AC/DC Power Circuits and Transformers

TP 8015-3



Equipment Set TP 8015-3

220 – 240 V, 50 Hz	**8093321**

The most important components at a glance:

1x Resistive Load	594820
1x Inductive Load	594821
1x Capacitive Load	594822
1x Three-Phase Transformer Bank	594823
1x Single-Phase Transformer	594824
1x Three-Phase 400 V DC 230V Power Supply	594825
1x 24V AC Power Supply (Wall Mount)	793290
1x AC 230V DC 325V Variable Power Supply	* 8089266
1x Data Acquisition and Control Interface DACI-2	594499

* Can be replaced by the 4-Quadrant Power Supply and Dynamometer Controller

Necessary accessories, also order:

2x Digital Multimeter	579782
1x Connection Lead Set and Grounding Kit	595916
1x Three-Phase Power Supply and Safety Unit	594826
1x Mobile Frameline, Complete Model Without Energy Duct	8075133
1x Tabletop Workstation (DIN A4)	8153360
1x Tabletop Double-Sided Workstation	8158409

Note: A computer with a Windows 7/8/10 operating system is required.

Provide a complete learning experience in power circuits and transformers.

This training package provides hands-on experience with the basics of DC power circuits and single- and three-phase AC power circuits and transformers. It combines TP 8015-1 and TP 8015-2 without duplication of hardware components.

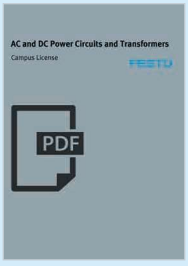
The training package contains the necessary equipment to perform the practical learning activities of the “DC Power Circuits”, “Single-Phase AC Power Circuits, and “Three-Phase AC Power CIrcuits”, “Single-Phase Transformer Banks”, and “Three-Phase Transformer Banks” courses available on Festo LX (subscription required) or as a campus license (sold separately).

Learners follow step-by-step instructions to connect modules and explore DC circuit principles, such as resistance, voltage, current, and power, as well as series and parallel configurations. They also study AC circuit concepts, including sine waves, phase angles, phase shifts, reactance, and impedance. The program then moves on to transformer topics, covering design, polarity, regulation and losses, the effect of frequency on transformer rating, autotransformers, and various three-phase transformer configurations.

The data acquisition and control interface features built-in meters, an oscilloscope, a phasor analyzer, data tables, graphs and a harmonic analyzer—enabling comprehensive analysis while minimizing time spent switching connections or reading different instruments. It can simultaneously measure up to four high-voltage and four high-current inputs, providing accurate, real-time data for studying complex electrical and mechanical interactions.

Recommended Learning Material

Workbooks (→ page 162)



Campus license:

en	8093410
de	8147580
fr	8231072

Notes: The campus license “AC/DC and Transformers” includes the student and instructor manuals in PDF of the following workbooks: “DC Power Circuits”, “Single-Phase AC Power Circuits”, “Single-Phase Power Transformers”, “Three-Phase AC Power Circuits”, and “Three-Phase Transformer Banks”. Printed workbooks available upon request.

Courses on Festo LX:

- → Single-Phase Power Transformers
- → DC Power Circuits
- → Three-Phase AC Power Circuits
- → Single-Phase AC Power Circuits
- → Three-Phase Transformer Banks