

❖ IMAGE**❖ INTRODUCTION**

- **COMMON RAIL INJECTOR & PUMP TESTER (Model: CRT001)** is manufactured by DTDAuto Technology Team, Institute of Physics, Vietnam Academy of Science and Technology in 2014.
- Equipment used to check injector and high-pressure pump for Diesel engine of Bosch, Denso, Delphi and Siemens manufacturers.
- Generate control signal pulses allow user check, rate quality of fuel injector based on parameters as fuel injection quantity, the amount of fuel return line, fuel injection quality and tightness of injector vv...
- Simulate pressure control signals to check Bosch high-pressure pump (for CP1 & CP3)
- Equipment is a useful tool for automobile workshop and vocational training

❖ APPLICATION

- Used to check injectors of Bosch, Denso, Delphi and Siemens manufacturers
- Used to check Bosch high-pressure pump (CP1 and CP3)
- A useful tool used to check, repair Diesel engine in workshop
- A useful tool used for automobile, construction machine technical training

❖ FUNCTION**1. Check injectors****- Check injection flow and quality of injectors**

This function used to create especial electrical pulse to control injector for rinse and discharging with high pressure. It checks injection quantity of each injector and compares with sample injector of the injectors or together. User can see the injection quality of fuel spray as uniformity, stability, flow injection and spray angle vv...

- Check flow

This function used to check fuel injection flow at the same time when electrical pulse is constant.

- Check fuel leakage of injectors

This function used to check the tightness of injectors and slow drop of injector under pressure of system as real pressure on vehicles or bigger.

- **Measure resistance of injectors** (Measuring range: 0.05 ohms÷10 ohms)

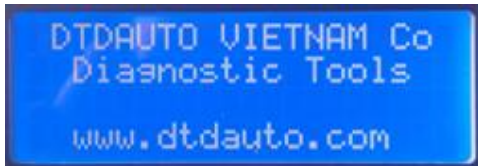
- **Measure inductance of solenoids of injectors** (Measuring range: 10 μ H÷10 mH)

2. Check high-pressure pump quality

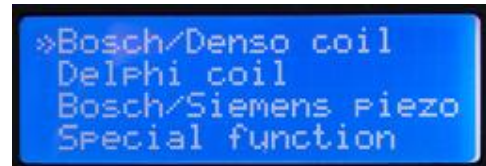
- This function used to check quality and pressure of pump by signal simulation.

* Notes:

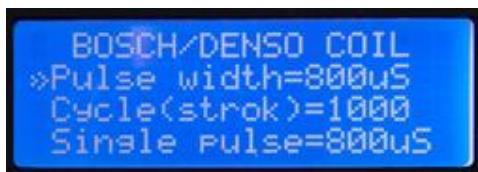
- When using Bosch CP1 high-pressure pump, a maximum pressure can reach 1400 bar
- When using Bosch CP3 high-pressure pump, a maximum pressure can reached 1600 bar
- A constant pressure can maintained at the fuel common rail according to the set pressure value
- Actual pressure of common rail displayed on a LCD screen
- Independent control for CP1 and CP3 high-pressure pump



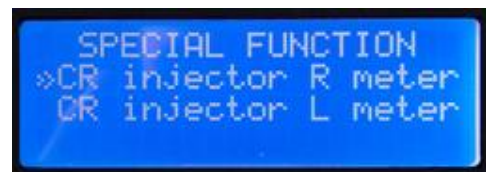
Initialization Screen



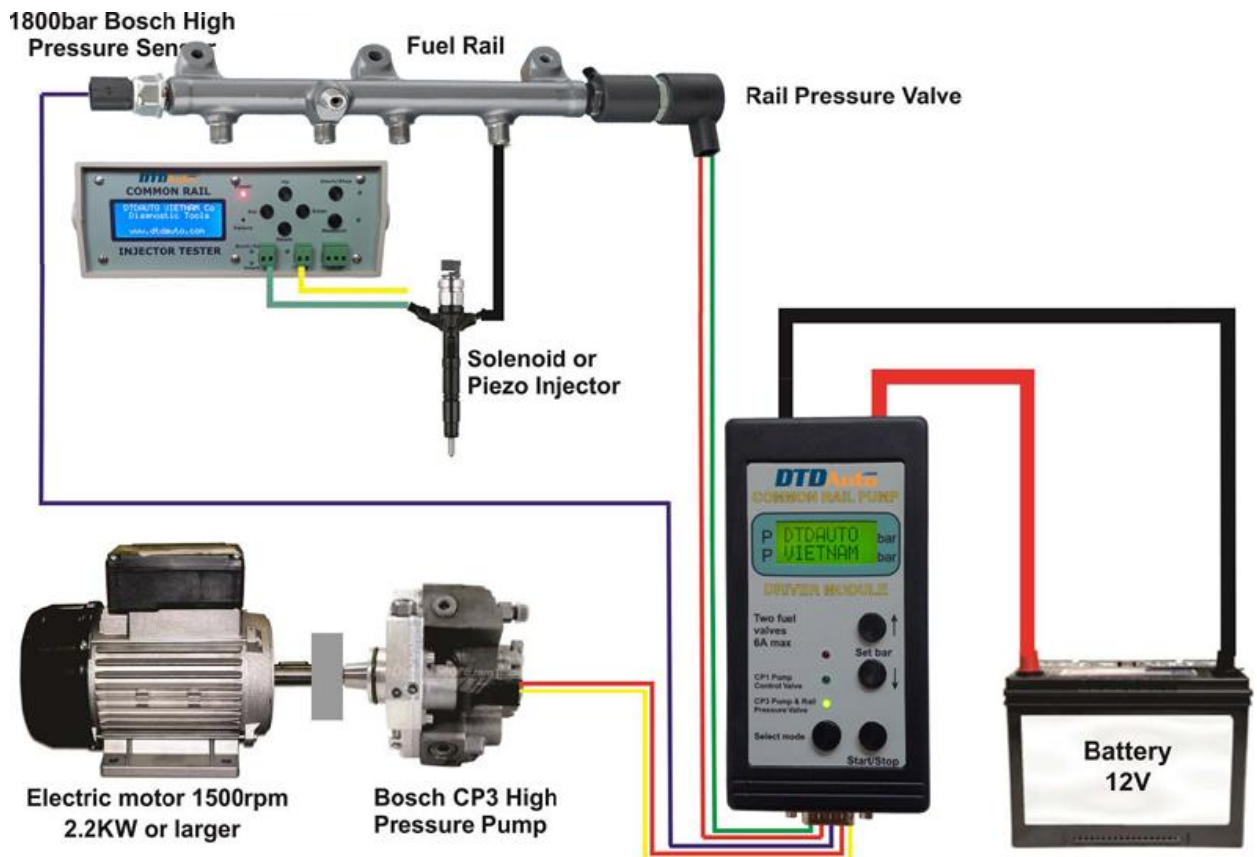
Screen select injector type



Screen check injector



Screen measure resistance and inductance



Structure image of equipment

❖ TECHNICAL SPECIFICATIONS**Fuel injector tester**

- Control high voltage for initial opening of Bosch and Denso solenoid injectors: 70V
- Control low voltage for Delphi solenoid injectors: 12V
- Control high voltage for Bosch and Siemens piezo injectors: 160V
- Adjustment range of pulse width: 160 μ S \div 2000 μ S (*with 50 μ S steps*)
- Adjustment range of engine speed (RPM): 200 \div 4800
- Control frequency of injector: 16.6 Hz
- Maximum current drive solenoid injectors: 30A
- Maximum current drive piezo injectors: 15A
- Resistance measurement: 0.05 ohms \div 10 ohms
- Inductance measurement: 10 μ H \div 10 mH
- Indication: LED screen indicate current selected mode
- Power supply: 220 \div 240 V 50/60 Hz
- Dimensions: 230 mm x 205 mm x 80 mm
- Weight: 2kg
- Outputs short-circuit protection of injectors
- Over current protection for solenoid injectors: over 35A
- Over current protection for piezo injectors: over 15A







High-pressure pump tester

- Number of simultaneously connected valves: 2 valves
- Power supply for the common rail pressure sensor: +5V
- Operating pressure range: 200 bar \div 1600 bar (*max 1400bar when using a 1500bar high pressure sensor depending on CP1 or CP3 pump*)
- Maximum control current for single output: 3A
- Maximum control current for both outputs: 6A
- LED screen indicates the selected operating modes
- Power supply: 12V from car battery or external power with output voltage from 11V DC to 15V DC
- Dimensions: 130 mm x 67 mm x 29 mm
- Weight: 0.25 kg
- Overpressure protection when have high pressure sensor malfunction
- Output short circuit protection when output current exceeds 10A
- Power supply reverse polarity protection
- Pressure sensor circuit protection when output short to +12V or short to ground

❖ ADVANTAGES

- Support various types of diesel engine injectors of manufacturers on the world
- Simple for users, accurate and reliable
- Support to protect over current, overpressure for operating
- Check direct injector and high pressure pump on vehicles

❖ PACKAGES

No.	QUALITY	DESCRIPTION	PICTURE
1	01	Injector tester with LED screen and function buttons	
2	01	Common rail pump tester with LED screen and function buttons	
3	01	Data cable used to control common rail pressure control valve	
4	01	Data cable used to supply power and signal for common rail pressure sensor	
5	01	Power cable	
6	01	User guide	

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