ZONE
Technologie Électronique Inc.

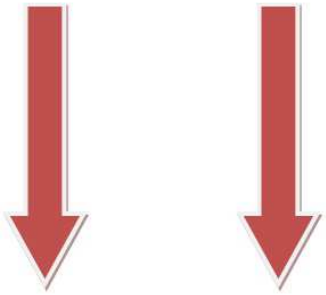
VERSION 1**.4.00**
May 2022

INSTALLATION GUIDE

Ozonetech Journey™

IMPORTANT
Before proceeding with the system installation,
Be sure to have carefully read and understood all instructions provided in this guide.

WARNING



IMPORTANT

This document provides all necessary instructions for the adequate and secure installation of your **Ozonetech Quick Connect** system.

Before proceeding with the installation or configuration of the **Ozonetech Quick Connect** system, the technician installer must have read and understood the instructions provided in this guide.

This document includes important indications to prevent serious injuries both to the technician installer and to the users.

The **Ozonetech Quick Connect** system made by Zone Technologie Électronique Inc. is fully programmable (all settings are flexible).

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1. GENERAL DESCRIPTION

The **Ozonetech** idle reduction module is an eco-friendly automotive fuel saving and CO2 reduction system. This system will reducing unnecessary idling and will monitor the battery voltage.

Whenever battery voltage drops below preset value it will start the vehicle. If during the start engine doesn't start within 10 seconds, the module will wait 10 seconds before repeating startup for the second time. If the vehicle doesn't start after the second attempt the module resets and waits for user input.

This system also allows you to program interesting features like:

- Battery voltage value for automatic engine restart,
- Automatic engine restart by external signal (input polarity programmable),
- Idle mode control canceling input to let the engine running,
- Inside and outside temperature setting to restart or not stop the engine in Idle mode,
- Anti-thief mode: engine running without the key in vehicle,
- Keyless mode: Battery monitoring without key in the vehicle,
- Four auxiliary outputs programmable on more than 15 different option (Ignition, pulse, delay, etc.)

1.1 ESSENTIAL CONNECTIONS

One advantage of the **Ozonetech** system is its simple installation that only requires one connection to make it work properly with the standard mode (Does not include temperature sensor, auxiliary output, hood switch, keyless and anti-thief activation switch):

1) Connect the "T" harness on the RF module.

1.2 TECHNICAL SPECIFICATIONS

Supply voltage: ..... 10 à 16Vcc

Operating temperature: .....-20°C à 75°C (-4°F à 167°F)

Supply current: - System OFF (*Key turn OFF and keyless mode OFF*): 10mA
- System ON (*No load, no RF and no USB connect*): 500mA

Output: - Auxiliary (*each*): 12V, 1A
- Auxiliary (*in total if more than one*): 12V, 2A
- BCM Start (*max*): 12V, 1A

Input: - Programmable input (INP0 to INP7): .....GND or 12V, 5mA
- Analog input (AIN0): .....GND to 12V, 1mA
- Key sense: 12V, 1mA

2. INSTALLATION

OZONETECH MODULE

WARNING
Pay particular attention to the safety and installation instructions in this guide to prevent damage to the unit or vehicle as well as serious injuries to anyone working on the vehicle, occupants or you. The installation technician should have a good understanding of vehicular electrical and electronic systems to perform a compliant and safe installation. To make this product works with maximum efficiency, protect all electrical and mechanical components according to standards. Once the installation is completed, make sure the proper functioning of the system and all accessories in the vehicle.

2.1 MECANICAL INSTALLATION NOTES

Installation of the Ozonetech Module

During the installation, be sure that the module cannot be damaged because of unsafely objects being in the vehicle and that the chosen location won't be subject to bad weather.

The module must be installed in the vehicle passenger compartment or in a waterproof case.

The module is designed to tolerate a weather margin which varies from -40°C to 75°C (-40°F to 167°F).

There are many ways to fix the module; the technician must consult the user to answer his needs in the best way he can. It is highly recommended to fix it so it will be accessible by the user at any time and in all conditions of operation.

Be sure that the module is fixed in a way that it won't move when a key is pressed on.

WARNING :	**Make sure the system clears the space for the deployment of all airbags.**

2.2 ELECTRICAL INSTALLATION NOTES

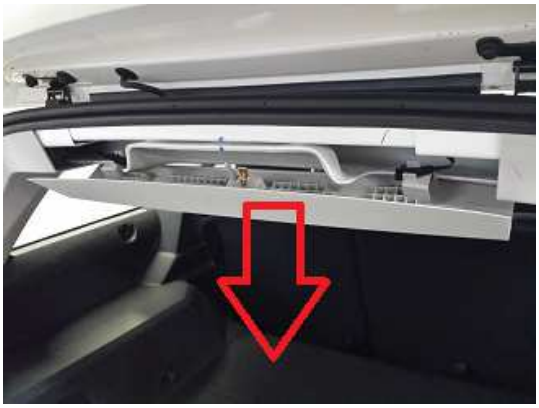
Make all the necessaries connections so that the system and its components will be functioning. Install all the electric protection (fuse, breaker, fuse wire) on the power cord as close as possible of the alimentation source. All wires going through a partition must be protected by a rubber or plastic washer.

Be sure to follow all instructions included in this guide.

CAUTION :	**Before installation, disconnect the negative of the vehicle's battery. Failure to follow the recommendations found in this guide could result in fire or injury.** **Please wait until all electrical connections are completed and checked before reconnecting the battery negative.**

2.3 MODULE INSTALLATION:

A. Remove interior trunk carpeting.
Disconnect the vehicle battery, only negative post (use 10mm socket).
.

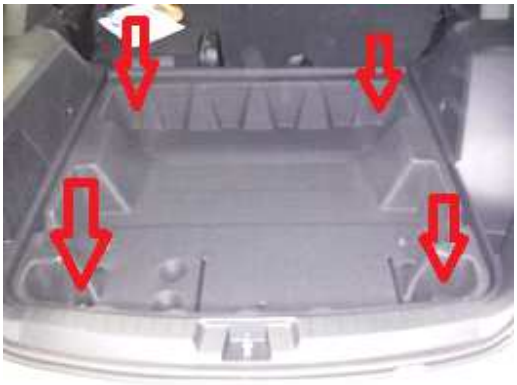


B. Remove the trunk cover panel (4 push pins) and slide out the panel holders.

C. Open de screw covers and remove the two T-30 screws to remove the left side panel.

D. Remove the rear panel (4 push pins).

E. Remove 4 screws to remove the bottom cover



F. Open the cover and remove T-20 screw to remove the seat belt cover panel.

G. Remove three screws on the trunk left side panel.

H. Remove the panel.
NOTE: Disconnect the wires inside before remove the panel.

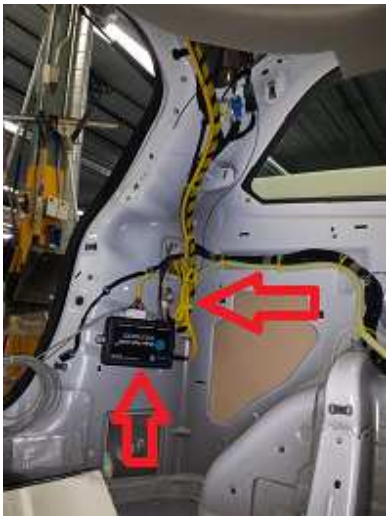
I. Remove the push pins in the rear end of the roof cover.

J. Disconnect the left connector of the RF module that is inside the roof.

K. Connect the C2 T-harness to the RF module and to the harness of the vehicle.

L. Attach the C2 T- Harness and the **USB cable** to the vehicle Harness.

M. Fix the module to the left column, connect the C2 T-Harness and attach the harness like the image.



N. Remove the left rear light (Pull the center of the 2 push pins).

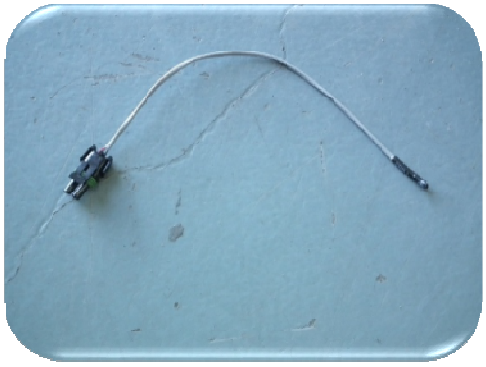
O. Connect the brown wire from the C2 Harness to the White/Blue wire in the vehicle harness and isolate it.

NOTE: The basic installation is complete. If there are no temperature control, Keyless Mode or Anti-theft Mode panels can be reinstalled.

2.4 OUTSIDE TEMPERATURE SENSOR INSTALLATION:

A. Drill a 3/8” inch hole in the floor under the module.

B. Pass the harness through the hole.

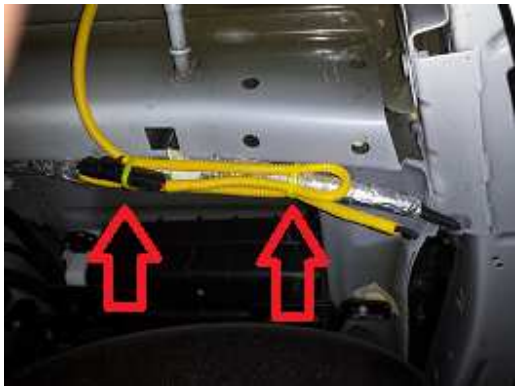


C. Push cable terminals, provided in the kit, into the connector housing.

Terminal Positions:

- A = red
- B = black

Connect the external temperature sensor provided in the kit to the cable harness.



D. Attach the probe to the harness of the vehicle.

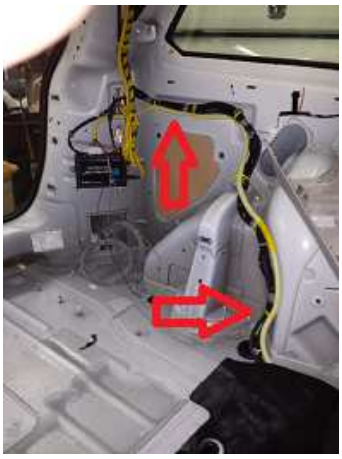
NOTE: Leave some extra harness in case of future service.

E. Pull back all excessive cable and attach it has shown in the picture.

2.5 HOOD SWITCH INSTALLATION:

A. Remove the skid plates in the left side: one in the back door and two in the front door.

B. Route the C1 harness towards the front of the vehicle on the driver side.



C. Keep routing the C1 harness towards the front of the vehicle on the driver side.

D. Remove the panel beside the dashboard.

E. Remove 2 screws under the panel below the steering wheel and remove the panel.

F. Remove the grommet for the clutch and drill a 3/8” hole on it.

G. Reinstall the grommet and pass the hood switch wires through it.

H. Remove the screw in the front-left fender to, insert the bracket and reinstall the screw.

I. Attach the hood switch to the bracket.

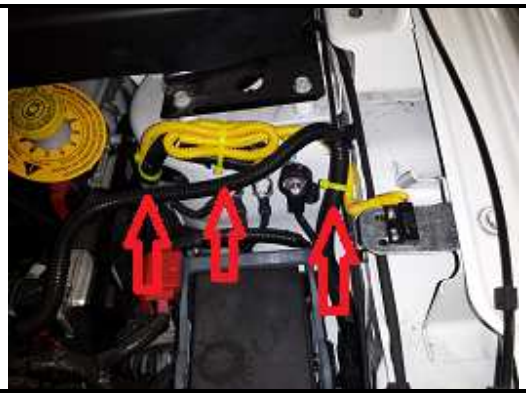
Hood Switch

Magnet

J. Insert the terminals in the housing.

- A = Yellow/black
- B = Blue

Connect hood sensor harness to the module harness and fix the excess of cable.



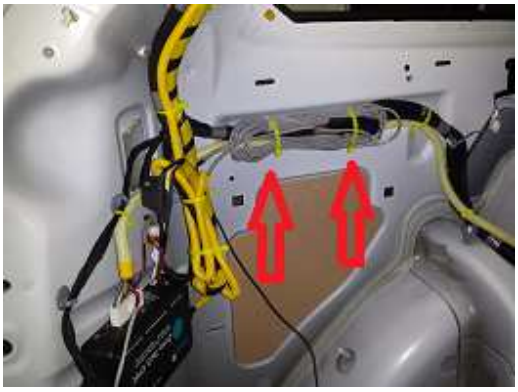
K. Apply a small amount of grease to the top of the hood sensor.
Close the hood so the grease will mark sensor location beneath the hood as seen in the picture.

L. Position the magnet center to the grease mark.
Adjust the bracket position if needed so it will not touch the magnet when hood is closed.
Mark the location of the holes
Drill 3/32” holes.
Mount the magnet as shown in the picture and secure using self-tapping screws and lock washer.

2.6 INSIDE TEMPERATURE SENSOR INSTALLATION:

A. Attach the cable to the vehicle harness as shown in the picture.

B. Push cable terminals into the connector housing and connect the sensor. Same procedure of the external sensor.



2.7 KEYLESS SWITCH INSTALLATION:

A. Drill a 19mm hole for the keyless switch in the left side of the steering wheel. Connect the wires, install the switch and tag the switch if necessary.

C1 Connector Harness	Keyless Mode Switch
Grey/Black	**COM** (PIN2)
Yellow	**LED+** (PIN3)
Black	**LED-** (PIN4)
Black	**N.O.** (PIN1)

Switch back view.

3. PROGRAMMING

The Ozonetech module is an eco-friendly automotive fuel saving system. It functions primarily on a timer that counts down idling time. During an idling period, after countdown is finished, the systems will shut down the engine on the assumption that fuel is being wasted. The system may void the countdown of the timer if certain conditions aren't meat. These conditions may vary between temperature settings, various activated switches, available battery power and online equipment that may require the vehicle to be left running. The following steps will show you how to use and setup these various conditions and also how to setup the automated restart of the vehicle.

3.1 Programming the key bypass

Make sure all vehicle connectors are re-connected (this is necessary to avoid setting the engine check light). Connect the vehicle battery.
This programming needs to be done when the installation is complete.

STEP #1: Unplug the C2 connector.
STEP #2: Press the "SW1" pushbutton on the module and keep it pressed. Plug back the C2 connector and wait until the red LED (OZCAN) turns ON.
STEP #3: Using the vehicles "*START*" pushbutton, press it twice to select ignition mode. The red LED (OZCAN) should flash at this point.
STEP #4: Press the vehicles "*START*" pushbutton again to turn OFF the ignition. The red LED (OZCAN) will keep flashing.
STEP #5: Press and hold the "SW1" pushbutton on the module until the red LED (OZCAN) turns OFF and the green LED (OZCAN) turns ON, after two seconds this green light will start flashing (see section 6.1.3 for explanation on the flashing pattern).

NOTE: if at STEP #5 the green LED (OZCAN) does not come on you have to repeat all steps. Other LED will flash during programming but we have to check only (OZCAN) LED's

3.2 Software overview

When connecting the computer interface (software) to a module, you will be able to set the system's operational characteristics. Before modifying the module's setup file, you should make sure that you have uploaded the actual setup file from the module to your computer. After completing a setup download it to the module, you can also save that setup file to a safe location, so you will be able to reuse it on another installation a few days down the road.

The computer interface is also able to modify the system's firmware. Modifying a setup file and a system firmware are two different things; the firmware is the embedded program of the module itself and the setup file is the operational parameters set (Battery voltage, temperature, etc.). A firmware file is saved as a "*.hex" file and a setup file is saved as a "*.ozt" file.

3.3 Getting started

Before jumping into the programming section, run over this quick check list bellow to make sure your installation is ok:

- Battery is reconnected and tightened.
  (Warning: end of life battery might cause restarting issues)
- All wiring issues have been attended to.
- All connectors are plugged-in to the module.
- All fuses have been installed and connections tightened.

- The vehicle is able to restart by manually turning the key.
- The key is set to the run position, without the engine running.
- The green LED on the module is blinking quickly (It should blink every half second).
- The software is already installed in the computer.

Program installation:
The following steps will guide you through a basic program installation from your CD.

- Insert the installation CD in your computer drive.
- Wait, the installation CD will auto run itself.
- Follow the installation steps on your screen.
- Connect a powered Ozonetech system to one of the USB connectors on your computer.
- You will be prompted to install drivers twice. Acknowledge, the drivers are on the installation CD.

3.4 Initiating USB Communication

The following steps guide you through the normal steps of setting up communication between the computer and module.

- Connect your USB cable, your computer should auto detect the module's presence.
- Run the software by double clicking on the Ozonetech Icon on your desktop.
- Through the ***''Configuration''*** top menu, select a valid USB port if not already selected.
- Click on the ***''Connect''*** top menu.
- A pop-up window should then ask you if you want to download to the computer interface.
    - Click on ***"yes''*** to download the actual parameters from the module.
    - Click on ***"no''*** to keep the parameters on the screen to upload them later.

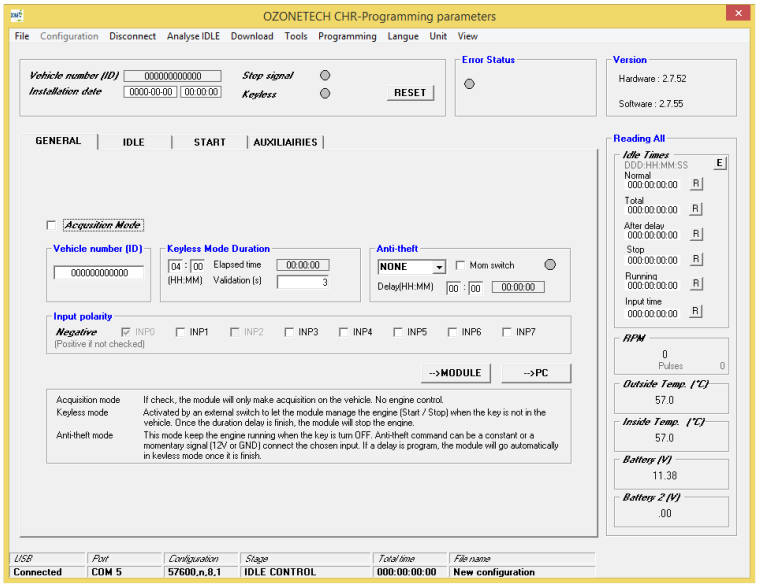
Trouble shooting tips:

- If the green LED stops blinking, disconnect C2 for 3 seconds and reconnect.
- If the program stops working or freezes, disconnect the USB cable and reconnect to reinitialize USB communication.

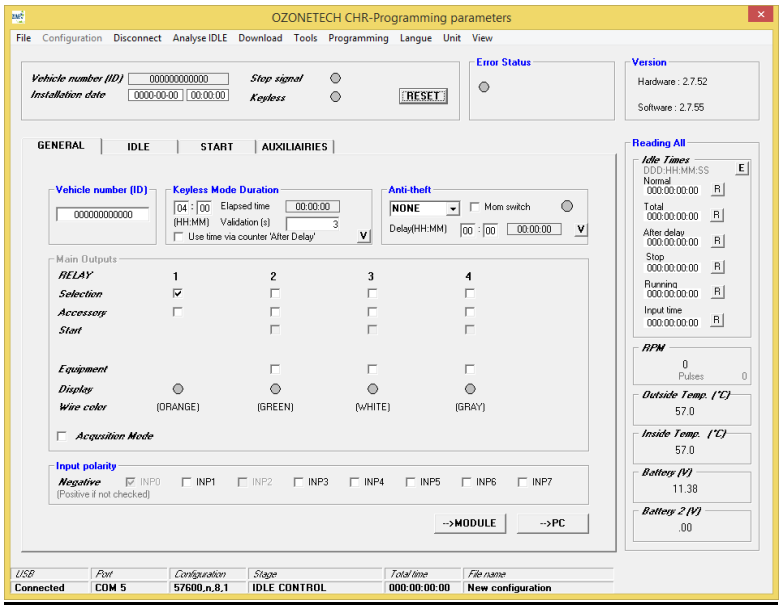
3.5 Software description

The **Ozonetech QuickConnect** software has two different views. Please identify witch one you are working with.

Ozonetech QuickConnect SOFTWARE MAIN PROGRAMMING WINDOW – Compact view



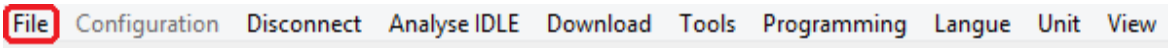
Ozonetech QuickConnect SOFTWARE MAIN PROGRAMMING WINDOW – Full view



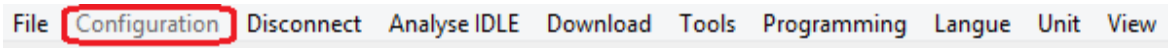
NOTE:

This manual will present the Compact view. If you need access to more functions please contact *Zone Technologies* and ask for the Advanced Progammer's Guide.

3.5.1 Menu description:

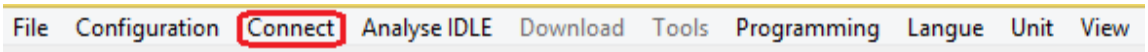


This tab allows you to manage your setup files (*.ozt) within your computer. You can save, load and create new setup files.



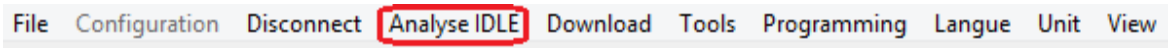
The « Configuration » tab is used to select which USB port you want to use for communication.

NOTE: The menu configuration is only active if you are disconnected.



The « Connect » tab from the top menu is used to initiate communication with the module.

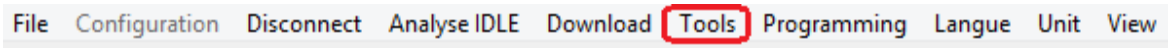
NOTE: Once the module is connected the menu will change to Disconnect.



The « Analyse IDLE » selection tab is used to access the files generated by the module internal timers. The values gathered by the module can be exported to an EXCEL file format.

Download to PC : Download a setup file from the module to the computer for viewing.

Upload ……: Upload the current setup file to the module.



- **Calibration:**

  - ***Voltage:***

    Battery voltage calibration measured by the module.

    Calibration is required when there is a significant gap between the voltage read by the module and the voltage measured directly on the battery.

    To perform calibration: Measure the voltage directly at the battery therminals. In the calibration window, insert the measured voltage in the « New » box. Once entered, click the « Program » button to adjust the voltage measured by the module.

- ***RPM:***

RPM calibration of the module's tachometer pulse input.

Calibration is required when there is a significant gap between the value read by the module and the actual value of the vehicle.

(The RPM value measured by the module doesn't necessarely represent the real engine RPM. It depends on where the signal is coming from.)

To perform calibration: Write the value displayed by the tachometer (while the engine is idling) in the « New » field of the « RPM calibration » window. When entered, a click on the « Program » button will adjust the displayed value to the real engine RPM.

- ***Temperature:***

Tempereature calibration of both the internal and external temperature sensor.

Calibration is required when there is a significant gap between the temperature read by the module and the actual temperature.

Top perform calibration: Using a thermometer placed near the system temperature sensors, write the measured value in the corresponding temperature calibration box (external or internal sensor). When the temperature is entered, click « PROG. » to calibrate the corresponding temperature reading. Both sensor can be calibrated using this method.

- ***Voltage (Analog inputs):***

Analog inputs (Park, Neutral & Starter (N.O.)) calibration.

Calibration is required when there is a significant gap between the value displayed in the box « BATTERY » and the voltage measured at the module supply pin.

To perform calibration: Measure the signal voltage as close as possible to the source using a voltmeter. When the new voltage is entered in the corresponding calibration box, click « PROG. » to adjust voltage.

- **Installation date:**

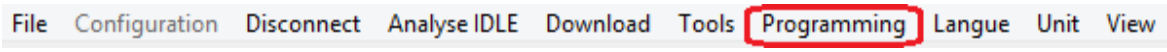
This function is used to set the file creation date for a vehicle.

- **Manual interface: (reserved)**

Engineering development tool. Used to send output control commands or information request to the module. This tool should be used by experienced users only.

- **État module: (Module State)**

Mudule information window used to regroup module information found in the lower status field of the O-Zone-Tech II software and voltage input from battery 1 and 2. This window was required for laptop users before software scrollbar implementation. (No longer required: Will be removed from future software reversion)



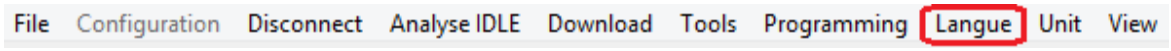
This tab is used to update the **Ozonetech** firmware.

- Firmware updates can be downloaded from **www.zonetechnologie.com**.

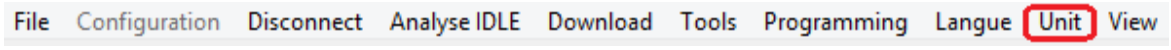
At the Firmware update window:

- Click « File » and select « Open » from the menu.
- Select the « *.hex » file previously downloaded from web site and click on the « Load » button.

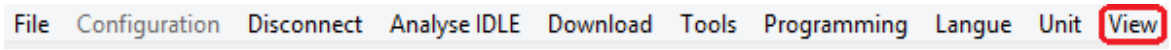
Note: Updating the firmware will not overwrite the module setup file.



Software language selection. (French or English)

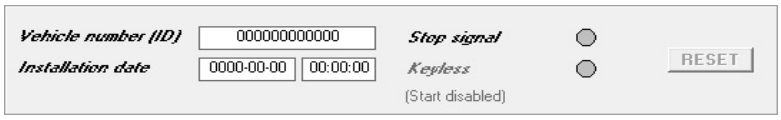


Tab used to select between metric and US unit systems.



Tab used to select between Compact views and Full view.

3.5.2 Box → Vehicle information



Vehicle identification and module installation date.

The virtual « Stop signal » LED change from grey to green when the module detects a stop condition. A stop condition resets the main timer.

The virtual « Keyless » LED change from grey to green when the keyless mode is activated.

3.5.3 Box → Error status

Error Status: The virtual « Error status » LED change from grey to green when the module fails to start the engine. (When programmed engine start retry as been reached)

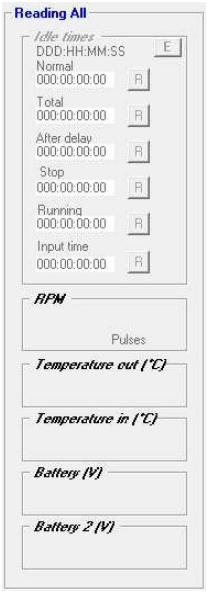
3.5.4 Box → Version

Version:

Used to identify hardware (module Firmware) and software revision.

Hardware : Indicates the firmware version programmed in the module.
Software : Indicates O-Zone-Tech II computer software version.

3.5.5 Box → Reading All:



Reading All:

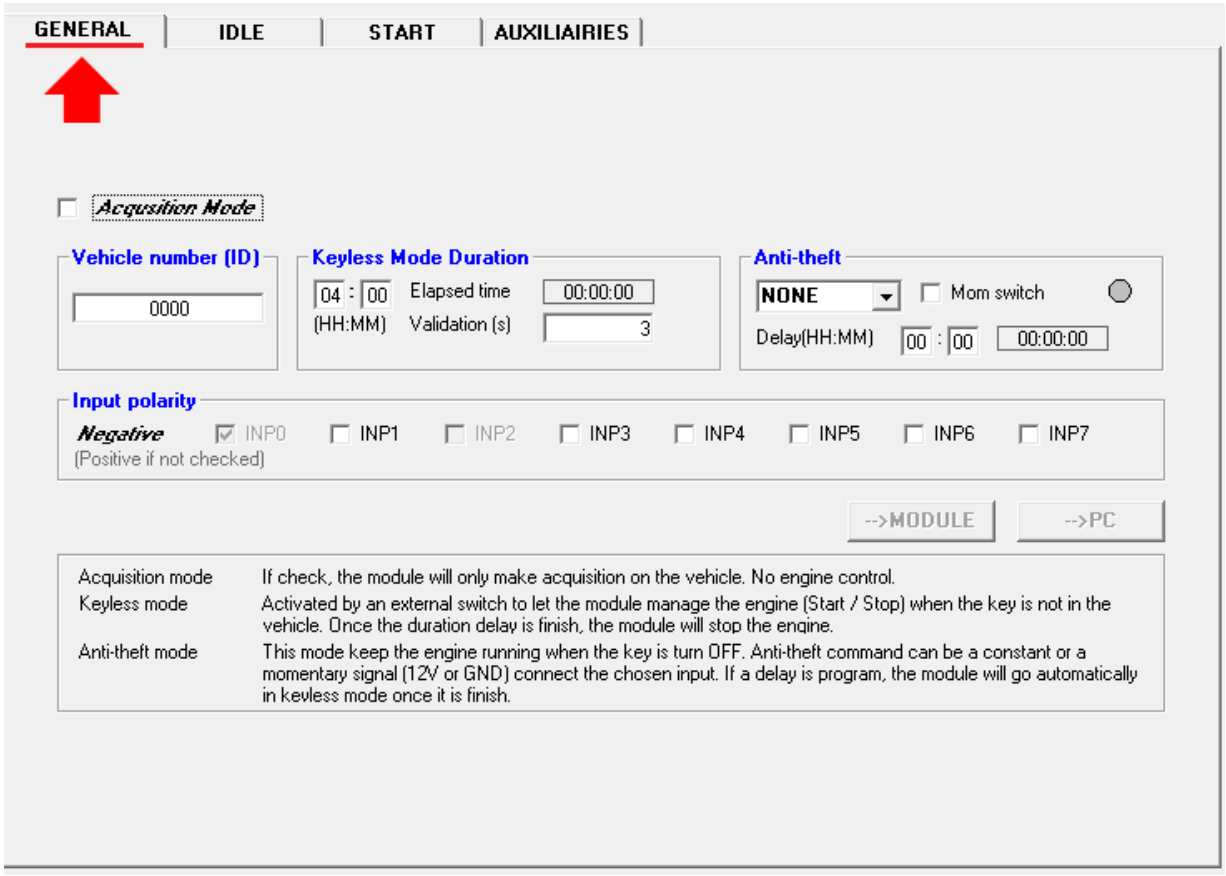
- **Idle times :**.....Real time display in days, hours, minutes and seconds of the five idling timers and the input timer. A click on « E » button will reset all timers and a click on « R » button will reset the associated timer (positioned to the left of it).
- **RPM :** .....Real time display of the engine RPM. Estimated from the tachometer signal pulses.
- **RPM (Pulses):** .....Real time display of the tachometer pulse frequency. The displayed signal format is: Pulses/sec.
- **Temperature out (°C/°F):** Real time display of outside temperature. (In °C or °F depending on the system of units selected)
- **Temperature in (°C/°F):** ..Real time display of inside temperature. (In °C or °F depending on the system of units selected)
- **Battery (V):** .....Real time voltage display of the original battery (V).
- **Battery 2 (V):** .....Real time voltage display of auxiliary battery (V).

3.5.6 Bottom system status field:

USB	Port	Configuration	Stage	Total time	File name
Disconnected	COM 3	57600,N,8,1			New configuration

- **USB:**..... USB port status display (connected or disconnected).
- **Port :**..... Virtual communication port identification display.
- **Configuration:**..... Virtual communication port configuration display.
- **Stage:** ..... Current system status display.
  - **IDLE CONTROL:** ..... The system is monitoring engine idling.
  - **CHARGING:**..... Following a low battery voltage detection or if passenger compartment temperature is out of the programmed range (if programmed), the system restarts the engine for the recharge and/or climate control period.
  - **MONITORING:**..... Following engine shutdown by the module, the system monitors the battery voltage.
  - **START:**..... The system restarts the engine to recharge the battery for the programmed time.
- **TOTAL TIME:** ... Engine main timer display.
- **FILE NAME:** ..... Displays the name of the configuration file being used.

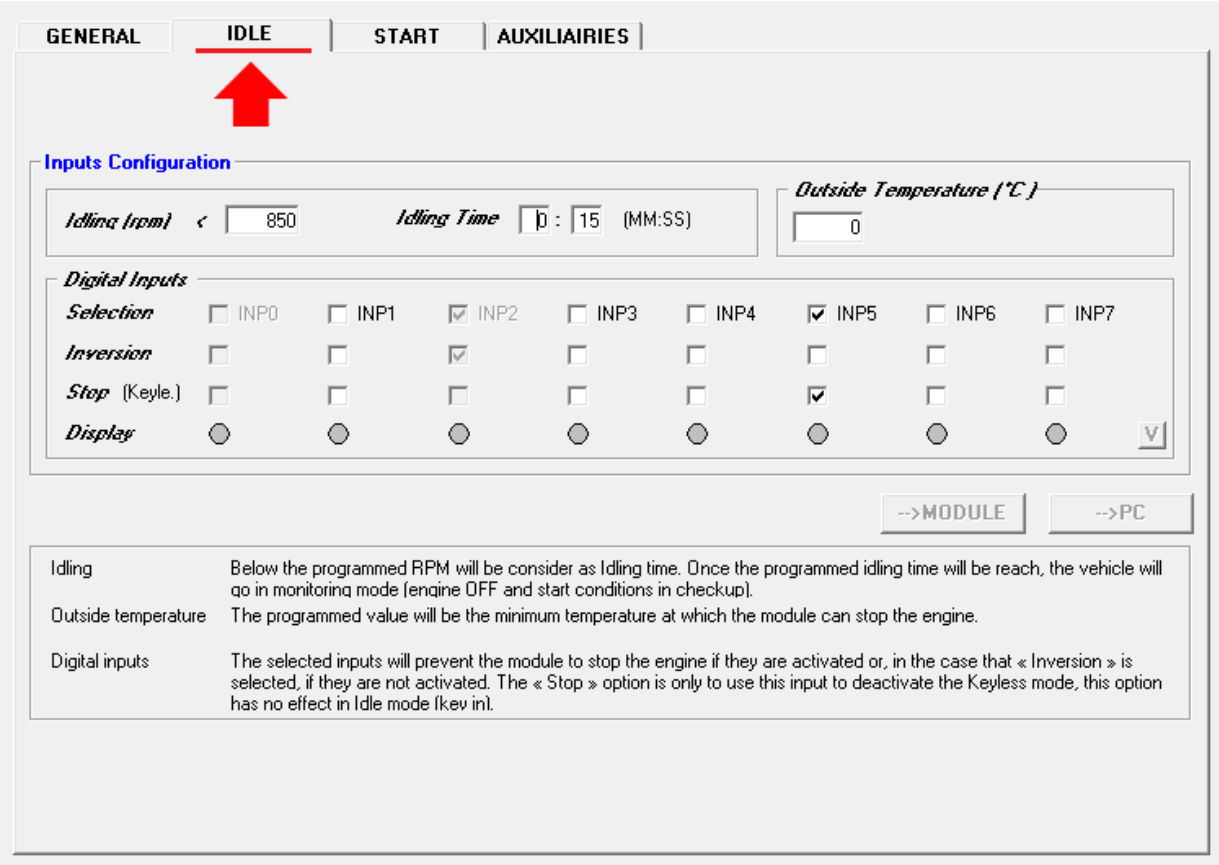
3.5.7 GENERAL TAB:



The program first opens up on the ‘‘General’’ thumbnail. You will need to set the Vehicle Number (ID), program the Keyless Mode Duration, Anti-theft input and select individual inputs that may have a negative polarity.

- **Vehicle Number (ID):** Input field for the VIN number (Vehicle Identification Number).
- **Keyless Mode Duration:** Maximum time that the system may be allowed to control the engine in a single period. After that delay, the system will release control of the vehicle, battery voltage and temperature reading in autonomous mode.
  - **Validation:** this value is the number of seconds that will be needed to activate the keyless mode
- **Anti-Theft:** Choose the input that will allow you to activate the anti-theft mode. This mode gives you the possibility to take off the key from the ignition switch and let the engine running. You will need to put back the key to be able to use the vehicle again, if not the engine will turn off.
  - **Mom switch:** Gives you the possibility to use a momentary switch instead of a toggle switch to activate the anti-theft mode.
  - **Delay:** Maximum delay for the anti-theft mode. After this delay, the module will go in keyless mode automatically.
- **Input polarity:** These check boxes control the input polarity of all 8 digital inputs of the system. By default, all inputs are triggered when they sense a positive 12V signal. Selection of the individual inputs in this field will make them negative inputs (triggered by a negative or 0V signal).

3.5.8 IDLE TAB:



This menu gives access to all idle controlling parameters. The proper setup of the inputs is an important functionality factor. When any of these inputs are triggered, the virtual LEDs beside them will light up green. These Inputs will act as conditions to allow or deny the system's control of the engine. Input conditions may be used for a variety of reasons. As an example, on certain vehicles, you may not want the module to control the engine when particular devices that need complete engine power are activated. You would then set up an input to read when a given device is activated and program it to void engine shutdown control. The way it actually works, is that a triggered input will cause the system to perpetually reset its timer which will prevent control of the engine by the module.

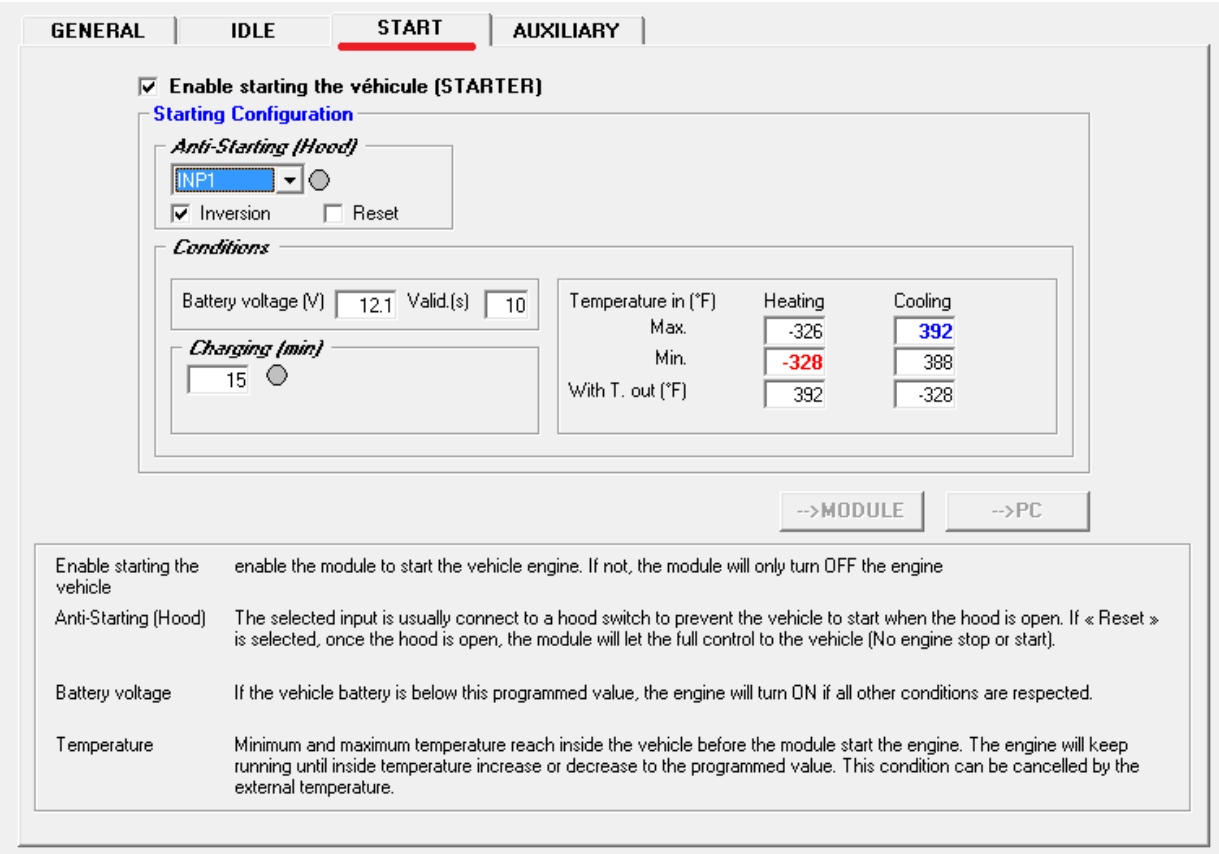
- **Idling (rpm):** Input field for the maximum RPM value to be considered engine idling. The system may only control the engine when the engine RPM is under this value. The system's engine cut-off timer will only count up when engine RPM is under that value. To set this value, let your vehicle idle until the engine reaches normal operational temperature. Set this field between 50 to 100 RPM over the engine normal idling value to avoid engine RPM irregularity issues.

- **Idling Time:** Maximum time that vehicle is allowed to idle. When all conditions are meat, the system's timer will count up. When the timer reaches this maximum value, the system will shut down the engine. For test purposes the default value of this field is 15 seconds. When your installation is finished and tested, you should modify this field to the desired value.

- **Outside Temperature (°C/°F):** Outside temperature may be monitored by the external temperature sensor. The system will initiate idle control only when temperature is over the set value in this field.

- **Digital Inputs:** Setup options for digital inputs. This setup section works in conjuncture with the ''Input polarity'' section on the ''General'' thumbnail.
  - **Selection:** Activates the inputs.
  - **Inversion:** Inverts the system's logic reading of the input. For example, when a positive input is inverted, it will be triggered when it is not at 12Volts.
  - **Stop:** When a stop input is triggered during idle control, the system resets the timer, shuts down the engine and return to idling control mode.
  - **Display:** Real time display of system digital inputs. When a digital input is triggered, the virtual LED will light up green. Remember that any triggered digital input may perpetually reset the timer of the module and prevent idle control.

3.5.9 START TAB:



- **Enable starting the vehicle (STARTER):** This option must be checked to allow automatic restarting of the engine. The rest of the menu will only be selected by activating this checkbox.

- **Anti-Starting (Hood):** Any of the inputs may be selected as anti-starting hood pin switches. When triggered, the system will not restart the vehicle.
  - **Inversion:** Inverts logic level reading of the input. It will consider the hood open when the signal will be lost (deactivated).
  - **Reset:** If checked, the hood opening will gives back the control to the vehicle and will reset the module in Idle control mode if key is present and to sleep mode if there is no key in the ignition.

- **Conditions:**
  - **Battery voltage (V):** Primary battery's lower level trigger. The vehicle is automatically restarted when this minimum voltage is reached.
  - **Valid.**(s): Validation time before the engine restart for low voltage.
  - **Temperature in (°C/°F)**

    Heating
    - **Min**: Minimum allowed temperature inside the vehicle at which the system will restart the vehicle. The heating system must be set on to this function work properly.
    - Max: Maximum allowed temperature inside the vehicle at which the system will shut down the vehicle.

    Cooling
    - **Max**: Maximum allowed temperature inside the vehicle at which the system will restart the vehicle. The cooling system must be set on to this function work properly.
    - Min: Minimum allowed temperature inside the vehicle at which the system will shut down the vehicle.

  - **With T. out (°C/°F):**
    - **Heating:** Minimum external temperature that will allow the system to restart the engine. A higher outside temperature will probably heat up the inside temperature by itself.
    - **Cooling:** Maximum external temperature that will allow the system to restart the engine. A lower outside temperature will probably cool down the inside temperature by itself.

  - **Charging (min):** Time, in minutes, the vehicle will be allowed to run idle when it is restarted by the module for battery charging purposes.

3.5.10 AUXILIARY TAB:

- **Auxiliary outputs:** Output 1, 2, 5 & 6 are positive outputs. These outputs are protected by internal auto-resettable breaker. Do not use them for more than 500mA each and 1A total if more than one is in use. More than 15 parameters can be program:
  - **Relay1:** Follow Relay1 in the general tab.
  - **Ignition:** Follow the ignition
  - **Heater:** Control an external heater
  - **Climate:** Control an external climate control with temperature setting
  - **Timer:** Gives you a maximum delay output.
  - **Etc.**

3.6 DOWNLOAD and UPLOAD of configurations:

Although the status of inputs and outputs are presented in real time the changes in parameters require an UPLOAD command.

The buttons →MODULE and →PC can be found in all tabs.

DOWNLOAD:

At the beginning of any configuration a download from the module to PC is recommended. After a download the software will present the configuration that is already been used by the module.

The presented configuration can be saved has a backup or for other further uses.

UPLOAD:

Once that any configuration is done, or if a file is loaded, the user has to UPLOAD the configuration to the module. Click in the →MODULE button to upload the new configuration to your module.

4. ANALYSE IDLE

The « Analyze IDLE » selection tab is used to access the files generated by the modules internal timers. The internal timer will give you all information on your engine during a specific time. Refer on the "Programmation" section to know how to access it.

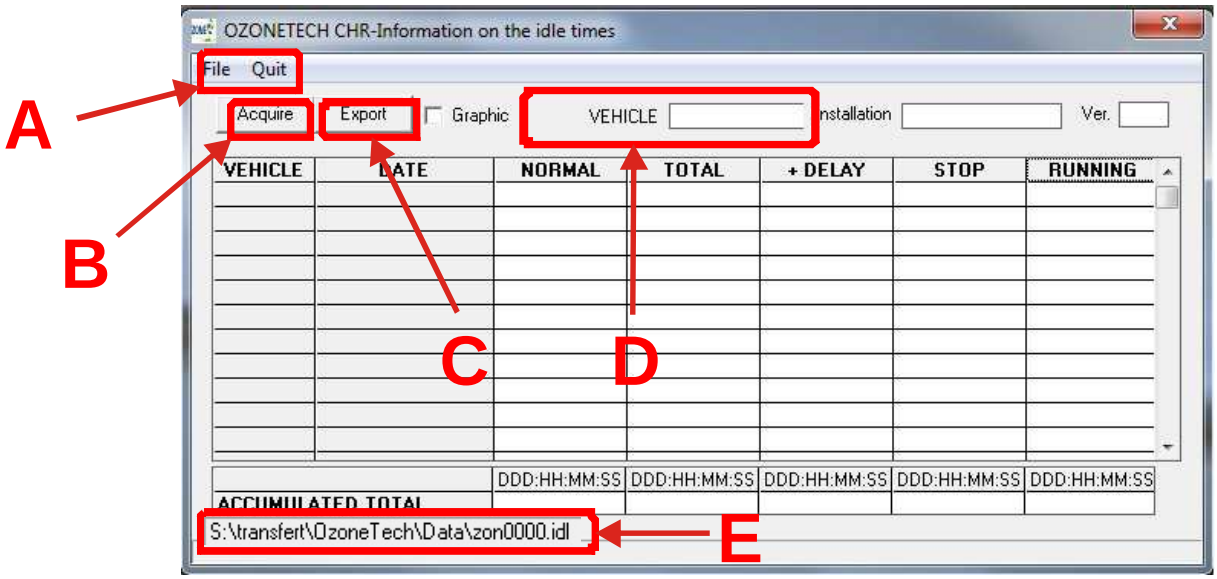


Fig. 4: *Analyze Idle* window

A. The "File" menu is used to open an "idl" file, which is specialized file used by this software to keep counter information.
   The "Quit" menu is used to close the acquire windows and go back in the main menu.
B. The "Acquire" button is used to read all counter information in the O-Zone-Tech CHR module.

   NOTE: Click on "Acquire" create an "idl" file in the folder showed on "E". The file name follows the vehicle serial number if not previously created.

   IMPORTANT: <u>Pressing this button will also reset the module counters in the module</u> (Normal, total, stop and running counters).

C. The "Export" button will allow user to export the counter values to an excel file.
D. The vehicle number would be the same program in the "General" tab in the module software.
E. This is the file location of the file being viewed.

- **DATE:** Date of the acquisition (data downloaded) from the module.
- **NORMAL:** Counts the idling time programmed in the firmware. This is the time required to idle when all requirements are met before the engine is shut down.
- **TOTAL:** Counts the vehicles total idling time. This is the total time that engine will idle below 900 RPM.
- **+DELAY:** **(Not Applicable)**
- **STOP:** Counts the time as soon as the engine is shut down by the module after all requirements have been met. Any engine RPM will stop this counter. This is the timer that's considered "true idling savings time".
- **RUNNING:** Counts the engine run time as soon as any engine RPM is recognized. This is the total run time of the vehicles engine by the user module.

5. PINOUT

Function	Connection	Signal Identification	Description
Power source	C2.6, C2.12	OZTECH power inputs	O-Zone-Tech module power inputs. (C2.6 = Negative (GND) signal, C2.12 = 12Vdc)
Module communication	USB	USB 2.0 connector	O-Zone-Tech to PC communication port
Inputs	C1.15 & C1.17	Temperature sensor	Temperature sensor input signals. Internal temperature sensor = Optional External temperature sensor = Standard
	C1.13	Analog input	Additional programmable analog input
	C1.11	Antitheft	Antitheft mode activation input. A positive signal applies when the engine is turn OFF will activated this mode (optional).
	C1.9	Spare	Additional programmable input
	C1.7	Hood switch	Hood open/closed signal. Tells the module the position of the hood.
	C1.3	Emergency Light	Emergency light input signal.
	C1.1	Keyless mode	Keyless mode activation input. A negative signal generated by a momentary switch is required to activate this mode.
	C2.8 & C2.9	CAN High and Low	CAN bus communication signal
	C2.1	Ignition signal	Ignition status from the RF module
Outputs	C1.2, C1.4, C1.6 & C1.8	Positive outputs	500mA positive outputs.
	C1.12	Starter control output	Output controlling the start signal to BCM
	C2.7	Ignition control output	Output controlling the Ignition

Connector	Pin	Wire Color	Description
USB	-	-	USB connection, link between O-Zone-Tech RAM module and computer.
C2	1	White	12V Ignition sense input
	2	N/A (No wire)	Not used
	3	N/A (No wire)	Not used
	4	N/A (No wire)	Not used
	5	N/A (No wire)	Not used
	6	Black	System ground
	7	White/Black	12V Ignition output
	8	Black/Blue	CAN Bus High
	9	Yellow/Black	CAN Bus Low
	10	N/A (No wire)	Not used
	11	N/A (No wire)	Not used
	12	Red	System +12Vdc battery feed
C1	1	Grey/Black	Keyless mode switch input
	2	Grey	INP3 – Emergency signal input
	3	Brown	Not used
	4	Yellow/Black	INP1 – Hood switch input
	5	Black	INP4 - Programmable input
	6	Red	INP7 – Anti-Theft mode input
	7	Purple	AINP0 - Programmable analog input
	8	Red (Grey cable)	Temperature sensor #2 (Internal), positive signal
	9	Red (Grey cable)	Temperature sensor #1 (External), positive signal
	10	Red	Not used
	11	Blue	OUT6 – Hood switch power
	12	Green	OUT5 – Programmable output
	13	White	OUT1 – Programmable output
	14	Yellow	OUT2 – Programmable output
	15	Black/Blue	Not used
	16	White/Black	Output controlling the start signal to BCM
	17	Purple/Black	Not used
	18	Black (Grey cable)	Temperature sensor #2 (Internal), ground signal
	19	Black (Grey cable)	Temperature sensor #1 (External), ground signal
	20	Black	Keyless switch and Keyless switch LED ground

6. TROUBLESHOOTING

Most common problems and fixes

Engine does not start when the key is in START position:

- Check cable connections and fuses.

Engine does not restart when in IDLE or KEYLESS modes:

- Check the cable connections and fuses.
- Verify if the "Enable Starting vehicle" box is checked.(Page 14)
- Verify the voltage and temperature settings. (Pages 14 and 15)
- Check the Hood switch.
- Check the transmission position.

Engine does not stop when the key is removed:

- Check the Anti-Theft Mode status.

Engine does stop when in IDLE or KEYLESS modes:

- Verify the voltage and temperature settings. (Pages 14 and 15)
- Check the temperature setpoints.
- Check the temperature probes.
- Verify the heating/cooling system configuration.

Engine stop even when the vehicle is moving:

- Check the inputs for the IDLE control, espeacially the Inputs combination parameters.

Software does not open:

- Verify if the user has local administrator rights.
- If Rich Text is not installed please check the installation procedure in the folder "Documents" of your Installation CD-ROM.

Software does not connect to module:

- Verify if the module is powered and the Key is in the ignition position.
- Verify if the COM Port is shouwn in the Device Manager.
- Check the USB cable.
- Reinstall the drivers.

Software does not show actual values:

- Disconnect via menu and Connect again.
- Perform the " Download to PC" operation.

Module does not work within new parameters

- Make sure to UPLOAD to module when you finish the changes.
- "Reset" the module via reset button in the software.

Notes

Notes

Zone Technologie Électronique Inc. guarantees every component that it produces for a period of 24 months starting on the date of the purchase or of the delivery. The products of Zone Technologie Électronique Inc are verified, inspected and recognize as exempt of any fabrication default.

If a product is found to be defective during the warranty period of 24 months, the product will be repaired or replace at the workshop of the Zone Technologie Électronique Inc. society.

All installation, using or modification of the Zone Technologie Électronique Inc. products which is not recommended by the manufacturer leads to a voiding of the actual warranty.

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It is expressly specified that we shall be committed by no other warranty (express or tacit) of intrinsic quality, marketable quality or capacity in a particular use.

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Toll free : **1 866 362-9663**

Phone : **450 572-1476**

Technical support **Extension #205**

Administration **Extension #221**

Fax : **450 572-0898**

9000, boul. Industriel, Chambly (Québec) J3L 4X3