

# TH1200 Calibration Apparatus for Nanovoltmeters



## 1. Summary

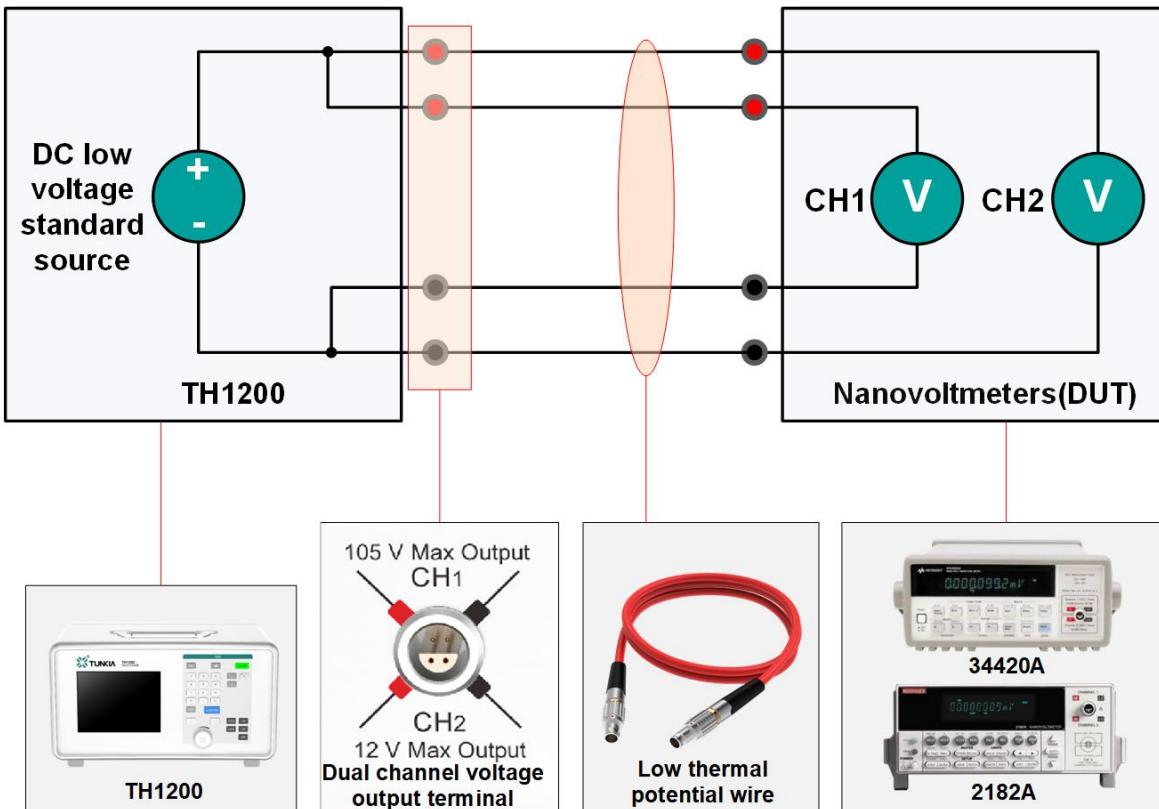
**TH1200** is an instrument that uses the standard source method to calibrate the nanovoltmeter, and is also suitable for calibrating the voltage-measurement function of DC shunt verification device, small signal voltage-measurement function of DC energy reference standard and other equipment.

## 2. Features

- Standard voltage output: 1  $\mu$ V~110 V
- Uncertainty of measurement **6 ppm@10 V**。
- Typical stability at mV output: 10 nV/min.
- 8-digital, minimum resolution : 1 nV.
- LEMO interface for 2-channel voltage output.
- Constant temperature control technology to reduce the environmental factor
- Specific test wire
- Specific automatic calibration software (optional)

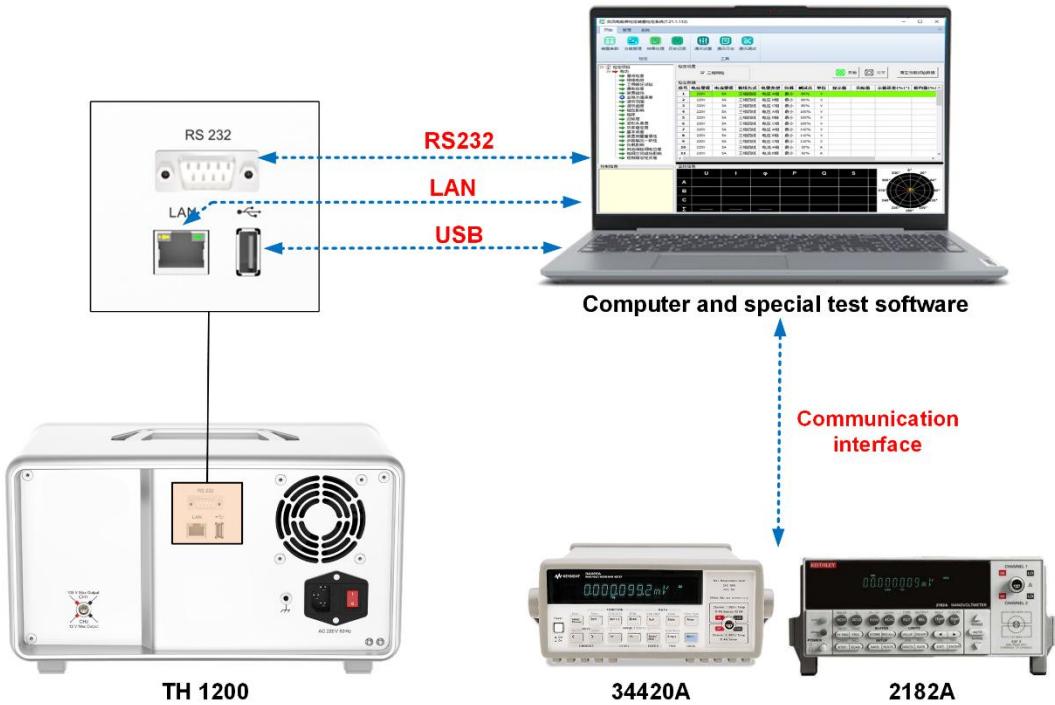
### 3. Application

☆ Standard source method to calibrate the nanovoltmeter



- Calibrate 2-channel voltage simultaneously:  $1 \mu\text{V} \sim 110 \text{ V}$  (CH1) &  $1 \text{ mV} \sim 11 \text{ V}$  (CH2).
- Meet Calibration requirements of nanovoltmeter (such as Agilent 34420A, Keithley 2182A)

## ☆ Interface and Automatic Calibration Software



- support RS232、LAN、USB, and accept customer requirements for software function customization.

#### 4. Specifications

Range	Resolution	Short Term Stability	Accuracy (k=2)				Temperature Coefficient (/ $^{\circ}$ C)	Maximum Burden Current
			24H $T_{cal}\pm 1^{\circ}C$	24H $T_{cal}\pm 5^{\circ}C$	90 day $T_{cal}\pm 5^{\circ}C$	1year $T_{cal}\pm 5^{\circ}C$		
		ppm of reading + ppm of range <sup>[1]</sup>					mA	
<b>CH1</b>								
1 mV	1 nV	10 + 10	10 + 10	13 + 10	13 + 10	2 + 0.5	50	
10 mV	1 nV	10 + 2	10 + 2	13 + 2	15 + 2	1 + 0.5	50	
100 mV	10 nV	3 + 2	3 + 2	6 + 2	8 + 2	1 + 0.2	50	
1 V	100 nV	2 + 1	2 + 2	4 + 2	6 + 2	1 + 0.1	50	
10 V	1 $\mu$ V	1 + 0.5	1 + 1	3 + 2	4 + 2	1 + 0.1	50	
100 V	10 $\mu$ V	2 + 1	3 + 2	4 + 2	6 + 2	1 + 0.5	10	
<b>CH2</b>								
100 mV	10 nV	3 + 2	3 + 2	6 + 2	8 + 2	1 + 0.2	50	
1 V	100 nV	2 + 1	2 + 2	4 + 2	6 + 2	1 + 0.1	50	
10 V	1 $\mu$ V	1 + 0.5	1 + 1	3 + 2	4 + 2	1 + 0.1	50	
Note [1] : (ppm = parts per million) (e.g:10ppm = 0.001%).								

- Output range:  $\pm(10\% \sim 110\%) * \text{RANGE}$
- range change: manual/auto
- 8-digital
- Stable time: < 3 s to total uncertainty, +1 s in case of range or polarity changing

## 5. General Specifications

Power Supply	AC 220 V / 50 Hz
Working Environment	Temperature: 20±5°C humidity: 30%R·H~80%R·H, non-condensing. others: No electromagnetic interference
Storage Environment	Temperature: 0°C~50°C humidity: 10%R·H~90%R·H, non-condensing.
Interface	RS232×1、LAN×1、USB×1