

DC RESISTANCE MEASUREMENT SYSTEM

MODEL DRMSRT500 (RT to 873K)



ABOUT THE SYSTEM

High temperature DC resistance measurement system is designed to measure DC resistance of pellets and films over a temperature range RT TO 873K. The measurement system uses a high temperature sample holder designed and developed by our company. The measurements are done using a source measure unit which is connected with a PC and temperature controller together. The data recorded automatically for DC resistance in above temperature range.



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Various tests performed by this model

- IV Current vs Voltage in fixed temperature intervals
- DC resistivity vs temperature in fixed intervals

Optional test performed by this model

- Magneto Resistance measurement

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DC RESISTANCE MEASUREMENT SYSTEM

General Specifications

Source Measure Unit 2450

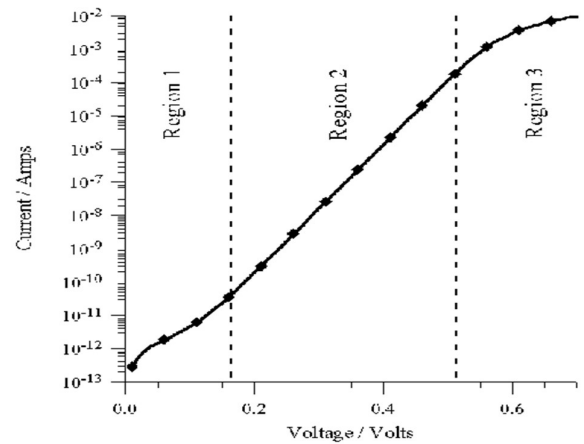
Voltage compliance 200V DC
Current range 10 Nano to 1 A
Resistance range 10 milli ohm to 10 Giga Ohm
Resolution 1% of the range
Accuracy 0.1%
Auto ranging
USB Interface

Sample holder

SS Construction
Facility to load bulk pellet and thick film
Inbuilt heating control
Gas purging and vacuum facility

Temperature stage

RT to 873 K
Accuracy 0.1%
Stability 1 degree
PID Controller
USB Interface



System Test Specification

Force/Measure Voltage
Force/Measure current
Resistivity range micro ohm Cm to Mega Ohm Cm
Resolution of measurement 1% of the range
Resistance range 10 milli ohm to 10 Giga Ohm
Temperature resolution 0.1 degree

- ❖ Note – Some specifications are related with optional test indicated above. Those are valid only when particular option is purchased

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DRMS RT500 Sub Components

MARINE INDIA NEW DELHI

6.1.4 Data file of DC resistance

Following is the data file of the DC resistance measurement system

Sl no.	TIME LOG ROI	TEMPERATURE	VOLTAGE	CURRENT	RESISTANCE	RESISTIVITY
0	10.0	3.180E-3	10.021	+1.359941E-09A	7.369E+9	7.368588E+9
1	10.7	3.180E-3	10.021	+1.352821E-09A	7.594E+9	7.593924E+9
2	11.0	3.181E-3	10.021	+1.360248E-09A	7.367E+9	7.366925E+9
3	11.3	3.181E-3	10.021	+1.356371E-09A	7.388E+9	7.387972E+9
4	11.6	3.181E-3	10.021	+1.346942E-09A	7.588E+9	7.587923E+9
5	11.9	3.181E-3	10.021	+1.353999E-09A	7.401E+9	7.400925E+9
6	12.2	3.181E-3	10.021	+1.349778E-09A	7.424E+9	7.424069E+9
7	12.5	3.181E-3	10.021	+1.323231E-09A	7.407E+9	7.407339E+9
8	15.2	3.181E-3	10.021	+1.324544E-09A	7.565E+9	7.565494E+9
9	15.5	3.181E-3	10.021	+1.321090E-09A	7.585E+9	7.585286E+9

List of Deliverables

- Sample holder assembly
- Furnace RT to 873-degree Kelvin
- Sample holder stand
- Temperature controller stage
- Software
- Interconnecting cables and Manual
- Keith 2450 (Optional)



List of users

- Solid State Lab (SSPL) Delhi
- Delhi University
- RRCAT Indore
- IIT Delhi
- IIT Roorkee
- Shimla university
- Osmania University
- IIT Patna
- Maharaja Agrasen university