

TPX-200C

Two Probe Setup

Two Probe Method for resistivity measurement of near insulators at different temperatures (ambient to 200°C) with computer interfacing facility

Introduction

The Two Probe Method is one of the standard and most commonly used method for the measurement of resistivity of very high resistivity samples near insulators. The resistivity measurement of such samples is beyond the range of Four Probe Method.



Description of the Experimental Set-up

1. Two Probes Arrangement, TPA-01

It has two spring load contact probes. These probes move in a pipe and are insulated by teflon washers. This probes arrangement is mounted in a suitable stand, which also holds the sample plate and RTD sensor. The stand also serves as the lid of PID Controlled Oven. Teflon coated leads are provided for connecting with High Voltage Power Supply EHT-11-C1 and Digital Picoammeter DPM-111-C2. With this set-up assuming maximum voltage 1500V; minimum current 10^{-12} A and thickness of sample 1mm, the resistivity of the sample could be measured upto 10^{14} ohm.cm..

2. PID Controlled Oven (PID-TZ-C1)

Specifications as per datasheet attached.

3. DPM-111-C2

Specifications as per datasheet attached.

4. EHT-11-C1

Specifications as per datasheet attached.

5. Computer Interface, SES-CAMM

This interface (SES-CAMM) provides, option to user, to interface the setup with the computer for acquiring data (temperature, current and voltage) and plotting it in real time. The data can also be stored in an excel file which can be used for further analysis. The software is menu driven and can be operated very easily.

The set-up is complete in all respect, except the computer.

