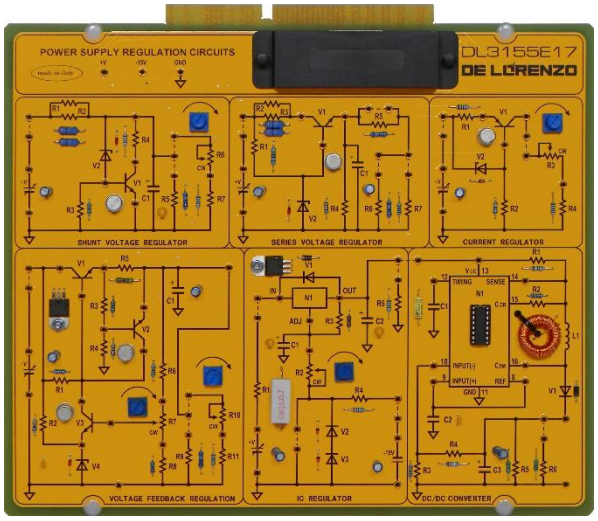
ELECTRONICS

POWER SUPPLY REGULATION CIRCUITS



DL 3155E17

Designing and building electronic circuits to solve practical problems is an essential skill in electronics and computer engineering.

With this worksheet, students can study parallel, series, and feedback voltage regulation and current regulation circuits using BJT transistors, as well as regulators and DC/DC converters using integrated circuits.

THEORETICAL TOPICS

- Regulated Power Supplies
- Parallel Voltage Regulator
- Introduction to the Zener Diode
- Parallel Voltage Regulator with a Zener Diode
- Connected in Parallel with the Load
- Parallel Voltage Regulator with a Bipolar transistor
- Series Voltage Regulator
- Current-Limited Feedback Voltage Regulator
- Series Current Regulators
- Regulator ICs and DC/DC Converters
- General Characteristics of Monolithic Regulators
- Operation of the Three-Terminal Regulator (LM317T)
- DC/DC Converter; Operating Characteristics (LM78S40N)
- Fault Simulation

CIRCUIT BLOCKS

- Parallel voltage regulator
- Series voltage regulator
- Current regulator
- Feedback voltage regulator
- Integrated circuit regulator
- DC/DC converter

Complete with theoretical and practical manual.
Dimensions of the board: 297x260mm

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CAI SOFTWARE:
Each board of the TIME system can be supplied complete with a Student Navigator software that allows students to perform their learning activities through a Personal Computer, without the need for any other documentation.
Ordering code: please add SW after the code of the board (i.e. DL 3155E17SW)

Required:
POWER SUPPLY NOT INCLUDED
Base frame with power supply (completed with connecting cables):

- **DL 3155AL3** - Base frame with power supply and interface to pc and virtual instrumentation
- **DL 3155AL2** - Base frame with power supply and interface to pc

Basic power supply (connecting cables not included):

- **DL 2555ALF -** DC power supply ±5 ±15 0±15 Vdc, 1A
- **TL 3155AL2 -** Connecting cables

Choosing this power supply, for the execution of the experiments, it is normally required the use of an oscilloscope and two multimeters.

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