

## Engine control system BOSCH MOTRONIC MED 7.5.10 (FSI) Training board-simulator

Fully functional engine control system is installed in a mobile aluminum frame. This training board-simulator is specially designed to help technical students understand better direct petrol injection (FSI) system MOTRONIC MED 7.5.10. The educational training board is based on Audi/VW OEM components. The integrated engine control system shows the different operation modes of the direct fuel injection/ignition system.

The training board-simulator is a great educational tool that allows students to learn the structure of engine control system, study its components and operation modes, perform various measurements, tests and other diagnostic procedures.

### Technical specifications and functions

- The integrated engine control system with direct petrol injection (FSI)
- Monitoring operation of fuel supply system, injected fuel quantity, spray pattern quality, low fuel pressure of the fuel pump
- Low pressure fuel pump is built into a transparent tank which allows to see its operation
- The adjustable air flowrate simulator demonstrates the function of the mass - air flow meter and air temperature sensor
- Visible work process of spark plugs
- Easy access for high voltage measurements
- Manual adjustment of the engine crankshaft speed
- Integrated simulators allow changes to the parameters of each system component:
  - Lambda probe signal simulation
  - Engine operation temperature simulation
  - NOx sensor parameter simulation
  - Exhaust gas temperature sensor simulation
  - Intake manifold pressure sensor simulation
- Training board has a complete electric wiring diagram of direct petrol injection system (FSI)
- Electric wiring diagram with built – in banana plug jumpers for measurements and simulation of system fault codes  
Ability to monitor the changing operation mode of each system component
- Ability to simulate more than 20 system faults by disconnecting Banana plug jumpers
- The training board has integrated TFT voltmeter. It displays voltage of electronic system component:
  - G212 Exhaust gas recirculation potentiometer
  - G70 Air-mass flow meter
  - G185 Accelerator pedal position sender I
  - G79 Accelerator pedal position sender II
  - G336 Intake manifold flap potentiometer
  - G247 Fuel pressure sensor
  - G187 Throttle valve potentiometer I
  - G188 Throttle valve potentiometer II
  - G71 Intake manifold pressure sensor
  - G62 Engine operation temperature sensor
  - G83 Coolant temperature sensor
  - G235 Exhaust gas temperature sensor
- Intake manifold flap regulation (vacuum pump is required; optional)

### Diagnostic and measurement

#### Oscilloscope/multimeter

- System's parameters are measured by connecting to the banana connector
- Ability to measure electrical signal parameters of each system component (such as sensor or actuator)
- Ability to measure high voltage circuit of the ignition system

#### Control unit diagnosis

- Diagnosis through OBD 16 – pin diagnostic connector
- Electronic control unit (ECU) identification
- Reading/erasing fault codes
- Displaying the operating system parameters (live data)
- Activating the actuators (Depends on the control unit)
- Throttle valve adaptation
- Control unit encoding/configuration

#### Other

- The stand has a closed structure – internal wiring is not visible
- Power supply: 220V
- Dimensions approx.: (HxLxW) 1820x1360x500 mm
- Nett weight approx.: 105 Kg
- Made in Lithuania
- CE certificate

#### Optional accessories

- Examination console for 10 hidden fault simulations
- Vacuum / pressure pump
- Automotive oscilloscope
- [OBD diagnostic scan tool](#)



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