Immobilizer i96 CAN

Short user's manual

Version 2

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Please, read attentively!

Prior to operation of the security complex carefully read this manual paying special attention to the sections marked ⚠ and determine whether this security complex is suitable for your car, for which follow the car manufacturer's requirements and the car operation manual.

If you could not determine whether this security complex can be installed on the car, return it to the seller within 14 days after purchase.

The security complex is a complicated technical device implying connection to the car circuits related to engine operation.

The security complex shall be installed only by specially trained qualified specialists.

Mounting, programming, maintenance, repair and disassembly-assembly of the security complex shall not be carried out by persons who are not qualified specialists and have not passed training and knowledge test in safety rules.

During security complex parameter programming, the set parameters shall not contradict the requirements of the car operation manual.

The user bears full responsibility for damage incurred to people, animals and assets as a result of inappropriate use of the security complex or use with violations of the safety requirements specified in this manual.

The manufacturer shall not be responsible for losses and injuries caused by failure to observe the safety rules and requirements outlined in this manual.

To avoid possible misunderstandings, keep the documents enclosed to the security complex at sale. Check filling-in of the warranty slip, including the date of sale and seller's stamp. If there is no sale (purchase) date, the warranty period is counted from the date of security complex manufacture.

If your security complex has a remote key or a wireless tag:

• do not carry the remote key or tag on the same bundle with the car keys

- always switch over the complex to the service mode when handing the car over for maintenance or washing. Do not hand tags and remote keys over to third parties to prevent unauthorized access to security functions

- do not leave remote keys or tags in areas accessible to children and animals

- do not let liquids enter the remote key

- if the remote key display shows an icon warning about remote key battery discharge, take timely measures to replace the battery

- store the spare battery in the car in the factory packing

Safety precautions during charging of your car's storage battery

Remember that any battery charging process implies supply of voltage exceeding the rated 12 V to the storage battery and accordingly to the car circuit, which may damage the car electronic equipment and additional installed equipment in your car.

Do not use charging and starting/charging devices for storage battery charging directly on the car without disconnecting the storage battery terminals from the car circuit in the following modes:

- rapid charging by increased current («boost» or similar modes);

- various START modes intended for engine starting;

- in the storage battery 24 V charging mode

Never use starting and charging devices for engine starting without a connected storage battery and with connected inoperable storage batteries (short circuits in banks, breakage of plates etc.)

Never use inoperable charging devices, 24 V charging devices and devices not intended for storage battery charging, e.g., welding invertors.

All the aforesaid devices and modes may cause uncontrolled supply of increased voltage over 25 V and up to 60 V to the car circuit and cause failure of the security complex electronic components and car equipment.

The light-up method should not be used for storage battery charging. Even the described «safe» light-up methods are safe only for the «donor» car. Connection and disconnection of a fully discharged or inoperable storage battery on your car with the engine operating may cause failure of the electronic devices of your car and the car alarm due to a short circuit or surges of increased voltage occurring during storage battery connection and disconnection.

If the aforesaid devices and modes are used, the car owner shall be responsible for damage of the electronic equipment.

⚠️ Observe the technology for safe storage battery charging!

Before charging, the storage battery terminals shall be disconnected from the car circuit. After that the storage battery charging process can be started. After charging, connect the storage battery to the car circuit.

This is necessary because without measuring devices you cannot determine storage battery operability or status and the reason of its discharge (internal short circuits or breaks). Any connection of the charging device to an inoperable storage battery causes the risk of damage of the car electronic equipment and the security complex by increased voltage.

General description

- Purpose
- Plastic card
- Service button
- Tag Bluetooth Smart
  - o Connection testing
- LED indication
  - o Discharge of the battery

Purpose

Immobilizer **StarLine i96 CAN** is intended for car protection from theft by way of hidden engine blocking via the standard car bus (iCAN technology). The owner is authorized in two ways:

- by means of a wireless tag or smartphone using the encrypted Bluetooth Smart protocol protected against electronic break.
- by code entry using the standard car buttons.

Additional level of car protection is ensured by the wireless underhood unit StarLine R6 or StarLine R4, which provides additional engine blocking and hood lock control.

Plastic card

The delivery set includes a plastic card containing the following data:

- **Code of emergency security deactivation** — it is intended for engine unblocking.

- **Service code** — intended for setting and programming of complex parameters using the StarLine Master application.

It is recommended to take along the owner's plastic card or save the code of emergency security deactivation in the mobile phone.

ATTENTION! Do not tell the code of emergency security deactivation to anybody! Remember that a malefactor, knowing the code, may deactivate the protective functions.

Service button

The service button is intended for entry of the code of emergency security deactivation.

ATTENTION! Be sure to request the location of the service button in your car from the installation specialist.

Tag Bluetooth Smart

The tags, included in the delivery set, are initially in the transport mode in which they are off! Pressing of the tag button in this mode will be indicated by green and red flashes of the built-in LED.

Prior to operation, press the tag button several times until the flash color changes to green.

Connection testing

Press the tag button shortly in order to check tag's connection with the main unit. If connection is available, 2 flashes of the tag LED will follow, if not — 1 flash. The flash color will correspond to the immobilizer operation mode.

LED indication
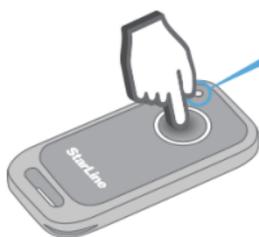
Flash color	Operation mode
🟢	Security
🟠	Service

Discharge of the battery

To prevent engine blocking due to a discharged battery, the immobilizer constantly checks battery capacity. The low battery charge level will be reported to the owner at ignition switch-on by **6 short sound signals**.

Replace the battery as soon as possible in case of discharge indication.

Specifications

Main unit i96 CAN

Parameter	Value
Supply voltage	6..16 V
Operating temperature range	from -40 to +85 ℃
Frequency range	2400..2480 MHz
Radio exchange protocol	Bluetooth Smart
Consumption current with switched-off ignition	8 mA
Interfaces	• 3 CAN • 1 USB • 2 inputs from 0 to 5 V • 2 outputs of 12 V up to 500 mA

Tag Bluetooth Smart

Parameter	Value
Supply voltage	3 M
Battery type	CR2032
Battery design life	8 months
Frequency range	2400..2480 MHz
Radio exchange protocol	Bluetooth Smart

Operation description

- Security mode
- Engine blocking
- Service mode
- «Emergency security deactivation» mode
- «Device registration» mode
- «Programming» mode

To drive a car, equipped with the immobilizer, you must carry along the tag for authorization. After the tag appears in the main unit's operational range, automatic data exchange via the encrypted Bluetooth Smart protocol takes place. A tag can be a smartphone with the Bluetooth Smart protocol and registered in the immobilize.

Security mode

The owner is authorized at ignition switch-on. The authorization method can be a tag and (or) entry of the code by means of the standard car buttons.

Authorization by the standard car buttons can be used in the following cases:

- for security deactivation in the tag absence. In this case, authorization by code entry shall be set as an alternative;
- for theft protection in case of tag theft or tag loss. In this case, authorization by code entry shall be set as the mandatory one.

i Authorization by means of the tag is set by default.

Authorization by means of the tag

If the tag was found, the immobilizer goes to the «Security off» mode.

Successful authorization will be confirmed by sound signals when ignition switch-on. In addition, authorization is confirmed at closing of the driver's door after remote engine starting.

If the tag was not found due to some reasons during ignition switch-on, the immobilizer will wait for authorization, while issuing intermittent sound signals. Waiting for authorization will stop when the tag is found or ignition is switched off. In case of no authorization the engine will be blocked at a driving attempt.

Authorization by code entry

At ignition switch-on the immobilizer will wait for entry of the owner authorization code using the standard car buttons (for instance, the multimedia control buttons on the steering wheel, window raiser control buttons). The code is entered with the ignition switched-on. If the owner authorization code is not entered, then if an attempt at driving is made, the engine will be blocked.

When the drive is over the immobilizer goes automatically to the "Security" mode in case of tag loss from the visibility zone or in 15 seconds after ignition switch-off, if authorization by means of standard buttons is used.

Engine blocking

The engine is blocked using the iCAN technology in the "Security" mode. Thanks to the iCAN technology the immobilizer itself selects an event for safe engine blocking and support of remote engine starting systems (depending on supported functions in the car CAN-bus).

Engine blocking will be active until ignition switch-off. Blocking will be activated again at the next driving attempt. If blocking is repeated 3 times, the engine will be blocked until tag's appearance or immobilizer switchover to the «Emergency security deactivation» mode.

Service mode

The service mode is intended for temporary deactivation of security functions for the maintenance period.

Entry in and exit from the mode is performed by holding the tag button for 5 seconds. Transition to the service mode will be indicated by green color of the LED on the tag.
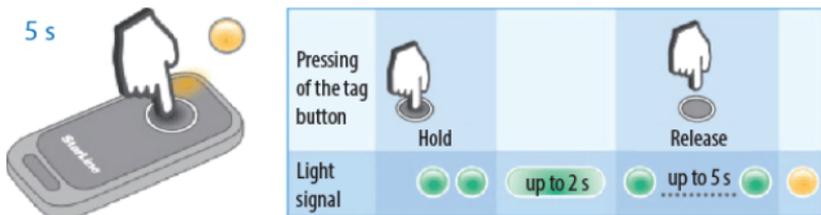
ATTENTION! ALWAYS switch over the immobilizer to the service mode when handing the car over for maintenance or washing.

Do not hand tags over to third parties to prevent unauthorized access to security functions.

«Emergency security deactivation» mode

The «Emergency security deactivation» mode is intended for emergency unblocking of the engine at discharge of the tag battery.

«Device registration» mode

The «Device registration» mode is intended for recording of new tags and smartphones in the immobilizer memory.

«Programming» mode

The «Programming» mode is intended for setting of immobilizer parameters by a setting specialist.

Emergency security deactivation

If the tag was lost or the battery is discharged, use the "Emergency security deactivation" mode. This mode allows for driving without the tag. The mode can be entered using the code of emergency security deactivation given on the owner's plastic card.
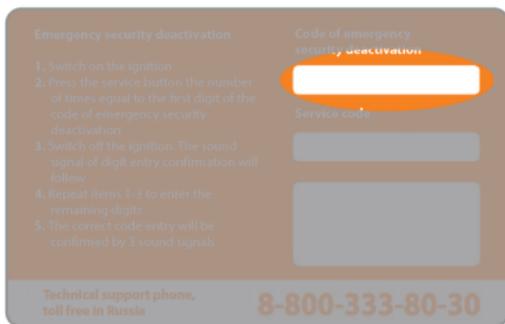
The security functions in this mode are disabled.

The immobilizer will remind of the «Emergency security deactivation» mode each time after ignition switch-on by a long sound signal

ATTENTION! Be sure to request the location of the service button in your car from the setting specialist.

Do as follows for immobilizer switchover to the «Emergency security deactivation» mode:

1. Switch on the ignition.

On

2. Press the service button the number of times corresponding to the first digit of the code of emergency security deactivation.

Press X times.

X – the first digit of the code of emergency security deactivation

3. Switch off the ignition. A signal confirming the digit entry will follow.

Off

4. Repeat items 1...3 for the remaining digits.

5. If 3 short signals will follow, the code of emergency security deactivation was entered correctly, 1 long signal — the code was entered incorrectly.

⚠ If the code of emergency security deactivation is entered incorrectly 5 times, the possibility of repeated code entry will be blocked for 15 minutes.

Exit from the mode is automatic when the tag appears in the coverage range.

Example of entry of the code of emergency security deactivation 5342

Registration of tags and smartphones

Use the «Device registration» mode for registration of new tags and smartphones.

Tags and smartphones shall be registered in one cycle. At registration of new tags and smartphones all previous tags and smartphones will be deleted from memory. In total, up to 5 devices can be registered in the immobilizer.

Entry in the «Device registration» mode

1. Set the immobilizer to the «Emergency security deactivation» mode. If there is connection with registered tag or smartphone — this item can be omitted.

2. Switch on the ignition.

On

3. Press the service button 7 times.

Press X times.

X – the first digit of the code of emergency security deactivation

4. Switch ignition off and on.

Off   On

5. 7 sound signals will follow, confirming entry in the «Device registration» mode.

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Tag registration

1. Remove the battery from the tag.

Off

2.   Press and hold the tag button and install the battery. The tag LED will light up red.

3.   Release the button and check presence of a series of red flashes for 10 seconds.

4.   Successful registration will be confirmed by a green flash and 2 sound signals. If the tag was not registered, the LED will light up red.

5.   Repeat items 1...3 for the remaining tags.

Smartphone registration

Register a smartphone using the StarLine Key mobile application.

Exit from the device registration mode

Exit from the device registration mode is performed at ignition switch-off.

Off

Exit from the «Device registration» mode will be confirmed by sound signals which number is equal to the total number of registered tags and smartphones.

Change of owner authorization code

The owner authorization code is used for authorization by means of the standard car buttons.

Do as follows to change the owner authorization code:

1. Set the immobilizer to the «Security off» mode.

2. Switch on the ignition.

3. Press the service button 5 times.

4. Switch ignition off and on.

5. 5 sound signals will follow, confirming entry in the «Owner authorization code change» mode.

6. Enter the owner authorization code using the standard buttons with pressing interval not more than 3 seconds. Hold the button until a confirming sound signal is heard.

> **i** The owner authorization code consists of a code sequence, containing from 3 to 10 pressings of the standard buttons. The list of the standard buttons supported by the car can be requested from the setting specialist.

7. In 3 seconds after the end of owner code entry, 2 short signals of the sound alarm will follow.

8. Enter the owner authorization code again.

9. If the code matches, 2 short sound signals will follow. Otherwise, a long sound signal will be heard, repeat items 6...8.

10. Switch off ignition to exit the «Owner authorization code change» mode.

> ✅ Write down the owner authorization code not to forget it.

The manufacturer reserves the right to modify and improve the product design and technical features without prior notice.

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