Computerized Thermal Conductivity of Insulating Powder (Product Code: HMTC11)



Features

- Extensive range of Experiments
- Comprehensive teaching manual
- Three-year warranty
- Esthetically designed and finished Rig.
- High Quality instrumentation
- To determine the Thermal conductivity of an insulating Powder

Product Description

The apparatus consists of two concentric copper spheres made out of copper. A heating coil is provided in the inner sphere. The empty space between the inner and outer spheres are filled with insulting powder whose thermal conductivity is to be determined. The heat input of the heater can be varied using a Variac provided on the panel. Necessary thermocouples are provided in the setup to study the thermal conductivity of insulating powder.

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Product / Component Specification

Inner Sphere	100mm Dia, (Copper)
Outer Sphere	200mm Dia, (Copper)
Mica heater	250watts
Variac	2 amps
Digital voltmeter	0-300 volts AC
Digital ammeter	0-5 Amps AC
Digital temperature	0-300 Deg (K Type)
Thermocouple	K type
Insulation Powder	Asbestos powder
Stop watch	Digital

Measurement of Temperatures at different points

Type	"K"
Range	0-300°C
Signal conditioning/transmitter	Standalone
Location	Inner Hemispherical Temperature
Qty	6 no's
Type	"K"
Range	0-300°C
Signal conditioning/transmitter	Standalone
Location	Outer Hemispherical Temperature
Qty	3 no's

Data Acquisition card

Analog Input	
Differential Channels	12
Resolution	12 bits
Sample Rate	200 Ks/s
Max Voltage	5 V
Number of Ranges	4
Simultaneous Sampling	Yes
On-Board Memory	5120 samples
Analog Output	
Channels	2
Digital I/O	
Input-Only Channels	30
Output-Only Channels	12
Timing	Software
Logic Levels	TTL
Maximum Input Range	0 V - 5V
Maximum Output Range	0 V - 3.3 V
Counter/Timers	
Counters	2
Max Source Frequency	84 MHz
Resolution	12 bits
Logic Levels	TTL
Total DC output Current on all I/O lines	130mA

Measurement of Voltage & Current

Type	Voltage Transducer
Range	0-300V
Signal conditioning/transmitter	Standalone
Type	Current Transducer
Range	0-10Amps
Signal conditioning/transmitter	Standalone

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