

# Thermistor Test

## Introduction

### ■ Thermistor

Thermistor is a type of resistor whose resistance is dependent on temperature more so than in standard resistors. Thermistor is divided positive temperature coefficient thermistor (PTC) and negative temperature coefficient thermistor (NTC) depending on the temperature coefficient. Thermistors are widely used as inrush current limiter, temperature sensors (NTC type typically), self-resetting overcurrent protectors, and self-regulating heating elements in household appliances, electric power industry, telecommunications, military science, aerospace etc.

### ■ Rated zero power resistance R25(°C)

According to the national standard, rated zero power resistance of NTC thermistor is the measured resistance value R25 at reference temperature 25°C. It is referred to the NTC thermistor resistance.

### ■ B parameter

NTC thermistors can also be characterized with the B parameter equation,  $\frac{1}{T} = \frac{1}{T_0} +$

$\frac{1}{B} \ln\left(\frac{R}{R_0}\right)$ . Where the temperature are in kelvin and R0 is the resistance at temperature

T0 (25°C=298.15 K). You can also define other temperature test point considered B parameter.

## Test System

Test system are composed of a heated fuel tank and a resistance test equipment.

Device Name	LCR meter	Heated fuel tank
Equipment Type	RM 3541	OB-206 D
Parameters	0.1 $\mu\Omega$ to 110 M $\Omega$	-40~100 $^{\circ}\text{C}$