



In Control System there are different types of Controllers. Study of two-position mode as ON/OFF Controller and continuous Controller modes as PID controller is a very important part of control engineering. To have a basic idea and practical hands on Controllers PID Techbook has been designed to be used by students to investigate the principles of PID by applying different signals.

**Sciencetech TechBook 2451 Overview of PID Controller** Students can study two-position mode as ON/OFF Controller and continuous Controller modes as P-control mode, I-control mode, D-control mode, PI-control mode, PD-control mode and PID control mode. These modes of Controller can be performed individually and also with different combinations in open loop and close loop system. Users can easily understand the difference between the different modes of Controllers used. Square wave, triangular wave generator variable DC supply as set point and disturbance generator are provided on board. Effect of PID can be seen on first order system and second order system in open loop and close loop system.

### Features

- Proportional, Integral and Derivative functions can be checked on same board (configurable as P, I, D, PI, PD, PID)
- ON/OFF Controller
- Square and triangular wave with variable frequency for testing PID
- Variable DC for set point
- Error detector
- 1st 2nd order system & II order system
- In built power supply
- Dead zone and disturbances generator
- Voltmeter for DC measurement
- Signals can be observed and measured at various blocks
- On board Touch Switch

### Scope of Learning

#### Study of :

- 'On/Off' Controller
- Open loop system
- Close loop system
- Close loop system with disturbance
- Steady state error
- Proportional Controller
- Integrator Controller
- Derivative Controller
- Proportional + integrator (PI) Controller
- Proportional + derivative (PD) Controller
- Proportional + integrator + derivative (PID) Controller
- Proportional + integrator + derivative (PID) in close Loop
- Proportional + integrator + derivative (PID) with first order system
- Proportional + integrator + derivative (PID) with Second order system

### Technical Specifications

Proportional Band	: 5% to 55%.
Integrator	: 1 msec to 11 msec
ON/OFF controller	: ON = 12 V, OFF = -12 V
On board Generator	: Square Wave & Triangular Wave Generator of 0-156 Hz, Two Variable DC Supply +6V,+10V
Interconnections	: 2 mm socket
Test Points	: 5 nos
Dimensions (mm)	: W 326 x D 252 x H 52
Power Supply	: 100V - 240V AC, 50/60Hz
Weight	: 1.5Kg (approximately)
Product Tutorial	: Online on <a href="http://www.SciencetechLearning.com">www.SciencetechLearning.com</a>
Operating Conditions	: 0-40° C, 85% RH
Included Accessories	: Patch cord 8”(2mm)-14 nos.  Patch cord 12” (2mm)- 6 Nos. Mains cord-1no.  TehBook Power Supply-1 no.

