up to 160 m (in open space), if the signal is insufficient between the card reader and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO.
- Wall card reader RFPCR-31/G is compatible with both types of frames LOGUS[90] (85.6 x 85.6 or 94 x 94 mm), therefore you can combine them with double and triple frames and classic products of the series.

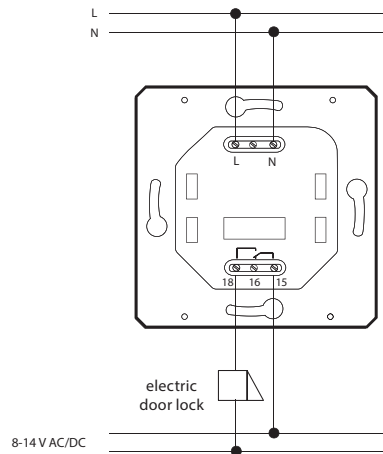| Technical parameters	RFPCR-31/G
Supply voltage:	110 - 230 V AC
Supply voltage frequency:	50 - 60 Hz
Dissipated power:	max. 2.5 W
Apparent input:	max. 5 VA
Buttons	
Number of control buttons:	2
RFID readers	
Supported frequencies:	13.56 MHz
Card Type:	MIFARE Ultralight, DESFire 2K (EV1), DESFire 4K (EV1)
Outputs	
Output:	1x changeover 8A / $AgSnO_2$
Indication:	two-colour LED (red, green)
Acustic output:	piezo-changer
Switching voltage:	230V AC / 30V DC
Switching output:	2000 VA / AC1; 240 W/DC
Peak current:	20 A / <3s
Insulation voltage between relay outputs and internal circuits:	3.75 kV, SELV according to EN 60950
Minimal switched current:	10 mA / 10 V
Switching frequency without load:	300 min^{-1}
Switching frequency with rated load:	15 min^{-1}
Mechanical life:	1x 10^7
Electrical life AC1:	1x 10^5
Control	
Communication protocol:	RFIO
Frequency:	866–922 MHz (for more information see p. 80)
Repeater function:	NO
Range:	in open space up to 160 m
Connection	
Network:	max. 2.5 mm^2/1.5 mm^2 with sleeve
Other data	
Operating temperature:	-20 to +55 °C
Storing temperature:	-30 to +70 °C
Protection degree:	IP20
Overvoltage category:	II.
Pollution degree:	2
Operation position:	any
Installation:	into installation box
Dimensions	
- plastic:	85.6 x 85.6 x 42 mm
- metal, glass, wood, granite:	94 x 94 x 36 mm
Weight:	68 g (without frame)

Connection

L
N

L N

18 16 15

electric door lock

8-14 V AC/DC

Device description

„Do Not Disturb"
Room status indication
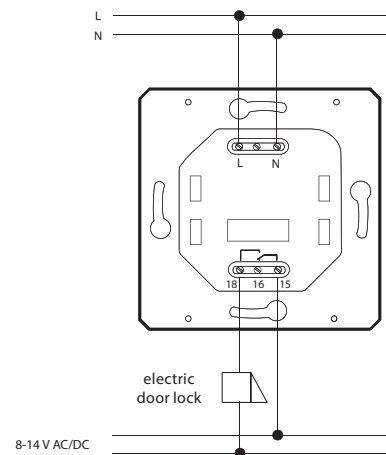
„Make Up Room"
Room status indication

„Bell" button

The picture of device is illustrative, the icons (symbols) are configurable by the customer.

Technical parameters	RFGCR-31/W	RFGCR-31/B
Supply voltage:	110 - 230 V AC	
Supply voltage frequency:	50 - 60 Hz	
Dissipated power:	max. 2.5 W	
Apparent input:	max. 5 VA	
Input		
Illuminance sensor:	1 ... 100 000 Lx	
Buttons		
Number of control buttons:	3	
Type:	capacitive	
Indication:	coloured illuminated symbol	
RFID readers		
Supported frequencies:	13.56 MHz	
Card Type:	MIFARE Ultralight, DESFire 2K (EV1), DESFire 4K (EV1)	
Outputs		
Signalling:	Do Not Disturb, Make Up Room	
Output:	1x changeover 8 A / AgSnO$_2$	
Acustic output:	piezo-changer	
Tactile output:	Vibration motor	
Switching voltage:	230V AC / 30V DC	
Switching output:	2000 VA / AC1; 240 W/DC	
Peak current:	20 A / <3s	
Insulation voltage between relay outputs and internal circuits:	3.75 kV, SELV according to EN 60950	
Minimal switched current:	10 mA / 10 V	
Switching frequency without load:	300 min^{-1}	
Switching frequency with rated load:	10 min^{-1}	
Mechanical life:	1x 10^7	
Electrical life AC1:	1x 10^5	
Control		
Communication protocol:	RFIO	
Frequency:	866–922 MHz (for more information see p. 80)	
Repeater function:	NO	
Range:	in open space up to 160 m	
Connection		
Network:	max. 2.5 mm^2/ 1.5 mm^2 with sleeve	
Other data		
Relative humidity:	max. 80 %	
Operating temperature:	-15 to +55 °C	
Storing temperature:	-30 to +70 °C	
Protection degree:	IP20	
Overvoltage category:	II.	
Pollution degree:	2	
Operation position:	any	
Installation:	into installation box	
Dimensions:	94 x 94 x 36 mm	
Weight:	161 g	

- Multifunctional RFID card reader RFGCR-31 is part of a comprehensive range of glass control units and can be advantageously used in all projects, e.g. guest room management system.
- The reader sends a wireless command to switch, signaling, bell, etc. This makes it suitable for reconstruction, where the main benefit is the installation speed.
- RFGCR-31 card reader is designed for reading smart cards, which are intended to enter the hotel room or any other part of the building.
- RFGCR-31 supports RFID media with a carrier frequency of 13.56 MHz. Supported card types MIFARE Ultralight, DESFire 2K (EV1), DESFire 4K (EV1).
- The RFGCR-31 is a design component of the system and is available in elegant black (RFGCR-31/B) and white (RFGCR-31/W) variants.
- Input card reader is the first device of guest room management system, with which the hotel guest comes into contact first and therefore was designed with an emphasis on representative design.
- Printing is possible to customize to the investor requirements. The room number as well as the logo of the hotel can be also printed on each component.
- The controller is also equipped with touch button with function of bell and with two icons to indicate the status of guest requests, e.g. "Do Not Disturb" and "Make Up Room".
- Individual symbols can be illuminated in one of seven colours - red, green, blue, yellow, pink, turquoise and white.
- Reader RFGCR-31 is equipped with an 8 A relay output with AgSnO$_2$ contact for door lock control.
- Reader RFGCR-31 is equipped with a sensor for ambient light intensity. Based on information from the sensor it can e.g. switch the lighting circuits in the corridor.
- Range up to 160 m (in open space), if the signal is insufficient between the card reader and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO.
- All versions are in the size of the module (94x94 mm) from the line of luxury switches and sockets LOGUS^{90} and are therefore fully in line with the design of frames for the sockets of this series, where you can just as for the controllers choose white and black glass frames.
- RFGCR-31 are designed for mounting into an installation box.

Connection

L
N

18   16   15
L   N

electric door lock

8-14 V AC/DC

Device descritpion

„Do Not Disturb" Room status indication

„Make Up Room" Room status indication

„Bell" button

Hotel Retrofit (HRESK)

The picture of device is illustrative, the icons (symbols) are configurable by the customer.
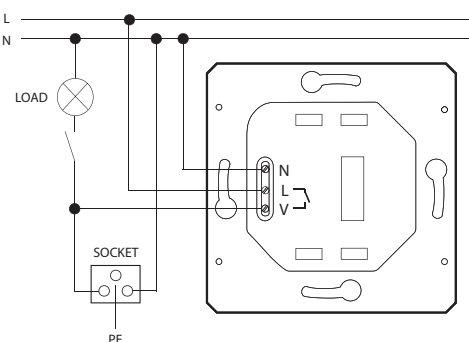
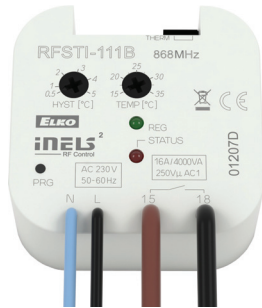| Technical parameters	RFGCH-31/W RFGCH-31/B
Supply voltage:	110 - 230 V AC
Supply voltage frequency:	50 - 60 Hz
Dissipated power:	max. 2.5 W
Apparent input:	max. 5 VA
Input	
Illuminance sensor:	1 ... 100 000 Lx
Buttons	
Number of control buttons:	3
Typ:	capacitive
Indication:	coloured illuminated symbol
RFID readers	
Supported frequencies:	13.56 MHz
Card Type:	MIFARE Ultralight, DESFire 2K (EV1), DESFire 4K (EV1)
Outputs	
Signalling:	Do Not Disturb, Make Up Room
Output:	1x switching 10A / AgSnO$_2$
Acoustic output:	piezo-changer
Tactile output:	Vibration motor
Switching voltage:	230V AC / 30V DC
Switching output:	2500 VA / AC1; 300 W/DC
Insulation voltage between relay outputs and internal circuits:	3.75 kV, SELV dle EN 60950
Minimal switched current:	10 mA / 10 V
Switching frequency without load:	300 min^{-1}
Switching frequency with rated load:	10 min^{-1}
Mechanical life:	1x 10^7
Electrical life AC1:	1x 10^5
Control	
Communication protocol:	RFIO
Frequency:	866–922 MHz (for more information see p. 80)
Repeater function:	NO
Range:	in open space up to 160 m
Connection	
Network:	max. 2.5 mm^2/1.5 mm^2 with sleeve
Other data	
Relative humidity:	max. 80 %
Operating temperature:	-15 to +55 °C
Storing temperature:	-30 to +70 °C
Protection degree:	IP20
Overvoltage category:	II.
Pollution degree:	2
Operation position:	any
Installation:	into installation box
Dimensions:	142 x 94 x 36 mm
Weight:	210 g

- Glass card holder RFGCH-31 is part of a comprehensive range of glass control units for guest room management system.
- The smart card holder sends a wireless command to switch on the alarm, bell, etc This makes it suitable for reconstruction, where the main benefit is the installation speed.
- RFGCH-31 serves for inserting the RFID card into the holder, whereby the system acquires the information about whether the hotel guest is present in the room. With this information it is possible to ensure for example Exit function with relation to energy savings in the absence of a guest in the room.
- Glass card holder is a design component of the system and is available in elegant black (RFGCH-31/B) and white (RFGCH-31/W) version.
- The RFGCH-31 component is equipped with an RFID reader and is thus able to identify the specific hotel card inserted. Power saving function in the absence of a guest cannot be bypassed by simply inserting business cards into the holder.
- RFGCH-31 supports RFID media with a carrier frequency of 13.56 MHz. Supported card types are MIFARE Ultralight, DESFire 2K (EV1), DESFire 4K (EV1).
- The unit is also equipped with three touch buttons that can be used for example to set room status "Do Not Disturb" or "Make Up Room".
- Card holder printing is possible to customize to the investor requirements. The logo of the hotel can be shown for example. Likewise, it is also possible to adapt the card printing.
- The RFGCH-31 unit is equipped with an 10 A relay output and an AgSnO$_2$ contact, which switches the phase conductor.
- Individual symbols can be illuminated in one of seven colours - red, green, blue, yellow, pink, turquoise and white.
- Range up to 160 m (in open space), if the signal is insufficient between the holder and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO.
- RFGCH-31 are designed for mounting into an installation box.
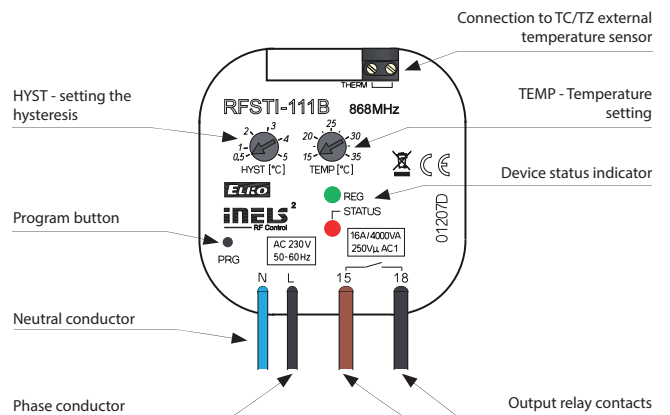
Connection

Device description

- The component measures temperature in the range of 15 to 35 °C with external sensor and on the basis of the set temperature switches air conditioning.
- It is particularly suitable for rooms with a tropical climate.
- With the Window/Door sensor programmed, when the window/door is opened, the device relay contact is automatically disconnected, thereby saving unnecessary energy consumed for cooling when the window/door is open.
- It enables connection of the switched load up to 12 A (3000 VA).
- Up to 4 RFDW-100 detectors can be connected to one RFSTI-111B device.
- Range up to 160 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with protocol RFIO2.
- The BOX design lets you mount it right in an installation box, a ceiling or controlled appliance cover.
- External sensor TC (-20 to +80 °C) or TZ (-40 to +125 °C) for length of 3 m, 6 m, 12 m. For more information see „Accessories" on page 41.
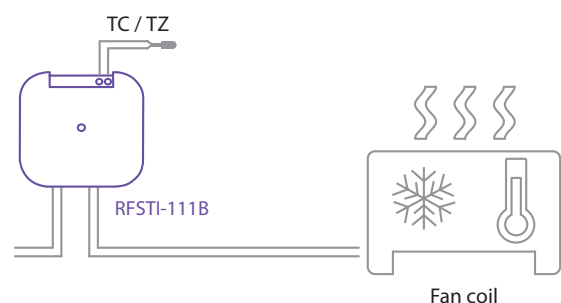
Device description

Technical parameters	RFSTI-111B/230V	RFSTI-111B/120V
Supply voltage:	230 V AC	120 V AC
Supply voltage frequency:	50-60 Hz	60 Hz
Apparent input:	9 VA / cos φ = 0.1	9 VA / cos φ = 0.1.
Dissipated power:	0.7 W	
Supply voltage tolerance:	+10 %; -15 %	
Temperature measurement input:	1x external TZ/TC temperature sensor input $\boxed{4}$	
Temp. measurement range and accuracy:	+15 to +35 °C; 0.5 °C of the range	
Output		
Number of contacts:	1x switching (AgSnO$_2$)	
Rated current:	12 A / AC1	
Switching power:	3000 VA / AC1, 288 W / DC	
Peak current:	30 A / max. 4s at 10%	
Switching voltage:	250 V AC1 / 24 V DC	
Min. switching power:	100 mA / 10 V	
Insulation voltage between relay outputs and internal circuits:	basic Insulation (Cat. III surges by EN 60664-1)	
Isolates. voltage open relay contact:	1 kV	
Mechanical service life:	3x10^7	
Electrical service life (AC1):	5x10^4	
Control		
Communication protocol:	RFIO2	
Frequency:	866–922 MHz (for more information see p. 80)	
Repeater function:	yes	
Range:	in open space up to 160 m	
Other data		
Operating temperature:	-15 to + 50 °C	
Storage temperature:	-30 to + 70 °C	
Indication of relay switch:	red LED	
Indication regulation:	green LED	
Operating position:	any	
Mounting:	free at lead-in wires	
Protection:	IP30	
Overvoltage category:	III.	
Contamination degree:	2	
Outlets (CY wire, cross-section, length):	2 x 0.75 mm², 2 x 2.5 mm², 90 mm	
Dimensions:	49 x 49 x 21 mm	
Weight:	50 g	

$\boxed{4}$ Temperature sensor input is at the supply voltage potential.

Function

The external sensor senses the temperature of the room, turns the air conditioner on and off according to the set temperature. Responds to commands from the detector - when you open the window, turn off air conditioning.

Connection

Fan coil

RFSAI-161B | Switch unit, 1 channel with external input for local switch

- Switch component with one output channel which is used in combination with detectors for automatic lighting control.
- RFSAI-161B has a pre-set control algorithm (scene) adapted to the requirements of hotel room control, see wiring.
- Each RFSAI-161B can be programmed with 1x RFMD-100, 1x RFWD-100 and 1x wireless controller (RFWB-40/G or RF KEY).
- The terminals on the component give you the opportunity to connect a wired detector or an existing key installation.
- It enables connection of the switched load up to 1x 12 A (3000 VA).
- The programming button on the unit is also used for manual control of the output.
- Range up to 160 m (in open space), if the signal is insufficient between the controller and unit, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.
- Communication frequency with bidirectional protocol RFIO2.

Technical parameters	RFSAI-161B /230V	RFSAI-161B /120V
Supply voltage:	230 V AC	120 V AC
Supply voltage frequency:	50-60 Hz	60 Hz
Apparent power:	9 VA	9 VA
Dissipated power:	0.7 W	
Supply voltage tolerance:	+10 %; -15 %	
Output		
Number of contacts:	1x switching (AgSnO$_2$)	
Rated current:	12 A / AC1	
Switching power:	3000 VA / AC1, 288 W / DC	
Peak current:	30 A, max. 4 s at 10%	
Switching voltage:	250 V AC1 / 24 V DC	
Min. switching power DC:	100 mA / 10 V	
Insulation voltage between outputs and internal circuits:	basic Insulation (Cat. III surges by EN 60664-1)	
Isolation voltage open contact:	1 kV	
Mechanical service life:	3x10^7	
Electrical service life (AC1):	5x10^4	
Indication of relay switch:	red LED	
Control		
Communication protocol:	RFIO2	
Frequency:	866–922 MHz (for more information see p. 80)	
Repeater button:	yes	
Manual control:	button PROG (ON/OFF)	
External button:	cable length max. 12 m^2 ⚡	
Range:	in open space up to 160 m	
Other data		
Open contact voltage external switch:	3 V	
Resistor for the management of external switch:	<1 kΩ	
Resist. of connection for open contact:	>10 kΩ	
Galvanic isolation of input:	no	
Operating temperature:	-15 to + 50 °C	
Storage temperature:	-30 to + 70 °C	
Working position:	any	
Mounting:	free at lead-in wires	
Protection:	IP30	
Overvoltage category:	III.	
Contamination degree:	2	
Terminals:	0.5 - 1 mm^2	
Terminals (CY wire, Cross-section):	2x 0.75 mm^2, 2x 2.5 mm^2	
Terminal length:	90 mm	
Dimensions:	49 x 49 x 21 mm	
Weight:	50 g	

⚡ Control button input is at the supply voltage potential.

Device description

Terminal for connecting an external button
RANGE - rought time setting
TIME - fine time setting
Device status indication
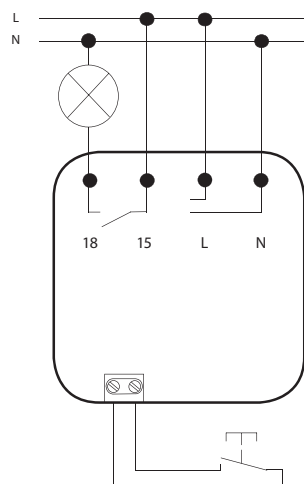Programming button (manual control ON/OFF)
Neutral conductor
Phase conductor
Output contact relay

Compatible wireless detectors:
Movement: RFMD-100
Door/Window: RFWD-100

Connection

RFSAI-161B/230V
RFSAI-161B/120V

Example

switch unit with external input
for local switch
RFSAI-161B

door detector
RFWD-100

existing
switch

On-wall button
controller (4 buttons)

A   C

B   D

Master OFF

RF

main/bathroom
light

motion detector
RFMD-100

others controllers

switching socket

switch unit
RFSA-61B

dimming lamp

dimming socket
RFDSC-71

dimmed light

universal dimmer
RFDEL-71B

Function

1 When RFMD-100 motion detector captures the movement of the guest, the light ON command is sent.

2 The functionality of RFWD-100 door detector is delayed OFF = after the guest (or cleaner) close the door than the timer starts running (which you can set) and the light will turn OFF.

3 If there is movement the command from RFWD-100 door detector (delay off) will be cancelled by the motion detector RFMD-100 command.

4 Pressing the button at position D of RFWB-40 On-wall button controller sends an OFF command to all components that are controlled from that button while blocking the response to RFMD-100 motion detector.

5 You are able to control other units with other channels (A, B, C) on RFWB-40 On-wall button controller.

6 When guest wakes up and presses any RFWB-40 button, then pressing on button makes all units working again after previous pressing button on position D and it also re-enable RFMD-100 motion detector primary function.

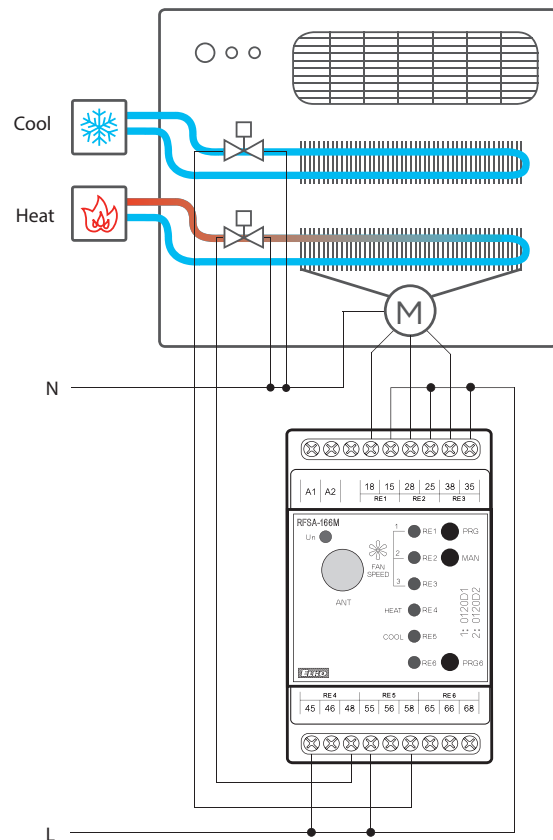| Technical parameters	RFSA-166M/230 V
Supply voltage:	110-230 V AC
Supply voltage frequency:	50-60 Hz
Apparent input:	min. 2 VA / max. 5 VA
Dissipated power:	min. 0.5W / max. 2.5W
Supply voltage tolerance:	+10% / -25 %
Output	
Number of contacts:	3x changeover ($AgSnO_2$); 3x switching ($AgSnO_2$)
Rated current:	8 A / AC1
Switching power:	2000 VA / AC1
Peak current:	10 A / <3 s
Switching voltage:	250 V AC1
Max. DC switching power:	500 mW
Mechanical service life:	$1x10^7$
Electrical service life (AC1):	$1x10^5$
Control	
Wireless:	on output RE6 up to 25 channels/buttons
Communication protocol:	RFIO2
Frequency:	866–922 MHz (for more information see p. 80)
Repeater button:	yes
Manual control:	MAN button
Range:	in open space up to 100 m
RF antenna:	AN-I included (SMA connector)*
Other data	
Operating temperature:	-15 °C to + 50 °C
Operating position:	any
Mounting:	DIN rail EN 60715
Protection:	IP20 from the front panel
Overvoltage category:	III.
Contamination degree:	2
Connecting conductor cross-section (mm^2):	max. 1x 2.5, max. 2x 1.5 / with a hollow max. 1x 2.5
Dimensions:	90 x 52 x 65 mm
Weight:	264 g
Related standards:	EN 60669, EN 300 220, EN 301 489 R&TTE Directive, Order. No 426/2000 Coll. (Directive 1999/EC)

* Max Tightening Torque for antenna connector is 0.56 Nm.

• Thanks to the 6-channel design of the switching component it can control the heating/cooling mode and with 3 speeds, the RE6 output channel can be used to control appliances, sockets or lights.

• The RFSA-166M wireless switching component can be combined with the RFTC-150/G.

• Up to 25 detectors RFWD-100 can be assigned to the switching component.

• The RFWD-100 can be assigned to the RFSA-166M using the PRG button.

• Output Channel RE6:
  - up to 25 channels can be controlled
  - can be combined with detectors, controllers or system components of iNELS RF Control.
  - function: button, pulse relay and delayed start or return time functions with 2 s - 60 min time setting. Function description can be found on page 78.
  - memory status is retained in the event of a power failure.
  - the PRG6 programming button on the component also serves as manual control of the RE6 output.

• The package includes an internal antenna AN-I, in case of locating the element in a metal switchboard, you can use the external antenna AN-E for better signal reception.

• Range up to 100 m (in open space), if the signal is insufficient, use the signal repeater RFRP-20 or protocol component RFIO2 that support this feature.

• Communication frequency with bidirectional protocol RFIO2.

Connection for fancoil control

Accessories

RFAF/USB | Service Key

- The RFAF/USB Service Key (in conjunction with the RF_analyzer) is designed for iNELS RF Control system partners and serves for:
  - Setting the repeater (signal amplifier) through the iNELS RF Control elements labeled as RFIO2. This option allows you to communicate over longer distances (in the order of 50 m) via existing iNELS RF Control elements in the installation (eliminating the use of the RFRP-20 repeater).
  - upgrade of firmware in the iNELS RF Control elements (labeled RFIO2), in the case of new firmware versions that improve the functionality of the elements on which we are constantly working.
  - The RF Network Analyzer will reliably analyze the communication between the controller (where you plan to place it) and the component in the installation. Indicates signal strength/quatty as well as possible frequencies that can interfere with communication.
  - SW RF analyzer can be found at inels.com/partners in section SW/FW RF Control

Technical parameters	RFAF/USB
Power:	max. 1W
Interface:	USB 1.1 and higher, plug. „A"
Range:	100 m
Min. distance of RF Touch-Actuator:	1m
Communication protocol:	RFIO2
Frequency:	866–922 MHz (for more information see p. 80)
Power supply indication:	green LED
RF communication indication:	red LED
Other data	
Operating temperature:	0 to +55°C
Storage temperature:	- 20 to +70°C
Protection:	IP30
Contamination degree:	2
Work space:	any
Installation:	any
Dimensions:	22 x 85 x 15 mm
Weight:	20 g
Related standards:	EN 60950-1

AN-I | Internal antenna

- into plastic switchboard
- rod angle, without cable
- sensitivity 1 dB
- the internal antenna is included in the standard package

AN-E | External antenna

- for mounting into metal switchboard
- cable length 3 m
- sensitivity 5 dB
- the external antenna AN-E is supplied on request only

Supported video cameras

- Cameras integrated in iHC-MIIRF and iHC-MAIRF applications:
  Axis cameras with PTZ control support.
  HIK VISION cameras with PTZ control support.
  D-Link cameras.
  Other cameras supporting RTSP and MJPEG streams.

- IHC-SMTV supports streaming cameras in JPEG format.

HIK VISION **D-link** **Axis**

Supported intercoms

- The iHC-MAIRF/iHC-MIIRF applications are integrated as client accounts for the SIP server on the Connection Server (Asterisk) and the SIP server on the Dahua speaker.
- Using CS, it is possible to freely connect applications with LARA Intercom, 2N and HIK VISION voices.

Basic sets

RFSET-SW2-Z1

1x Wireless switch unit
RFSA-11B

1x Wireless wall controller
RFWB-20/G - white

EAN: 8595188138901

RFSET-SK-Z1

1x Wireless switch unit
RFSA-11B

1x Keychain
RF Key/B - black

EAN: 8595188138741

Multifunction sets

RFSET-SW-F1

1x Wireless switch unit
RFSA-61B

1x Wireless wall controller
RFWB-40/G - white

EAN: 8595188138772

RFSET-SK-F1

1x Wireless switch unit
RFSA-61B

1x Keychain
RF Key/B - black

EAN: 8595188138789

RFSET-SMK-F1

1x Wireless switch unit RFSA-61M
with external antenna A-NI

1x Keychain
RF Key/B - black

EAN: 8595188138895

Single function - RFSA-11B

Function button ON/OFF

The output contact closes by pressing one button position, and opens by pressing the other button position.

Multi function - RFSA-61B, RFSA-62B, RFSA-61M, RFSA-66M, RFSAI-61B, RFSAI-62B, RFSC-61, RFUS-61

Function 1 - button

The output contact will be closed by pressing the button and opened by releasing the button.

Function 2 - switch on

The output contact will be closed by pressing the button.

Function 3 - switch off

The output contact will be opened by pressing the button.

Function 4 - impulse relay

The output contact will be switched to the opposite position by each press of the button. If the contact was closed, it will be opened and vice versa.

Function 5 - delayed off

The output contact will be closed by pressing the button and opened after the set time interval has elapsed.
t = 2 s ... 60 min.

Function 6 - delayed on

The output contact will be opened by pressing the button and closed after the set time interval has elapsed.
t = 2 s ... 60 min.

Loadability products

RFJA-32B; RFSA-62B; RFSAI-62B; RFSA-66M

Load type	cos φ ≥ 0.95	M	M	AC5a without compensation	AC5a with compensation	HAL.230V			
	AC1	AC2	AC3			AC5b	AC6a	AC7b	AC12
Contact material AgSnO₂, Contact 8 A	250 V / 8 A	250 V / 5 A	250 V / 4 A	x	x	250 W	250 V / 4 A	250 V / 1 A	250 V / 1 A
Load type					M	M			
	AC13	AC14	AC15	DC1	DC3	DC5	DC12	DC13	DC14
Contact material AgSnO₂, Contact 8 A	x	250 V / 4 A	250 V / 3 A	30 V / 8 A	24 V / 3 A	30 V / 2 A	30 V / 8 A	30 V / 2 A	x

RFUS-61

Load type	cos φ ≥ 0.95	M	M	AC5a without compensation	AC5a with compensation	HAL.230V			
	AC1	AC2	AC3			AC5b	AC6a	AC7b	AC12
Contact material AgSnO₂, Contact 14 A	250 V / 12 A	250 V / 5 A	250 V / 3 A	230 V / 3 A (690 VA)	230V / 3A (690VA) up to max input C=14uF	1000 W	x	250 V / 3 A	x
Load type					M	M			
	AC13	AC14	AC15	DC1	DC3	DC5	DC12	DC13	DC14
Contact material AgSnO₂, Contact 14 A	x	250 V / 6 A	250 V / 6 A	24 V / 10 A	24 V / 3 A	24 V / 2 A	24 V / 6 A	24 V / 2 A	x

RFSA-11B; RFSA-61B; RFSA-61M; RFSC-61; RFSTI-11B; RFDAC-71B

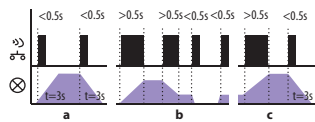| Load type	cos φ ≥ 0.95	M	M	AC5a without compensation	AC5a with compensation	HAL.230V			
	AC1	AC2	AC3			AC5b	AC6a	AC7b	AC12
Contact material AgSnO₂, Contact 16 A	250 V / 16 A	250 V / 5 A	250 V / 3 A	230 V / 3 A (690 VA)	230V / 3A (690VA) up to max input C=14uF	1000 W	x	250 V / 3 A	250 V / 10 A
Load type					M	M			
	AC13	AC14	AC15	DC1	DC3	DC5	DC12	DC13	DC14
Contact material AgSnO₂, Contact 16 A	x	250 V / 6 A	250 V / 6 A	24 V / 10 A	24 V / 3 A	24 V / 2 A	24 V / 6 A	24 V / 2 A	x

Multi-function RFDA-73M/RGB, RFDEL-71B, RFDEL-71M, RFDSC-71, RFDAC-71B, RFDW-71

Light scene function 1
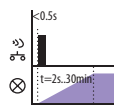

a) By pressing the programmed button for less than 0.5 s, the light illuminates; it goes out by pressing again.
b) By pressing the programmed button for more than 0.5 s, fluid brightness regulation will occur. After releasing the button, the brightness level is saved in the memory, and pressing the button shortly later will switch the light on/off to this intensity.
c) It is possible to readjust the change in intensity at any time by a long press of the programmed button.
The actuator remembers the adjusted value even after disconnecting from the power supply.

Light scene function 3

a) By pressing the programmed button for less than 0.5 s, the light fluidly illuminates for a period of 3 s (at 100% brightness). By pressing the button shortly again, the light will continuously switch off for 3 seconds.
b) By pressing the programmed button for more than 0.5 s, fluid brightness regulation will occur. After releasing the button, the brightness level is saved in the memory, and pressing the button shortly later will switch the light on/off to this intensity.
c) It is possible to readjust the change in intensity at any time by a long press of the programmed button.
The actuator remembers the adjusted value even after disconnecting from the power supply.
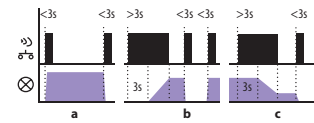
Function sunrise

After pressing the programmed button, the light begins to illuminate in the programmed time interval in a range of 2 seconds to 30 minutes.
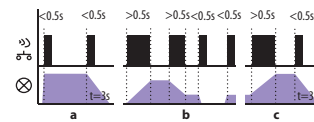
Function ON/OFF

If the light is switched off, pressing the programmed button will switch it on. If the light is switched on, pressing the programmed button will switch it off.
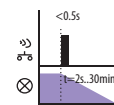
Light scene function 2

a) By pressing the programmed button for less than 3 s, the light illuminates; it goes out by pressing again.
b) In order to limit undesirable control of brightness, fluid brightness control occurs only by pressing a programmed button for over 3 s. After releasing the button, the brightness level is saved in the memory, and pressing the button shortly later will switch the light on/off to this intensity.
c) It is possible to readjust the change in intensity at any time by pressing the programmed button for over 3 s.
The actuator remembers the adjusted value even after disconnecting from the power supply.
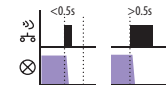
Light scene function 4

a) By pressing the programmed button for less than 0.5 s, the light illuminates. By pressing the button shortly again, the light will continuously switch off for 3 seconds (at 100% brightness).
b) By pressing the programmed button for more than 0.5 s, fluid brightness regulation will occur. After releasing the button, the brightness level is saved in the memory, and pressing the button shortly later will switch the light on/off to this intensity.
c) It is possible to readjust the change in intensity at any time by a long press of the programmed button.
The actuator remembers the adjusted value even after disconnecting from the power supply.

Function sunset

After pressing the programmed button, the light begins to dim in the programmed time interval in a range of 2 seconds to 30 minutes.

Function switch off

The dimmer output switches off by pressing the button.

Rating of the light source ELKO lighting on dimmers ELKO EP

	LED bulb		LED spot lights			LED panels		LED / RGB strip					
	DLB-E27-806-2K7	DLB-E27-806-5K	DLSL-GU10--350-3K	LSL-GU10-350-3K	LSL-GU10-350-5K	LP-6060-3K	LP-6060-6K	LED strip 7.2W	LED strip 14.4W	LED strip 19.2W	LED strip 28.8W	RGB strip 7.2W	RGB strip 14.4W
	number	number	number	number	number	number	number	number	number	number	number	number	number
RFDSC-71	✓ 21	✓ 21	✓ 45	✓ 25	✓ -	- -	- -	- -	- -	- -	- -	- -	- -
RFDEL-71B	✓ 11	✓ 11	✓ 25	✓ 13	✓ 13	- -	- -	- -	- -	- -	- -	- -	- -
RFDA-73M/RGB	- -	- -	- -	- -	- -	- -	- -	✓ 3x8m	✓ 3x4m	✓ 3x5m	✓ 3x4m	✓ 20m	✓ 10m
RFDAC-71B	- -	- -	- -	- -	- -	✓ 50	✓ 50	- -	- -	- -	- -	- -	- -

WARNING!

May lead to different results based on the state of network cable length and other factors.

This table contains the results of tests that were conducted internally and therefore is ONLY for customers only informative. The products were tested in test laboratories ELKO EP, and therefore the company assumes no responsibility for any imitation test environment.

Inductive and capacitive loads must not be connected simultaneously!

Load capacity:

* Due to the huge amount of type of light sources, the maximum load depends on internal construction of dimmable LED and ESL bulbs and their power factor cos φ, capacity for power factor cos φ=1. The power factor of dimmable LEDs and ESL bulbs ranges from cos φ = 0.95 up to 0.4. An approximate value of maximum load may be obtained by multiplying the load capacity of the dimmer by the power factor of the connected light source.

The communication between the components is wireless at 866–922 MHz (according to country standards/regulations), using the unique RFIO and RFIO2 protocols. Both are proprietary wireless protocols from ELKO EP, which have a completely unique structure. RFIO2 is an extension of the RFIO protocol and allows users to use newly introduced features, such as unit signals (repeater), for selected features. This protocol is fully compatible with the previous version of the protocol (RFIO).

Available frequency for individual territories:

865.15 MHz India   **916 MHz** Australia, New Zealand, America, Israel
868.1 MHz Russia
868.5 MHz EU, Ukraine, Middle East

Benefits of RFIO:
• Communication is low-energy and reliably transfers small data packets.
• Fees or licenses are not required.
• No overlapping of communication space with unaddressed commands.
• Frequency used does not interfere with Wi-Fi/Bluetooth devices.
• Setting communication between components is not conditional on working with a computer or system.

Benefits of RFIO2:
• Products labeled as "RFIO2" will allow newly set selected components such as unit signals (repeaters).
• For components, you can easily update FW using the RFAF/USB service device.
• Enables communication with RFMD-100, RFWD-100 and RFSD-100 / RFSD-101.
• Data transfer between wireless components takes place in such a way that other receivers within range can help transfer the information (packet) to a remote receiver that is out of reach. It is possible to cover large-scale objects (real estate) and also increase the reliability of transmission in more demanding buildings.
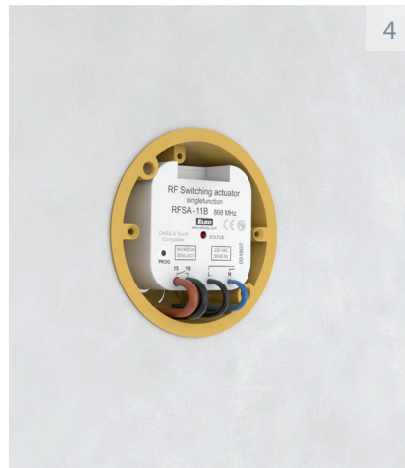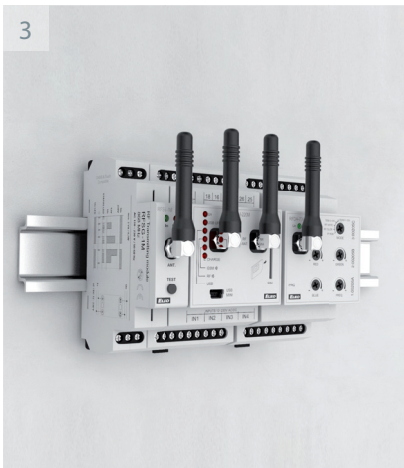• Backward compatibility with RFIO elements is retained.

1) Surface mounted

Wall mounted or in an installation box with spacing of 65 mm.

RF Touch-W	RFTC-10/G
RFWB-20/G	RFTC-50/G
RFWB-40/G	RFTC-150/G
RFGB-20	RFGB-220
RFGB-40	RFGB-240

2) Flush mounted

RF Touch-B	RFGCR-31
RFDW-71	RFGCH-31
RFPCR-31/G	
RFDW-271	

3) DIN Rail mounted

On DIN rail according to EN 60715.

RFSG-1M	RFDEL-71M
RFPM-2M	RFSA-61M
RFDA-73M/RGB	RFSA-66M
	RFSA-166M

4) Mounted to or in the installation box

RFIM-20B	RFSAI-62B
RFIM-40B	RFJA-32B
RFDAC-71B	RFSF-1B
RFDEL-71B	RFSTI-11B
RFSA-11B	RFTI-10B
RFSA-61B	RFSAI-161B
RFSA-62B	RFSTI-111B

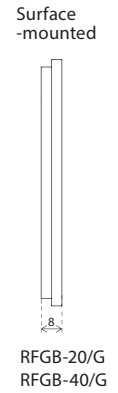### 5) Mounted into the cover of appliance

RFDAC-71B	RFJA-32B
RFDEL-71B	RFSAI-161B
RFSA-11B	RFSTI-111B
RFSA-61B	
RFSA-62B	

6) Surface mounted

RFSOU-1	RFSD-100
RFUS-61	RFSD-101
RFTM-1	RFMD-100
RFSF-1B	RFWD-100

94

94

In an installation box

36

Surface--mounted

24

RF Touch-B

RF Touch-W

94

94

In an installation box

36

Surface-mounted

8

RFDW-71
RFGCR-31

RFGB-20/G
RFGB-40/G

85 (94)

85 (94)

Frame dimensions are given (for metal frames, glass, wood, granite)

In an installation box

42

Surface-mounted

16

20

RFPCR-31/G

RFWB-20/G
RFWB-40/G

RFTC-10/G
RFTC-50/G
RFTC-150/G

100

100

In an installation box

36

Surface-mounted

8

RFDW-271

RFGB-220/G
RFGB-240/G

1Modul

13.8

5   11   18.2   25.8   4

11.3   11.3

11.3

44.8

35.6

90

5

11.3   11.3

17.6

59

RFSG-1M
RFSA-61M

3Modul

45

5.2

45

52

15   19   22

9   9.5

45

34   90

65

RFSA-166M
RFSA-66M

RFPM-2M
RFDEL-71M

RFDA-73M/RGB

130

41.2

RF Pilot

65.2

25.2

RF Key

MINI

R13

49

13

RFIM-20B
RFIM-40B
RFTI-10B
RFSF-1B
RFJA-32B/24VDC

MINI

R21

49

21

RFDEL-71B
RFSA-11B
RFSA-61B
RFSA-62B
RFSAI-62B
RFSTI-11B
RFDAC-71B
RFJA-32B/230V
RFSA-161B
RFSTI-111B

IP65

21
26
96
70
2
62
34

RFSOU-1

IP65

62
96
70
26
21
34

RFTM-1

IP65

40
96
70
26
21
62
34

RFUS-61

Socket

120
60
69

RFRP-20   RFDSC-71
RFSC-61

Detector
sensor   **magnet**

75
25   16

75
15   14

RFWD-100

Detector

120
120   36

RFSD-100
RFSD-101

Detector

105
46   43

RFMD-100

Detector

89

23
89

AirSF-100

Connection server

Cloud platform

Mobile app

Smart watch app

Smart TV application **SAMSUNG**

Modbus

KNX

Devices and 3rd party protocols

ZigBee

Z-WAVE

M-Bus

API

ELKO **CLOUD**

Wi-Fi

Smart RF box

LARA Music

LARA Intercom

IP cameras

Weather station

Voice assistants

Google Home

amazon alexa

Video door-phone /Intercom

Energy management

Sensors / detectors

Motion detector

Window/door detector

Flood detector

Smoke detector (+ temperature + humidity + lighting)

Twilight switch

Actuators

Controllers

Switching socket

Switch unit (outdoor)

Universal dimmer R L C LED ESL
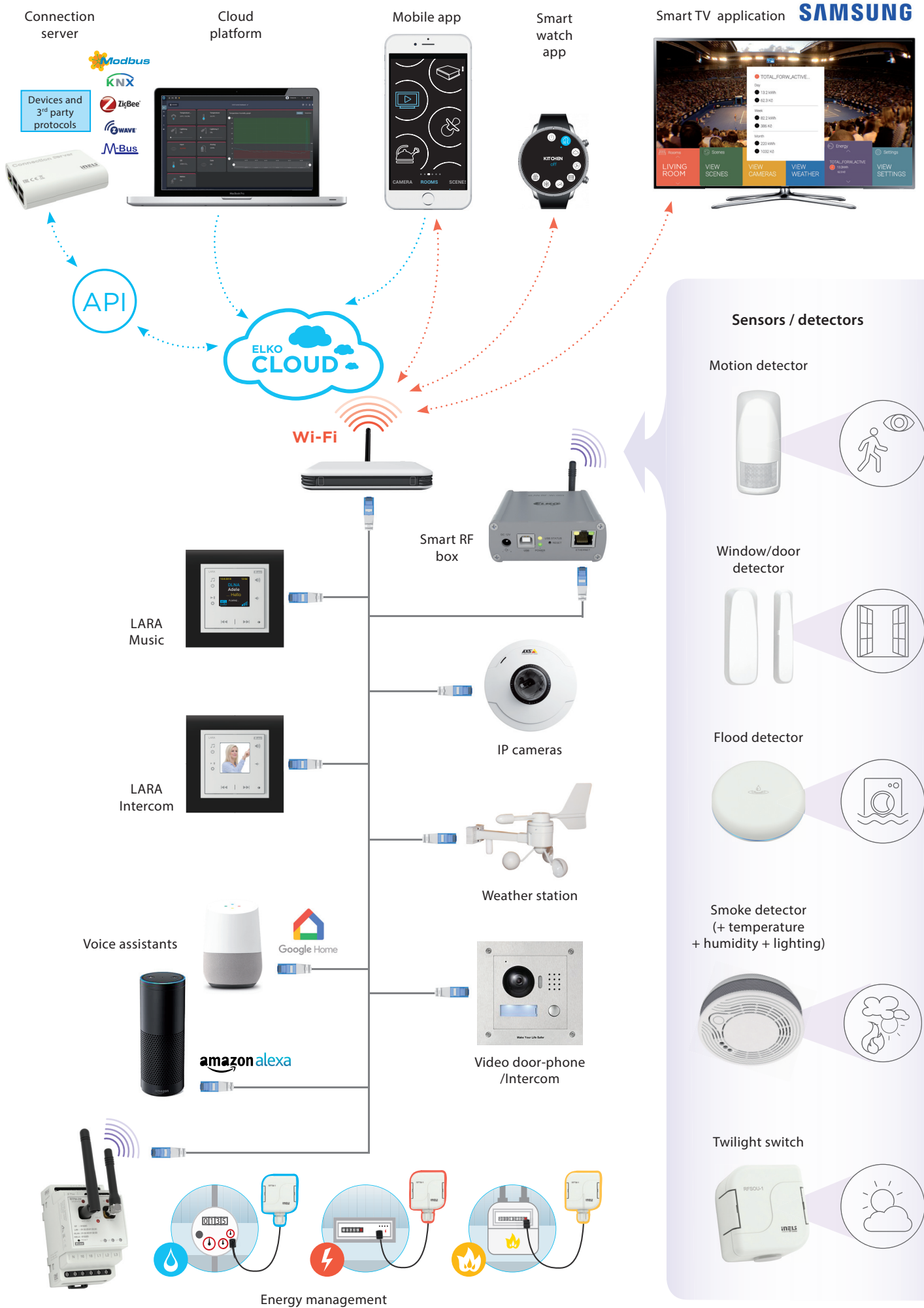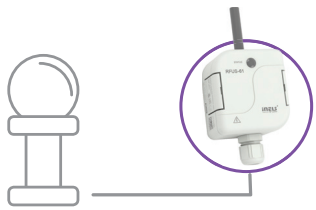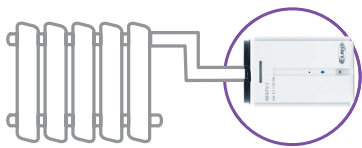
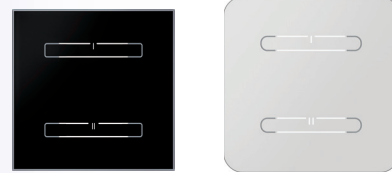Switch unit for shutters

Thermovalve

Switch unit 6 channel

Analog controller 0-10 V

0-10 V

Wall button

Touch glass

Touch glass with dimmer

Keychain

RF Pilot with display

Contact converter

Wireless touch unit

Temperature controller

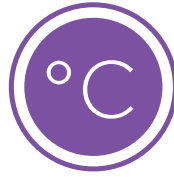## Product groups of the Wireless electro-installation

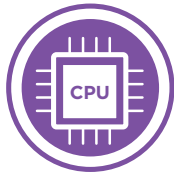Controllers   Switching units   Dimmers   Temperature control   Convertors   Detectors

Frequency	EAN	Type	Supply voltage
868.5 MHz	8595188140379	RFWB-20/G	CR 2032
868.5 MHz	8595188140607	RFWB-40/G	CR 2032
868.5 MHz	8595188176781	RFGB-20/W	2x CR 2032
868.5 MHz	8595188176798	RFGB-20/B	2x CR 2032
868.5 MHz	8595188176804	RFGB-40/W	2x CR 2032
868.5 MHz	8595188176811	RFGB-40/B	2x CR 2032
868.5 MHz	8595188159838	RFDW-71/230V/W	230 V AC
868.5 MHz	8595188141789	RFDW-71/230V/B	230 V AC
916 MHz	8595188159852	RFDW-71/120V/W	120 V AC
916 MHz	8595188144223	RFDW-71/120V/B	120 V AC
868.5 MHz	8595188143332	RF KEY/W	CR 2032
868.5 MHz	8595188143752	RF KEY/B	CR 2032
868.5 MHz	8595188143769	RF Pilot/W	2x 1,5 V AAA
868.5 MHz	8595188145169	RF Pilot/A	2x 1,5 V AAA
868.5 MHz	8595188143738	RF Touch-B	100 - 230 V
868.5 MHz	8595188131711	RF Touch-W	100 - 230 V / 120 DC
868.5 MHz	8595188145107	RFRP-20 - French	230 - 250 V
868.5 MHz	8595188145473	RFRP-20 - Schuko	230 - 250 V
868.5 MHz	8595188145480	RFRP-20 - British	230 - 250 V
910 MHz	8595188135706	RFRP-20 - French	120 V
868.5 MHz	8595188146845	eLAN-RF-003	10 - 27 V DC / 230 m A SELV
868.5 MHz	8595188151788	RFPM-2M	230 V AC
868.5 MHz	8595188143158	RFTM-1	2x 1,5 AAA
	8595188155908	CT50	
	8595188155762	LS	
	8595188155779	MS	
	8595188157940	WS	
868.5 MHz	8595188136839	RFSA-11B / 230 V	230 V AC
916 MHz	8595188151436	RFSA-11B / 120 V	120 V AC
868.5 MHz	8595188151399	RFSA-11B / 24 V	12-24 V AC / DC

Frequency	EAN	Type	Supply voltage
868.5 MHz	8595188136242	RFSA-61B / 230 V	230 V AC
916 MHz	8595188151504	RFSA-61B / 120 V	120 V AC
868.5 MHz	8595188151467	RFSA-61B / 24 V	12-24 V AC / DC
868.5 MHz	8595188142816	RFSA-62B / 230 V	230 V AC
916 MHz	8595188151832	RFSA-62B / 120 V	120 V AC
868.5 MHz	8595188151894	RFSA-62B / 24 V	12 - 24 V AC/DC
868.5 MHz	8595188149990	RFSAI-62B / 230 V	230 V AC
916 MHz	8595188174947	RFSAI-62B / 120 V	120 V AC
868.5 MHz	8595188137003	RFSA-61M	110 - 230 V AC
868.5 MHz	8595188142823	RFSA-66M	110 - 230 V AC
868.5 MHz	8595188152914	RFSA-66M	12-24 V AC / DC
868.5 MHz	8595188145268	RFUS-61	230 V AC
916 MHz	8595188152570	RFUS-61	120 V AC
868.5 MHz	8595188145602	RFSC-61 - French	230 - 250 V
868.5 MHz	8595188145626	RFSC-61 - Schuko	230 - 250 V
868.5 MHz	8595188145442	RFSC-61 - British	230 - 250 V
916 MHz	8595188153744	RFSC-61 / 120V - French	120 V
868.5 MHz	8595188174664	RFJA-32B / 230 V	230 V AC
916 MHz	8595188174923	RFJA-32B / 120 V	120 V AC
868.5 MHz	8595188157681	RFJA-32B / 24 V DC	5 - 24 V DC
868.5 MHz	8595188142809	RFDAC-71B	110 - 230 V AC
868.5 MHz	8595188145121	RFDEL-71B / 230 V	230V
868.5 MHz	8595188152228	RFDEL-71B / 120 V	120 V
868.5 MHz	8595188148979	RFDEL-71M / 230 V	230V
868.5 MHz	8595188153041	RFDEL-71M / 120 V	120 V
868.5 MHz	8595188146814	RFDA-73M/RGB	12 - 24 V DC

CPU		Energy		Hotel		RF sets	Lighting

System units | Energy management | Hotel Retrofit | RF sets | Lighting | Accesories

Frequency	EAN	Type	Supply voltage	Frequency	EAN	Type	Supply voltage
868.5 MHz	8595188145947	RFSDC-71 - French	230 -250 V	868.5 MHz	8595188148603	RFSF-1B	CR 2477
868.5 MHz	8595188145954	RFSDC-71 - Schuko	230 -250 V	868.5 MHz	8595188150095	RFSF-1B+FP-1	CR 2477
868.5 MHz	8595188145466	RFSDC-71 - British	230 -250 V		8595188147064	FP-1	
916 MHz	8595188153782	RFSDC-71/120V - French	120 V				
				868.5 MHz	8595188176828	RFSF-100	2x 1,5 V AAA
868.5 MHz	8595188135849	RFSTI-11B / 230 V	230 V AC				
868.5 MHz	8595188152396	RFSTI-11B / 120 V	120 V AC	868.5 MHz	8595188147071	RFSOU-1	2x 1,5 V AAA
868.5 MHz	8595188152419	RFSTI-11B / 24 V	12 - 24 V AC/DC				
				868.5 MHz	8595188150286	RFSD-100	4x 1,5 V AA
868.5 MHz	8595188131759	RFTI-10B	CR 2477	868.5 MHz	8595188159630	RFSD-101	4x 1,5 V AA
	8595188110075	TC-0		868.5 MHz	8595188150279	RFWD-100	2x 1,5 V AA
	8595188110617	TC-3					
	8595188110082	TC-6		868.5 MHz	8595188150293	RFMD-100	CR 2032
	8595188110099	TC-12					
				868.5 MHz	8595188134576	RFTC-150/G	2x 1,5 V AAA
	8595188140591	TZ-0					
	8595188110600	TZ-3		868.5 MHz	8595188134323	RFSA-166M / 230 V	110 - 230 V AC
	8595188110594	TZ-6					
	8595188110587	TZ-12		868.5 MHz	8595188149150	RFSTI-111B / 230V	230 V
				868.5 MHz	8595188134095	RFSTI-111B / 120V	120 V
868.5 MHz	8595188142861	RFTC-10/G	2x 1,5 V AAA				
				868.5 MHz	8595188149341	RFSAI-161B / 230V	230 V
868.5 MHz	8595188148641	RFTC-50/G	2x 1,5 V AAA	868.5 MHz	8595188134040	RFSAI-161B / 120 V	120 V
868.5 MHz	8595188145138	RFATV-1	2x 1,5 V AAA	868.5 MHz	8595188174572	RFCPR-31/G	110 - 230 V AC
	8595188166010	TELVA 230V, NC	+ adapter VA80	868.5 MHz	8595188174589	RFGCR-31/W	110 - 230 V AC
	8595188166027	TELVA /230V, NO	+ adapter VA80	868.5 MHz	8595188174596	RFGCR-31/B	110 - 230 V AC
	8595188166034	TELVA 24V, NC	+ adapter VA80	868.5 MHz	8595188174602	RFGCH-31/W	110 - 230 V AC
	8595188166041	TELVA 24V, NO	+ adapter VA80	868.5 MHz	8595188174619	RFGCH-31/B	110 - 230 V AC
868.5 MHz	8595188139274	RFIM-20B	CR 2477	868.5 MHz	8595188145039	RFAF/USB	
868.5 MHz	8595188137188	RFIM-40B	2x CR 2032				
					8595188161862	AN-I	
868.5 MHz	8595188142847	RFSG-1M	110 - 230 V AC		8595188190121	AN-E	

Russia

Ukraine

Poland

Baltic

Czech Republic
(Headquarters)

Germany

Hungary

Spain

Slovakia

Vietnam

Bulgaria

UAE

Saudi Arabia