

# Optical and Temperature Transducer Trainers



- Self contained trainers
- Each with 4 different Transducers
- Study of Transducer controlled switching /alarm systems
- On board signal conditioning circuitry
- Built-in DC power supply
- Functional blocks indicated on- board Mimics
- Fully documented Student Workbook and Operating Manual with each trainer
- Compact size

Optical and Temperature transducers play a very important role in today's industrial and domestic applications. Scientechnical Optical and Temperature Transducers Trainers are unique in design because each covers study of 4 different types Transducers. Experiments covering fundamental characteristics of transducers and study of transducer controlled switching / alarm systems can be performed with these trainers

The following topics are also covered in the manuals of each Trainer.

- Introduction
- Theory
- Types & selection of Transducers
- Applications of Transducers
- Glossary of terms



**ST2301 Optical Transducer Trainer**



**ST2302 Temperature Transducer Trainer**

*... the best learning tools !*

# TRANSDUCER TRAINERS

## Optical Transducer Trainer ST2301

**Transducers** : 4Nos.  
a) Photoconductive Cell  
b) Photovoltaic Cell  
c) Phototransistor  
d) PIN Photodiode

**Light Source** : Filament Lamp

**Signal Conditioning:  
Circuitry** : 1) Power Amplifier  
2) Current Amplifier  
3) DC Amplifier  
4) Comparator  
5) Electronic Switch  
6) Buffer

**Input Circuits** : Rotary and Slide  
Potentiometers

**Output Circuits** : 1) Moving Coil Meter  
2) Relay  
3) LED

**Interconnections** : 4mm banana sockets

**Power Supply** : 230V $\pm$ 10%, 50Hz

**Dimensions** : W419,H90,D255

**Weight** : 3 Kgs. (approx.)

**Accessories** : Line cord, Manuals,  
Set of patch cords.

### Experiments that can be performed

1. Characteristics of Filament Lamp.
2. Characteristics of Photovoltaic Cell.
3. Characteristics of Photoconductive Cell.
4. Characteristics of Phototransistor.
5. Characteristics of PIN Photodiode.
6. Light Controlled Switching System  
... and many more

## Temperature Transducer Trainer ST2302

**Transducers** : 4Nos.:  
a) N.T.C. Thermistor  
b) Platinum R.T.D.  
c) Type K Thermocouple  
d) IC Temperature Sensor

**Heating Element** : Wirewound resistance

**Signal Conditioning:  
Circuitry** : 1) Instrumentation Amplifier  
2) X100 Amplifier  
3) DC Amplifier  
4) Comparator  
5) Electronic Switch

**Input Circuits** : Rotary & Slide  
Potentiometers

**Output Circuits** : 1) Relay  
2) Buzzer

**Interconnections** : 4mm banana sockets

**Power Supply** : 230V  $\pm$  10%, 50Hz

**Dimensions** : W419,H90,D255

**Weight** : 3 Kgs. (approx.)

**Accessories** : Line cord, Manuals,  
Set of patch cords.

### Experiments that can be performed

1. Characteristics of IC temperature Sensor
2. Characteristics of NTC Thermistor
3. Characteristics of NTC Bridge Circuit
4. Characteristics of Platinum RTD
5. Characteristics of K type Thermocouple
6. Temperature Controlled Alarm System  
.. and many more



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