



# ***Generation Two Phoenix True RMS Clamp-On Meter***



## **Functions**

- True RMS
- Capacitance 4000 $\mu$ F
- AC/DC Current 2000 $\mu$ A
- AC Current (Clamp) 400A
- Non-contact voltage 24 to 600V AC
- Volts 750V AC/1000V DC
- Resistance 40M $\Omega$
- Frequency/ Duty cycle
- Continuity
- Diode test
- Min/Max
- Temperature range: (K-Type)  
-22° to 752°F

## **Features**

- Dual display
- Detachable clamp head
- Input jack lock
- Worklight
- Low battery display lock
- High contrast backlit display
- Magnetic mount
- User temperature calibration
- Test lead storage
- Test lead holder on clamp head
- Auto power off
- Compatible with common industry accessory heads
- 3-Year limited warranty



## **Applications**

Average-responding units like the PHOENIX: PRIME and PRO, are widely used and work well for linear electrical loads. However, when the loads are nonlinear, like those of an adjustable-frequency drive, or semiconductors, they require the accuracy of a True RMS meter like the PHOENIX: PRO+ to correctly measure the distorted sign-waves. In these situations a True RMS meter will provide a correct reading on the distorted wave-form where an average-responding meter may result in error readings up to 40%.





### Includes

- Test leads (ATL59)
- K-Type temperature probe (ATT29)
- Batteries 2 (AAA)
- Manual
- Zippered pouch

## Specifications

### AC Amps Measurement - Jaw Input (45Hz to 400Hz)

| Range | Resolution | Accuracy                       | Overload Protection |
|-------|------------|--------------------------------|---------------------|
| 40A   | 0.01A      | $\pm(2.9\% + 15 \text{ dgts})$ | 400A                |
| 400A  | 0.1A       | $\pm(1.9\% + 8 \text{ dgts})$  |                     |

\*DL389 45Hz to 400Hz True RMS (Crest factor <3:1)

### DC Low Amps Measurement (test lead input)

| Range        | Resolution   | Accuracy                      | Overload Protection     |
|--------------|--------------|-------------------------------|-------------------------|
| 400 $\mu$ A  | 0.01 $\mu$ A | $\pm(1.2\% + 3 \text{ dgts})$ | 2000 $\mu$ A / 600V RMS |
| 2000 $\mu$ A | 0.1 $\mu$ A  |                               |                         |

### AC Low Amps Measurement (test lead input)

| Range        | Resolution   | Accuracy                      | Overload Protection     |
|--------------|--------------|-------------------------------|-------------------------|
| 400 $\mu$ A  | 0.01 $\mu$ A | $\pm(2.0\% + 5 \text{ dgts})$ | 2000 $\mu$ A / 600V RMS |
| 2000 $\mu$ A | 0.1 $\mu$ A  | $\pm(1.5\% + 5 \text{ dgts})$ |                         |

\*DL389 45Hz to 400Hz True RMS (Crest factor <3:1)

### DC Volts Measurement

| Range | Resolution | Accuracy                       | Overload Protection |
|-------|------------|--------------------------------|---------------------|
| 400mV | 0.1mV      | $\pm(0.5\% + 4 \text{ dgts})$  | 1000V RMS           |
| 4V    | 1mV        |                                |                     |
| 40V   | 10mV       |                                |                     |
| 400V  | 100mV      |                                |                     |
| 1000V | 1V         | $\pm(0.8\% + 10 \text{ dgts})$ |                     |

### AC Volts Measurement

| Range | Resolution | Accuracy                      | Overload Protection |
|-------|------------|-------------------------------|---------------------|
| 400mV | 0.1mV      | $\pm(2.0\% + 5 \text{ dgts})$ | 750V RMS            |
| 4V    | 1mV        |                               |                     |
| 40V   | 10mV       |                               |                     |
| 400V  | 100mV      |                               |                     |
| 750V  | 1V         |                               |                     |

\*DL389 45Hz to 400Hz True RMS (Crest factor <3:1)

### Resistance Measurement

| Range | Resolution | Accuracy | Overload Protection |
|-------|------------|----------|---------------------|
| 400Ω  | 100mΩ      | ±1.0% +4 | 600V                |
| 4kΩ   | 1Ω         |          |                     |
| 40kΩ  | 10Ω        |          |                     |
| 400kΩ | 100Ω       |          |                     |
| 4MΩ   | 1kΩ        |          |                     |
| 40MΩ  | 10kΩ       | ±2.0% +4 |                     |

### Capacitance Measurement

| Range        | Resolution    | Accuracy                      | Overload Protection |
|--------------|---------------|-------------------------------|---------------------|
| 40nF         | 0.01nF        | $\pm(3.5\% + 6 \text{ dgts})$ | 600V RMS            |
| 400nF        | 0.1nF         |                               |                     |
| 4 $\mu$ F    | 0.001 $\mu$ F |                               |                     |
| 40 $\mu$ F   | 0.01 $\mu$ F  |                               |                     |
| 400 $\mu$ F  | 0.1 $\mu$ F   |                               |                     |
| 4000 $\mu$ F | 1 $\mu$ F     |                               |                     |

### Temperature Measurement

| Range                           | Resolution    | Accuracy                                                             | Overload Protection |
|---------------------------------|---------------|----------------------------------------------------------------------|---------------------|
| -22° to 14°F<br>(-30° to -10°C) | 0.1°F (0.1°C) | $\pm(1.0\% + 5.4^\circ\text{F})$<br>$\pm(1.0\% + 3.0^\circ\text{C})$ | 30V RMS             |
| 15° to 752°F<br>(-9° to 400°C)  | 0.1°F (0.1°C) | $\pm(1.0\% + 3.6^\circ\text{F})$<br>$\pm(1.0\% + 2.0^\circ\text{C})$ |                     |

### Frequency Measurement

| Range    | Resolution | Accuracy                      | Overload Protection |
|----------|------------|-------------------------------|---------------------|
| 9.999Hz  | 0.001Hz    | $\pm(0.1\% + 4 \text{ dgts})$ | 600V RMS            |
| 99.99Hz  | 0.01Hz     |                               |                     |
| 999.9Hz  | 0.1Hz      |                               |                     |
| 9.999kHz | 1Hz        |                               |                     |
| 99.99kHz | 10Hz       |                               |                     |
| 199.9kHz | 100Hz      |                               |                     |

Minimum Frequency: 0.5Hz, DC V offset should be zero

Sensitivity: >10% of each AC Volt range except 4V (>20%) range only

### Duty (%) Cycle Measurement

| Range         | Accuracy                                 | Overload Protection |
|---------------|------------------------------------------|---------------------|
| 01. to 99.90% | $\pm(0.2\% \text{ per kHz} + 0.1\%) + 5$ | 600V RMS            |

0.5Hz to 100kHz (pulswidth > 2 $\mu$  sec)

### Continuity Measurement

| Open Circuit voltage <0.44V          | Overload Protection |
|--------------------------------------|---------------------|
| Threshold Approximately <50 $\Omega$ | 600V                |

### Diode Test

| Range | Open Circuit Voltage | Test Current (typical) | Overload Protection |
|-------|----------------------|------------------------|---------------------|
| 2.0V  | < 2.4V DC            | 0.25mA                 | 600V                |

## Downloads



Manual



Data Sheet

H26-494



Made in KOREA

USA

