

# NANOCOM

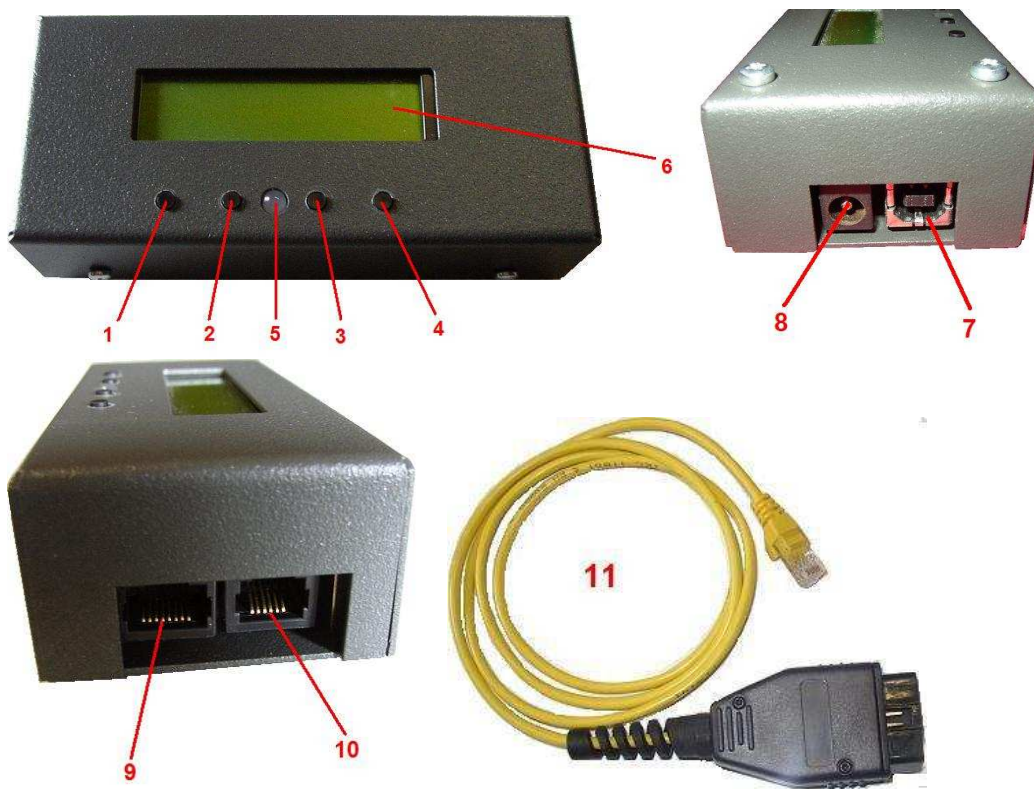
## diagnostic tool

Firmware 2.00

USER'S MANUAL

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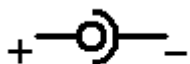
## 1 COMPONENTS DESCRIPTION



- 1) Multifunction Key 1
- 2) Multifunction Key 2
- 3) Multifunction Key 3
- 4) Multifunction Key 4
- 5) Red-green light LED indicator
- 6) Display
- 7) USB Port
- 8) Auxiliary power supply
- 9) OBD port
- 10) Expansion port (tripmaster input)
- 11) OBD Cable

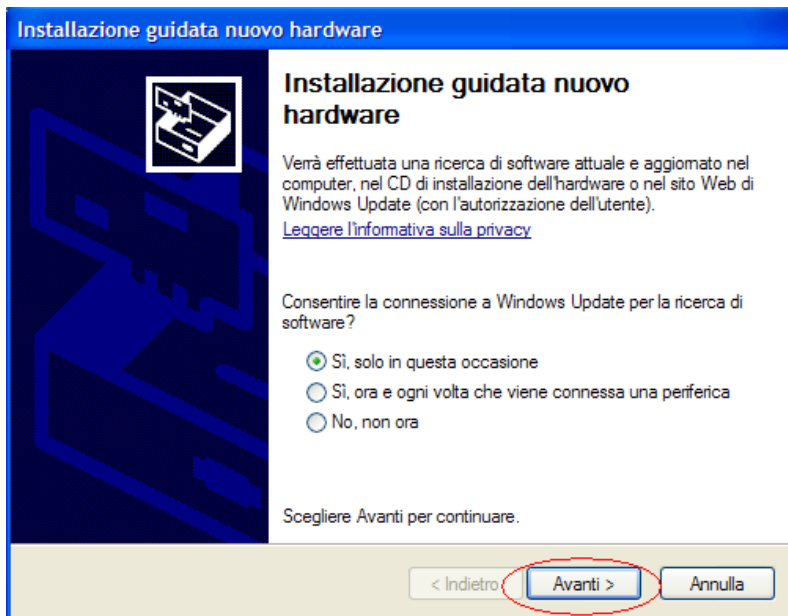
## 2 POWER SUPPLY

The NANOCOM takes his supply directly from the car's OBD port, so during the diagnostic use no external power supply is required. To use Nanocom without connecting it to the OBD port, it is necessary to give an external power supply 12VDC == 500mA (not included) with the polarity as shown in the picture:

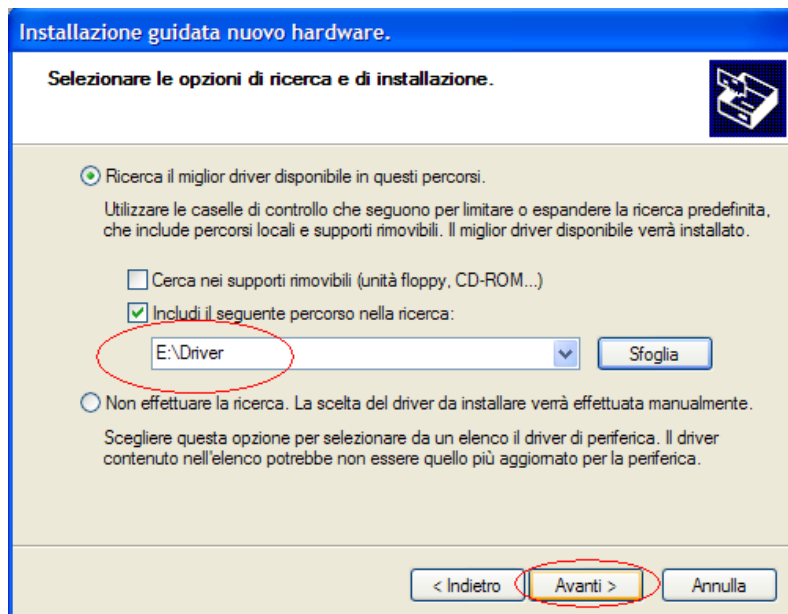


### 3 INSTALLATION

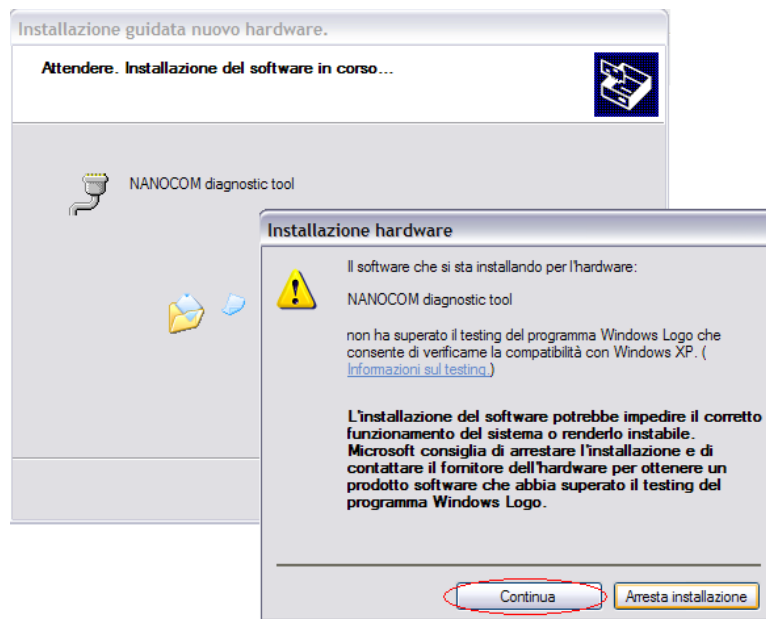
- Insert the installation CDROM into your computer's CD driver and run the installation program. The setup software starts automatically; in case it doesn't start, launch the setup.exe application directly from the CDROM.
- After the instal program has succesfully installed the software give power to the Nanocom and connect it to the computer using a USB cable type A-B (not included).
- Wait until the computer finds the hardware and starts the device driver installation procedure.



Normally the operative system finds automatically the devices driver from the DCROM, in case this doesn't happens you have to enter the driver path manually. The drivers are in the "Driver" folder of the CDROM.

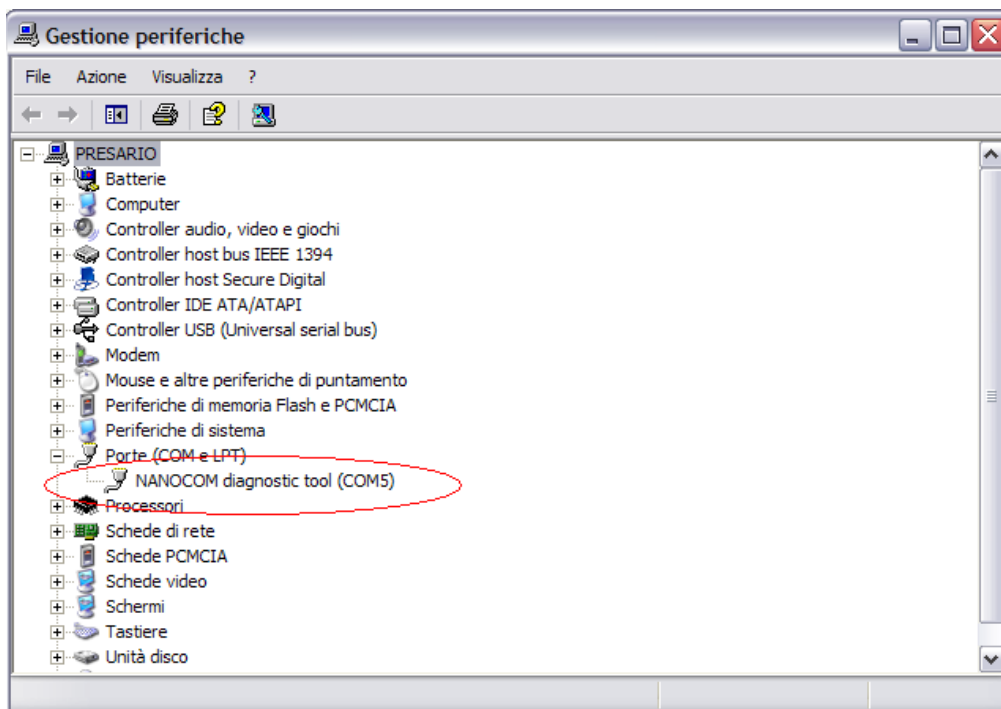


The operative system will show a message about the Windows logo test, please ignore it and go on.



When the device driver is correctly installed, you need to verify which virtual COM port number is assigned to the Nanocom and set it into the “Nanocom.exe” application .

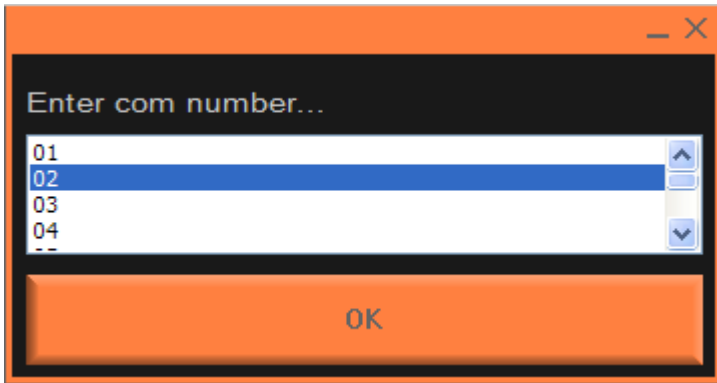
- With the Nanocom connected and switched on, go to the device manager of your computer (START→control panel→system→hardware→ device manager).



- Launch the Nanocom.exe application, ignoring the eventual message “unable to open com port”
- Click the button “Com setting” (you find it on the top of the window).



- Select the com port number shown in the device manager.



- Click the button OK.
- Restart the application.

Note: the com port setting is effective only after the application reboot.

Note: the Nanocom has to be connected always to the same USB port, otherwise you need to install the driver again for all the ports you want to use. In this case, the virtual com port number assigned to the Nanocom will be different for each port.

## 4 SWITCH ON

There are two different switch-on modes, depending on whether the nanocom is in standby or is completely disconnected from the power supply.

- If the Nanocom is completely disconnected from the power supply, you have only to give it power. On the display will appear the writing “Push a key or connect me” and the led will flash for a few seconds and then stay always with the red light on. Now the Nanocom is ready to be used, and if you don’t perform any function, after two minutes the nanocom automatically turn in standby.
- If the Nanocom is powered but it is been turned to standby after the last use, to wake it up you have to press key 1 (if the Nanocom doesn’t wake up from standby mode, you have to disconnect it from the power supply).

Note: if the INSTRUMENT or TRIPMASTER modes have been set, the Nanocom starts directly these functions. If you need that Nanocom starts normally (for example, to load a new firmware), you have to deactivate these startup modes as described in the devoted chapter.

## 5 TURN OFF

To turn off the Nanocom and completely stop the power consumption, you must disconnect it from the power supply, OBD cable or external power.

## 6 STANDBY

If you want to leave the unit connected to the car, you can turn it in standby after you use it: this way the power consumption is reduced to the lowest values.

If you use the Nanocom in standalone mode (without computer), you can turn it in standby by means of key2 (off) when the display shows the main menu.

If you use the Nanocom with the computer, first you must close the application; after the display changes the writing from “Remote..” to the Nanocom main menu item, press key2 (off) like for the standalone mode.

Note: if the vehicle is being stopped for a long time, it is better to completely disconnect the Nanocom from the OBD plug to prevent the battery discharging.

## 7 HOW TO USE THE NANOCOM WITHOUT COMPUTER (REMOTE MODE)

To use the Nanocom without connecting it to the computer, you have to connect it to the car's OBD plug and press one of the keys when the display shows the writing "push a key or connect me".

On the top line of the display will appear the menu items; the lower line shows four abbreviations indicating the meaning of the four keys.

By means of the four keys you can explore the menus, activate the function, visualize and modify the values, allowing to have a complete interaction with the diagnostic functions of the car.

The abbreviations that indicating the meaning of the keys are the following:

Ent	Enter the menu items or activate the functions
Esc	Escape the current functions or the current menu
>>>	Shows the next menu item or the next value
<<<	Shows the previous menu item or the next value
bak	Goes to the first value
ok	Confirm a data
clr	Clear a value or enter the clear file function
ren	Rename a file
mod	Modify a value
next	Shows the next value
(+)	Increase or modify a value
(-)	Decrease or modify a value
stop	Stops a scanning function or a recording function
yes	Positive answer to a confirmation message
not	Negative answer to a confirmation message



## 8 HOW TO USE THE NANOCOM WITH THE COMPUTER (REMOTE MODE)

To use the Nanocom with the computer you have to connect it with an USB or RS232 cable to the computer and connect the OBD plug to the car. When the Nanocom is ready and the display shows the writing “push a key or connect me”, you have to press one of the keys like for the standalone mode. Now launch the “Nanocom.exe” application and wait until Nanocom automatically turns to remote. When the “remote...” writing will appear on the display and the menu buttons will be shown on the navigation area on the left of the window, the system is ready to work.

The application allows to interact easily with all the diagnostic functions on the car's ECUs. The navigation area on the left of the window allows to explore the functions, and the operative area on the right side allows to see and modify the diagnostic data.





## 9 USING THE NANOCOM AS AN INSTRUMENT



In this working mode the NANOCOM starts automatically to read and shows the four main fuelling parameters with the frequency of four times per second as a board's instrument. The Nancom turns itself to standby a few seconds after you turn off the ignition.

Rpm = engine speed in rpm (this is the internal reference of the ecu calculated with the crank sensor)

Tp = turbo pressure in BAR (calculated by the NANOCOM from the Kpa reference read by the ecu from the MAP/IAT sensor)

Ct = coolant temperature (real value of the sensor without any ecu adjustment)

Bt = battery voltage (this value is the ecu internal supply voltage measurement)

To activate the instrument at startup you have to modify the STARTUP SETTING parameter of the menu NANOCOM SETUP. This parameter can be set with these three values:

NORMAL      The nanocom startup as normal diagnostic tool

INSTRUMENT      The nanocom startup as board's instrument

TRIPMASTER      The nanocom startup tripmaster

Note: if the Nanocom is set to instrument mode, and when you turn it on the ignition is off or completely disconnected from the car, after a few seconds it shows an error message and it turns itself to standby.

If you need to come back to normal startup, turn it on and keep key1 pressed until the Nanocom starts the standalone mode. Now you can use all the diagnostic functions without deactivating the INSTRUMENT mode, or if you want you can modify the startup parameter to NORMAL or TRIPMASTER.

## 10 HOW TO USE THE FILE MANAGER

During the diagnostic function the Nanocom asks you if you want to store the diagnostic data into files, for example fault code lists, settings data, dynamic inputs and map files, allowing to see the data stored any time you want even if you are far from the car.

Nanocom allows to store the data into the internal memory or directly into the computer's hard disk, and open files from internal memory or directly into the computer's hard disk, with some limitations when the files are too long, like for map files.

The files can be also moved from the internal memory to the computer's and viceversa.

To manage the files you can find a "FILE MANAGER" utility in both modes, standalone and remote. In standalone mode the file manager menu has the following functions:

- FILE LIST: allows to see the name and the dimension of all files stored. The files are shown one by one and you can go forward and backward with keys <<< and >>>. By means of key ENT you can see the content of the files or you can access directly to the function that uses that file (like for map files).
- DELETE FILE: allows to delete a single file. Like for the file list function you can see all files names, and by means of key CLR you can delete the file.
- DELETE ALL: allow to clear all data stored in the internal memory.
- RENAME FILE: allow to modify the names of the files (name can be max 12 characters).

The remote mode offers a more complete set of functions to manage the files.

When you click on the FILE MANAGER button in the navigation area, the operative area shows the list of the files stored into the Nanocom memory, and some buttons allow to perform the following functions:

- EXPORT FILE: allows to transfer a file from the internal memory to the computer's hard disk
- IMPORT FILE: allows to transfer a file from the computer's hard disk to the internal memory
- DELETE FILE: allows to delete the selected file
- DELETE ALL: allows to delete all the files stored in the internal memory
- RENAME FILE: allows to modify the name of the selected file
- OPEN FILE FROM NANOCOM: allows to see the content of the file selected or give you direct access to the function that uses that file
- OPEN FILE FROM COMPUTER: allows to see the content of a file stored in the computer's memory or give you direct access to the function that uses that file.

## 11 FUNCTIONS UNLOCK CODES

Each Nanocom has an identify code, the Nanocom ID. This code is used to calculate the unlock codes that enables the diagnostic functions.

The unlock codes actually used are the following:

Unlock code 01:	TD5 diagnostic functions
Unlock code 02:	TD5 map read and write
Unlock code 03:	AS10 Defender Alarm diagnostic functions
Unlock code 04:	WABCO Defender ABS system diagnostic functions
Unlock code 05:	SLABS DiscoveryII ABS system diagnostic functions
Unlock code 06:	VALEO-BCU Discovery II BODY CONTROL system diagnostic functions

You can see but not modify the ID code from the item NANOCOM ID of the NANOCOM SETUP menu. This code and the unlock codes are composed by 6 alphanumeric digits case sensitive.

You can insert the unlock codes in remote mode from the NANOCOM SETUP page. In the operative area you find the dedicated boxes that allow to edit the unlock codes. The button "WRITE setting into nanocom" must be clicked after you modify the unlock codes, otherwise the insertion will not be effective.

You can also modify the unlock codes in the standalone mode with the UNLOCK CODES function of the NANOCOM SETUP menu, where you can insert or modify the codes one by one.

The nanocom is supplied with only the first two codes that enables all diagnostic functions for the TD5 engine.

If you need to have the other unlock codes, you can download them from the private area of the [www.nanocom.it](http://www.nanocom.it) website according to the supplier of the units.

To access the private area of the website, you need to register the unit with a valid e-mail account and the nanocom ID.

In the private area you can also find the firmware upgrades that allow to keep your unit always updated to be sure to have the maximum performance from your tool.

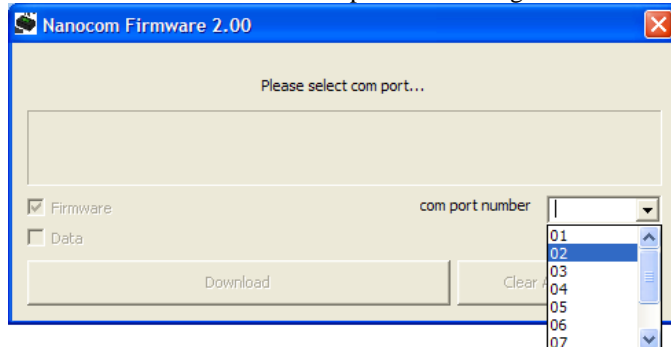
## 12 FIRMWARE UPDATE

The firmware update is necessary if you see that that firmware release available on the website is higher than the one installed on your device.

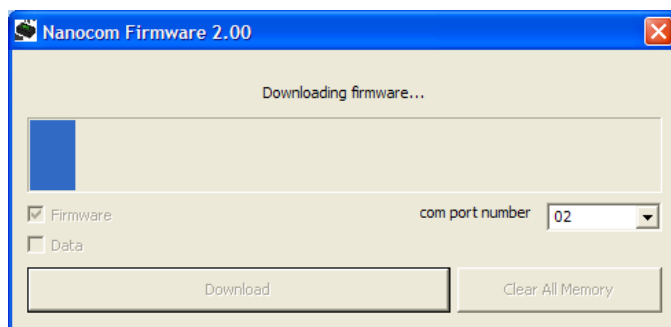
The firmware release number is being shown for two seconds when the Nanocom is starting up.

The firmware upgrade downloadable from the website is a windows application “NanocomFirmwareLoader.exe”, and to install the upgrade you have to follow this procedure:

- Connect the Nanocom to the computer with the USB - RS232 or USB-RS232 adaptor cable
- Give power to the Nanocom without touching any button, and the Nanocom must show the writing “push a key or connect me” and the led must be always red. (if you have set the INSTRUMENT or TRIPMASTER mode, you have to deactivate those modes before upgrading the unit)
- Launch the application “NanocomFirmwareLoader.exe”
- Select the number of COM port that is assigned to the Nanocom (see INSTALLATION section).



- Click the download button and wait for the end of the transfer.



- Click OK when the message box will appear.

## 13 RESPONSIBILITY

THE NANOCOM OWNER HAS FULL RESPONSIBILITY FOR THE USE OF ALL OF THE NANOCOM FUNCTIONS. NANOCOM STAFF DON'T ANSWER FOR THE DAMAGE CAUSED BY THE DEVICE. THE MODIFICATION OF SOME SETTINGS AND FUELLING INFORMATION OF THE ECU IS NOT LEGAL: TO USE THE NANOCOM TO MODIFY THESE DATA IS AT YOUR OWN RISK AND RESPONSIBILITY.

## 14 WARNING FOR A SAFE USE

- The Nanocom must not be exposed to sun rays or other heating sources that can cause the warming of the unit. The components have a working range from  $-5^{\circ}$  to  $+65^{\circ}$  C, the Nanocom must thus be kept in this range of temperature. If the Nanocom is too hot, it is better to wait until his temperature goes down before starting using it. If the unit is used out of this range, it can be damaged and it will be necessary a repair in our workshop.
- The Nanocom is not designed to work in extreme conditions. Remember that like all normal electronic devices the Nanocom must be kept away form water, wet, high temperature, high vibrations and dust. Using the device in these conditions means providing for it the right protection from these agents.

## 15 WARRANTY

The Nanocom has one year of warranty starting from invoice date, so keep the invoice.

We also suggest you to register your unit in our website [www.nanocom.it](http://www.nanocom.it), in order to be easily informed about technical advice and new firmware releases, and to allow us to make ours a better product. Thank you.