# RFSAI-161B

**EN Automatic light control**

**RS Prekidačka jedinica sa ulazom za postojeći prekidač**

iNELS RF Control

02-217/2016 Rev.0

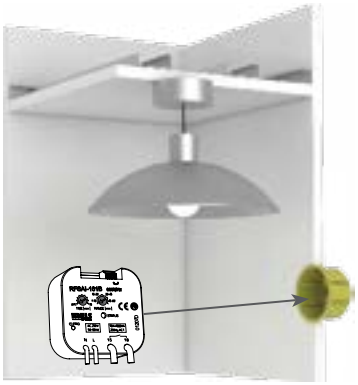
## Characteristics / Karakeristike

- Switch component with one output channel which is used in combination with detectors for automatic lighting control.
- 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.
- For components it is possible to set the repeater function via the RFAF/USB service 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 bidirectional protocol iNELS RF Control² (RFIO²).

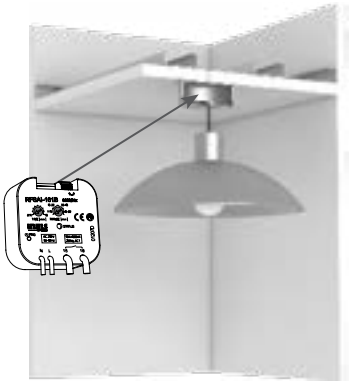
- Prekidačka jedinica sa jednim izalznim kanalom se koristi u kombinaciji sa detektorima za automatsko upravljanje osvetljenjem.
- Svaki RFSAI-161B može biti programiran sa 1x RFMD-100, 1x RFWD-100 i 1x bežičnim kontrolerom (RFWB-40/G ili RF KEY)..
- Terminali na jedinici nude vam mogućnost za povezivanje detektora žice ili postojećeg tastera u instalaciji.
- Omogućava povezivanje prekidačkog opterećenja do 1x 12 A (3000 VA).
- Taster za programiranje na jedinici se takođe koristi za ručnu kontrolu izlaza.
- Za elemente označene kao iNELS RF Control² (RFIO²) moguće je podesiti funkciju repetitora putem RFAF/USB servisnog uređaja.
- Domet do 160 m (na otvorenom), ako je signal slab između kontrolera i jedinice, koristiti ponavljač signala RFRP-20 ili komponentu protokola RFIO2 koja podržava ovaj sistem.
- Frekvencija komunikacije sa dvosmernim protokolom RFIO² (iNELS RF Control²).

## Assembly / Montaža

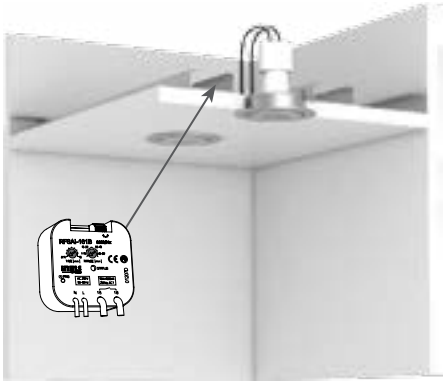
mounting in an installation box (even under the existing button/switch) / instalacija u instalacioni okvir (čak i pod postojećim dugmetom/prekidačem)



mounting into the light cover / montaža unutar svetlosnog poklopca

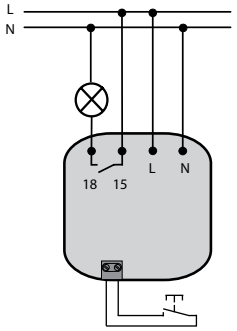


ceiling mounted / plafonska montaža

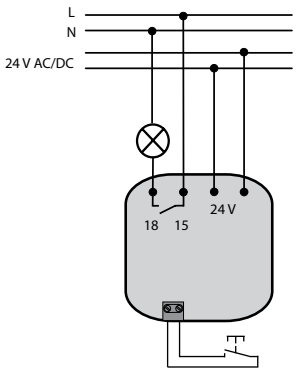


## Connection / Konekcija

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

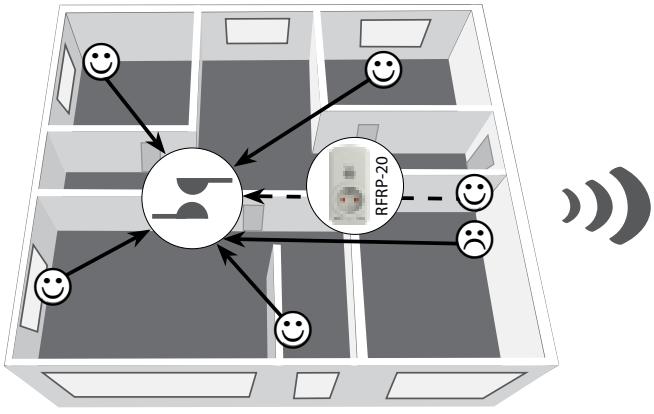


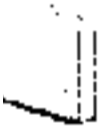

RFSAI-161B/24V




## Radio frequency signal penetration through various construction materials /

## Prenos radio frekvencijskih signala preko različitih građevinskih materijala

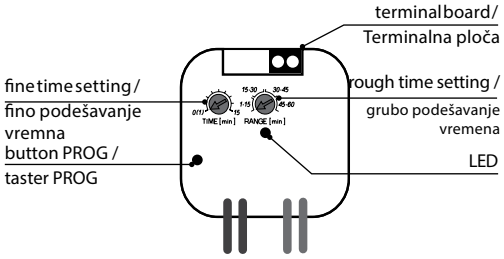



| | | | | |
|---|---|---|---|---|
|  |  |  |  |  |
| 60 - 90 % | 80 - 95 % | 20 - 60 % | 0 - 10 % | 80- 90 % |
| brickwalls | wooden structures with plaster boards | reinforced concrete | metalpartitions | commonglass |
| zid od cigle | drvena konstuk-cija sa gipsanim pločama | armirani beton | metalne pregrade | staklo |

For more information, see "Installation manual iNELS RF Control":
http://www.elkoep.com/catalogs-and-brochures

Za više informacija, pogledati „Instalaciono uputstvo iNELS RF kontrole":
https://www.elkoep.rs/preuzimanja

## Indication, manual control / Indikacije, ručna kontrola

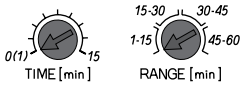



- Terminal board - connection for external switch.
- LED STATUS - indication of the device status - relay switching, RF communication.
- Manual control is performed by pressing the PROG button for less than 1s.
- Programming is performed by pressing the PROG button for more than 1s.

In programming and erasing mode, each time the controller button is pressed or the battery is inserted into the detector, the LED on the RFSAI-161B device lights up for a long time to indicate the command is received.

- Terminalna ploča - priključak za spoljni prekidač.
- LED STATUS - indikacije statusa na uređaju - prekidači relej, RF komunikacija.
- Ručna kontrola se uključuje pritiskom na taster PROG < 1s.
- Programirana kontrola se uključuje pritiskom na taster PROG > 1s.

U režimu programianja i brisanja, svaki put kada se pritisne dugme na kontroleru, LED na elementu dugo svetli i to označava da je komanda primljena.




- TIME - fine time setting
  - setting the time within the selected gross time interval
- RANGE - rough time setting
  - set the desired time interval for lighting.

- TIME - fino podešavanje vremena
  - podešavanje vremena unutar izabranog bruto vremenskog intervala
- RANGE - podešavanje vremena
  - podesite željeni vremenski interval za osvetljenje.

## Functions and programming / Funkcije i programiranje

### Description of function / Opis funkcije

Output relay can be closed:

- For set time
  - opening or closing the door
  - pressing the PRG button on RFSAI-161B

  Relay closing is not blocked by the previous press of the MASTER-OFF button. If the relay is closed in this way, the PIR detector and external input are disabled.
- Permanently
  - if the RFMD-100 PIR detector detects movement
  - closing the external input

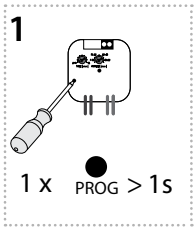
  Relay closing is blocked by previous pressing of MASTER-OFF button. To unlock, press buttons 1, 2 or 3 on the assigned remote control.

- Izlazni relej se može zatvoriti:
- Za određeno vreme
  - otvaranje ili zatvaranje vrat
  - pritiskom na taster PRG na RFSAI-161B

  Zatvaranje releja nije blokirano prethodnim pritiskom na taster MASTER-OFF. Ako je relej zatvoren na ovaj način, PIR detektor i spoljni ulaz su onemogućeni.
- Trajno
  - ako RFMD-100 PIR detektor detektuje kretanje
  - zatvaranje spoljnog ulaza

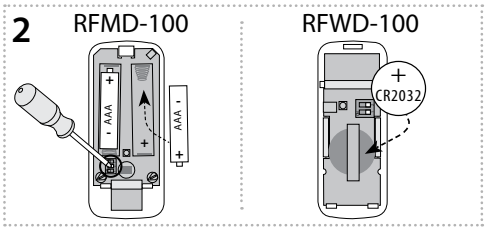
  Zatvaranje releja blokira se prethodnim pritiskom na MASTER-OFF dugme. Da biste otključali, pritisnite tastere 1, 2 ili 3 na dodeljenom daljinskom upravljaču.

### Programming detector / Programiranje detektora



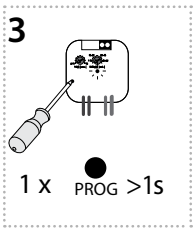

Press of programming button on receiver RFSAI-161B for 1 second will activate receiver RFSAI-161B into programming mode. LED is flashing in 1s interval.

Pritiskom na taster za programiranje na prijemniku RFSAI-161B u trajanju od 1 sekunde aktiviraće prijemnik RFSAI-161B u režim programiranja. LED treperi u intervalu od 1s.




RFMD-100: set DIP2 to OFF.
Insert the battery into the detector (see detector manual). This will store the detector in the RFSAI-161B memory.

RFMD-100: podesite DIP2 na OFF. Postavite bateriju u detektor (pogledajte priručnik za detektor). Ovo će detektor sačuvati u RFSAI-161B memoriju.

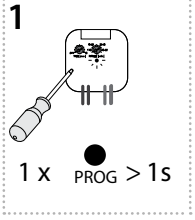



Press of programming button on receiver RFSAI-161B shorter then 1 second will finish programming mode, LED switches off.

Pritiskom na taster za programiranje na prijemniku RFSAI-161B kraće od 1 sekunde, završiće se režim programiranja, LED se isključuje.

**Programming RFWB-40/G or RF KEY drivers / Programiranje RFWB-40/G ili RF KEY drajvera**

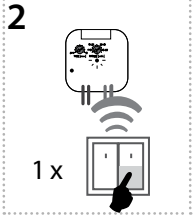
1




Press of programming button on receiver RFSAI-161B for 1 second will activate receiver RFSAI-161B into programming mode. LED is flashing in 1s interval.

Pritiskom na taster za programiranje na prijemniku RFSAI-161B u trajanju od 1 sekunde aktiviraće prijemnik RFSAI-161B u režim programiranja. LED treperi u intervalu od 1s.

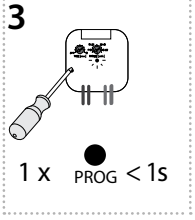
2




Press the MASTER-OFF button at position 4 on the controller.

Pritisnite taster MASTER-OFF u položaju 4 na kontroleru.

3

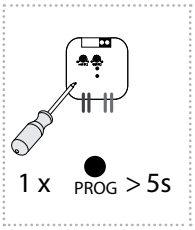



Press of programming button on receiver RFSAI-161B shorter then 1 second will finish programming mode, the LED goes out.

Pritiskom na taster za programiranje na prijemniku RFSAI-161B kraće od 1 sekunde, završiće se režim programiranja, LED se isključuje.

## Delete actuator / Brisanje elemenata

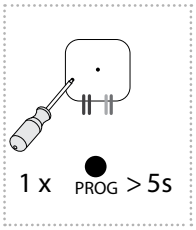
**Deleting one detector from the memory / Brisanje jednog položaja na kontroleru**




Pull the battery out of the detector. By pressing the programming button on the actuator for 5 seconds, deletion of one detector activates. The LED flashes in an interval of 1s.
Inserting the battery into the detector will send a signal to erase the device memory.
The LED goes out and the actuator returns to operating mode.

Izvadite bateriju iz detektora. Pritiskom na taster za programiranje na aktuatoru tokom 5 sekundi, aktivira se brisanje jednog detektora. LED trepće u intervalu od 1s. Postavljanjem baterije u detektor poslaće se signal za brisanje memorije uređaja. LED se gasi, a pogon se vraća u režim rada.

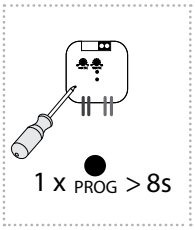
**Deleting one position of the transmitter / Brisanje jedne pozicije na transmiteru**




By pressing the programming button on the actuator for 5 seconds, deletion of one transmitter activates. LED flashs 4x in each 1s interval.
Pressing the required button on the transmitter deletes it from the actuator's memory.
To confirm deletion, the LED will confirm with a flash long and the component returns to the operating mode.

Pritiskom na taster za programiranje na aktuatoru u trajanju od 5 sekundi, aktivira se brisanje jednog predajnika. LED trepće 4 puta u svakom intervalu od 1s. Pritiskom na potrebni taster na predajniku briše se iz memorije aktuatora. Da bi potvrdio brisanje, LED će potvrditi blicem dugo i komponenta se vraća u režim rada.

**Deleting the entire memory / Brisanje cele memorije**




By pressing the programming button on the actuator for 8 seconds, deletion occurs of the actuator's entire memory. LED flashs 4x in each 1s interval.
The actuator goes into the programming mode, the LED flashes in 0.5s intervals (max. 4 min.). You can return to the operating mode by pressing the Prog button for less than 1s.

Pritiskom na taster za programiranje na aktuatoru u trajanju od 8 sekundi dolazi do brisanja celokupne memorije aktuatora. LED trepće 4 puta u svakom intervalu od 1s. Pogon prelazi u režim programiranja, LED trepće u intervalima od 0,5 s (maks. 4 min.). Možete se vratiti u režim rada pritiskom na taster PROG manje od 1s.

# RFSAI-161B

**EN Automatic light control**

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iNELS RF Control

02-217/2016 Rev.0

## Technical parameters / Tehnički parametri

| | | | | |
|---|---|---|---|---|
| Supply voltage: | Napon napajanja: | 230 V AC / 50-60 Hz | 120 V AC / 60 Hz | 12-24 V DC / AC 50-60 Hz |
| Apparent power: | Prividna snaga: | 9 VA | 9 VA | - |
| Dissipated power: | Maksimalna potrošnja: | 0.7 W | | |
| Supply voltage tolerance: | Tolerancija napajanja: | +10 %; -15 % | | |
| Output | Izlaz | | | |
| Number of contacts: | Broj kontakata: | 1x switching / prelaz ($AgSnO_2$) | | |
| Rated current: | Nominalna struja: | 12 A / AC1 | | |
| Switching power: | Prekidačka snaga: | 3000 VA / AC1, 288 W / DC | | |
| Peak current: | Maksimalna snaga: | 30 A, max. 4 s at /na 10% | | |
| Switching voltage: | Prekidački napon: | 250 V AC1 / 24 V DC | | |
| Min. switching power DC: | Min. preklopna snaga | 100 mA / 10 V | | |
| Insulation voltage between relay outputs and internal circuits: | Napon izolacije između relejnih izlaza i integrisanih kola: | basic Insulation (Cat. III surges by EN 60664-1) / osnovna izolacija (III kategorija prenapona prema EN 60664-1) | | |
| Isolates. voltage open relay contact: | Izolacija kontakta za napon otvorenog releja: | 1 kV | | |
| Mechanical service life: | Mehanički radni vek: | $3x10^7$ | | |
| Electrical service life (AC1): | Električni radni vek (AC1): | $5x10^4$ | | |
| Indication of relay switch: | Indikacija relejnog prekidača: | red / crvena LED | | |
| Controlling | Kontorla | | | |
| RF command from the detector: | Frekvencija: | 866 MHz, 868 MHz, 916 MHz | | |
| Manual control: | Ručna kontrola: | button / taster PROG (ON/OFF) | | |
| External button: | Spoljni taster: | cable lenght / dužina kabla maks. 12 m * | | |
| Range in open space: | Domet: | up to / do 160 m | | |
| Other data | Osatli podaci | | | |
| Open contact voltage external switch: | Spoljni prekidač napona otvorenog kontakta: | 3 V | | |
| Resistor for the management of external switch: | Odpor na vedení pro externí spínač: | <1 kΩ | | |
| Resist. of connection for open contact: | Otpor za upravljanje spoljnim prekidačem: | >10 kΩ | | |
| Galvanic isolation of input: | Galvanska izolacija ulaza: | no / ne | | |
| Operating temperature: | Radna temperatura: | -15 ... + 50 °C | | |
| Storage temperature: | Temperatura skladištenja: | -30 ... + 70 °C | | |
| Working position: | Pozicija rada: | any / bilo gde | | |
| Mounting: | Montaža: | free at lead-in wires / labav na dovodnim žicama | | |
| Protection: | Stepen zaštite: | IP30 | | |
| Overvoltage category: | Kategorija prenapona: | III. | | |
| Contamination degree: | Stepen zagađenja: | 2 | | |
| Terminals: | Terminali: | 0.5 - 1 $mm^2$ | | |
| Terminals (CY wire, Cross-section): | Terminali (CY žice, poprečni presek): | 2x 0.75, 2x 2.5 $mm^2$ | | |
| Terminal length: | Dužina terminala: | 90 mm | | |
| Dimensions: | Dimenzije: | 49 x 49 x 21 mm | | |
| Weight: | Težina: | 50 g | | |

* Control button input is at the supply voltage potential.

Attention:
When you instal iNELS RF Control system, you have to keep minimal distance 1 cm between each units.
Between the individual commands must be an interval of at least 1s.

* Ulaz kontrolnog tastera je na potencijalu mrežnog napona.

Upozorenje:
Kada instalirate iNELS RF Control sistem, mora se poštovati minimalno rastojanje od 1cm između pojedinih elemenata.
Između pojedinačnih komandi potrebno je da prođe interval od 1s.

## Warning

Instruction manual is designated for mounting and also for user of the device. It is always a part of its packing. Installation and connection can be carried out only by a person with adequate professional qualification upon understanding this instruction manual and functions of the device, and while observing all valid regulations. Trouble-free function of the device also depends on transportation, storing and handling. In case you notice any sign of damage, deformation, malfunction or missing part, do not install this device and return it to its seller. It is necessary to treat this product and its parts as electronic waste after its lifetime is terminated. Before starting installation, make sure that all wires, connected parts or terminals are de-energized. While mounting and servicing observe safety regulations, norms, directives and professional, and export regulations for working with electrical devices. Do not touch parts of the device that are energized – life threat. Due to transmissivity of RF signal, observe correct location of RF components in a building where the installation is taking place. RF Control is designated only for mounting in interiors. Devices are not designated for installation into exteriors and humid spaces. The must not be installed into metal switchboards and into plastic switchboards with metal door – transmissivity of RF signal is then impossible. RF Control is not recommended for pulleys etc. – radiofrequency signal can be shielded by an obstruction, interfered, battery of can get flat etc. and thus disable remote control.

## Upozorenje

Uputstva za upotrebu su namenjena za ugradnju kao i za korisnike proizvoda. Uputstva se uvek dobijaju uz proizvod. Instalaciju i povezivanje smeju da obavljaju samo kvalifikovane osobe, u skladu sa svim važećim propisima, koja je detaljno upoznata sa ovim uputstvom i funkcijama komponenti. Funkcija elemenata takođe zavisi od prethodnog načina transporta, skladištenja i rukovanja. Ako u bilo kom slučaju primetite nekakve znakove oštećenja, deformacije, kvara ili ako neki deo nedostaje, nemojte ugrađivati uređaj, prijavite to prodavcu. Nakon što kopmonenti istekle životni vek, potrebno je tretirati je kao elektronski otpad. Pre započinjanja instalacije potrebno je prvo se uveriti da su žice, povezani delovi ili terminali bez napona. Tokom instalacije i održavanja moraju se poštovati sigurnosni propisi, standardi, direktive i profesionalne odredbe za rad sa električnom opremom. Ne dodirujte elemente pod naponom golim rukama, zbog mogućnosti stujnog udara i rizika od smrti. Zbog propustljivosti RF signala, obratiti pažnju na pravilno postavljanje RF elemenata u zgradi-gde će se izvoditi ugradnja. RF kontrola je namenjena samo za unutrašnju ugradnju. Elementi nisu namenjeni za spoljašnju ugradnju kao i za ugradnju u vlažne prostorije, ne smeju se ugraditi u metalne ormane kao ni u plastične ormane sa metalnim vratima iz razloga što će to sprečiti prenos radio frekvencijskog signala. RF konrola se ne prepuručuje za kontrolu uređaja koji pružaju životne funkcije kao i za kontrolu opasne opreme kao što su pumpe, električni grejači bez termostata, liftova, dizalica itd. iz razloga što prenos radio frekvencije može biti preklopnjen, ometen, baterija predajnika se može isprazniti i na taj način daljinski upravljač može biti onemogućen.