



*MORE THAN 15 YEARS PROTECTING CARS*





### WWW.PANDORA-ON.COM PERSONAL MONITORING & CONTROL FROM ALL INTERNET DEVICES

Control and monitor your vehicle through your own online portal at [www.pandora-on.com](http://www.pandora-on.com), using any device with internet connection (PC, smartphone or tablets) to get even more features and control. You will be able to generate reports, assign system control to other users, create notification rules, manage vehicle fleets, activate Geo Fences and much more.



### OWNER PERSONAL SAFETY

In the unfortunate event that you are involved in a vehicle accident or in an emergency, you press the SOS button and your Pandora alarm system will instantly send an important notification to your saved group of emergency telephone numbers (programmed on installation by your dealer). The system will also transmit your exact vehicle location and coordinates. The accident will be stored as an event in the on-line event history for your future record.



### MOBILE APPS

Comprehensive mobile apps compatible with iOS & Android smartphones and tablets. Detailed description is available in the section «Mobile apps».



### ACTIVE SECURITY

Timely notification of the owner in the event of vehicle towing or loss of connection with the system.

### MULTICHANNEL RADIO ACCESS AT 868 MHz

Stable and reliable connection to the remote control with the system (protection by dialogue encryption AES 128 bit)



- 868 MHz - a modern radio path with an increased communication range
- LoRa 868 MHz - new ultra-rapid radio path with algorithmic modulation, which features recordbreaking communication range and low power consumption.



### BLUETOOTH INTERFACE

Wireless technology for communication of the system with accessories and a mobile device:

- BLE 4.2 - short-range wireless interface (up to 30 meters).
- BT 5.0 - modern interface with extended support for accessories and functions, increased communication range (up to 150 meters).

A complete list of accessories is available in the «ACCESSORIES» section.



### «START ENGINE» BUTTON UPGRADE OPTION

A special algorithm allows you to configure vehicles with a standard ignition switch with a start button.



### SLAVE MODE

Convenient system arming/disarming using original vehicle control, such as an original key, button or sensor of a key-less access entry system.



### OWNER'S PERSONAL CARD

A unique card containing personal information of the system under a protective layer, including a randomly generated «Secret PIN-code» for emergency disarming and deactivation of anti-theft protection modes.



### IMMOBILISER AND ANTI-HI-JACK FUNCTIONS

Control of security and anti-theft functions of the system (hands-free, Immobiliser, Anti-Hi-Jack, «SLAVE» mode) using hidden portable devices: Tags, Bluetooth remote controls, wrist watch, or mobile phones with the installed app.



### SMART REMOTE ENGINE START

Remote and automatic engine start, turbo timer and ignition support with reliable monitoring of the vehicle status information.



### BUILT IN USB INTERFACE

Micro USB - changing the basic settings and parameters of the system using the Pandora Alarm Studio and Pandora Specialist programs without connection to the vehicle power supply.



### ENERGY EFFICIENCY

Pandora security systems work on both new and old vehicles. The power consumption meets the requirements of all car manufacturers for supplementary aftermarket equipment.

# Pandora service-security systems features



#### BACKUP BATTERY

Notifications to the owner in case of unauthorized disconnection of the onboard power supply of the vehicle. Available thanks to the built-in or additional power source.



#### BUILT-IN SHOCK/TILT/ MOTION SENSOR

3D digital triple-axis accelerometer monitors vehicle's separate zones (shock/ tilt/ motion). This allows you to close the central locking and block the engine based on motion.



#### DIGITAL INTERFACES

Multi system CAN interface provides maximum features, security and anti-theft functions by reading status information from the digital buses and implementing engine blocking, remote engine start and bypass of the original immobilizer. LIN interface is also used to read status information or control of the engine pre-heaters (Webasto/Eberspacher).



#### INTEGRATED GSM-INTERFACE

- GSM - Simple phone control, fast voice and SMS notifications.
- GPRS - High quality internet connection for working with the website and mobile app.
- 4G LTE (3G/2G) - A modern high-speed internet connection for working with the website and mobile app.



• LBS - Vehicle location determination by the base stations of the cellular network.



• SIM (micro/nano) and/or SIM-chip are preinstalled in the system for a modem operation .



#### GPS/GLONASS POSITIONING

Detailed route tracking, precise constant monitoring of the vehicle's location and geofence definition in mobile app and internet service.



#### REMOTE ENGINE START ALGORITHM

«BAIKAL»

Automatic engine start parameters for vehicle operation in harsh winter conditions, or for customer's convenience.



#### GPS ANCHOR MODE

Automatic owner notification about the change of the GPS coordinates while system is armed.



#### MULTISIM-PROCESSING

Automatic and manual switching between SIM cards and/or SIM chip.



#### CODE IMMOBILISER MODE

Disabling the anti-theft functions of the system when entering a personal code using standard vehicle buttons or controls.



#### ORIGINAL IMMOBILISER BYPASS

A built-in option allows bypassing the original immobiliser of the most modern cars and implement the smart remote and automatic engine start without leaving a spare key inside the vehicle.



#### ENGINE PREHEATER CONTROL

Smart and flexible algorithms for controlling original and aftermarket engine heaters and pre-heaters.

\*Ask your dealer for full vehicle coverage list.

# Pandora service-security systems features

The image shows the interior of a car, focusing on the dashboard and center console. The dashboard features a large, illuminated digital display showing various vehicle metrics. The center console has a gear shifter and handbrake. The Pandora logo, consisting of a padlock icon and the word "Pandora", is overlaid on the right side of the dashboard. Below the logo, the words "CAR ALARM SYSTEMS" are written in a smaller, spaced-out font.

**Pandora**  
CAR ALARM SYSTEMS

# Car alarm systems

Pandora car alarms set a new standard of high-tech car security & real time vehicle monitoring. We are using up-to-date telecommunication technologies in combination with the unique and most reliable security algorithms and bypass procedures for secured remote engine start. Bluetooth 5.0 and 868 MHz radio interface with LoRa modulation use 128-bit encryption protocol for a secured data transfer at record distances. Pandora products successfully resist all types of electronic attacks. Each system is optimized for the energy efficiency and totally fulfills the strict requirements of the vehicle's manufacturer, even for hybrid and electric cars. When you need the best, you need Pandora.

**Pandora**  
CAR ALARM SYSTEMS

# Elite

The Pandora Elite v2 is an incredibly advanced security-telemetric system equipped with a new 4G modem, Bluetooth 5.0, GPS/GLONASS receiver and 868 MHz LoRa modulation. The system includes all available security and service functions, as well as additional personal safety and high configurability for custom options and equipment.

The Pandora Elite has a new D-043 remote control with a large and bright LCD display and a built-in Li-Po battery. The remote connects to the main unit by the long-range 868 MHz radio interface and Bluetooth protocol.

The Bluetooth 5.0 hardware implementation allows you to control the system from the smartphone by Bluetooth at a distance of up to 160-180 meters. The newest GSM modem supports 4G/LTE(class1), 3G, 2G (GPRS) and in combination with two GSM antennas provides excellent data transfer even in conditions of poor signal. All these features guarantee the highest level of anti-theft protection and maximum usability..

## Pandora Elite v2

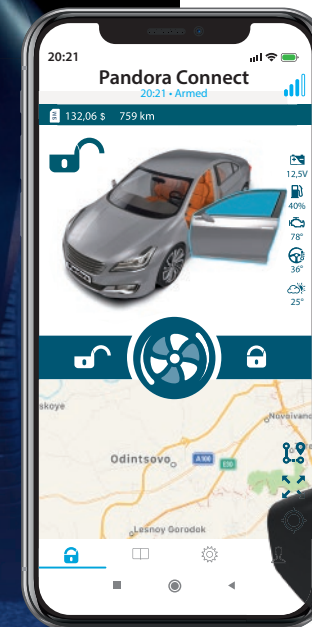


PREMIUM TELEMETRIC & SECURITY-SERVICE SYSTEM  
WITH NEXT GENERATION TECHNOLOGY

Base unit  
Two radio tags BT-760  
LCD remote control D-043  
RF-module DXL-470  
Relay module RMD-5M  
Piezo siren PS-332 BT  
Personal card with  
a secret PIN code

- Internet service PANDORA-ON.COM
- Mobile app Pandora Connect
- Control by smartphone
- Control in Slave mode
- Hands Free mode
- Smart remote engine start
- «Start engine» button upgrade option
- «Anchor» security algorithm
- Active security function
- Code Immobiliser mode
- Visualization of service information (voltage, fuel level, temperature, mileage)
- Location and movement tracking
- SOS Button | emergency notifications
- Immobiliser and Anti-Hi-Jack functions
- Keyless bypass of a standard Immobiliser
- Control over an engine pre-heater
- Integrated 3D accelerometer

LBS/4G LTE/3G/GPRS | nano-SIM |  
868 MHz (LoRa)/2.4 GHz (BT5.0) |  
3D accelerometer | GPS/GLONASS |  
3xCAN/2xLIN | IMMO-KEY |  
micro USB





# Pandora Smart Pro v3

NEXT GENERATION , ULTRA DISCRETE TELEMETRIC & SECURITY-SERVICE SYSTEM

## Smart Pro

The Pandora Smart Pro is a state-of-art security-telemetric system based on the most modern technological platform. In a compact case we have combined the most reliable security functions with a superfast 4G (LTE) modem, Bluetooth 5.0 interface, precision GPS/GLONASS receiver and two ceramic antennas for perfect GSM signal reception.

Use your smartphone with the Pandora Connect app to monitor and control your vehicle worldwide.

The Pandora Smart Pro has an optimal set of security and anti-theft features and can be easily upgraded with wireless accessories. This system has special algorithms designed for the newest vehicles with strict energy requirements, even for hybrids or electric cars.



Base unit  
Two radio tags BT-770  
Blocking relay  
Personal card with a secret PIN-code

- Internet service PANDORA-ON.COM
- Mobile app Pandora Connect
- Automatic notifications in case of an accident
- Immobiliser and Anti-Hi-Jack functions
- Smart remote engine start
- Control by smartphone
- Control in Slave mode
- Hands Free mode
- Integrated 3D accelerometer
- «Start engine» button upgrade option
- Visualization of service information (voltage, fuel level, temperature, mileage)
- Hands Free mode
- Automatic owner authorization (smartphone, tag, additional accessories)
- Pre-heater control
- Code Immobiliser mode
- «Anchor» security algorithm
- Blocking of the engine by CAN
- Blocking of original Keyless-Go function

2.4 GHz (BT5.0) | LBS/4G LTE/3G/GPRS | nano-SIM | 3D accelerometer | 2xCAN/LIN | IMMO-KEY | micro-USB



# Smart

We have optimized the reliable platform of Pandora Smart security-service system. The list of available services is expanded with a modern GSM modem and GPS positioning and tracking functions. These features make it to be the most affordable telemetric security-service system equipped with 4G (LTE) modem and GPS/GLONASS receiver. The Pandora Connect application is providing the actual information about the vehicle state, event history, tracking and displays near real-time location with incredible convenience.

## Pandora Smart v3

A COMPACT TELEMETRIC & SECURITY-SERVICE SYSTEM



Base unit  
Two radio tags BT-760  
Blocking relay  
Personal card with a secret PIN code

- Internet service PANDORA-ON.COM
- Mobile app Pandora Connect
- Control by smartphone
- Control in Slave mode
- Hands Free mode
- Automatic owner authorization (smartphone, tag, additional accessories)
- Vehicle service information (voltage, fuel level, temperature, mileage)
- Smart remote engine start
- «Start engine» button upgrade option
- Pre-heater control
- Code Immobiliser mode
- Immobiliser and Anti-Hi-Jack functions
- Built-in 3D accelerometer
- Built-in micro USB port
- Blocking of the engine by CAN
- Blocking of original Keyless-Go function

2.4 GHz (BLE 4.2) | LBS/4G LTE/3G/GPRS | nano-SIM | GPS/GLONASS | 3D accelerometer | 2xCAN/LIN | IMMO-KEY | micro-USB





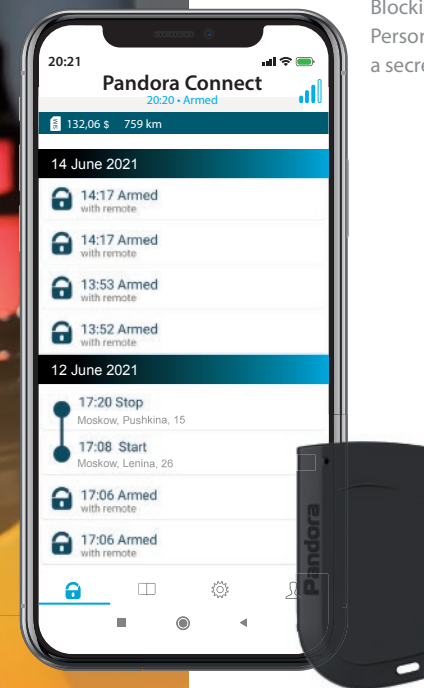


# Mini

The Pandora Mini is a unique miniature device that combines functions of the latest specification Bluetooth 5.0 vehicle alarm, and an immobiliser system.

The system has CAN interface to read actual vehicle's status information, and follows the commands of the original key in slave mode.

Encrypted Bluetooth 5.0 functionality allows to implement hands-free, anti-hi-jack functions and increase anti-theft functions by adding numerous wireless accessories. Connect your smartphone with the Pandora app to have full control over the system, to see important information about fuel level, battery status, mileage, and more.



## Pandora Mini v3



NEXT GENERATION, UPGRADEABLE BASE ALARM UNIT

Base unit  
Two radio tags BT-770  
Blocking relay  
Personal card with a secret PIN code

- Mobile app Pandora BT
- Immobiliser and Anti-Hi-Jack functions
- Dialog dynamic code
- Multifunctional BLUETOOTH 5.0 radio interface
- Built-in shock/tilt/motion sensor
- Multisystem digital interface 2xCAN
- Built-in USB interface
- Energy Efficiency



2.4 GHz (BT5.0) | 3D accelerometer | 2xCAN | micro-USB

# Light Pro

A contemporary two-way car security-service system with a LoRa modulation and increased technical specifications.

The 868 MHz radio interface keeps a reliable connection with the LoRa remote control even at long distances.

In-built 2xCAN/LIN/Immo Key interfaces provide accurate information about vehicle's statuses and even commanding secured remote engine start. The system uses Bluetooth 5.0 for wireless, secured communication with numerous BT accessories which significantly enlarge anti-theft functionality of the system. The ergonomic D-022 remote control is equipped with an OLED display and long lasting Li-Po battery, conveniently rechargeable through it's micro USB port.



## Pandora Light Pro v2

ADVANCED SECURITY SYSTEM WITH LONG RANGE REMOTE AND ADDITIONAL CAPABILITY

Base unit  
Radio tag BT-760  
LCD remote control D-022  
Blocking relay  
Personal card with a secret PIN code

- Mobile app Pandora BT
- Control by remote
- Control in Slave mode
- Hands free mode
- Automatic owner authorization (smartphone, tag, additional accessories)
- Visualization of service information (voltage, fuel level, temperature, mileage)
- Smart remote engine start
- «Start engine» button upgrade option
- Pre-heater control
- Code Immobiliser mode
- Immobiliser and Anti-Hi-Jack functions
- Blocking of the engine by CAN
- Blocking of original Keyless-Go function

868 MHz (LoRa) | 2.4 GHz (BT5.0) |  
128 Bit encryption | 3D accelerometer |  
2xCAN/LIN IMMO-KEY | micro-USB



# Light

Pandora Light is an entry level security-service system with two-way remote control and an extended operational radius. This new generation of the system is equipped with a list of functions previously available only for premium systems: dialog coding of the radio interface, 2xCAN/LIN/Immo Key digital interfaces, bypass of the original immobiliser, remote and automatic engine start, engine heater control and more. All this makes Pandora Light the best choice for those who wants to use modern services at an affordable price.

## Pandora Light v3



MODERN, COST-EFFECTIVE SECURITY-SERVICE SYSTEM WITH TWO-WAY REMOTE CONTROL

Base unit  
LCD remote control D-010  
Additional remote control R-387  
Relay module RMD-5M  
Personal card with a secret PIN code

- Control by remotes
- Control by original key (Slave-mode)
- Visualization of service information (voltage, fuel level, temperature)
- Smart remote engine start
- «Start engine» button upgrade option
- Pre-heater control
- Code Immobiliser mode
- Blocking of the engine by CAN
- Blocking of original Keyless-Go function

868MHz | 128 Bit encryption  
3D accelerometer | micro-USB  
2xCAN/LIN | IMMO-KEY



# Immo

Pandora Immo is not just a traditional blocking device to control starter or engine control circuits. It is a fully hands-free system. It includes in-built an encrypted Bluetooth interface which automatically detects the owner's different authorization devices, such as Bluetooth Tags or a smartphone. Controlling radio relays and hood lock it also allows to build a reliable security complex around your vehicle. Easy to connect and hide, it is almost impossible to be found even by a competent electrician. Control, configuration and system update of the Immo is made through the Pandora BT app with a user-friendly interface. The anti hijack features provides protection against car-jacking.

## Pandora Immo

EFFECTIVE ANTI-THEFT PROTECTION

Base unit  
Two radio tags BT-760  
Personal card with  
a secret PIN code

- Immobiliser and Anti-Hi-Jack functions
- Dialog dynamic code
- Multifunctional BLUETOOTH 4.2 LOW ENERGY radio interface
- Built-in shock/tilt/motion sensor
- Full group of contacts of blocking relay (COM, NC, NO)
- Special status output to disable original radio channel when there is no radio tag in the coverage zone
- Optional hood lock module and radio relay
- Energy Efficiency

2.4 GHz (BLE4.2) | Dialog code | 128-bit Encryption





**Pandora**  
C A R A L A R M S Y S T E M S

# Moto alarm systems

Meet the new product range of security-service systems, specially designed for all types of moto technics. Pandora MOTO products were created to meet the requirements of motorcycles, scooters, ATVs, snowmobiles, and more. Optimized to work with small batteries they have low power consumption and intelligent sleep modes. The compact waterproof cases are easy and discrete to install, perfectly resisting different weather and operating conditions.

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CAR ALARM SYSTEMS

# Moto

Pandora Moto is a modern security-service system controlled by a long range remote control with a motorcycle interface. The system has special security algorithms to recognize any hijacking attempts. Special power-saving modes will extend the remote's original battery, with the built-in Li-Po battery keeping the system working even when the battery is completely disconnected. A sealed piezo siren is included to provide loud and effective deterrence.

## Pandora Moto

CONTEMPORARY SECURITY-SERVICE  
SYSTEM WITH TWO-WAY REMOTE CONTROL



Base unit  
LCD remote  
control D-010  
Blocking relay  
Piezo-siren PS-330

- Smart remote engine start
- Dialog dynamic code
- New multifunctional 868 MHz radio path
- Built-in shock/tilt/motion sensor
- Built-in back-up battery
- Built-in USB interface
- Two power-saving modes
- \*Option to add remote engine start

868 MHz | 128 Bit encryption  
3D accelerometer | micro-USB | IP54



# Smart Moto

Pandora Smart Moto is a state-of-the-art motorcycle security system specially designed to protect motorcycles. Housed in a waterproof case, the unit features an integrated GPS receiver and GSM/GPRS modem. A Bluetooth module is also integrated into Pandora Smart Moto, allowing full control and set up from your smartphone. With ultra low power consumption, the Smart Moto consumes only a few milliamperes in the full-operation mode, allowing a bike to stand for long periods of time.

## Pandora Smart Moto v2

MOTORCYCLE GSM SECURITY SYSTEM WITH  
A BUILT-IN BACK-UP BATTERY



Base unit  
Two radio tags BT-760  
Blocking relay  
Piezo-siren PS-330  
Personal card with a secret  
PIN-code

- Internet service pandora-on.com
- Mobile apps Pandora Online | Pro
- Dialog dynamic code
- Multifunctional BLUETOOTH 4.2 LOW ENERGY radio interface
- Built-in shock/tilt/motion sensor
- Built-in GSM | GPRS | LBS interface
- Built-in GPS/GLONASS receiver
- Built-in USB interface
- Energy Efficiency

GSM/GPRS/LBS/Micro-SIM | GPS/GLONASS  
2.4GHz/Bluetooth 4.2 | 128 Bit encryption  
3D accelerometer | Li-Po | micro-USB | IP54



PANDORA-ON.COM





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# Motorhome alarm systems

A new telemetric service-security systems for motorhomes and caravans. Systems are built to satisfy the requirements of the recreational vehicles at all times, even when people are sleeping inside. They have unique door and window sensors, low power consumption, adapted security algorithms, special inputs for camper specific sensors. We accomplished the goal of creating the most advanced motorhome specific security system available, allowing you enjoy your vacation comfortable and safe.



**Pandora**  
CAR ALARM SYSTEMS

# Pandora Camper Mini

Pandora Camper is the first security telemetric system designed specially for recreational vehicles. We have applied our experience and modern technologies, developed unique wireless sensors that can detect any attempt to enter your motorhome through windows, doors, hatches or other weak points. The system is user friendly and has a large number of comfortable functions for pleasant trips. For night time we have made a special «Stay Home» mode, what allows you to move freely inside, while the outside perimeter is reliably protected.



## Pandora Camper Mini

TELEMETRIC SECURITY AND SERVICE SYSTEMS FOR MOTORHOMES

Base unit  
Radio tag BT-770  
Remote control D-030  
Blocking relay  
Two door sensors DMS-100 BT  
Piezo siren PS-330  
Personal card with  
a secret PIN code

- Internet service PANDORA-ON.COM
- Mobile app Pandora Connect
- Control by remotes
- Control by smartphone
- Control by original key (Slave-mode)
- Hands free mode
- Automatic owner authorization
- «StayHome» mode
- Wireless sensors for doors, windows, sunroofs
- Up to 10 wireless DMS sensors
- Individually configurable security zones for DMS sensors with a 3D visualization in the App (doors, windows, sunroofs, trunks, bicycles)
- Visualization of service information (battery voltage, camper battery voltage, fuel level, temperature, mileage, etc.)
- GPS position and tracking function
- Smart remote engine start
- Control over heaters
- «Anchor» security algorithm
- Code Immobiliser
- Immobiliser and Anti-Hi-Jack functions

2.4 GHz (BT 5.0) | LBS/LTE/3G/GPRS | nano-SIM | GPS/GLONASS | 3D accelerometer | 2xCAN/LIN IMMO-KEY | micro-USB



# Pandora Camper Pro

For those who need more than the best. The Pandora Camper Pro was designed to satisfy the most demanding customer requirements. We have improved the security level by using additional sensors, implementing active security and anchor functions, based on an ultra-high speed 4G LTE modem. Base unit has more connectors to enlarge service function. Pandora Camper Pro has an integrated 868 MHz long-distance radio interface with a LoRa modulation and a modern two-way remote control with high contrast OLED display with a proved operation distance up to 2 km even in large cities with high interference.



## Pandora Camper Pro v2

PREMIUM, NEXT GENERATION TELEMETRIC SECURITY AND SERVICE SYSTEMS FOR MOTORHOMES

Base unit  
Two radio tags BT-770  
LCD remote control D-043  
RF-module DXL-470  
Blocking relay  
Five door sensors DMS-100 BT  
Piezo siren PS-331 BT  
Personal card with a secret PIN code

- Internet service PANDORA-ON.COM
- Mobile app Pandora Connect
- Control by remotes
- Control by smartphone
- Control by original key (Slave-mode)
- Hands free mode
- Automatic owner authorization
- «StayHome» mode
- Wireless sensors for doors, windows, sunroofs
- Up to 10 wireless DMS sensors
- Individually configurable security zones for DMS sensors with a 3D visualization in the App (doors, windows, sunroofs, trunks, bicycles)
- Visualization of service information (battery voltage, camper battery voltage, fuel level, temperature, mileage, etc.)
- GPS position and tracking function
- Smart remote engine start
- Control over heaters
- «Ancho» security algorithm
- Code Immobiliser
- Immobiliser and Anti-Hi-Jack functions



868 MHz (LoRa) | 2.4 GHz (BT 5.0) | 4G LTE/3G/GPRS | nano-SIM | GPS/GLONASS | 3D accelerometer | 2xCAN/LIN | IMMO-KEY | micro-USB

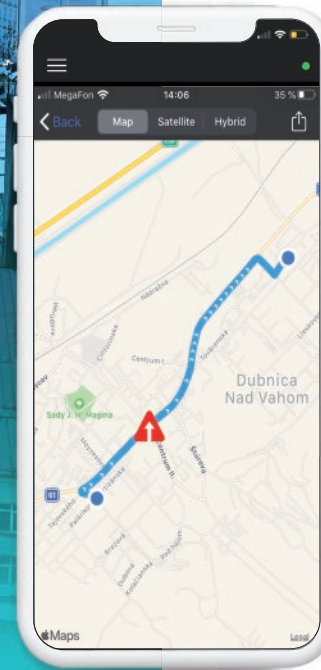
# Finder

The Pandora Finder tracker is a modern, highly effective miniature & autonomous device that is used to determine the coordinates and track the movement of the monitored object. With support for internet service and mobile apps, this greatly simplifies operation, and timely SMS and internet notifications will provide the necessary information about the location of the object and condition devices. The miniature size of the tracker allows you to place it practically anywhere (in a bag, valuable cargo or parcel, vehicle).

# Finder

TELEMETRY MODULE

Personal card with a secret PIN code



- Internet service
- SMS management
- Mobile apps: NAV BT/Connect
- Determination of GPS and LBS coordinates
- Autonomous tracker function
- Search mode
- Motion activation
- SMS and Internet notifications
- Easy Bluetooth setup
- Removable 3xAAA batteries
- Miniature sizes
- Waterproof case
- Magnetic mounts
- Energy efficiency



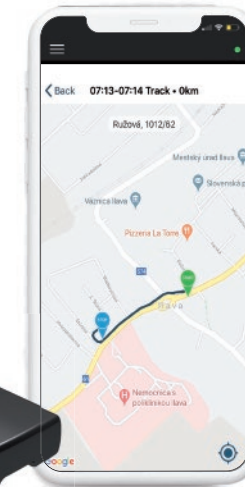
# Eye PRO | NAV-X

These telemetry modules are designed to expand the service functions of Pandora systems with a Bluetooth interface. These additional modules integrate to add the following control and monitoring functions to the systems: Control over a system using a phone, voice and SMS notifications; functions of the internet service PANDORA-ON.COM and the mobile app Pandora Connect, storing events history on a remote server, receiving current coordinates by a phone request, current location and tracking of a vehicle, automatic date and time synchronization and all protected by 128 bit encryption. The Bluetooth 4.2 Low Energy interface provides a reliable communication between the module and a system base unit. An independent power supply will notify an owner if the power supply of a system or a vehicle is disconnected.

## Pandora Eye PRO



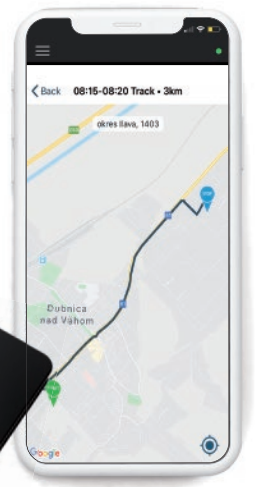
- Mobile apps: NAV BT/Connect
- GPS coordinates detection
- Tracking mode
- GSM voice interface
- SMS and internet notifications
- Back-up battery
- Wireless Bluetooth connection with a base unit



## Pandora NAV-X



- Internet service
- Mobile app: Pandora Connect
- GPS or LBS coordinates detection
- Tracking mode
- Automatic date and time synchronization
- Voice and SMS notifications
- Notification on shutting off the system
- Miniature sizes



# Watch2

The new model of Smart-watches from Pandora has a unique, modern design and a titanium case, as well as a state-of-the-art filling, which, as far as possible, will be equal to the world leaders in the mobile electronics market. And of course, this watch, having all the functions inherent in modern smart watches connected to smartphones, is designed to conveniently control the modes of security-service and telemetry systems Pandora with a Bluetooth interface.

This will be convenient for motorcycle owners or owners of cars that lead an active lifestyle. Pandora Watch2 combine the functions of a convenient and informative remote control car alarm and sports watch. This watch has an extended battery life, while remaining constantly in touch with the car.

A striking difference between our watches is the presence of our own operating system, which was created to be entirely bespoke for Pandora smart watches. By using our own operating system, we have further extended the battery life when compared to more common operating systems. The product is fully developed and manufactured in Russia. Not only the electronics, but also all metal and plastic parts of the case are made on-site in Kaluga, ensuring maximum quality control of each component responsible for overall reliability.

Comfortable management and display of transport status is achieved using the new Bluetooth 5.0 protocol supporting simultaneous operation of the watch with a security system and a mobile app.



## Pandora Watch2



SMART WATCHES FOR SECURITY SYSTEMS



- Detailed display of the state of the car / motorcycle on a color display (1.34", 320x300)
- Remote control of the security mode and engine start
- Automatic control of security mode, Immobiliser and Anti-Hi-Jack
- Access to the history of events directly from the watch
- Display notifications coming to the smartphone (calls, SMS, Push, E-mail)
- Special interfaces for cars and motorcycles
- Automatic time synchronization through a security system or built-in GPS / GLONASS receiver
- Sound and vibration notification
- Sport modes (stopwatch / pedometer / timer)
- Impact material
- Waterproof micro-USB connector
- Degree of protection IP67





# Band

The new Pandora Band wrist bracelet – a wearable device for managing Pandora security systems. This is a compact, waterproof capsule with a monochrome OLED display and convenient strap, that can be changed easily by mood or to match your vehicle's colour.

The bracelet is designed primarily for authorization of the owner using the fifth generation Bluetooth interface. In other words, this is a real immobiliser ID tag with a display, which is very convenient-your tag is always with you. A single control button will allow you to perform simple operations with your Pandora system, like, open/close vehicle. The display shows the current status of the system, time, charge level and a useful bonus – the pedometer, to count your daily steps.

Due to Bluetooth 5.0, the operating range of the bracelet is more than 30 meters, and the battery runs up to two weeks. Full charge through the micro-USB port will take no more than 20 minutes. Pandora Band is always with you.

# Pandora Band

THE REMOTE CONTROL WHICH IS ALWAYS WITH YOU



The new wrist wearable accessory designed to control and monitor system statuses over a Bluetooth connection. The Band can work as a remote control and an owner authorization device (a radio tag) implementing functions of:

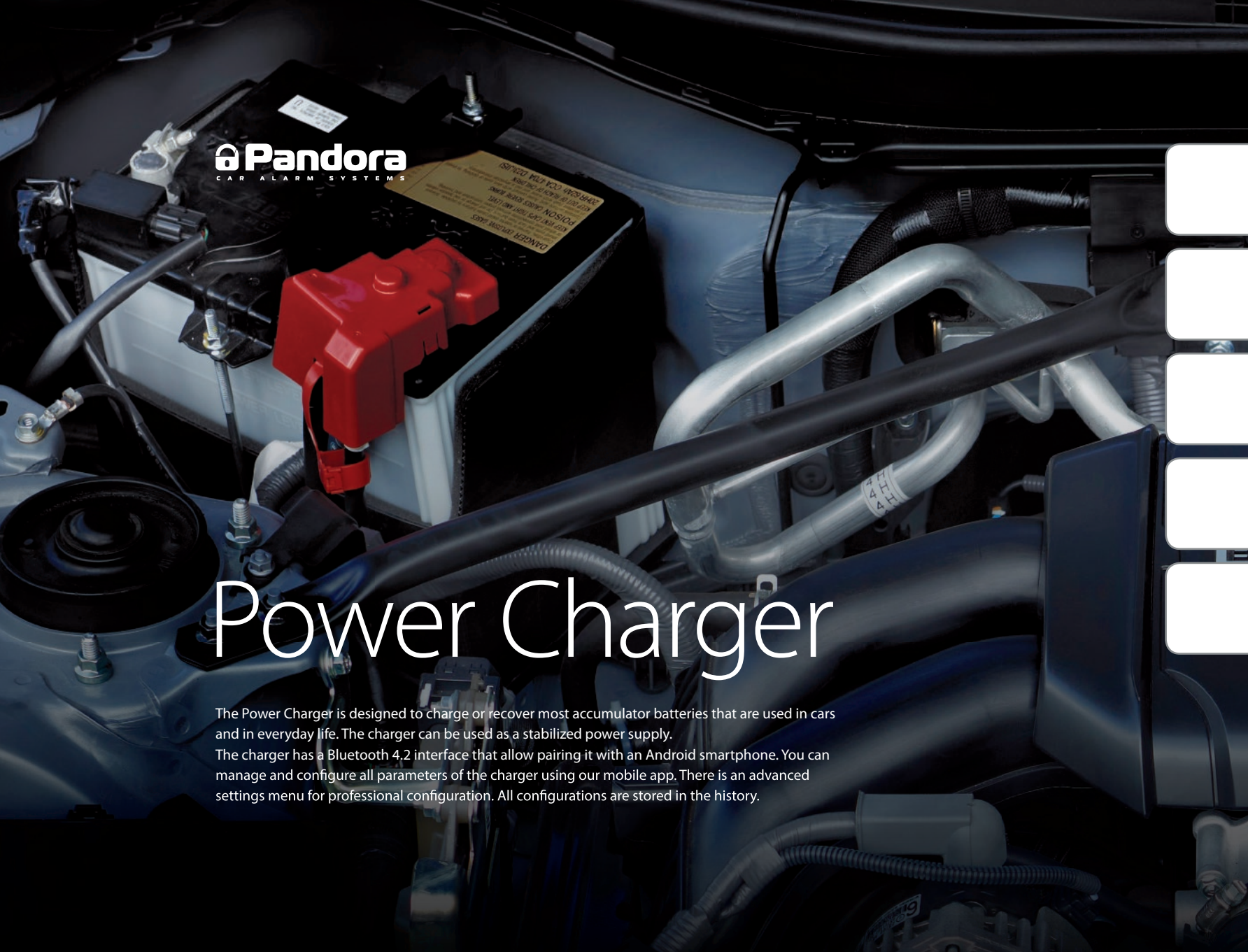
- Immobiliser
- Anti-Hi-Jack
- Hands-Free
- SLAVE-mode





# Service devices

High-quality tools and the most advanced multifunctional equipment will provide a convenient installation of security systems and additional devices.



**Pandora**  
CAR ALARM SYSTEMS

# Power Charger

The Power Charger is designed to charge or recover most accumulator batteries that are used in cars and in everyday life. The charger can be used as a stabilized power supply. The charger has a Bluetooth 4.2 interface that allow pairing it with an Android smartphone. You can manage and configure all parameters of the charger using our mobile app. There is an advanced settings menu for professional configuration. All configurations are stored in the history.



## Pandora CHARGER

BATTERY CHARGER

### THREE OPERATING MODES

for battery charge

battery type: acid, gel, AGM, MF

battery cappacity: 6-100 Ah

charge voltage: 10-15 V

charge type: usual, assimetric impulse

modes: precharge, charge, maintenance

Booster for stabilized power supply

output voltage (fixed): 12.8V

maximum current (limited): 25A

**BAT.TEST** training mode battery health check

pre-charge/discharge/final charge

remaining cappacity check

max. discharge current: 5A

### INNOVATIVE CLAMPS

The device is equipped with a reliable and convenient clamps, designed and produced by Pandora, to connect to battery terminals of any type. Charging and measuring cables are 2,2 meters long



ACCESSORIES





# Mounting kit Pandora Pro

The Pandora Pro kit is designed to simplify the work of auto electricians and security technicians. The kit includes: tools for removing the plastic parts of the interior and a multipurpose car tester Pandora ALT-205.

Pandora ALT-205 design and circuitry are produced to exclude a risk of damage to the car electrics when diagnosing and searching for the required signal circuits. Ergonomic body of the device allows to easily find needed signals in actual auto electrician working conditions, during installation of service-security systems and additional devices.

## Pandora Pro

MULTIPURPOSE CAR TESTER

Pandora ALT-205 probe tester - voltage measurement and indication with an accuracy of 0.5%, indication of maximum and minimum values, determination of the frequency and period of oscillation of pulse signals, recognition of digital buses up to 500kB/s, load simulation of 50 ohm and 1k ohm, sound and light indication.

- Working area illumination
- LCD display with illumination
- AAA battery
- Micro-USB socket for firmware update



- CAN DETECT mode  
This mode is used to detect most digital CAN and LIN-buses
- CAN-bus – high level
- CAN-bus – low level
- Serial LIN-bus
- Signal is not detected
- Digital bus of unique format
- The device is preparing for digital buses detection
- The device is ready for digital buses detection



# Software

Pandora services and applications were created both for easy and convenient installation and configuration of the system by the installer and for a comfortable use by the vehicle owner. The apps allow monitoring, adjustment of all Pandora systems and receive instant notifications (email, PUSH) via the Internet and Bluetooth connection about all the events that have occurred. Full fleet management functionality also available through a desktop or laptop.



# Pandora-on.com

THE MOST MODERN SERVICE FOR CAR CONTROL AND FLEET MANAGEMENT

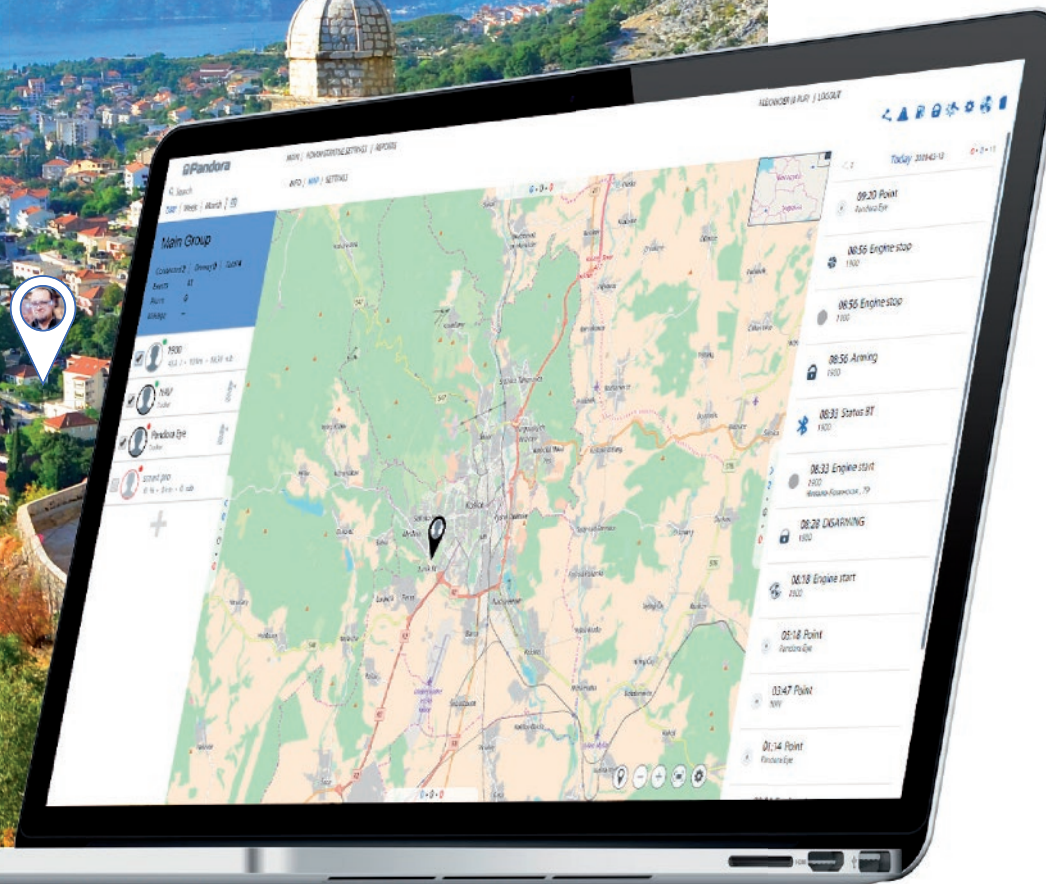
PANDORA-ON.COM allows you to control and monitor your car state and parameters. The secure online service, stores all events received and monitors the current state of the car in real time. Full access to vehicle tracking of your and the ability to arm/disarm the system, control remote engine start and engine preheater, generate reports and create your own rules for notifications. These functions are constantly expanding, with regular firmware updates!

## FLEET MANAGEMENT

PANDORA-ON.COM allows real-time control of passenger vehicle/truck/van fleet. You can control the mileage and fuel consumption. Collect running hours for each vehicle or for a group of vehicles. This service allows you to flexibly adjust multiple rules: speed limits, geofences, etc. The service can generate more than 10 types of different reports for each vehicle or for a group of vehicles.

## SHARP MANEUVERS DETECTION

Security service systems can detect 4 new events: sudden acceleration, sudden braking, sharp left turn, sharp right turn. To help detect aggressiveness driving of your vehicle.



# Mobile apps

## PANDORA CONNECT

### FOR GSM SYSTEMS

Pandora Connect is a free, easy and convenient app. The app is specially designed to work with Pandora telemetry systems.

Pandora Connect features:

- Multiple cars under single account.
- Monitoring the current state of your car: statuses of all security zones and sensors, current fuel level (it depends on connections), engine temperature, car interior temperature, outside temperature (additional sensor is required), current car location (for systems with a GPS/GLONASS-receiver).
- Advanced control of a telemetry system: arming/disarming, «Active security», remote engine start/stop, control of Webasto/Eberspacher heaters, «Panic» mode, control of additional channels, remote trunk opening.
- History of events with coordinates, time and states of all security zones, sensors and other service information.
- History of driving, each track is accompanied by speed, duration and other information. You can use smart filters for track search.
- Remote configuration of the main system parameters: sensors sensitivity, automatic engine start and stop parameters, original and aftermarket engine heaters operation parameters. Settings of alarm, service and emergency notifications



## PANDORA BT

### FOR BLUETOOTH SYSTEMS

Management and control at a distance of a Bluetooth connection, storing the history of events in the phone's memory, using the phone as a radio tag, advanced settings necessary for installing the system, updating the software of the base unit and Bluetooth peripherals, displaying the status of radio tags and radio relays.

## PANDORA NAV BT

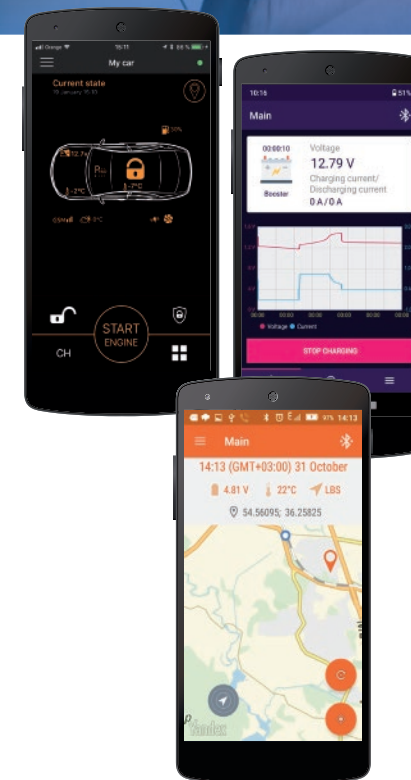
### FOR BLUETOOTH-TRACKER

Management and control at a distance Bluetooth-connection. Quick setting, diagnostics and software updates.

## PANDORA CHARGER

### FOR CHARGER

Management and control at a distance of Bluetooth-connection. Management of charge modes, setting modes, saving history in the phone's memory, software update.



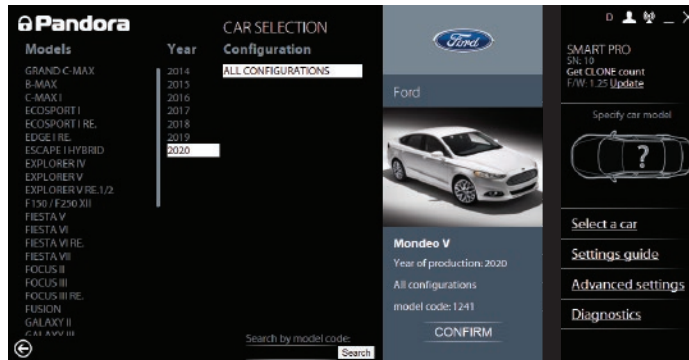
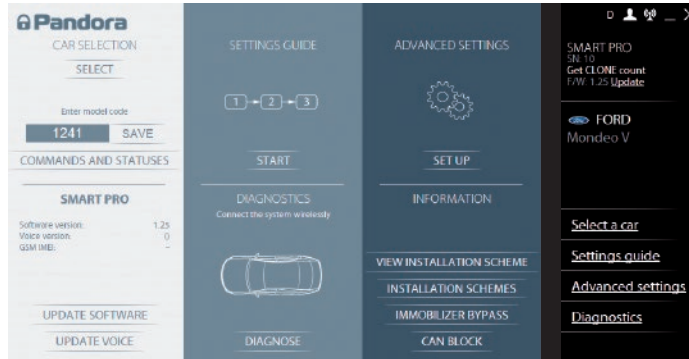
# Setting and update software products

## PANDORA ALARM STUDIO

CONFIGURING SYSTEMS USING A COMPUTER

Alarm Studio is special software used to install Pandora security systems. It includes an informational software and diagnostic tool for installing, configuring, updating the main software.

- Connection with the system via USB cable
- Quick and detailed setup
- Download of installation cards
- Connection with a special Pandora CLONE server
- Basic software update



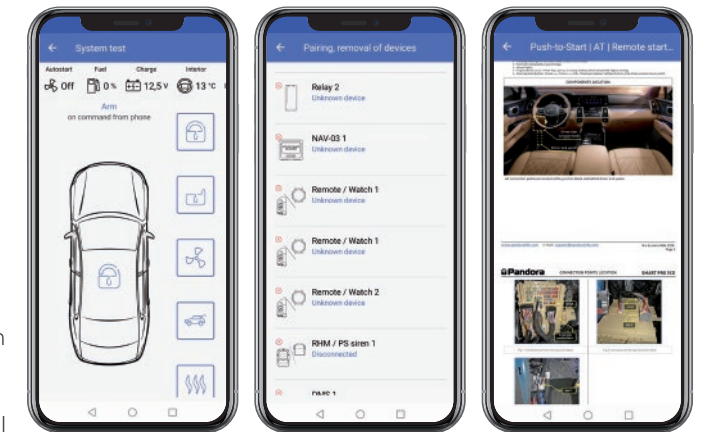
## PANDORA SPECIALIST

CONFIGURING SYSTEMS USING A SMARTPHONE AND TABLET



Pandora Specialist is a new app for the smartphones. With a user friendly interface and powerful functionality it significantly simplifies installation process. Just choose the car model and follow the instructions, Pandora Specialist will gently guide you through the process and will make the system test in the end. A large number of a new features available only in the app:

- Bluetooth or USB-OTG connection with a smartphone
- Connection to the system via the USB-OTG adapter
- Step-by-step installation using detailed schemes and ready presets
- Personal and Advanced settings
- Simple wire logic assignment by color
- Easy pairing and quick update of the Bluetooth accessories
- Step-by-step Immobiliser bypass learning procedure
- Automatic connection with «Pandora CLONE» server
- System and status check
- Automatic check and update of the system software
- Online chat and the possibility of making an app for communication with a technical specialist
- Actual news and updates





# Accessories

A wide range of Pandora accessories and upgrades are available to expand and upgrade your Pandora system. Add additional security and services accessories to create the ultimate security package, tailored for you. Pandora accessories stands out due to their high build quality, ergonomics, intelligent algorithms, and energy efficiency.



### PS-330

SINGLE-TONE  
NON-AUTONOMOUS  
PIEZO SIREN

- Sound pressure 122 dB
- Current 200 mA, 12V
- Operating voltage 5-15V
- Waterproof case



### PS-331 BT

BLUETOOTH SINGLE-TONE  
NON-AUTONOMOUS  
PIEZO-SIREN

- Wireless Bluetooth connection with a base unit.
- Hood input
- Additional output channel
- Engine temperature sensor
- Sound pressure 122 dB
- Operating voltage 5-15V
- Waterproof case



### PS-332 BT

BACK-UP BLUETOOTH  
SINGLE-TONE  
AUTONOMOUS PIEZO-SIREN

- Wireless Bluetooth connection with a base unit.
- Back-up battery
- Sound pressure 122 dB
- Operating voltage 5-15V
- Waterproof case



### PS-333

SINGLE-TONE  
NON-AUTONOMOUS  
PIEZO SIREN

- Sound pressure >95 dB
- Current consumption 300 mA
- Operating voltage 12V
- Waterproof case



## RMD-5M

### RELAY MODULE FOR REMOTE ENGINE START

RMD-5M is a relay module designed to implement automatic and remote engine starts with Pandora car alarm systems. The module has small case that is convenient to place anywhere in a car. RMD-5M provides a possibility to connect to power lines of a car (up to 20A).



## Bypass module for BMW

### BYPASS MODULE

The BMW Bypass module is designed to control engine starts of BMW/MINI cars with a START/STOP button and a slot for an original key. The module is installed with Pandora systems and controlled by an IMMO-KEY port. The module has a «pin-to-pin» connection with original connectors of the cars. The module can be used with BMW E-class and MINI cars with the CAS3 control access system.



## DI-02 | 03

### IMMOBILISER BYPASS MODULE

Modules DI-02 | DI-03 are designed to temporary switch most types of original transponder Immobiliser of modern cars (RFID-system) to provide system operation of automatic and remote engine start. Two antennas are included in the set, which allows the modules to work with the most modern transponder Immobilisers. DI-03 is controlled only by a special code channel and has a 3.3V power supply for cars with Start/Stop button, Keyless and Smart Entry systems.



## DI-04 BT

### BLUETOOTH IMMOBILISER BYPASS MODULE

The module is designed for using in cars for which we have not implement bypass of original Immobilisers yet. In fact, this is a Bluetooth extension module of six additional multifunctional time channels. One of these channels is a 3.3V stabilizer for power supply of an original remote control. These channels can be used to simulate pressing of original remote control buttons, Start/Stop buttons and break digital diagnostic buses. DI-04 BT is controlled via Bluetooth connection, it has small sizes and its power consumption is 1.5mA. All these features make the module the most convenient to use in the most complicated cars.



## DXL-470

### RF-MODULE

The RF module has only two wires connected to 12V vehicle circuits while the Bluetooth connection provides communication with the base unit. The large antenna guarantees better reception and better synchronization when transmitting signals at 868MHz with LoRa modulation. High location on a windshield will ensure better radio availability.



## RHM-03 BT

### RADIO HOOD MODULE

Integrated 2.4 GHz radio channel;  
Control of a siren;  
Hood switch input;  
Digital interface for engine pre-heater control;  
Control over the electromechanical hood lock;  
Integrated accelerometer;  
Independent blocking relay;  
Separate control and power supply circuits.





## ✦ VS-24 BT

### 2-ZONE MICROWAVE SENSOR

The new sensor allows significantly increase the security functions of the system by detecting movement inside a car and around a motorcycle. VS-24 BT is based on a doppler effect sensitive element which is not a subject to radio interference – false alarms are highly unlikely. It is compact size and has a modern Bluetooth on-board, the installation process and sensor adjusting from the mobile app is more clear, simple and convenient.



## ✦ BT-01

### MINIATURE BLOCKING RADIO RELAY

BT-01 is a miniature electromechanical relay designed to work with Pandora alarm systems. All control commands are programmed by the security system settings and transmitted over the radio using a protected Bluetooth protocol. The built-in relay has two full set of contacts, which operate synchronously.



## ✦ BTR-101

### MINIATURE BLOCKING RADIO RELAY

The blocking radio relays is an electronic device controlled by 2.4 GHz interface of Pandora Immobilisers and security systems without wires. Small sizes of the relays allow placing it in the original wiring of a car. Blocking can be performed on unauthorized movement or on command from Pandora system. Blocking radio relays has an integrated accelerometer that allows to perform blocking on unauthorized movement. This feature make it possible to implement automatic and remote engine start and make the search of the relay more difficult for a robber.



## ✦ DMS-100 BT

### WIRELESS DOOR SENSOR

Wireless door sensor DMS-100 is designed for the remote detection of shock and rotation, temperature, opening of the door that is located at a considerable distance from the base unit of car service-security system. The following zones can be controlled with this sensor: sunroof, coffer cover, trunk, trailer, case cover for carrying some valuables and so on. Sensor's operation is based on using of 3-coordinate accelerometer that allows detecting rotations, shocks and door motions, and on using a magnetic pair (hall sensor) for reliable detection of door opening/closing. DMS-100 BT is compatible with Bluetooth systems and has an integrated temperature sensor.



## ✦ NAV-035 BT

### GPS/GLONASS RECEIVER

Pandora NAV-035 BT are high-sensitivity GPS/GLONASS receivers that designed to be used with Pandora service-security systems.

Pandora NAV receivers have small sizes, low power consumption, high sensitivity, reduced time of coordinate determination and reliable tracking under conditions of a weak or shaded GPS/GLONASS signal. The models differ in 2.4 GHz protocols.



# Technical features

In this section you will find comparison tables of technical features of Pandora systems and information on the compatibility of remote controls and radio tags.

# Comparison table of Pandora systems

System	Internet server, mobile app	GSM interface	RF interface	Digital interface	Remote engine start	Digital control over engine pre-heater		Built-in Immobiliser bypass	Radio tags	Remote control	Positioning	Owner security	Settings ON THE GO
<b>Elite v2</b>	pandora-on.com, Pandora Connect	4G/3G/2G	868.0 MHz, Bluetooth 5.0	3xCAN/2xLIN/IMMO-KEY	+	CAN/LIN		+	2 up to 3	D-043	LBS, built-in GPS/GLONASS receiver	SOS button (RF-module)	Pandora Specialist
<b>Smart Pro v3</b>	pandora-on.com, Pandora Connect	4G/3G/2G	Bluetooth 5.0	2xCAN/IMMO-KEY	+	CAN/LIN		+	2 up to 3	optional RF-module or bluetooth remotes	LBS, built-in GPS/GLONASS receiver		Pandora Specialist
<b>Smart v3</b>	pandora-on.com, Pandora Connect	4G/3G/2G	Bluetooth 4.2	2xCAN/LIN/IMMO KEY	+	CAN/LIN		+	2 up to 3	optional Bluetooth remote D-030	LBS, built-in GPS/GLONASS receiver		Pandora Specialist
<b>Mini v3</b>	Pandora BT, Pandora Connect	option*	Bluetooth 5.0	2xCAN		CAN			2 up to 3	optional RF-module or bluetooth remotes	option*		Pandora Specialist
<b>Light Pro v2</b>	Pandora BT, Pandora Connect	option*	868.0 MHz, Bluetooth 5.0	2xCAN/LIN/IMMO-KEY	+	CAN/LIN		+	1 up to 3	D-022	option*		Pandora Specialist
<b>Light v3</b>			868.0 MHz	2xCAN/LIN/IMMO-KEY	+	CAN/LIN		+		D-010/R387			Pandora Specialist (USB only)

\* with NAV-X telemetry module

# Comparison table of Pandora systems

System	Internet server, mobile app	GSM interface	RF interface	Digital interface	Remote engine start	Digital control over engine pre-heater		Built-in Immobiliser bypass	Radio tags	Remote control	Positioning	Owner security	Settings ON THE GO
<b>Moto</b>			868.0 MHz		+					D-010 Moto			Pandora Specialist (USB only)
<b>Camper Mini</b>	pandora-on.com, Pandora Connect	4G/3G/2G	Bluetooth 5.0	2xCAN/IMMO-KEY	+	CAN/LIN		+	1 up to 3	Bluetooth remote D-030	LBS, built-in GPS/GLONASS receiver		Pandora Specialist
<b>Camper Pro v2</b>	pandora-on.com, Pandora Connect	4G/3G/2G	868.0 MHz, Bluetooth 5.0	3xCAN/2xLIN/IMMO-KEY	+	CAN/LIN		+	2 up to 3	D-043 Camper	LBS, built-in GPS/GLONASS receiver	SOS button (RF-module)	Pandora Specialist

\* option

# Compatibility of remote controls, radio

# tags and Pandora systems



D-010 /  
D-010 moto

TWO-WAY REMOTE CONTROL

New remote control with OLED display three control buttons, protected 868 MHz radio interface  
Compatibility:  
D-010 (Light v3)  
D-010 moto: Pandora Moto



D-022 LoRa

TWO-WAY REMOTE CONTROL

New remote control with OLED display, three control buttons, protected 868 MHz radio interface, Li-Po battery and USB port  
Compatibility:  
Light Pro



✦ D-030

TWO-WAY REMOTE CONTROL

A new remote control with an OLED display, three control buttons, protected Bluetooth 4.2 interface, integrated Li-Po battery and USB-port.  
Compatibility:  
Pandora Elite, Pandora Smart Pro, Pandora Smart, Pandora Mini, Pandora Light Pro, Pandora Camper Mini, Pandora Camper Pro



D-043 /  
D-043 Camper

TWO-WAY REMOTE CONTROL

A new remote control with an OLED display, three control buttons, a protected 868 MHz radio interface, Bluetooth 4.2, a Li-Po battery and a USB port.  
Compatibility:  
D-043: Pandora Elite, Pandora Smart Pro (with an additional RF-module)  
D-043 Camper: Pandora Camper Mini (with an additional RF-module), Pandora Camper Pro



✦ BT-760 | BT-770

ANTI-HI-JACK BLUETOOTH TAG WITH A CONTROL BUTTON AND BUILT-IN ACCELEROMETER

Compatibility:  
Pandora Elite, Pandora Smart Pro, Pandora Smart, Pandora Mini, Pandora Light Pro, Pandora Immo, Pandora Finder, Pandora Camper Mini, Pandora Camper Pro



✦ BT-780

ANTI-HI-JACK BLUETOOTH TAG WITH A CONTROL BUTTON AND BUILT-IN ACCELEROMETER

Compatibility:  
Pandora Elite, Pandora Smart Pro, Pandora Smart, Pandora Mini, Pandora Light Pro, Pandora Immo, Pandora Finder, Pandora Camper Mini, Pandora Camper Pro



# About us

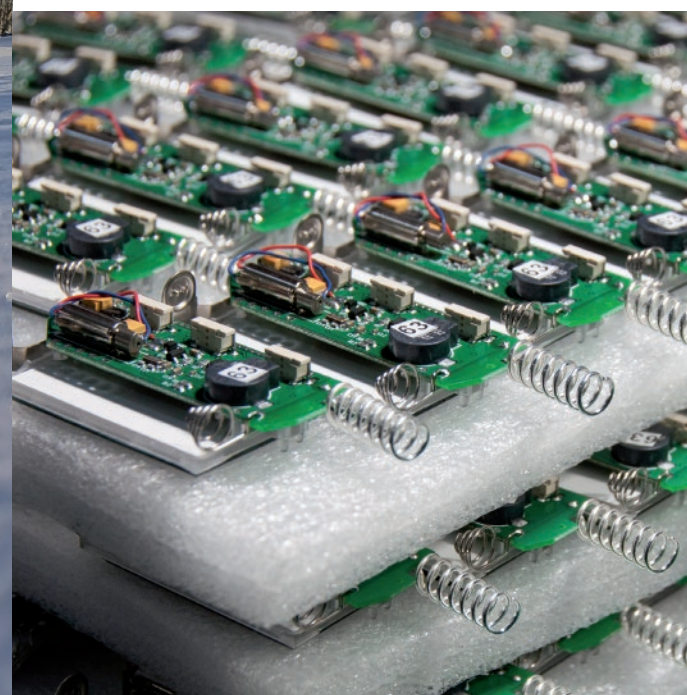
Pandora is a privately owned Russian electronics production company, founded in Kaluga city in Western Russia in 2004. Our philosophy is a clean business that gains an advantage over competition with quality and hard work. We reinvest profits into improving our facilities and diversifying the production range. We strive for autonomy and shorter production cycles as they allow the fastest implementation of new ideas in design, helping us to revolutionize vehicle security.



Our research and development department consists of the best engineers, programmers and designers Russian education has to offer. Both young and old generations combine traditional Russian security engineering with the latest cutting edge technology and development to draft ingenious electronic designs. Our production department and factory workers then turn these ideas in to reality.

Pandora factory is a huge full-cycle production facility operating on specialised modern European and Japanese machinery ranging from aluminum casting plant to surface-mounting and wave soldering lines. Quality control is performed at every stage to ensure that our products are reliable and ready for use.

We are constantly upgrading our product line to offer the most up-to-date solutions on the market. We always use the latest components from the world's leading microelectronics manufacturers.









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 TSS Group

