



GENERAL INFORMATION

Controller Z-5R is designed to use in access control systems (electromagnetic/electromechanical locks) as a stand-alone controller limiting the access to the entrances of dwelling houses, to premises of administrative settings, industrial enterprises.

Controller Z-5R allows connection of the following equipment:

contact key controller – contactor;
 non-contact proximity card controller, emulating DS1990A key protocol;
 Electromagnetic lock, electromechanical lock/latch;
 lock opening pushbutton (normally open);
 external buzzer, external LED (analogues of mounted at the controller board); open door sensor (NC of NO, automatic identification of sensor type). When working with computer adaptor Z-2 it is possible to input key database into the PC and change (load/unload) the list of keys in the controller Z-5R (by means of DS1996 key or only adapter and PC).

MAIN TECHNICAL CHARACTERISTICS

Maximum number of keys: - up to 1364 units
 standard – for passage
 master – for programming
 blocking – for passage blocking (+ can be used as a standard one)

Additional operating modes:

- "Blocking" mode – the passage is allowed for blocking keys, not allowed for standard ones;
- "Accept" mode – simultaneous opening and recoding of all brought keys;
- "Trigger" mode – for device switching on/of with power supply not greater than 17 V (open collector up to 5A).

Presence of jumper of lock type +

Light and sound indication of operating modes and programming

Possibility to copy controller memory into the DS1996 key and vice versa

Possibility of controller programming with computer adapter Z-2

Setting of lock opening duration: from 0 up to 220 sec (default – 3 seconds)

Output: MIS transistor

Operating voltage: 12 VDC

Current consumption (guard mode) – 4 mA

Switching current – up to 5 A

Overall dimensions – 45x25x14 mm

Operating temperature – from -40°C up to +50°C

CONTROLLER PROGRAMMING

First switching on of controller (no keys in the database)

Short signals are sound for 16 seconds. It indicates that the memory is erased and the mode of master keys addition is set.

At the moment of signal sounding touch the controller with a key. It would lead to recording it into the memory as a master key.

Stoppage of short signal generation confirms the successful record of the first master key.

In order to add new master keys touch the controller with them in turn with a pause between touches not more than 16 seconds. For each touch with a key controller generates a short confirmation signal. Exit from the master keys addition mode is done automatically in 16 seconds after the last touch. Controller indicates the exit from this mode by the series of 5 short signals.

Later on master keys are used for programming.

If none of keys were recorded repeat switching on.

(the is no standard, master, or blocking key)

GENERAL PROPERTIES OF PROGRAMMING MODES

To switch controller to the desired programming mode short (less than 1 sec) and long (about 6 sec) touches with a master key are used. There is a time limit after the last touch for work in a programming mode (about 16 sec), after which controller is set to initial condition, indicating it with a series of five short signals.

1. Standard key addition (1 IM)

Touch the controller with master key and hold it (long touch). In the moment of contact the controller generates a short signal confirming master key identification and, in 6 seconds, the second one, indicating the activation of standard key addition mode. After it the master key should be removed. In order to add a new key touch the controller with them in turn with a pause between touches not more than 16 seconds. Each contact controller indicates with a short confirming signal. If the key is already present in the database, controller generates two short signals. Exit from the mode is done automatically in 16 seconds after the last touch. Controller indicates the exit from the mode by the series of 5 short signals.

2. Blocking key addition (1 IM)

In the standard key addition mode touch the controller with the chosen key and hold it for about 9 seconds until the long signal (i.e. first the short signal is generated, then the long one, confirming addition of the blocking key). If you will not continue to add blocking keys, then the series of short signals will indicate the exit from the programming mode.

3. Master key addition (1 sM, 1 IM)

Touch the controller with a master key for a short time (short touch). At the moment of the contact the controller will generate the short signal confirming the identification of the master key, not later than in 6 seconds touch the controller with the master key and hold it (long touch). At the moment of contact the controller generates two short signals, indicating the second touch with the master key in programming mode, and in 6 seconds one signal, indicating the activation of addition of master keys. After it the master key should be removed. In order to add new master keys touch the controller with them in turn with a pause between touches not more than 16 seconds. For each touch with a key controller generates a short confirmation signal. If the key is already present in the database as a master key, there will be no signal. Exit from the master keys addition mode is done automatically in 16 seconds after the last touch. Controller indicates the exit from this mode by the series of 5 short signals.

4. Deletion of standard keys with a master key (2 sM, 1 IM)

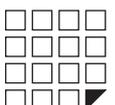
Touch the controller with a master key twice for a short time (short touches). At the moment of the first contact the controller generates the short signal, confirming the identification of the master key. At the moment of the second contact the controller generates two short signals, indicating the second touch with a master key in the programming mode, and in not more than 6 seconds touch the controller with a master key and hold it (long touch). At the moment of the third contact the controller generates three short signals, and in 6 seconds one signal, indicating the activation of standard keys deletion mode. After that the master key should be removed. In order to delete standard keys touch the controller with them in turn with a pause between touches not more than 16 seconds. For each touch with a key controller generates a short confirmation signal. If the key is missing in the database, two signals are generated. Exit from this mode is done automatically in 16 seconds after the last touch or by touch with a master key. Controller indicates the exit from this mode by the series of 5 short signals.

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5. Controller memory clearance with a master key (3 sM, 1 IM)

Touch the controller with a master key three times for a short time (short touches). At the moment of the first contact the controller generates the short signal, confirming the identification of the master key. At the moment of the second contact the controller generates two short signals, indicating the second touch with a master key in the programming mode. At the moment of the third contact the controller generates three short signals, indicating the third touch with a master key, and in not more than 6 seconds touch the controller with a master key and hold it (long touch). At the moment of the fourth touch the controller generates four short signals, and in 6 seconds the series of signals, indicating controller memory clearance and exit from the programming mode. Then the master key should be removed. Activation of programming mode will be performed automatically at the power up.

* - During the deletion of the whole base with a master key the programmed time of door opening is not changed.

6. Programming of door opening time (4 sM)

Bring the master key to the controller four times for a short time. At the moment of each contact the controller generates signals, confirming master key identification, and their number corresponds to the number of touches. At the moment of the fourth contact controller generates, correspondingly, four signals and switches to the mode of programming of door opening time. In seconds after the last touch it is necessary to enclose the door pushbutton for the time necessary for the opening. When the pushbutton is released the controller generates the signal and record the time into the memory.

*If the opening button is not installed, contacts #4 and #3 (ground) are closed together.

7. "Blocking" mode (1 IB)

In "Blocking" mode – the passage is possible only with blocking keys and not with the standard ones.

"Blocking" mode is set by blocking key (for blocking key addition see paragraph 2).

Blocking key is assigned to work:

- as a standard key in general operating mode (i.e. passage is possible with standard and blocking keys, present in the database)
- for switching to blocking mode (in this mode only blocking keys open the door)
- for switching to general operating mode

Blocking key opens by release.

In order to switch the blocking mode hold the blocking key by the controller for about 3 seconds until the long continuous signal is generated, indicating the activation of blocking mode.

In this mode all standard keys are blocked. When a standard key is used door in not opened and the series of short signals is generated.

Switching from blocking mode to the general one is performed:

- similar to switching to blocking mode with blocking key (until the series of short signals)
- by short time touch by a master key (series of short signals)

* If the power supply fails, preset mode "Blocking" is still activated after the power up.

8. "Accept" mode activation (5 sM)

"Accept" mode is used for record of all brought DS1990A keys.

In this mode when the key is brought to the controller the door opens and the key is simultaneously recorded into the controller memory. The mode is used for restoration of the customers base without collecting client keys.

The master key is necessary for the activation of this mode.

Bring the master key five times to the controller for the short time. At the moment of each contact the controller generates signals, confirming master key identification, and their number corresponds to the number of touches. At the moment of the fifth contact controller generates, correspondingly, five signals and one long signal, confirming the switching to the "Accept" mode. In order to deactivate this mode bring the master key to the controller, the exit signal is the series of short signals.

* If the power supply fails, preset mode "Accept" is still activated after the power up.

9. Recording of controller memory into DS 1996L key (1 sM, 1 IM)

With a master key switch the controller to the mode of master key addition (paragraph 3).

For that touch the controller with the master key (short touch). At the moment of the contact the controller will generate the short signal confirming the identification of the master key, not later than in 6 seconds touch the controller with the master key and hold it (long touch). At the moment of contact the controller generates two short signals, indicating the second touch with the master key in programming mode, and in 6 seconds one signal, indicating the activation of addition of master keys. Then touch the contactor with the DS1996L key and hold it until the series of short signals is generated. Information about recorded keys is copied to the memory of DS1996L key. Later on this information can be copied to other controllers or, using Z-2 adaptor, to computer.

10. Recording keys from DS 1996 key to controller memory

The controller memory should be cleared (using master key or jumper). Switch the power supply off and on. Then in the mode of the first switching on bring the DS1996 key to the contactor. When the information from DS1996 is copied to the controller the series of short signals is generated. The time for copying 1364 keys - not more than 25 sec.

JUMPER APPLICATION PROCEDURE.

One jumper is included into controller set. It is used in cases of programming and setting into the mode of electromechanical lock (five positions).

Position #1 – set the logic of power stage operation.

without the jumper the electromechanical lock is in closed stage and the power is applied;
with the jumper the electromechanical lock is in closed stage and the power is not applied

Position #2 – for controller memory clearance. In order to perform it switch the power off, insert the jumper and switch the power on. When the procedure is completed the series of short signals is generated.

* - All keys and programmed opening time are cleared. (default time is set - 3 sec.)

Position #3 – for addition of standard keys without a master key. In order to perform it switch the power off, insert the jumper and switch the power on. After the signal is generated the controller is in the mode of standard keys addition (standard and blocking keys can be added without a master key)

Position #4 – regular position, does not influence the operation of the controller.

Position #5 – "Trigger" mode (add-on device with power supply not greater than 17 V)..

In order to perform it switch the power off, insert the jumper and switch the power on. Controller can be in two states: "closed" and "open".

In order to switch the states bring the standard key, which is present in the database, to the controller.

During the switching from one state into another one the controller generates signals:

- from "open" to "close" – one short buzzer signal;
- from "close" to "open" – the series of short signals.

Controlled device is connected to the terminals #6 (lock) and #3 (Ground)

* Slot Z-2 serves for connection to the computer adaptor Z-2. Recording of keys database from the computer is performed via it.

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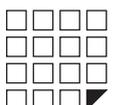
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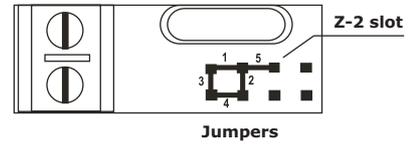
E-mail: marketing@con.ru

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Modes	Programming mode entrance	Notations
Programming with master cards		
1. Standard key addition	1 M	1...5 - number of touches l - long touch (card is hold for about 6 seconds near the reader) s - short touch (card is brought to the reader for less than 1 second) M - master card S - standard card B - blocking card
2. Blocking key addition	1 M	
3. Master key addition	1 s M, 1 M	
4. Single key deletion	2 s M, 1 M	
5. All keys deletion (controller memory cleared)	3 s M, 1 M	
6. Setting of door opening time	4 s M	
7. Activation of "Blocking" mode	1 B	
8. Activation of "Accept" mode	5 s M	
9. Recording of controller memory into DS 1996 key	1 s M, 1 M	
10. Recording from DS 1996L key to controller memory	In the first switching on mode with the empty database	
Programming with jumpers		
1. Works related to electromechanical lock	Position 1	
2. Memory clearing	Position 2	
3. Addition of standard keys without a master key	Position 3	
4. Regular - does not influence the operation	Position 4	
5. Activation of "Trigger" mode	Position 5	
The whole slot Z-2 is used when operating with Z-2 adaptor during transference of key database from the computer		



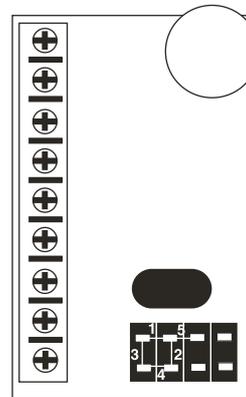
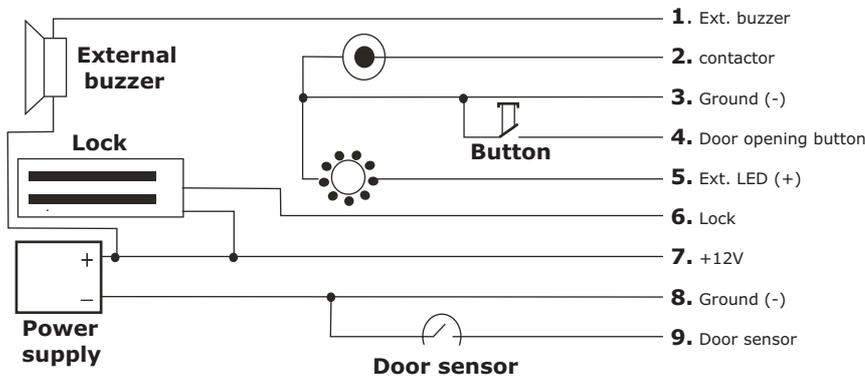
Terminals of Z-5R controller slot:

- External buzzer.
- Contact for reading DS1990A key (TM central)
- Ground (-)
- Door opening pushbutton
- External LED (+)
- Lock
- +12 V
- Ground (-)
- Door opening sensor (reed).

Connection scheme

It is not necessary to connect:

- external buzzer
- external LED
- door sensor



DELIVERY SET

Controller "Z-5R"	1 unit
Manual	1 unit
Jumper	1 unit
Packing envelope	1 unit

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