

## Product Overview

The Sequential Fuel Injection System Trainer (BT-07FIS) is an educational training unit designed to demonstrate the operation and control of a modern electronically controlled fuel injection system used in automotive engines. The system includes real automotive components such as ECU, high-pressure fuel pump, common rail, electronic injectors, sensors, and actuators. It allows measurement of electrical signals and supports diagnostic testing and fault simulation for practical training. The trainer operates on 220V AC supply with internal 12V DC conversion and is mounted on a mobile frame for laboratory use.

## Technical Specifications

### System Type

- Automotive Sequential Fuel Injection Training System
- Common Rail Electronic Fuel Injection Demonstration Trainer

### Fuel Injection System

- Injection Type: Electronically controlled sequential fuel injection
- Fuel System: Common rail high-pressure system
- High Pressure Pump: Automotive type high-pressure fuel pump
- Injectors: Minimum 4 electronic injectors
- Fuel Tank Capacity: Minimum 8 liters
- Fuel Filter: Automotive type with fuel pump assembly
- Fuel Pressure Range: 800 – 3000 bar
- Electronic Control System
- ECU: Automotive Electronic Control Unit
- Diagnostic Interface: Standard diagnostic socket (OBD compatible)
- Fault Simulation: Built-in fault insertion unit for training purposes

### Sensors

- Mass Air Flow (MAF) Sensor
- Rail Pressure Sensor
- Temperature Sensors (Air / Coolant)
- Crankshaft Position Sensor
- Accelerator Pedal Position Sensor
- Fuel Metering Valve Sensor

### Actuators

- Electronic fuel injectors
- Fuel pressure control valve
- EGR valve actuator

### Structure

- Mounted on heavy-duty steel mobile frame
- Lockable caster wheels for easy movement



### Training Panel

- Silk-screen printed schematic diagram
- Clearly marked system layout
- Measurement terminals for:
  - Voltage
  - Current
  - Resistance
  - Power Supply
- External Supply: 220V AC  $\pm 10\%$ , 50/60 Hz
- Internal Supply: 12V DC with overload and short-circuit protection
- Emergency stop switch
- Electrical fuse protection
- Insulated wiring and connectors
- Year of Manufacture 2026