

# Instrumentation Trainer

## Introduction

- This trainer is used to perform all the experiments of INSTRUMENTATION TRAINER.
- It is useful for experimentation as well as project work .
- This trainer is designed in fashion, all sections can be operate individually.
- This is useful for and B.Tech And M.Tech. For research / Project work we give Re-programmable facility & PC interface with Lab view Easy to perform, This trainer is very useful for ECE, EEE, EE, ME and I&C Engg. streams.

## Features

- On board Circuits block diagram , Different test and measuring points,
- On board +5v ,+12v
- and -5v power source ,
- Analog Voltmeter to measure output,
- Different type of transducers learning
- Input 230 AC voltage operated.



## Technical Specification

- Measure output , 5V TO 12V operated circuitry ,Test points for measuring ,Concept diagrams printed on PCB, Facility to measure output voltages using voltmeter. Easy to plug and play on board voltage source, Bridge rectifier to remove ripples.

## Sensors

- **LVDT:** AC TO AC 20mm linear variable transducer to measure displacement, Microphone for converting sound signal into electrical signal with a high gain amplifier, Temperature sensor with change 10mv/1 Degree, NTC type thermistor temp sensor, J Type thermocouple: For measuring high temp with high accuracy ,
- **SOUND INDICATOR:** Provide high volume beep,
- **HALL SENSOR:** WH315 sensor is used to sense magnetic field and study of hall effect,
- **STRAIN GAUGE:** Strain gauge for measuring stress and force and O/P with high gain amplifier, ultrasonic transceiver Ultrasonic sensor for measuring distance upto 252 inch.

## Amplifiers

- Instrumentation amplifier with high gain value, Amplifier which will amplify differential o/p, CLASS-A amplifier:
- Class A amplifier with gain variation, Inverter amplifier to invert input signal at 180 degree, X100
- AMPLIFIER: Voltage Amplifier of 100 gain to amplify signals

## Square Wave Generator

- Generate square wave of 5v with 555 timer
- BAND PASS FILTER: Band pass filter 1 to 6KHz, ,