

Pandora would like to thank you  
for choosing Pandora Control module

# Pandora CONTROL

Our web site: **[pandorainfo.com](http://pandorainfo.com)**

Customer support: **[support@pandorainfo.com](mailto:support@pandorainfo.com)**

Product is in conformity with Electromagnetic  
Compatibility Directive EMC 2004/108/EC  
and R&TTE Directive 1999/5/EC



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## SYSTEM SET

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NOTE! THE MANUFACTURER RESERVES THE RIGHT TO CHANGE THE SYSTEM SET AND CONSTRUCTION OF THE PRODUCT TO IMPROVE ITS TECHNOLOGICAL AND OPERATIONAL PARAMETERS WITHOUT NOTIFICATION.

## FEATURES



- **Built-in LTE module (4G LTE/3G/2G | GPS/GLONASS)** – provides a connection with our online service [pandora-on.com](http://pandora-on.com) and mobile application Pandora Connect, allows to determine LBS and GPS/GLONASS coordinates, to control and manage unit using SMS messages, Push messaging, automatic date and time correction by UTC.

- **Built-in nano-SIM** port is used to work with the built-in GSM modem.\*

\* For the correct operation of the GSM functions, an owner should monitor the status/balance of the SIM-card installed in the module. If the SIM-card is blocked or defective, GSM functions of the system will be unavailable.

- **2,4 GHz radio channel, Bluetooth 5.0 protocol (BT5.0)** – supports additional Bluetooth devices (see the «Additional devices» section), including a mobile phone.

- **Built-in 3D accelerometer (digital shock/motion/tilt sensor)** – controls «Accelerometer trigger», «Shock sensor alarm» and «Dismantling» functions.

- **LED indicator (RED)** – displays the state of modes and functions.

- **VALET button** – is used for activation and changing the settings of the module.

- **Built-in battery** – provides operation in «Autonomous beacon» mode.

- **External power supply 12-24V** – provides operation in «Constant connection» mode.

- **Ignition input** – enables the «Tracking» and «Built-in battery charge» functions.

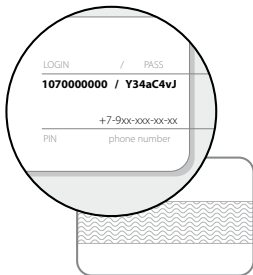
- **Programmable channel** – maintain the extended operation mode of the digital engine preheaters (Webasto and Eberspacher), works as analog input/output.

## Owner's personal card



**WARNING!** ERASE THE PROTECTIVE LAYER CAREFULLY. DO NOT USE ANY SHARP OBJECTS TO AVOID DAMAGING OF A HIDDEN INFORMATION UNDER THE PROTECTIVE LAYER. THE INFORMATION ON THE OWNER'S PERSONAL CARD COULD NOT BE CHANGED OR RESTORED IN CASE OF DAMAGE OR LOSE.

- **LOGIN** is a 10-digit number. This information is used to add module to the online service and mobile application.
- **PASS** contains 8 characters and can consist of digits, lower and upper case letters. This information is used to add module to the online service and mobile application.
- **Phone number** is a phone number of the preinstalled SIM-card.
- **PIN** not used.



**WARNING!** IT IS FORBIDDEN TO DAMAGE THE PROTECTIVE LAYER OF THE «OWNER'S PERSONAL CARD» - THE INFORMATION UNDER THE PROTECTIVE LAYER OF THE CARD IS INTENDED ONLY FOR THE OWNER OF THE DEVICE. WHEN THE OWNER COMPLAINS ABOUT THE ERASED PROTECTIVE LAYER, THE DEVICE IS REINSTALLED AT THE EXPENSE OF THE INSTALLER.

## MODES AND FUNCTIONS

**Transportation mode.** This mode is active since the moment of manufacture of the device. The module will exit this mode after configuring the owner's phone number and connecting of the external power supply. If all phone numbers are deleted from the memory and the external power supply is disconnected from the module, the device will activate the transportation mode again.

**Constant connection mode.** The main mode, designed to operate with the external power supply (+12V/+24V) and ignition input connected. In this mode the module is in a constant connection with online services and peripheral Bluetooth devices.

- **Tracking** is an automatic function of the "Constant connection" mode. It allows to determine coordinates and track the routes in the online services. This function is enabled by ignition status appearance and is disabled with ignition status disappearance.
- **Shock sensor alarm.** This function of the "Constant connection" mode detects movement of the module and sends the alarm notification, if the authorization devices are not in the coverage zone of Bluetooth connection of the module. This function is enabled remotely by a user using the online services.
- **Dismantling.** This automatic function of the "Constant connection" mode allows to detect the overturn of the module and sends the alarm notification to the owner.
- **Power off alarm** is an automatic function of the "Constant connection" mode. It allows to control the disconnection of the external power supply and sends alarm notification to the owner.

• **Built-in battery charge** is an automatic function of the “Constant connection” mode. It allows to charge the built-in battery while ignition is on.

**Autonomous beacon mode.** The additional mode designed to work from the built-in battery when the external power supply is disconnected. The device “wakes up” (switch on GSM/GNSS interfaces) for a short time with a pre-set periodicity in order to inform the owner about its location and state, send and receive SMS messages, connect to the online services.

• **Activation period / Activation time** – a configurable functions of the “Autonomous beacon” mode. They allow the module to “wake up” at a specified time period or with a specified frequency. Configuration is made by the owner via online services.

• **Accelerometer Trigger / Accelerometer Timeout** – a configurable functions of the “Autonomous beacon” mode. They allow to “wake up” the module by the external impact. Configuration is made by the owner via online services.

• **Tracking mode / Duration of tracking mode operation** – a configurable functions of the “Autonomous beacon” mode. They allow to determine the module location with route tracking in online services. Configuration is made by the owner via online services and/or SMS messages.



**WARNING! IF THE MODULE IS IN THE «AUTONOMOUS BEACON» MODE, THE «TRACKING» FUNCTION WILL BE ENABLED AFTER THE NEXT ONLINE SESSION OF THE MODULE.**

**Service mode** is an additional mode designed to disable the programmable channel (engine preheater control, analogue input/output) and alarm notifications during technical maintenance of the vehicle.

Enabling/disabling of this mode is made by the user using the online services by the «Switch on Service mode» and «Switch off Service mode» commands. If radio tags or a mobile device are paired with the module and the «Allow using phone as a tag» and/or «Allow use of tags» functions are enabled, then the mode can be enabled only when a radio tag or a mobile device is in the coverage zone of Bluetooth connection of the module.

## Functions of the VALET button













Functions	VALET button	LED indicator
Activation	Hold for 3 seconds	3 short flashes
Remove mobile device	Hold for 6 seconds	6 short flashes
Firmware update	Hold for 10 seconds	9 short flashes+ following smooth flicker

Activation - the function enables the module interfaces to change its parameters and settings.

Remove mobile device - erasing a previously recorded mobile device from the module memory.

Firmware update - updating the module firmware via a Bluetooth connection.

## Signals of the LED indicator

		Bluetooth connection is available
		Uploading data to the server
		GPS coordinates detection
		Main owner phone can be programmed
		Available for an incoming call
		Incoming call
		Tracking mode is active

## ONLINE SERVICE AND MOBILE APP

In order to use our online services pandora-on.com and mobile app, it is required to create an account (Registration), login to your account (using your e-mail and password created on the registration step) and add your device to your account (enter information from the «Owner's personal card»).

To create an account visit the web-site or open mobile application and follow the Registration procedure.

Online service is available by the link:

<https://pandora-on.com>

The **Pandora Connect** mobile application is available for downloading from the corresponding app store:

App Store (iOS);  
Google Play (Android).



Use QR-code to download the application!



**WARNING!** THE MANUFACTURER RESERVES THE RIGHT TO MAKE CHANGES OF THE INTERFACE AND FUNCTIONALITY OF THE ONLINE SERVICE AND MOBILE APPLICATION WITHOUT NOTIFYING THE CONSUMER.

During the registration process you will create data, that is used to login to the account:

“Login” – your e-mail address;

“Password” – your own password.

An e-mail with the confirmation link will be sent to your e-mail address after the registration procedure is completed. The registration of the account will be completed after you follow the provided link.

After completing of the registration process, you can login to the online service via a computer’s web browser or via the mobile app Pandora Connect. Go to the «Add a device/Add a system» window and enter the LOGIN and PASS from the «Owner’s personal card», create a name for your module and click «Add». After this, you will be able to control, change setting and get information about the module state through the online services.



**WARNING!** ERASE THE PROTECTIVE LAYER CAREFULLY. DO NOT USE ANY SHARP OBJECTS TO AVOID DAMAGING OF A HIDDEN INFORMATION UNDER THE PROTECTIVE LAYER.

## MOBILE APP PANDORA NAV BT

Pandora NAV BT application is a special tool for a fast and easy programming and updating firmware of the module. The connection between the application and the module is established only with the mobile device that was previously added to the system memory via a special coded Bluetooth protocol.

You can download free Pandora NAV BT application for your mobile device in the Google Play (Android).

### **Pairing/removing mobile device**

- To pair a mobile device with the module:
  - Turn on the Bluetooth on your phone and run the preinstalled Pandora NAV BT app;
  - Press and hold the VALET button for 3 seconds (3 flashes of the LED), release the button after the third flash – the module will activate the Bluetooth connection;
  - Select the found device in the «Search» menu of the application, enter the pairing PIN-code 0-0-0-0-0, the devices will be paired after confirming the PIN-code entry.
- To remove a mobile device from the module memory:
  - Press and hold the VALET button for 6 seconds (until a 6 flash of the LED), release the button after the 6th flash – the module will remove the previously paired device.

**NOTE!** TO RE-PAIR THE MOBILE DEVICE WITH THE MODULE, IT IS NECESSARY TO REMOVE THE EXISTING BLUETOOTH CONNECTION FROM THE MOBILE DEVICE AND FROM THE MODULE.

## CONTROL USING SMS COMMANDS

The module can receive and execute SMS commands. The module receives SMS messages and executes commands in "Autonomous beacon" and «Constant connection» modes. To protect the module against unauthorized messages each command must contain the Service PIN-code - XXXX (factory default value is 1-1-1-1).



WARNING! IT'S STRONGLY RECOMMENDED TO CHANGE THE DEFAULT VALUE OF THE SERVICE PIN-CODE.

**XXXX\*PIN\*YYYY\*** – Changing the "Service PIN-code". This command can be executed only from the phone number that has been previously programmed in the module memory **XXXX** – current PIN-code (default value is 1-1-1-1), **YYYY** – new PIN-code.

**XXXX\*666\*** – Switching on the "Tracking mode". The module will activate the "Tracking mode" for a previously specified period or until a command to switch it off would be received.

**XXXX\*999\*** – Switching off the "Tracking mode".

**XXXX\*ALARM\*YYY\*** – Setting periodicity of communication. **YYY** – hours value from 001 to 168.

**XXXX\*500\*** – Request current location.

**XXXX\*100\*** – Request balance of the SIM-card.



WARNING! MOST MOBILE OPERATORS STORE UNDELIVERED MESSAGES FOR NO MORE THAN 24 HOURS.

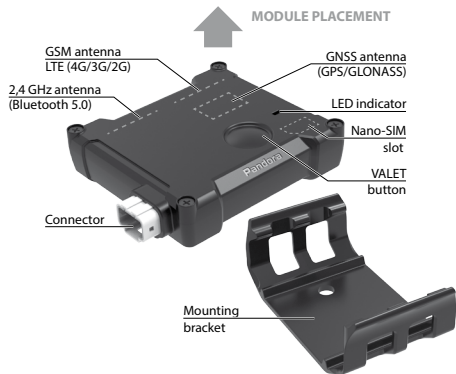


## INSTALLATION



**WARNING!** THE MODULE INSTALLATION AND CONFIGURATION MUST BE CARRIED OUT ONLY BY A SKILLED PROFESSIONAL.

Before installation update the software and program the module using the Pandora NAV BT mobile application. After programming all necessary settings delete the mobile device from the memory by pressing and holding the VALET button for 6 seconds and pair the owner's mobile device.



**WARNING!** THE MODULE IS DESIGNED TO OPERATE AT TEMPERATURES FROM  $-40^{\circ}\text{C}$  TO  $+85^{\circ}\text{C}$ , THE DEGREE OF PROTECTION IS IP40.



**WARNING!** DO NOT SHIELD THE BUILT-IN ANTENNAS. KEEP MINIMUM DISTANCE OF 2 CM BETWEEN THE MODULE AND METAL PARTS.

### General installation requirements

- When installing a module pay attention to the signal reception conditions for the built-in GSM, GNSS, 2.4 GHz antennas (the signal can pass through plastic or glass, but metal surfaces can shield antennas).
- The module must be placed horizontally with the front side on the top (the side with the «VALET» button and the «LED» indicator).
- Use a rigidly fixed by any means mounting bracket from the kit to install the module (the module must be secured to the vehicle body for a correct operation of the built-in shock sensor).
- The module must be installed in places where there are no any liquids, condensate and high temperatures.
- The module installation should be performed only when the connector is disconnected.
- The connections of the wires and their insulation must be carried out in accordance to the vehicle manufacturer's requirements.
- Do not place wiring in places where the wires isolation can be damaged by abrasion. Wiring through the holes must be carried out through the special rubber bushings.

• To avoid the connection loss because of vibration during driving, ensure that there is a bit of free length to the wiring, providing enough sagging.

## Wires description

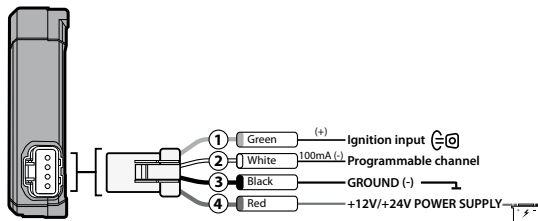
**№1 | Green | Ignition input** – ignition status. The wire must be connected to the ignition switch or the wire, where +12V/+24V appears when the ignition is turned on and does not disappear until the ignition is turned off. This input is mandatory for connection.

**№2 | White | Programmable channel** – control/management of additional equipment. Pandora NAV BT mobile application and pandora-on.com online service allow to implement one of the following settings:

- management over the engine preheater (Webasto/Eberspacher);
- negative status input (hood switch);
- negative output 100 mA (impulse control/ potential control/engine blocking mode).

**№3 | Black | GROUND (-)** – external power supply. It should be connected to a vehicle grounded spot. This wire must be connected **FIRST** during the installation, mandatory for connection.

**№4 | Red | POWER SUPPLY +12V/+24V** – external power supply. It should be connected to the reliable conductor with a constant voltage of +12V/+24V. Mandatory for connection.



## Installation/replacing SIM-card



**WARNING!** THE PREINSTALLED SIM-CARD IS PAIRED WITH THE MODULE BY DEFAULT AND CANNOT WORK WITH OTHER DEVICES.

Make sure that a new SIM-card is working. Insert the SIM into your mobile phone and check the following services: voice communication, SMS, internet connection. Disable PIN request of the SIM.

1. Disconnect the external power supply from the module.
2. Unscrew all screws, carefully remove the cover from the module.
3. Press and hold VALET button for 10 seconds (10 short flashes of the LED indicator), release the button (the LED will perform flashes displaying Firmware update mode). During 1 minute install/replace the SIM card observing correct direction. If the LED is not flashing (built-in battery is discharged), installation/replacing of the SIM-card is not limited by time.
4. Close the cover and screw all screws. Program the module with Pandora NAV BT mobile application:
  - “System phone number” setting – specify a new number of the installed SIM card in the format +XXXXXXXXXX.
  - “Balance inquiry number” setting – specify a command of the “Balance request” corresponding to a mobile operator.
  - “GPRS (APN) operator access point”, “GPRS operator username”, “GPRS operator password” – enter APN settings of your mobile operator.

## PROGRAMMING

At the time of delivery the module is in «Transportation» mode. The module will exit this mode after setting of a main phone number.

Operation and configuration of the module is possible only when there is power supply from the external source (external power supply) or from the built-in battery:

- external power supply allows the module to operate in the «Constant connection» mode. Connection of the ignition input enables «Tracking» function;
- built-in battery allows the module to operate in «Autonomous beacon» mode. In this mode the module is online once a day at 12:00 a.m. (default settings).



**WARNING!** THE MODULE WILL ACTIVATE THE «TRANSPORTATION» MODE IF THE PHONE NUMBERS WERE NOT SET OR DELETED FROM THE SETTINGS AND THE EXTERNAL POWER SUPPLY IS DISCONNECTED.



**WARNING!** BEFORE PROGRAMMING THE MODULE IT IS RECOMMENDED TO UPDATE THE SOFTWARE USING THE PANDORA NAV BT MOBILE APPLICATION.

### Setting the main owner phone number

There are three ways to set the main owner phone number:

1. Pair a mobile phone with the preinstalled Pandora NAV BT mobile application (see the PANDORA NAV BT MOBILE APPLICATION section). If the previously established Bluetooth connection was lost and the

module is in an energy saving mode, press and hold VALET button for 3 short flashes of the LED (3 seconds). The module will activate Bluetooth connection with the mobile device. Enter the «Settings-Phone» menu and set your phone number in the following format +XXXXXXXXXXXX in the «Notification number 1» field. Disconnect a mobile device after the settings were made.

2. Log in to the pandora-on.com with the previously registered account. Go to the «Settings-Notifications» menu. Enter the main owner phone number in the «Main number» field in the following format: +XXXXXXXXXXXX. Save settings after entering the number.

3. Press and hold the VALET button for 3 seconds (3 short flashes of the LED) to activate the module. Release the button after the third flash.

The module will enter the settings mode. After that, it will be available for a call within two minutes. Make a call from the owner's number to the phone number of the device during this time. The system automatically will remember the number of the incoming call as the main owner number and will end the call.

## ADDITIONAL DEVICES

Additional peripheral devices are designed to supplement module with anti-theft functions (Immobiliser).

Pairing and configuration of additional devices are made in Pandora NAV BT mobile application. Module supports operation of: three radio tags BT760/770/780, two radio relays BTR-101, one radio module RHM-03BT.



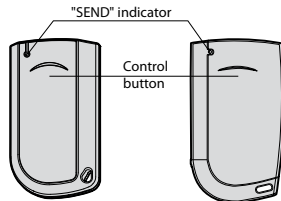
**WARNING!** INSTALLATION AND CONFIGURATION OF THE PERIPHERAL DEVICES MUST BE CARRIED OUT ONLY BY A SKILLED PROFESSIONAL.



**WARNING!** TO OPERATE RADIO RELAY BTR-101 AND RADIO MODULE RHM-03BT IT IS NECESSARY TO CONNECT THE EXTERNAL POWER SUPPLY AND IGNITION INPUT ON THE MODULE.

### Radio tags BT-760 | BT-770

**| BT-780** - are peripheral devices for the automatic owner authorization, designed to control functions when approaching or distancing from the module.



#### Functions of a tag:

- Automatic control of the engine blocking using a radio relay BTR-101 or a radio module RHM-03BT;

- Automatic control of the hood lock using a radio module RHM-03BT;
- Prohibition of sending the alarm notifications when a tag is in a coverage zone and "Use LIN as input" and "Accelerometer trigger" functions are enabled.

#### Pairing a radio tag:

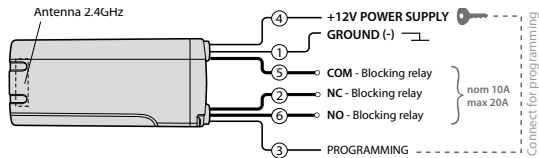
- Open mobile application NAV BT. Go to the "Peripheral devices" menu and press the "ENTER PAIRING MODE" button;
- Press and hold the control button on the tag until the sixth flash of the «SEND» indicator;
- If pairing was successful, the radio tag will be displayed in the App;
- To pair second and third tag repeat the procedure;
- Finish pairing by pressing the "EXIT PAIRING MODE" button;
- Enable «Allow use of tags» function.

**Radio relay BTR-101** – is a peripheral device designed to manage the engine blocking.

#### Functions of the relay:

- Engine blocking when ignition is ON and the radio tag is not in coverage zone, disabling engine blocking when the radio tag is in coverage zone;
- Automatic engine blocking on unauthorized motion in absence of connection with the module;
- Engine blocking on or without motion («Engine blocking on motion» function);

- Enabling and disabling engine blocking through online services (it is necessary to set «programmable channel» mode as Engine blocking.



#### Pairing a relay:

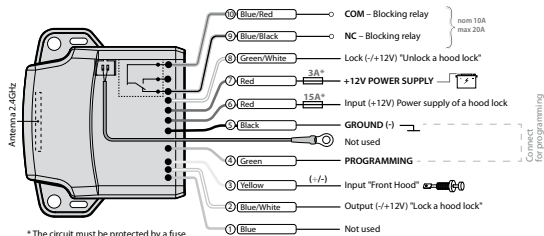
- Connect the wire 1 to a grounded spot of a car;
- Open mobile application NAV BT. Go to the "Peripheral devices" menu and press the "ENTER PAIRING MODE" button;
- Connect the wire 3 to the wire 4. Connect them to constant +12V;
- If pairing was successful, the radio relay will be displayed in the App;
- Finish pairing by pressing the "EXIT PAIRING MODE" button;
- Disconnect the wire 3, insulate unused wires.

**Radio module RHM-03BT** – is a peripheral device designed to monitor the hood switch position, manage the engine blocking and control the front hood lock.

#### Functions of the module:

- Closing the hood lock when ignition is OFF, unlocking the hood lock when ignition is ON and the radio tag is in coverage zone;

- Engine blocking when ignition is ON and the radio tag is not in coverage zone, disabling engine blocking when the radio tag is in coverage zone;
- Automatic engine blocking on motion in absence of connection with the module;
- Engine blocking on or without motion («Engine blocking on motion» function);
- Automatic engine blocking by loss of connection with the module («Activating radio relay blocking before going into sleep mode» function).



- If pairing was successful, the radio module will be displayed in the App;
- Finish pairing by pressing the "EXIT PAIRING MODE" button;
- Disconnect the wire 4 (Green), insulate unused wires.

#### Pairing a module:

- Connect the wire 4 (Green) to the wire 5 (Black). Connect them to a grounded spot of a car;
- Open mobile application NAV BT. Go to the "Peripheral devices" menu and press the "ENTER PAIRING MODE" button;
- Connect the wire 7 (Red) to constant +12V;

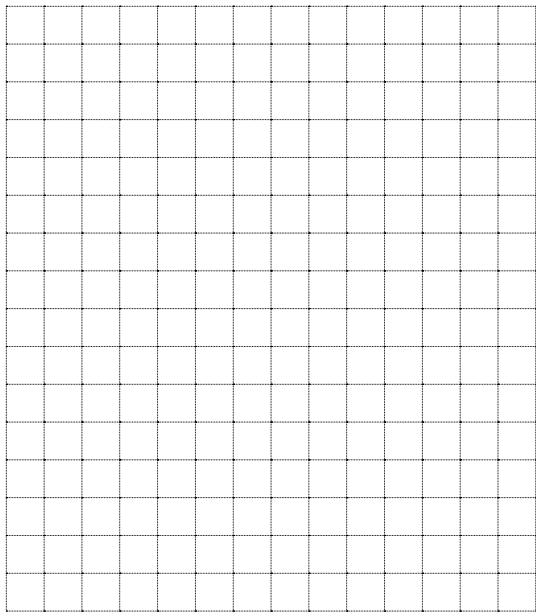
## WARRANTY OBLIGATIONS

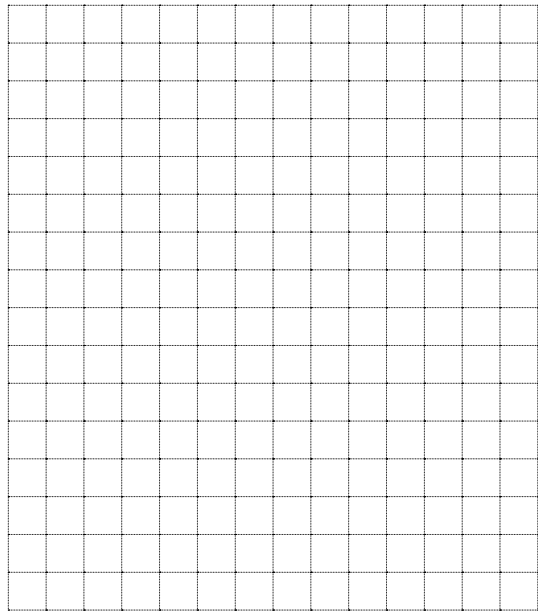
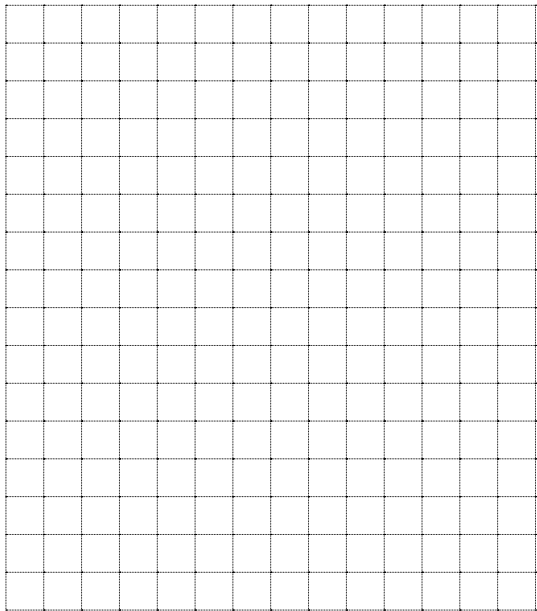
The manufacturer guarantees correct operation of the device if exploitation, installation, storage and transportation conditions described in this manual were met. The device should only be used according to the manual. Parts malfunctioning during warranty period on the fault of the manufacturer should be repaired or replaced by the installation center of the manufacturer or by certified service center. A user loses the right for warranty services in the following cases:

- when the warranty period expires;
- if exploitation, installation, storage or transportation conditions were not met;
- if there is mechanical damage of the external parts of the device after it is sold. This includes: fire damage, consequential damage in case of car accident, aggressive liquids and water seeping damage, damage caused by improper use;
- if the damage was caused with incorrect settings and parameter adjustment;
- if there is no properly filled warranty card and installation certificate.

**Warranty period is 3 years since the moment of purchase, but no more than 3,5 (three and a half) years since the moment of production.**

This warranty does not include batteries, as they have their own service life time. Maintenances and repairs of the system with expired warranty period are carried out at the expense of the user on separate contracts between the user and the installer/service center.







## ACCEPTANCE CERTIFICATE

Model Pandora Control is in conformity with Electromagnetic Compatibility Directive EMC 2004/108/EC and R&TTE Directive 1999/5/EC.

Serial number \_\_\_\_\_

Date of production « \_\_\_\_\_ » \_\_\_\_\_ 20 \_\_\_\_ year

Responsible person's signature (stamp) \_\_\_\_\_

Packager \_\_\_\_\_ Signature \_\_\_\_\_  
(personal stamp)

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## WARRANTY CARD

Model **Pandora Control**

Serial number \_\_\_\_\_

Date of purchase « \_\_\_\_\_ » \_\_\_\_\_ 20 \_\_\_\_ year

Seller's (installer's) stamp \_\_\_\_\_

Seller's signature \_\_\_\_\_