

D.C motor Speed control trainer built around a small permanent magnet D.C. motor is designed to bring out the salient features of such a system. Facilities are available to directly measure the principal performance features of the speed control system, viz, steady state error and load disturbance rejection, as a function of the forward path gain. In addition, the experimental work involves the determination of the motor transfer function and the characteristics of the tachogenerator. An important feature of the unit is the built-in absolute speed measurement through photo diode pick-up from a slotted disk followed by a frequency counter. Variable loading of the motor is achieved by a built-in eddy current brake.



Features:

- Closed loop motor speed control with eddy current brake
- Compact system-no mechanical hassles
- Photo diode speed sensor
- Digital speed display

Experiments:

- 01 Effect of loading on the speed of the motor in the open loop
- 02 Steady state error variation with forward gain
- 03 System time constant variation with forward gain
- 04 Effect of forward gain on disturbance rejection
- 05 Determination of the motor transfer function and tachometer characteristics

Specifications:

- 01 Speed control of a 12V,4W permanent magnet D.C. motor
- 02 Speed range : 0 to 2500 rpm (typical)
- 03 Photo diode based speed sensing
- 04 4-digit speed display in rpm
- 05 Electronic tacho generator for feedback
- 06 Separate unit for motor in a see through cabinet
- 07 Smooth, non-contact eddy current brake for loading
- 08 Built-in 3½ digit DVM for signal measurements
- 09 Built-in IC regulated internal power supply
- 10 The unit is operative on 230V \pm 10% at 50Hz A.C. Mains
- 11 Adequate no. of patch cords stackable from rear both ends 4mm spring loaded plug length 50cm.
- 12 Good Quality, reliable terminal/sockets are provided at appropriate places on panel for connections/observation of waveforms
- 13 Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References

Other Apparatus Required:

- * Cathode Ray Oscilloscope 20MHz.

Note: Specifications are subject to change.

Tesca Technologies Pvt. Ltd.

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension,
Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-141-2771791 / 2771792; Email: info@tesca.in, tesca.technologies@gmail.com
Website: www.tesca.in