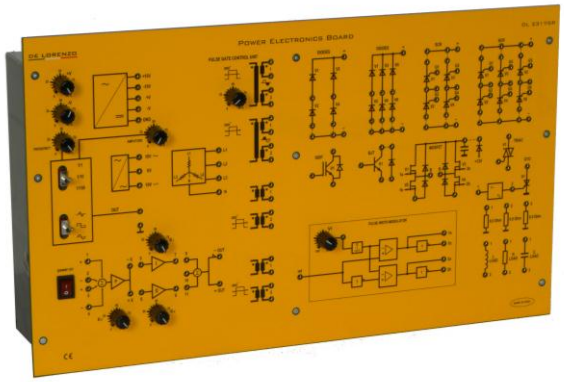
ELECTRONICS

Power Electronics Board



DL 2317SR

This board allows the study of several power electronics circuits, as detailed here under.

Technical Features

The following components are available on the board:

- Diodes for circuit M1U, M2U, M3U, M6U
- SCR for circuit M1C, M2C, M3C, M6C
- H bridge with MOSFET
- Pulse generator for SCR control
- Generator for H bridge control (PWM)
- Function Generator
- Three-phase generator (12 Vpp)
- Single-phase source (12 Vpp)

Built-in power supply.

Experiments - DL 2317SR

- Single-phase uncontrolled rectifier M1U and B2U
- Single-phase controlled rectifier M1C and B2C
- Three-phase, single wave, uncontrolled rectifier B3U
- Three-phase, single wave, controlled rectifier B3C
- Three-phase, full wave, uncontrolled rectifier B6U
- Three-phase, full wave, controlled rectifier B6C
- Pulse Width Modulation (PWM) circuit to control direct current
- PWM to control a motor with a H bridge
- PWM on H bridge to understand the principle of inverter

Experiments ON THE DC SUPPLY

- Basic pulse width modulation (PWM) circuits
- PWM with H-circuit, DC-evaluated
- PWM with H-circuit, sine-evaluated

Experiments WITH THE GTO (GATE-TURN-OFF)

- Firing pulse conditioning for the GTO
- The GTO as a DC actuator

Motor Board

DL 2318SR

Universal speed control system.

- With integrated four-quadrant display
- With variable centrifugal mass
- Dual-channel encoder
- Built-in four-quadrant amplifi er

Technical features

- Linear H bridge to have full motor control
- Dual optical sensor for speed and direction
- Main Motor/Generator 12 V, 3000 rpm, 1.2 A, 3.2 Ncm
- Load to be connected to the secondary Motor/Generator
- Shunt to limit and measure the current