



Thermocouple Process Calibrator

AX-C830

User's Manual



Safety Information

To avoid possible electric shock or personal injury:

Never apply more than 30V between any two jacks, or between any jack and earth ground.

Make sure the battery door is closed and latched before you operate the calibrator.

Remove test leads from the calibrator before you open the battery door.

Do not operate calibrator if it is damaged.

Do not operate the calibrator around explosive gas, vapor, or dust.

To avoid possible damage to the calibrator:

Make sure you choose the right jack and range before you use the calibrator to measurement or calibrator.

Take away the calibrator from the used circumstance, before operate the calibrator or after close the calibrator.

Introduction

Thermocouple Process Calibrator is a exactitude measurement and source handhold instrument, it can be used to calibrate the Thermocouple instrument.

Thermocouple Process Calibrator can measure or simulate 8 types of difference Thermocouple ($^{\circ}\text{C}$ or $^{\circ}\text{F}$), and measure or simulate the millivolt. But it cannot be used for measurement or source at the same time.

The accessories: 2 pcs Thermocouple plugs (no wire), 6 * AAA 1.5V battery, user's manual.

If the Calibrator is broken or short of some accessories, please contact the supplier.

The following table has showed the technical parameter and function of the Calibrator.

Specification

All the specification will under 1 year calibration cycle and temperature between 18-28 $^{\circ}\text{C}$, except addition explain.

Measure (input)/Simulate (output) Millivolt specification



| INPUT/OUTPUT RANGE | RESOLUTION | ACCURACY |
|--------------------|------------|----------------------|
| -10mV~75mV | 0.01mV | ± (0.025%+2counts) |

Maximal input voltage: 30Vpp.

Measure (input)/Simulate (output) Thermocouple Specification

| FUNCTION | RANGE | RESOLUTION | ACCURACY | REFERENCE JUNCTION ERROR |
|----------|-------------------------------|------------|---------------|--------------------------|
| J TYPE | -200~1200°C / - 328~2192°F | 0.1□/□ | ±(0.3°C+10uV) | ±0.3°C |
| K TYPE | -200~1370°C / - 328~2498°C | 0.1□/□ | ±(0.3°C+10uV) | ±0.3°C |
| T TYPE | -200~400C / -328 ~ 752°F | 0.1□/□ | ±(0.3°C+10uV) | ±0.3°C |
| E TYPE | -200~950°C / - 328~1742°F | 0.1□/□ | ±(0.3°C+10uV) | ±0.3°C |
| R TYPE | -20~1750°C / - 4~3182°F | 1□/□ | ±(1°C+10uV) | ±0.3°C |
| S TYPE | -20~1750°C / - 4~3182°F | 1□/□ | ±(1°C+10uV) | ±0.3°C |
| B TYPE | 600~1800°C / 1112~3272°F | 1□/□ | ±(1°C+10uV) | ±0.3°C |
| N TYPE | -250~1300°C / - 418~2372°F | 0.1□/□ | ±(0.3°C+10uV) | ±0.3°C |

Maximal input voltage: 30Vpp.



General Specifications:

Maximum voltage applied between any jack and earth ground or between any two jack: 30V

Storage temperature: -40°C ~ 60°C

Operating temperature: 0°C ~ 50°C

Operating altitude: 3000 meters maximum

Temperature coefficient: $\pm 0.02\%/^{\circ}\text{C}$ on 0°C ~ 18°C and 28°C ~ 50°C

Relative humidity: 95% up to 30%, 75% up to 40%, 45% up to 50%

Shock: Random 2g, 5Hz to 500Hz






Safety: 1 meter drop test

Power requirements: 6 x AAA 1.5V battery

Size: 205mm×98mm×46mm

Weight: 472 g (include battery)

International Symbols

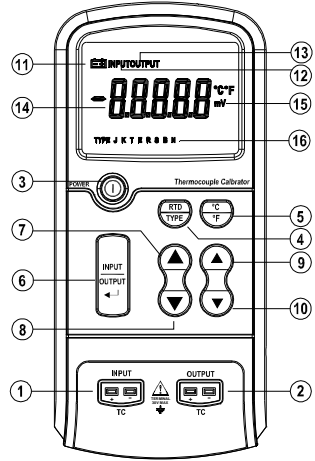
| Symbol | Meaning |
|---|---|
|  | Earth ground |
|  | Conforms to European Union directives |
|  | Refer to this instruction sheet for information about this feature. |
|  | Battery |
|  | Double insulation |



Explanation on Front Panel

The front panel is show as in right figure:

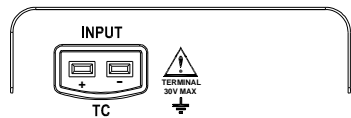
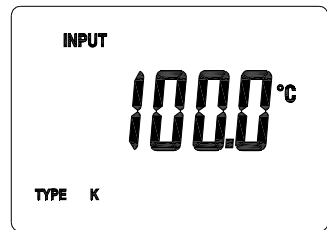
1. Input jack
2. Output jack
3. Power key
4. Mode key
5. °C/°F key
6. Input/output key
7. Increase more value key
8. Reduce more value key
9. Increase less value key
10. Reduce less value key
11. Low power indication
12. Input state indication
13. Output state indication
14. Reading value
15. Unit indication
16. Mode indication



Operation Instructions

Thermocouple or Millivolt measurement/input









- ① Press the power key **3**, turn on the calibrator.
- ② Press the Input/output key **6**, when on the input mode.
- ③ Press mode key **4**, on the measure type you want.
- ④ Put the measure thermocouple or millivolt source into the input jack **1**.
- ⑤ Get the reading value **14**.

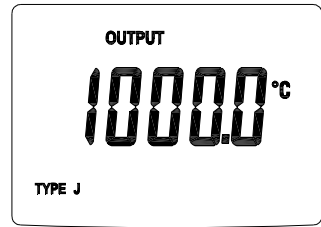







* The number in the □, referring to the “Explanation on Front Panel” (Page7)




Thermocouple or Millivolt Simulate/output

- ① Press the power key , turn on the calibrator.
- ② Press the Input/output key , when on the output mode.
- ③ Press mode key , on the measure type you want.
- ④ Press the adjust value key     to let the value on your need.
- ⑤ Put the thermocouple instrument or voltage meter into the output jack .



- ⑥ If you want to change the output value, then press the adjust value key     or change to other thermocouple type, use the mode key .

* The number in the , referring to the “Explanation on Front Panel” (Page7)

Maintenance

Cleaning

Periodically wipe the case with a damp cloth and detergent; do not use abrasives or solvents.

Calibration

Calibrate your calibrator once a year to ensure that it performs according to its specifications.

Replacing the Battery

Please change the battery when the LCD indicates.



Turn off the power of the Calibrator before you change the battery, and screw off the breechblock on the battery cabinet cover, then take it off and put the fresh AAA 1.5V battery.

Connect wire

Use the accessories thermocouple plug to make the difference plug connect wire which you want.

