

STA9941 Series Digit Multimeter



- 21,000/51,000-count display
- Large-screen dual-display VFD with high brightness
- True RMS AC voltage and current measurements, bandwidth up to 100kHz
- Measurement functions, including DCV/ACV, DCI/ACI, Ω, frequency/period, diode, Continuity, dBm, dB, etc.
- Parameters, such as AC+DC, AC+Hz, Readout+d Readout+d B m , displayed synchronously
- Measurement speed up to 25 meas/sec
- DCV accuracy up to 0.02%, resolution up to 10μV
- Measured value displayed in the form of percentage
- Relative mode (REL) to eliminate residual reading
- Calibration without opening the case
- Limit function (HI/IN/LO) for fast sorting
- Equipped RS232C communication interface providing convenient system communication



| | | |
|----------|------------|--------|
| RS232 | USB DEVICE | GPIB |
| standard | standard | option |

STA9941/STA9942

Rack mount (mm): 215(W) x 88(H) x 300(D)
Dimension (mm) : 235(W) x 105(H) x 320(D)
Net weight: 2.7 kg

Brief Introduction

■ STA9941 4 1/2-digit true-RMS digital multimeter and STA9942 50,000-count digital multimeter are voltage, current, resistance tester with multi functions and low cost. The instrument can stably perform measurement at high speed as several times as competitive instruments in this class. It provides excellent performance, such as maximum reading of 21,000/51,000 counts, maximum DC voltage accuracy of 0.02%, and low cost to give you a best choice. Having VFD dual-display with high brightness, STA9941/ STA9942 can synchronously display measurement parameters, such as AC/DC voltage or current, AC voltage/ current and frequency to improve measurement efficiency and display results clearly. The instrument is equipped with SMD component inside to reduce density and physical size. The instrument comes standard with RS232C communication interface and common communication software is optional to meet the need of communication with computer, data analysis and statistics, and building up automatic test system. The instrument accepts SCPI command to ensure compatibility of communication software.

Ordering Information

STA9941 4 1/2 Digit Multimeter

STA9942 50000 count Digit Multimeter

Standard Accessories

SBF0036 1 pair of test lead (red and 3 cord power line(According to different regions))

Options

SBF0034 RS232C interface connection
SAB0025 RS232C communications
SAB0024 Accuracy calibration software

Measurement Functions

| | |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Measurement Parameters | DC/AC Voltage, DC/AC Current, Resistance, Frequency, Period, Continuity, Diode |
| Math function | %, dB, dBm, REL |
| Range | Auto, Manual |
| Display | VFD, dual display |
| Reading mode | Single display: all measurement parameters Dual display: ACV+DCV, ACI+DCI, ACV+Hz, ACI+Hz, Readout+dB/dBm, Readout+Max/Min |
| Trigger mode | INT/MAN/BUS |
| Reading hold | TO find out the best stable reading for each data block of the given reading number according to given accuracy |
| Comparator | To judge HI, IN, LO and display, with ALARM at HI/LO(selectable) |
| Interface | RS232C(only STA9942), supporting SCPI command |

General Specifications

| | | |
|--------------------------------|-------------------|-------------------------|
| Working temperature & humidity | 0°C-40°C, ≤90%RH | |
| Power supply | Voltage | 198V-242VAC, 99V-121VAC |
| | Frequency | 47.5Hz-63Hz |
| Power consumption | ≤ 10 VA | |
| Dimensions (W×H×D) | 277mmx115mmx340mm | |
| Weight | Approx. 2.2 kg | |

| | |
|-----------------------------------------------------------------------------------------|--|
| Measurement condition | |
| Calibration cycle: one year | |
| Operation Humidity: 18°C–28°C , ≤90%RH; When resistor range is 10M and 100M, ≤70%RH | |
| Warming up time: 30 min | |
| Accuracy is expressed as: +/- (% of reading + % of range) | |
| Temperature coefficient: 0°C--18°C & 28°C--40°C, +0.1%×accuracy /°C | |
| Following is the specification at slow mode, others please refer the operation manual . | |

| Model | | STA9941 | | | | | STA9942 | | | | |
|----------------------------------|---------------|--------------------|------------|--------------|--------------------------------------|--------------|--------------------|--------------|-------------------|-----------|-------|
| Speed (counts/second) | | Slow | Middle | Fast | Slow | Middle | Fast | Slow | Middle | Fast | |
| DCV,DCI | | 5 | 10 | 25 | 5 | 10 | 25 | 5 | 10 | 25 | |
| ACV,ACI | | 5 | 10 | 25 | 5 | 10 | 25 | 5 | 10 | 25 | |
| Ω | | 5 | 10 | 25 | 5 | 10 | 25 | 5 | 10 | 25 | |
| AC+DC | | 1.2 | 1.4 | 1.5 | 1.2 | 1.4 | 1.5 | 1.2 | 1.4 | 1.5 | |
| Freq | | 1 | 2 | 3.9 | 1 | 2 | 3.9 | 1 | 2 | 3.9 | |
| DC voltage | | Max. reading | Resolution | Accuracy | Input impedance | Max. reading | Resolution | Accuracy | Input impedance | | |
| Range | 200mV/500mV | 210.00 | 10μV | 0.03+0.04 | 10MΩ | 510.00 | 10μV | 0.02+0.016 | 10MΩ | | |
| | 2V/5V | 2.1000 | 100μV | 0.03+0.02 | 11.1MΩ | 5.1000 | 100μV | 0.02+0.008 | 11.1MΩ | | |
| | 20V/50V | 21.000 | 1mV | 0.03+0.02 | 10.1MΩ | 51.000 | 1mV | 0.02+0.008 | 10.1MΩ | | |
| | 200V/500V | 210.00 | 10mV | 0.03+0.02 | 10MΩ | 510.00 | 10mV | 0.02+0.008 | 10MΩ | | |
| | 1000V | 1200.00 | 100mV | 0.03+0.02 | 10MΩ | 1200.00 | 100mV | 0.02+0.008 | 10MΩ | | |
| DC current | | Max. reading | Resolution | Accuracy | Load voltage/ shunt resistance | Max. reading | Resolution | Accuracy | voltage /shunt | | |
| Range | 2mA/5mA | 2.1000 | 0.1μA | 0.08+0.025 | <0.3V/100Ω | 5.1000 | 0.1μA | 0.05+0.010 | <0.6V/100Ω | | |
| | 20mAV/50mA | 21.000 | 1μA | 0.08+0.020 | <0.04V / 1Ω | 51.000 | 1μA | 0.05+0.008 | <0.06V / 1Ω | | |
| | 200mA/500mA | 210.00 | 10μA | 0.08+0.020 | <0.3V / 1Ω | 510.00 | 10μA | 0.05+0.008 | <0.6V / 1Ω | | |
| | 2A/5A | 2.1000 | 100μA | 0.3+0.025 | <0.05V / 10mΩ | 5.1000 | 100μA | 0.25+0.010 | <0.1V / 10mΩ | | |
| | 20A | 20.000 | 1mA | 0.3+0.025 | <0.6V / 10mΩ | 20.000 | 1mA | 0.25+0.010 | <0.6V / 10mΩ | | |
| AC voltage | | 200mV | 2V | 20V | 200V | 750V | 500mV | 5V | 50V | 500V | 750V |
| Resolution | | 10μV | 100μV | 1mV | 10mV | 100mV | 10μV | 100μV | 1mV | 10mV | 100mV |
| Accuracy | 20~50 Hz | 1.0+0.2 | | | ----- | 1.0+0.08 | | | ----- | | |
| | 50~20 kHz | 0.5+0.15 | 0.4+0.05 | | 0.8+0.075 | 0.5+0.06 | 0.35+0.02 | | 0.50+0.03 | | |
| | 20k~50 kHz | 1.8+0.25 | | 1.5+0.10 | | 1.5+0.1 | | 1.00+0.04 | | | |
| | 50k~100 kHz | 3.0+0.75 | | 3.0+0.25 | | 3.0+0.3 | | 3.0+0.1 | | | |
| AC current | | 2mA | 20mA | 200mA | 2A | 20A | 5mA | 50mA | 500mA | 5A | 20A |
| Resolution | | 0.1μA | 1μA | 10μA | 100μA | 1mA | 0.1μA | 1μA | 10μA | 100μA | 1mA |
| Accuracy | 20~50 Hz | 1.50+0.5 | | | 2.00+0.5 | | 1.50+0.16 | | | 2.00+0.16 | |
| | 50~2 kHz | 0.5+0.3 | | | 0.5+0.3 | | 0.5+0.08 | | | 0.5+0.1 | |
| | 2k~20 kHz | 2+0.5 | 2+0.38 | | ----- | 2+0.16 | 2+0.12 | | ----- | | |
| Load voltage/shunt resistance | | Same as DC current | | | | | Same as DC current | | | | |
| Resistance | | Max. reading | Resolution | Test current | Accuracy | Max. reading | Resolution | Test current | Accuracy | | |
| Range | 200Ω/500Ω | 210.00 | 10mΩ | 0.5 mA | 0.10+0.05 | 510.00 | 10mΩ | 0.5 mA | 0.10+0.010 | | |
| | 2 kΩ/5 kΩ | 2.1000 | 100mΩ | 0.45 mA | 0.10+0.025 | 5.1000 | 100mΩ | 0.45 mA | 0.10+0.008 | | |
| | 20 kΩ/50 kΩ | 21.000 | 1Ω | 45μA | 0.10+0.025 | 51.000 | 1Ω | 45μA | 0.10+0.008 | | |
| | 200 kΩ/500 kΩ | 210.00 | 10 Ω | 4.5μA | 0.10+0.025 | 510.00 | 10 Ω | 4.5μA | 0.10+0.008 | | |
| | 2MΩ/5 MΩ | 2.1000 | 100 Ω | 450nA | 0.15+0.025 | 5.1000 | 100 Ω | 450nA | 0.15+0.008 | | |
| | 20MΩ/50 MΩ | 21.000 | 1kΩ | 45nA | 0.30+0.05 | 51.000 | 1kΩ | 45nA | 0.30+0.010 | | |
| Frequency | | Max. reading | Resolution | Accuracy | Sensitivity | Max. reading | Resolution | Accuracy | Sensitivity | | |
| Range | 5~10Hz | 9.9999 | 0.0001Hz | 0.05+0.02 | 200mV rms | 9.9999 | 0.0001Hz | 0.05+0.02 | 200mV rms | | |
| | 10~100Hz | 99.999 | 0.001Hz | 0.01+0.02 | 300mV rms | 99.999 | 0.001Hz | 0.01+0.02 | 300mV rms | | |
| | 100~100kHz | 999.99 | 0.1Hz | 0.01+0.008 | 300mV rms | 999.99 | 0.1Hz | 0.01+0.008 | 300mV rms | | |
| | 100k~1MHz | 9999.9 | 10Hz | 0.01+0.008 | 500mV rms | 9999.9 | 10Hz | 0.01+0.008 | 500mV rms | | |