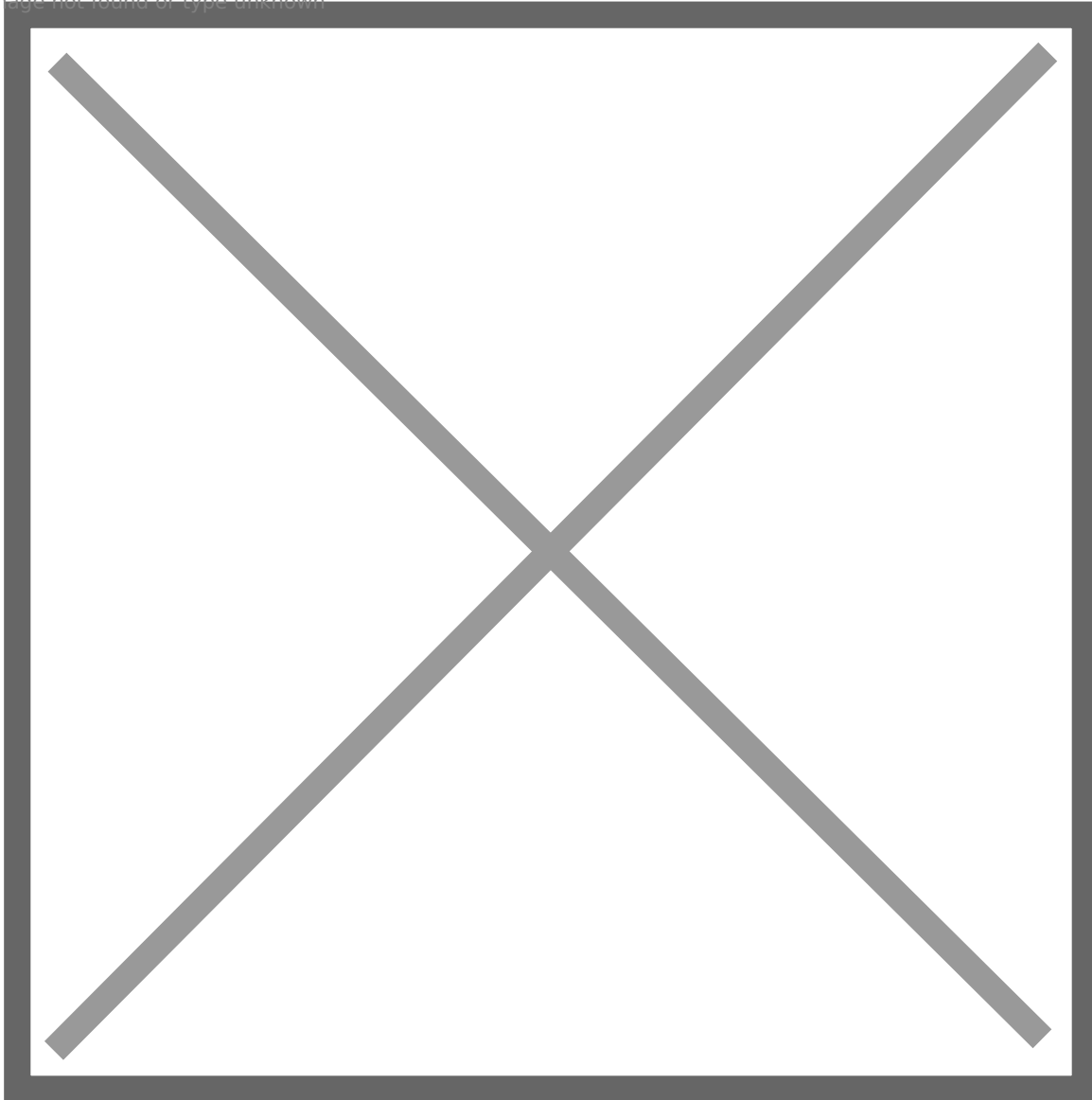


Operation Modes and Functions

The immobilizer is a system for engine start access with protection and service functions.

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For driving a vehicle equipped with the immobilizer, it is sufficient to have the tag with you. After the tag appears within the range of the locking module, automatic code exchange occurs between them via radio communication. The vehicle protection is provided by engine locking when attempting to move the vehicle without communication with the tag.

Locking is activated only if the vehicle is in motion with the engine running (ignition on). If the tag is absent in the reception area and the engine is running but the vehicle is stationary, locking is not activated. This allows the immobilizer to be used in conjunction with any automatic and remote engine start systems.





The immobilizer has the following structure of operating modes:

Security Modes	Normal mode
	«Antihijack»
Additional Modes	Service mode
	«Emergency unlock»
	«Telematic configuration»
	«Programming»
	«Device registration»

Security modes provide protection against theft (normal mode) and protection against armed robbery («Antihijack»).

Additional modes are intended for servicing and configuring the immobilizer (service mode, telematic configuration mode, and parameter programming mode), disabling security functions in case of battery discharge, loss of the tag (emergency unlock mode), as well as registering new components in the system (device registration mode).

The main differences between the modes are summarized in the table.

Parameter	Security Modes		Additional Modes				
	Normal	Anti-hijack	Service mode	Telematic configuration	Emergency unlock	Programming	Device registration
Color Indication (Tag, Indication Module)					unknown	—	—
Entry into mode	using tag			using PC	using ignition key (i95 ECO, i95) using indication module button (i95 LUX)		

Exit from mode	using tag		using PC	upon tag appearance		upon ignition switch off	
Block activation	permitted	prohibited				permitted	prohibited

Normal Mode

In normal mode, after the ignition is turned on, the tag should remain inside the vehicle until the first successful data exchange. Subsequently, the presence or absence of the tag does not affect the operation of the immobilizer — the engine will not be locked until the next ignition switch on. The presence of the tag is monitored in the background: if communication with the tag is interrupted (for example, if it is left in the garage), periodic audible signals about the absence of the tag will be emitted.

«Antihijack» Mode

In "Antihijack" mode, the immobilizer constantly checks for the presence of the tag inside the vehicle. If the tag disappears from the area of action while driving, an audible warning about the impending lockout will start, and 20 seconds later the engine will be locked. If the tag is absent from the moment the ignition is turned on, the lockout will occur when starting to move.

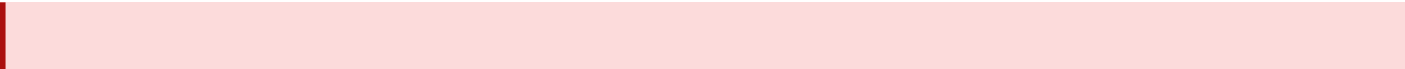
Automatic data exchange between the tag and the immobilizer prevents engine locking after tag recognition for 40, 60, or 120 seconds depending on the settings made.

If brake pedal polling is used in the system, engine locking when the tag is lost in "Antihijack" mode will occur after pressing the brake pedal. If the brake pedal was not pressed, the lockout will occur after a double set time interval.

For the "Antihijack" mode to work, engine locking while driving must be enabled in the settings. Otherwise, the engine will be locked when the ignition is turned on.

Engine Blocking

Upon detecting the tag within the reception area after ignition is turned on, a short audible signal is emitted (unless otherwise specified by settings). If by the time the vehicle starts moving, communication session hasn't occurred (either due to tag absence or tag battery depletion), audible signals indicating imminent blocking (depending on the selected security mode and settings) are activated, and engine blocking commences.



If you hear the audible indication of imminent blocking, take immediate measures to safely stop the vehicle!

Engine blocking is activated for 20 seconds. If the vehicle starts moving after the blocking cycle ends, the blockage will be reactivated for another 20 seconds. Each attempt to move the vehicle with the ignition on will result in engine blocking. If blocking occurs 3 times consecutively, the engine will be blocked until the tag reappears.

If intermittent blocking algorithm is set in the settings, engine malfunction simulation occurs — the blocked circuit periodically breaks and restores according to the following algorithm:

Blocking stages	Blocked	pause	Blocked	pause	Blocked	pause	Blocked
Duration, seconds	2	2	3	2	5	2	20

Driving the vehicle will become possible when:

- the tag appears within the reception area of the locking module;
- emergency unlocking is performed using the unlock code.

Service Mode

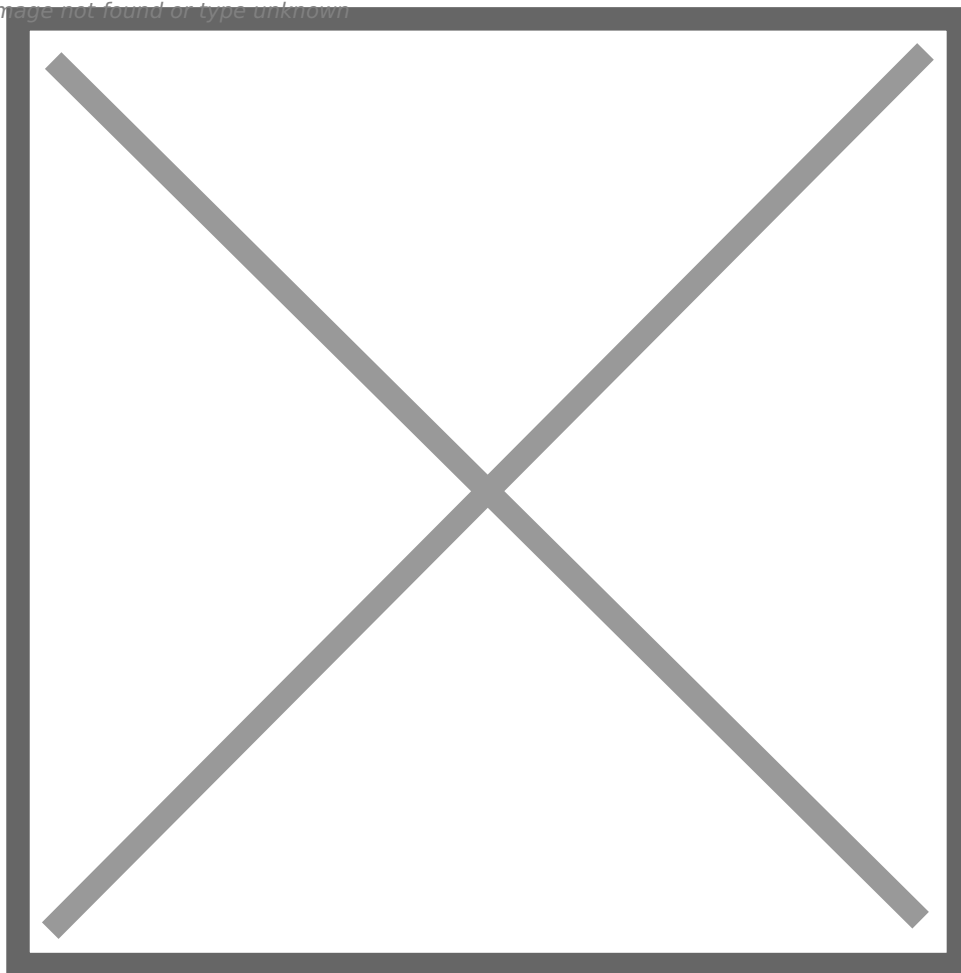
A special mode is provided for servicing the vehicle, in which security functions are disabled. In service mode, the engine is not blocked, and lock control is disabled, regardless of the presence or absence of the tag.

Transitioning the immobilizer to service mode is only possible when the vehicle is within the tag's range.

1. Press and hold the tag button. Immediately after pressing, the tag will indicate the current mode of operation and the communication status with the locking module. Then a 2-second indication of the next security mode will be performed. Hold the button for more than 7 seconds — until the LED turns yellow, indicating the possibility of transitioning to service mode.
2. Release the tag button during the 2-second yellow LED illumination.
3. Transition to service mode will be confirmed by two flashes of the yellow LED.

Example transition to service mode:

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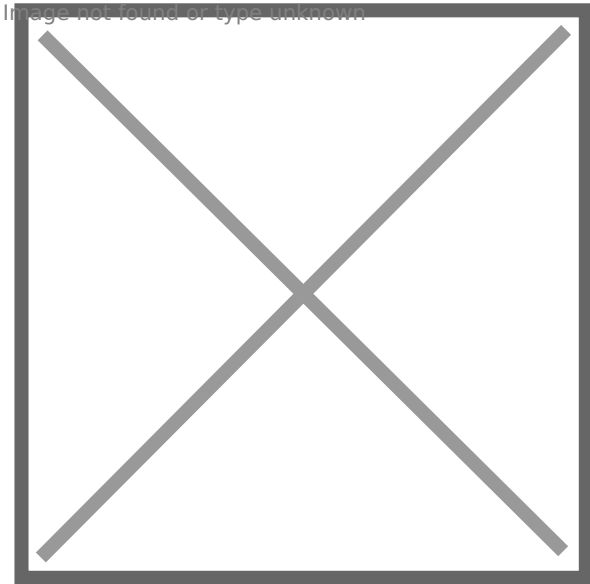


If all tags registered in the immobilizer are lost, exiting the service mode will be impossible.

To exit the service mode, perform the security mode change procedure (press and hold the button until the LED indicates the security mode color, then release the button during the 2-second flash). The immobilizer will return to security mode. It is recommended to test the operation in one of the security modes and ensure that the engine is blocked when attempting to drive the vehicle without a tag.

In service mode, the security functions of the immobilizer are disabled. Use this mode only to transfer the vehicle for service.

«Hands-Free» Mode



Door lock control is possible only for the i95 and i95 LUX immobilizers.

If "Hands-Free" mode is enabled in the settings, the immobilizer will remotely control the door lock according to the algorithm below.

The "open" pulse will be issued:

- when the tag approaches the stationary vehicle to a distance corresponding to the proximity threshold;
- when the ignition is turned off, if the "Unlocking upon ignition off" option is enabled;
- when switching to emergency unlock mode (after entering the unlock code);
- when switching to service mode.

The "close" pulse will be issued:

- when the tag moves away from the stationary vehicle to a distance corresponding to the departure threshold. The departure threshold is automatically calculated based on the proximity threshold value set in the door lock control range settings;
- when starting to move, if the "Additional locking upon movement start" option is enabled.

The "open" pulse will be issued only if the door locking was performed by the immobilizer, and vice versa. If door lock control was performed by any other means (not by the immobilizer), the "open" and "close" pulses will be absent.

When using the universal EXT channel connected to the hand touch sensor, the immobilizer will control the door lock according to the algorithm described below.

The "open" pulse will be issued:

- when the hand touch sensor is triggered in the presence of the tag;
- when the ignition is turned off, if the "Unlocking upon ignition off" option is enabled;

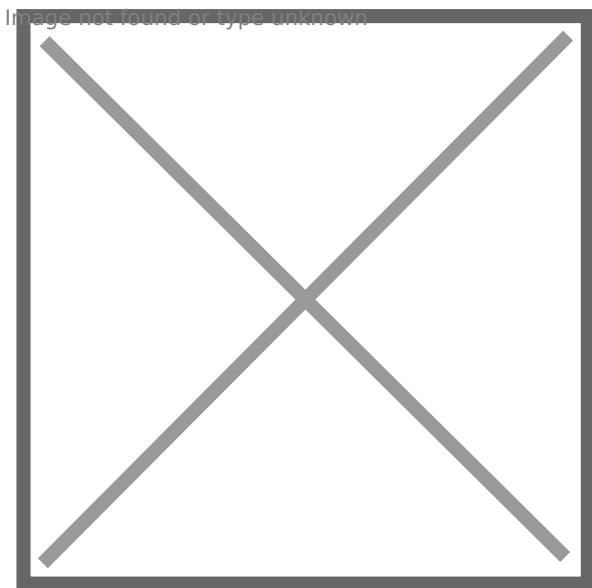
- when switching to emergency unlock mode (after entering the unlock code);
- when switching to service mode.

The "close" pulse will be issued:

- when the hand touch sensor is pressed for a long time (more than 3 seconds) or when the tag moves away;
- when starting to move, if the "Additional locking upon movement start" option is enabled.

In service mode, door lock control is disabled.

«Hood Lock Control»



If the "Hands-Free" mode is disabled in the settings, the immobilizer will remotely control the hood lock using one of the selected algorithms.

Hood Lock Control Based on Ignition Status

The "open hood" pulse will be issued:

- when the ignition is turned on in the presence of the tag;
- when switching to emergency unlock mode (after entering the unlock code);
- when switching to service mode.

The "close hood" pulse will be issued:

- after the tag moves away with the ignition off;
- when issuing audible warnings indicating an impending engine block.

For the **i95 ECO** immobilizer, the hood will be locked 10 seconds after the ignition is turned off.

Hood Lock Control Based on Tag Presence

The "open hood" pulse will be issued:

- when the tag approaches the stationary vehicle to a distance corresponding to the proximity threshold;
- when switching to emergency unlock mode (after entering the unlock code);
- when switching to service mode.

The "close hood" pulse will be issued:

- after the tag moves away from the stationary vehicle to a distance corresponding to the departure threshold;
- when issuing audible warnings indicating an impending engine block.

In service mode, hood lock control is disabled.

Emergency Unlock Mode

The "Emergency Unlock" mode is intended for emergency engine unlocking in case of battery discharge or loss of tags. In this mode, the system's protective functions are disabled until a tag appears within the radio channel's range.

Telematics Configuration Mode

The "Telematics Configuration" mode is designed for convenient and quick configuration of the immobilizer using the StarLine Master application.

Programming Mode

The "Programming" mode is intended for changing the unlock code, checking the stability of communication between the tag and the locking module, and adjusting the immobilizer's operation parameters using the tag. Entering programming mode is possible using either the unlock code or the service code. In the latter case, the option to change the unlock code will be unavailable.

Device Registration Mode

The "Device Registration" mode is intended for registering new components (tags, indicator modules) in the immobilizer's memory.
