

AC/DC Current Probe Model MR461



The AEMC® MR Series AC/DC Probes are professional AC/DC current probes designed to extend current measuring capabilities of DMMs, oscilloscopes and other instruments. They are built to the latest safety and performance standards, including the CE Mark and UL approval. Two different hook-shaped jaws are offered, both permitting the user to “pry” or “hook” onto cables (will accept 2 x 500MCM) or even onto small bus bars.

The MR Series probes use Hall effect technology and measure AC and DC current. The electronics and batteries are self-contained in the handles. The output of the AC/DC probes is 1mV/A and 10mV/A. The Model MR461 measures to 400Aac/600Aac . The Model MR461 has two ranges and an auto-zero push button (patent pending) for quick DC zeroing.

There is no output filtering — True RMS with DC component measurements are possible. Phase shift is

excellent, making the MR Series of current probes well suited for power and power quality applications.

The Model MR461 is designed for oscilloscopes, waveform displaying instruments and other frequency sensitive displaying instruments with BNC inputs.

Features

- Measurement range of 400AAC/600ADC
- Measurement range of 1000AAC/1500ADC
- Distinct jaw shapes to be used for hooking or prying around the conductor
- Auto-zero push button
- Conforms to EN 61010, 600V, Cat. III safety standard
- Low phase shift for power measurements
- mV output signals

- Designed for DMMs, recorders, oscilloscopes, power and harmonic meters
- CE Mark

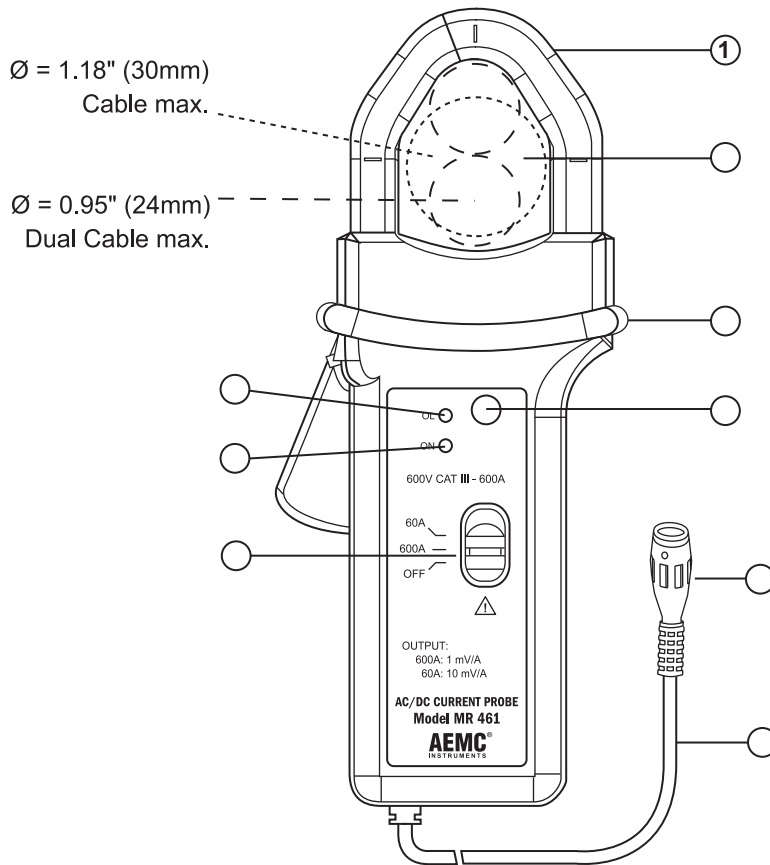
Applications

- DC motors
- Batteries
- Automobile engine testing
- Power measuring quality analysis
- Power load monitoring

Specifications

| MODEL | MR461 |
|--|--|
| ELECTRICAL | |
| Nominal Range | 40A _{AC} /60A _{DC} & 400A _{AC} /600A _{DC} |
| Measurement Range | 0.2 to 600A |
| Output Signal | 40A: 10mV/A 400A: 1mV/A |
| Accuracy (60A _{DC} Range) 0.5 to 40A | 1.5% of Reading ± 0.5A |
| 40 to 60A _{DC} only | 1.5% of Reading |
| Phase Shift (60A _{DC} Range) 10 to 20A | ≤3.0° |
| 20 to 100A | ≤2.0° |
| 100 to 400A | ≤1.5° |
| Accuracy (600A _{DC} Range) 0.5 to 100A | 1.5% of Reading ± 1A |
| 100 to 400A | 2% of Reading |
| 400 to 600A _{DC} only | 2.5% of Reading |
| Phase Shift (600A _{DC} Range) 10 to 100A | ≤3.0° |
| 100 to 400A | ≤1.5° |
| Overload | 1000A _{AC} and 2000A _{DC} continuous up to 1kHz |
| Frequency Range | DC to 10kHz @ -3dB |
| Load Impedance | >100kΩ/100pF max |
| Working/Common Mode Voltage | 600V _{rms} |
| Battery | 9V Alkaline (Approx. 120 hours life) |
| Output Termination | 6 ft BNC |
| MECHANICAL | |
| Operating Temperature | 14° to 131°F (-10° to 55°C) |
| Storage Temperature | -40° to 176°F (-40° to 70°C) |
| Operating Relative Humidity | 10 to 35°C 90% ± 5% RH (without condensation), 40 to 55°C 70% ± 5% RH (without condensation) |
| Zero Adjustment | Auto-zero |
| Jaw Opening | 1.2" (31mm) |
| Maximum Conductor Size | One 1.18" (30mm) or two 0.95" (24mm) or two bus bars 1.2 x 0.4" (31.5 x 10mm) |
| Dimensions | 8.8 x 3.82 x 1.73" (224 x 97 x 44mm) |
| Weight | 15 oz (440g) |
| Polycarbonate Material | Handles: Polycarbonate +ABS, Gray, UL94 V0. Jaws: Polycarbonate, Red, UL94 V0 |
| SAFETY | |
| Electrical | EN 61010-2-32 |
| CE Mark | Yes |

Note: Reference conditions: 18°C to 28°C, 20 to 75% RH, external magnetic field <40A/m, no DC component, no external current carrying conductor, test sample centered, 1MΩ ≤ 100pF load, zero adjustment (DC only) DC to 65Hz, battery voltage 9V ± 0.1V



1. Jaws
2. Conductor
3. Protective non-slip guard
4. Automatic zero DC button
5. Safety banana plug \varnothing 4mm
6. Lead, 5 ft (1.5m)
7. Range selection switch:
 - On/Off
 - 600A (1mV/A)
 - 60A (10mV/A)
8. Green light (on when battery voltage \geq 6.5V)
9. Red light (overrange and incorrect zero adjustment)



Leads:
 Double/reinforced
 5 ft (1.5m) lead
 with safety 4mm
 banana plug

ORDERING INFORMATION

CATALOG NO.

| | |
|--|---------------|
| AC/DC Current Probe Model MR461 (BNC – 10mV/A – 60A max & 1mV/A – 600A max)..... | Cat. #1200.72 |
| Includes a user manual | |
| Accessories (Optional) | |
| Banana plug adaptor (to nonrecessed plug)..... | Cat. #1017.45 |
| Banana/BNC connector XF-SS (4mm plug adaptor)..... | Cat. #2111.32 |