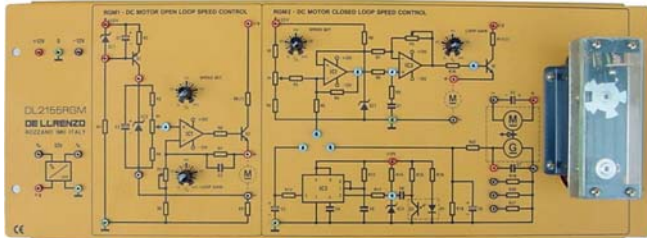




Speed Control of a DC Motor



DL 2155RGM

This board has been designed to highlight the speed control techniques of a direct current motor.

The board is basically divided in two sections: the first one allows the study of the open loop speed control, while the second section deals with an actual closed loop speed control of the system.

The group under test, composed of a motor, a dynamometer and a speed optical transducer, is placed on the board.

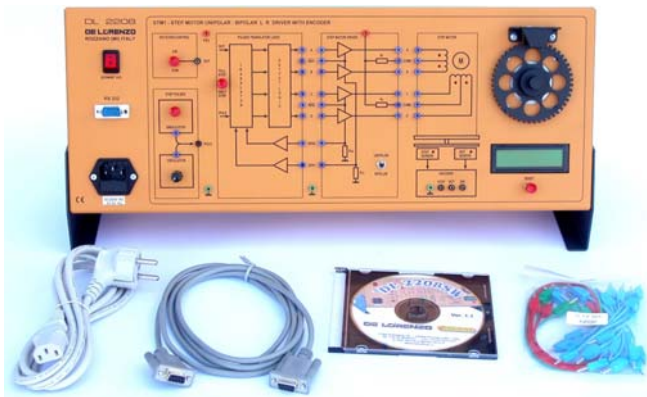
The board is supplied complete with a set of stackable, plug-in cables of suitable lengths and colours and with a training manual.

Power supply: 12Vac, 2A, 50/60Hz and 15Vdc, 300mA

Experiments

- Study of open loop and closed loop speed control systems
- Analysis of the static and dynamic operation of an open loop controller
- Analysis of the static and dynamic operation of a closed loop controller
- Measurement of the speed through an optical transducer connected to a F/V converter or through a tachogenerator

Step Motor Control



DL 2208

This board is designed to provide a valid support for the study of the operation and of the application criteria of these important electromechanical components.

It allows the students performing study and experimentation concerning the driving of a step motor, unipolar or bipolar.

The rotation can be performed with increments of a single step or with continuity, at a variable speed.

Position and direction are indicated by a disk.

An LCD display allows showing the number of steps, the number of turns, the rpm, the rotation direction and the selected parameters of the controller.

Technical Features

- Step angle: 1.8°
- Number of phases: 4
- Max. power: 16 W
- Sense of rotation: reversible
- Current/phase max: 1.5 A
- Variable frequency from 20 Hz to 500 Hz through potentiometer

Power supply: 90/260 Vac, 50/60 Hz

Experiments

- Analysis of the operation of a step motor
- Analysis of the control criteria and of the power modules
- Full step or half step
- Variable speed rotation control
- Inversion of the rotation direction
- Study of an incremental position encoder