Tasira
Instruments & Services



## INTRODUCTION

METRAVI 19 Super is a 3 5/6 digit true RMS small-size handheld digital multimeter, with complete functions, modern structure, high reliability and safety, large screen, and auto range. It can measure AC/DC voltage/current, resistance, diode, transistor, continuity, capacitance, frequency, duty ratio, Celsius/Fahrenheit temperature, NCV etc. It is an ideal tool for convenient repair and maintenance.

## ACCESSORIES

- User manual
- Pair of test leads
- K-type Thermocouple

## SPECIFICATION GENERAL

- T-RMS Measurements
- Auto-Ranging
- Display 6000 counts LCD;
- Sampling Rate: 2~3 times/s;
- Over-Range Indication 'OL'.
- Display for Capacitance range: 6200 counts
- Display for Frequency range: 9999 counts
- Polarity: Auto
- Operating Temperature: 0˚C~40˚C(32˚F~104˚F)
- Storage Temperature: -10˚C~50˚C(14˚F~122˚F)
- Relative Humidity: 0˚C~30˚C, RH≤75%; 30˚C~40˚C, RH≤50%
- Operating Altitude: 0~2000m
- Battery: 6F22 9V
- Low Battery: LCD displays the symbol, " ".
- Size: 186 mm×91mm×39mm
- Weight: around 305g (including batteries)
- Electromagnetic compatibility: RF≤1V/m, overall accuracy=specified accuracy+5% of range; RF>1V/m, no specified calculation.
- CE Certification
- Data Hold: To freeze displayed data
- Relative Measurement
- The device complies with IEC60101-1, Pollution Degree 2, over-voltage (CAT II 1000V), and double insulation safety standards
- Transistor Test and Diode Test
- Built-in Non Contact type Voltage Detector

## TECHNICAL SPECIFICATIONS

**Accuracy :** ± (a% of reading + b), 'b' is the numerical value in least significant digit slot; 1 year warranty,

Ambient temperature: 23˚C±5˚C (73.4˚F±9˚F).

Ambient humidity: ≤75% RH.



*Technical Specifications & Appearance are subjet to change without prior notice

METRAVI® | T-RMS DIGITAL MULTIMEER | 19-SUPER

## DC VOLTAGE

| Range | Resolution | Accuracy |
|---|---|---|
| 600.0mV | 0.1mV | ±(0.8%+3) |
| 6.000V | 0.001V | ±(0.5%+3) |
| 60.00V | 0.01V | |
| 600.0V | 0.1V | ±(0.7%+3) |
| 1000V | 1V | |

⚠ **Input impedance:** around 10MΩ

## AC VOLTAGE (T-RMS)

| Range | Resolution | Accuracy |
|---|---|---|
| 600.0mV | 0.1mV | ±(1.0%+4) |
| 6.000V | 0.001V | ±(0.8%+3) |
| 60.00V | 0.01V | |
| 600.0V | 0.1V | ±(1.2%+3) |
| 1000V | 1V | |

⚠ **Input impedance:** around 10MΩ

- True RMS display. Frequency response: 45~400Hz
- Accuracy assurance range: 5~100%.
- AC crest factor can reach up to 3.0 (1.5 for 600V range)

Non sine wave: When the crest factor is 1.0~2.0, the accuracy should increase by 3.0%, 2.0~2.5, 5.0%, and 2.5~3.0, 7.0%
Max input voltage: 1000Vrms.

## RESISTANCE

| Range | Resolution | Accuracy |
|---|---|---|
| 600.0Ω* | 0.1Ω | ±(1.0%+2) |
| 6.000kΩ | 0.001kΩ | ±(0.8%+2) |
| 60.00kΩ | 0.01kΩ | |
| 600.0kΩ | 0.1kΩ | |
| 6.000MΩ | 0.001MΩ | ±(1.2%+3) |
| 60.00MΩ | 0.01MΩ | ±(2.5%+5) |

⚠ • **Range**

- Measurement result = reading of resistor – reading of shorted test leads
- Voltage at open circuit: around 1V
- Overload protection: 250V

## CONTINUITY , DIODE

| Range | Resolution | Note |
|---|---|---|
| | 0.1Ω | Resistance setting in open circuit status: >50Ω, buzzer doesn't beep; Resistance setting for normal circuit: ≤10Ω, buzzer beeps continuously. |
| | 0.001V | Voltage at open circuit: about 3.2V Normal voltage of silicon PN junction is about 0.5~0.8V. |
| hFE | 1B | Triode amplification factor 1~1000B Ib=10uA ; VCC=3.2V |

⚠ **Overload protection :** 250V

## CAPACITANCE

| Range | Resolution | Accuracy |
|---|---|---|
| 6.000nF | 1pF | In relative mode: ±(4%+10) |
| 60.00nF ~ 600.0μF | 10pF ~ 0.1μF | ±(4%+5) |
| 6.000mF ~ 60.00mF | 1μF ~ 10μF | ±10% |

⚠ **Overload protection:** 250V

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## FREQUENCY/DUTY RATIO

| Range | Resolution | Accuracy |
|---|---|---|
| 9.999Hz ~ 9.999MHz | 0.001Hz ~ 0.001MHz | ±(0.1%+5) |
| 0.1%~99.9% | 0.1% | Unspecified |

⚠ **Overload protection:** 250V
**Input amplitude ≥:** (DC level is zero)
≤ 100kHz: 100mVrms≤a≤20Vrms
> 100kHz~1MHz: 200mVrms≤a≤20Vrms
> 1MHz: 500mVrms≤a≤20Vrms
> 5MHz~10MHz: 900mVrms≤ a ≤20Vrms
Duty ratio %: only applicable to ≤10kHz measurement

## TEMPERATURE

| Range | | | Resolution | Accuracy |
|---|---|---|---|---|
| ˚C | -40~1000˚C | -40~40˚C | 1˚C | ±4˚C |
| | | >40~500˚C | | ±(1.0%+4) |
| | | >500~1000˚C | | ±(2.0%+4) |
| ˚C | -40~1832˚F | -40~104˚F | 1˚F | ±5˚F |
| | | >104~932˚F | | ±(1.5%+5) |
| | | >932~1832˚F | | ±(2.5%+5) |

⚠ **Overload protection:** 250V

**Note:** The equipped accessory, K-type thermocouple can only test the temperature below 230˚C /446˚F.

## DC CURRENT

| Range | | Resolution | Accuracy |
|---|---|---|---|
| μA | 600.0μA | 0.1μA | ±(1.0%+3) |
| | 6000μA | 1μA | |
| mA | 60.00mA | 10μA | |
| | 600.0mA | 0.1mA | |
| A | 6.000A | 1mA | ±(1.2%+5) |
| | 20.00A | 10mA | |

- The device can test up to 10A current continuously.

**Overload protection:**
μA mA range: F2 Fuse FF0.6A H 250V
20A range: F1 Fuse F 20A H 250V

## AC CURRENT (T-RMS)

| Range | | Resolution | Accuracy |
|---|---|---|---|
| μA | 600.0μA | 0.1μA | ±(1.2+3) |
| | 6000μA | 1μA | |
| mA | 60.00mA | 0.01mA | |
| | 600.0mA | 0.1mA | |
| A | 6.000A | 0.001A | ±(1.5%+5) |
| | 20.00A | 0.1A | |

**Frequency response:** 45~400Hz

**Display:** True RMS

**Accuracy assurance range:** 5~100%, in short circuit status, remaining readings with less than 2 digits are permitted.

AC crest factor can reach up to 3.0.

**Non sine wave:** When the crest factor is 1.0~2.0, the accuracy should increase by 3.0%, 2.0~2.5, 5.0%, and 2.5~3.0, 7.0%

⚠ **Overload protection:** similar to the protection for DC current measurement

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www.tasirainstruments.com
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