

## GENERAL SPECIFICATIONS

- High Accuracy of 0.02% for source, 6 digits display for source.
- Source: DC Voltage, DC current, resistance, simulating transmitter, temperature (thermocouple/resistance temperature detector), frequency, pulse, contact.
- Provides 25% step or 100% step DC current output manually or automatically.
- TC source terminals and built-in lead connector of same temperature (RJ compensation with auto-reference joint point); the unit can be converted between °C and °F.
- Outside place temperature detector with high accuracy of ± 2°C.
- Big LCD can display the TC/RTD value and voltage/resistance value, mA value and mA% value corresponding simultaneously.
- Carefully designed key layout, each pair of increase/decrease key correspond with the set value on the LCD.
- It can be calibrated without open the cover of the calibrator.
- White LED backlight with auto turn off, and auto turn off the power, it is suitable for use on locale.

## TECHNICAL SPECIFICATIONS

These specifications assume:

- A 1-year calibration cycle
- An operating temperature of 18°C to 28°C (64.4°F~82.4°F)
- Relative humidity of 35% to 70% (non-condensing)

Accuracy is expressed as ± (percentage of set value + percentage of range)



| Function   | Reference | Range               | Resolution | Accuracy   | Remark   |
|------------|-----------|---------------------|------------|--|--|
| DC voltage | 100mV     | -10.000~110.000mV   | 1μV        | 0.02+0.01  | Maximum output: 0.5mA  |
|            | 1000mV    | -100.00~1100.00mV   | 10μV       | 0.02+0.01  | Maximum output: 2mA  |
|            | 10V       | -1.0000~11.0000V    | 0.1mV      | 0.02+0.01  | Maximum output: 5mA  |
| DC current | 20mA      | 0.000mA~22.000mA    | 1μA        | 0.02+0.02  | Simulator transmitter: 5-28V power supply outside; 1KΩ at 20mA   |
| Resistance | 400Ω      | 0.00Ω~400.00Ω       | 0.01Ω      | 0.02+0.02  | Excitation current: ± 0.5-3mA; if ± 0.1-0.5mA, add 0.1Ω; Does not include lead resistance  |
|            | 4KΩ       | 0.0000 KΩ~4.0000 KΩ | 0.1Ω       | 0.05+0.025   | Excitation current: ± 0.0/mA<br>Does not include lead resistance   |
|            | 40kΩ      | 0.000 KΩ~40.000 KΩ  | 1Ω         | 0.1+0.1  | Excitation current: ± 0.01mA;<br>Does not include lead resistance  |
| TC         | R         | 0°C~1767°C          | 1°C        | 0~100°C : 1.5°C<br>100~1767°C : 1.2°C  | By using ITS-90 temperature scale; The accuracy does not include the error of internal temperature compensation caused by a sensor |
|            | S         | 0°C~1767°C          |            | 0~100°C : 1.5°C<br>100~1767°C : 1.2°C  |  |
|            | K         | -200.0°C~1372.0°C   | 0.1°C      | -200.0~100.0 : 0.6°C<br>-100~400.0° : 0.5°C<br>400.0~1200.0°C : 0.7°C<br>1200.0~1372.0 : 0.9°C |  |
|            | E         | -200.0°C~1000.0°    |            | -200~100.0°C : 0.6°C<br>-100~600.0°C : 0.5°C<br>600~1000.0°C : 0.4°C                           |  |

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## TECHNICAL SPECIFICATIONS

| Function | Reference     | Range             | Resolution | Accuracy   | Remark   |
|----------|---------------|-------------------|------------|--|--|
| TC       | J             | -200.0°~1200.0°C  |            | -200.0~100.0 : 0.6°C<br>-100~800.0°C : 0.5°C<br>800~1200.0°C : 0.7°C   |  |
|          | T             | -250.0°~400.0°C   |            | -250~400.0° : 0.6°C  |  |
|          | N             | -200.0°C~1300.0°C |            | -200~100.0°C : 1.0°C<br>-100~900.0°C : 0.7°C<br>900~1300.0°C : 0.8°C   |  |
|          | B             | 600°C~1820°C      | 1°C        | 600~800°C : 1.5°C<br>800~1820°C : 1.1°C                                |  |
|          | L             | -200.0°~900.0°C   | 0.1°C      | -200.0~0.0°C : 0.7°C<br>0.0~900.0°C : 0.5°C                            |  |
|          | U             | -200.0°C~600.0°C  | 0.1°C      | -200.0~0.0°C : 0.7°C<br>0.0~600.0°C : 0.5°C                            |  |
| RTD      | Pt 100<br>385 | -200.0°~800.0°C   | 0.1°C      | -200.0~0.0°C : 0.3°C<br>0.0~400.0°C : 0.5°C<br>400~800.0°C : 0.8°C     | By using temperature scale ITS-90<br>Excitation current: ± 0.5~±3mA for Pt 100, Cu10,<br>Cu50 add 0.5°C when excitation current is<br>± 0.1mA-0.5mA<br><br>Excitation current: ± 0.05mA~±0.3mA for<br>PT200, PT500, PT1000<br><br>Does not include lead resistance |
|          | Pt200<br>385  | -200.0°C~630.0°C  |            | -200~100.0°C : 0.8°C<br>100.0~300.0°C : 0.9°C<br>300.0~630.0°C : 1.0°C |  |
|          | Pt500<br>385  | -200.0°C~630.0°C  |            | -200~100.0°C : 0.4°C<br>100.0~300.0°C : 0.5°C<br>300.0~630.0°C : 0.7°C |  |
|          | Pt1000<br>385 | -200.0°C~630.0°C  |            | -200~100.0°C : 0.2°C<br>100~300.0°C : 0.5°C<br>300~630.0°C : 0.7°C     |  |
|          | Cu10          | -100.0°C~260.0°C  |            | 1.8°C  |  |
|          | Cu50          | -50.0°C~150.0°C   |            | 0.6°C  |  |
| FREQ     | 100Hz         | 1.00Hz~110.00Hz   | 0.01Hz     | ±2 count   | Output voltage: +1-+11V (zero base waveform);<br>Amplitude accuracy: ± 5% reading value + 0.5V;<br>Maximum load: > 100KΩ<br>Duty Cycle : 50%   |
|          | 1KHz          | 0.100KHz~1.100KHz | 1Hz        |  |  |
|          | 10KHz         | 1.0KHz~11.0KHz    | 0.1KHz     |  |  |
|          | 100KHz        | 10KHz~110KHz      | 2KHz       |  |  |
| PULSE    | 100Hz         | 1~100000 cycles   | 1 cyc      | ± 2 count  |  |
|          | 1KHz          |                   |            |  |  |
|          | 10KHz         |                   |            |  |  |
| SWITCH   | 100Hz         | 1.00Hz~110.00Hz   | 0.01Hz     | ± 2 count  | Contact output (with 0.0V amplitude setting,<br>FET switch ON/OFF) Maximum<br>open/close voltage/current :<br>+ 28V/50mA   |
|          | 1KHz          | 0.100KH~1.100KHz  | 1Hz        |  |  |
|          | 10KHz         | 1.0KHz~11.0KHz    | 0.1KHz     |  |  |
|          | 100KHz        | 10KHz~110KHz      | 2KHz       |  |  |

## OTHER FEATURE

- Temperature Coefficient: 0.1 times the applicable accuracy specification per degree C for 5°C to 18°C and 28°C to 50°C.
- The range of the internal temperature compensation sensor is from 0°C to 40°C, Compensation error ≤ ± 0.5°C.
- The accuracy of the temperature probe: ± 0.2°C. The range of the measured temperature is from -20°C-100°C.
- Maximum voltage between any output terminal and earth: 30Vp-p
- Maximum output current: Approximately 25mA.

## GENERAL SPECIFICATIONS

- Operating temperature and humidity <80% at 0°C to 50°C (non-condensing) <70% at 40°C to 50°C
- Storage temperature and humidity <90% at -25°C to 60°C (non-condensing)
- Display and backlight - A dual, Liquid Crystal Display, White LED for backlight
- Power Supply - 4 x 1.5AA-size alkaline batteries
- Automatic Power-off: It's allowed set the Automatic Power-off time from 0 to 60 minutes
- Size: 245 x 95 x 42 (mm)
- Weight: About 500g
- Accessories, Test leads, Fuse

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