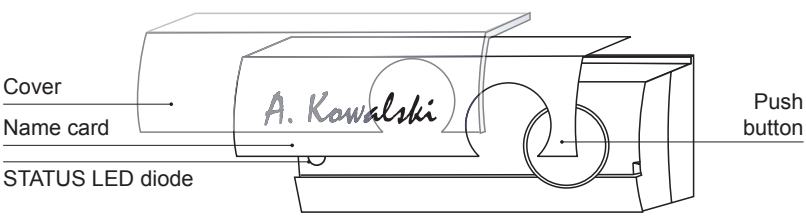
RADIO DOORBELL TRANSMITTER

RND-01

TECHNICAL DATA

Nominal supply voltage:	3 V DC
Battery type:	1 x CR1632
Transmission:	
Transmission method:	unidirectional
Operation range:	up 200 m in the open area
Cooperation with EXTA FREE system elements:	yes
Functionality:	see RND functionality
Temperature measuring range:	-20 do +50 °C
Temperature measuring resolution:	0,1 °C
Temperature measuring accuracy:	±0,5 or ±1 °C depending on the range
Casing protection degree:	IP20 (PN-EN 60529)
Protection class:	III
Dimensions:	80 x 21 x 33 mm
Weight:	0,03 kg
Reference standard:	PN-ETSI EN 300 220-1, PN-ETSI EN 300 220-2

APPEARANCE



FUNCTIONALITY RND-01

❶ **With EFC-01 controller**
- doorbell in a mobile device
- sending temperature values to a mobile device + its application in logic functions (control processes)
- typical exta free system transmitter

❷ **With EFC-02 controller**
- doorbell in a mobile device
- sending temperature values to a mobile device (only value review)
- typical exta free system transmitter

❸ **With exta free system receivers**
- operation modes: monostable, bistable, time

For time mode, time adjusted in a receiver is included in the range of 1 sec.÷ 18 h.

DESCRIPTION

RND-01 is a one push button wireless transmitter operating in exta free (f = 868 MHz) standard. It is designed to operate with EFC-01 / EFC-02 controllers and system receivers. Due to the increased casing protection degree (IP44) it can be mounted outdoor in areas not exposed to direct water. In cooperation with controllers the RND-01 transmitter is used mainly as a doorbell push button. Additionally, by means of an application and after adding a transmitter to a controller, it is possible to receive a specified sound in a mobile device after pressing the RND-01 push button. In this way a „mobile" doorbell is realized. RND-01 transmitter is also equipped with a built-in temperature sensor and can be used to measure temperature values in the mounting area. The transmitter is battery powered (1 x CR1632).

FEATURES

- cooperation with exta free system elements (EFC-01 / EFC-02 controllers, system receivers)
- wide range of functionalities
- built-in temperature sensor
- designed to be mounted outdoor
- battery powered
- implemented solutions of prolonging battery life
- wide operating range (up to 200 m in the open area)
- possible simultaneous cooperation with few receivers
- reliable operation

MOUNTING

❶ By means of a screwdriver (slightly bending) remove a transparent cover with a name card from the front part.

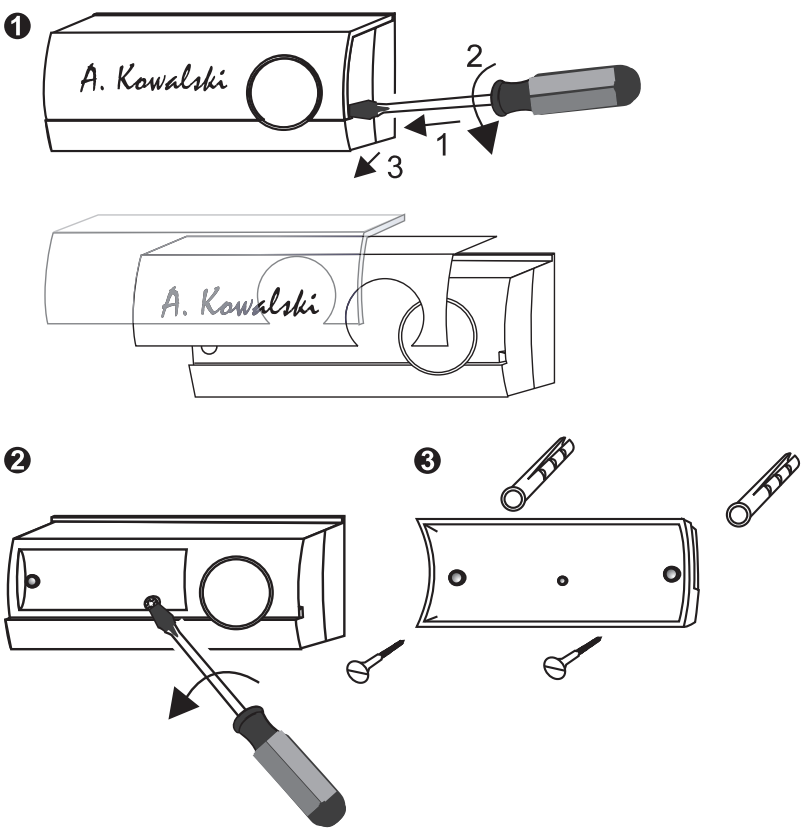
❷ Unscrew the centre of the casing and remove its upper part.

❸ Gently remove the control panel board and screw the lower part of the casing to the base in a chosen place.

❹ Mount the control panel board and check the operation of the transmitter (switching on of the LED STATUS when pressing the push button).

❺ Mount the upper part of the casing, tighten the screw, insert the name card and the transparent cover

CAUTION: The operation range of a transmitter can be drastically decreased if it is mounted on a metal base.
The transmitter can also be mounted by means of a thick double-sided tape (minimum 1,5 mm) or mounting adhesives.



BATTERY EXCHANGE

Proceed in the same way as the transmitter is mounted. Required battery 1 x CR1632.

ADDING A TRANSMITTER TO A CONTROLLER

Adding as a typical transmitter of exta free system:

The functionality of a physical transmitter RND-01 due to cooperation with system receivers can be copied into a mobile device by means of „push button cloning" function. This function is available for push buttons placed in TRANSMITTERS, HOME, SCENE, TIME FUNCTIONS TABS. Push button cloning is precisely described in the controller's manual instruction.

Adding as a temperature sensor:

1. Enter SENSORS tab in the application
2. Add new „Temperature sensor" (push button „+")
3. If the controller is in the waiting mode for a controller, press the transmitter's push button for 5 seconds until STATU LED blinks.
4. Next release the push button and wait until the transmitter sends appropriate programming data to the controller.
5. If data were sent properly, the transmitter is added to a controller as RCL-01. After confirmation the transmitter is seen in the system as a temperature sensor and will show current temperature value.
6. If the displayed temperature value is 0.0 °C, the frame with temperature value shall be sent again) press the transmitter's push button for about 5 seconds until STATUS LED blinks, next release the push button and wait for data transmission on temperature value to a controller).

Adding as a doorbell push button:

1. Enter SENSORS tab in the application
2. Add new „Doorbell push button" (push button „+")
3. If the controller is in the waiting mode for a controller, press the transmitter's push button for 5 seconds until STATU LED blinks.
4. Next release the push button and wait until the transmitter sends appropriate programming data to the controller.
5. If the data were sent properly, the transmitter is added to a controller as RND-01. After confirmation the transmitter is seen in the system as a doorbell push button.

Programming the RND-01 transmitter to the system's receivers. The programming is carried out in the same way as other system transmitters. Programming is precisely described in the manual instruction of a particular receiver.

Available modes: monostable, bistable, time.

DELETING A TRANSMITTER FROM A CONTROLLER

By means of application - editing option „Delete”

DELETING A TRANSMITTER FROM EXTA FREE RECEIVERS

Precisely described in the manual instruction of a particular EXTA FREE system receivers.

CONFIGURATION PARAMETERS - DEFAULT VALUES

Configuration parameters are firmly fixed by the manufacturer to ensure optimal battery life. They were chosen with reference to the sensor’s dynamic, its application and mounting. The parameters are not reprogrammed by EFC-01 / 02 controllers.

Time interval between subsequent temperature measurements:
900 sec. (15 minutes)

Hysteresis: ±0,3 °C

SENDING TEMPERATURE VALUES TO A CONTROLLER

If the currently measured temperature value is different from the previously measured by the hysteresis value, it means the condition is fulfilled:

$$Ta \geq Tpop + 0{,}3\ °C$$
$$Ta \leq Tpop - 0{,}3\ °C$$

Where:
Ta – currently measured temperature value
Tpop – temperature value from the previous measurement

Optional sending of the temperature value to a controller:
After 20 measurements if the temperature in the subsequent measurements did not differ more then by the hysteresis value (±0,3 °C).

Updating temperature value in the mobile application:

❶ After sending temperature value by the temperature sensor from RND-01 transmitter (if the currently measured temperature differs from the previous one by the hysteresis value or alternatively after 20 subsequent measurements, if the temperature does not differ more than by the hysteresis value).

❷ After „manual” activation to send the temperature value data: press the transmitter’s push button for about 5 seconds and wait till the data are sent.

COOPERATION AND OPERATION RANGE

Due to cooperation with EFC-01 / 02 controllers, the operation range in the open area is up to 200 m.

CAUTION! The range specified applies to device operation in the open area, it means an ideal condition. In case there are any obstacles between the range of a transmitter and a receiver, the following approximate range loss may occur: brick: 10 ÷ 40%, wood, gypsum: 5 ÷ 20%, concrete: 40 ÷ 80%, metal: 90 ÷ 100%, glass: 10 ÷ 20%. Overhead and underground power lines and GSM transmitters placed in a close distance from the devices have also a negative influence on the operating range.

	ROP-01	ROP-02	ROB-01	SRP-02	SRP-03	RWG-01	RWL-01	ROM-01	ROM-10
RNK-02	180 m	200 m	200 m	200 m	200 m	250 m	180 m	250 m	250 m
RNK-04	180 m	200 m	200 m	200 m	200 m	250 m	180 m	250 m	250 m
P-256/8	230 m	250 m	250 m	250 m	250 m	300 m	200 m	300 m	300 m
P-257/2	180 m	200 m	200 m	200 m	200 m	250 m	180 m	250 m	250 m
P-257/4	180 m	200 m	200 m	200 m	200 m	250 m	180 m	250 m	250 m
RNM-10	230 m	250 m	250 m	250 m	250 m	300 m	200 m	300 m	300 m
RNP-01	160 m	180 m	180 m	180 m	180 m	200 m	160 m	200 m	200 m
RNP-02	160 m	180 m	180 m	180 m	180 m	200 m	160 m	200 m	200 m
RNL-01	160 m	180 m	180 m	brak*	brak*	200 m	160 m	200 m	200 m
RTN-01	200 m	200 m	200 m	200 m	200 m	250 m	200 m	250 m	250 m
RCR-01	160 m	180 m	180 m	brak*	brak*	200 m	160 m	200 m	200 m
RTI-01	160 m	180 m	180 m	180 m	180 m	200 m	160 m	200 m	200 m
RXM-01	230 m	250 m	250 m	250 m	250 m	300 m	200 m	300 m	300 m
RND-01	160 m	180 m	180 m	180 m	180 m	200 m	160 m	200 m	200 m
RCL-01	-	-	-	-	-	-	-	-	-
RCL-02	160 m	180 m	180 m	180 m	180 m	200 m	160 m	200 m	200 m
RCT-01	-	-	-	-	-	-	-	-	-
RCK-01	160 m	180 m	180 m	180 m	180 m	200 m	160 m	200 m	200 m
RCZ-01	160 m	180 m	180 m	180 m	180 m	200 m	160 m	200 m	200 m
EFC-01	230 m	250 m	250 m	250 m	250 m	300 m	200 m	300 m	300 m
EFC-02	230 m	250 m	250 m	250 m	250 m	300 m	200 m	300 m	300 m

* 1-channel transmitters RNL-01 and RCR-01 do not cooperate with roller blind controllers SRP-02, SRP-03.

RDP-01	RTN-01	RDP-02	RDP-11	ROP-05	ROP-06	RWS-211J/E RWS-211D/E RWS-211C/E	EFC-01	EFC-02
180 m	250 m	180 m	180 m	200 m	200 m	300 m	250 m	250 m
180 m	250 m	180 m	180 m	200 m	200 m	300 m	250 m	250 m
230 m	300 m	230 m	230 m	250 m	250 m	350 m	300 m	300 m
180 m	250 m	180 m	180 m	200 m	200 m	300 m	250 m	250 m
180 m	250 m	180 m	180 m	200 m	200 m	300 m	250 m	250 m
230 m	300 m	230 m	230 m	250 m	250 m	350 m	300 m	300 m
160 m	200 m	160 m	160 m	180 m	180 m	250 m	200 m	200 m
160 m	200 m	160 m	160 m	180 m	180 m	250 m	200 m	200 m
160 m	200 m	160 m	-	180 m	180 m	300 m	200 m	200 m
200 m	250 m	200 m	200 m	200 m	200 m	200 m	250 m	250 m
160 m	200 m	160 m	-	180 m	180 m	-	200 m	200 m
160 m	200 m	160 m	160 m	180 m	180 m	250 m	200 m	200 m
230 m	300 m	230 m	230 m	250 m	250 m	300 m	300 m	300 m
160 m	200 m	160 m	-	180 m	180 m	250 m	200 m	200 m
-	-	-	-	-	-	-	200 m	200 m
160 m	200 m	160 m	-	180 m	180 m	-	-	-
-	-	-	-	-	-	-	200 m	200 m
160 m	200 m	160 m	-	180 m	180 m	-	200 m	200 m
160 m	200 m	160 m	-	180 m	180 m	-	200 m	200 m
230 m	300 m	230 m	230 m	250 m	250 m	300 m	-	-
230 m	300 m	230 m	230 m	250 m	250 m	300 m	-	-

SIGNALLING OF BATTERY DISCHARGE

Battery replacement is relatively earlier signalled by means of both LED diode STATUS in a sensor and in the mobile application.

- In case of STATUS LED diode battery discharge is signalled by a several, quick switching on of the LED diode in the operation time.
- In case of a mobile application battery status is signalled by two icons:

Battery charged

Battery discharged (replacement necessary)

Typical battery life is assessed for 5 - 7 years.

Not properly operating battery can cause problems in data transmission between a transmitter and other exta free system transmitter and it can influence the operation range decrease.