

Presentation and User Manual



AVTruckLog

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Leggend



Usefull information for user (INFO).



Special Warning for the user (WARNING)



Dangerous situation (ALLARM)

Introduction

How many times would you like to ...

... Have full control of your fleet,

... when fill the fuel tank, or randomly loses,

.... to know whether the use of the engine is suited to your style,

... the consumption for every trip,

... Gets weekly or monthly reports

Now take control.

The solution

AVTruckLog is the complete solution for telemetry of engines and vehicles equipped with internal communication system type CanBus J1939 or FMS Standard.

J1939 or FMS standard is a standard protocol defined by the major manufacturers of vehicles and engines that operate in following areas :

- ✓ road transport,
- ✓ earthmoving
- ✓ boating
- ✓ electric engine generator



The result

Consciousness and awareness of what is happening to your engine or fleet:

Archiving historical computerized use of the fleet, a simple management tool to query reporting whenever a doubt appear.

Identify the driver “virtuoso” with the right foot in the accelerator. "heavy" usage penalizes consumption by up to 30%, for the economy of the trip is good to know the profile.



Each fuel supply is visible from the filling of the tank, possible subtractions are visible by checking the historical tank level.



How it works

The complete solution is composed of hardware AVJ1939Recorder to be installed in the truck to be monitored and the analysis software AVTruckLog to interpret telemetry acquired.

AVJ1939 Recorder is the unit easy to install, able to read the values passing through the can bus system and save them to the mass memory or SD Card USB Key

AVTruckLog software is able to import the values from the mass storage device to the PC, and perform further processing, views to simplify the interpretation of the telemetry performed

AVJ1939Recorder

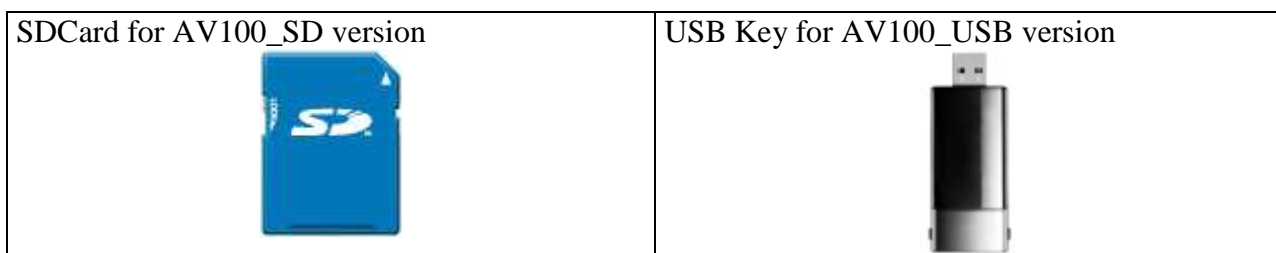
The device AVJ1939Recorder allows read engines value available on J1939 communications system Canbus or FMS standard, and store the value on USB Key or SD Card media.

Functionality

The use of the motor is monitored by sniffing/scanning the following parameters:
Level,

- ✓ RPM,
- ✓ torque,
- ✓ speed in TCO1
- ✓ accelerator pedal position
- ✓ engine temperature,
- ✓ average fuel consumption,
- ✓ instantaneous fuel consumption,
- ✓ Odometer , road traveled in kilometers,
- ✓ liters fuel consumed,
- ✓ the wheel speed.

The sampled data with 1 second sample Time, are time-stamped stored , because with with time and date a better events construction can be done during the analysis
Registration takes place on a physical medium standards:



The data is formatted according to the standard .csv, then open and read with the most common spreadsheets.

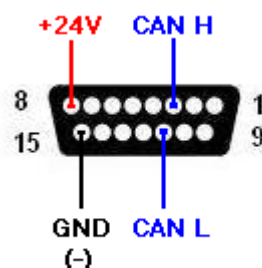
The data is sampled with a sampling rate of up to 1 sec.



Information: every engine manufacturer provides different data, please check the manufacturer documentation for data available on J1939.

Board Installation

AV100 provides a DB15 connector made:



with the following connections to be

Pin 8-> +24V
Pin 15-> GND
Pin 3 -> CAN H
Pin 11-> CAN L

The AV device is equipped with three LEDs with the following meaning::

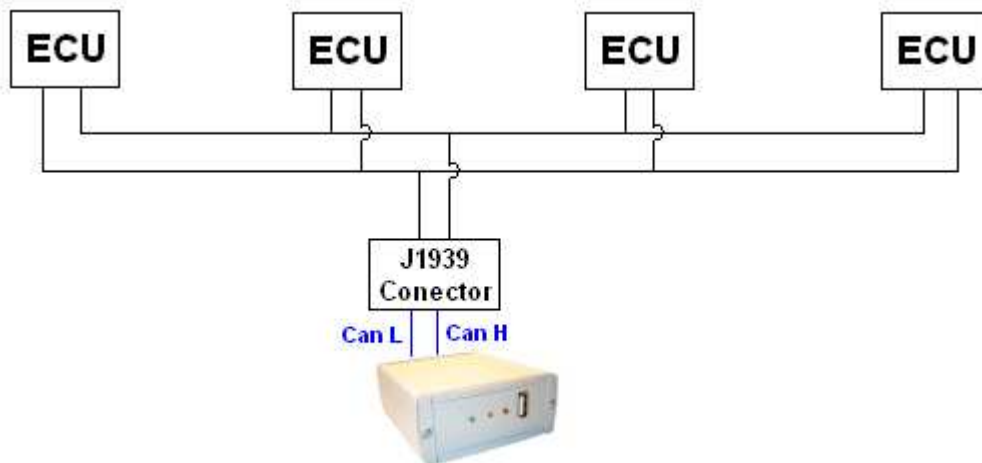


LED GREEN Power_ON: If turned on, the module is powered.
YELLOW LED Sampling: Power pulse during the pulse module logs
LED RED Error: If turned on, an error has been detected..

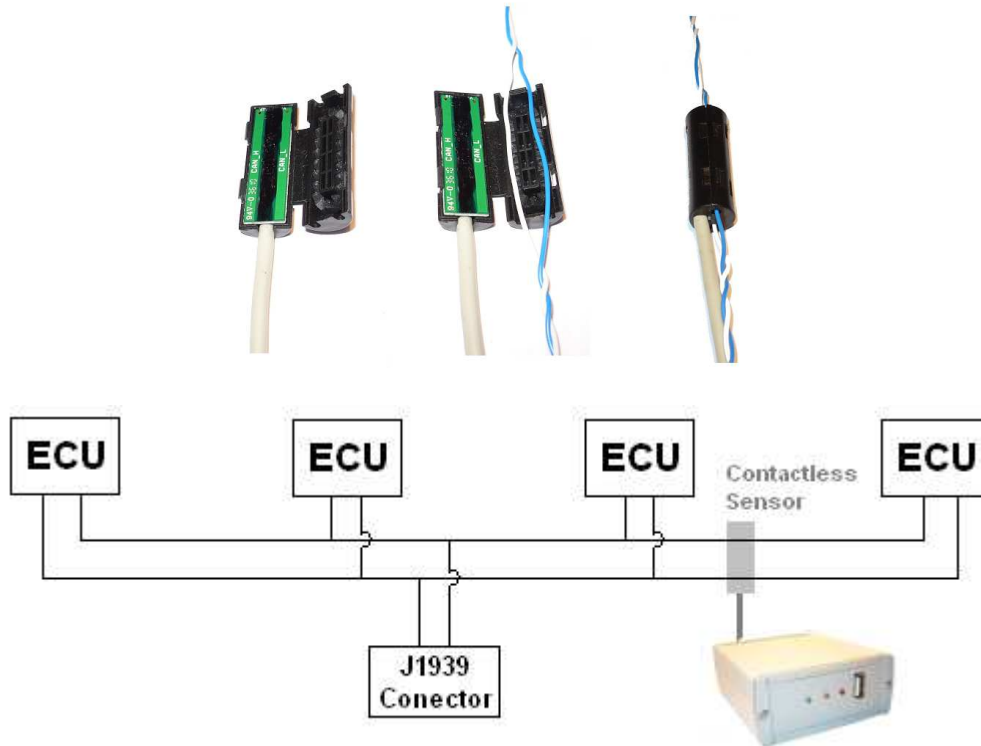
Truck or Engine Installation

There are 2 way for the installation on the Truck:

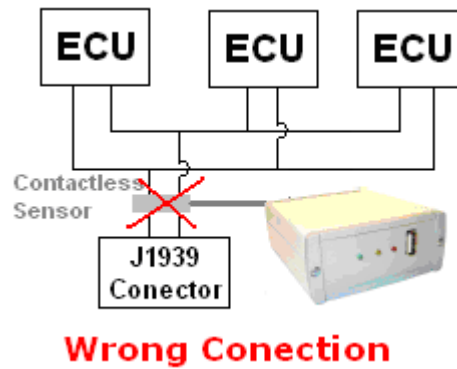
- a) First solution: Use a wire connection between AVJ1939Recorder CAN lines to the CAN lines of the truck or the engine. This solution is suitable for the truck that gives to you all the information available on the appropriate J1939 connector.



- b) Second solution : Use contactless sensor to read the communication between the different ECU of the trucks. This solution allow electrical isolation between the original cable and the AVJ1939Recorder, it means :
 - ✓ the original equipment is SAFE , because with contacless sensor there is NOT real connection.
 - ✓ is impossible to damage the original equipment
 - ✓ is impossible create voltage or current interference with original Equipment

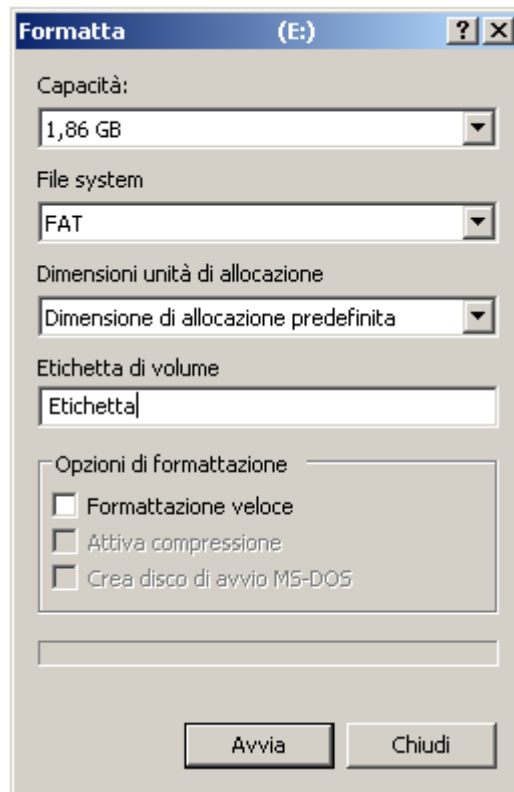


Use the Contactless sensor on the J1939 Conector is a Wrong connection if nothing is connected in to .



SD Card Configuration

If you buy SD Card, it is recommended to format the SD Card with FAT16 second illustration below.



AVJ1939Configurator

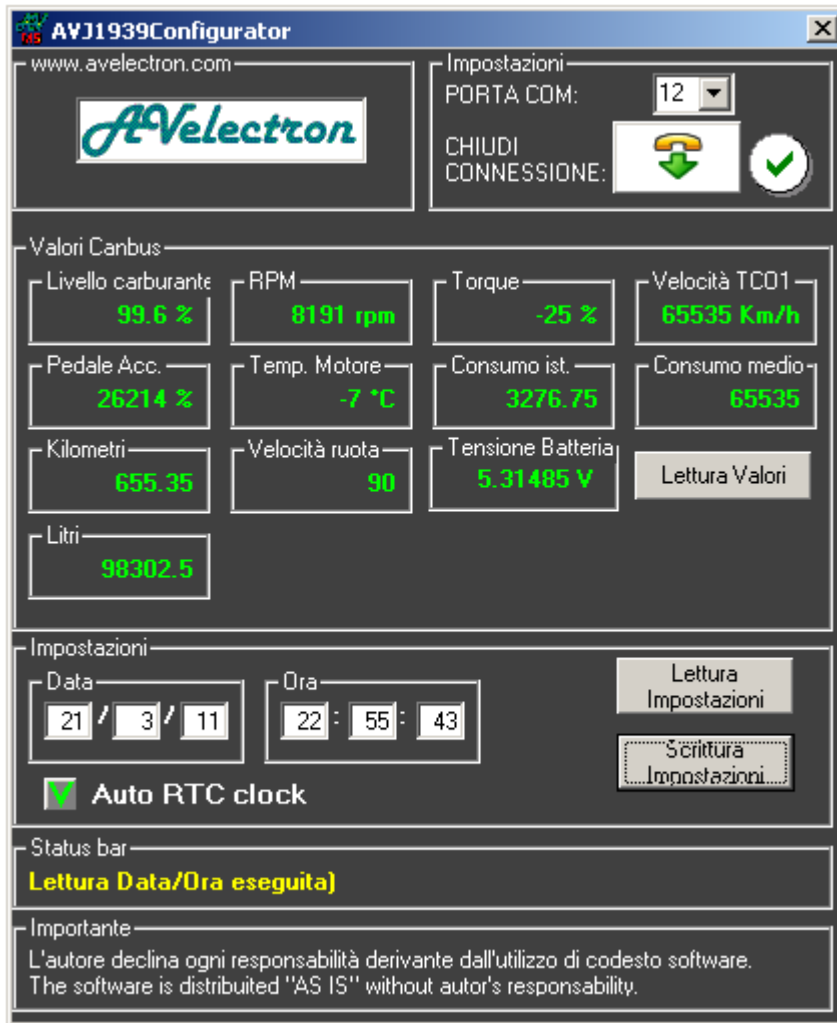
With the software AVJ1939Configurator can do the following:

- ✓ Reading data in realtime Canbus
- ✓ Setting the clock-calendar
- ✓ General Settings

The USB cable supplied power to the module allows for the configuration off-line, and therefore without the aid primary supply.

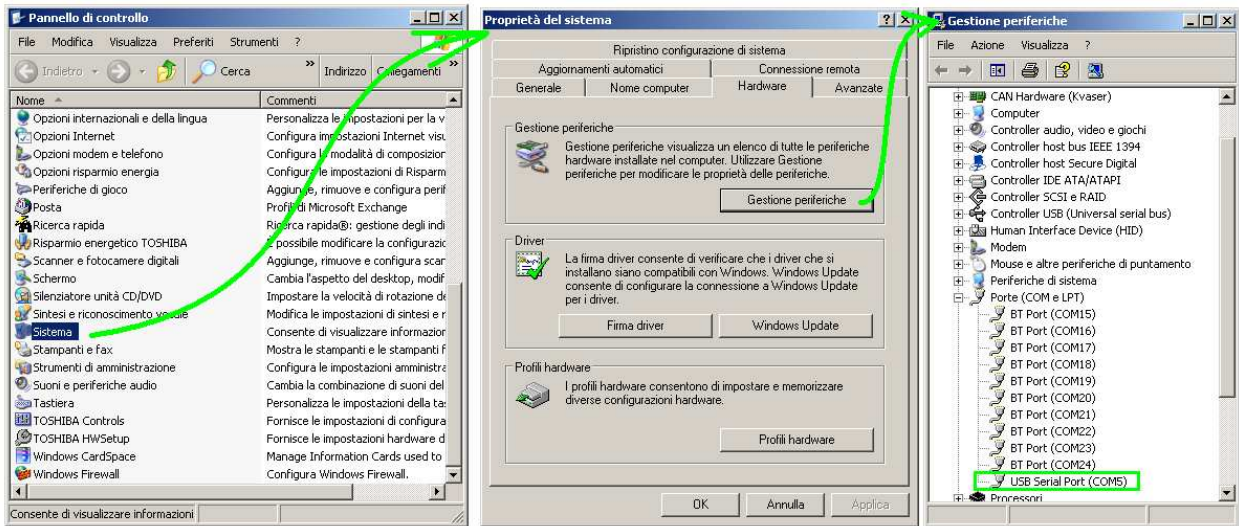
When installing the module, you can make the analysis of J1939 parameter measured using the USB cable in bridge mode. The mode is configured simply by inserting in the middle the bridge between the module and AVJ1939Recorder connector to the vehicle.

Setting the clock-calendar is necessary because the present one unit with its own internal RTC frequency. Please remember to update the date and time in switching between standard time and daylight saving time.



Connect the USB cable to your PC and check the COM port acquired.

The COM port can be seen to be gained from START -> Control Panel-> System-> Device Manager -> Com Ports.



On software select the appropriate COM PORT and press Open connection.

Now you are connected to AVJ1939Recorder so you can choose the following action:

- Read real time value. You must press the button for read the istant value.
- Read RealTimeClock (RTC) . You must press the button for read the istant value of RTC (Real Time Clock)
- Choose AutoRTC for read the value from the PC
- Write RealTimeClock (RTC) . For transfer the current Time and data to AVJ1939Recorder.



Durante l'utilizzo del cavo di programmazione USB, la chiave USB non salva i dati.

Data

The data is saved in. Csv file using the following table::

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
	Data	Ora	Livello [%]	Torque RPM	Torque [%]	Velocità TCO1 [Km/h]	Acceleratore [%]	Temp motore[°C]	Consumo medio[L/h]	Consumo istantaneo[Km/l]	Strada percorsa [Km]	Litri consumati[L]	Velocità [Km/h]	Batteria [V]
1	24/03/2011	23.18.22	99,6	1250	1	60	33	40	20	2	1000	500	60	24
2	24/03/2011	23.18.23	99,6	1250	1	60	33	40	20	2	1000	500	60	24
3	24/03/2011	23.18.24	99,6	1250	1	60	33	40	20	2	1000	500	60	24
4	24/03/2011	23.18.25	99,6	1250	1	60	33	40	20	2	1000	500	60	24
5	24/03/2011	23.18.26	99,6	1250	1	60	33	40	20	2	1000	500	60	24

The files are saved as **yymmddxx.csv**

Ove:

- yy : year
- mm: month
- dd : days
- xx : number.

Example: 11040103 = 3° Log of 1st April 2011.



Information: Copy the data inside the PC , Working directly on SD Card or USB Key may be not so fast.

How to use it

After the installation, you can start to use the AVJ1939Recorder .

1) You can connect your USB KEY or SD CARD on the AVJ1939Recorder. When turn on the Key, the Datalogger start do save data. When turn off the Key, the Datalogger stops to save data.



2) Now you can travel with all the times you want . More or less a 2GB USB KEY can store 200 working Days 24h/24h.



3) When you want to check the travel, every trips, one times on a week, one times on month, extract the USB KEY from AVJ1939Recorder and go to Office on TruckLog Server PCs.



4) Insert the USB KEY Memory on the PC and Start the software for Download and for Analysis.



Software AVTruckLog

The software AVTruckLog allow you to download all the data from the USB KEY or SD CARD on the PC. After the download the software allow to manage and to query data to understand the trips. Demo mode allow you to use the software with demo data , so you can evaluate the powerfull features of the software. The only restriction is you cannot download the data from media (USB KEY or SD card). This software on Demo mode could be used for visualization and query

From Control Panel you can choose the operation:

Import : to import data form USB Key or SD Card to the PC

Anagrafica = Fleet Registry : to insert the composition of the Fleet.

Grafici = Graph : To display the graph of a truck trip

Analisi Consumi = Consumption Analysis: analize the consumption and the parameter (maximum speed, maximum RPM etc etc) of a truck trip

Analisi Utilizzo = Trip Analysis: to know when it is was used and the monthly truck trips



Configuration

On configuration you can choose the Database to use (it depends on your systems).

On the Fleet Registry section you can add all the truck of your Fleet . You can use an identification, but also a Registration number can be used. On Trucks control Panel you can insert also other data regarding the Truck.

AVTruckLog - Anagrafica

Targa: AA 123 BB Marca - Modello: MAN

Altre info: Mod2

Capacità Serbatoio [Litri]: 500 Altezza Serbatoio [mm]: 600 Coefficiente Gasolio: 7

K-sensore: 0,119000002741814 Calcola K sensore

Buttons: +, -, Aggiorna, Inserisci, CHIUDI

AVVelectron logo

Licensing

This Window show to you the serial number and the License Key Entry.

License

AVVelectron logo

Serial Number: 1218151215

Licenza: 5422

CHIUDI

The program without license can work on Demo Mode.

On Demo Mode you are available to do all the operation except the IMPORT action; on Demo Mode you'll find the Blank button instead IMPORT button on main Window.



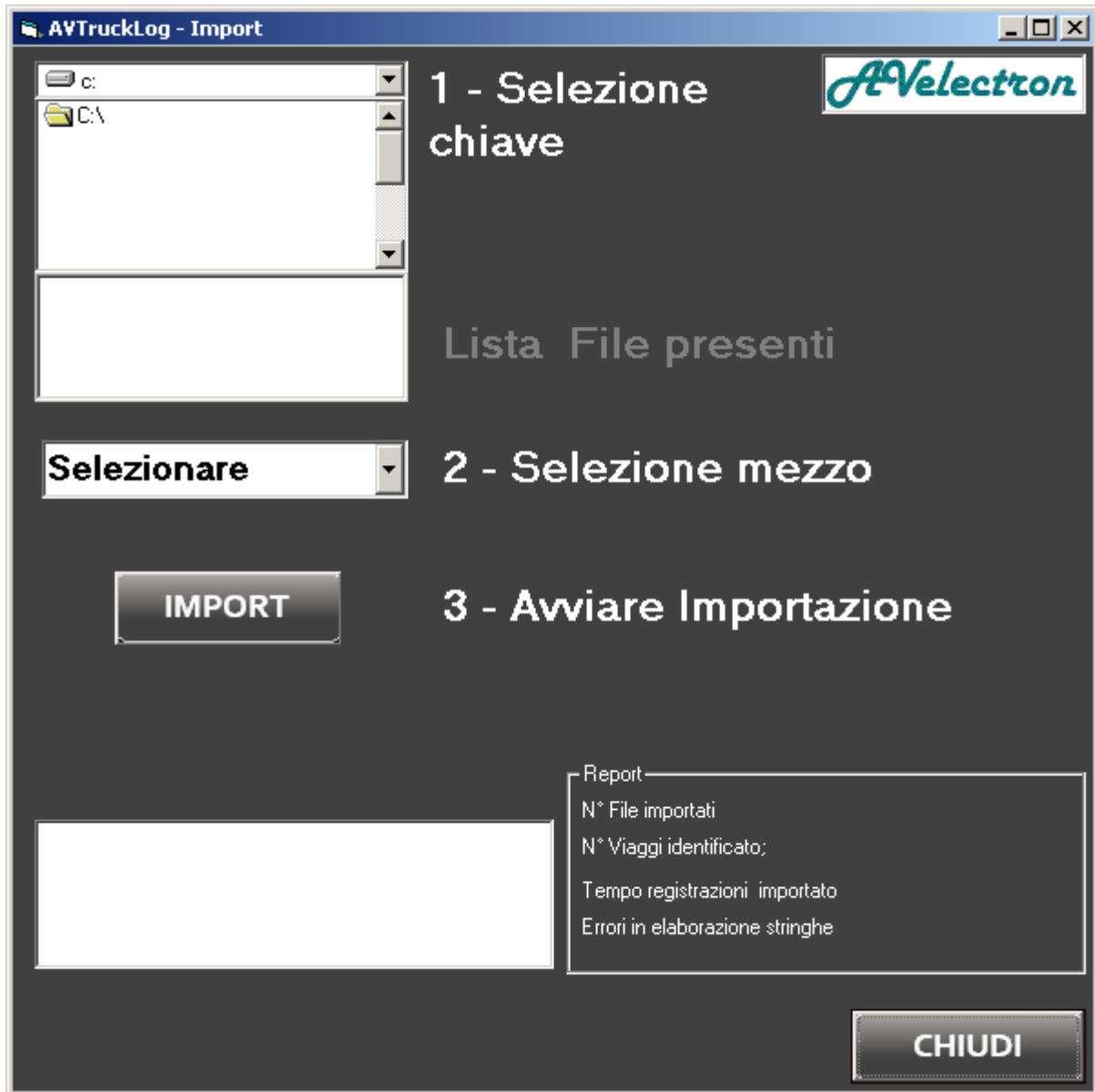
To download the data from USB KEY or SD Card you must be licensed.

Every installation generates a different serial number, to obtain the License, please contact the sales office and communicate the serial number.

A software activation Key will be sent ; insert the code on Licenza entry.

Import data

This Window Allow to you to import the data from USB Key or SD Card to th Server PC. Remember , to import data from USB KEY or SD CARD License version with activation Key is needed.



Select the directory of your USB KEY, choose the Truck about the data are referred, and starts to download. After the download the USB KEY is blank , and you can find data for next Query.



The IMPORT time depends by the quantity of records (time saved) and by Server PC hardware performance. A Bar show to you the work in progress.

Consumption Analysis

The tools Consumption analysis allows to you know statistics and data for a truck query for a query period.

Select the truck to investigate, choose the period for analysis and press Analizze.

AVTruckLog - Analisi Consumi

File Opzioni

Mezzo da analizzare : **AA 123 BB**

DataBase : C:\Documents and Settings\Demo_TruckLog_129_5\DATA\AA 123 BB

Dati disponibili dal: 09/01/2013 13.42.19 al: 09/01/2013 14.07.08

Analisi dal: 09/01/2013 13:42 Analisi al: 09/01/2013 14:07 **ANALIZZA**

Data inizio analisi : 09/01/2013 13.42.19
 Data fine analisi : 09/01/2013 14.07.00

Tempo motore acceso : 0h, 24min, 37sec Litri gasolio consumato : 0
 Tempo in marcia : 0h, 4min, 35sec Litri gasolio in marcia : 0
 Kilometri percorsi : 6.485 Km Velocità media in marcia : 84.89 Km/h
 Consumo medio in marcia : Non calcolabile

Kilometri iniziali cruscotto : 0 Kilometri finali cruscotto : 0
 Kilometri percorsi cruscotto : 0 Litri consumati cruscotto : 0

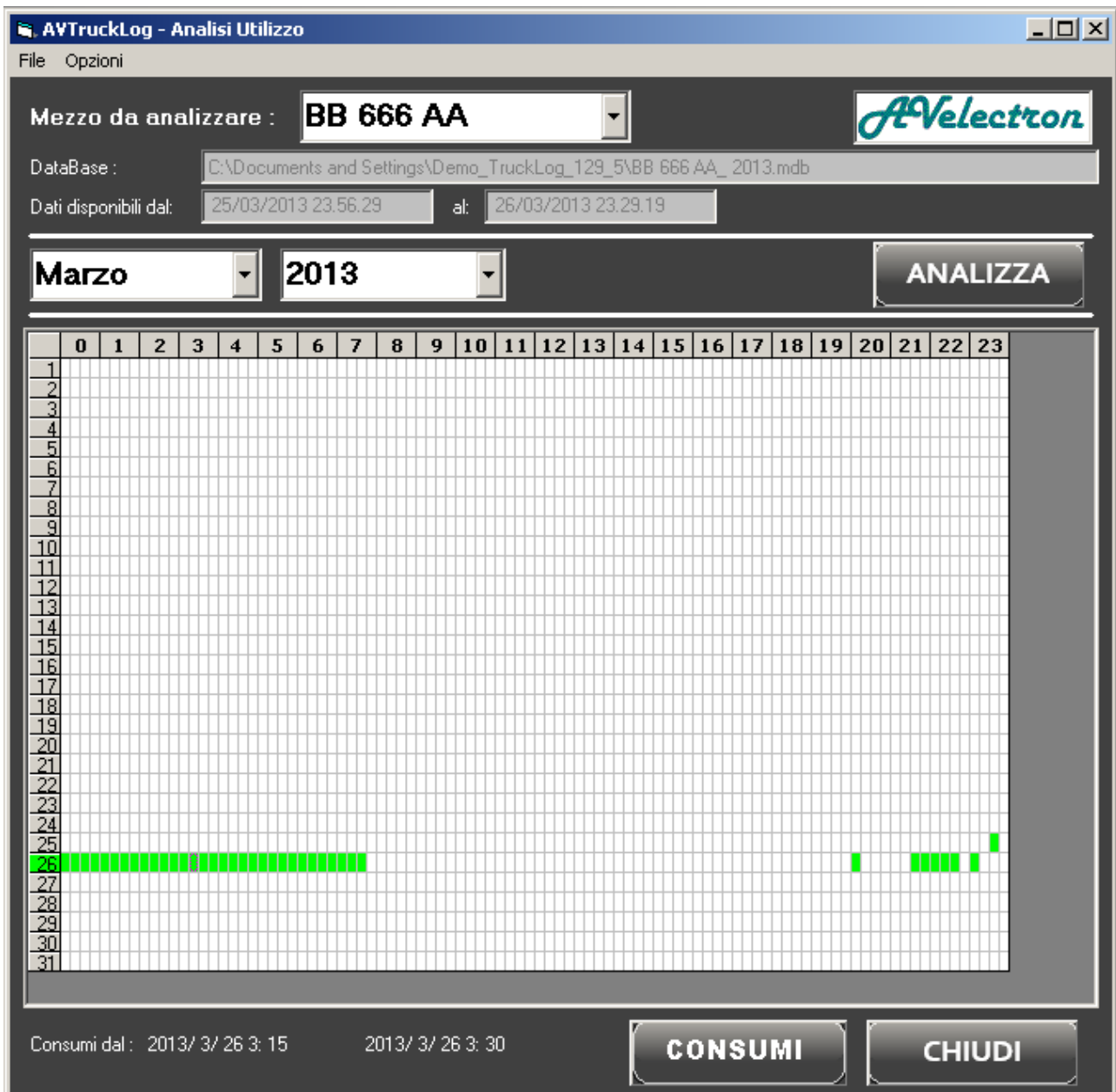
Possibili carichi:
 Possibili anomalie :
 09/01/2013 13.42.21 Iniziale: 4852% Finale: 0% Et:3
 09/01/2013 13.42.22 Iniziale: 4815% Finale: 0% Et:4
 09/01/2013 13.42.24 Iniziale: 4855% Finale: 0% Et:6

STAMPA **CHIUDI**

Trip Analysis

The tools allow knowing the monthly truck trips.

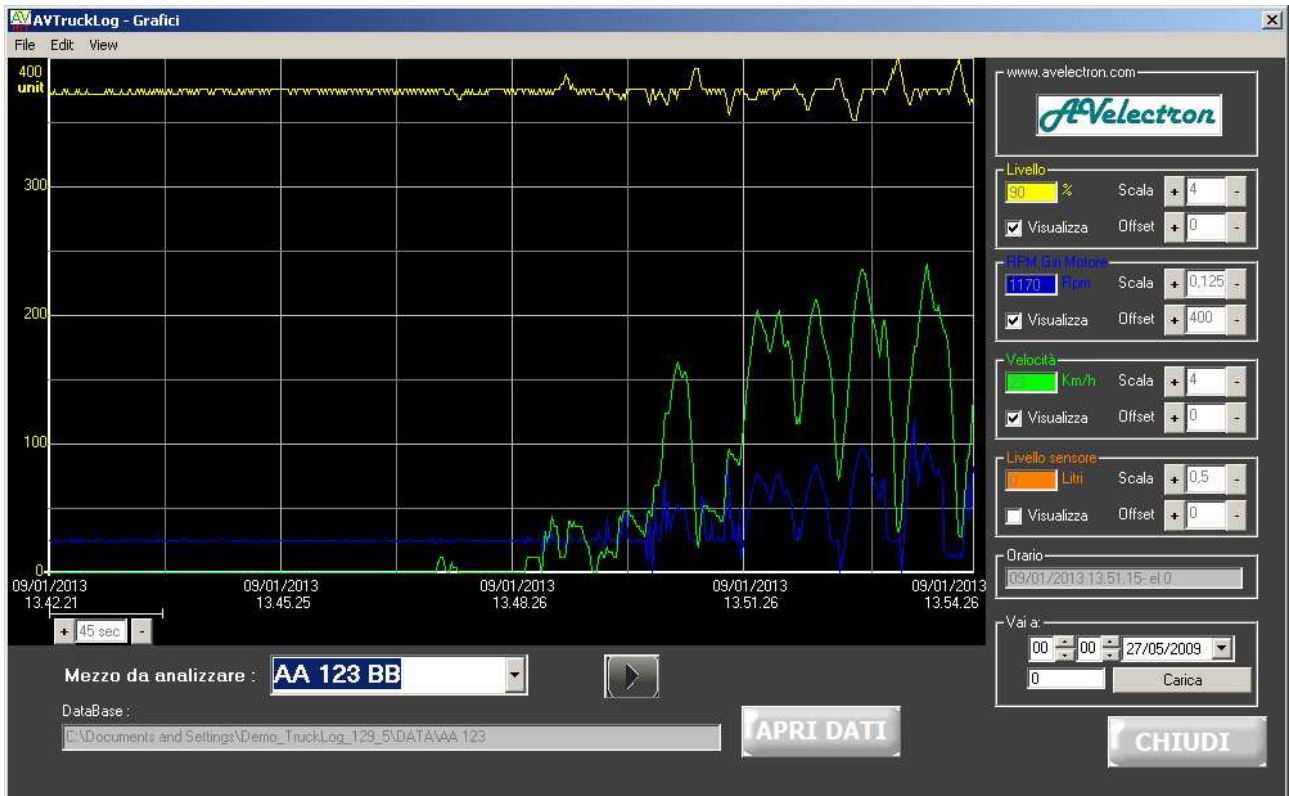
Select the truck to investigate, choose the period for analysis and press Analizze.



Is it possible recall the Consumption analysis tools for a specific period.
 Select the zone using the mouse , you can see the selected data on the bottom . Press the “Consumi” button, and you can find the appropriate setting on Consumption Analysis form opened.

Graph Analysis

The tools allow you to investigate on the use second by second of the truck
 Select the truck to investigate, choose the period for analysis.



Troubleshooting

- 1) Only Green Led is ON, while Yellow Led is OFF: Check the supply Voltage because there is a control and the data logging is stopped when Power supply is less the 21.5V.
- 2) At start-up all 3 Leds are Flashing Low ? Check the supply Voltage because on start-up it is less than 21.5V retry the start-up. This control is excluded when USB Program cable is connected.

Characteristics

Functional

Maximum sampling rate: 1 second

Support SDCard: 1 GB to 8 GB, FAT16 Formatting

Support USB Key: 1 GB to 32 GB FAT32 Formatting



The data refer to the last recorded data passed in the last period since the previous sampling

FMS Standard codes:

ID	Byte	Parametro rilevato	Unità misura	Scala	Unità Scheda
FEFC	1	Fuel level	%	0-100%	
F004	3,4	Engine RPM	rpm		
F004	2	Torque	%		
FE6C	7	Speed	KM/h		
F003	1	Accelerator pedal	%		
FEEE	0	Temperature	°C	-40 +125°	°C
FEF2	1,2	Consumption			
FEF2	3,4	Consumption istantaneous			
FEC1	3,4,5,6	Road traveled	m		KM
FEE9	3,4,5,6	Fuel used	l		

Electric Characteristics

Power supply: +10 VDC ... +36 VDC

Minimum Power supply for DataLogging : +21,5 VDC (For Power Supply to 12V contact sales reference)

Consumption : 1 W

Temperature : -20...+60°C

Mechanics Characteristics

Housing: Alluminium

Dimension : 100x86x39 mm (LxLxH)

Allegato 1



By request is possible to customize the Hardware, Firmware and Software.

Attention



No responsibility on product installation.



No responsibility on Engine and Truck damage and fault.



We reserve the right to make changes without notice and warning