



NANO/COM

DESIGNERS AND MANUFACTURERS OF CUTTING EDGE AUTOMOTIVE DIAGNOSTIC EQUIPMENT.

FUNCTIONS DESCRIPTION MANUAL

Coverage	Nanocom Evolution
ECU	TD5 engine
List of Functions	<ul style="list-style-type: none">○ Faults○ Settings○ Inputs○ Outputs○ Utility Security Code Learn Security Code Status

DIAGNOSTIC FUNCTIONS OF THE TD5 ENGINE

All the diagnostic functions have to be performed with the Ignition turned on to the second step and the engine may be running or stopped.

FAULTS FUNCTIONS

The TD5 ecu has the READ FAULTS and CLEAR FAULTS to read and clear the fault codes. We do not give any faults explanation or suggestions, in order to avoid giving wrong information to the user, because we think that the faults codes must be collocated in the context of the car which they come from.

SETTINGS FUNCTIONS

The TD5 ecu has the READ and WRITE setting.

INJECTORS – THROTTLE

Injector 1
Injector 2
Injector 3
Injector 4
Injector 5

INJ. TYPE

The settings available on that ecu are the injector codes and the accelerator type, 2 or 3 track.

The injector codes are composed of 5 characters, 4 literal and 1 that can be numeric or literal. The first 4 characters are coupled two by two and the last one is single (for example NN FG 5).

The last character can be different because there are 3 types of injectors built from year 1999 up to now.

Type 1 Type2 Type3

C	M	0
A	E	1
B	F	2
C	G	3
*	H	4
*	J	5
*	K	6
*	L	7
*	M	8

The Nanocom shows all the 3 possibilities for the last character, but when you modify the code you have to write the code as it is printed on the injector; the Nanocom will automatically check the 5° code.

Accelerator

The type of accelerator has to be set according to the pedal mounted on the car. To know if the accelerator is 2 or 3 track, you have to read the inputs and check if the 3° track changes his value when you move the pedal. Normally the euro 2 cars have the 2 track pedal and the euro 3 ones have the 3 track pedal.

WRITE SETTINGS

INFO

The following settings are Read only

Config Tune ID

Fuel Tune ID

ECU Part Number

Homologation

GET VIN

Temperature Gauge
Tachometer
SLABS
Road Speed
Radiator Fan
MIL Lamp
Fuel Used
Fuel temperature
EGR Modulator
RGR Inlet
Cruise Lamp
Cruise Control
Clutch Switch
CAN Bus
Auxiliary Fan
Auto gearbox
Air Conditioning
Active Engine mount
Ambient Sensor
Wastegate Modulator
ECU Status

INPUTS

Inputs Switch

BRAKE SWITCH 1
BRAKE SWITCH 2 (Discovery only)
CLUTCH SWITCH
TRANSFER RATIO
GEAR BOX
CRUISE CONTROL
CRUISE RESUME
SET ACCELERATE
AC CLUTCH REQUEST
AC CLUTCH DRIVE
AC FAN REQUEST
AC FAN DRIVE

Inputs Fuelling

ENGINE SPEED (rpm)
IDLE SPEED ERROR (rpm) – This is a calculated value that shows the difference between the idle speed and the real drive demand
ROAD SPEED (Km/h)
BATTERY (V)
ACCEL. WAY 1(V) - about 0.3V with the pedal released, about 4.7V with pedal to the maximum position
ACCEL. WAY 2(V) - about 4.7V with the pedal released, about 0.3V with pedal to the maximum position
ACCEL. WAY 3(V) – this track must have values very near to the second track.
ACCEL. SUPPLY (V) – this value must stay between 4.9 a 5.1
COOLANT TEMP.(c°) –with ambient temperature up to 30° and engine at idle speed or with low load it should stay between 86° and 88°
FUEL TEMP.(c°) – about 10° less than the coolant temperature
AIR INLET TEMP.(c°) – This value shows the air temperature beyond the intercooler, but it depends also on the EGR modulator exhaust recirculation

AIR FLOW (gr/hr) – from 50 to 60 at 750 rpm (the value increases with the speed and the turbocharger load)

AMBIENT PRESSURE (Kpa) – This value must be 100Kpa at the sea level and decrease when the ground height increases. A decreasing of that value related to the acceleration should indicate that the air beyond the filter is less than required.

MANIFOLD TURBO PRESSURE (Kpa) – at idle speed must be equal to the ambient pressure 100Kpa and it goes up to 210 (Defender) or 230 (Discovery) at engine maximum load

EGR MODULATOR (%)

EGR INLET (%)

WASTEGATE MODULATOR (%) – (discovery only)

CYLINDER BALANCES

CYLINDER 1

CYLINDER 2

CYLINDER 3

CYLINDER 4

CYLINDER 5

from -4 to +4 with constant rpm. Higher values means that the relative injector doesn't work correctly

OUTPUTS

These functions activate the relative outputs for a few seconds allowing you to check them.

Test A/C CLUTCH

Test A/C FAN

Test MIL LAMP

Test FUEL PUMP

Test GLOW PLUGS

PULSE REV COUNTER

TURBO WASTEGATE MOD. (Discovery only)

TEMPERATURE GAUGE

EGR INLET MODULATOR

INJECTOR 1

INJECTOR 2

INJECTOR 3

INJECTOR 4

INJECTOR 5

UTILITY

LEARN SECURITY CODE

This function allows the ECU to learn the security code generated by the 10AS alarm for Defender or VALEO BCU for Discovery (this function requires the use of valid key and fob)

GET SECURITY STATUS

This function allows you to know if the ECU is immobilized or not in the time you run the function.

HOW TO REPLACE THE ECU

- 1) Read the injectors codes directly from the injector or if it is possible from the old ECU by means of the READ SETTING function
- 2) Verify if the accelerator type is 2 or 3 track
- 3) Install the new or used ECU
- 4) Read the injector codes from the ECU by means of the READ SETTING function, modify them, set the accelerator type and write these new data with WRITE SETTING function.
- 5) Perform the SECURITY CODE LEARN to synchronize the alarm with the new ECU
- 6) Write the appropriate map with the WRITE MAP function. You can generate the correct map file with the NANOCOM MAP WIZARD application included. The maps are grouped according to this information: vehicle type, ecu PART NUMBER and world region