

**DETERMINATION OF STEFAN'S  
CONSTANT  $\sigma$   
(BLACK BODY RADIATION)  
OMEGA TYPE ES-398**

**OMEGA TYPE ES-398** 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.

- 1 Temperature :  $-50^{\circ}\text{C}$  to  $125^{\circ}\text{C}$
- 2 Resolution temp. :  $0.06^{\circ}\text{C}$
- 3 Display : 16x2 LCD Display
- 4 sensor type : water proof
- 5 Temp. sensors : 03 Nos.
- 6 Accuracy :  $\pm 0.5^{\circ}\text{C}$

**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.

- 1 Start / Stop : operation by means of push button.
- 2 'Reset' : by a push button.
- 3 Starting time : 00.00.00
- 4 Max. range : infinity
- 5 Resolution : 0.01 ms
- 6 Display : 16x2 LCD
- 7 Accuracy :  $\pm 0.001\%$ .

**01 METALLIC BOX**

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

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

**02 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

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

**OTHER ACCESSORIES**

- 01 Electric Cattle 2 Lite for heating water --- 01 Nos.
- 02 Bottle / Jar 5 Liter ----- 01 Nos.
- 03 Plastic keep 4 inch ----- 01 Nos.
- 04 Rubber Paid Clip----- 02 Nos.



We are committed to the continuous development of our products, and therefore reserve the right to amend specifications without prior notice.

**OMEGA ELECTRONICS**

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