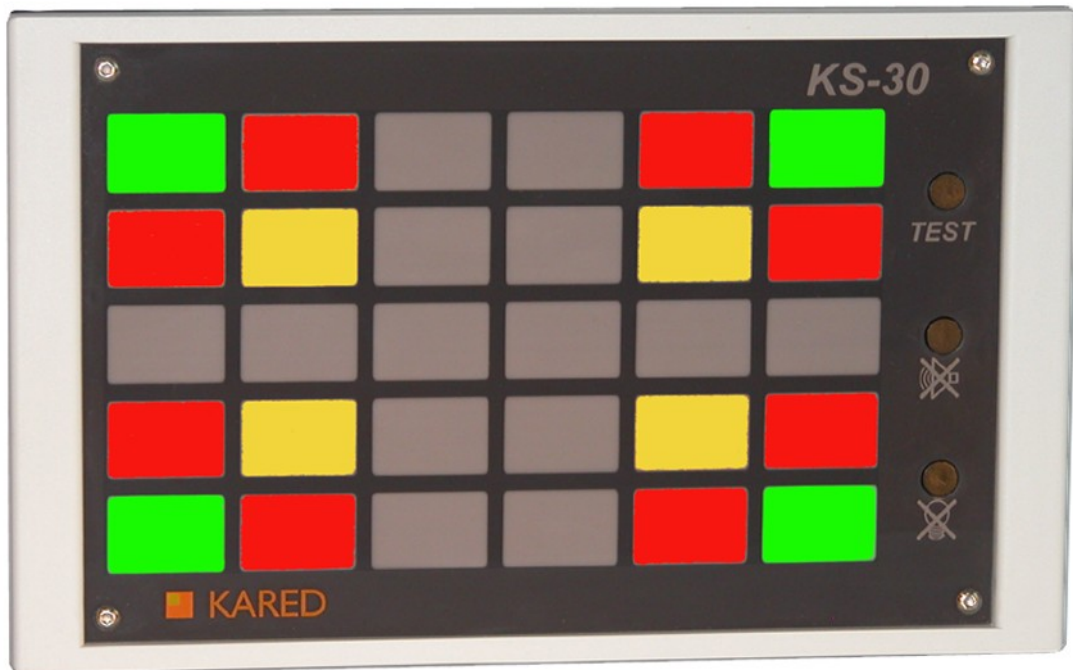


## KSR-XX Annunciator



## Software Manual

(Version 2.00)

Copyright 2008-2024 by PUP Kared. All rights reserved.  
These User Instructions may not be reproduced and distributed  
without the prior written consent of the company Kared Sp. z o.o.



# KARED

## Spółka z o.o.

Kowale, ul. Kwiatowa 3/1, 80-180 Gdańsk; tel.(058) 32 282 31, fax.(058) 32 282 33, www.kared.com.pl, e-mail: kared@kared.com.pl, KRS:0000140099, NIP: PL-583-001-80-84, Regon: 008103751, BZWBK S.A. O-2/Gdańsk r-k nr 42 1090 1098 0000 0000 0988 2343

	<b>full name</b>	<b>date</b>	<b>signature</b>
<b>compiled by:</b>	Marek Ostrowski	2008-2013	MO
<b>checked by</b>	Robert Świdrak	02/05/2013	RŚ
<b>approved by</b>	Adam Redlarski	26/05/2013	AR
Source file: III-KSR-XX-soft-v 2 00-en.odt		date of mod.: 29.07.2024 time:10:23:33	

### Revision Sheet

<b>Version</b>	<b>Date</b>	<b>Description of change</b>	<b>signature</b>
1.10	26/05/2013	- Initial version	MO
2.00	19/07/2024	- Update	MO

PUP **KARED** Sp. z o.o. reserves the right to make changes to its products by improving their technical properties. These changes may not always be reflected in the documentation on an on-going basis.

Brand names and product names mentioned herein are trademarks or registered trademarks belonging to their respective owners.

This is how you can contact us:

PUP **KARED** Sp. z o.o

ul. Kwiatowa 3/1

80-180 Kowale

Telephone

+48 58 322 82 31

Mobile

+48 602 152 740

Fax

+48 58 322 82 33

Electronic mail

[kared@kared.com.pl](mailto:kared@kared.com.pl)

Internet (www)

[www.kared.com.pl](http://www.kared.com.pl)

## IMPORTANCE OF USER INSTRUCTIONS

Should you have any doubts as to the correct interpretation of the contents of the Instructions, please be sure to contact the manufacturer for clarification.

We would be grateful for any kind of suggestions, opinions and critical remarks from users and ask you to communicate them orally or in writing. This will help us make the Instructions even easier to use and to take the users' wishes and requirements into account.

The appliance to which the User Instructions is attached conveys unpreventable potential danger to people and material assets. Therefore, anyone working on the appliance or carrying out any activities related to the operation and maintenance of the appliance must be trained in advance and be familiar with the potential danger. Therefore you must carefully read, understand and observe the User Instructions, particularly the safety instructions.

## TABLE OF CONTENTS

IMPORTANCE OF USER INSTRUCTIONS.....	3
1. KSKNF Programme Application.....	5
2. KSDL Programme Application.....	5
3. KSDES Programme Application.....	5
4. Connecting the Device.....	5
5. Software Installation and Requirements.....	5
6. Software Use.....	5
6.1. Configuration Program (KSKNF).....	5
6.1.1. Programming Example.....	9
6.1.2. Annunciator Operation Simulator.....	10
6.2. Programme for Downloading of Registered Events (KSDL).....	11
6.3. Programme for Description Printouts (KSDES).....	14

## 1. KSKNF Programme Application

The programme supporting the configuration of the KSR-XX signal cassettes, named KSKNF, makes it easier for the user to prepare the device for operation. The manufacturer recommends the KSKNF programme which facilitates cassette programming, reduces programming time and limits the risk of incorrect cassette programming.

## 2. KSDL Programme Application

The programme makes it possible to download events recorded by the device, review them and save them as a file.

## 3. KSDES Programme Application

The programme allows the preparation of alarm field descriptions.

## 4. Connecting the Device

The device should be connected to a computer using the so-called system link (for more information, see the device user manual). To run the service mode for the programming of the annunciator, press and hold the KAA and TEST keys while the annunciator is powered up. All the fields being lit in yellow means that the device has switched to the service mode. Registered events can only be downloaded in the normal operation mode. Downloading events does not affect the registration of new events, which have “priority” over the data being read. If the device is unable to read the requested data record within 20 consecutive attempts (the occurrence of new events blocks the reading), the annunciator will return information that the reading is impossible.

## 5. Software Installation and Requirements

The software was tested on a PC grade computer with the Microsoft Windows XP, Vista, 7, 10, 11 operating systems. The software is installed by running a selected installation file: **ksknf\_setup.exe** for the KSKNF program, **ksdl\_setup.exe** for the KSDL program, **ksdes\_setup.exe** for the KSDES program. The computer should be equipped with an RS232 serial port to which the user should connect an RS232/RS485 4-wire converter. In the absence of an RS232 port, you can use any USB/RS485 4-wire converter provided that the converter software enables the user to create a so-called virtual serial port. The virtual serial port does not have to provide full RS232 support; the RxD and TxD transmission lines are sufficient. The preparation of descriptions and the configuration simulator do not require the annunciator to be connected and therefore no communication ports are required.

## 6. Software Use

### 6.1. Configuration Program (KSKNF)

After running the software, a screen should appear as shown in figure 1 (not all icons will be immediately visible).



***The annunciator can be configured once the device has been put into service mode. To do this, hold down the TEST and KAA buttons while switching on the power supply (refer to the user manual for the button connection diagram). The unit enters the service mode which is confirmed by all fields being lit up in yellow.***

***There is an option to force the service mode through a digital procedure. For more, see Fig. 2.***

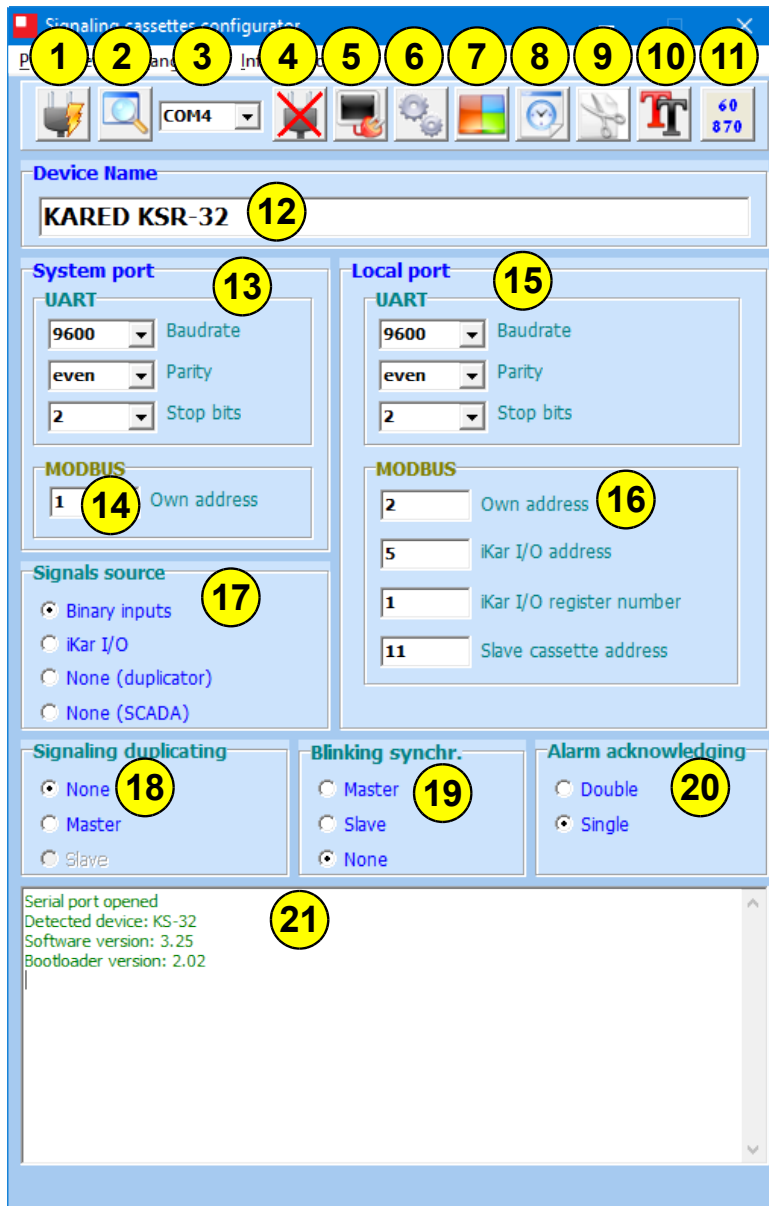


Fig. 1. Main Screen

The first action should be to select the serial port with (3) and then open the serial port with button (1). If the required port is not in the list (3), you can try searching for ports existing in the system using button (2). Then connect to the device using button (5). A successful connection will be confirmed with appropriate information in field (21). The device name should appear in field (12). If the name has not been entered previously, this field will remain empty. The user has an option of naming the device to facilitate its identification later. The name entered in field (12) can be up to 32 characters long. Area (13) allows you to configure the system link and area (15) allows you to configure the local link.

In field (14), you should enter the address under which the annunciator will be seen in the Modbus-RTU network.

Fields (16) describe the devices that interact with the annunciator via the local link. Options (17) define how the annunciator inputs are read.

Options (18) define how to duplicate (transmit) alarm signalling to or from another annunciator.

Options (19) define how to synchronise the flashing light of a greater number of connected devices. Refer to the user manual for more information.

Field (20) defines how the alarm is deleted (accepted). A “double” deletion means that the alarm must be acknowledged when it occurs and then the signalling must be deleted when the cause of the alarm ceases to exist.

Button (6) allows the annunciator to be programmed with user-selected settings.

Button (7) allows you to go to the configuration window of the device functions.

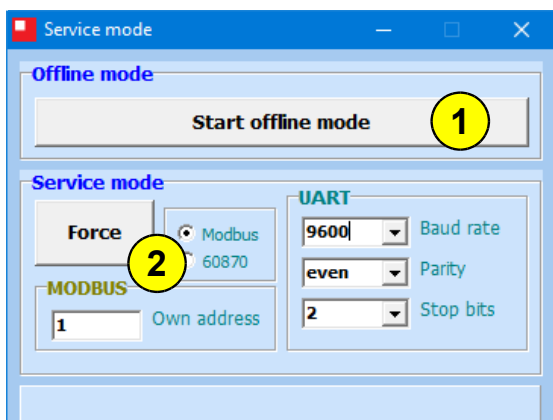
Button (8) is used to open the window related to the device's RTC clock date and time setting.

Button (9) allows you to delete memorised events (memory clearing).

Button (10) is used to open the window for naming channels.

Button (11) is used to select the communication standard between Modbus RTU and IEC 60870-5-103.

Button (4) closes the communication port. Closing the port takes place automatically while closing the program window.



The aforementioned option of forcing the service mode appears when an attempt to establish communication with the annunciator fails after pressing button (5) in Fig. 1. In order to force the service mode by software, it is necessary to know and enter the parameters of the communication link, the communication protocol used and the device address. To send the demand to enter the service mode, press button (2).

Optionally, you can switch to off-line mode using button (1) - e.g. to prepare the annunciator configuration and save it to a file for later use.

Fig. 2. Forcing Service Mode



The RTC clock setting window is shown in Fig. 3.

Use button (1) to retrieve the local computer time. Once the appropriate values have been entered, the RTC clock of the device is programmed by means of the key (2). Button (3) closes the window.

Fig. 3. RTC clock settings

The device function configuration screen is shown in Fig. 4.

Button (1) allows you to load the configuration previously saved on the disk with button (2). Button (3) sends the current configuration, button (4) reads the configuration from the annunciator and button (5) loads the default configuration. Button (6) can be used to reset the configuration and button (7) can be used to activate the annunciator simulator. Button (8) is used to close the window.

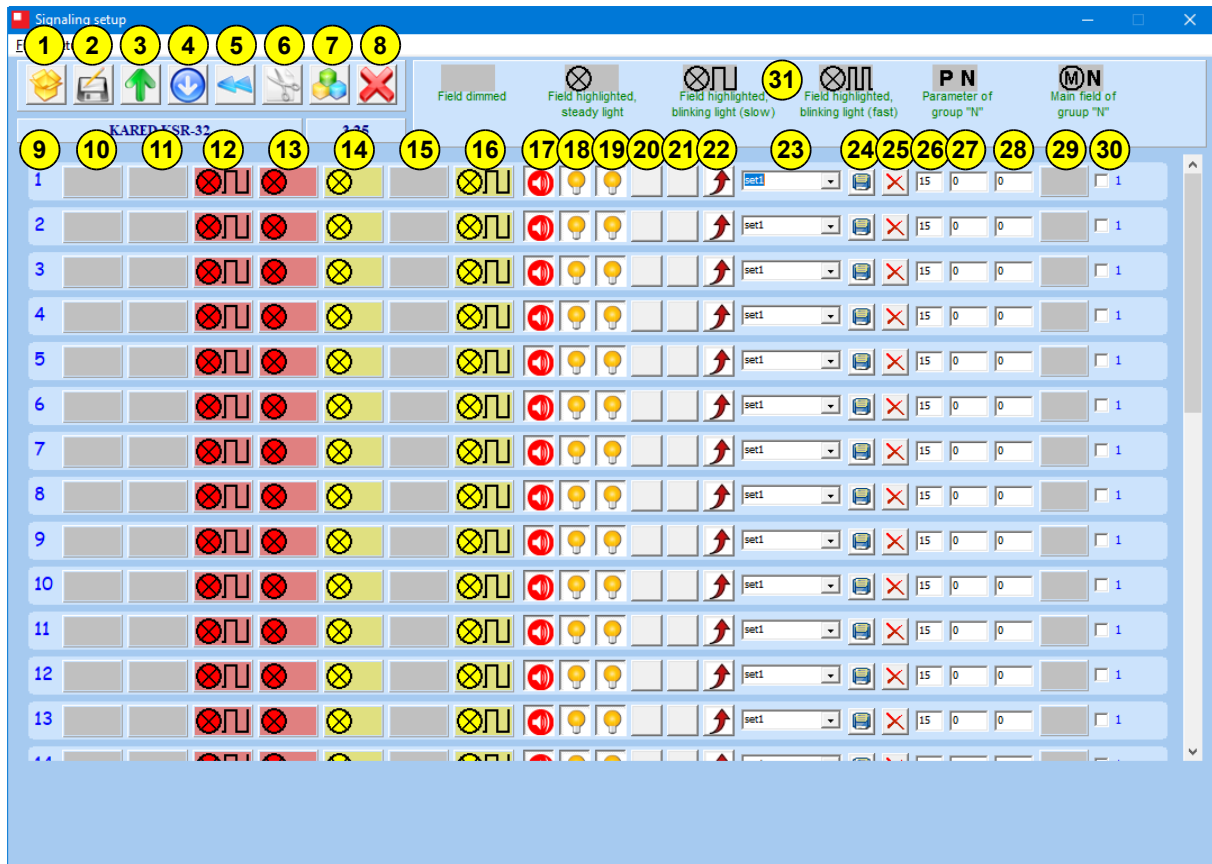


Fig. 4. Function Configuration Screen

For each of the available inputs (9), define the manner of behaviour in the individual phases (for more, go to the user manual). You can select the function from those available (23) or create it independently. The created function can be memorised with (24) or deleted with (25). Fields (10) - (16) define the behaviour of a specific channel in a specific signalling phase. For more information, go to the user manual or hover the mouse cursor over the desired field. To select the lighting mode, click the selected field with the left mouse button. Use the right button to change the lighting colour of the selected field. The key (31) can be helpful. Buttons (17)...(21) allow you to specify how the output relays react to excitation in a specific channel. You can use (22) to select the input excitation input - with the rising edge or the falling edge. In fields (26), specify the filtering time constant (not less than 1), in field (27) - the alarm activation delay, in field (28) - the signal extension time. In the event that the so-called motor function has been selected, go to field (27) of the corresponding main field and enter the delay time during which the appearance of alarms on the related inputs will not trigger an alarm. All values are given in milliseconds. Use field (29) to assign a channel to the so-called motor function, described in the user manual. The left mouse button is used to select the group and the right mouse button is used to determine the meaning of the field (main field or parameter). The selection of (30) activates the mode of operation with the first signal highlighting function. In this case, fields (11) and (15) for determining the response to the appearance of the first alarm and the response to the disappearance of the first alarm before the alarm is accepted will become available.



The screen for entering names of alarm channels is shown in Fig. 5.

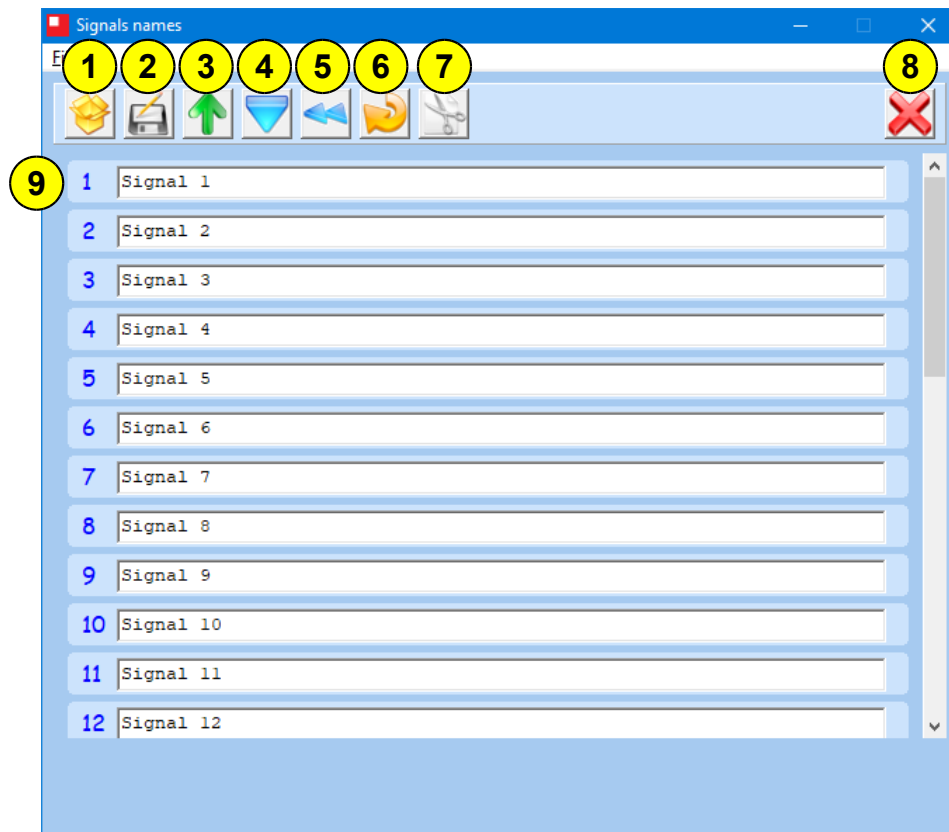


Fig. 5. Assigning names to channels

Use button (1) to load names stored in the configuration file, use button (2) to save the names to the file. You can use button (3) to sending channel names (9) to the annunciator. To read the current names from the annunciator, use (4). Button (5) enters default names and button (6) closes the window.

### 6.1.1. Programming Example

The following programme (function configuration) has been set up:

- The channel 1 response is to be as follows: In the case of “normal operation” (no alarms), the lit field is backlit in green. In the event of an alarm, the field starts flashing red. Accepting an alarm with the KAO button will cause the field to be backlit with continuous light - red if the alarm signal has not yet disappeared or yellow if the alarm signal was inactive at the moment when the KAO button was pressed. If the alarm signal disappeared before it was accepted, the field is backlit with flashing yellow light. You can finally delete the alarm signal by pressing the KAO button a second time, provided the alarm signal has disappeared. The filter time is 15 ms, the delay time is 5 s and the alarm extension time is 2 s.
- Channels 2 and 3 have been configured in a similar way to channel 1 except that in a “normal operation” situation the fields are not backlit at all and the channel that was triggered first is highlighted with a fast flashing light. The filtering time is assumed to be 10 ms with no delay or extension of the alarm signal.
- The other channels are inactive.



Fig. 6. Programming Example

In order to program the above, it is necessary to:

1. Connect the signal cassette to the computer using an RS-485 4-wire converter. Treat the computer as a “master” device and the cassette as a “slave” device.
2. Put the cassette into the service mode by holding down the **TEST** and **KAA** keys during power-up. The service mode activation will be acknowledged by the lighting of all fields in yellow colour.
3. After the installation, run the **KSKNF** configuration software.
4. A window should appear as shown in Fig.1 (not all items will be immediately available).
5. In field (3), select the port to which the signalling cassette has been connected.
6. Use button (1) to open the port. A relevant message should appear in field (21).
7. Use button (4) to connect to the device.
8. Use button (7) to go to the function configuration window (Fig. 4).
9. According to the assumptions, prepare the function configuration. The selected channels should adopt the configuration as shown in Fig. 6.
10. If necessary, save the configuration to the computer disc with button (2) (Fig. 4).
11. Use button (3) to send the function configuration to the device.
12. The program will return to the main window (Fig. 1).
13. If necessary, clear the event memory of the annunciator with button (9).
14. The annunciator has now been programmed. Turn the power supply off and on to close the service mode and start proper operation.



*The service mode is exited and normal operation is restored after disconnecting and re-connecting the power supply.*

### 6.1.2. Annunciator Operation Simulator

Depending on whether a connection to the annunciator has been successfully established, the channel configuration window will look like Fig 4. (on-line) or as in Fig. 7 (off-line). To run the simulation in the off-line mode, select the annunciator version and the software version in field (7) in Fig. 7. Then prepare the configuration for the simulation purpose or download it from the connected cassette.



Fig. 7. Function Configuration Screen

To access the simulator window (Fig. 8), press button (5) in Fig. 7.

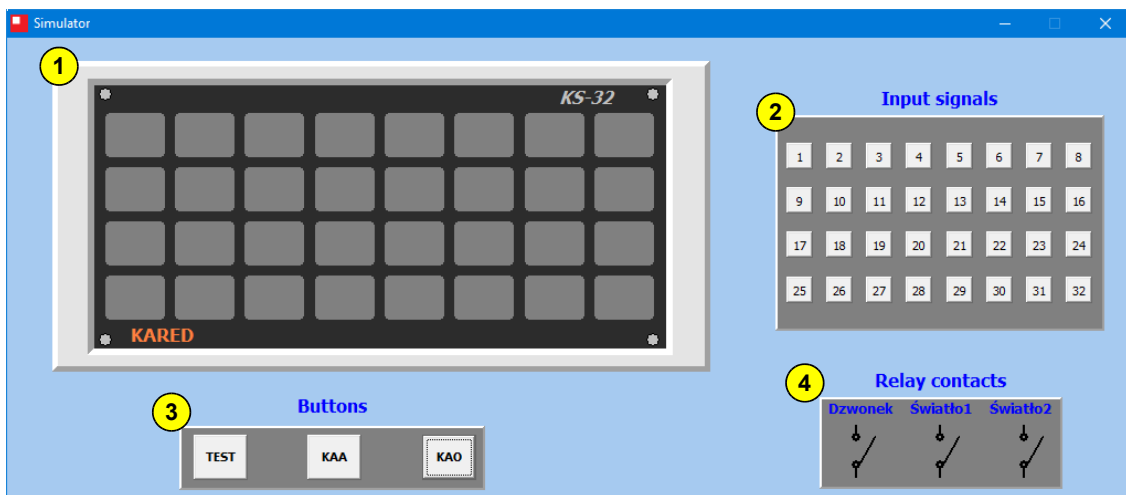


Fig. 8. Simulator Window

The simulator window contains a view of the annunciator front panel (1), a view of the status of relays (4) and simulators of inputs (2) and buttons (3). The corresponding buttons of the *Setter* (2) correspond to the status of the annunciator two-state inputs - button pressed status **H**, button not pressed status **L**. Switching on of the relay contacts is illustrated in field (4).

## 6.2. Programme for Downloading of Registered Events (KSDL)

After running the software, a screen should appear as shown in Fig. 9 (not all icons will be immediately visible).

First of all, use button (1) to determine the parameters of the serial link. The parameters will be saved and used in subsequent runs of the software. Then open the serial port using button (2). The next step is to select the device address in field (8) and to connect to the device using button (9). If the connection operation has been successful, the device name will appear in the list of devices (12). Of course, the condition for the name to appear is that it has first been assigned during the configuration process. If the user does not remember the device address, he/she can use button (13) to start searching for annunciators connected to the specific network. Names of further devices will be added to the list (12). The search can be aborted using button (14). Selecting a device from the list will show its address in field (8). Once the connection to a device is established, you can start downloading registered events using button (10). Downloading of events can be aborted using button (14).

Events (records) registered during faulty RTC operation (caused, for example, by the device being left without power for too long) are displayed in red.

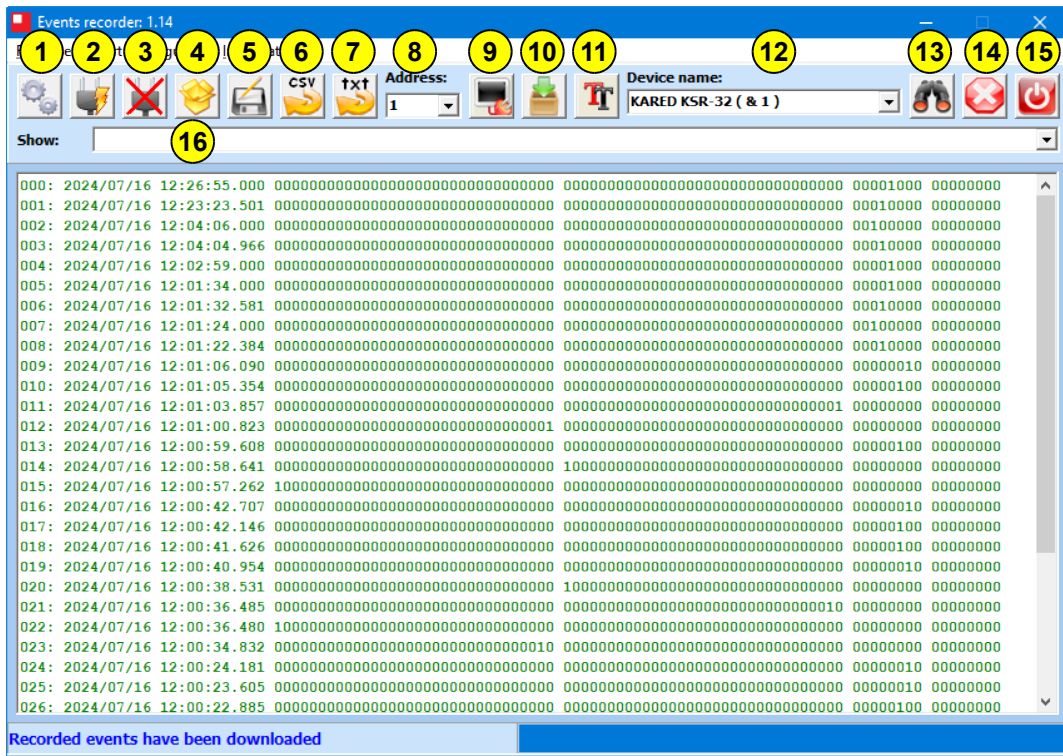


Fig. 9. Downloading registered events

Downloaded events are listed in the configuration:

`nnn: yyyy/tt/dd hh:mm:ss.uuu pojawienie_alarmu zanik_alarmu dodatkow1 dodatkow2`

where:

- nnn** - number of the next event; number 0 refers to the most up-to-date one,
- yyyy** - year,
- tt** - month,
- dd** - day,
- hh** - hour,
- mm** - minute,
- ss** - second,
- uuu** - millisecond,

**pojawienie\_alarmu** - [alarm occurrence] - "1" stands for the occurrence of an alarm in the corresponding channel, "X" stands for the absence of the respective channel in the device. The association of channels with positions is shown below:

32 31 30 29 ... 3 2 1

**zanik\_alarmu** - [alarm loss] - “1” stands for the loss of an alarm in the corresponding channel, “X” stands for the absence of the respective channel in the device. The association of channels with positions is shown below:

32 31 30 29 ... 3 2 1

**dodatkowe1** [additional 1] - “1” stands for the occurrence of a specific event. The association of events with positions is shown below:

R X SERWIS OFF ON KAA KAO X

R - RTC clock error,

SERWIS [SERVICE] - service mode activation,

OFF - switching off the device,

ON - turning on the device,

KAA - pressing the KAA button,

KAO - pressing the KAO button,

X - currently not used,

**dodatkowe2** [additional 2] - The field is not used in the current software version.

Field (16) enables you to filter the displayed data in order to show, for example, only events related to channel number “1”. Button (5) enables the downloaded data to be saved and button (4) to be loaded. Button (6) enables the downloaded data to be exported to the csv format and button (7) - to the txt format. Button (3) closes the serial port,

You can use button (11) to switch between the presentation of the downloaded data in a coded form (as in Fig. 9) or in descriptive form – Fig. 10.

Button (15) closes the programme.

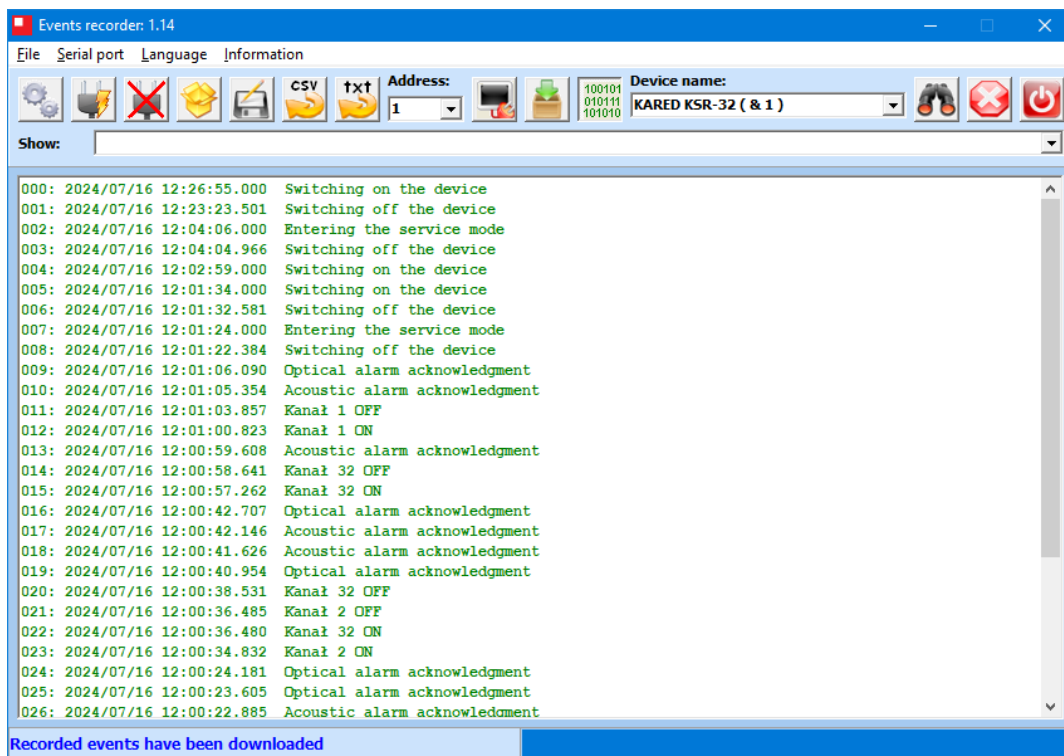


Fig. 10. Displaying registered events

### 6.3. Programme for Description Printouts (KSDES)

After starting the programme, a screen should show up (Fig. 11) allowing you to select the device for which descriptions will be prepared.

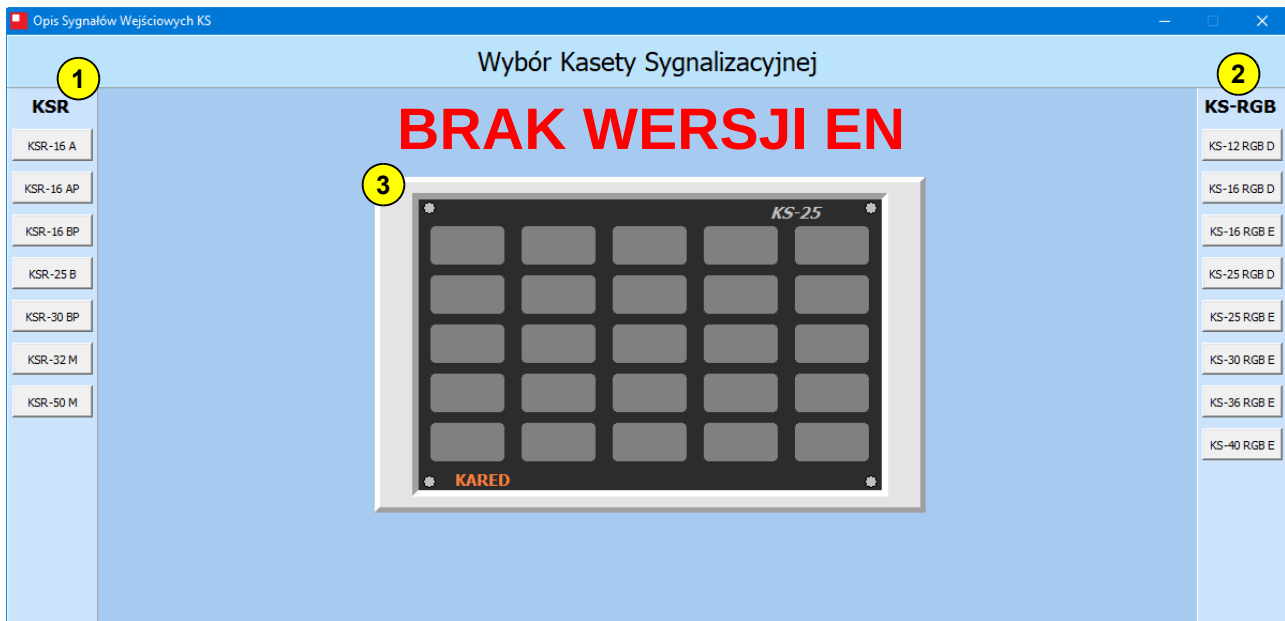


Fig. 11. Device selection

The device is selected by pressing the appropriate button in group (1) or (2). Field (3) shows a symbolic drawing of the selected annunciator. After selecting the desired device, fields (Fig. 12) will appear, the configuration of which will correspond to the arrangement of the lighting fields of the device.



Fig. 12. Alarm state description fields

To select the font size or type, press the right mouse button in the relevant window (5) and select the desired option. The font size and type can be changed for multiple fields simultaneously by selecting the desired fields first. You can use the buttons in the top bar to save (2) prepared descriptions, load (1) previously prepared ones or print (3) the current ones. The programme automatically prepares the printer configuration and centres the descriptions in the fields - both vertically and horizontally.

Button (4) closes the screen and takes the user back to the device selection window (Fig. 11).