

Digital Multimeter Technical Specifications

Standard conditions: The environment temperature is 18°C to 28°C, the relative humidity is less than 80%.

Note: "T" in the model indicates true RMS (optional).

35 series multimeter

| Function | | Measurement Range | Resolution | Accuracy |
|--------------------------------------|----|---|------------|--------------|
| DC Voltage (V) | mV | 60.00mV/600.0mV | 0.01 mV | ±(0.5%+2dig) |
| | V | 60.00mV/600.0mV/6.000V/60.00V | 0.1 mV | |
| | | 600.0V/1000V | 0.1 V | |
| AC Voltage (V) | mV | 60.00mV/600.0mV | 0.01 mV | ±(0.8%+2dig) |
| | V | 60.00mV/600.0mV/6.000V/60.00V | 1 mV | ±(0.8%+2dig) |
| | | 600.0V/750V | 0.1 V | ±(1%+3dig) |
| DC Current (A) | μA | 600.0μA | 0.1 μA | ±(0.8%+2dig) |
| | mA | 600.0μA/6.000mA/60.00mA/ 600.0mA/6.000A | 0.01 mA | ±(0.8%+2dig) |
| | A | 20.00A ^[1] | 1 mA | ±(1.2%+3dig) |
| AC Current (A) | μA | 600.0μA | 0.1 μA | ±(1%+3dig) |
| | mA | 600.0μA/6.000mA/60.00mA/ 600.0mA/6.000A | 0.01 mA | ±(0.8%+2dig) |
| | A | 20.00A ^[1] | 1 mA | ±(2%+3dig) |
| Resistance (Ω) | | 600.0Ω/6.000kΩ/60.00kΩ/600.0kΩ/6.000MΩ/10.00MΩ | 0.1 Ω | ±(0.8%+2dig) |
| | | 60.00MΩ | 0.01 MΩ | ±(2%+3dig) |
| Capacitance (F) | | 40.00nF | 0.01 nF | ±(2.5%+3dig) |
| | | 400.0nF/4.000μF/40.00μF | 0.1 nF | ±(2.5%+3dig) |
| | | 400.0μF/4000μF ^[2] | 0.1 μF | ±(3%+5dig) |
| Frequency ^[3] (Hz) | | 9.999Hz/99.99Hz/999.9Hz/9.999kHz/99.99kHz/999.9kHz/9.999MHz | 1 mHz | ±(0.8%+2dig) |
| Duty Cycle ^[4] (%) | | 0.1% - 99.9% (Typical: V _{rms} =1 V, f=1 kHz) | 0.1% | ±(1.2%+3dig) |
| | | 0.1% - 99.9%(≥1 kHz) | | ±(2.5%+3dig) |
| Temperature (°C/°F) | | -50 °C to 400 °C | 1 °C | ±(2.5%+3dig) |
| | | -58 °F to 752 °F | 1 °F | ±(4.5%+5dig) |

[1] When measuring current, for 10 A to 15 A, the measuring duration should not be over 2 minutes within 10 minutes, and in this 10 minutes, no other current should flow through except within the measuring duration; for 15 A to 20 A, the measuring duration should not be over 10 seconds within 15 minutes, and in this 15 minutes, no other current should flow through except within the measuring duration.

[2] When measuring capacitance, for the 4000 uF range, the measuring duration should be over 30 seconds.

[3] When measuring frequency, the typical waveform is Square or Sine. The signal meets the following conditions.

| Frequency | Amplitude (rms) |
|----------------|-----------------|
| 1 Hz – 4 MHz | ≥ 300 mV |
| 4 MHz – 8 MHz | ≥ 600 mV |
| 8 MHz – 10 MHz | ≥ 750 mV |

[4] When measuring duty cycle, the typical waveform is Square.

B41T(+) multimeter

| Function | | Measurement Range | Resolution | Accuracy | | |
|-----------------------|--------------------------------------|-----------------------|---------------|---------------|---------------|--|
| DC Voltage (V) | mV | 220mV | 0.01 mV | ±(0.1%+5dig) | | |
| | V | 2.2V | 0.1 mV | ±(0.1%+2dig) | | |
| | | 22V | 1 mV | | | |
| | | 220V | 10 mV | | | |
| | | 1000V | 0.1 V | | | |
| | | | | ±(0.1%+5dig) | | |
| AC Voltage (V) | mV | 220mV | 0.01 mV | ≤1kHz | ±(1.0%+10dig) | |
| | | | | >1kHz | ±(1.5%+50dig) | |
| | V | 2.2V | 0.1 mV | ≤1kHz | ±(0.8%+10dig) | |
| | | | | >1kHz | ±(1.2%+50dig) | |
| | | 22V | 1 mV | ≤1kHz | ±(0.8%+10dig) | |
| | | | | >1kHz | ±(1.2%+50dig) | |
| | | 220V | 10 mV | ≤1kHz | ±(0.8%+10dig) | |
| | | | | >1kHz | ±(2.0%+50dig) | |
| | 750V | 0.1 V | ≤1kHz | ±(1.2%+10dig) | | |
| | | | >1kHz | ±(3.0%+50dig) | | |
| | DC Current (A) | μA | 220μA | 0.01 μA | ±(0.5%+10dig) | |
| | | | 2200μA | 0.1 μA | | |
| mA | | 22mA | 1 μA | ±(0.8%+10dig) | | |
| | | 220mA | 10 μA | | | |
| A | | 20.00A ^[1] | 1 mA | ±(2%+25dig) | | |
| AC Current (A) | μA | 220μA | 0.01 μA | ≤1kHz | ±(0.8%+10dig) | |
| | | | | >1kHz | ±(1.2%+50dig) | |
| | | 2200μA | 0.1 μA | ≤1kHz | ±(0.8%+10dig) | |
| | | | | >1kHz | ±(1.2%+50dig) | |
| | mA | 22mA | 1 μA | ≤1kHz | ±(1.2%+10dig) | |
| | | | | >1kHz | ±(1.5%+50dig) | |
| | | 220mA | 10 μA | ≤1kHz | ±(1.2%+10dig) | |
| | | | | >1kHz | ±(1.5%+50dig) | |
| | A | 20.00A ^[1] | 1 mA | ≤1kHz | ±(1.5%+10dig) | |
| | | | | >1kHz | ±(2.0%+50dig) | |
| | Resistance ^[2] (Ω) | 220Ω | | 0.01 Ω | ±(0.5%+10dig) | |
| | | 2.2kΩ | | 0.1 Ω | | |
| 22kΩ | | 1 Ω | | | | |
| 220kΩ | | 10 Ω | | | | |
| 2.2MΩ | | 100 Ω | ±(0.8%+10dig) | | | |

| | | | |
|---|--|------------------------|--------------------------------|
| | 22M Ω | 1.2 k Ω | $\pm(1.5\%+10\text{dig})$ |
| | 220M Ω | 100 k Ω | $\pm(5.0\%+10\text{dig})$ |
| Capacitance (F) | 22nF | 1 pF | $\pm(3.0\%+5\text{dig})$ |
| | 220nF | 10 pF | |
| | 2.2 μ F | 100 pF | |
| | 22 μ F | 1 nF | |
| | 220 μ F | 10 nF | |
| | 2.2mF | 100 nF | $\pm(4.0\%+10\text{dig})$ |
| | >220mF ^[3] | Undefined | Undefined |
| Frequency ^[4] (Hz) | 22.00Hz | 0.01 Hz | $\pm(0.1\%+4\text{dig})$ |
| | 220.0Hz | 0.1 Hz | |
| | 22.000kHz | 1 Hz | |
| | 220.00kHz | 10 Hz | |
| | 2.2000MHz | 0.1 kHz | |
| | 22.000MHz | 1 kHz | |
| | $\leq 220\text{MHz}$ | 0.01MHz | Undefined |
| Duty Cycle ^[5] (%) | 5.0% - 94.9% (Typical: V _{rms} =1V, f=1kHz) | 0.1% | $\pm(1.2\%+3\text{dig})$ |
| | 5.0% - 94.9% (≥ 1 kHz) | | $\pm(2.5\%+3\text{dig})$ |
| Temperature ($^{\circ}\text{C}/^{\circ}\text{F}$) | -50 $^{\circ}\text{C}$ to 400 $^{\circ}\text{C}$ | 0.1 $^{\circ}\text{C}$ | $\pm(1.0\%+5^{\circ}\text{C})$ |
| | -58 $^{\circ}\text{F}$ to 752 $^{\circ}\text{F}$ | 0.1 $^{\circ}\text{F}$ | $\pm(1.2\%+6^{\circ}\text{F})$ |

[1] When measuring current, for 10 A to 15 A, the measuring duration should not be over 2 minutes within 10 minutes, and in this 10 minutes, no other current should flow through except within the measuring duration; for 15 A to 20 A, the measuring duration should not be over 10 seconds within 15 minutes, and in this 15 minutes, no other current should flow through except within the measuring duration.

[2] Without relative operation, add $\pm 0.50 \Omega$ additional error in resistance function.

[3] When measuring capacitance, for the 220 mF range, the measuring duration should be over 25 seconds.

[4] When measuring frequency, the typical waveform is Square or Sine. The signal meets the following conditions.

| Frequency | Amplitude (rms) |
|----------------|-----------------|
| 1 Hz – 4 MHz | ≥ 300 mV |
| 4 MHz – 8 MHz | ≥ 600 mV |
| 8 MHz – 10 MHz | ≥ 750 mV |

[5] When measuring duty cycle, the typical waveform is Square.

| Characteristics | Instruction | |
|--------------------------------|-----------------------|---------------|
| Display | 35 series | 6000 |
| | B41T(+) | 22000 |
| Frequency Response (Hz) | The model without "T" | (40 - 400) Hz |

| | | | |
|---|--|-----------------|-----------------|
| | The model with "T" | 35 series | (40 - 1000) Hz |
| | | B41T(+) | (40 - 10000) Hz |
| Sample rate for digital data | 35 series | 3 times/second | |
| | B41T(+) | 2 times/second | |
| Sample rate for analog bar graph | 35 series | 30 times/second | |
| | B41T(+) | Undefined | |
| Bluetooth | B35(T)(+) | √ | |
| | B41T(+) | | |
| | D35(T) | Without | |
| Auto ranging | √ | | |
| True RMS | The model with "T" has this function. | | |
| Diodes Test | √ | | |
| Measuring Transistor | 35 series | √ | |
| | B41T(+) | Without | |
| Sleep Mode | √ | | |
| Continuity Test | √ | | |
| Low battery indication | √ (The "⊕-⊖" is displayed when the battery is under the proper operation range.) | | |
| Data Hold | √ | | |
| Relative Measurement | √ | | |
| MAX/MIN Value | √ | | |
| LCD Backlight | √ | | |
| Analog bar graph | 35 series | 61 Segments | |
| | B41T(+) | 45 Segments | |
| Input Protection | √ | | |
| Input Impedance | 10 MΩ | | |
| Battery | 3 V (1.5 V × 2) AA alkaline batteries | | |
| LCD Size | 69 mm * 52 mm | | |
| Weight (without package) | 0.32 kg | | |
| Dimension | 85 mm * 185 mm * 30 mm | | |
| Working temperature | 0°C to 40°C | | |
| Storage temperature | -10°C to 60°C | | |
| Relative Humidity | ≤ 80% | | |
| Altitude | Operating: 3,000 m Non-operating: 15,000 m | | |

Interval Period of Adjustment:

One year is recommended for the calibration interval period.



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V1.8