

The CA-02 Fox car alarm is a simple modular car alarm. It is to be installed in the interior of cars with 12V and a negative ground.

The alarm can be operated by the ignition key, a hidden switch or by the original remote control for central locking.

The status of the car alarm is indicated by an **LED indicator**.

The built-in vibration detector has two levels of sensitivity and a digital filter which provides a high immunity to false alarms. It responds with either a warning or an alarm trigger or both. The warning mode causes a short siren chirp in the case of vibration detector activation. In alarm mode the alarm is triggered if a vibration is followed by another one within 15 sec. If both modes are activated then the first vibration will cause a short siren chirp and the other vibration (within 15 sec.) will trigger the alarm.

A built-in current sensor will trigger the alarm if electrical equipment is switched ON while the CA-02 is armed. The current sensor will be activated 10 minutes after arming. This prevents the cooling fan from triggering the alarm. The sensor can be disabled to allow the use of additional equipment (independent heating, fridge etc.)

The functions of the inputs, the ignition key and the additional detectors depend on the settings used (see setting table below). The alarm is triggered if any of the alarm inputs is activated while the alarm is armed. The siren output is activated for 30 sec. A siren can also confirm arming/disarming by short chirps. A programmable output can control the immobilization relay or activate additional detectors while the car is armed. A VALET push button can be used for emergency disarming or for setting the optional alarm functions according to the individual customer's needs.

Specifications

| | |
|---------------------------|-------------------------|
| Voltage | 9 – 15VDC |
| Current consumption | max. 11mA |
| Working temperature range | -40°C to +85°C |
| Duration of alarm | 30 s |
| SIR output | 1.2 A |
| PGM output | 0.2A |
| Current sensor | 10 min. exit delay |
| Vibration detector | 2 levels of sensitivity |



97 RA-01 4010

Complies with the basic requirements of the ECE Regulation No. 97 and 1995/56/EC Directive

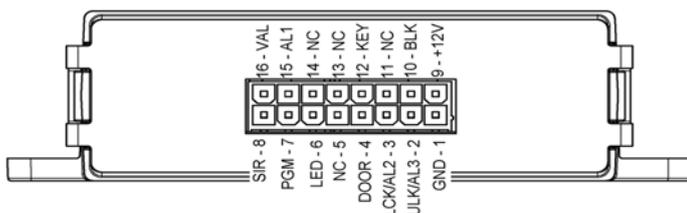
Hereby, Jablotron Ltd., declares that this CA-02 is in compliance with the essential requirements and other relevant provisions of ECE Regulation No. 97.01 and Directive 1995/56/EC.

Original of the conformity assessment can be found at the web page www.jablotron.com, 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.



Terminal board description



Installation

GND black – connect to the original grounding in the car.

ULK/AL3 white-blue – input to control the alarm by the original central locking. It reacts to connection or disconnection from ground (depending on setting). The input can be connected directly onto the wire of the servomotor or to the signal wire called “unlock” on the central locking unit. If the alarm is controlled by an ignition key (KEY) it will function as a delayed alarm input. It is not suitable for connection the hood (bonnet) contact!

LCK/AL2 white-black – input to control the alarm by the original central locking. It reacts to connection or disconnection from ground (depending on the setting). The input can be connected directly onto the wire of the servomotor or to the signal wire called “lock” on the central locking unit. If the alarm is controlled by an ignition key (KEY) it will function as an instant alarm input. It is not suitable for connection the hood (bonnet) contact!

DOOR grey - door switch input. It reacts to connection or disconnection from ground

LED indicator black-white – install it on a visible spot on the dashboard. Connect the other end of this lead to GND.

PGM Output blue-white - programmable output that can control the immobilization relay or activate additional detectors while the car is armed. The maximum load is 0.2A **switching to GND**.

The function of the PGM depends on the setting of parameter 4 (see the setting table below):

- power supply for an additional detector – the output is activated when the alarm is armed
- immobilization relay activation - copies the status of the ignition key when the car alarm is disarmed.

SIR yellow – siren output (max. 1,2 A) **switching to GND**.

+12V red – connect directly to the battery. Check that the installation is done properly before powering up! Protected by a built-in fuse.

BLK yellow-white – this input is activated by +12V according to its setting to confirm locking/unlocking of the car by the original remote control, is activated by the confirmation signal from the turn lights (flashers) or it blocks the current sensor and the AL3 input.

KEY blue – input (+12V). Be sure, that there is +12V present while the key is on while starting the engine.

AL1 white – an alarm input with an instant reaction. It reacts to connection or disconnection from ground.

VALET green – a push button used for emergency disarming, memory reading and setting the selectable functions.

NC – not used

The LED indicator

The LED indicator shows the status of the car alarm:

| | |
|------------------------------|---------------|
| OFF | - disarmed |
| ON | - exit delay |
| Regular slow flashing | - armed |
| Regular fast flashing | - entry delay |

If you can hear three siren chirps while disarming, then an alarm had been triggered during the last arming. The cause of the alarm is signaled by the LED indicator while switching the ignition key on. The number of flashes indicates the alarm input:

- 1 flash - DOOR
- 2 flashes – AL1
- 3 flashes - current sensor
- 4 flashes - vibration sensor
- 5 flashes – ignition key (*not when the alarm is controlled by KEY*)
- 6 flashes – AL2
- 7 flashes – AL3

(AL2, AL3 – *not when the alarm is controlled by the central locking*)

It is also possible to determine the cause of the last two alarms. With the ignition key on, press the VALET button the LED will flash repeatedly (10 times) indicating the cause of last alarm. If the VALET button is pressed once again during indication, the cause of the second-to last alarm will be indicated (10 times). You can stop indication by switching the ignition key off.

Maintenance

The device does not require any special maintenance. We recommend you to check the function of the door, the hood switches and additional detectors regularly.

Setting

Some parameters can be changed in the setting mode according to the table below.

To enter the setting mode:

1. Press and hold the VALET button, for between 4 to 6 seconds, and switch the ignition key on. Entering setting mode is confirmed by two siren chirps.
2. Parameter status is indicated by the LED and can be changed by switching the ignition key off for less than 3 sec.
3. To select the next parameter, briefly press the VALET button. Each setting parameter is confirmed by a corresponding number of siren chirps.
4. To exit setting mode without saving changes, switch the ignition key off for longer than 3 s (two siren chirps will be heard).
5. To exit and save the changes go through all the parameters. A long siren chirp acts as confirmation.

If parameter 15 is set to **yes**, then when programming is finished and the alarm has been disarmed for the first time the interval between the unlocking signal (ULK) and the flashing of the turn lights (BLK) is read by the car alarm. Further disarming will only be possible if the interval between the ULK and BLK signals is the same (tolerance +/- 200ms).

Warning!!! If parameter 15 is set to **yes** and the turning lights are flashing when the car is armed, it will not be possible to disarm the alarm by remote central locking.



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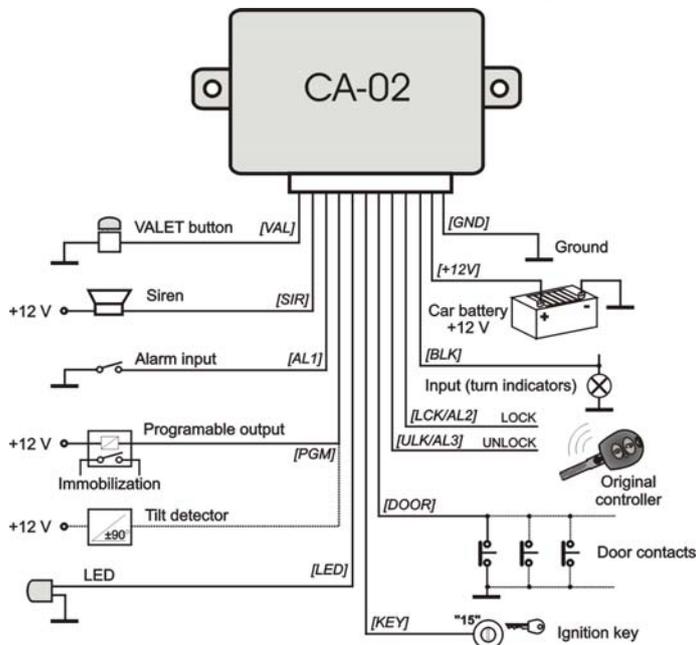
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| | Parameter | Setting | | Function |
|-----|---|------------------|------------------------|---|
| | | LED on | LED off | |
| 1. | Alarm controlled by ignition key | yes | inputs LCK/ULK | Alarm controlled by KEY or LCK/ULK and BLK inputs |
| 2. | Rearm | yes | no | Rearming in case there is no activation of alarm input within 1 minute after disarming. If the alarm is controlled by key and set to yes then 0V on KEY=DISARM and +12V on KEY=ARM |
| 3. | LCK/AL2 and ULK/AL3 input activation | grounding | disconnection from GND | Setting of inputs logic. The setting is valid for both alarm control modes. |
| 4. | PGM output activation | IMO | Sensor supply | The PGM output can be used for immobilization relay control (it copies the status of the ignition key) or for supplying additional sensors (active when armed). |
| 5. | Emergency disarming | yes | no | Enabling emergency disarming by the VALET button. |
| 6. | Acoustic signaling | yes | no | If acoustic signaling is disabled there is no siren confirmation of arming and disarming. Other actions are confirmed normally. |
| 7. | Current sensor | yes | no | To permanently disable the current sensor (for a fridge, independent heating etc.) |
| 8. | Higher sensitivity of the vibration sensor | no | yes | To set the sensitivity of the vibration detector. |
| 9. | Warning due to vibration | yes | no | A short siren chirp after vibration sensor activation. |
| 10. | Alarm due to vibration | yes | no | An alarm is triggered after the second vibration. The second vibration must follow the first one within 15s. |
| 11. | Open door warning | yes | no | Signaling of an active input during arming |
| 12. | AL1 input reaction | alarm | warning | Selection of reaction type for input AL1. |
| 13. | AL1 input logic | grounding | GND disconnection | Selection of activation type for input AL1. |
| 14. | Confirmation by the turn lights (flashers) required | yes | no | If yes, then the locking signal must be followed by confirmation from the turn lights to arm (the confirmation is always required to disarm) |
| 15. | ULK and BLK timer | yes | no | If yes is selected, then disarming will only be possible if the interval between the ULK and BLK signals is the same as in the case of the first interval (tolerance +/-200ms) |

Alarm controlled by remote central locking



The alarm can be armed when the car is locked by remote control and disarmed when the car is unlocked remotely. The locking (according to the parameter 14) and unlocking must always be followed by confirmation from the turn lights. If the car is unlocked by key (no confirmation from the turn lights) then the alarm will be triggered. To stop the alarm it is necessary to unlock remotely using the original remote control.

If you hear **four fast siren chirps when arming**, it indicates that an input has been activated (for example a door is not closed properly). This input will be disabled automatically until it is deactivated.

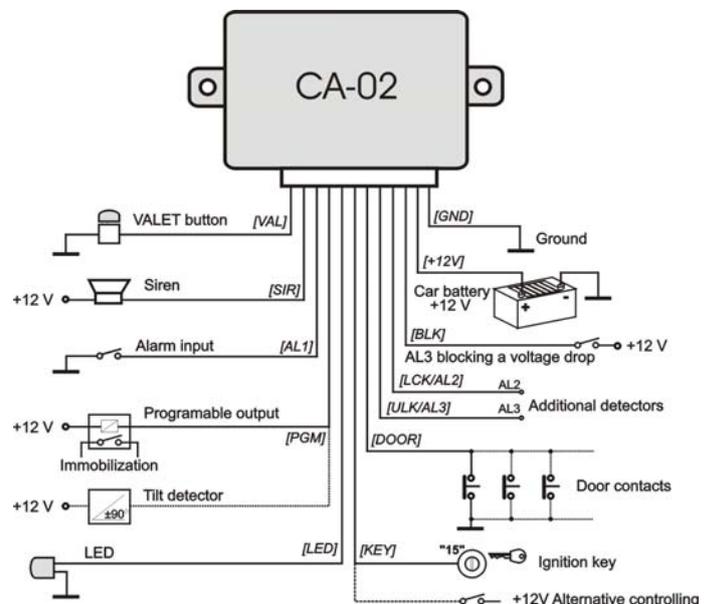
If you do not enter the car within one minute after disarming, the car alarm will rearm **but not the central locking**. REARM can be disabled by parameter 2.

Alarm - When armed, the car alarm is guarding the door's contacts (DOOR), input AL1 (the hood contact or additional detectors can be connected here) and checking for any manipulation of the ignition key (KEY). It also reacts to the activation of built-in vibration and current sensors. When an alarm is triggered, the siren will sound for 30 sec. **To stop the alarm**, disarm the alarm by unlocking the doors using the original remote control.

Emergency disarming

If the remote controller has been lost, it is still possible to disarm the car alarm using the VALET button. To disarm the alarm, open the door (the alarm gets triggered), switch the ignition key on and press the VALET button. Emergency disarming can be disabled by setting parameter 5 accordingly.

Alarm control by KEY input



In this mode, the car alarm can be controlled by the ignition key or by a hidden button. Before you exit the car switch the ignition key on and off twice. The LED diode starts to light permanently and a 30 sec. exit delay is provided. Exit the car in that time and close all the car doors. At the end of the exit delay the siren chirps once and the alarm is then armed. If any of the alarm inputs is active, the siren chirps four times. This input is bypassed until it is deactivated (e.g. you close the door). If you open the door, an entrance delay will start which is indicated by a short siren chirp and the LED will start flashing quickly. The entry delay is 15 sec. during which it is necessary to disarm the alarm by switching the ignition key on. The siren chirps twice to confirm disarming of the alarm. If parameter 2 - REARM is set to yes, it is possible to control the car alarm by a switch connected to +12V. When you disconnect +12V from the KEY input, the alarm will be armed in 30 sec. and by connecting the input KEY to +12V you will disarm the system.

Alarm - The car alarm provides a 15 sec. entrance delay for opening the door, vibration and current sensor activation and AL3 input. If the car is not disarmed during the entrance delay, the alarm will be triggered. The other inputs react to their activation by triggering the alarm immediately. When an alarm has been triggered, the siren will sound for 30 sec.

Disabling the current sensor

If input BLK is active when armed, the current sensor is disabled.

Emergency disarming

If it is enabled by parameter 5, it is possible to disarm the alarm by pressing the VALET button.