



Installation Manual

INTEGRATED ACCESS CONTROLLER

KDH-KZ3000-IP-U

KDH-KZ3000-IP-M

 **KaDe**

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AAT SYSTEMY BEZPIECZEŃSTWA Sp. z o.o.

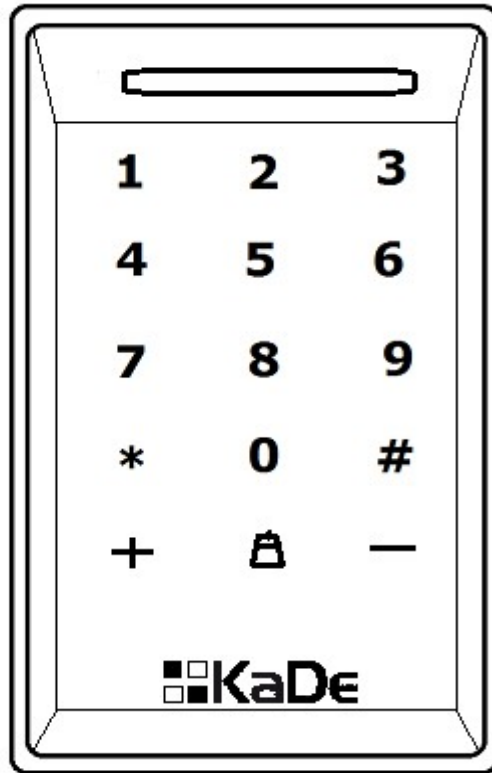
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1. Introduction



Controller KDH-KZ3000-IP-U **Controller KDH-KZ3000-IP-M**

Integrated controller KDH-KZ3000-IP-U_M has been designed for access control system and to be mounted on a wall without any additional enclosure. 32 bit processor ensures fast and reliable data processing. This is one door controller. With additional reader (also with keypad) it can use for two way control. Recommended supply power type AWZ-200 plus 7Ah battery. If we connect the electric lock to the same power supply, we should install diode 1N4004 on lock terminals in the reverse direction.

It's possibility to set one from four identification mode:

- Card only (default mode)
- PIN only
- Card or PIN
- Card + PIN

KZ-3000-IP can work in standalone (programming from keypad) or in network mode. In network mode it can work on-line or off-line with supervisor software NMS AC on PC.

KDH-KZ3000-IP-U_M include following components in one cabinet:

- controller module for 1 door
- card reader - 125 kHz ISO UNIQUE - model KDH-KZ3000-IP-U
- card reader - 13,56 MHz MIFARE – model KDH-KZ3000-IP-M
- keypad for PIN with bell button
- LED and Buzzer
- anti-disassemble sensor

2. KDH-KZ3000-IP-U_M controller technical data

Parameter or function name	Parameter value or function description
Buffer capacity	
- Card buffer	20 000 (2 000 in standalone mode)
- Event buffer - Alarm buffer	50 000 20 000
Electrical parameter	
- Supply power	12 VDC
- Current load	< 500 mA
- anti-static capability:	YES
Environment parameter	
- Environment	For indoor installation only
- Working Temperature	From +2°C to 55°C
- Relative Humidity	0% - 95%
- Size (L x W x H)	122 x 77 x 39 mm
Communication ports	
For connection with NMS AC	- TCP
For additional module connection	- RS485 (for future used)
Readers and Cards	
- Integrated reader	For UNIQUE card, read range 5 - 10 cm (U) For MIFARE card, read range 2- 5 cm (M)
- External (for two way control)	26 (U)/34(M) bit Wiegand output format
- Card format	ISO UNIQUE (125 kHz) MIFARE (14443A) (13,56 MHz)
- External reader keypad PIN format	4-bits, without buffering
Inputs	
- Door contact input	NO / NC (NO - default)
- Exit button input	NO / NC (NO - default)
- PIR input	NO / NC (NO - default)
Relay output	
- Strike (lock) control	Relay DC 12V 1A (NO / C / NC)
- Alarm control	Relay DC 12V 1A (NO / C / NC)
- Bell control	NO/NC
Access level parameter	
- Access level	200
- Schedule	184
- Holiday	64
Identification mode	Card, Card + PIN, PIN , Card or PIN
Alarm relive	Automatic, manually by operator or by card

Controller module include:

- Communication port TCP for direct connection with NMS AC
- Second reader port for two way control (Wiegand output format)
- Door status sensor input
- Exit button input
- Movement detector input
- Communication port RS485 for connection with additional modules (for future used)
- Supply Power connectors (+12V, 500 mA)
- Lock control relay output
- Alarm relay output
- Bell control output from keypad key

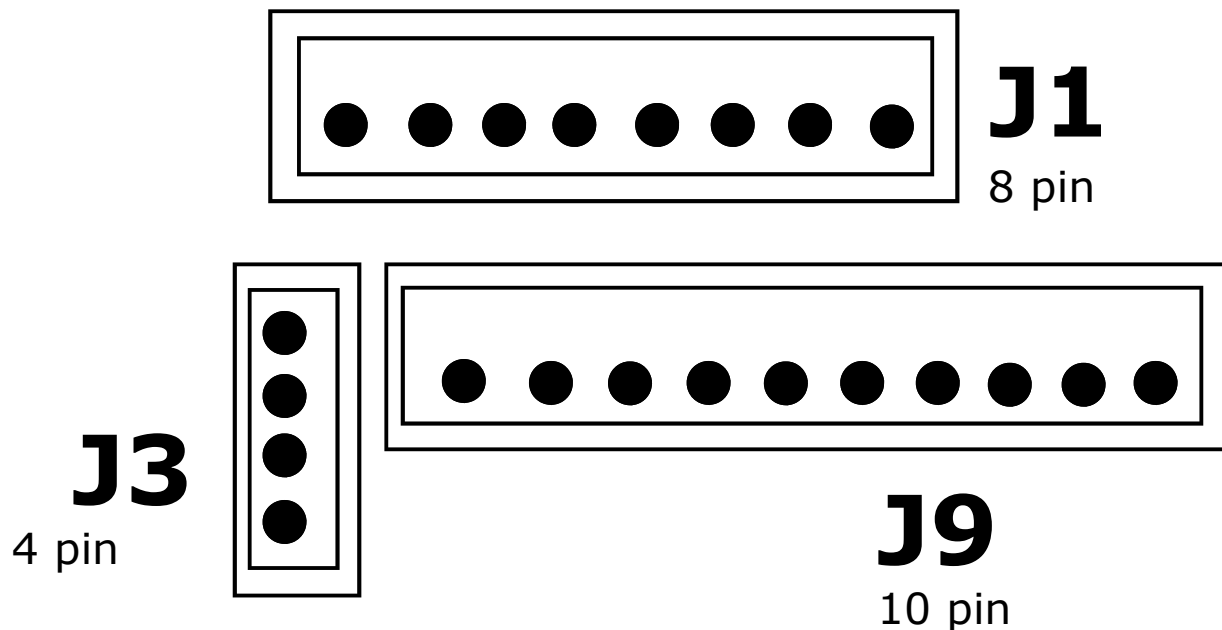
LED located on front panel - upper left light in:

RED - as supply power indicator

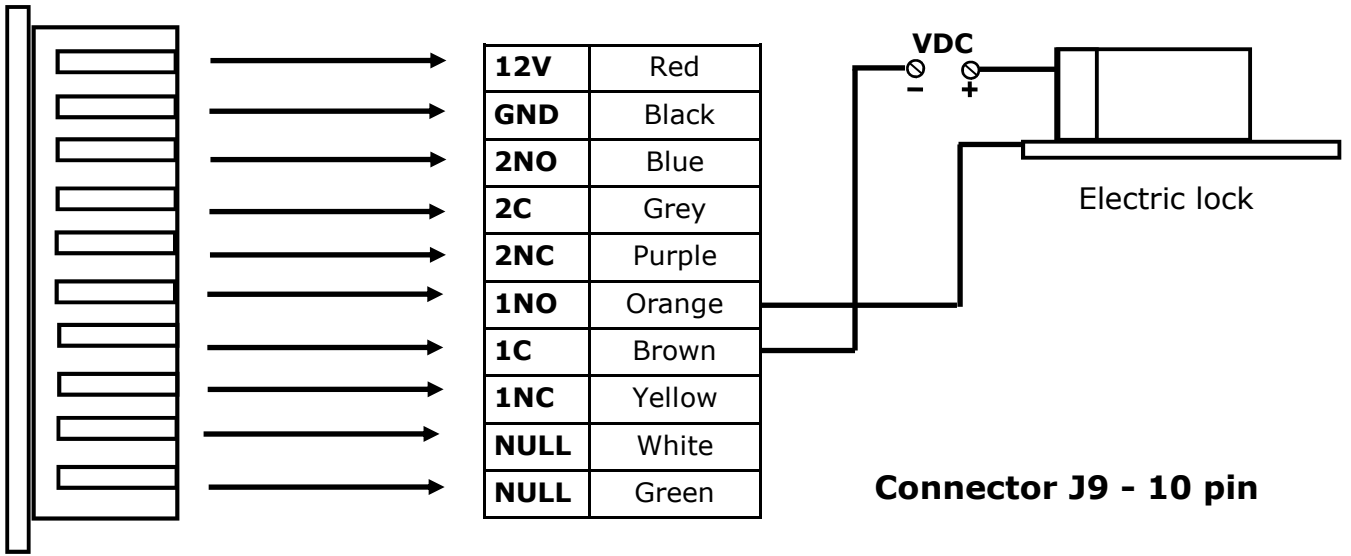
Blue - programming mode

Green - access granted

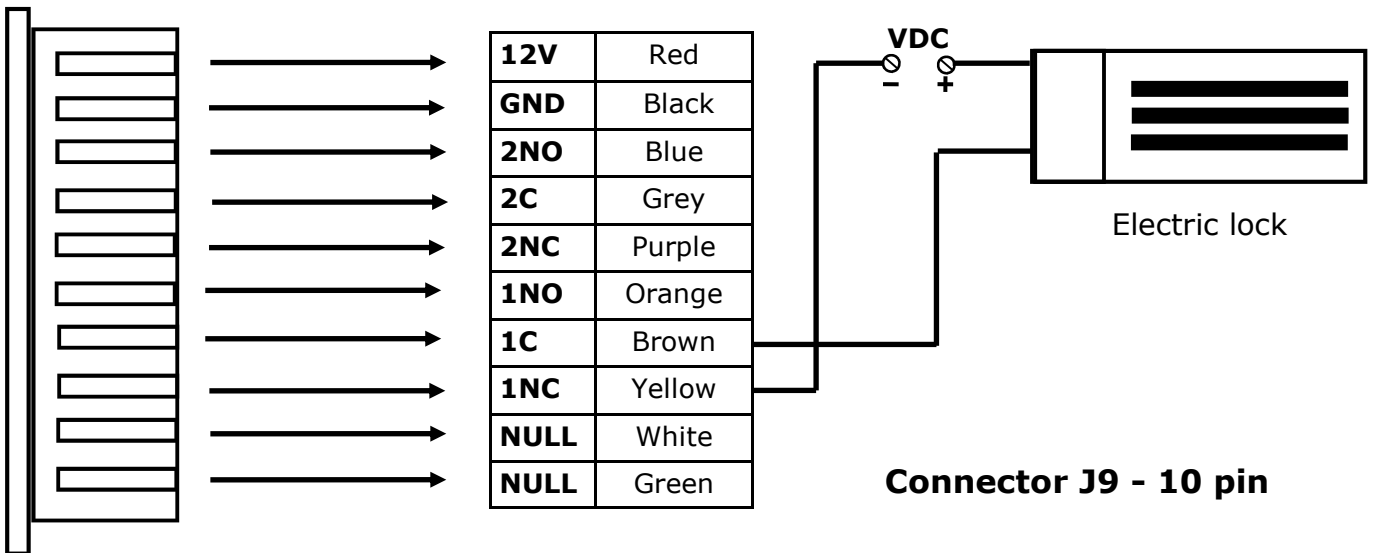
All components are mounted in esthetics case. KDH-KZ3000-IP-U_M controller is designed for indoor use only. When entry from outdoor is needed, additional outdoor reader should be connected.



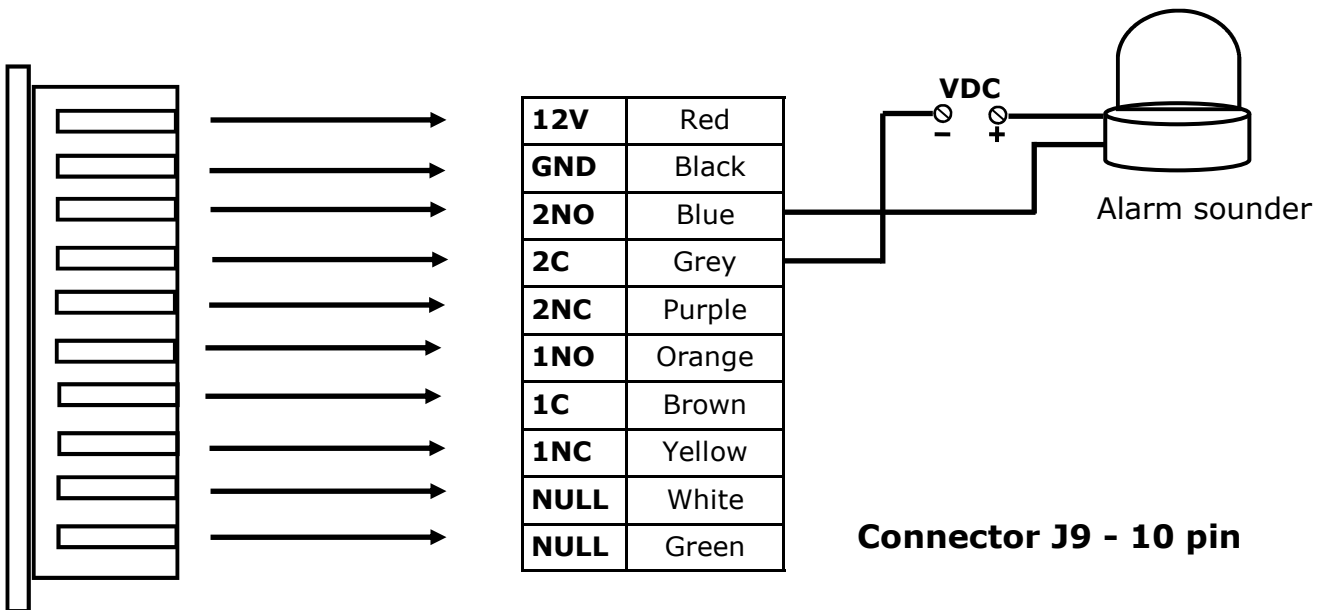
Controller back side - connectors view
(pin connectors description on the next page)



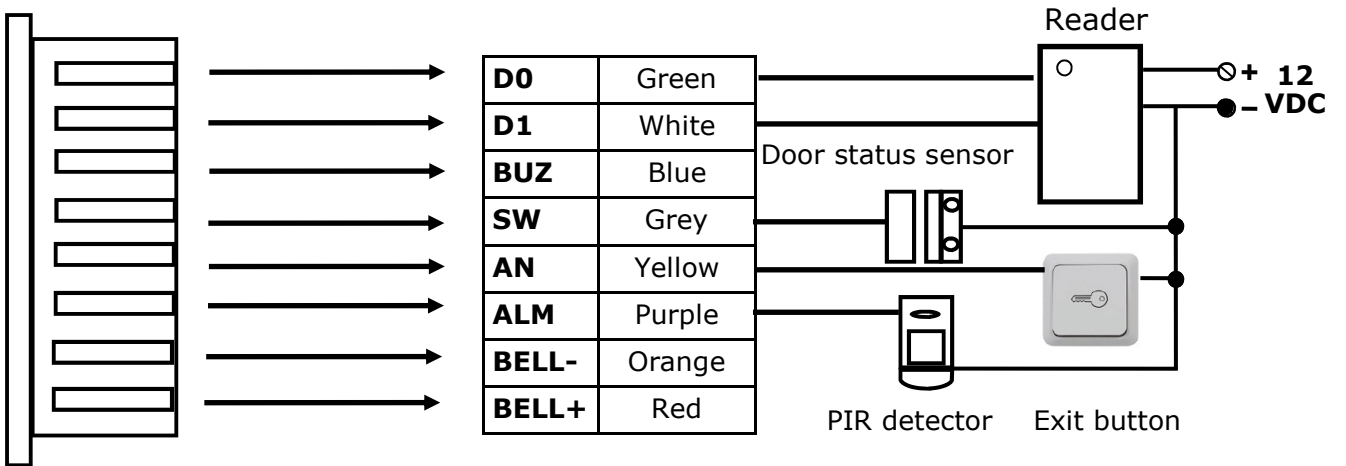
Electric lock connection—NC type



Electric lock connection– NO type

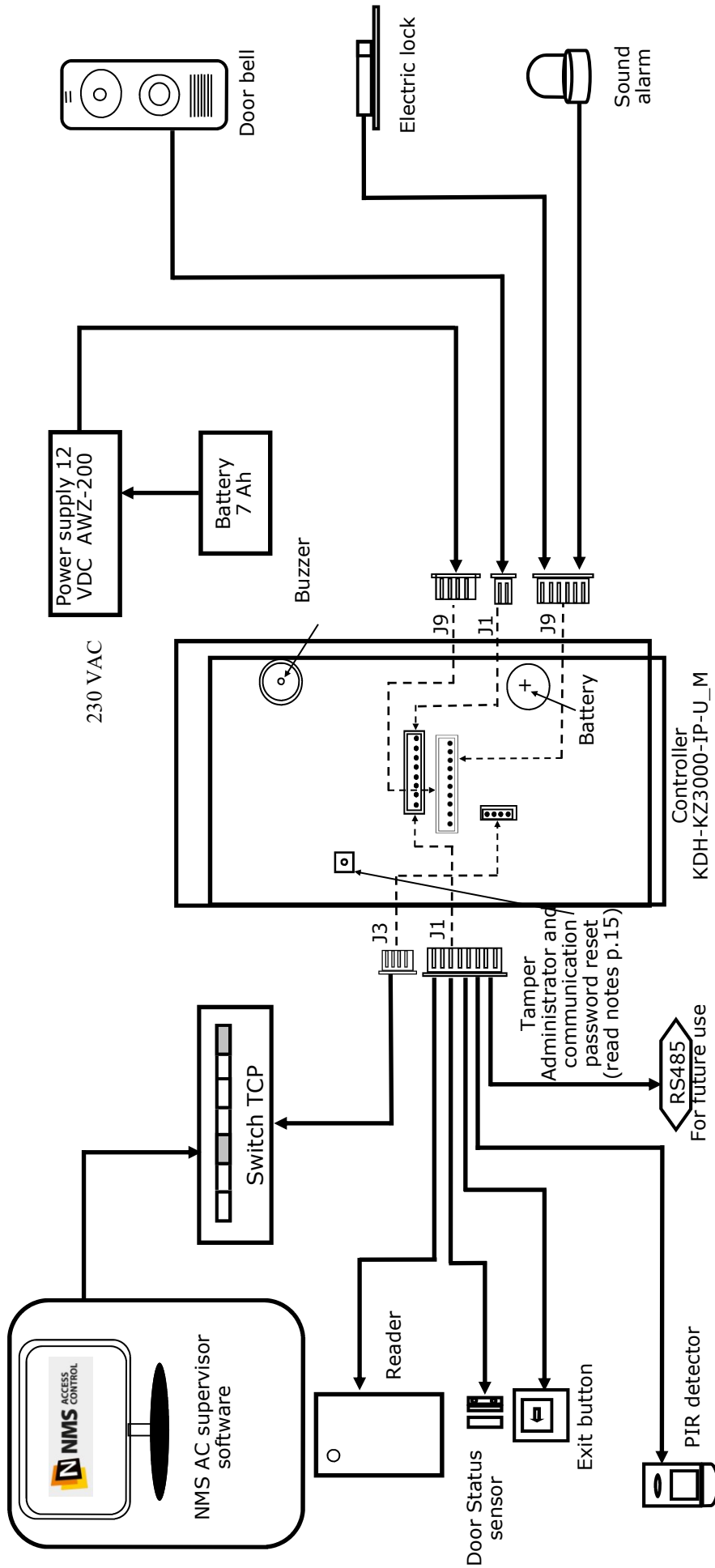


Alarm sounder connection



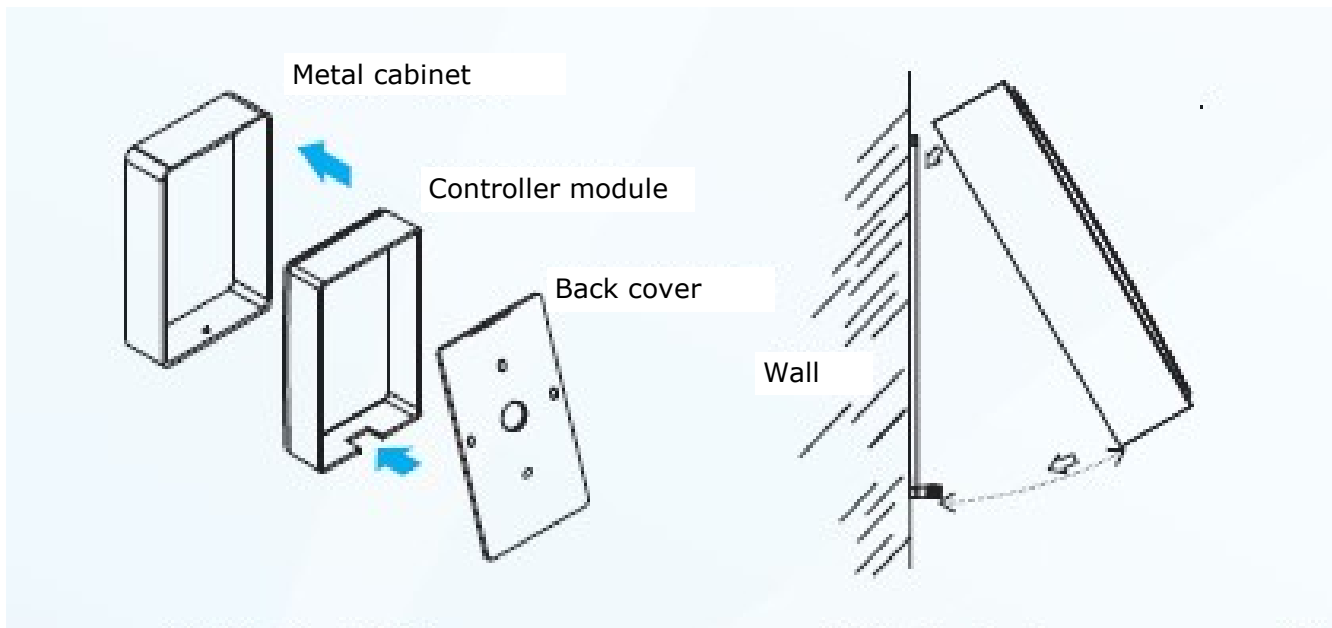
Connector J1 - 8 pin

Reader, door status sensor, exit button and PIR motion detector connection.



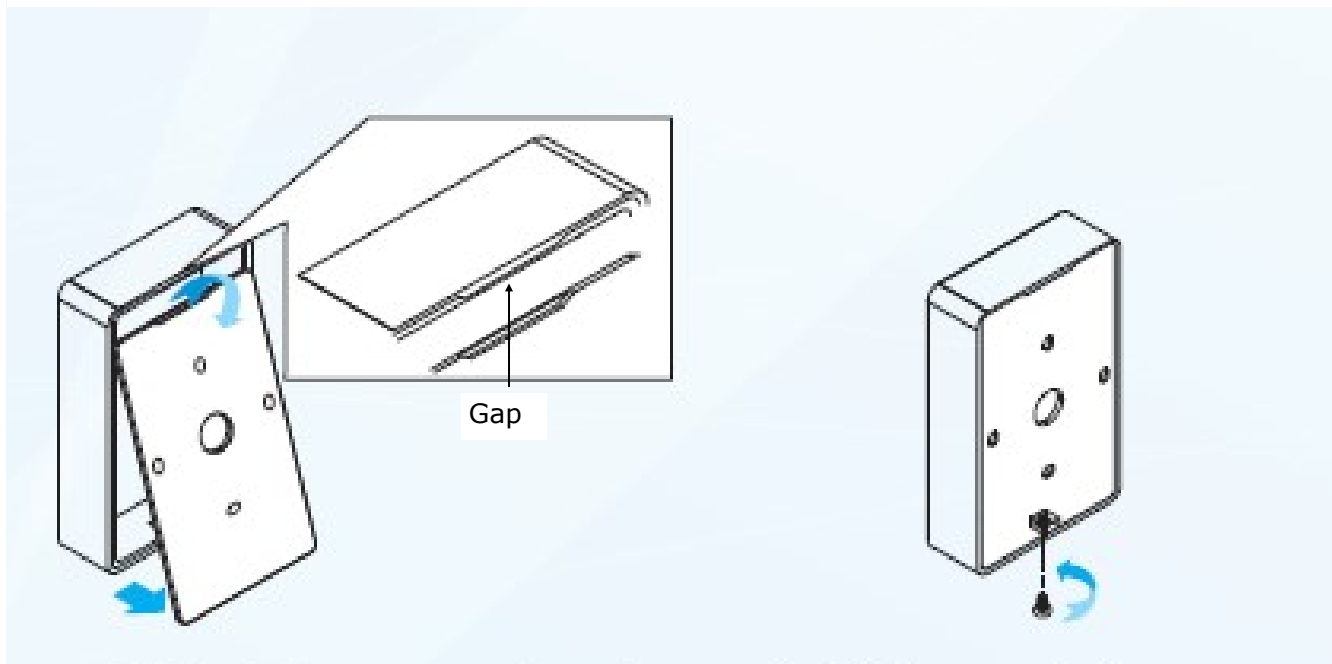
Block diagram of KDH-KZ3000-IP-U_M controller accessories connection
(details description on the previous page)

Installation instruction



1. Unscrew the bottom screw and separate the rear panel of the controller. Use it as a template for the mounting holes. Drill 4 holes for the mounting screws and one in the middle for the cables.

2. Attach the back cover of the controller to the wall. Place the plugs from the wires in the appropriate sockets and drag them to the other side of the wall.



3. Mount the controller module on the back cover. Pay attention to the slot on the top edge of the controller case and use it as a catch.

4. Push the controller module with the housing to the back cover and secure it with a screw from the bottom.

5. Programming controller in standalone mode

Controller KDH-KZ3000-IP-U_M can be operated in stand-alone mode or network under the supervisory software NMS AC installed on your computer. Working in stand-alone mode (without communication with the supervisor software on the PC) must be programmed using the controller's built-in keypad. There is no in this mode the possibility to monitor the system "on-line" and generate reports. Cards added in this mode works without any time limit. This mode is recommended for the control a few doors with a small number of users. It is also possible operation of the controller in the "off-line" after being programmed by supervisory software with controller connecting using TCP port.

Programming procedure using the keyboard controller

Signalling functions:

- audible alarm (buzzer)
 - Single long sound - the operation succeeded or enter the menu
 - Triple sound - the operation was not successful
 - Quad sound - at the selected position is already stored card
 - Triple sound - card with this number is already added
- Optical indicator (LED)
 - Red LED - Power on
 - Blue LED - programming mode
 - Green LED - confirmation of the validity of the operation

5. 1 The procedure for entry into the programming mode:

- Press *
- Enter the master code (default "000000")
- Green LED should light up permanently

If no password is entered correctly within 20 seconds after pressing * it automatically returns to normal. Even after entering the programming mode, no keypad operation for 20 seconds to exit the programming mode. After entering the programming mode, you can make only one type of operation. To perform the next operation re-enter the programming mode.

Notes: Default admin code **000000** must be change after first enter into programming mode for own using **41** command code. Leave default code allows unauthorized persons enter into programming mode and add own card. Reset admin password is available from NMS AC - Configurations/Devices/Operations/Initialize. New password should be download to the controller.

Procedure exited from programming mode:

(After programming)

- Press # - a single sound, red LED light.

5.2 Configuring basic parameters include:

- controller initialization
- enable / disable the alarm
- tamper sensor alarm
- parameters of exit button
- door status sensor parameters
- alarm parameters

5.2.1 Controller initialization

- After entering the programming mode enter the code **11**
- The process takes about 30 seconds, during which the controller generates beep every 0.5 seconds
- After this time, the controller generates a long beep and exits the programming mode

Initialization operation erases the controller configuration settings (including a database of cards) and restore the factory settings. Administrator password has been set to default (000000).

5.2.2 Enable / disable alarm

After entering the programming mode enter the code:

- **121** alarm on
- **122** alarm off

5.2.3 Tamper Alarm

After entering the programming mode enter the code **13**, then:

- Code **00** when you want to disable the monitoring of the sensor
- code **01** to activate monitoring

When a tamper alarm is activated an attempt to remove the unit from the wall will turn on internal buzzer in the controller and an alarm sound. This option should be activate only after installing the controller on the wall.

5.2.4 Setting the parameters of the exit button

After entering the programming mode enter the code **141**, then:

- **01** code for the NO type button (normally open - Default setting)
- **00** code for the NC type button (normally closed)

After entering the programming mode enter the code **142**, then:

- **01** code button enable (default)
- **00** code button disabled

5.2.5 Setting the parameters of the door sensor detection line

After entering the programming mode enter the code **151**, then:

- **01** code for the NO type sensor (normally open - Default setting)
- **00** code for the NC type sensor (normally closed)

After entering the programming mode enter the code **152**, then:

- value from **00** to **99** seconds (default-3 sec.)

This is the time to close the door after time to unlock leaf.

5.2.6 Setting the parameters of the alarm line

After entering the programming mode enter the code **161**, then:

- Code **01** for NO type detector (normally open - default setting.)
- Code **00** for NC type detector (normally closed)

After entering the programming mode enter the code **162**, then:

- value from **00** to **99** seconds (default - 0 sec. default settings)

This is the time of relay alarm action.

Value 0 second time means "Alarm action Synchronous with input state".

Value from range 1 to 99 means "Alarm action delay time".

After entering the programming mode enter the code **163**, then:

- value **1** if the alarm siren will be activated relay 1
- value **2** when the alarm siren will be activated relay 2
- value **3** when the alarm siren will be activated relay 1 and 2
- value **4** when none of these relays will not switch

5.3 Setting the control parameters and identification mode of doors

After entering the programming mode enter the code **21**, then:

- value from **00** to **99** seconds (default - 3 sec.)

This is the time by which, when a valid card or code is used the door will be unlocked.

After entering the programming mode enter the code identification mode:

- **221** - Card only
- **222** - Card + PIN
- **223** - PIN only
- **224** - Card or PIN

6. User Management

In standalone mode can be added up to 2000 users. Each user must be assigned with ID from 0000 to 1999 in the programming process and then assigned access card number read by the reader. This allows the system administrator can remove the user from the database without the need a card (which can be erg. lost), knowing only the user's ID code. Cards added in standalone mode have full access to the passage (24 hours a day, 7 days a week). In contrast to the added cards from the program, which can be assigned to a limited level of access. To avoid the need for dual record cards and disadvantages related to the two databases cards in practice, it is recommended to use only one controller mode - standalone or network. Before adding users, it is recommended that the administrator has created a list of users with assigned four-digit ID code. This makes it easier to add new users later, and in particular the removal of lost cards.

6.1 Adding a package of cards

After entering the programming mode enter the code **31**, then:

- Enter the ID of the first user of the package
- Close the cards one of the other to the reader

After read each card reader will generate a single beep.

- Repeat the operation for the next card
- After loading press #

Read the card will be credited automatically generated ID numbers. The process is best preceded by the preparation of a list of IDs, user names and card numbers.

6.2 Adding a single card

After entering the programming mode enter the code **32**, then:

- Enter the user ID from the list
- Close the cards one of the other to the reader

After you read the card reader will generate a single beep and automatically exits the programming mode.

6.3 Adding a package of cards with PIN codes (6 digits)

After entering the programming mode enter the code **33**, then:

- Enter the ID of the first user of the package
- Close the cards one of the other to the reader
- Enter the PIN -> enter the PIN again
- Repeat the operation for subsequent reading cards with PIN codes

After each added card reader generate a single beep. Read the card will be credited automatically generated ID numbers.

- After loading press #

6.4 Adding a single card with a PIN code

After entering the programming mode enter the code **34**, then:

- Enter the user ID from the list
- Close the cards one of the other to the reader
- Enter the PIN -> enter the PIN again

After you read the card and enter your PIN, the controller will generate a single beep and automatically exits the programming mode.

6.5 Adding a group of users with PIN codes

After entering the programming mode enter the code **35**, then:

- Enter the ID of the first user of the package
- Enter the PIN -> enter the PIN again
- Repeat the operation to enter PIN codes for next users

After each added user controller will generate a single beep. PIN codes entered will be added to the next automatically generated ID numbers.

- after loading press #

6.6 Adding a single user with a PIN code

After entering the programming mode enter the code **36**, then:

- Enter the user ID from the list
- Enter the PIN -> enter the PIN again

After a user added the controller generates a single beep and automatically exits the programming mode.

7.1 Deleting a single user with a card or PIN

After entering the programming mode enter the code **37**, then:

- Enter the user ID from the list

or

- Close deleting card to the reader

After you read the card controller will generate a single beep and automatically exits the programming mode.

7.1 Removal of all users

After entering the programming mode enter code **38**.

This process can take more than 10 seconds. Then the controller will generate a single beep and automatically exits the programming mode.

8.1 Administrator PIN code - used to enter the programming mode

After entering the programming mode enter the code **41**, then:

- Enter the PIN -> enter the PIN again

After adding a new administrator PIN code controller will generate a single beep and automatically exits the programming mode.

NOTE: The default master code 000000 is mandatory to change after the first entry into this mode on your own code using the command 41. Leaving the default code allows third parties to enter into this mode and operations, e.g. adding his own card. If you do not know the master code reset can be performed from within the program NMS AC - Configurations/Devices/Operations/Initialize.

8.2 PIN code security

After entering the programming mode enter the code **42**, then:

- Enter the PIN -> enter the PIN again

After adding a PIN controller generates a single beep and automatically exits the programming mode. This code can be used in the event of a forced entry - the doors are unlocked mode and alarm signal is sent to the on-line monitoring at the operator station.

Programming codes table - standalone mode

Parameter name or function	Function code (after enter into programming mode)
Programming mode	
Enter programming mode	* plus admin code PIN
Exit the programming mode	#
Basic parameters	
Controller initialization	11
Enabling alarm Disabling alarm	121 122
Tamper alarm	13 (00 disable 01 enable)
Exit button input line parameters	141 (01 - type NO, 00 - type NC) 142 (00 disable 01 enable)
Door magnet input line parameters Door open time-out (after unlock time-out) Door open delay (unlock time)	151 (01 - type NO, 00 - type NC) 152 (00 - 99) sec., 3 sec. default 21 (00 - 99) sec., 3 sec. default
Alarm input line parameters Alarm action delay Alarm relay output	161 (01 - type NO, 00 - type NC) 162 (00 - 99) sec., 0 sec. default 163 (1 -RL1, 2 -RL2, 3 -RL1&2, 4 -no out)
Access mode setup	
Card only	221
Card + PIN	222
PIN only	223
Card or PIN	224
User management	
Add card continuously	31
Add single card	32
Add card + PIN continuously	33
Add single card + PIN	34
Add user with PIN continuously	35
Add single user with PIN	36
Delete single card	37
Delete all cards	38
Admin password setup (programming mode)	41
Threaten code setup	42

Notes: Default admin code **000000** must be change after first enter into programming mode for own using **41** command code. Leave default code allows unauthorized persons enter into programming mode and add own card. Reset admin password is available from NMS AC - Configurations/Devices/Operations/Initialize.

Programming the controller in network mode

Controller KDH-KZ3000-IP-U_M can operate in stand-alone mode or network mode under the supervisory software installed on computer.

It is also possible operation of the controller in the "off-line" after programming with the supervisory software when the controller is connected through an IP port.

Supervisory program on PC gives a much more powerful programming and monitoring system based on controllers KDH-KZ3000-IP-U_M.

General guidelines for the installation of the controller

- Before installing the controller should be familiar with this manual.
- Installation of the controller can be performed only by qualified personnel with the appropriate certified to install and service this type of equipment.
- The controller must be installed within a protected space at a temperature of above + 2 ° C and normal humidity.
- Controllers in the system should be located so that the minimum distance from cables and high-voltage devices and other devices that generate electrical noise was 2 m. The minimum distance from telephone lines should be 1 m, and from 8 m transmitting devices.
- As the housing of the controller is equipped with a tamper sensor so care must be taken to the surface for mounting the controller housing it was hard and smooth.
- The controller should be powered from a linear power supply with backup battery with parameters. 12 VDC, 1A. This takes into account the possible supply of an electric lock with the same power supply. In this case the at the lock terminals should be installed diode 1N4004 in the reverse direction.
- Wiring and performing any work on the internal components of the controller while power is categorically prohibited. This can lead to damage.
- Before connecting the controller to the power supply must perform all the necessary connections in accordance with the instructions.
- The connection to the computer is to be implemented using the IP port.
- Each controller must be set to a different IP address.

NOTES: *Tamper and recover administrator and communication password (for location look at diagram on page 8):*

Keeping pressing the button (with small spring), device will under tamper status.

To clear administrator password by pressing the button for three times, and administrator password return to default 000000 and clear communication password.

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