



**Sciencetech 2457 DC Motor Speed Control** is built around a compact permanent magnet DC Motor. The system can readily be configured to control speed of DC Motor using Pulse Width Modulation technique. Motor load can be varied by using built in eddy current brake . 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.

### Features

- Closed loop motor speed control with eddy current brake
- Slotted disk for speed measurement
- Separate unit for Motor in a see through cabinet
- LCD for speed and voltage display
- Square wave generator
- Precise signal conditioning
- Sensitive, linear, stable and accurate

### Scope of Learning

#### Study of:

- Effect of loading on the speed of the Motor in the open loop (Eddy Current Brake)
- Effect of loading on the speed of the Motor in the closed loop
- Speed control of a DC Motor
- Speed control of a DC Motor using variable gain error amplifier
- Steady state error variation with forward gain
- Characteristics of tachometer with PC interface
- Speed control of a DC Motor using variable gain error amplifier using PC interface

### Technical Specifications

<b>DC Motor</b>	: 12V DC
<b>Speed sensing</b>	: IR Sensor
<b>Digital Voltmeter</b>	: $\pm 10V$
<b>Electronic Tacho Generator:</b>	0-2400 RPM
<b>Square wave generator</b>	: 500 Hz
<b>Test Points</b>	: 6 nos.
<b>Power Supply</b>	: 110 / 230V $\pm 10\%$ , 50/60Hz
<b>Dimension (mm)</b>	: W326 X D252 X H52
<b>Operating Conditions</b>	: 0-40 <sup>o</sup> C, 80% RH
<b>Weight</b>	: 1.5 Kgs. (approximately)
<b>Motor Cabinet</b>	
Dimension	: W230 X D130 X H130
Weight	: 1.6Kg (approximately)
<b>Included Accessories</b>	: Mains cord, Cabinet for Motor assembly, Connecting cable - 1no, Path cord 8"-2nos