

The MT-4002V model is a teaching support intended for studying the operation and the components of a 12V automotive charge and start-up circuit.



OBJECTIVES

- Learn the operation of the 12V charge and start-up circuit.
- Observe, analyse and understand the operation of all components of the system.
- Reading and understanding electrical diagrams.
- Measure signals on the in- and out-puts of the different components.
- Study the diagnosis methodology with an internal breakdown box of the model.
- Observe and analyse the alternator Amps flow rate in dependence of its speed.

DESIGN

Freestanding aluminium frame with a set of real automotive components (alternator, starter motor, battery...), an alternator starter motor deck with sockets for measurements, a consumers management deck and a pre- and post-heating deck with measurements facility.

SPECIFICATIONS:

Alternator & Starter deck:

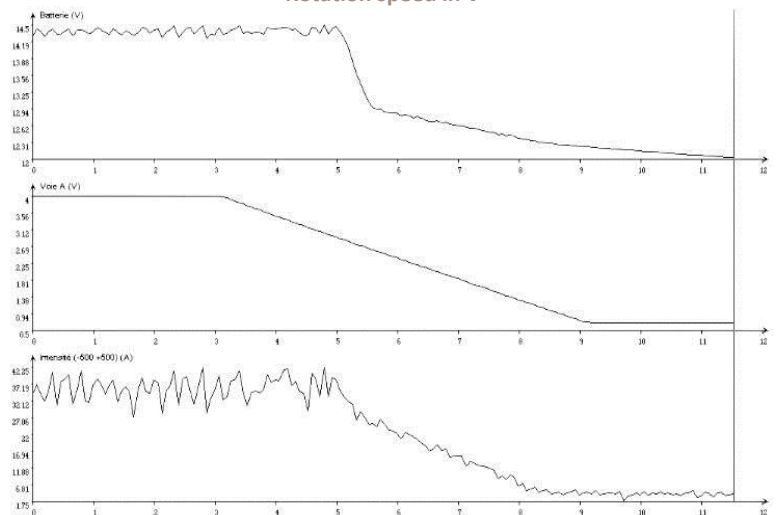
- Electrical diagrams of starter motor and alternator (with measuring sockets).
- Study monofunction or multifunction regulators on the alternator section (choice by switch).
- Key ignition switch.

Consumer's management deck:

- Several consumers can be activated / deactivated as to set the alternator in charging position, create current leakages, etc.
- Electrical motor with variation on/off switch.
- Electrical motor speed control potentiometer.
- Voltage output sockets for electrical motor speed measurement.



Rotation speed in V



Pre- and post-heating deck:

- Diagram of pre- and post-heating control unit with in/out measurement sockets.
- Switch to apply voltage.
- Potentiometers for adjusting water and air temperatures, the position of the accelerator pedal.
- Consumption of glow plugs (same as in reality).

Faults creation:

Access at the back of the model to a "breakdown" box for simulation of faults or breakdown situations on both alternator and starter motor training decks.



Charge and start-up professional tool:

The **MT-4002V** teaching model comes with a workshop's well-spread professional **EXXOTEST® MI250** charge and start-up controller. It performs simultaneously different kinds of measurement and others functions:

- Battery voltage measurement.
- Current measurement with flow direction (battery charge or discharge).
- Memorization of over-voltage.
- Memorization of minimum voltage and maximum current draw during start-up.
- Glow plug diagnosis before removal.

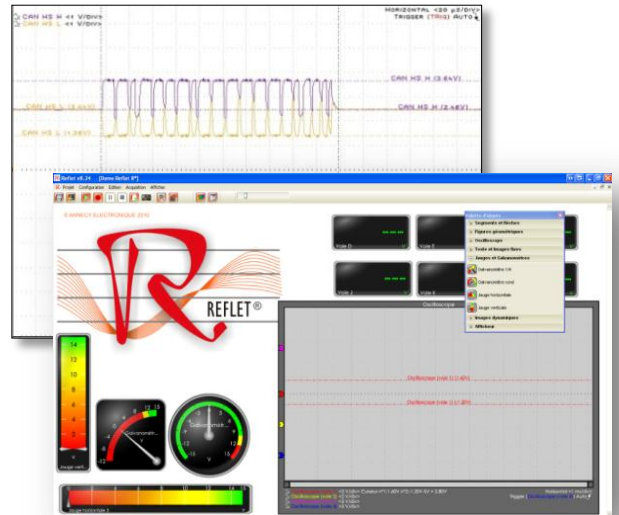
OUTFITS :

For better work with results of measuring you can exploit our measurements logging system **REFLET®**. It is specifically designed for automotive applications. It allows real-time playback and recording, curves tracing, and more. **REFLET®** also provides a 3D instruments interface and dynamic visualization of 3D objects.

As an option you can apply with this teaching model an acquisition system dedicated to automotive **REFLET®** that allows using:



- USB connection,
- 4 traces analog and digital oscilloscope module,
- 3D instruments interface, dynamic visualization of 3D object - **EXXOTEST®** innovation,
- 2D tools interface.



OTHER



- For this teaching support you can order a special MT-table with castors.
- Power supply: 220/110Vac – 50/60Hz
- Size: 1200 X 800 X 1200 mm (transportation box)
- Gross weight : 80 Kg (ready to ship)
- Net weight: 70 Kg

Find all **EXXOTEST®** products on the Internet: www.exxotest.com