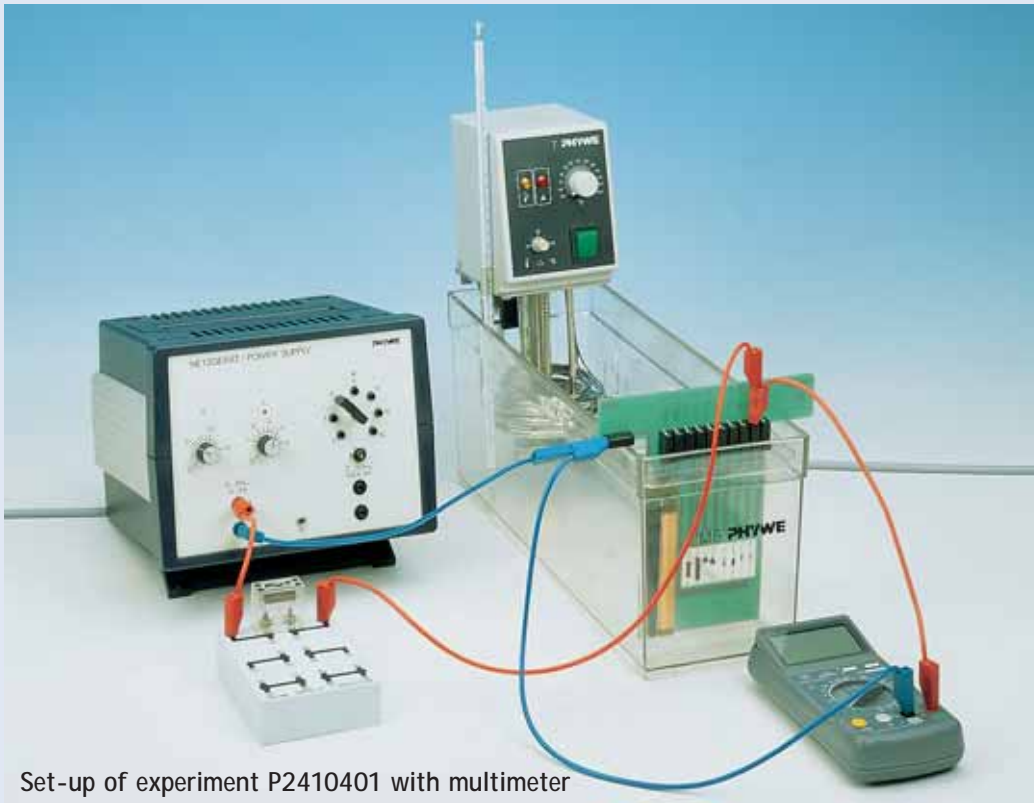


Temperature dependence of different resistors and diodes 4.1.04-01/15



- What you can learn about ...
- Carbon film resistor
  - Metallic film resistor
  - PTC
  - NTC
  - Z diode
  - Avalanche effect
  - Zener effect
  - Charge carrier generation
  - Free path
  - Mathie's rule

Principle:

The temperature dependence of an electrical parameter (e.g. resistance, conducting-state voltage, blocking voltage) of different components is determined. To do this, the immersion probe set is immersed in a water bath and the resistance is measured at regular temperature intervals.

Set-up of experiment P2410401 with multimeter

What you need:

Experiment P2410415 with FG-Module  
 Experiment P2410401 with multimeter

Immersion probes for determining ct	07163.00	1	1
Immersion thermostat TC10	08492.93	1	1
Accessory set for TC10	08492.01	1	1
Bath for thermostat, Makrolon	08487.02	1	1
Digital multimeter 2010	07128.00	1	
Power supply 0-12 V DC/6 V, 12 V AC	13505.93	1	
Carbon resistor 4.7 kΩ, 1W, G1	39104.27	1	1
Connection box	06030.23	1	1
Connecting cable, 4 mm plug, 32 A, blue, l = 50 cm	07361.04	1	1
Connecting cable, 4 mm plug, 32 A, red, l = 75 cm	07362.01	2	2
Connecting cable, 4 mm plug, 32 A, blue, l = 75 cm	07362.04	2	2
Cobra3 BASIC-UNIT	12150.00	1	
Software Cobra3 PowerGraph	14525.61	1	
Measuring module Function Generator	12111.00	1	
Power supply 12V/2A	12151.99	2	
Data cable 2 x SUB-D, plug/socket, 9 pole	14602.00	1	
PC, Windows® 95 or higher			

Complete Equipment Set, Manual on CD-ROM included  
 Temperature dependence of different resistors and diodes P24104 01/15

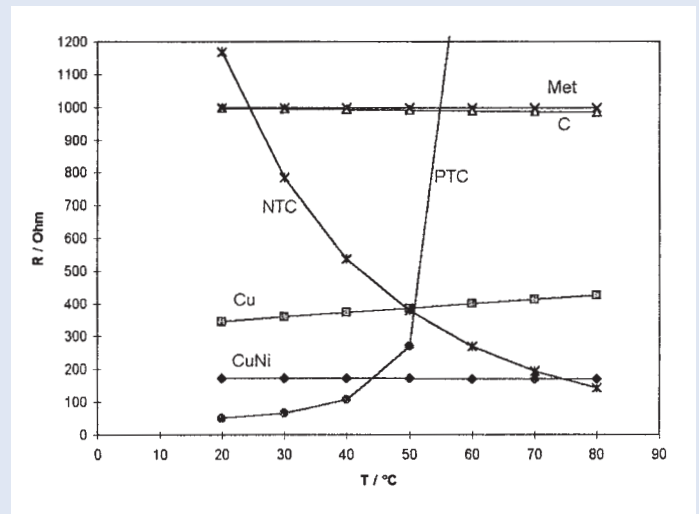


Diagram of resistances.

Tasks:

1. Measurement of the temperature dependence of the resistance of different electrical components.
2. Measurement of the temperature dependence of the conducting state voltage of semiconducting diodes.
3. Measurement of the temperature dependence of the voltage in the Zener and the avalanche effects.