# STEK 729 Multifunction Calibrator And 4.5 Digit True RMS Multimeter

## Multifunction Process Calibrator + DMM

### Features

- Source 4 – 20 mA loop Current (1KΩ load, 24V Loop Supply)
- Source 0 – 100mV, 0 – 1.000V, 0 – 12.000V
- Calibrate temperature of 11 types of thermocouples
- Source frequency with programmable duty cycle
- Calibrate thermocouple transmitters
- DMM 24000 counts
- DMM Functions (Measure): ⎓mA, ⎓mV, ⎓V (AC True RMS), Ω, Hz (Duty cycle %), →|←, •))), Temperature
- Source and Measure Simultaneously
- Selectable HART 250Ω resistor to facilitate use with HART communication device
- Auto step and auto ramp for sourcing mA, V, and temperature
- 25% ▲, 25% ▼, or programmable percentage(%) increase and decrease.






## Specifications (23ºC ± 5ºC, 10 min. after power on)

### DCmA Source (Max. Load 1KΩ, Max. Voltage Supply 24V)

| Range | Resolution | Accuracy |
|---|---|---|
| 4 - 20mA , 0 - 20mA, 0 -24 mA | 1uA | ± 0.025% ±3uA |

When output Open, the LCD displays "OL".

### DCmV, DCV Source

(Max. Load 1mA, Short circuit protection <100mA)

| Range | Resolution | Accuracy |
|---|---|---|
| 0 - 100mV | 10uV | ± 0.05% ± 30uV |
| 0.1 - 1.0000V | 100uV | ± 0.05% ± 300uV |
| 1 - 12.000V | 1mV | ± 0.05% ± 3mV |

When output Short circuit, the LCD displays "OL".

### ACmA Measure (Ture RMS)

| Range | Resolution | Accuracy | |
|---|---|---|---|
| | | 50/60Hz | 40-1KHz |
| 24mA | 1uA | ±1%±5dgts | ±2%±5dgts |

### DCmA Measure

| Range | Resolution | Accuracy |
|---|---|---|
| 24mA | 1uA | ±0.05%±2dgts |

### DCV Measure (Overload Protection AC 600V, Input Impedence 10MΩ)

| Range | Resolution | Accuracy |
|---|---|---|
| 2.4V | 0.1 mV | ±1%±3dgts |
| 24V | 1 mV | ±1%±3dgts |
| 240V | 10 mV | ±1%±3dgts |
| 600V | 100mV | ±1.5%±3dgts |

### ACV Measure (Ture RMS)

(Overload Protection AC600V, Input Impedence 10MΩ)

| Range | Resolution | Accuracy | |
|---|---|---|---|
| | | 50/60Hz | 40-1KHz |
| 24V | 1 mV | ±1%±5dgts | ±2%±5dgts |
| 240V | 10 mV | ±1%±5dgts | ±2%±5dgts |
| 600V | 100mV | ±1.5%±5dgts | ±2%±5dgts |

### Frequency SOURCE (TTL, Square wave)

| Range (Hz) | Resolution | Accuracy |
|---|---|---|
| 1.0~1000.0Hz | 0.1Hz | 0.1Hz |
| 1000~10000Hz | 1Hz | 1Hz |
| 10000~20000Hz | 1Hz | 10Hz |

### Duty Cycle Source/Measure (1~20KHz)

| Range | Resolution | Accuracy |
|---|---|---|
| 1% to 99% | 1% | ±1%±30μS |

### Resistance (Ω) (Measure, Open Voltage 0.4V, Overload protection AC 600V)

| Range | Resolution | Accuracy |
|---|---|---|
| 400Ω | 0.01Ω | ±1%±2dgts |
| 4KΩ | 0.1Ω | ±1%±2dgts |
| 40KΩ | 1Ω | ±1%±2dgts |
| 400KΩ | 10Ω | ±1%±2dgts |
| 4MΩ | 100Ω | ±1.5%±2dgts |
| 40MΩ | 1KΩ | ±1.5%±2dgts |

### Continuity : Measure, Open voltage 2V, Overload protection AC 600V, <10Ω Beep

### Diode (Measure, Open voltage 2V, Overload protection AC 600V)

| Range | Resolution | Accuracy |
|---|---|---|
| 0~1.9999V | 0.0001V | ±2.5%±5dgts |

### Temperature, Thermocouples

(Source / Measure , Resolution 0.1°C&0.1°F , Internal cold junction compensation , Thermocouples accuracy not included, 3 minutes after plugging in thermocouples)

| | °C | | °F | |
|---|---|---|---|---|
| | Range | Accuracy | Range | Accuracy |
| K | -200 to -150 | 2.0 | -382 to -238 | 3.6 |
| | -150 to 0 | 1.2 | -238 to 32 | 2.1 |
| | 0 to 1000 | 0.8 | 32 to 1832 | 1.4 |
| | 1000 to 1370 | 1.2 | 1832 to 2498 | 2.1 |
| J | -200 to -150 | 2.0 | -382 to -238 | 3.6 |
| | -150 to 0 | 1.0 | -238 to 32 | 1.8 |
| | 0 to 1050 | 0.7 | 32 to 1922 | 1.2 |
| E | -200 to -150 | 1.5 | -382 to -238 | 2.7 |
| | -150 to 0 | 0.9 | -238 to 32 | 1.6 |
| | 0 to 850 | 0.7 | 32 to 1562 | 1.2 |
| T | -200 to -150 | 1.5 | -382 to -238 | 2.7 |
| | -150 to 0 | 1.2 | -238 to 32 | 2.1 |
| | 0 to 400 | 0.8 | 32 to 752 | 1.4 |
| R | 0 to 500 | 1.8 | 32 to 932 | 3.2 |
| | 500 to 1760 | 1.5 | 932 to 3200 | 2.7 |
| S | 0 to 500 | 1.8 | 32 to 932 | 3.2 |
| | 500 to 1760 | 1.5 | 932 to 3200 | 2.7 |
| N | -200 to 0 | 1.5 | -328 to 32 | 2.7 |
| | 0 to 1300 | 0.9 | 32 to 2372 | 1.6 |
| L | -200 to 0 | 0.9 | -328 to 32 | 1.6 |
| | 0 to 900 | 0.7 | 32 to 1652 | 1.2 |
| U | -200 to 0 | 1.1 | -328 to 32 | 1.9 |
| | 0 to 600 | 0.7 | 32 to 1112 | 1.2 |
| B | 600 to 800 | 2.2 | 1112 to 1472 | 3.9 |
| | 800 to 1000 | 1.8 | 1472 to 1832 | 3.2 |
| | 1000 to 1820 | 1.4 | 1832 to 3308 | 2.5 |
| C | 0 to 1800 | 1.0 | 32 to 3272 | 1.8 |
| | 1800 to 2310 | 1.5 | 3272 to 4190 | 2.7 |

### General Specifications

| | |
|---|---|
| **Dimension** | 214.0(L) x 98.7(W) x 56.0(H) mm<br>8.4" (L) x 3.9" (W) x 2.2" (H) |
| **Weight** | 650g / 22.9oz (Batteries included) |
| **Operation Environment** | 0ºC to 50ºC, 85% RH |
| **Accessories** | Carrying case x 1<br>User manual x 1<br>1.5V SUM-3 Battery x 5<br>K-type thermocouples (dual plugs) x 1<br>Alligator clips x 2 (black and red)<br>Test leads x 2 (black and red) |