

INSTALLER'S MANUAL

type of the device: a radio multi-channel controller; type: RSW-164

Software version: 3.13
Documentation version: 1.2

Description of the signs:



Important! Pay a special attention to this information



Additional information



Function in the description and its manufacturing setting

1. The controller's characteristics.

The RDW-164 controller is a device designed to use in alarm systems:

- it allows for extending the wire alarm system to additional functions connected with using wireless devices
- it works as an independent device controlling the work of wireless devices and fulfilling the functions of a control panel

The wide range of configuration possibilities connected with a large number of outputs allows for adjusting the device's function to even very extended applications.

The basic functions and solutions:

- KeeLoq hopping code by Microchip Technology which guarantees a high level of safety
- high-sensitivity radio receiver (superheterodyne)
- controlling the periodical test signals from sensors and NRP
- measuring the power of the radio signal
- up to 64 devices can be programmed
- 16 OC outputs
- 4 relay outputs
- 1 input to cooperate with a control panel or an encryptor
- 4 buttons for user's use + 3 internal buttons for configuration and special functions
- 4-position LED display + 5 LED diodes
- built-in acoustic signalling device
- real time clock (without internal maintenance)
- events buffer (non-transitory)
- RS 232 (5V) port to configure and read the events buffer
- port of extensions modules
- sensor of case sabotage

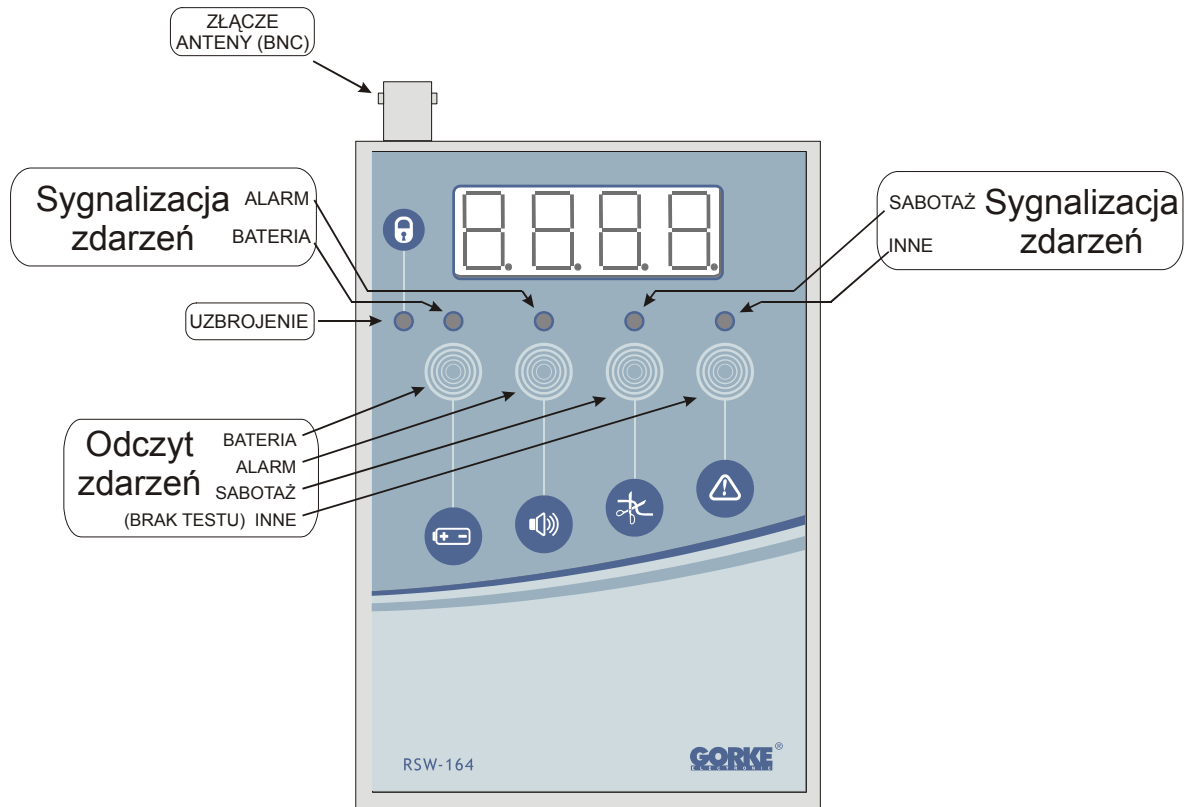
Devices which cooperate with RSW:

- RSW-164MR – an extension module – another 16 OC outputs
- CRB-758 wireless motion detector PIR
- CRB-759 wireless motion detector PIR PET
- NRP-102W radio reporting sender with 2 inputs
- PUK-101,102,104,112-1,112-2,182,184,188,303 – one- and multi-button remote controls
- PNH-101 button hermetic sender
- RNB-101,101S manual battery sender

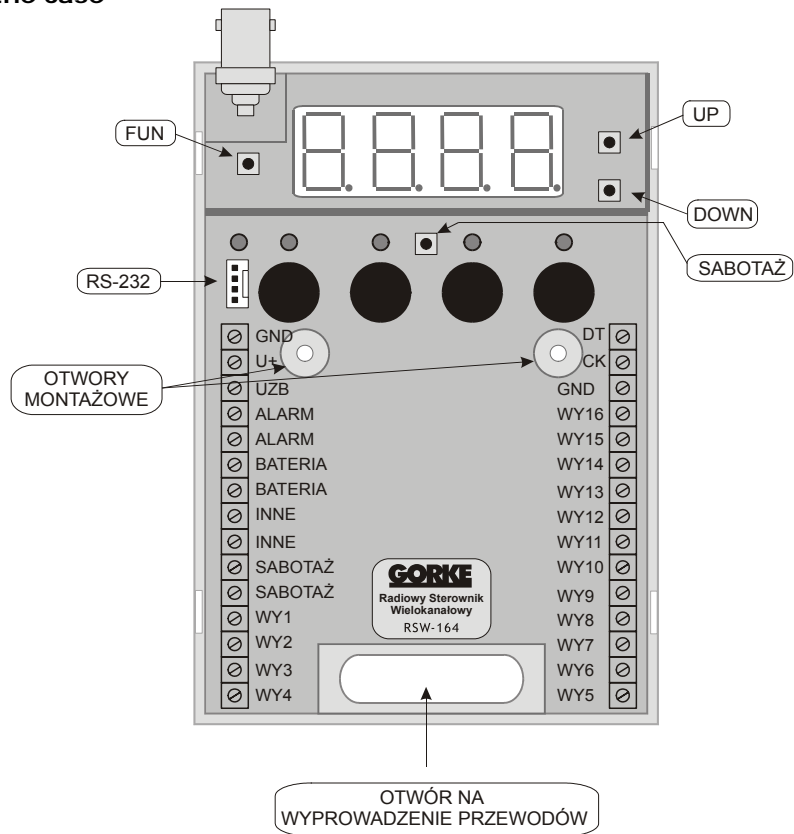
2. TECHNICAL PARAMETERS

- frequency: 433,92 MHz
- nominal supply voltage: 12 V DC
- maximal supply voltage: 10-15V DC
- number of channels: 1 (4 relays for alarm functions); 16 of the OC type
- sensitivity: -115 dBm
- antenna socket: BNC 50 Ohm
- power consumption:
 - static: 50 mA (the display is off and only the SAB relay is open)
 - maximal: 200 mA (the display is on and all the relays are open, the OC outputs without capacity)
- relay outputs: 1A/30VDC or 1A/120V AC
- transistor outputs: 100mA/12V DC
- time scope for the mono mode: ~5s
- operating temperature range: 0 to +40 °C
- dimensions (mm): 137*93*25

3. Schemes

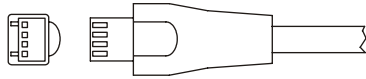


sch. 1. RSW in the case

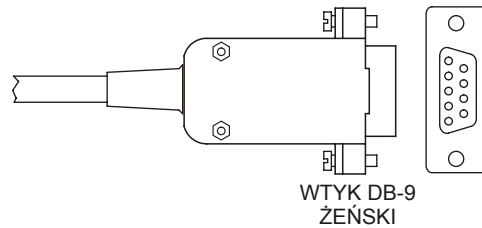


sch. 2 RSW without cover

DO PORTU RS-232
STEROWNIKA RSW-164



DO PORTU RS-232
KOMPUTERA



sch. 3 the RS-232 RSW-PC cable

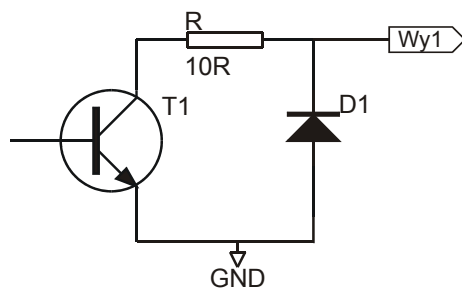
4. Inputs/outputs characteristics

Inputs/outputs table		Type of the output
WY1-WY15	Outputs of devices' alarms	OC,NO/NC
WY16	Outputs of devices' alarms or signalling the arm/disarm state	OC,NO/NC
ALARM	Output of an outer signalling device	PK,NC
SABOTAGE	Output of the RSW SABOTAGE and devices	PK,NC
BATTERY	Output of the LOW BATTERY LEVEL signal	PK,NC
OTHER	Output of the NO TEST signals	PK,NC
UZB	Outer arming input	
DT, CK	Bus of communication with the RSW-164MR extension module	

PK – relay output, OC – transistor output, NO – normally open, NC – normally closed

4.1. OC transistor outputs - diagram of the OC output

Schemat wyjścia OC



The OC outputs have protection diodes – when connecting relays there is no need to use additional protection diode



OC outputs (1-16)

Operating modes: monostable (5s) or bistable

4.2. the NO/NC type

It is programmed with the /F26/ function

- NC – normally closed – shorting to ground (the transistor conducts)
- NO – normally open – high impedance (the transistor does not conduct)



- you can assign to the OC output one or several devices (even all of them)



- the output reacts on reception an alarm signal from senders assigned to it /F21/

- in the monostable mode the successive signals from the same or various senders assigned to this output, which are received in time period shorter than 5s prolong the duration time of the impulse on the output (5s from the last received signal)
- in the bistable mode the successive signals from the same or various senders assigned to this output change the output state on the other one
- after connecting the supply, all the OC outputs are in the normal state, in accordance with /F26/.
- if "sensor" senders are assigned to a given output, this output will change state only if RSW is in "armed" state. In the "disarmed" state the output will remain in the "normal" state, independently of the received signals.
- if other than "sensors" senders are assigned to a given output, the output's state will change independently of RSW being "armed" or "disarmed".



4.3. OC output (16) – additional function

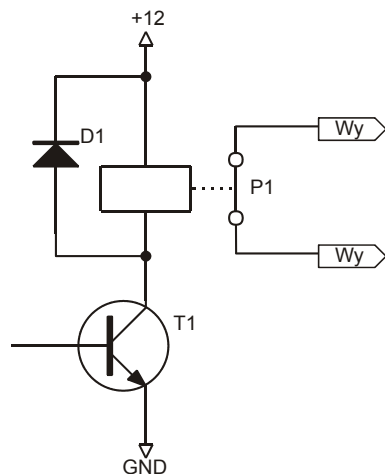
It can fulfil the same functions as the OC1-OC-15 outputs or signal the state of arm/disarm the RSW, dependently on the /F46/ function settings:



- arm – the output is shorted to ground
- disarm – the output is in the state of high impedance

4.4. relay outputs

Diagram of the relay output
Schemat wyjścia przekaźnikowego



All the relay outputs are NC type (normally closed) – the contacts of a not activated relay are shorted. Losing the supply will unshort the contacts.

When the outputs operate in the monostable mode – the time period of unshorting the contacts on the ALARM output is programmable; on the rest of the outputs – the contacts are unshorted for 5s.



4.5. the ALARM output

The operating mode - the monostable mode with the time programmed with the /F24/ function



Output's state:

- normal state – the contacts are shorted
- activation state – the contacts are unshorted

- if RSW is supposed to perform the role of an alarm control panel, the ALARM output will be designed to connect the outer signalling device
- depending on whether the arm and disarm state is to be signalled by the signalling device connected to this output, turn on or turn off the /F45/ function
- the ALARM output gets activated after receiving an alarm code from a PIR sensor, under the condition that RSW is in the arm state



- after receiving the signal from the sensor, the ALARM output is turned on for a period of time – its length depends on the setting: ALARM relay time /F24/. This parameter is set independently for each sensor and it should be programmed for all the sensors the same
- if you set the time on the 0 value, the ALARM relay which received the alarm signal from such a sensor will not be opened. Instead, it will be signalled by the ALARM diode and the appropriate OC output.
- if the relay is opened by the sensor whose time was set for example on 3 minutes, the signals from next sensors coming during this time will not prolong the time of relay staying open
- when the countdown finishes, the relay closes. Then, the first received signal will open the relay again for a period of time assigned to this sensor
- disarming RSW closes the relay and deletes the time counter

4.6. the SABOTAGE output

The operating mode: monostable; time: 5s

The output state:

- normal state – the contacts are shorted
- activation state – the contacts are unshorted

The output is controlled by the state of the sabotage switch which is installed inside RSW and by the sabotage signals coming from the following devices programmed in RSW:

- group one: PIR sensors
- group three: radio reporting senders (NRP-102/W6)
- the output will pass to the unshorted state for 5 seconds if in any of the devices the sabotage state occurs
- the output passes to the unshorted state for 5 seconds with each case sabotage of the RSW controller
- the sabotage's signal source is recognized on the basis of the display indications.

4.7. the BATTERY output

operating mode: monostable; 5s time

The output state:

- normal state – the contacts are shorted
- activation state – the contacts are unshorted

This output is controlled by the signal of a "low battery level" coming from the following devices programmed into RSW:

- group one: the PIR sensors
- group two: the remote controls
- group three: radio reporting senders (NRP-102/W6)
- group five: wireless reed relays
- group fifteen: the remote controls used to arm/disarm RSW

the output remains unshorted for 5 seconds after receiving each message about the low battery level

4.8. the OTHER output

This relay output is controlled by the "no test" signals received from the RSW processor on the basis of supervising the test signals coming from the following devices programmed into RSW:

- group one: the PIR sensors
- group three: radio reporting senders (NRP-102/W6)
- group four: radio reporting senders (NRP-102/W)
- group five: wireless reed relays
- you can set the time in which RSW should get a test signal from a given device with the "TEST period" function /F22/.

- if you set the time value on 0, the test signals of this device will not be supervised
- the input remains unshorted for 5s each time the RSW controller does not receive a test signal from devices in the specified time

Example: you use a PIR sensor in which the test period was set with the switch on 65 minutes. Set the time in RSW (using /F22/), for example on 130 minutes. The result is the following: if during 130 minutes no test signal is received from this sensor, the contact on the OTHER output will get unshorted and they will remain so until receiving the first test signal from this device.



4.9. the arm input

- it is activated with a proper setting of the /F44/ function
- the state of RSW is signalled by the "ARM" diode on the frontal plate of the device (lights – the state of arm/does not light – the state of disarm/pulses – time for quitting)
- the acoustic signalling (BUZZER) will work only if the function /F41/ is activated:
 - arm – one short signal
 - disarm – two short signals



Signalling through ALARM relay contacts (it will work if the /F45/ function is activated)

- arm – one short contacts shorting
- disarm – two short contacts shortings

- the arm input allows for connecting to RSW a signal which informs about the state of the alarm control panel (arm/disarm) and on the basis of this information it controls the work of the OC outputs (check the description – OC outputs) /it concerns all the OC outputs to which the "sensor" type of senders is assigned/

- depending on whether the alarm central in the arm state exposes the low state (L) of the high one (H), set the /F43/ function appropriately



You can connect to this output:

- control panel's OC output
- relay's contacts
- 0V-15V voltage

If the RSW was set to arming from the remote control, the "arming" input state will not be analysed and RSW will react only to the signals coming from the remote controls used to arming.

5. The RSW-164MR extension module bus

The DT and CK connectors are used to connect an additional extension module (RSW-164MR) which adds 16 additional OC outputs.

6. Description of the available functions of RSW-164

6.1. Using the menu

All the functions are available in the RSW-164 controller, in the DISARM state, after taking the cover off.



Taking the cover off will activate the SABOTAGE alarm and will unshort the contacts of the SABOTAGE relay.

- enter the menu – press the FUN button for about 2s.
- moving in the menu – the UP and DOWN buttons increase or decrease the function indicator in 1. If you keep them pressed – it will increase/decrease faster.
- to choose a function press the FUN button
- quit the menu - /F00/ function

6.2. Learning the devices /F01-F15/

Groups of the devices:

Group one – a wireless sensor

To the devices from the group one you can assign only one OC output which will be active only after receiving an alarm code. After receiving this event, the ALARM relay's contacts will get

unshorted (for the time period set with the /F24/ function). The RSW controller reacts to the alarm signal only when it is in the disarm state. All other events are signalled by unshorting the contacts of the appropriate relays (SABOTAGE, BATTERY, OTHER) for 5 seconds.

After you program the device's number, the default settings are assigned:

- output number: 64
- test period – 0
- delay – 0
- time of the alarm relay - 90

Group two: a 433 MHz remote control with a dynamic code (KeeLoq)

The devices of the group two can work as panic remote controls or be used to functions which are not connected with alarm systems, for example: turning the light on, opening the gate etc. The RSW controller reacts on the alarm signal independently of the arm/disarm state.

After you program the device's number, the default settings are assigned:

- OC output number: 1-15 (each output is assigned to successive button, for example: button one – OC1 output, button two – OC2 output etc.)
- test period – 0
- delay – 0
- time of the alarm relay - 0

Group three - ATV-HCS sender, KeeLoq sensor

In the group three, except the possibility of linking any of the OC outputs with an event code, another facilitation was introduced: linking some codes with relay outputs is permanent:

code 11 – sabotage signal
code 12 – quitting sabotage
code 14 – low battery level (accumulator)
code 15 – quit the low battery level
code 13 – test signal
codes 1-10 - alarm signals

The RSW controller reacts to the alarm signal only in the arm state.

After you program the device's number, the default settings are assigned:

- OC output number: 1-10 (each output is assigned to a successive event code, for example: code one – OC1 output, code two – OC2 output etc.)
- test period – 0
- delay – 0
- time of the alarm relay - 0

Group four – NRP-102 sender

This group consists only of the NRP-102 sender which send only 3 events codes:

o 1 – breaking entry 1
o 2 - breaking entry 2
o 3 – test

The RSW controller reacts to the alarm signal only in the arm state.

After you program the device's number, the default settings are assigned:

- event code one – OC1 output, event code two – OC2 output
- test period – 0
- delay – 0
- time of the alarm relay - 0

Group fifteen – arm and disarm remote controls

The devices of this group function as arm/disarm remote controls. Next pressing the button makes change: arming or disarming. First, set the arming from the control with the /F44/ function because on default the controller is armed with the UZB input. The state of RSW is signalled by the "ARMING" diode on the frontal plate of the device:

- lights – arm state
- does not light – disarm state
- pulses – time for quitting

The acoustic signalling is activated with the /F41/ function:

- arming – 1 short signal
- disarm – 2 short signals



Signalling by the ALARM relay's contacts (it will work if the /F48/ function is activated)

- arm – one short contacts shorting
- disarm – two short contacts shortings

Entering the devices

- the following functions are used to enter the serial numbers of devices to the memory
 - /F01/ - group one
 - /F02/ - group two
 - /F03/ - group three
 - /F04/ - group four
 - /F15/ - group fifteen
- after you choose the appropriate function, you will see on the display the number of the first free (not programmed) device (for example, "U 01"). In this state, RSW is waiting for transmission from the device.
- The procedure of entering device depend on the group:
 - remote control – press any button twice
 - sensor – press the SABOTAGE button
- the correct transmission and successful saving to the memory are signalised:
 - two short acoustic signals will be emitted
 - the display will blink twice
- after you enter the serial number of the device, you need to verify it:
 - remote control – press any button
 - sensor – press the SABOTAGE button
 - ATV-HCS – press the TEST button or the SABOTAGE button

After a successful verification, the "E 02" message will be displayed.

- You can quit the learning mode by pressing the FUN button
- during the learning procedure, you might see on the display the E 05 message which signals that you chose a wrong function for a given group of devices (for example, the "F01" function was chosen to learn the remote control).

6.3. Deleting a chosen device /F50/

The function enables deleting from the RSW controller's memory a device which was previously entered in.

- after you choose the function, you will see the "U101" message on the display
- using the UP and DOWN buttons select the number of device which is to be deleted
- press the FUN button for about 2 seconds – it will delete the device. It will be confirmed with two short acoustic signals and one blink of the display

you can quit the function by setting the "U00" device and pressing the FUN button



6.4. Deleting all devices /F60/

The function enables deleting from the RSW controller's memory a device which was previously entered in.

- after choosing the function, you will see on the display the deletion progress
- the function will be quitted after the process finishes



7. Outputs' configuration

Assigning the outputs to the events codes /F21/

Thanks to this function you can assign output to each of the events codes which are transmitted by the devices.

- after choosing the function, you will see the the device's number on the display (first two digits)
- select the device with the UP and DOWN buttons
- confirm the choice with the FUN button. It will be signalled with a short acoustic sound
- then assign the output to the appropriate event code. First two digits on the display inform about the code's value; next two digits – about the number of the output assigned to this code (for example "01 02" - code 01 – output OC2). The blinking dots inform about the



active segment. You can modify the value with the UP and DOWN buttons and change the active segment with the FUN button.

- Save the settings by pressing the FUN button for about 2 seconds. It will be confirmed with two blinks of the display
- you can quit the function by choosing the code of value 00 and pressing the FUN button

8. Test period /F22/



Using this function you can set time. Before the period of time elapses the RSW controller should receive a TEST signal from a given device.

- after choosing the function you will see the "00 00" message on the display
- select the device using the UP and DOWN buttons and confirm the choice with the FUN button. It will be signalled with 2 short acoustic signals.
- Set the value of the test period (0-255s) with the UP and DOWN buttons
- to save the settings to the memory, press the FUN button for about 2s

to quit the function, set the "00 00" value and press the FUN button

9. Delay time /F23/



This function enables you to program time. It is a period between the moment the controller receives an event and reacts with an alarm signal

- after choosing the function, you will see the "00 00" message on the screen
- select the number of device using the UP and DOWN buttons and confirm the choice with the FUN button. It will be signalled with 2 short acoustic signals.
- set the value of the delay period (0-255s) with the UP and DOWN buttons
- to save the settings to the memory, press the FUN button for about 2s
- to quit the function, set the "00 00" value and press the FUN button

10. Time period of unshorting the ALARM relay /F24/



This function enables you to set the time period which defines for how long the relay's contacts are to be unshorted after the RSW controller receives the alarm code. The ALARM relay output is common to all devices.

- after choosing the function, you will see the "00 00" message on the screen
- select the number of device using the UP and DOWN buttons and confirm the choice with the FUN button. It will be signalled with 2 short acoustic signals.
- Set the value of unshorting the relay period (0-255s) with the UP and DOWN buttons
- to save the settings to the memory, press the FUN button for about 2s
- to quit the function, set the "00 00" value and press the FUN button

11. Arm period /F25/



This function enables you to set the time period between receiving the code from a remote control and arming RSW.

- after choosing the function, you will see the "00 00" message on the screen
- select the number of device using the UP and DOWN buttons and confirm the choice with the FUN button. It will be signalled with 2 short acoustic signals.
- set the value of the arm period (0-255s) with the UP and DOWN buttons
- to save the settings to the memory, press the FUN button for about 2s
- to quit the function, set the "00 00" value and press the FUN button

12. Type of the OC outputs (NO/NC) /F26/



This function allows you to set the OC transistor outputs:

- NO – normally open – non-active output in the state of high impedance, opening the output shorts it to ground
- NC – normally closed – non-active output shorted to ground, opening the output – the state of high impedance
- after you choose the function, you will see on the display the output number (first two digits) and the type which was set (next two digits):
 - 1) 00 – indicates the state of high impedance (NO)
 - 2) 01 – indicates shorting to ground (NC)

- the blinking dots inform about the activity of a given segment. You can switch between the segments by pressing the FUN button shortly. Choose the channel and the type with the UP and DOWN buttons.
- to confirm the choice press the FUN button for about 2 seconds. The successful saving to the memory will be signalled with 2 short acoustic signals and a blink of the display.
- to quit the function, choose the output "00" and press the FUN button shortly

13. The OC operating modes (monostable, bistable) /F27/

Using this function you can configure the operating mode of each of the OC transistor outputs. Two modes are available:

- the monostable mode – after RSW receives a signal from a device assigned to a given output, this output is activated for 5 seconds and then it gets deactivated
- the bistable mode – each time RSW receives a signal from a device assigned to a given output, state of this output changes on the other one

After you choose the function, you will see on the display the output number (first two digits) and the chosen operating mode (next two digits):

- 00 – indicates the monostable mode
- 01 – indicates the bistable mode



- the blinking dots inform about the activity of a given segment. You can switch between the segments by pressing the FUN button shortly. Choose the channel and the operating mode with the UP and DOWN buttons.
- to confirm the choice press the FUN button for about 2 seconds. The successful saving to the memory will be signalled with 2 short acoustic signals and a blink of the display.
- to quit the function, choose the output "00" and press the FUN button shortly

14. Configuring the real time clock

14.1. Set date /F31/

- After you choose this function, you will see on the display "00 00" - the first two digits indicate month, the next two digits indicate day

- the blinking dots inform about the activity of a given segment. You can switch between the segments by pressing the FUN button shortly. Set the date with the UP and DOWN buttons.
- to confirm the choice press the FUN button for about 2 seconds. The successful saving to the memory will be signalled with 2 short acoustic signals and a blink of the display.
- to quit the function, choose the output "00" and press the FUN button shortly



14.2. Set time /F32/

- After you choose this function, you will see on the display "00 00" - the first two digits indicate hour, the next two digits indicate minutes

- the blinking dots inform about the activity of a given segment. You can switch between the segments by pressing the FUN button shortly. Set the time with the UP and DOWN buttons.
- to confirm the choice press the FUN button for about 2 seconds. The successful saving to the memory will be signalled with 2 short acoustic signals and a blink of the display.
- to quit the function, choose the output "00" and press the FUN button shortly



14.3. Daily correction of clock /F33/

This function enables to correct the clock's work. The values that you set are added or subtracted (from the present time) at the midnight.

- After you choose this function, you will see on the display "00 00" - the first two digits indicate number of seconds which will be added to the present time (the clock is slow); the next two digits indicate the number of seconds which will be subtracted (the clock is fast)

- the blinking dots inform about the activity of a given segment. You can switch between the segments by pressing the FUN button shortly. Set the first of the second value with the UP and DOWN buttons.
- to confirm the choice press the FUN button for about 2 seconds. The successful saving to the memory will be signalled with 2 short acoustic signals and quitting the function.



14.4. Display clock /F40/



It turns on or turns off displaying the clock (hour, minutes) on the display during normal operating of the RSW controller.

after you call the function, on the first segment you will see the value 99, which does not have any meaning. On the second segment you will see the presently set parameter:

- 00 – turned off
- 01 – turned on

- switch between the segments by pressing the FUN button.
- change the setting with the UP and DOWN buttons.
- save the setting and quit the function by pressing the FUN button for about 2 seconds. It will be confirmed with 2 short acoustic signals and a blink of the display
- you can quit the function without saving the settings – choose the value 00 on the first segment (with the UP button) and press the FUN button

15. Sound signalling /F41/



Here you may decide whether receiving a signal from any device (even the one not saved into its memory) should or should not be signalled acoustically.

after you call the function, on the first segment you will see the value 99, which does not have any meaning. On the second segment you will see the presently set parameter:

- 00 – turned off
- 01 – turned on

- switch between the segments by pressing the FUN button.
- change the setting with the UP and DOWN buttons.
- save the setting and quit the function by pressing the FUN button for about 2 seconds. It will be confirmed with 2 short acoustic signals and a blink of the display
- you can quit the function without saving the settings – choose the value 00 on the first segment (with the UP button) and press the FUN button

16. Display the device's identification /F42/



Here you can decide whether the number of an identified device should or should not be displayed (as well as number which is assigned to it).

after you call the function, on the first segment you will see the value 99, which does not have any meaning. On the second segment you will see the presently set parameter:

- 00 – turned off
- 01 – turned on

- switch between the segments by pressing the FUN button.
- change the setting with the UP and DOWN buttons.
- save the setting and quit the function by pressing the FUN button for about 2 seconds. It will be confirmed with 2 short acoustic signals and a blink of the display
- you can quit the function without saving the settings – choose the value 00 on the first segment (with the UP button) and press the FUN button

17. Arming configuration /F43-F44/

17.1. Arming with a low or high state /F43/



Thanks to this function you can choose the logical state on the UZB input which will arm the RSW controller.

after you call the function, on the first segment you will see the value 99, which does not have any meaning. On the second segment you will see the presently set parameter:

- 00 – arming with the low state
- 01 – arming with the high state

- switch between the segments by pressing the FUN button.
- change the setting with the UP and DOWN buttons.
- save the setting and quit the function by pressing the FUN button for about 2 seconds. It will be confirmed with 2 short acoustic signals and a blink of the display

- you can quit the function without saving the settings – choose the value 00 on the first segment (with the UP button) and press the FUN button

17.2. Choose the arming source /F44/



You may choose whether the controller is supposed to be armed with the UZB input or with a button of a remote control.

after you call the function, on the first segment you will see the value 99, which does not have any meaning. On the second segment you will see the presently set parameter:

- 00 – UZB input
 - 01 – remote control
- switch between the segments by pressing the FUN button.
 - change the setting with the UP and DOWN buttons.
 - save the setting and quit the function by pressing the FUN button for about 2 seconds. It will be confirmed with 2 short acoustic signals and a blink of the display
 - you can quit the function without saving the settings – choose the value 00 on the first segment (with the UP button) and press the FUN button

17.3. Signal the arm/disarm state with the ALARM relay /F45/



You can choose whether the RSW controller's switch into the arm/disarm state is to be signalled by the signalling device connected to the ALARM output.

after you call the function, on the first segment you will see the value 99, which does not have any meaning. On the second segment you will see the presently set parameter:

- 00 – turned off
 - 01 – turned on
- switch between the segments by pressing the FUN button.
 - change the setting with the UP and DOWN buttons.
 - save the setting and quit the function by pressing the FUN button for about 2 seconds. It will be confirmed with 2 short acoustic signals and a blink of the display
 - you can quit the function without saving the settings – choose the value 00 on the first segment (with the UP button) and press the FUN button

17.4. The WY16 output function configuration /F46/



The OC16 output can operate in the normal mode, just as the outputs 1-15 or it can be used to signalling the state of arming the RSW controller:

- the output will be shorted to ground – if the controller is armed
- the state of high impedance – if the controller is disarmed

after you call the function, on the first segment you will see the value 99, which does not have any meaning. On the second segment you will see the presently set parameter:

- 00 – normal operating mode
 - 01 – signalling the armed/disarmed state
- switch between the segments by pressing the FUN button.
 - change the setting with the UP and DOWN buttons.
 - save the setting and quit the function by pressing the FUN button for about 2 seconds. It will be confirmed with 2 short acoustic signals and a blink of the display
 - you can quit the function without saving the settings – choose the value 00 on the first segment (with the UP button) and press the FUN button

17.5. Manufacturing settings /F53/



This function deletes from the memory all the previously saved devices, events history and restores the default settings:

- acoustic signalling – off /F53/
- display the devices' identification – off /F41/

- arming the controller with the UZB input
- low state on the UZB input arms the controller
- clock display – off
- the OC16 output in the normal state
- signalling the change of armed/disarmed state with the ALARM relay – off
- restricted access to the configuration settings – on

After calling the function you will see on the display the progress of deleting the memory. After it finishes, the function will be automatically quitted.

17.6. Restricted access to some of the functions /F98/

Here you can turn on or off the restricted access to some function. In the restricted mode only the following functions are available: F1, F21, F22, F31, F32, F33, F35, F36, F40, F41, F42, F43, F50, F51, F53, F60, F70, F97, F98, F99.



after you call the function, on the first segment you will see the value 99, which does not have any meaning. On the second segment you will see the presently set parameter:

- 00 – restricted access
 - 01 – full access
- switch between the segments by pressing the FUN button.
 - change the setting with the UP and DOWN buttons.
 - save the setting and quit the function by pressing the FUN button for about 2 seconds. It will be confirmed with 2 short acoustic signals and a blink of the display
 - you can quit the function without saving the settings – choose the value 00 on the first segment (with the UP button) and press the FUN button

17.7. Signal level meter /F36/

This function enables measuring the level of senders' signal. It is shown on the display as numerical values 0-255, proportional to the level.

- to quit the function, press the FUN button for about 2 seconds



17.8. Test of the RSW-164 controller /F52/

This function enables checking whether the display, LED diodes, all the relays and the OC transistor outputs work properly.

After calling the function:

- digits 0-9 will be displayed on all the display's segments
- the LED diodes will light and fade
- the OC-1-16 transistor outputs will be open and closed.



17.9. The function displays the version number of the software for the RSW controller /F99/

Calling the function will display the version number.

The function will be quitted automatically after 3 seconds.



18. Events history

The RSW-164 has a non-transitory memory of the last 500 events (losing supply does not cause losing the data).

The viewed events are displayed separately with information which changes cyclically:

- number of device
- date in the form: month, day
- time in the form: hour, minutes



Except the numbers entered into the memory, some special number were entered which help to differentiate between, for example, the sabotage alarm of the RSW controller or to identify unequivocally the alarms from the OTHER group.

Special numbers of devices:

- device no. 90 – control panel sabotage
- device no.91 – return from the control panel sabotage
- device no.92 – bandwidth occupancy (radio sabotage)
- device no.93 – return from the bandwidth occupancy
- device no.94 – low signal level (no antenna)

- device no.95 – arming the control panel
- device no.96 – disarming the control panel
- device no.97 – restart of the control panel
- device no.98 – midnight passed
- device no.99 – time correction

Receiving new events (ALARM, SABOTAGE, BATTERY, OTHER) is signalled with lighting appropriate LED diode. All the received events (up to last 500) are available after calling the appropriate function.

19. View new events

New events are signalled with lighting appropriate LED diode. To view them:

- press a button corresponding with the group
- another pressing the same button will mark it as “viewed” and will display next event or quit the viewing mode

20. Mark all events as viewed /F51/



This function allows for marking all new events as viewed. It is useful when the number of new events is large.

After you choose the /F51/ function, you will see on the display the progress of performing the function. After it finishes, the function will be quitted automatically.

21. View the events history /F35/



This function allows you to view the last 500 alarms (number of device which sent the alarm, date and time of the event).

- After choosing the function, the display will show “H000”.
- select the event with the UP and DOWN buttons and confirm it with the FUN button.
- the display will show:
 - number of device which sent the alarm
 - date: first two digits indicate month, next two – day
 - time: first two digits indicate hour, next two – minutes
- the event is displayed cyclically until you press any button for about 2 seconds
- to quit the function, select an event with the H000 number and press the FUN button

22. Delete events history /F70/



With this function you can delete all the remembered events irrevocably.

- after you choose the /F70/ function, the display will show the progress of performing the function
- after finishing, it quits automatically

23. Error codes

E01 – no free memory – it appears when in the memory of the control panel there is no free space to save next device

E02 – device previously entered into memory – it appears when you try to program number and type of device which was programmed earlier

E04 – test period error – it appears when you try to assign test period to a remote control or other device which was not programmed earlier

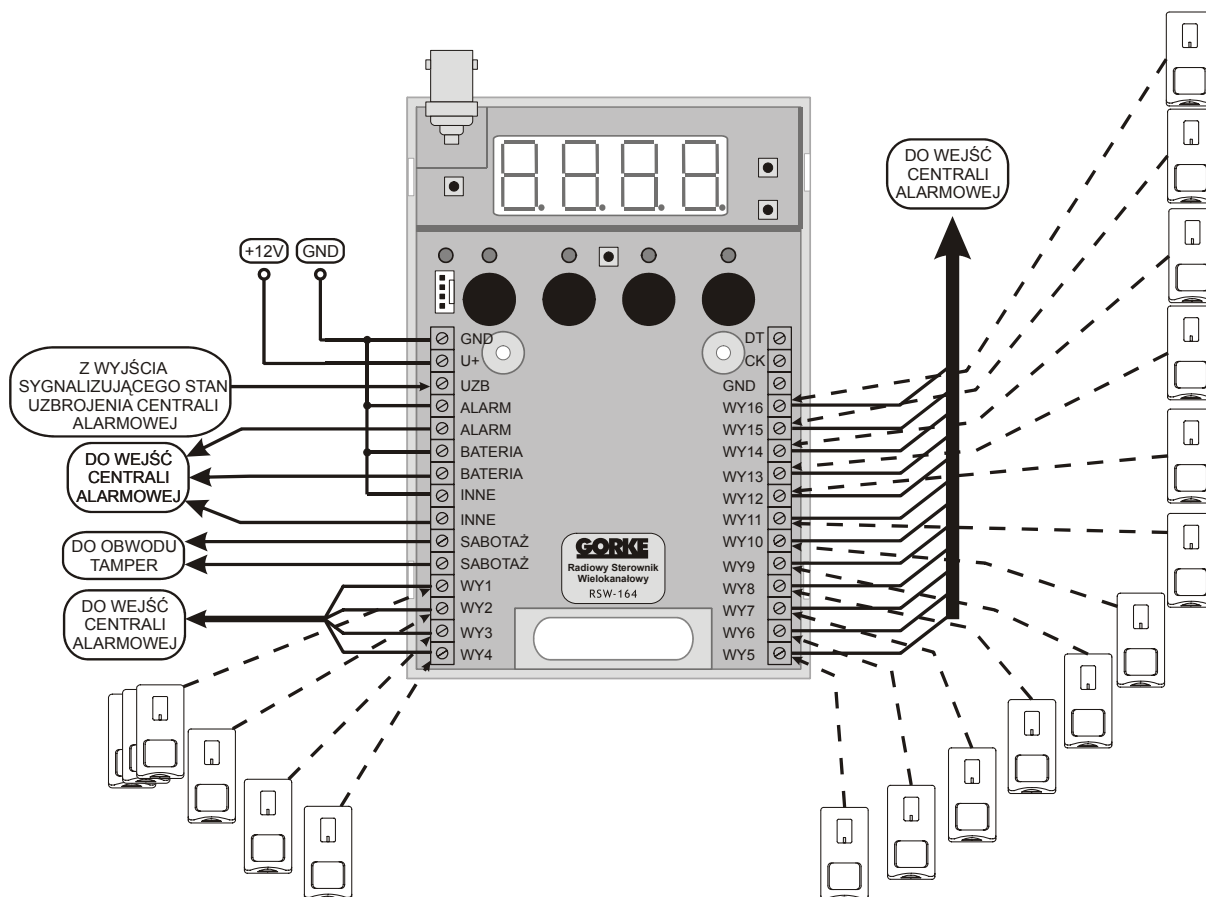
E05 – wrong group – it appears when you try to program a device in a wrong group (for example, to program a remote control in the group of sensors)

24. Examples of configuration

24.1. Cooperation with a wire alarm control panel

Example 1.

- the RSW-164 controller cooperates with a wire alarm control panel
- the controller is armed from the wire alarm control panel
- sensors are entered to all the 16 channels; a free number of sensors on each channel (it is limited with the maximal total number of devices in the controllers memory – up to 64)

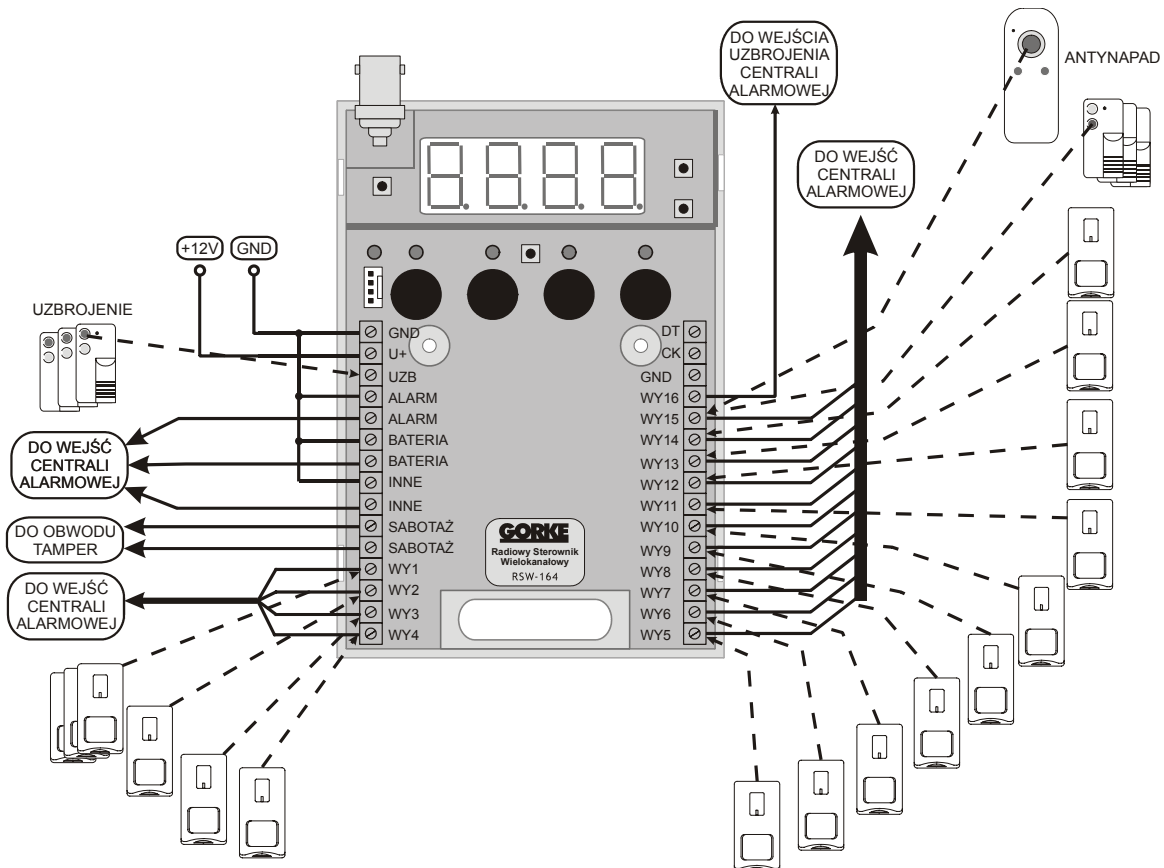


Procedures to perform:

- enter all the sensors to the memory with the /F01/ function
- assign the successive OC WY1-WY16 outputs to the sensors with the /F21/ function
- connect the channels outputs to the inputs of the wire alarm control panel
- bring the supply GND ground to one of the contacts of the relay outputs (ALARM, BATTERY, OTHER). The other outputs contact connect with the inputs of the alarm control panel
- the SABOTAGE relay output connect into the TAMPER circuit
- connect the arm output of the wire alarm control panel with the ARM input

Example 2.

- the RSW-164 controller cooperates with a wire alarm control panel
- arming the wire alarm control panel is performed with the first button of the remote controls which is entered into the controller's memory
- channel 15 – panic alarm – second button of the remote controls and an additional remote control
- sensors are entered to the channels number 1-14, a free number of sensors on each channel (it is limited with the maximal total number of devices in the controllers memory – up to 64)
- the channel 16 output signals the arm state – it arms the wire alarm control panel.



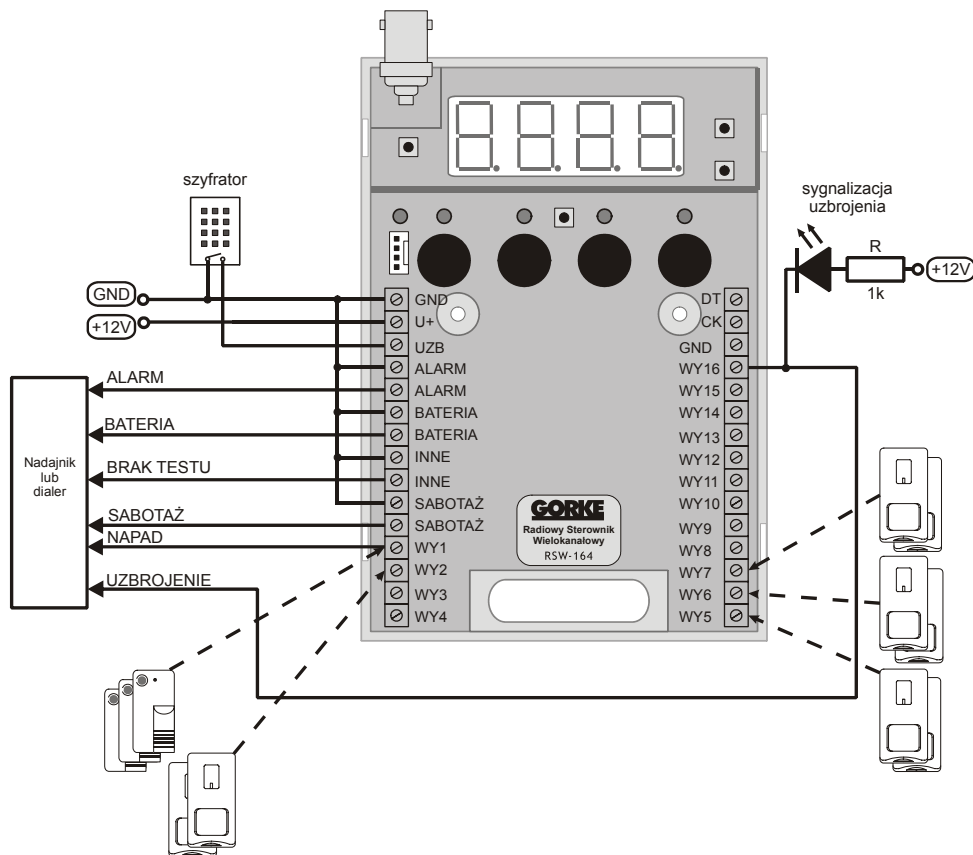
Procedures to perform:

- use the /F01/ function to enter all the sensors to the memory
- use the /F15/ function to enter the first buttons of remote controls to the memory – arming
- use the /F02/ function to enter all the remaining buttons of the remote controls to the memory – by pressing any of the remaining buttons
- use the /F02/ function to enter to the memory the additional panic remote controls
- use the /F21/ function to assign the successive OC WY1-WY14 outputs to the sensors
- use the /F44/ function to assign the output of the channel 15 to the panic buttons and panic remote controls
- use the /F46 function to set the signalling of the arm state on the output of the channel 16
- connect the outputs with the assigned sensors and panic remote controls with the inputs of the wire alarm control panel
- connect the output of the channel 16 with the arm input of the wire alarm control panel
- bring the supply GND ground to one of the contacts of the relay outputs (ALARM, BATTERY, OTHER). The other outputs contact connect with the inputs of the alarm control panel
- the SABOTAGE relay output connect into the TAMPER circuit

24.2. Independent alarm control panel

Example 1.

- the RSW controller operates as an independent alarm control panel
- arming with the internal encryptor
- panic remote controls on the channel 1
- sensors on the channels 2, 5, 6, 7
- the ALARM, BATTERY, OTHER, SABOTAGE outputs cooperate with a sender or a dialler the OC Wy16 signals the arm state – it is connected to the dialler's input. The arm state is signalled with an outer LED diode.

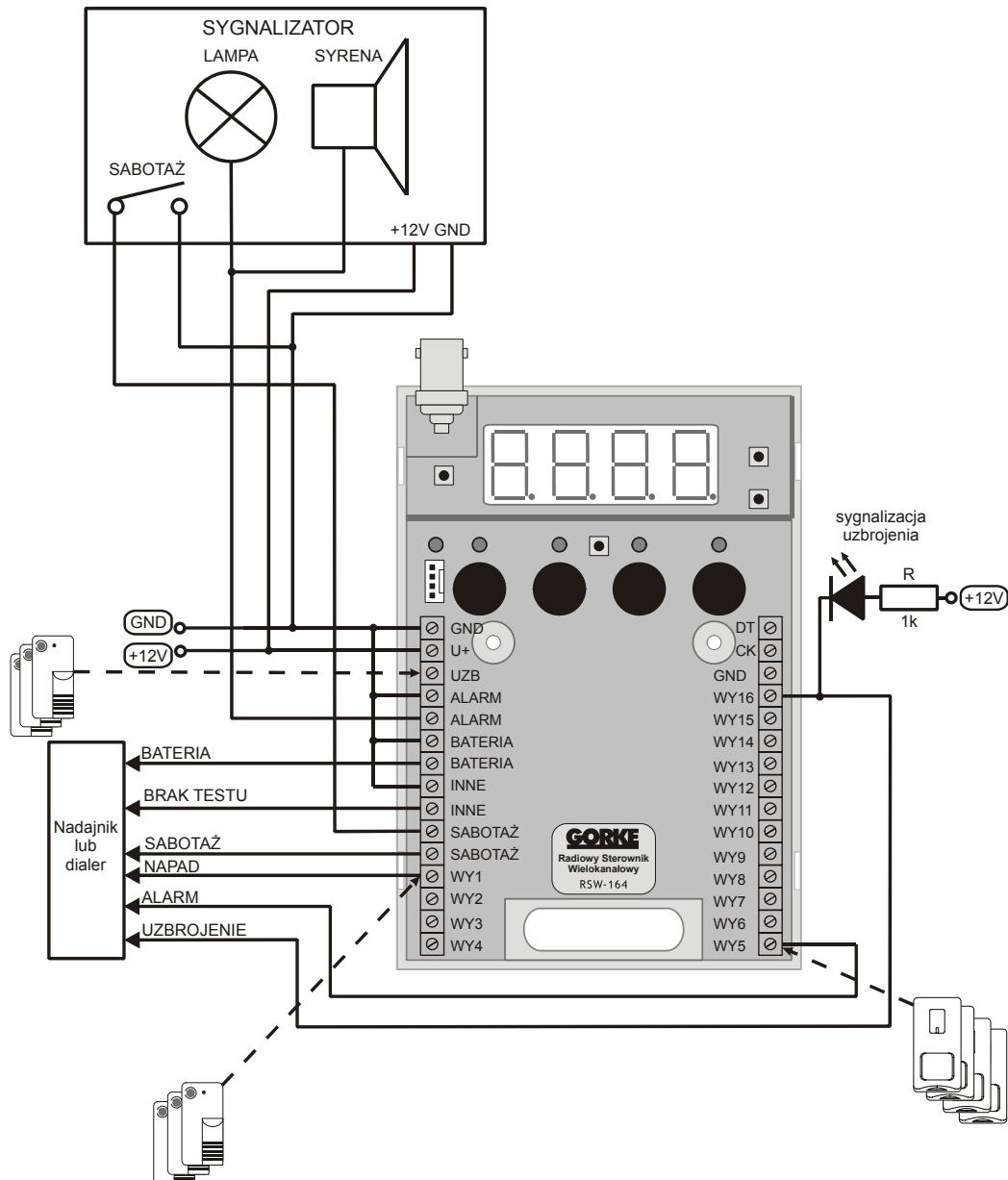


Procedures to perform:

- use the /F01/ function to enter all the sensors to the memory
- use the /F02/ function to enter panic remote controls to the memory
- use the /F21/ function to assign the OC outputs to the sensors
- use the /F44/ function to choose arming with the encryptor
- use the /F46/ function to set the signalling of the arm state on the output of the channel 16
- connect the outputs with the assigned sensors and panic remote control with the dialler's inputs
- connect the output of the channel 16 to the dialler
- bring the supply GND ground to one of the contacts of the relay outputs (ALARM, BATTERY, OTHER). The other outputs contact connect with the dialler's inputs

Example 2

- the RSW controller operates as an independent alarm control panel
- arming with a remote control
- panic remote controls on the channel 1
- sensors on the channels 5
- the ALARM, BATTERY, OTHER, SABOTAGE outputs cooperate with a sender or a dialler
- the ALARM signal is delivered to the dialler through the output of the channel 5 (sensors)
- the ALARM relay output controls the work of the outer signalling device
- the OC Wy16 signals the arm state – it is connected to the dialler's input. The arm state is signalled with an outer LED diode.



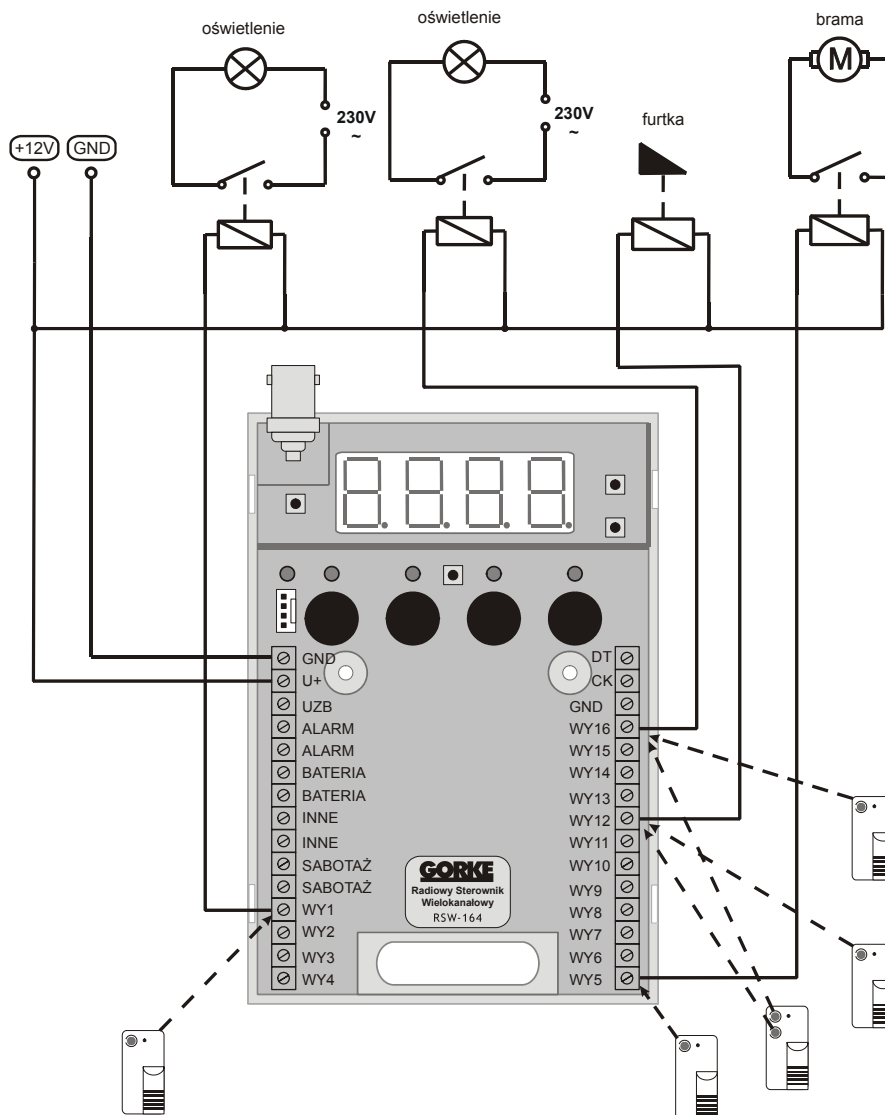
Procedures to perform:

- use the /F01/ function to enter all the sensors to the memory
- use the /F02/ function to enter panic remote controls to the memory
- use the /F15/ function to enter the arm remote controls to the memory
- use the /F21/ function to assign the output of the channel 5 (WY5) to the sensors

- use the /F44/ function to choose arming with the remote control
- use the /F46/ function to set the signalling of the arm state on the output of the channel 16
- connect the outputs of the channel with the assigned sensors and the panic remote control with dialler's inputs
- connect the output of the channel 16 to the dialler
- bring the supply GND ground to one of the contacts of the relay outputs (BATTERY, OTHER). The other outputs contact connect with the dialler's inputs
- the ALARM relay output connect with the signalling device (as shown on the scheme) connect the supply ground to one of the contacts of the SABOTAGE relay outputs. Connect the second contact to the dialler through the SABOTAGE relay contacts of the signalling device

14. 3. Universal controller

An example of controlling the light, the wicket and the gate with remote controls.



Procedures to perform:

- use the /F02/ function to enter the remote controls to the memory
- use the /F21/ function to assigned appropriate outputs to the buttons of the remote controls
- use the /F27/ function to set the bistable mode on the outputs which control light
- connect the channels outputs through additional relays as shown on the scheme

List of functions

F00	quit the menu
F01	learn devices of the group one
F02	learn devices of the group two
F03	learn devices of the group three
F04	learn devices of the group four
F15	learn devices of the group fifteen
F21	assign outputs to events codes
F22	test period
F23	delay period
F24	period of unshorting the ALARM relay
F25	arm period
F26	type of the OC outputs (NO/NC)
F27	operating mode of the OC outputs
F31	set date
F32	Set time
F33	Daily clock correction
F35	View events history
F36	Signal level meter
F40	Display clock
F41	Acoustic signalling
F42	Display device's identification
F43	Arm with low/high state
F44	Choose arm source (remote control, UZB input)
F45	Signal arm/disarm with ALARM relay
F46	Configure functions of WY16 output
F50	Delete chosen device
F51	Mark all events viewed
F52	Controller test
F53	Manufacturing settings
F60	Delete all events
F70	Delete events history
F98	Restrict access to functions
F99	Software version