

*Multi-functions*

# THERMOMETER CALIBRATOR source & measurement

Model : TC-424

*ISO-9001, CE, IEC1010*



**Lutron**



**LUTRON ELECTRONIC**

*The Art of Measurement*

# THERMOMETER CALIBRATOR

## source & measurement

Model : TC-424

## FEATURES

|  |
|--|
| * Four kinds Source output :<br>1. Pt-100 source, 2. Voltage( DC mV) source.<br>3. 400 ohm source , 4. Type KJRETS Temp. source .                |
| * Four kinds measurement inputer :<br>1. Pt-100 measure, 2. Voltage( DC mV) measure,<br>3. 400 ohm measure , 4. Type K/J/R/E/T/S Temp. measure . |
| * Portable instrument for calibrating process devices.   |
| * Four kinds Source Adjustable output.   |

## General Specifications

|                                    |   |
|------------------------------------|---|
| Circuit                            | Custom one-chip of microprocessor LSI circuit.  |
| Display                            | LCD size : 52 mm x 30 mm.<br>LCD with white backlight ( ON/OFF ).   |
| Measurement                        | 1.Type K/J/R/E/T/S Temp. , 2. Voltage (DC mV).<br>3. Pt-100 ohm, 4. 400 ohm .   |
| Source                             | Type K/J/R/E/T/S Temp.,<br>Voltage (DC mV : - 10.00 to + 110.00 mV),<br>Pt-100 ohm , 400 ohm .  |
| Sampling Time of Display           | Approx. 1 second.   |
| Advanced setting                   | * Auto power OFF management.<br>* Set unit °C or °F .   |
| Operating Temperature and Humidity | 0 to 50 °C.<br>Less than 85% R.H.   |
| Power Supply                       | * Alkaline or heavy duty DC 1.5 V battery ( UM3, AA ) x 6 PCs, or equivalent.<br>* DC 9V adapter input. ( AC/DC power adapter is optional ).            |
| Power Current                      | Normal operation ( w/o current source ) :<br>Approx. DC 18 mA.<br>LCD Backlight is ON) : Approx. + DC 2 mA.   |
| Weight                             | Meter : 282 g/ 0.61 LB. (with cable)  |
| Dimension                          | Meter : 198 x 68 x 45 mm  |
| Accessories Included               | * Instruction manual..... 1 PC<br>* Hard carrying case( CA-06 )..... 1 PC<br>* ( Type K source output line ), AC-DUK02... 1 PC<br>* MTL-CP424..... 1 PC |
| Optional Accessories               | AC to DC 9V adapter.<br>TP-01,TP-02A, TP-03, TP-04, TP-05   |

## Electrical Specifications ( 23.0 ± 5 °C )

## Thermocouple

| Type | Range of source / measure | Accuracy                         |                                  | Resolution |
|------|---------------------------|----------------------------------|----------------------------------|------------|
|      |                           | source                           | measure                          |            |
| K    | -200.0to 1370.0 °C        | >-100°C:<br>±(0.05 % + 1 °C)     | >-100°C:<br>±(0.07%+1.5°C)       | 0.1 °C/°F  |
|      | -328 to 2498 °F           | ±(0.05 % + 1.8 °F)               | ±(0.07%+2.7°F)                   |            |
| J    | -200.0 to 1200.0 °C       | <-100°C:<br>±(0.05 % + 2 °C)     | <-100°C:<br>±(0.07%+ 2 °C)       | 0.1 °C/°F  |
|      | -328 to 2192 °F           | ±(0.05 % + 3.6 °F)               | ±(0.07%+ 3.6 °F)                 |            |
| T    | -200.0 to 400.0 °C        | <100°C:±(0.05%<br>+3°C or 5.4°F) | <100°C:±(0.07%<br>+3°C or 5.4°F) | 1 °C/ °F   |
|      | -328 to 752 °F            | ≥100°C:±(0.05%<br>+2°C or 3.6°F) | ≥100°C:±(0.07%<br>+2°C or 3.6°F) |            |
| E    | -200.0 to 1000.0 °C       |                                  |                                  | 1 °C/ °F   |
|      | -328 to 1832 °F           |                                  |                                  |            |
| R    | 0 to 1768 °C              |                                  |                                  |            |
| S    | 32 to 3214 °F             |                                  |                                  |            |

\* input impedance : 10 <sup>12</sup> ohms.  
\* measure protection : DC 60 V , AC 24 V.  
\* source protection : Reference CAUTION.

## DC Voltage

| Range of source / measure | Display    | Accuracy              |
|---------------------------|------------|-----------------------|
|                           | Resolution | source / measure      |
| -10.00mV to +110.00 mV    | 0.01 mV    | ± ( 0.05 % + 0.03mV ) |

\* input impedance : 10 <sup>12</sup> ohms.  
\* measure protection : DC 60 V , AC 24 V.  
\* source protection : Reference CAUTION.

## Pt100

| Range of source / measure | Display Resolution | Accuracy       |                 |
|---------------------------|--------------------|----------------|-----------------|
|                           |                    | source         | measure         |
| -200.0 to 850.0 °C        | 0.1 degree         | ±(0.05%+0.6°C) | ±(0.05%+ 1°C)   |
| -328.0 to 1562.0 °F       | 0.1 degree         | ±(0.05%+1.1°F) | ±(0.05%+ 1.8°F) |

\* input impedance : 10 <sup>12</sup> ohms.  
\* protection : Reference CAUTION.

## Remark :

The above specification are tested under the environment  
RF Field Strength less than 3 V/M & frequency less than the  
30 MHz only.

## 400 Ω

| Range of source / measure | Display Resolution | Accuracy:      |               |
|---------------------------|--------------------|----------------|---------------|
|                           |                    | source         | measure       |
| 400.0 Ω                   | 0.1 Ω              | ±(0.1%+ 0.4 Ω) | ±(0.1%+ 0.6Ω) |

\* input impedance : 10 <sup>12</sup> ohms.  
\* protection : Reference CAUTION.  
\* FS : full scale

## Remark :

The above specification are tested under the environment  
RF Field Strength less than 3 V/M & frequency less than the  
30 MHz only.



\* Do not apply a voltage exceeding the maximum input voltage.  
otherwise the input part may be damaged.  
\* Do not short\_circuit or apply an external voltage to output terminals  
of the instrument or standard equipment, or else their internal circuitry  
may be damaged.