DIAGNOSTIC FUNCTIONS OF THE VALEO BODY CONTROL UNIT (Discovery II)

All the functions may be performed with the ignition turned on or off and the engine running or stopped. We suggest in any case to keep the key inserted so the ECU can detect the presence of a valid key and fob, to avoid that the ECU activate security timers. We suggest also to arm and disarm the alarm with the fob after each diagnostic session on that ECU and wait few minutes to test if the modification are become effective.

WARNING: The alarm system is an essential component for the car because of the immobilizer, the modification of some parameters can arrest the vehicle, solving the problem can be difficult or can require the help of the dealer's expert technicians.

FAULTS FUNCTIONS

Not available.

SETTINGS FUNCTIONS

The VALEO BCU ecu has the READ SETTING and CLEAR SETTING to read and write the settings.
The settings available are many and complex, so we suggest to read carefully the workshop manual to know their meanings. In any case we suggest to use that functions with the maximum care and only if it is necessary.

INPUTS FUNCTIONS

The VALEO BCU ecu has the READ BODY – SECURITY – POWER DISTRIBUTION INPUTS function to read dynamically the parameters.
The parametesr can be analogue-numeric or digital-ON/OFF.

BCU INPUT

Side lights ON-OFF
Main beam ON-OFF
Dipped ON-OFF
Front fog light ON-OFF
Rear fog light ON-OFF
Left indicator ON-OFF
Right indicator ON-OFF
Hazard ON-OFF
Daytime run light ACTIVE-DISABLED
Passenger door switch OPEN-CLOSE
Driver door switch OPEN-CLOSE
Bonnet OPEN-CLOSE
Key lock IDLE-LOCK
Key unlock IDLE-UNLOCK
CDL lock IDLE-LOCK
CDL unlock IDLE-UNLOCK
Inertia SET-TRIGGERED
Ignition key inserted IN-OUT
Reverse idle ON-OFF

Autobox W switch -Autobox X switch -Autobox Y switch -Autobox Z switch -Park Neutral switch ON – OFF
Front left down ON-OFF
Front left up ON-OFF
Front right up ON-OFF
Front right down ON-OFF
Front intermit ON-OFF
Front Wash ON-OFF
Front wiper parked ON-OFF
Front wiper speed (numeric from 1 to 5)
Rear wiper ON-OFF
Rear wash ON-OFF
Heated screen switch ON-OFF

INSTRUMENTS PACK INPUTS

Engine speed signal ACTIVE-NOT ACTIVE
LH DI - RH DI ON-OFF Left and right indicator
LH Tailor DI - RH tailor DI ON-OFF Left and right indicator of the tailor
Seat belt ON-OFF
Diff lock ON-OFF
Transfer neutral ON-OFF
Autobox manual ON-OFF
Autobox sport ON-OFF
Offroad level ON-OFF
Traction control ON-OFF
HDC select ON-OFF *ABS - SRS - Glow plug -Brake -Oil pressure -Alternator -Fuel filter -Transmission temp.* ON-OFF
Check engine -Check ACE -Check HDC -Check SLS ON-OFF
Instr. mileage(Km) Mileage stored in the odometer
BCU Mileage(Km) ON-OFF Mileage stored in the odometer
IP Trip switch ON-OFF

POWER DISTRIBUTION INPUT

BCU ignition pos. 1 ON-OFF
BCU ignition pos. 2 ON-OFF
BCU ignition pos. 3 ON-OFF
IP ignition pos.2 ON-OFF
IDM ignition pos.2 ON-OFF - Intelligent Drivers Module ignition input
BCU switch power power supply for switch and pushbuttons
BCU relay power ON-OFF power supply for the relays
IDM battery (V) ON-OFF Intelligent Drivers Module powersupply

INPUTS FUNCTIONS

The AS10 ALARM ecu has the READ INPUT function to read dynamically the parameters.
The parameters can be analogue-numeric or digital-ON/OFF.

FRONT FOG LIGHTS
REAR FOG LIGHTS
DAYLIGHT RUNNING LIGHTS
LH INDICATOR ENABLE
RH INDICATOR ENABLE
FRONT LEFT WINDOW UP - FRONT LEFT WINDOW DOWN - FRONT RIGHT WINDOW UP - FRONT RIGHT WINDOW DOWN (Warning: once the window is completely close or open you must stop the function or disconnect the Nanocom to avoid the over heating of the motor)

REAR WINDOW ENABLE
SUNROOF ENABLE
FRONT WIPER ENABLE
TAIL WIPER ENABLE
HEADLAMP POWER WASH
HEATED SCREEN
HEATED READ SCREEN LAMP
CHECK ENGINE LAMP

HORN
BBUS ALL Battery baked sounder and horn
BBUS ST Battery baked sounder only
FUEL FLAP
ALARM LED
IGNITION INTERLOCK
CRANK ENABLE
VOLUMETRIC POWER
ROBUST IMMOBILIZATION
TRANSPONDER POWER
LOCK
UNLOCK
SUPERLOCK
SINGLE POINT ENTRY

UTILITY FUNCTIONS

KEY PROGRAM COMPLETE BAR CODE

This function allows you to program one or more keys on the 4 slots available (the suspension plip is not used) by means of the 18 digit bar code attached to the new keys. The code must be inserted without the first 2 and the last 2 digits that normally are “*” or “?” and confirmed with the relative button.
We suggest to use the first slot available. Once the code is inserted and confirmed we suggest to perform the SYNC KEY function to synchronize the fob’s rolling code.

KEY PROGRAM 6 DIGIT INNER CODE

This function allows you to program one or more keys on the 4 slots available (the suspension plip is not used) by means of the 6 digit code printed on the label of the circuit inside the fob. The code must be written in the desired slot and confirmed with the corresponding button.
We suggest to use the first slot available. Once the code is inserted and confirmed the SYNC KEY function is required to synchronize the fob’s rolling code.

RF TEST

This function allows to verify if a fob is received by the BCU and if it is already programmed. Once the function is active the NANOCOM shows the message "Please push one or both buttons of the remote fob". Confirm the operation and wait for the result, which can be one of the following message:

"The signal detected comes from a plip not programmed on this BCU"
"Key X signal has been detected “
"No key signal has been detected".

SYNC KEY

This function allows to synchronize the rolling code of a programmed fob. Once the function is activated the Nanocom shows the message "Please push one or both buttons of the remote fob". Confirm the operation and wait for the result, which can be one of the following message:

“Key sync. done succesfully!”
"No key signal has been detected"
"The signal detected comes from a plip not programmed on this BCU"

RESET NEW ECU FLAG

This function clears the “new ecu” flag.

READ-SET EKA

This function allows to read-modify the EKA code.

SYNC ODOMETER

This function allows to synchronize the BCU mileage with the odometer mileage. Use this function when the odometer flashes.

HOW TO PROGRAM A NEW OR USED KEY

1) Verify by means of the RF TEST function which slots are already used by the programmed keys available.
2) Verify with the RF TEST function that the key that you are going to program is received but not programmed
3) If you have the bar code, insert it by means of the KEY BAR CODE function; otherwise open the fob and read the 6 digit code printed on the label and program it by means of the KEY INNER CODE function
4) Perform a SYNC KEY function verifying that the result is positive
5) Verify that the new key’s fob opens and closes the doors, but remember to keep the other key out of the car with you, in order to avoid to close them in if the fob has problem.

HOW TO ENABLE THE FRONT FOG LIGHT

1) Perform the READ SETTING function.
2) Modify the parameter FRONT FOG LIGHT from DISABLE to ENABLE.
3) Write the new parameters with the WRITE SETTING function.