Fundamentals of Electrical Engineering

TP 1010



Basic electrical engineering
Can you limit your training to DC and AC technology now and in the future? Then this equipment set, with the small Combiboard Fundamentals EduTrainer and a reduced range of components, is an economical alternative to TP 1011.

A basic knowledge of circuits is becoming more important for many of occupations to understand functions and processes in complex systems.

The examples used by the training package Fundamentals of Electrical Engineering are taken from this field. The learning objectives include the electrical variables and their relationships with each other. With the project-based exercises, the content can be clearly taught through theory and practical tests. Measurements illustrate relationships, and promote understanding and in-depth learning.

The component set contains all of the components for carrying out basic exercises for DC and AC technology. The clearly labeled slots of the storage panel provide order and structure.

Training content

- **Direct current technology**
  Voltage, current, resistance, conductance, Ohm's law, using measuring devices, energy and capacity, series and parallel connections, voltage dividers, non-linear resistors, bridge circuit, voltage source
- **Alternating current technology**
  Electric field, induction, capacitor and coil in DC and AC circuit, series and parallel connection, active resistance, reactance and impedance, phase shift of current and voltage



On the safe side!
The system is completely equipped with safety plugs and sockets based on state-of-the-art technology.

This applies for all electrical connections - whether on the components or on the Combiboard. The equipment set is therefore ideal for use in any laboratory, even if there are high voltages present. Safety first!

Complete equipment set TP 1010	**8023958**

The most important components at a glance:

1	1x Combiboard Fundamentals EduTrainer	571810
2	1x Set of components for electrical engineering	8005374
3	1x Safety jumper plugs, 28 pieces, grey-black	571809

Necessary accessories, also order:

IEC power cable (→ page 28)
4 mm Safety laboratory cables (→ page 91)
2x Digital multimeter (→ page 34)
Digital storage oscilloscope (→ page 33)

Possibilities of expansion:

Equipment Set TP 1022 Installation and Relay Technology (→ page 16)	
Equipment Set TP 1025 Motor Vehicle Mechatronics (→ page 17)	
A4 Transport and Storage Case (→ page 31)	8197368
PSU Remote Software	574179

1



2



3



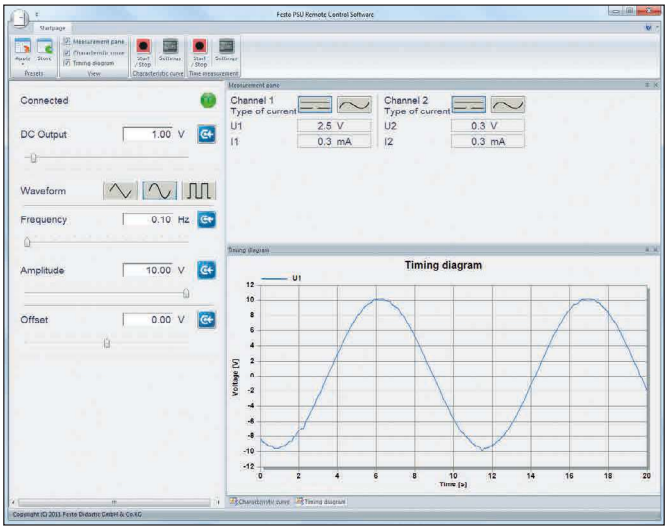
PSU Remote Software

The setting and measurement software for TP 1010, TP 1011 and TP 1011 M

Basic functions:
- Setting the variable DC output
- Setting the signal shape, frequency, amplitude and offset of the frequency generator
- Saving and recalling parameter sets

Also with the built-in measuring module on the power supply unit:
- Direct measured value indicator for voltage and current inputs
- Recording of measured values over time
- X-Y comparison of measured values
- Automatic curve recording with configurable DC voltage output

USB cable with angled USB plug on power supply side, length: 2 m



Recommended Learning Material

Workbooks (→ page 162)



Fundamentals of Direct Current Technology

Campus license:

de	567207
en	567209
es	567211
fr	567213

Fundamentals of Alternating Current Technology

Campus license:

de	567215
en	567217
es	567219
fr	567221

Note: Campus licenses include the PDF version of sample solutions, educational instructions, and worksheets for learners.

Courses on Festo LX

→ Fundamentals of DC Technology
→ Fundamentals of AC Technology