

TH0310 Resistance Standard



1. Summary

TH0310 is a series of precision standard resistors, suitable for measuring a wide range of precision current, it can also be applied for calibrating multifunction calibrators, high precision digital multi-meter, etc.

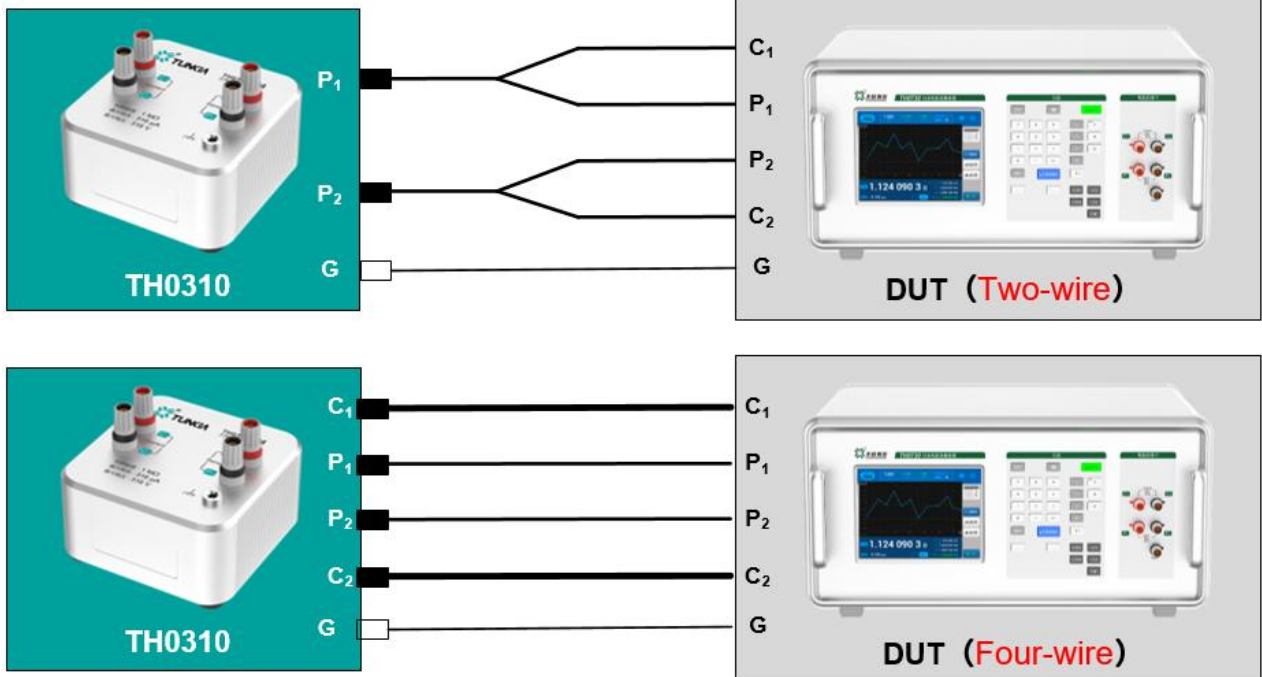
2. Features

- Long-term stability: 5 ppm/year (typical)
- Temperature coefficient: 1 ppm/°C
- Wide resistance range available from 1 mΩ ~ 100 MΩ
- Low thermal potential terminal
- No oil or air baths required
- 18°C ~ 28°C operating range
- Small and rugged

3. Applications

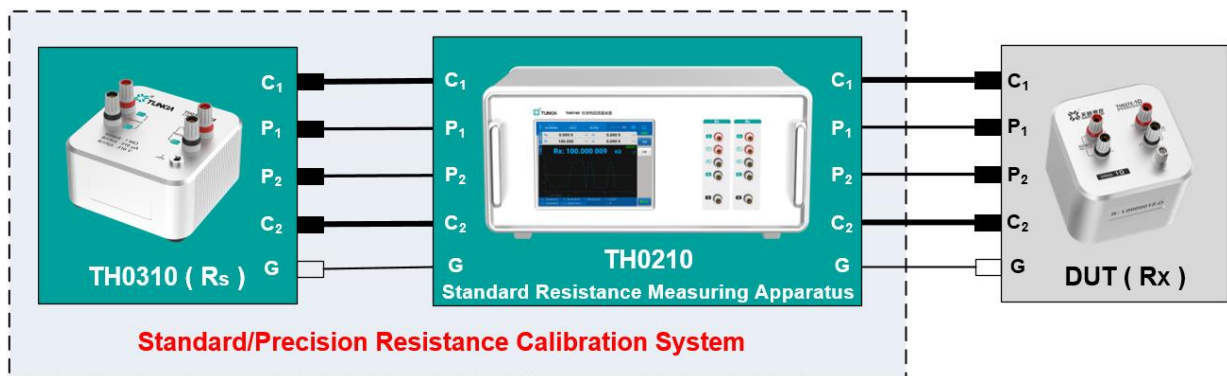
- Calibrate high precision resistance meter.
- Calibrate standard resistance/precision resistance.
- Establish high precision current measurement system.

☆ Calibrate Resistance Meter



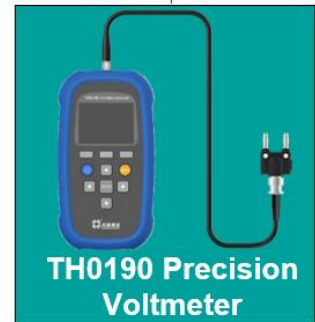
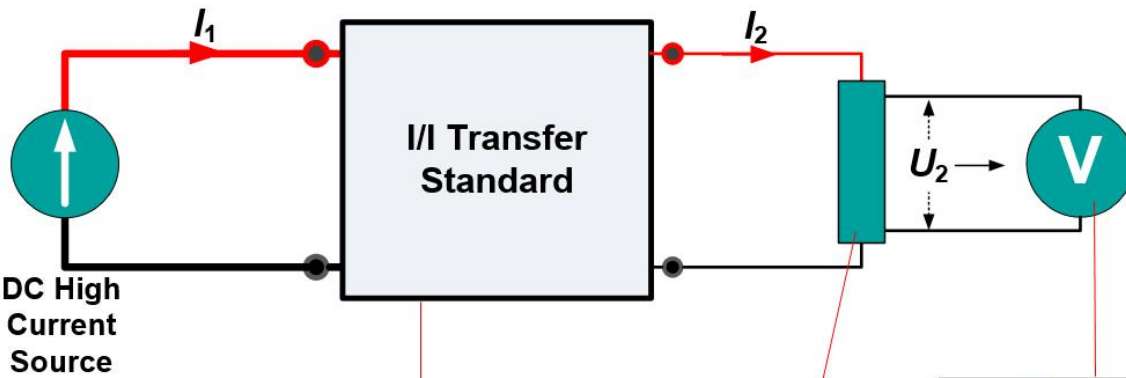
- Calibrate two-wire ($\geq 10 \text{ m}\Omega$) or four-wire ($\leq 1 \text{ m}\Omega$) resistance meters as standard resistors.
- It can be used directly without placing in constant temperature oil tank or air tank.

☆ Calibrate Standard/Precision Resistance



- Calibrate precision resistance with precision resistance bridge (such as TH0210).

☆ Establish High Precision DC Measurement System



- Establish the current measurement system with I/I transfer standard and precision voltmeter.

4. Specifications

Model	Nominal Resistance @ 23°C	Initial Deviation (±ppm)	Accuracy (±ppm)	Annual Stability (±ppm)	Temperature coefficient (±ppm/°C)	Wiring
TH0310-1mR	1 mΩ	100	50	20	10	4W
TH0310-10mR	10 mΩ	50	25	15	5	4W
TH0310-100mR	100 mΩ	25	12.5	10	2.5	4W
TH0310-1R	1 Ω	5	2.5	5	1	4W
TH0310-1.9R	1.9 Ω	5	2.5	5	1	4W
TH0310-10R	10 Ω	5	2.5	5	1	4W
TH0310-25R	25 Ω	5	2.5	5	1	4W
TH0310-100R	100 Ω	5	2.5	5	1	4W
TH0310-1kR	1 kΩ	5	2.5	5	1	4W
TH0310-10kR	10 kΩ	5	2.5	5	1	4W
TH0310-19kR	19 kΩ	5	2.5	5	1	4W
TH0310-100kR	100 kΩ	5	2.5	5	1	4W
TH0310-1MR	1 MΩ	5	2.5	5	1	4W
TH0310-10MR	10 MΩ	10	5	10	1	2W
TH0310-19MR	19 MΩ	15	7.5	15	2	2W
TH0310-100MR	100 MΩ	25	12.5	25	5	2W

Model	Nominal Power(W)	Power Factor (\pm ppm/W)	Maximum Current (A)	Maximum Voltage (V)
TH0310-1mR	0.5	50	22.3	0.02
TH0310-10mR	0.5	50	7.07	0.07
TH0310-100mR	0.5	50	2.23	0.22
TH0310-1R	0.1	10	0.31	0.31
TH0310-1.9R	0.1	10	0.23	0.44
TH0310-10R	0.1	10	0.10	1.00
TH0310-25R	0.1	10	60 m	1.58
TH0310-100R	0.1	10	30 m	3.16
TH0310-1kR	0.1	10	10 m	10.0
TH0310-10kR	0.1	10	3 m	31.6
TH0310-19kR	0.1	10	2 m	43.6
TH0310-100kR	0.1	10	1 m	100
TH0310-1MR	0.1	10	300 μ	316
TH0310-10MR	0.1	10	100 μ	1000
TH0310-19MR	0.05	10	50 μ	1000
TH0310-100MR	0.01	10	10 μ	1000

5. General Specifications

Power supply	—
Temperature performance	Operating temperature: 18 °C ~ 28 °C; Storage temperature: -10 °C ~ 55 °C;
Humidity performance	Working humidity :(40%-60%) R·H, no condensation; Storage humidity: 95% R·H, no condensation;
Weight	About 0.5 kg
Dimensions	100 mm(W) × 100 mm(D) × 50 mm(H) (excluding terminals and footpads)
	