



Experimental Set Up has been designed specifically for measuring Determination of Stefan's constant  $\sigma$  (black body radiation). The set up is absolutely self contained and requires no other apparatus. Practical experience on this set up carries great educative value for Science and Engineering Students.

### Object

Determination of Stefan's constant  $\sigma$  (black body radiation).

### Features

The Board consists of following items.

#### Digital Multiple Temperature Meter

It shows Temperature in  $^{\circ}\text{C}$ . It can measure the temperature of three different objects at a time. T1, T2, T3. measure temperature of Metallic box by T1, T2, measure temperature of Black Body by T3.

- Temperature :  $-50^{\circ}\text{C}$  to  $125^{\circ}\text{C}$
- Resolution temp. :  $0.06^{\circ}\text{C}$
- Display : 16x2 LCD Display
- Sensor type : Water proof
- Temp. Sensors : 03 Nos.
- Accurecy :  $\pm 0.5^{\circ}\text{C}$

#### Digital Stop Clock

Digital Stop Clock with LCD display with resolution of 0.01 mills seconds. It has Start/Stop and Reset button with lap timer.

- Start / Stop : operation by means of push button.
- 'Reset' : By a push button.

Note: Specifications are subject to change.

- Starting time : 00 . 00 . 00
- Max. range : Infinity
- Resolution : 0.01 mS
- Display : 16x2 LCD 7
- Accurecy :  $\pm 0.001\%$  . 01

#### 1. Metallic Box

Box containing metallic hemisphere with provision for water flow through its annulus.

- Weight of Metallic Box : 1Kg.
- Area of hemisphere :  $2.861\text{m}^2$

#### 2. Black Body Radiation Apparatus

A suitable black body (Silver constantan thermocouple) which can be connected at the bottom of this metallic hemisphere. On square stand

3. Mains ON/OFF switch, Fuse and Jewel light.
4. The unit is operative on 230VAC  $\pm 10\%$  at 50Hz.
5. Strongly supported by detailed Operating Instructions, giving details of Object, Theory, Design procedures, Report Suggestions and Book References.
7. Weight : 8.00 Kg. (Approx.)

#### Other Accessories

- Electric Cattle 2 Lite for heating water -----01 Nos.
- Bottle / Jar 5 Liter -----01 Nos.
- Plastic keep 4 inch -----01 Nos.