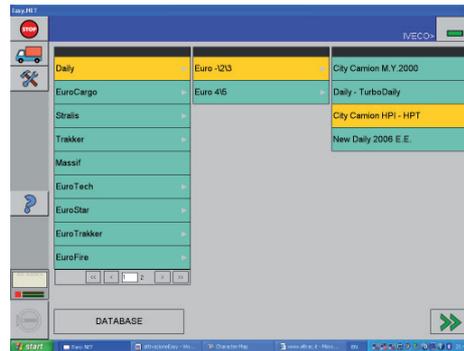


ECU diagnosis

identification code reading

read faults memory

parameters reading

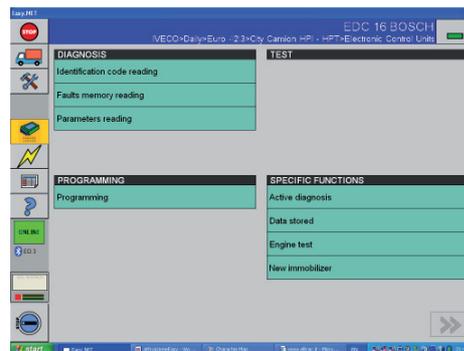


1. select the Group, the Category and the Model under test to which the vehicle belongs
2. press the **NAVIGATION** button **FORWARD** (enabled - green) to continue

If the Guide to Diagnosis is available (GAD), the user should consult it by automatically accessing the GAD environment (see unit 10).

*To continue the work on an electronic system, select the key **ECU'S AREA>ADD ECU**. Now it is possible to select the Class and the Electronic System; confirm by selecting the **RIGHT ARROW** key*

*If the GAD is not available, select immediately the Class and the Electronic System; confirm by selecting the **RIGHT ARROW** key.*



3. the window **Choose Activity** appears; it is here possible to choose from four lists:

window Choose Activity

- diagnosis
- test
- programming
- specific functions



4. the present Repair Guide describes the **diagnosis** environment and the specific functions to which it is associated:
 - [Identification Code Reading](#)
 - [Faults Memory Reading](#)
 - [Parameters Reading](#)

ECU diagnosis

identification code reading

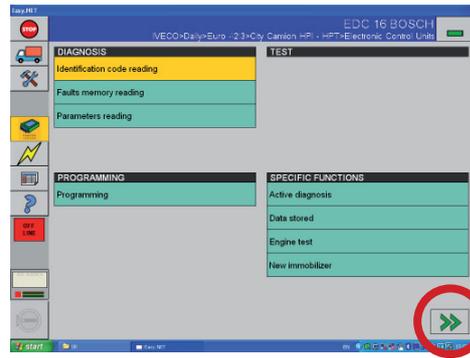
1. identification code reading

2. multitasking option

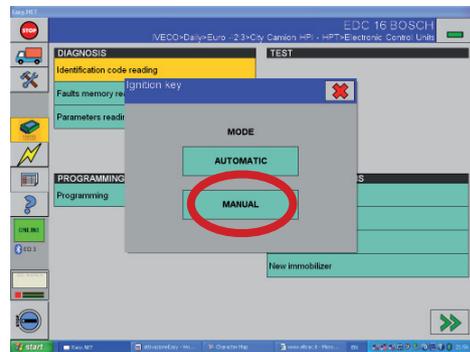
3. ignition key button modes on line/off line

read faults memory

parameters reading



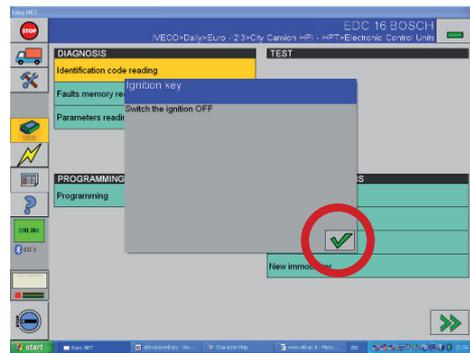
1. to access the Read Identification environment select the item **Identification Code Reading** from the Diagnosis list and then press the **NAVIGATION** button **FORWARD**



2. E.A.S.Y. system presents a pop-up window where to select the automatic or the manual activation of the ignition key; select the required mode; the **KEY** button is disabled

under the automatic mode all activation of the ignition key are controlled by the diagnosis instrument (key button working)

under the manual mode all activation of the ignition key are controlled by the operator;



3. confirm the new message by pressing the **TICK** icon

ECU diagnosis

identification code reading

1. identification code reading

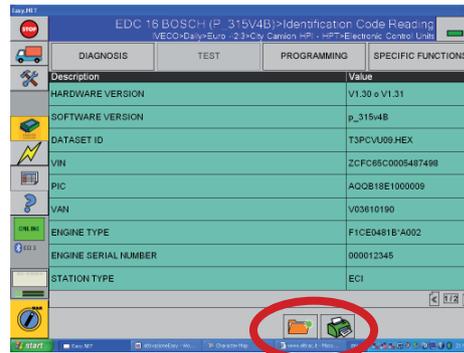


2. multitasking option

3. ignition key button modes on line/off line

read faults memory

parameters reading

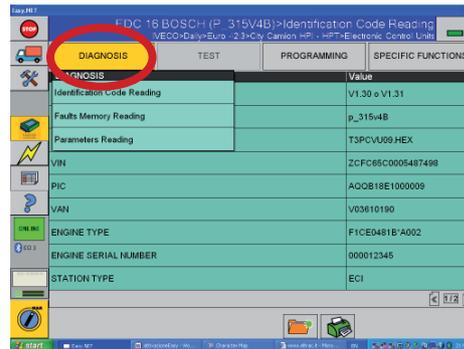


4. wait until the ECU is ready; the general information about the electronic system under test is read:

- identification code
- HW version
- SW version
- production date
- ...

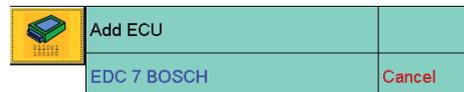
	REPORT key shows the Diagnosis Report List (and allows you to print each report)
	PRINT key prints the summary page of Identification Parameters

After identification code reading it is possible to carry out other activities (step 5) or to return to the window Choose vehicle (step 6).



5. to access the other activities from the environment Identification Code Reading, select the CHOOSE ACTIVITIES buttons: choose an activity; the system automatically access the selected activity

the CHOOSE ACTIVITIES buttons are shown in yellow when selected



6. to exit the diagnosis of the vehicle under test select the button ECU'S AREA>ECU UNDER TEST>CANCEL

ECU diagnosis

identification code reading

1. identification code reading

2. multitasking option

3. ignition key button modes on line/off line

read faults memory

parameters reading

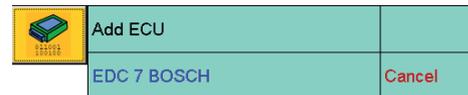
glossary
index

Multitasking option

E.A.S.Y. introduces a very important news: it is possible to associate more ECU's to the family of vehicle under test.

Add an ecu

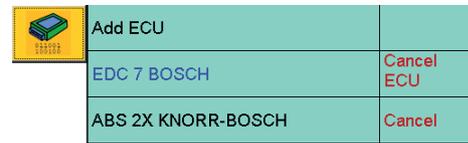
It is possible to interrupt the diagnosis with an ECU and to start the procedure with another one.



1. select the button **ECU'S AREA>ADD ECU**; the **Choose Vehicle** window will appear, where you can select the desired ECU

Managing more ecu's

It is possible to operate with two or more connected ECU's at the same time.

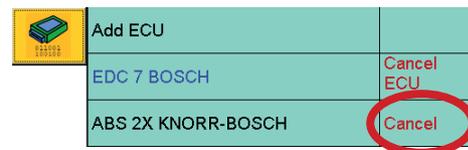


1. select the button **ECU'S AREA>DESIRED ECU**

The activity remains interrupted for the not selected ECU's and can be started again at any time.

Cancel an ecu

It is possible to stop the activity on one of the connected ECU's.



1. select the button **ECU'S AREA>REQUIRED ECU>CANCEL**

2. select the required ECU

ECU diagnosis

identification code reading

1. identification code reading

2. multitasking option

3. ignition key button modes on line/off line

read faults memory

parameters reading

Ignition Key Button Modes – on line/off line

At the system start up the ON/OFF button is ON-LINE if the ECI module is activated and connected to the PC, otherwise is disabled (OFF-LINE).

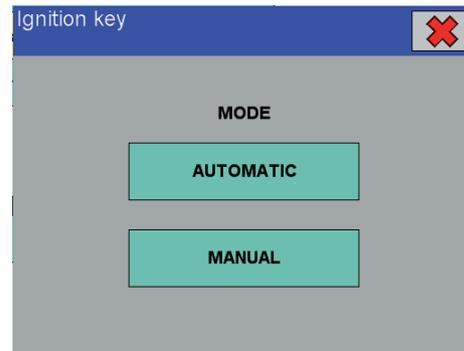
On line mode

The function "Ignition Key" is active; it can be managed in automatic or manual mode; the "ignition key" screen appears only after the selection of a function that requires it (e.g. diagnosis functions).

In automatic mode all ignition key activations are managed by the diagnosis instrument.

In manual mode all ignition key activations are managed by the operator on the vehicle

The automatic activation depends on the type of vehicle; make sure the vehicle supports the function before selecting automatic mode.



1. after selecting the automatic mode a test procedure is carried out
2. switch the **IGNITION OFF**
3. the vehicle chassis may move

The E.A.S.Y. SW activates the ignition key and displays a screen page in which it asks to check the dashboard; if it is turned "on" the diagnosis procedure can be continued; otherwise the system asks for position of the key to ON in manual mode.

Both in manual and in automatic mode:

1. before ignition key activation a message is always displayed: request (manual mode) or warning (automatic)
2. when the ECU is cancelled a message indicates that it is necessary to interrupt the communication and then to confirm the operation
3. the chosen mode remains until the vehicle under test is changed

Off line mode

The basis diagnosis is simulated and it is possible to read some information about the electronic system under test.

ECU diagnosis

identification code reading

read faults memory

1. read faults memory

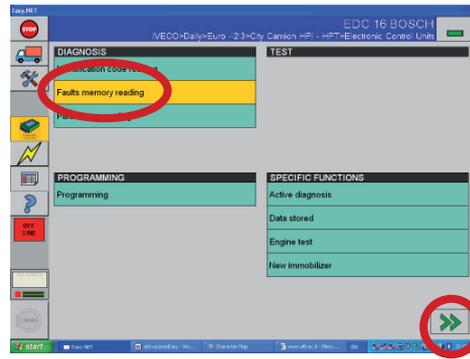


2. detail of Buttons of the Faults Memory area

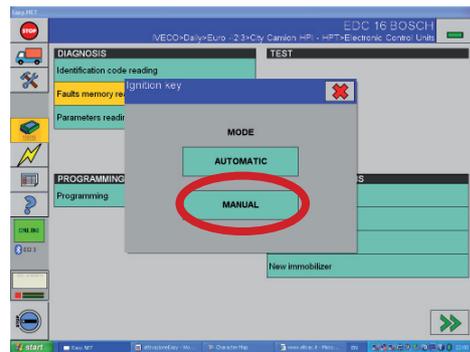
3. how to get information about a fault

parameters reading

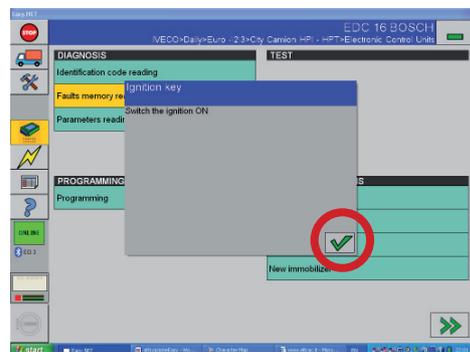
glossary
index



1. to access the Read Faults Memory environment select the item **Faults Memory Reading** from the list Diagnosis and then press the **NAVIGATION** button **FORWARD**



2. E.A.S.Y. system presents a pop-up window where to select the automatic or the manual activation of the ignition key; select the required mode; the key **BUTTON** is disabled



3. confirm the new message by pressing the **TICK** icon

ECU diagnosis

identification code reading

read faults memory

1. read faults memory



2. detail of Buttons of the Faults Memory area

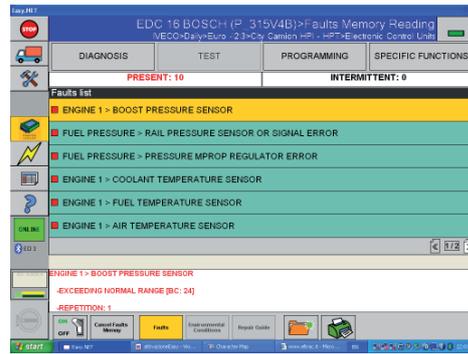


3. how to get information about a fault

parameters reading

glossary

index



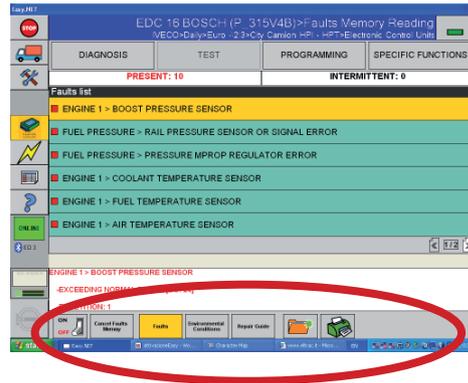
4. wait until the ECU is ready; the list and faults type occurred during the working are displayed

There are two types of failures:

- Failures present during the reading procedure (**red**)
- Intermittent failures not present during the reading operation but which occurred at least once before (**black**)

Detail of Buttons area of the *Faults Memory* area

New icons appear in the window *Read Faults Memory* for accessing specific functions:



ON LINE Mode
Faults Memory Reading icons

	<p>ON key</p> <p>the communication between the system and the ECU is active: it performs again the Faults Reading; it updates the ECU communication select the button to interrupt the reading</p>
	<p>OFF key</p> <p>the communication with the ECU has been interrupted select the button to start again the electronic system reading</p>
	<p>CANCEL FAULTS MEMORY key</p> <p>it cancels the faults selected in the list; it is possible to cancel a fault at a time; the cancel operation will be effective when you confirm it by pressing the TICK icon displayed in the next pop-up-window</p>
	<p>FAULTS key</p> <p>it allows you to access the <i>Faults</i> environment; it can be yellow (the faults list is displayed) or gray (environment <i>Faults</i> disabled)</p>

ECU diagnosis

identification code reading

read faults memory

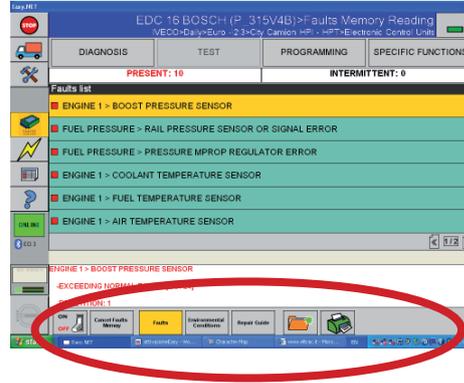
1. read faults memory

2. detail of Buttons of the Faults Memory area



3. how to get information about a fault

parameters reading



ON LINE Mode
Faults Memory Reading icons

Environmental Conditions key

active when the communication with the ECU has been interrupted this is used to examine environmental conditions when the failure occurred.

it can be gray (default status) or yellow (when selected)

REPAIR GUIDE key

active when the communication with the ECU has been interrupted it gives an analysis of the fault selected from the list; in particular other information (blink code, failure code and fault mode) is available it can be gray (default status) or yellow (when selected)

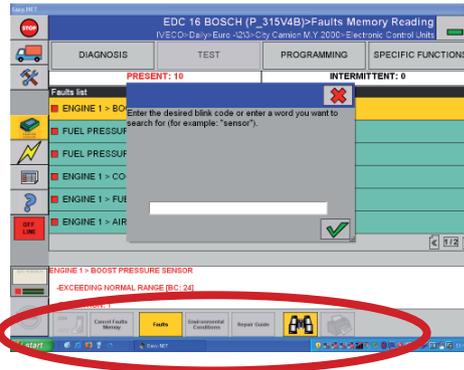
REPORT key

it allows you to save the report of carried out operations

cfr. Report environment > button **DIAGNOSIS REPORT**

PRINT key

it allows you to print the displayed window



OFF LINE Mode
Faults Memory Reading icons

BLINK CODE SEARCH key

appears only if the communication with the ECU interrupted is (under OFF LINE Mode)

recognize the fault where blink code or required word appear

To go from one function to another (faults, environmental conditions, troubleshooting) select the corresponding button.

Operations like Read and Cancel Faults Memory are very important: they are automatically stored and need the vehicle acceptance.

ECU diagnosis

identification code reading

read faults memory

1. read faults memory

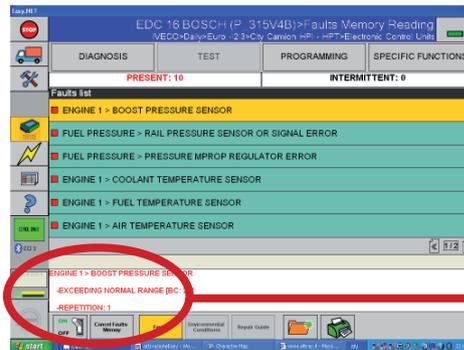
2. detail of Buttons of the Faults Memory area

3. how to get information about a fault

parameters reading

parameters reading

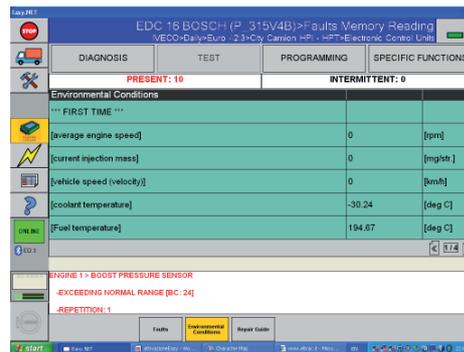
How to get information about a fault



the button **FAULTS** appears on yellow background because it is selected

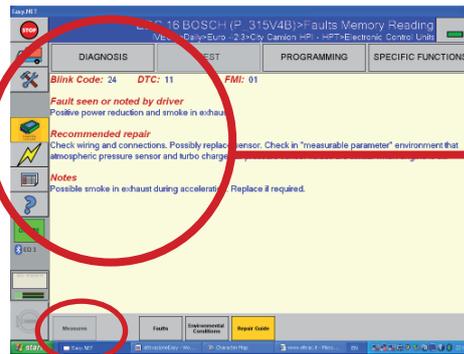
1. interrupt the communication with the ECU (button **ON/OFF**) and select an item from the faults list: the fault is described in the below blank area; in particular the following information is available:

- the fault
- the signal type
- the repetition type



2. select the button **ENVIRONMENTAL CONDITIONS**

it examines the present environmental conditions at time of the fault



3. select the **REPAIR GUIDE** button; the following information is available:

- the blink code
- the failure code (DTC)
- the failure mode (FMI)



appears a new icon, the **MEASURES** key

Measures

MEASURES key

the Measurements pop-up window opens with a list of possible measurements and the relevant operating suggestions

ECU diagnosis

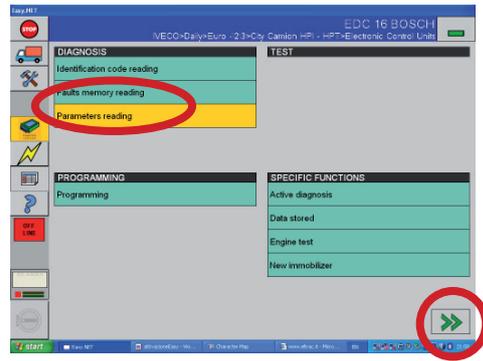
identification code reading

read faults memory

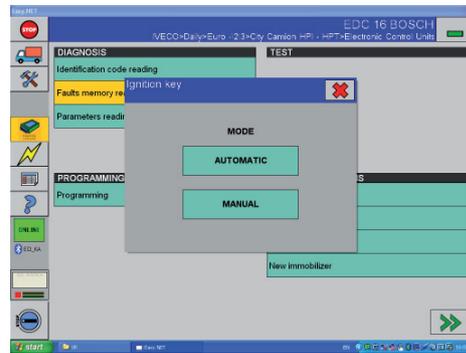
parameters reading

1. parameters reading

2. detail of parameters buttons area

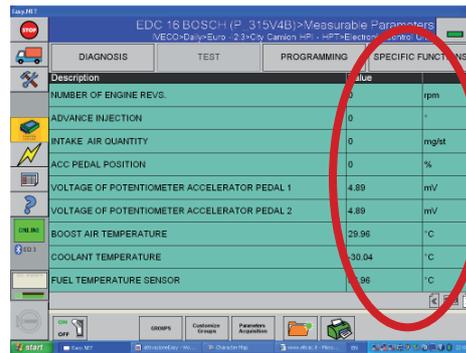


1. to access the Parameters Reading environment select the item **Parameters Reading** from the Diagnosis List and then press the **NAVIGATION** button **FORWARD**



2. E.A.S.Y. system presents a pop-up window where to select the automatic or the manual activation of the ignition key; select the required mode; the **KEY** button is disabled

pay close attention to the displayed messages and wait until the ECU is ready



3. the read parameters are shown and the values assumed

ECU diagnosis

identification code reading

read faults memory

parameters reading

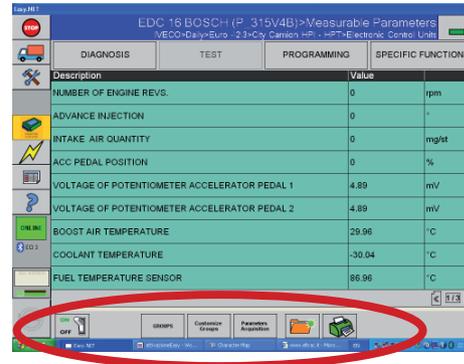
1. parameters reading

2. detail of parameters buttons area



Detail of parameters buttons area

New icons appears on the window Parameters Reading for accessing specific functions:

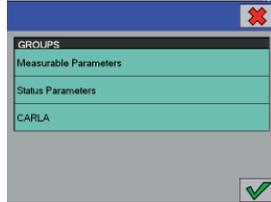


 **ON key**
the communication between the system and the ECU is active: select the button to interrupt the reading

 **OFF key**
the communication with the ECU has been interrupted; select the button to start again the electronic system reading

 **GROUPS key**
it opens the GROUP window: two parameters type are displayed

- measurable parameter
- status parameters
- ...



to access a group select it from the list (shown in yellow)

 **CUSTOMIZE GROUPS key**
it allows you to create new customized parameters, identified by the desired parameters

 **PARAMETERS ACQUISITION key**
it allows to record the trend in time of the measurable parameters

 **REPORT key**
it allows you to save the report of carried out operations

 **PRINT key**
it allows you to print the displayed window

ECU diagnosis

identification code reading

read faults memory

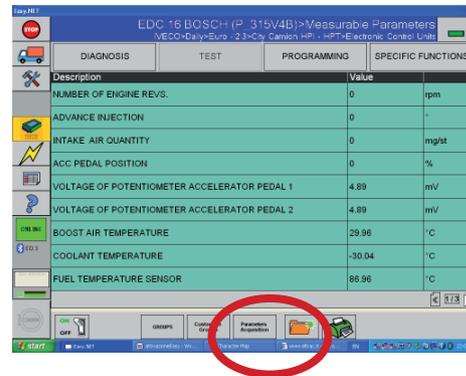
parameters reading

1. parameters reading

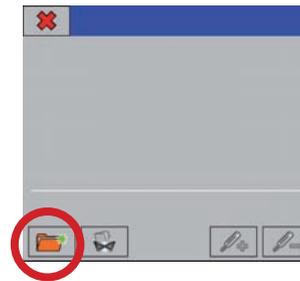
2. detail of parameters buttons area



Button customize groups

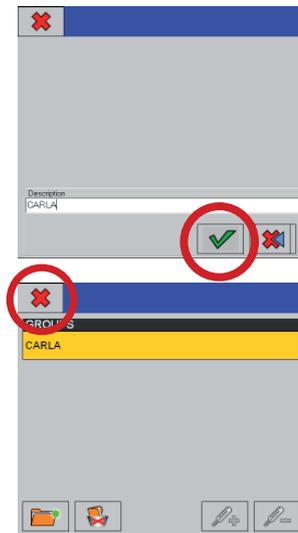


1. select the button **CUSTOMIZE GROUPS**; a new window appears; select the button **NEW FOLDER**

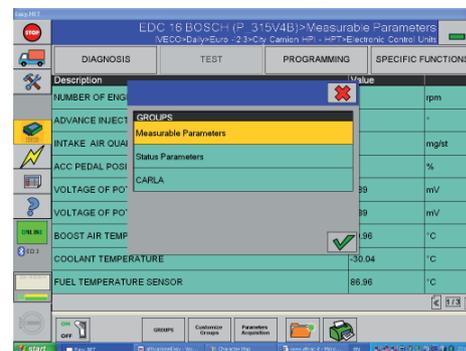


see detail CUSTOMIZE GROUP icons

2. to describe the group you want to create; confirm by pressing the **TICK** icon, the **GROUPS** window appears and in the list the name of the created group appears; the new group is empty



3. select the **CROSS** icon



4. select the button **GROUP**; select a group and the desired parameters (a multiple selection is possible)

ECU diagnosis

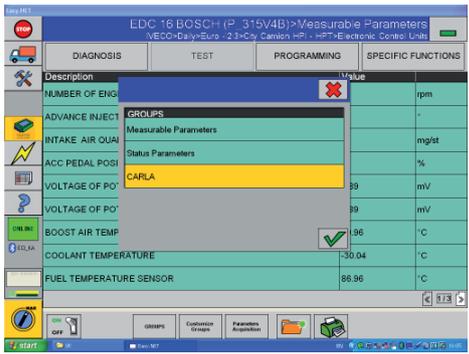
identification code reading

read faults memory

parameters reading

1. parameters reading

2. detail of parameters buttons area



5. return to the button **CUSTOMIZE GROUPS**, select the just created group; the button **ADD PARAMETER** is enabled, select it; the system add to the group the chosen parameter



detail CUSTOMIZE GROUP icons

 **NEW FOLDER key**
it allows you to create a new parameters group

 **CANCEL GROUP key**
it cancels the selected group from the list
it can be disabled (default) or enabled (if the group to be cancelled is selected)

 **ADD PARAMETERS key**
it allows you to add in the created group one or more parameters, which have been previously selected from the other group
it can be disabled (default) or enabled (if the parameters to be added are selected)

 **CANCEL PARAMETERS key**
it allows you to cancel from the created group one or more parameters, which have been previously selected
it can be disabled (default) or enabled (if the parameters to be cancelled are selected)

ECU diagnosis

identification code reading

read faults memory

parameters reading

1. parameters reading

2. detail of parameters buttons area



glossary

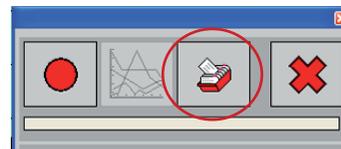
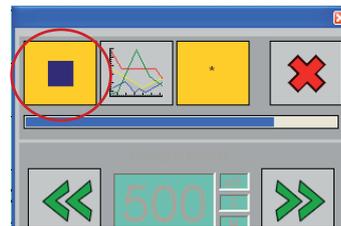
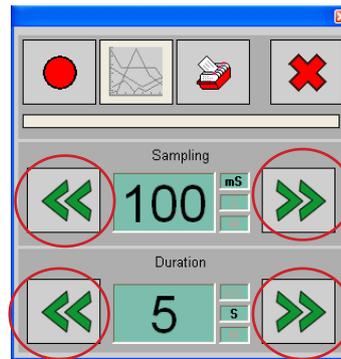
index

Appendix PARAMETER ACQUISITION key

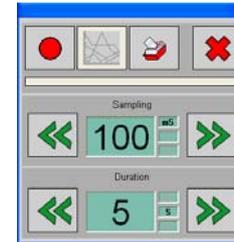
Description	Value	Unit
NUMBER OF ENGINE REVS.	0	rpm
ADVANCE INJECTION	0	°
INTAKE AIR QUANTITY	0	mg/st
ACC PEDAL POSITION	0	%
VOLTAGE OF POTENTIOMETER ACCELERATOR PEDAL 1	4.89	mV
VOLTAGE OF POTENTIOMETER ACCELERATOR PEDAL 2	4.89	mV
BOOST AIR TEMPERATURE	29.96	°C
COOLANT TEMPERATURE	-30.04	°C
FUEL TEMPERATURE SENSOR	86.96	°C

the key is only active under on line mode

window Store Parameter



1. select the **PARAMETERS ACQUISITION** key; the window *Store Parameter* opens



2. select the sample time by using the arrows on the *Sampling* active area

3. select the duration of registration by using the **ARROWS** key on the active area *Duration*

4. select the key **START/STOP** to start the registration (a new window open *Notes* where you can add a comment)

5. close the *Notes* window, the registration starts

6. wait for the end of registration procedure (it is also possible to interrupt the registration, by using the **STOP** key)

7. select the **ARCHIVE** key: the *Archive* window open showing the list of available registration in the archive

ECU diagnosis

identification code reading

read faults memory

parameters reading

1. parameters reading

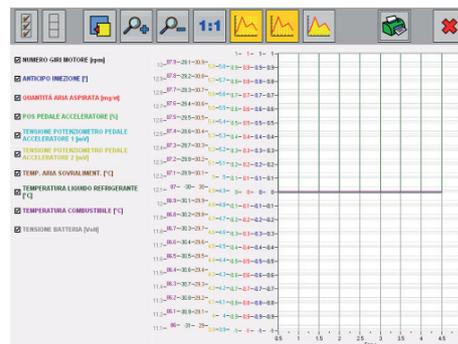
2. detail of parameters buttons area



Archive window

ID	ECU N°	ECU MODELLO	PRODOTTORE	PRODOTTORE
12.09.2000 110020	ECU N° BOSCH	P_315V40		
12.09.2000 110017	ECU N° BOSCH	P_315V40		
12.09.2000 110023	ECU N° BOSCH	P_315V40		
12.09.2000 110031	ECU N° BOSCH	P_315V40		5
12.09.2000 110041	ECU N° BOSCH	P_315V40		6VYVB

Data Reading window

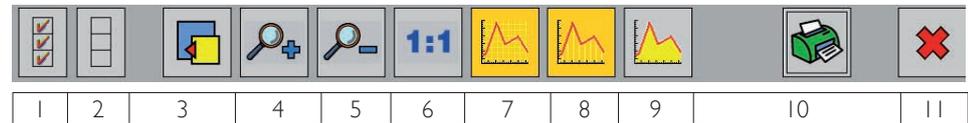


1. from the Archive windows, select a registration; it is possible:



- to cancel it (**CANCEL** key, 1)
- to read data (**REPORT** key, 2)
- to show data (**SHOW** key, 3, opens the *Data Reading* window)
- to print data (**PRINT** key, 4)
- to save data in text format (**SAVE AS** key, 5)
- to go back (**CROSS** key, 6)

2. from the Archive window, select a registration and the **SHOW** key; the *Data Reading* window opens; it is possible:



- to select all parameters (**FAST SELECTION** key, key 1)
- deselect all parameters (**FAST DESELECTION** key, key 2)
- to show the diagram with full-screen (key 3)
- increase, reduce or to bring back to the original display the time range (x-axis, seconds) (key 4, 5, 6)
- to display tables (horizontal or vertical, key 7, 8)
- to colour display the area indicated by the diagram (key 9)
- print (key 10)
- to go back (key 11)