

## GENERAL

**ALIACA** ACA6NT is mainly designed for the calibration and maintenance of on-site industrial thermodynamic(al) instrument and their system. Its complete and practical functions are easily accessible. With latest extensive digital-converted integrative circuit and large-screen display, it is supplied with functions of output, measurement, ITS-90 query and 24VDC power supply, making it convenient for you to check and calibrate sensor, transmitter, displayed instruments, and control system on spot.

## FEATURES

- ❑ Large 2-line LCD with backlit display
- ❑ Sources and reads mA, mV, V, Ohms, RTD and frequency
- ❑ Keypad to enter output parameters directly
- ❑ Simultaneous millivolt display when in temperature measurement mode
- ❑ Small, streamlined shape, easy to carry and hold
- ❑ Thermocouple measurement/output with automatic or manual cold junction compensation
- ❑ Quick query to resistance & temperature, and millivolt & temperature
- ❑ 24VDC loop power supply
- ❑ Ni-MH battery available, continuous use for at least 6 hours
- ❑ Concurrent input/output, convenient to operate
- ❑ Temperature unit °C and °F available.

## STANDARD SPECIFICATION

|                       |                                      |                      |                                          |
|-----------------------|--------------------------------------|----------------------|------------------------------------------|
| ● Source              | : VDC, mA, mV                        | ● Battery Type       | : NiMH Pack, 1800 mAh, 7.2VDC            |
|                       | : T/C(S, K, E, T, J, B, R, N, W325)  | ● Charger Supply     | : 90 ~ 260VAC 50/60 Hz                   |
|                       | : Frequency, 0-5000 Hz (4VDC)        | ● Power Consumption  | : 2W                                     |
|                       | : Resistance, 10Ω - 510Ω             | ● Accessory Included | : Test leads two pairs                   |
|                       | : 24VDC, 30mA Max.                   |                      | : Power Adaptor(90-260VAC, 50/60Hz)      |
| ● Read                | : VDC, mA, mV                        |                      | : Reinforced aluminum carrying case      |
|                       | : T/C(S, K, E, T, J, B, R, N, W325)  |                      | : Shoulder straps for carrying case only |
|                       | : Frequency, 0-5000 Hz (24 VDC Max.) | ● Dimension          |                                          |
|                       | : RTD(PT100, Cu50)                   |                      | Calibrator : 231 * 104 * 45mm            |
| ● Response Time       | : 80ms                               |                      | : 9.1" * 4.1" * 1.8"                     |
| ● Operating Temp.     | : -10 ~ +55 °C                       |                      | Carrying Case : 330 * 250 * 150mm        |
| ● Ambient Humidity    | : 0 - 90% RH non-condensing          |                      | : 13" * 9.8" * 6.0"                      |
| ● Display             | : 2" (128*64 Pixels), Backlight LCD  | ● Weight             | : 0.7 Kg                                 |
| ● Display Update Rate | : 4 / second                         | ● Enclosure          | : IP54                                   |
| ● Keyboard            | : 25 Membrane keyboard               |                      |                                          |
| ● Password Protection | : 4 Digits                           |                      |                                          |
| ● Battery Operation   | : 6-8 Hours                          |                      |                                          |
| ● Charge Time         | : 8-12 Hours                         |                      |                                          |



## TECHNICAL SPECIFICATION

| Source           |                     |                  |                 |                 |
|------------------|---------------------|------------------|-----------------|-----------------|
| Function         | Range               | Load             | Resolution      | Accuracy        |
| DCV              | 0~5.000 V           | Min 350 $\Omega$ | 1mV             | $\pm 0.05\%FS$  |
| DCmA             | 0~24.000mA          | Max 250 $\Omega$ | 1mA             | $\pm 0.05\%FS$  |
| DCmV             | 0~99.999mV          | Min 100 $\Omega$ | 1mV             | $\pm 0.05\%FS$  |
| R <sup>(1)</sup> | 10.0~510.0 $\Omega$ | **               | 0.1 $\Omega$    | $\pm 0.15\%FS$  |
| TC               | K、T、E、J、N           | **               | 0.1 °C / 0.1 °F | $\pm 0.1\%FS$   |
|                  | R、S、B、W325          | **               | 0.1 °C / 0.1 °F | $\pm 0.2\%FS$   |
| Hz               | 0~1000Hz            | Min 350 $\Omega$ | 1Hz             | $\pm 1Hz$       |
|                  | 0~5.00KHz           | Min 350 $\Omega$ | 0.01KHz         | $\pm 0.02\%KHz$ |
| Built-in 24VDC   | 24VDC               | Max 30mA         | **              | **              |

| Measurement |             |                |                 |                |
|-------------|-------------|----------------|-----------------|----------------|
| Function    | Range       | Impedance      | Resolution      | Accuracy       |
| DCV         | 0~5.000 V   | 1.4 M $\Omega$ | 1mV             | $\pm 0.1\%FS$  |
| DCmA        | 0~24.000 mA | 20.3 $\Omega$  | 1 $\mu A$       | $\pm 0.05\%FS$ |
| DCmV        | 0~99.999 mV | 1.4 M $\Omega$ | 1mV             | $\pm 0.05\%FS$ |
| RTD         | PT100、CU50  | **             | 0.1 °C / 0.1 °F | $\pm 0.1\%FS$  |
| TC          | K、T、E、J、N   | 1.4 M $\Omega$ | 0.1 °C / 0.1 °F | $\pm 0.1\%FS$  |
|             | R、S、B、W325  | 1.4 M $\Omega$ | 0.1 °C / 0.1 °F | $\pm 0.2\%FS$  |
| F           | 0~5000.0Hz  | 1.4 M $\Omega$ | 0.1Hz           | $\pm 0.2\%Hz$  |

1): Resistance simulation need excitation current 0.6mA

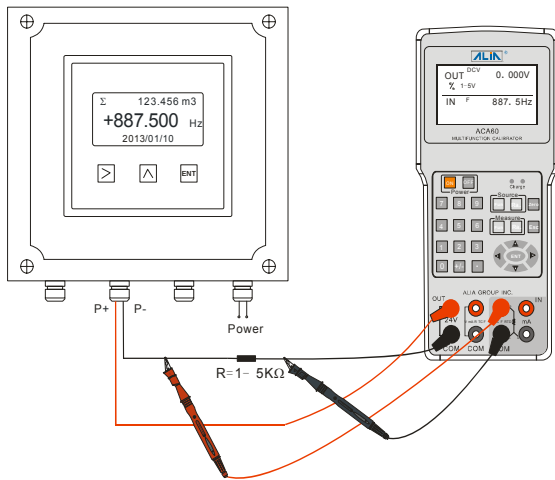
| TC Measurement and Source |              |               |              |                                  |                                  |
|---------------------------|--------------|---------------|--------------|----------------------------------|----------------------------------|
| Sensor Type               |              | Display( °C)  | mV           | Measurement                      | Simulation                       |
|                           |              |               |              | 1Year Uncertainty <sup>(1)</sup> | 1Year Uncertainty <sup>(1)</sup> |
| K                         | NiCr-Ni      | 0000.0~1768.0 | 0.000~54.874 | $\pm 0.35$ °C                    | $\pm 0.35$ °C                    |
| T                         | Cu-Con       | 000.0~320.0   | 0.000~16.029 | $\pm 0.25$ °C                    | $\pm 0.25$ °C                    |
| E                         | NiCr-Con     | 0000.0~1000.0 | 0.000~76.354 | $\pm 0.25$ °C                    | $\pm 0.25$ °C                    |
| J                         | Fe-Con       | 0000.0~1200.0 | 0.000~69.535 | $\pm 0.3$ °C                     | $\pm 0.3$ °C                     |
| N                         | NiCrSi-NiSi  | 0000.0~1300.0 | 0.000~47.513 | $\pm 0.4$ °C                     | $\pm 0.4$ °C                     |
| R                         | Pt13Rh-Pt    | 0000.0~1760.0 | 0.000~21.006 | $\pm 0.8$ °C                     | $\pm 0.8$ °C                     |
| S                         | Pt10Rh-Pt    | 0000.0~1768.0 | 0.000~18.696 | $\pm 0.85$ °C                    | $\pm 0.85$ °C                    |
| B                         | Pt30Rh-Pt6Rh | 0000.0~1820.0 | 0.000~13.814 | $\pm 1.5$ °C                     | $\pm 1.5$ °C                     |
| W325                      | WRe3-WRe25   | 0000.0~2300.0 | 0.000~39.353 | $\pm 0.9$ °C                     | $\pm 0.9$ °C                     |

| TC Measurement and Source Reference Junction |                                  |
|----------------------------------------------|----------------------------------|
| Range( °C)                                   | 1Year Uncertainty <sup>(1)</sup> |
| -10~50 °C                                    | $\pm 0.28$ °C                    |

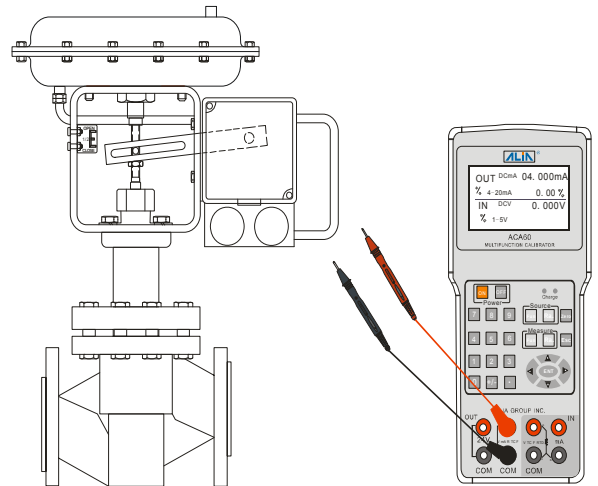
| RTD Measurement and Simulation |                  |               |                                  |                                  |
|--------------------------------|------------------|---------------|----------------------------------|----------------------------------|
| Sensor Type                    | Display( °C)     | $\Omega$      | Measurement                      | Simulation                       |
|                                |                  |               | 1Year Uncertainty <sup>(1)</sup> | 1Year Uncertainty <sup>(1)</sup> |
| PT100                          | -200.0~800.0 °C  | 18.52~375.7   | 0.2 °C                           | 0.25 °C                          |
| Cu50                           | -50.00~150.00 °C | 39.242~82.134 | 0.25 °C                          | 0.9 °C                           |

1): Uncertainty include reference uncertainty , hysteresis , non-linearity , repeatability and typical long-term stability for the mentioned period .

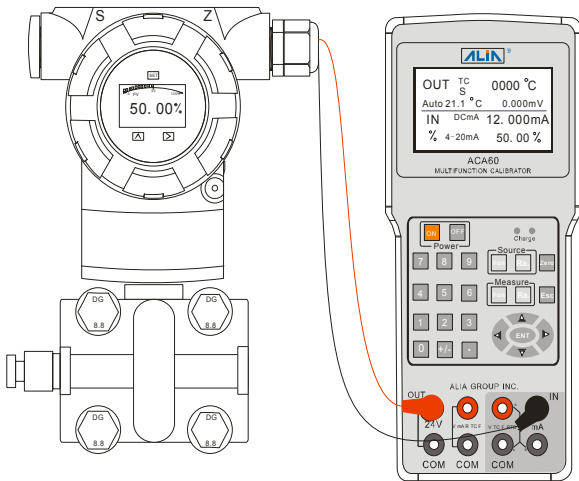
## TYPICAL APPLICATIONS



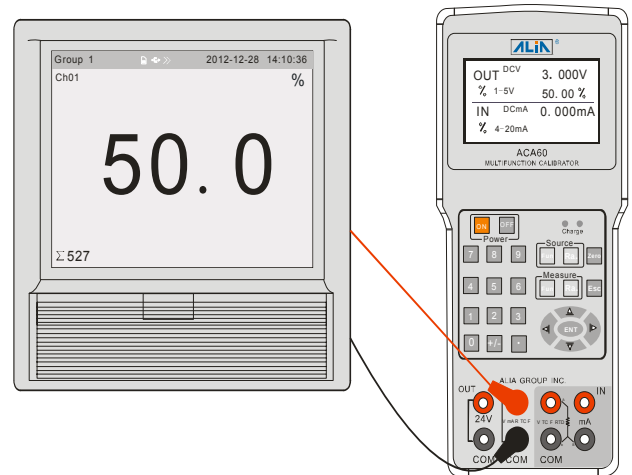
Frequency/Pulse measurement



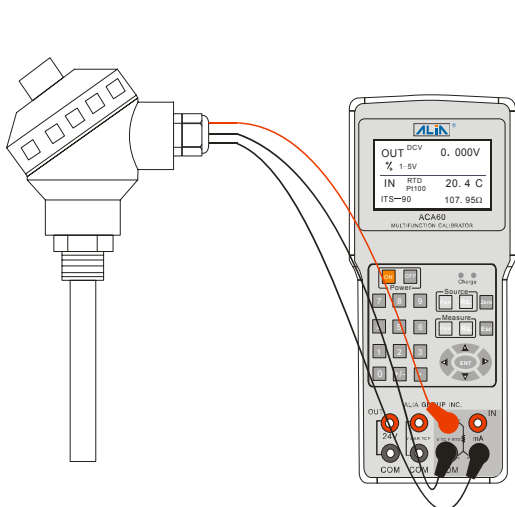
4-20 mA output of control valve simulation



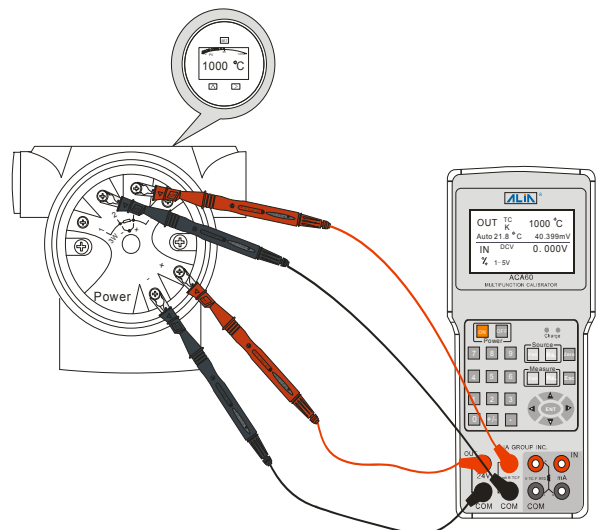
24VDC power supply and 4~20mA measurement



1-5V/4-20 mA simulation for recorder

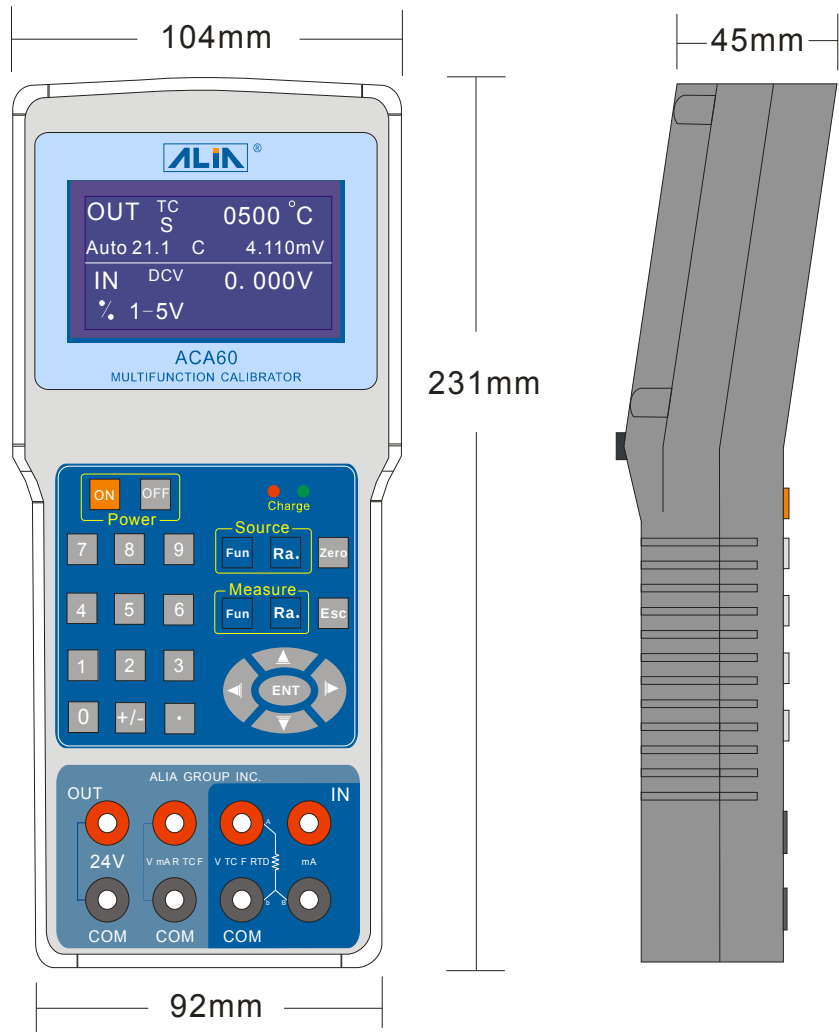


RTD-3w measurement



24V power supply and T/C converter simulation

DIMENSIONS



ACCESSORIES

