

Immobilizer CA-322 „Accent“

- instructions

The „Accent“ brand name system is suitable for all cars equipped with 12V voltage and a negative ground. The CA-322 immobilizer is remotely controlled. RF communication is protected by a FLOATING digital code and by an ANTI-SCAN feature.

Arming and disarming of the system is confirmed by the turn indicators blinking. While the ignition key is on, the system can not be armed. This protects the car from having the system accidentally activated while driving. A visual warning of the presence of the immobilizer is provided by an LED indicator.

Door lock outputs allow the central locking system to be controlled by the remote control (programmable output pulse duration). A signal to close electrically powered windows is also available.

An automatic Dome light control is provided by an extra door switch input/output (negative trigger). It turns ON the dome light after disarming and the opening of any door. The light will remain ON until you switch ON the ignition (max. 60 sec.).

A built in powerful immobilizer (3 relay contacts) can disable important systems (starter, ignition, electrical fuel pump etc.).

The „Accent“ provides optional REARM and AUTOIMMO functions. REARM checks if the car has been entered within one minute of disarming. If not, the immobilizer is automatically rearmed and the doors are locked again. AUTOIMMO function will block the car automatically if ignition key is turned off for more than 5 minutes. Optional functions can be modified in setting mode by a professional mechanic after installation.

SPECIFICATIONS

voltage	10 - 16VDC
stand by consumption	max. 20mA
working temperature	-40 to +85°C
remote controller distance	max. 20m
remote controller coding	equipped with SAW resonator digital floating code system with Anti-scan
turn indicator outputs	2 x +12V, max. 2 x 5A
central lock outputs	pulses to GND, max. 300mA, 0.3 - 4sec.
optional „lock“ signal duration (for el. powered windows)	60sec.
immobilization relay contacts (3 loops)	max. 15A permanently max. 20A for 30 seconds

AUX output	digital bus output (future use)
negative switched door contacts input / courtesy light output	10W
AL1 negative input / dome light output	
VALET push button	executive override, setting

All the data is stored to EEPROM memory.
This product complies with IEC 839-10-1, EEC No. 97



Hereby, Jablotron Ltd., declares that this CA-322 is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. Original of the conformity assessment can be found at the web page www.jablotron.cz, section Technical support.

Note: Although this product does not contain any harmful materials we suggest you to return the product to the dealer or directly to the producer after usage.

INSTALLATION

The immobilizer will work only if properly installed. Improper installation of the system can result in poor and/or dangerous car performance. We recommend having the immobilizer professionally installed.

INSTALLATION INSTRUCTIONS: Disconnect the battery before starting installation. Keep in mind that if your car has some memory functions, these may be erased if you disconnect the battery. Nobody should be inside the car equipped with airbags when connecting or disconnecting the battery. Refer to the car owners' manual before disconnecting the battery.

Install the control unit in the passenger compartment. The recommended location is under the dash board. The wire coming directly from the control unit is the remote control antenna. The location of this wire will effect the remote control working distance. Ideally, the wire should be near a window. If you drill a hole in the car, be sure to check the area before drilling to prevent damage to the car.

LED indicator is on a separate cable. Once you have determined the position on the dashboard where you want the LED light, drill a 6.5mm (4/16") diameter hole in the dashboard and install the LED. Be sure to check for other cables before you drill the hole. Connect the LED cable into any of the three pin connectors on the main unit.

VALET Switch - has a separate cable. This push button switch can be used as an executive override if the remote control is lost. However, if the VALET switch was optionally disabled in setting mode, it will not be able to override. Find a hidden place in the car and install the switch. Connect the cable to any of the three pin connectors on the main unit.



WIRING - route wires for the immobilizer with the electrical harness of the car. Check each connection made to ensure that it is solid and properly insulated. Use only a real crimping tool to make connections. Complete and check all wiring before switching on the power. Each wire is marked by a number on its end (remove the numbers after installation).

1 = Positive Supply - connect this wire to a direct line from the positive terminal of the battery. This wire is split in the immobilizer wire harness. The loop with the fuse (10Amp), is a separate power supply for turn lights. The fuse protects against a short connection of the turn indicator bulb. Use only a 10A fuse in this harness!

2 = Grounding - connect this wire to the original GND point in the car.

4 = „Lock“, 5 = „Unlock“ - these wires provide signals to control the central door lock system. The maximum output current for either of these lines is 300mA. NPN transistors switching to the GND are on the output of these lines.

The duration of output pulses is programmable (0.3sec. factory default). Connect the wires from the „Accent“ to the inputs of the central locking system control unit.

If the car has powered windows with a “close all windows” button you can use the „Lock” signal to close all the windows. In this case, select the longer “Locking Signal” in the setting mode. This way the immobilizer will lock the doors and will close all windows if button  (●) is used for arming and it will only lock the doors if button  (○) is used.

Do NOT connect the wires from the immobilizer directly to the actuators! See "Examples of Accent use for different central locking systems" if your locking system uses another type of control signals. If you are also going to install a central locking system in your car, we recommend the CL-20A.

6 = Ignition Key Input - connect this wire to the ignition key switch (+12V when ignition is ON). This signal will prevent accidental arming of the system while driving. This signal is also used for REARM and AUTOIMMO functions.
Note: Be sure, that +12V is also present, when a starter is used.

7 = Door Switches input, Dome Light Control output - is a negative trigger input for REARM function. It also functions as the dome light control output. Connect this wire to the door switches (we recommend to have switches installed in all doors). With the system is disarmed, opening the door turns on the interior dome light till the ignition key is switched on (max. 1 minute).
Note: The maximum load of the interior light can be 10W.

8 = AL1 Negative Input for REARM function and dome light controlling. It can be used for trunk switch.





13 and 14 = Turn Indicators - the two wires provide power for the left and right turn indicators. Each wire provides 12V, 5A pulses to the lights as a visual indication of arming and disarming. Connect one of the wires to the left turn light and the other wire to the right turn light.

Immobilization - the six wires in a separate connector are the three built-in immobilization contacts' leads. The following wires are connected by internal relay contacts inside: 1-3, 2-4, 5-6. The starter, fuel pump, ignition or any other system that when electrically disconnected will render your car inoperative, may be connected here. Only disarming the system and switching ON the key in the ignition closes the contacts. These contacts will operate correctly for permanent load up to 15A, max. 20A for 30 seconds (each).

Adding of a new remote controller

There are two remote controllers in each „Accent“ immobilizer set. The system can be operated with a maximum of three remote controllers. To add an additional remote control or to replace an original one (in the case one is lost) perform the following procedure:

Switch on the ignition key when immobilizer is disarmed and press the hidden VALET button five times (in 1 minute from the moment when you turned on the ignition). The turn indicators will make two long signals and the LED will light continuously. The control unit is now in remote control learning mode.

You must activate all remote controls (one by one, button , ,  or ) which you want accepted by the immobilizer. The control unit will store codes in its memory (confirmed by a LED flash and for a brand new code also by a turn lights signal).



Keep in mind that only three controllers can be taught to the immobilizer. If you try to teach a fourth controller, the first one will be forgotten and so on. If you activate only one controller in learning mode, you will be able to control the system only with this one controller.

To close learning mode, switch off the ignition key. You can see how many remote controls are available for your immobilizer by number of LED flashes every time when you switch on the ignition key.

Setting mode

Optional functions can be modified. To enter the setting mode perform the following procedure:

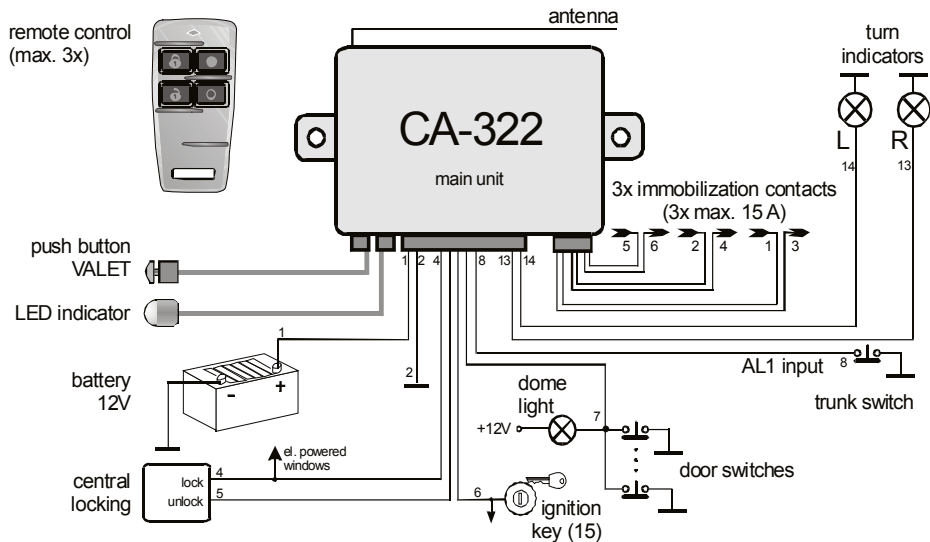
- press the hidden VALET button switch when the immobilizer is disarmed and hold it pressed
- after 5 seconds (or more) switch on the ignition key
- the turn lights will make one long and one short signal and the LED will light continuously
- release the VALET button; the immobilizer is now in setting mode

Now you can make setting; see the following table (you are in row no. 1). Setting of the parameter is indicated by LED and can be changed by a remote control button ( or ) , each short pressing will change the parameter (on - off - on - off - etc.). Bold printed parameters are factory default settings.

To select next parameter (next row in the table), press VALET button quickly. The turn lights will confirm parameter (row) number by the number of signals. Step by step go through all parameters. When you are on parameter number 5 the next VALET button pressing will store all the programming to the memory and the setting mode will be exited (confirmed by the turn lights with one long signal). If you switch the ignition key off any time before the setting mode is completed, the setting mode will be terminated and no changes will be stored.

Note: All data is stored to EEPROM memory, so removing power from the immobilizer will not change them.

no.	parameter	R (on)	status (LED)	l (off)	description
1	REARM	enabled	disabled		if car is not entered within 1 min. after disarming, it will arm again
2	AUTOIMMO	enabled	disabled		if enabled it will block engine if ignition key is switched off for more than 5 min.
3	duration of locking pulses	0,3 sec.		4 sec.	modify „lock“ and „unlock“ output pulse duration
4	longer „lock“ signal	60 sec.	normal		the „lock“ pulse is normal (see step no. 3) or longer (60 seconds)
5	emergency disarm with VALET	enabled	disabled		if emergency disarm is disabled, VALET button can only be used for setting (emergency disarm is possible only by a professional mechanic)



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- operating instructions



Arming

After switching off the ignition, removing your key and exiting the vehicle, close all the doors (closing of all windows is also recommended). ARM the immobilizer by pressing the button (6 or 7) on the remote control.

One flash from the turn lights confirms arming and the LED starts to flash. At the same time the immobilizer is blocked and the doors should automatically lock (if equipped with central-door locks). If a powered window control system is also connected to the „lock“ signal, all the windows will be closed automatically* when button 6 is used for arming (button 7 arming does not have any influence on the windows).

Disarming

To disarm the immobilizer press a button (either 6 or 7) on the remote control once.

The turn lights should flash twice. At the same time the doors should unlock (if equipped with central-door locks) and the LED should turn off. When you open a door the dome light will come on for 60 seconds or until you switch on ignition key.

REARM* - if you do not enter the car within one minute after disarming, the immobilizer will rearm and lock the doors automatically again.

AUTOIMMO* will block the car automatically if the ignition key is turned off for more than 5 minutes. This immobilization (doors stay unlocked) is indicated by intermittent LED light. The immobilization can be switched off by a remote control button (6 or 7). It will also switch off if you switch on the ignition key and press the VALET button 8. Automatic immobilization can also be temporarily disabled if you switch off the ignition key while the VALET button is pressed. The AUTOIMMO function will be disabled until the remote control

is activated again. This can be used, for example, when you leave your car in a car shop for maintenance without the remote control.

Emergency Disarming*

If you lost your remote control, perform following: Open the car door, switch on the ignition key and press the hidden VALET switch.

Note: If emergency disarming was disabled in setting mode, there is no way to disarm the immobilizer (call service).

No reaction of Immobilizer to remote control

If there was any attempt to scan the remote control code (or while rare, as may happen after the remote control battery has been replaced) then the immobilizer will not respond to the signal from the remote control. In this case the system asks you for a confirmation of control code validity.

To provide, make Emergency Disarming (if armed), switch on the ignition key and press the button of the remote control (6 or 7). After that the remote control should work as usual (if not, go to service).

Note: this way your system performs more complicated analyses of coding system. It insures your immobilizer is secure from outside interference and the remote control is indeed yours.

Maintenance

There is no special maintenance required. If the distance from your car at which the system can be operated continuously decreases, then replace the remote control battery (after releasing of a screw on the rear side of remote control housing; mind the battery polarity). A suitable replacement battery is L1016 (6VDC). Usual good battery life time is one year.

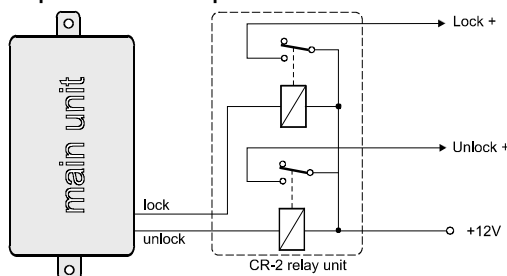
We recommend a yearly professional inspection of the immobilizer. Periodic inspections should be made to the door switches.

We recommend installer to give a detail explanation of „Accent“ functions to the customer after installation, to avoid problems and misunderstandings in future. * these functions are selectable in setting mode

Examples of „Accent“ use for different central locking systems

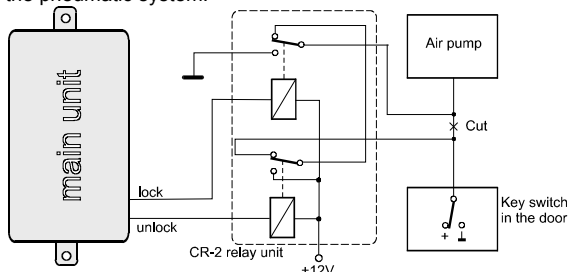
If your locking system needs another kind of control signal than negative pulses, install a couple of over-switching relays to the Accent outputs (or you can use CR-2 relay unit). See following diagrams for different locking systems.

System with positive control inputs:



Pneumatic central locking system:

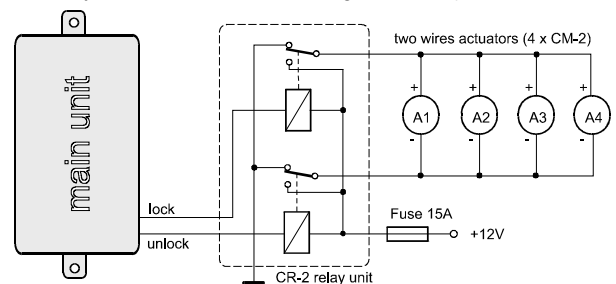
Program duration of output pulses 2 or 4 seconds according to the reaction time of the pneumatic system.



Simplified additional installation of central locking system:

When manual operation of the whole system from the driver's door is not requested, you can use the following easy solution. Install two-wires actuator (recommended type CM-2) to each door of your car. Connect them as shown in the following diagram. Program duration of Accent output pulses 0.3 seconds. This way all actuators are operated with the remote control.

When necessary, the door locks can also be operated manually with a key (the same way as before the central locking installation).



Caution: In this case do not use longer locking signal!