

We would like to thank you for
choosing the immobilizer

StarLine

i95_{LUX}, i95, i95_{ECO}

and wish you many pleasant
and safe drives!



Revision No. 3
January 2017

Content

Table of possible indications	4
Specifications	5
Delivery set	6
Installation sheet	7
Wiring diagram	8
Diagram of external outputs	9
Designation of external outputs	9
General mounting requirements	10
Placement recommendations	11
Immobilizer connection	13
Power connection	13
Engine blocking circuit connection	13
Hood lock outputs connection	15
“Status” output connection (i95 LUX)	17
Buzzer connection (i95, i95 ECO)	17
Flexible channel connection	18
Indication module connection	20
Telematic setting of the immobilizer	20
Programming using a tag	21
Entry in the programming mode using the service code for immobilizer i95 LUX	22
Entry in the programming mode using the service code for immobilizer i95, i95 ECO	24
Parameter programming table	26
Example of parameter entry from the programming table	26
Testing of coverage range	31
Blocking during driving	32
“Hands free” mode setting	32
Control of door locks or hood lock	32
Setting of tag coverage range.....	34
Flexible channel setting	34
Engine blocking setting	36
Driving start sensor sensitivity.....	36
Delay before blocking activation after driving start.....	36
Delay before blocking activation in the Anti hijack mode.....	37

Delay before driving start sensor activation	37
Engine blocking algorithm	37
Light and sound alarm setting	38
Common sound indication.....	38
Common light indication	38
Tag detection signal.....	38
Reset to default settings	38
Registration of new devices	39

Table of possible indications

Event	Tag (LED)	Sound indication	Notes
Warning of upcoming engine blocking		intermittent sound signals	Take action to stop the car
Discharged tag battery		 3 sound signals	Install new battery
Normal security mode			If the LED flashes once at button pressing, the tag is outside the coverage range
Anti hijack mode			
Service mode			
Successful tag authorization		 1 sound signal	
Tag is absent. Prompt to enter the unlocking code		 long sound signal	For i95, i95 ECO
Normal mode. Tag is absent		1 sound signal every 2 minutes	If the tag was lost after motion start (in the normal security mode)
Failure of the hood lock circuit		 2 sound signals	Fix hood lock circuit

Specifications

Parameter	Blocking module	Indication module	Tag
Frequency range of control radio signals, MHz	2405...2480		
Type of control code	dialogue		
Maximum coverage range of immobilizer components, m	10*		
Supply voltage, V	9...16		2,0...3,3
Consumption current with switched-off ignition, mA	6,6 (i95 LUX, i95) 2,4 (i95 ECO)	—	
Consumption current with switched-on ignition, mA	6,8**	0,2	—
Maximum current load via relay contacts, A	10	—	
Maximum current load at hood lock outputs, A	20	—	
Operating temperature range, °C	-40...+125	-40...+85	-20...+70
Battery type	—		CR2025, CR2032
Battery life time, months	12		
Dimensions, mm	94 × 24 × 13	41 × 28 × 9	53 × 26 × 7

* – depends on location of the immobilizer components

** – with engine blocking inactive

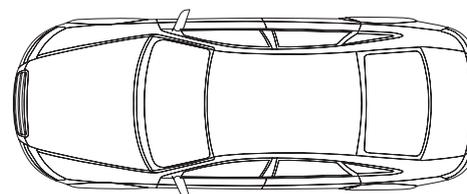
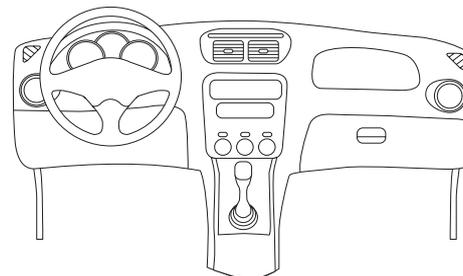
Tag coverage range may decrease depending on place of system components installation.

Delivery set

№	Component	i95 LUX	i95	i95 ECO
1	Installation manual	✓	✓	✓
2	User manual	✓	✓	✓
3	Plastic card	✓	✓	✓
4	Tag with battery, 2 pcs.	✓	✓	✓
5	Blocking module	✓	✓	✓
6	Indication module	✓	-	-
7	Buzzer	-	✓	✓
Function		i95 LUX	i95	i95 ECO
Central lock control ("Hands free" mode)		✓	✓	-
Tag authorization output (status output)		✓	✓	-



Installation sheet



Installation date: _____

Service code: _____

Wiring diagram

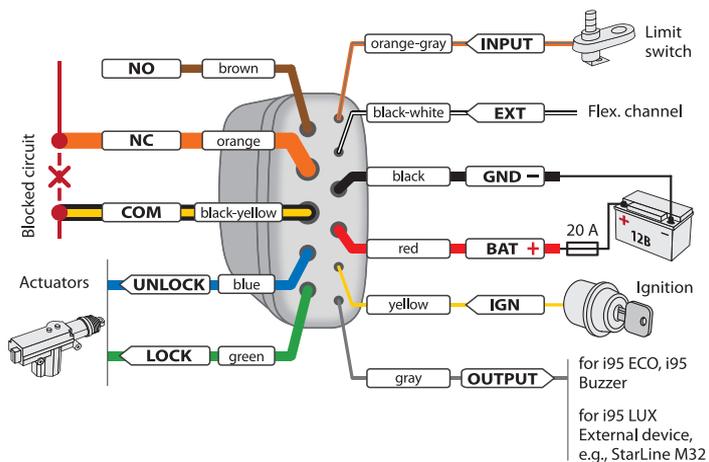
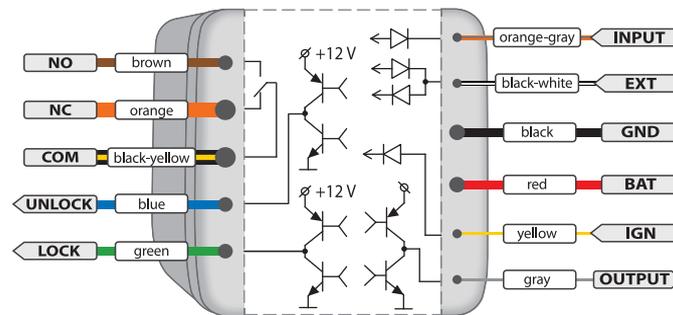


Diagram of external outputs



Designation of external outputs

Marking	Designation
GND	Ground (-)
BAT	Power supply (+)
IGN	Ignition
NO	Normally open relay contact
NC	Normally closed relay contact
COM	Common relay contact
UNLOCK	Opening the door lock (or hood lock)
LOCK	Closing the door lock (or hood lock)
INPUT	Input the door (or hood) limit switch
OUTPUT	i95, i95 ECO – buzzer output i95 LUX – status output
EXT	Flexible channel

General mounting requirements

- The StarLine i95 LUX, i95, i95 ECO immobilizer is intended for installation on cars and motor vehicles with the onboard supply voltage of 12 V.
- Prior to immobilizer mounting check operability of the car electrical equipment circuits, as well as absence of error indication of the standard car equipment on the dashboard ("Check engine", "Airbag" etc).
- The immobilizer should be mounted in compliance with the mounting diagram.
- The wires must be laid as far as possible from electric interference sources: ignition coils, high-voltage wires etc. Pay attention to absence of wire contact with moving parts of the car – pedals, steering gear etc.



Prior to mounting, study the immobilizer operation principle and functional capabilities described in the User Manual.



After immobilizer installation, fill in the Installation Sheet in the Installation Manual.



The tags, included in the immobilizer delivery set, are initially in the transport mode in which they are off! Pressing the tag button in this mode will be indicated by a 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.

Placement recommendations

The blocking module should be placed hidden in areas, inaccessible for inspection without partial disassembly of the body elements, engine or passenger compartment. The blocking module can be placed both in the passenger compartment and in the engine compartment (under the hood), with safety conditions related to the permissible temperature, corrosion and humidity.

To avoid interference in radio channel operation, the module should be installed as far as possible from metallic car parts, or a clearance of several centimeters should be ensured from solid metallic surfaces.

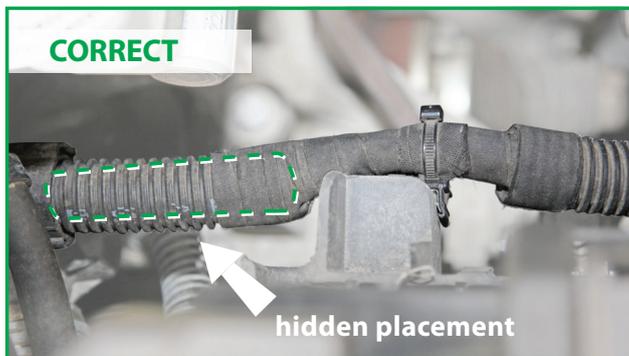
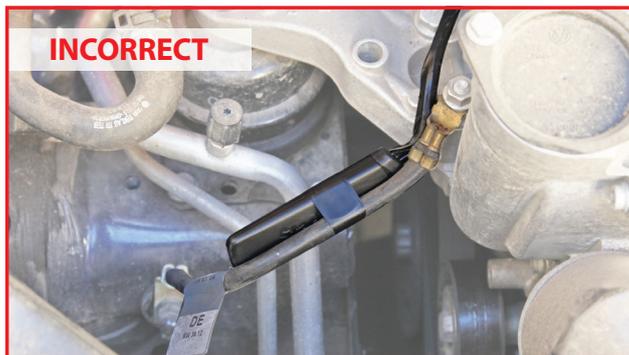
In case of shielding the tag coverage range should be tested. The immobilizer operation requires stable data transactions between the blocking module and the tag located on the driver's seat.



When the "Hands free" mode is used it is necessary to configure the tag coverage range depending on the required distance for door locking/unlocking.

The blocking module can be mounted in the harnesses of the car wiring for hidden placement. The harness should be immobile in relation to the car body.

The module should be rigidly fastened to avoid false activation of the driving start sensor.



Immobilizer connection

Power connection

The **GND** wire of the blocking module should be connected to the car body or a conductor reliably connected with the body.

This wire should be connected the first during mounting.

The following connection peculiarity should be taken into consideration during mounting: the module should be powered via the **BAT** output, and it should not be lost in any circumstances. Neglecting this requirement may cause immobilizer malfunctions – for instance, abnormal activation of the Anti hijack function which may cause a sudden change in engine operation. The **IGN** wire should have +12 V during ignition switch-on and engine operation.



*When connecting the **BAT** wire it should be borne in mind that the maximum consumption current can reach 30 A (at the moment of hood lock control pulse issue).*

Engine blocking circuit connection

The **NO**, **NC** and **COM** wires are connected to the engine blocking circuit.

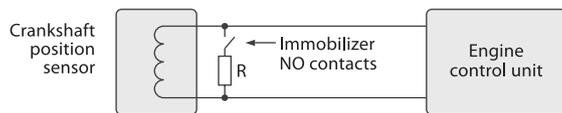
Blocking can be performed using both normally closed (**COM** and **NC**) and normally open (**COM** and **NO**) contact pair.



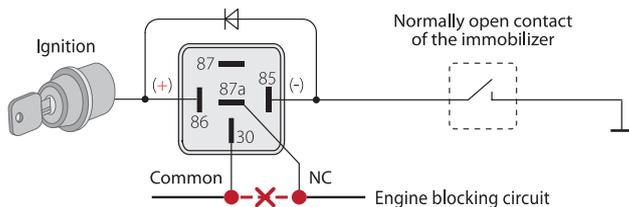
The relay is powered only at the moment of engine blocking. Ignition switch-on does not activate the relay.

Relay contacts current should be not more than 10 A for a long time and not more than 20 A with duration up to 1 minute (in case of circuit

switching without the inductive component in the load). The blocking module dimensions allow to install it close to the engine blocking circuit. When wiring this circuit, it is necessary to observe the length and cross-section of wires used for switching, because switched current can be significant. If current in this circuit exceeds 10 A, an additional external relay should be mounted.



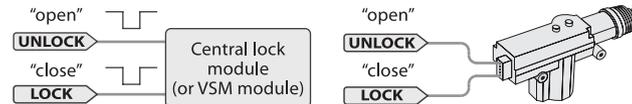
Example of use of NO contacts for engine blocking



Connection of external blocking relay

Hood lock outputs connection

The **UNLOCK** and **LOCK** outputs are intended for control of the hood lock or the central door lock. The outputs are built according to the power scheme (the maximum output current is 12 A), therefore no additional power modules are required for lock control. At the same time, control of the central door lock can be implemented both via two-wire drives to door actuator and at direct connection to the central locking system with negative control.



Connection to central door lock

Connection to actuator

Prior to connection of the lock's power outputs, the corresponding control scheme should be selected.

Lock control method		Output	"Open" pulse	"Close" pulse
Control of hood (disabled "Hands free" mode)	Actuator	UNLOCK	+	-
		LOCK	-	+
Control of doors (enabled "Hands free" mode) <i>(only for i95 LUX, i95)</i>	Central door lock	UNLOCK	-	break
		LOCK	break	-
	Actuator	UNLOCK	+	-
		LOCK	-	+

The **INPUT** wire should be connected to the corresponding limit switch, this will allow the system to trace the door's or hood's state. If the door or hood is open, the lock will not lock. Ground (-) should be on this wire when the doors (hood) are open.

i95 LUX
i95

ATTENTION! *If the immobilizer control outputs are connected directly to the central door lock, **be sure to select the central locking system with negative control as the control scheme.** Failure to observe this rule may cause equipment failure.*



After connection, be sure to check operation of the algorithm of central lock opening and closing by the immobilizer and the car key. In rare cases the central lock may operate incorrectly, which is related to the feature of car circuits – use an additional external dry contacts relay for connection to the central lock inputs.

In case of failure in the lock control circuit (for instance, short circuit of wires or overheat) at issue of a pulse for lock opening or closing, 2 short sound signals will be heard. In this case the failure should be fixed before operation start.

“Status” output connection (i95 LUX)

The “status” **OUTPUT** allows to use immobilizer together with external devices (alarm, monitoring system etc) for checking the car owner's presence. The output operates as follows:

- it has high impedance state (break), if the tag is far away or absent (the tag signal level is below the configured threshold)
- ground (-), if the tag is near the car (the tag signal level exceeds the configured threshold)

Buzzer connection (i95, i95 ECO)

The **OUTPUT** wire is connected to output “-” of the buzzer, while output “+” is connected to the **BAT** wire of the blocking module (“+12 V” circuit). A LED can be connected in parallel to the buzzer (via 1...2 kOhm resistor).

The buzzer should be placed so that its signals are well heard from the driver's seat.



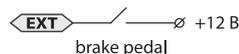
ATTENTION! *Do not place the buzzer near the blocking module, it may cause activation of the driving start sensor at issue of sound signals.*

Flexible channel connection

The flexible channel **EXT** can be connected to one of the following inputs (outputs):

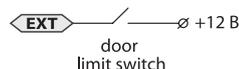
- **Positive input of the brake pedal**

It is used for getting the status of the brake pedal prior to execution of the blocking algorithm in the Anti hijack mode. Brake pedal pressing is determined according to the appearance of +12 V potential at the input.



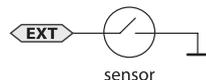
- **Positive input of the limit switch**

Intended for determining the state of the doors or hood. It is used in cars with the +12 V potential on the limit switch with the doors or hood open.



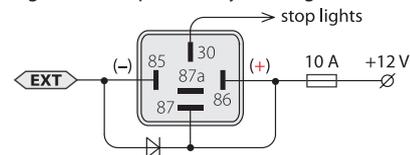
- **Negative input of the touch sensor (i95 LUX, i95)**

It is connected to the hand touch sensor (installed separately). In the "Hands free" mode when the tag is present in the coverage range, the central door lock will be unlocked only by the sensor signal. The door closing pulse will be issued at continuous impact on the touch sensor (over 3 seconds) or at tag moving-away.



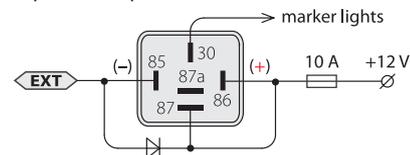
- **Output to stop lights**

Low-voltage (400 mA) negative output. It is used to warn the nearby drivers about the upcoming stop of the transport vehicle prior to execution of the engine blocking algorithm. Warning signals are duplicated by flashing of the car stop lights.



- **Output to marker lights**

Low-voltage (400 mA) negative output. Intended for light indication of door opening and closing. At the moment of "close door" pulse issue, one signal is sent to the marker lights. Two signals are sent to the marker lights simultaneously with the "open door" pulse.

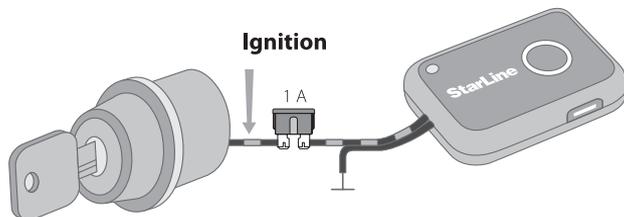


- **"Status" output**

The output operation algorithm fully matches the description given in "Status output connection". The status output for immobilizer i95 ECO operates only with the ignition switched on.

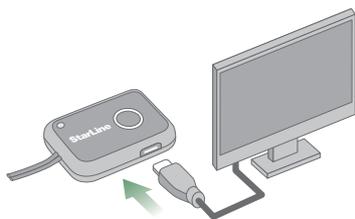


Indication module connection



- 1) Attach the indication module with double-sided scotch, included in the delivery set, to the chosen surface.
- 2) Make sure that ignition is off.
- 3) Connect the black wire of the indication module with the car "ground".
- 4) Connect the black wire with gray strip to the car wire on which the voltage of +12 V is present only while ignition is switch-on. Voltage should not disappear at starter switch-on.

Telematic setting of the immobilizer



For quick and convenient setting of immobilizer parameters on a computer, download the special application "StarLine Master" from the website www.starline.ru

Programming using a tag

The programming mode is intended for setting of immobilizer parameters.



To enter in programming mode the service code is required.



Switchover to the programming mode from the service mode is impossible (yellow indication).

For immobilizer **i95 LUX**, entry in the **programming mode** is performed using the indication module. For immobilizer **i95, i95 ECO** – using the ignition key.



ATTENTION! *When the system is set to the programming mode using the service code, the option of unlocking code change will be unavailable.*

Entry in the programming mode using the service code for immobilizer i95 LUX

- 1) **Switch on the ignition.** Press and hold the indication module button for at least 3 seconds – until the LED turns off. Release the button.



- 2) Yellow flashes will follow, accompanied with sound signals. Count the number of flashes equal to the first digit of the service code and press the indication module button shortly. Entry of the first digit is complete.



- 3) Enter the remaining service code digits similarly to item 2.

- 4) If the service code is entered correctly, 5 short signals will be issued, the system will set to the programming mode. In several seconds the tag LED will start issuing three-second green flashes, waiting for parameter entry.



If the service code **was entered incorrectly**, 2 short signals will be heard. If the code is entered incorrectly 5 times during 30 minutes, repeated entry will be blocked for 15 minutes. The code entry prohibition is removed when the tag appears.

Switchover to the programming mode.

Example of service code entry – 9567.

Pressing of the module button								
Light signal	up to 2 min		9 times	5 times	6 times	7 times	5 times	
Sound signal			9 times	5 times	6 times	7 times	5 times	



The immobilizer will be in the programming mode until ignition switch-off.

Entry in the programming mode using the service code for immobilizer i95, i95 ECO

1) Remove all tags from the immobilizer coverage range (or remove all batteries from them).

2) **Switch on the ignition.** Wait for a sound signal and switch off the ignition.

during a long sound signal



3) **Switch on the ignition** – a series of sound signals will follow. Count the number of signals equal to the **first digit of the service code**, and switch off the ignition.

the sound signal number is equal



4) Enter the remaining service code digits similarly to item 3.

5) **Switch on the ignition.** If the service code is **entered correctly**, 5 short signals will be issued, the system will set to the programming mode.



5 times

If the service code was **entered incorrectly**, 1 long signal will be heard. If the code is entered incorrectly 5 times during 30 minutes, repeated entry will be blocked for 15 minutes. The code entry prohibition is removed when the tag appears.

6) Insert the battery in the tag. In several seconds the tag LED will start issuing three-second green flashes, waiting for parameter entry.



Switchover to the programming mode.

Example of service code entry – 9567.

	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON
Ignition											
Sound signal	in 20 s										



The immobilizer will be in the programming mode until ignition switch-off.

Parameter programming table

The reference table given below can be used during immobilizer programming. The number in column **Parameter** corresponds to the number of tag button pressings at the moment of green LED illumination, in column **Value** – at the moment of red LED illumination.

Example of parameter entry from the programming table

To set the low sensitivity level of the driving start sensor, set the immobilizer to the parameter programming mode. After that do the following:

- 1) Make sure the tag LED issues three-second green flashes.

Flashes
of 3 s each 

- 2) Press the tag button shortly 9 times while the LED is illuminated. After the end of illumination 9 short green flashes will follow (corresponding to the number of pressings). The LED color will change to red.



9 flashes
will follow 
The color
will change 

- 3) Press the tag button three times while the LED is illuminated red. After the end of illumination a series of red flashes will follow, the number of which will correspond to the number of button pressings.



Pressings:
1 – high sensitivity
level
2 – medium
sensitivity level
3 – low sensitivity
level

- 4) Successful setting of the low sensitivity level of the movement sensor will be confirmed by three sound signals.

Parameter	Value	Description	Note
1	Change of unlocking code (see the User Manual)		It allows changing the 4-digit unlocking code, necessary for system switchover to the emergency unlocking mode
	1...9, 1...9, 1...9, 1...9	Digits of new unlocking code	
2	Option of tag coverage range testing (page 31)		It includes the option of tag coverage range testing
	1	Option activation	
3	Not used		
4	Blocking during driving (page 32)		Allows engine blocking after driving start
	1	On (default)	
	2	Off	
5	"Hands free" mode (page 32)		Allows for switchover between automatic control of the central door lock and the hood lock. *Only for immobilizer i95 LUX, i95
	1*	Off, hood lock control according to tag's presence. Two-wire drives to actuator	
	2	Off, hood lock control according to ignition state. Two-wire drives to actuator (default)	
	3*	On, door lock control. Central locking system with negative control	
	4*	On, door lock control. Two-wire drives to actuator	
	5	Door lock control off	
6	Door lock control (page 32)		Allows for selecting additional door lock control capabilities (used only together with "Hands free" mode). More detailed description is given in section "Door lock control" of User Manual. *Only for immobilizer i95 LUX, i95
	1	No additional options (default)	
	2*	Unlocking only	
	3*	Additional locking at movement start, unlocking according to ignition switch-off	

Parameter	Value	Description	Note
7	Tag coverage range (page 34)		Allows for adjusting the tag range for lock control
	1	Near distance	
	2	Medium distance (default)	
	3	Far distance	
8	Connection of the flexible channel (page 34)		Determines the operation algorithm of the flexible channel depending on the selected connection method. *Only for immobilizer i95 LUX, i95. **The status output for immobilizer i95 ECO operates only with the ignition switched on
	1	Brake pedal	
	2	Limit switch	
	3*	Hand touch sensor	
	4	Stop lights	
	6**	Status output (default)	
9	Driving start sensor sensitivity (page 36)		Allows for adjusting movement sensor activation sensitivity
	1	High level	
	2	Medium level (default)	
	3	Low level	
10	Delay before blocking after driving start (page 36)		Allows for selecting the required duration of delay before blocking after driving start (in case of tag absence after ignition switch-on)
	1	none (default)	
	2	5 seconds	
	3	10 seconds	
11	Delay before blocking in the Anti hijack mode (page 37)		Allows for selecting the necessary delay duration after tag moving away (during driving) prior to blocking in the Anti hijack mode
	1	40 seconds (default)	
	2	60 seconds	
	3	120 seconds	
12	Intermittent blocking algorithm (page 37)		Allows and prohibits simulation of engine failure at blocking
	1	On	
	2	Off (default)	
13	Common sound indication (page 38)		Allows and prohibits all sound signals, except the warning signals in additional modes
	1	On (default)	
	2	Off	

Parameter	Value	Description	Note
14*	Common light indication (page 38)		Allows and prohibits light indication of tag detection and warning about upcoming blocking. *Only for immobilizer i95 LUX
	1	On (default)	
	2	Off	
15	Tag detection signal (page 38)		Allows and prohibits the signal of tag detection after ignition switch-on
	1	On (default)	
	2	Off	
16	Signals of tag loss in the normal mode (page 38)		Allows and prohibits the signals in case of tag loss in the normal mode
	1	On (default)	
	2	Off	
17	Reset of settings to factory values (page 38)		Restores the factory values of the programming table parameters
	1	Return to default settings	
18	Delay prior to activate the driving start sensor (after engine start) (page 37)		Sets the necessary delay after remote engine start
	1	5 seconds (default)	
	2	30 seconds	
	3	60 seconds	
19	Inversion of the "status output" of tag presence		Allows setting the active level of the status output of tag presence (EXT). By default the output is "ground" if the tag is near. "Ground" can be set when the tag is outside the coverage range.
	1	On	
	2	Off (default)	

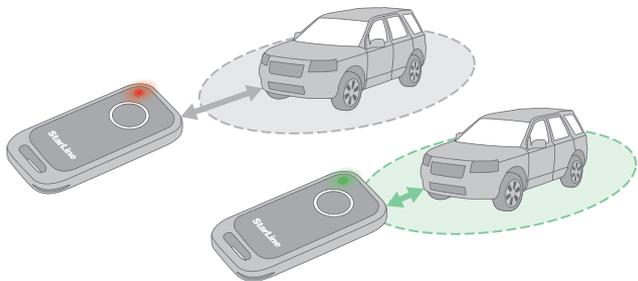
Testing of coverage range

This option allows to check stability of communication between the tag and blocking module.

During communication stability testing, each half-second there is two-way radio exchange between the tag and blocking module, indicated by a LED flash. A green flash corresponds to successful exchange, a red one to failed exchange. Duration of the communication check session is 10 minutes. After this time the system will automatically return to the security mode.

If the tag loses communication for more than three minutes, it will stop flashing until successful exchange with the blocking module.

Stable communication is necessary for safe operation of the immobilizer and does not depend on the set lock control threshold.



Blocking during driving

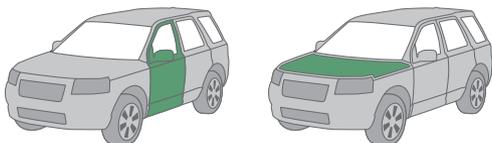
The immobilizer can block the engine after driving start. This allows using the immobilizer together with systems of remote engine starting. If blocking during driving is prohibited, the engine will be blocked at ignition switch-on.

“Hands free” mode setting

i95 LUX
i95

Central lock control is available only for immobilizer i95 LUX, i95

Control of door locks or hood lock



The immobilizer has outputs for control of the central door lock or hood lock. Using the “Hands free” mode allows for remote control of the central door lock at tag approach and moving away from the car. More detailed description is given in section “Door lock control” of the User Manual.



ATTENTION! The algorithm of central lock control differs from hood lock control. During immobilizer setting one of these modes can be selected.

The system has two methods for central door lock control. If a pulse for lock opening and closing is sent directly to the central lock, it is necessary to use the scheme of control of the central locking system with negative control. If the power contacts of the blocking module are connected to the activators of the door(or hood) lock, the system should be switched over to control of the two-wire drive of the locking system.



ATTENTION! If the immobilizer control outputs are connected directly to the central door lock **be sure to** set the scheme of control by the central locking system with negative control. Failure to observe this rule may cause equipment failure.



In case of failure in the activator supply circuit (for instance, short circuit of the wires or overheat) 2 short sound signals will be heard at an attempt at issuing a pulse for lock opening or closing.

Additional door lock control (i95 LUX, i95)

The system has the possibility of additional door lock control in the “Hands free” mode. More detailed description is given in section “Door lock control” of the User Manual.

Setting of tag coverage range

Distance between the tag and blocking module, at which the “open” pulse is issued, is set by three-level setting of coverage range (small, medium, large distance).



Distance and stability of tag communication with the blocking module is affected by many factors: interference, all kinds of obstacles etc. Bear it in mind that the actual coverage range depends on tag location: if it is in the rear pocket or under thick clothes, coverage range is reduced. Moreover, the given distance is determined by the method of blocking module mounting in the underhood space – the deeper the device, the more difficult it is to find it, but the smaller the actual coverage range.

The maximum coverage range of the tag for the “Hands free” option is within 10 meters.



When the immobilizer is mounted in the passenger compartment, tag coverage range should be set to a small distance. In case of mounting in the underhood space – to a medium or large one.

Flexible channel setting

The flexible channel **EXT** can be connected to one of the following inputs (outputs):

- **Positive input of the limit switch.** It is intended for determination of door or hood state for cars with positive limit switches. If the doors or the hood is open, the potential of +12 V is present on the limit switch.
 - **Negative input of the touch sensor (i95 LUX, i95).** In the “Hands free” mode when the tag is present in the blocking module coverage range, the central door lock will be unlocked only by the touch sensor signal (installed additionally). The door will be locked in case of a long-term impact on the sensor (over 3 seconds) or in case of tag moving away.
 - **Output to stop lights.** Low-voltage (400 mA) negative output. It is used to warn the nearby drivers about the upcoming stop of the transport vehicle prior to execution of the engine blocking algorithm. Warning signals are duplicated by flashing of the car stop lights.
 - **Output to marker lights.** Low-voltage (400 mA) negative output. Intended for light indication of door opening and closing. At the moment of “close door” pulse issue, one signal is sent to the marker lights. Two signals are sent to the marker lights simultaneously with the “open door” pulse.
 - **“Status” output.** It is intended for tracing of tag presence near the car. It is used as the default setting of the channel.
- **Positive input of the brake pedal.** In the Anti hijack mode, engine blocking will be started at pressing on the brake pedal, which will enhance safety at stopping. If the brake pedal was not pressed, engine blocking will be started upon expiry of a double
 - time interval, set during immobilizer parameter programming. Brake pedal pressing is determined according to the appearance of +12 V potential at the input.

Engine blocking setting

Driving start sensor sensitivity

The start of blocking algorithm execution is determined by three-level settings of driving start sensor threshold:

- **High level** – ensures response to driving start with motion to less than 10 meters within 10 seconds; on the average it ensures activation at a speed of over 5 km/h with slow acceleration.
- **Medium level** – ensures response to driving start with motion from 10 to 20 meters within 10 seconds; on the average it ensures activation at a speed of over 10 km/h with slow acceleration.
- **Low level** – ensures response to driving start with motion to more than 20 meters within 10 seconds; on the average it ensures activation at a speed of 30 km/h with slow acceleration.

Delay before blocking activation after driving start

The interval between driving start and blocking activation (10 or 5 seconds, as well as the zero interval) is selected based on the time needed for drive-out of the garage, where the malefactor cannot make unnoticed attempts at immobilizer deactivation. This delay may also be used for safe engine blocking after its starting.

Delay before blocking activation in the Anti hijack mode

The interval between driving start and blocking activation in the Anti hijack mode (40, 60 or 120 seconds) is selected based on the time necessary for malefactor's departure from the robbery site.

Delay before driving start sensor activation

This setting is recommended in case of strong vibrations after remote engine starting. It allows avoiding the activation of the driving start sensor in this case. The set interval (5, 30, 60 seconds) is counted from the time of ignition switch-on.

Engine blocking algorithm

If communication between the tag and module was not established by the moment of driving start, and the emergency unlocking was not performed, the system will start engine blocking. At engine blocking it is possible to simulate engine failure – the blocked circuit is periodically broken and restored according to the following algorithm:

Blocking stages	BLOCK	pause	BLOCK	pause	BLOCK	pause	BLOCK
Duration, s.	2	2	3	2	5	2	20

If the car starts moving after the end of the blocking cycle – blocking will be activated for 20 seconds. If blocking is repeated 3 times, the engine will be blocked until the tag appears.

Light and sound alarm setting

Common sound indication

It is possible to deactivate all the sound alarm signals, except the confirmation signals in additional modes.

Common light indication

It is possible to deactivate the light indication of tag detection and warning about upcoming blocking.

Tag detection signal

Tag detection by the immobilizer is accompanied with sound and light signals.

Signals of tag loss in the normal mode

Tag loss by the immobilizer is accompanied with sound signals. These signals allow for tag detection, for instance, if you forgot it in the garage.

Reset to default settings

Reset to default settings changes all the programming table parameters (except the unlocking code) values to the default ones. All the registered devices are saved in the system.



ATTENTION! *Reset of settings **does not change** the unlocking code.*

Registration of new devices

To prevent unauthorized tag registration, entry in the device registration mode is possible only after entry of the unlocking code. For registration of new components the immobilizer should be set to the **device registration mode** using the unlocking code. The procedure of new device registration is described in the corresponding section of the User Manual.



If the car owner has told you the unlocking code, ask him/her to change it for a new one after completion of new device registration.

The manufacturer reserves the right to change
the design and elements without prior notification

Manufacturer:
Limited Liability Company
"Scientific and Production Association "StarLine"
(LLC "SPA "StarLine")
194044, Russia, Saint Petersburg,
9 Komissara Smirnova Str.