

A6302 (left) and A6303 (right) shown.

A6302/A6303 Current Probes

- 20 A AC and DC Current Measurements
- DC to 50 MHz Bandwidth
- Peak Pulse Measurements to 50 A, 1,000 A With the CT-4 Current Probe
- AC or DC Coupling
- Small Loading—0.1 Ω Insertion Z at 1 MHz, 0.5 Ω at 50 MHz
- 100 A AC and DC Current Measurements
- Peak Pulse Measurement to 500 A
- AC or DC Coupling
- 25x21 mm (1x0.83 in.) Jaw Opening
- Minimal Loading—0.02 Ω Insertion at 1 MHz, 0.15 Ω at 15 MHz

The A6302 and A6303 Current Probes are designed to be used with the AM 503 Current Probe Amplifier, any TM 500 Power Module and an oscilloscope. Both probes are used to make SCR, power supply, industrial control and motor start-up current measurements. The A6303 is recommended for measuring current in X-ray tubes to ensure compliance with PL 90-602, the Radiation Control for Health and Safety Act of 1968.

The A6302 and A6303 are valuable measurement tools when low loading is important, as when testing high impedance points or with current dependent devices. Both probes make ac or dc coupled current measurements simply by opening the sliding jaws and placing them around the conductor to be measured. For differential or sum measurements, just place properly phased conductors in the probe jaw. Suggested measurements for the A6302 and A6303 Current Probes include:

- X-ray tube currents
- SCR currents
- Power supply currents
- Motor start-up currents
- Industrial control currents
- Relay currents
- Common-mode rejection of dc and ac currents

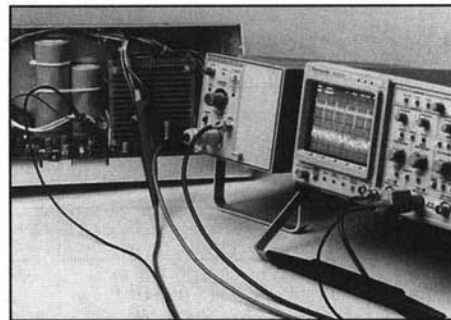
CHARACTERISTICS

| | A6302/AM 503*1 | A6303/AM 503*1 |
|------------------------------------|---|---|
| Sensitivity: | | |
| Scope @ | 1 mA/div to | 10 mA/div to |
| 10 mV/div | 5 A/div | 50 A/div |
| Accuracy 3% | | |
| Bandwidth | DC to 50 MHz | DC to 15 MHz |
| Rise Time | 7 ns | 23 ns |
| Max AC Current CW | 40 A p-p | 200 A p-p |
| Derated Above | 20 kHz | 20 kHz |
| | 2.5 A @ | 12 A @ |
| | 10 MHz | 10 MHz |
| Maximum Peak Current Not to Exceed | | |
| A-S Product | 50 A | 500 A |
| A-S Product | 100x10 ⁻⁶ | 10,000x10 ⁻⁶ |
| Insertion Z | 0.1 Ω @ 5 MHz 0.5 Ω @ 50 MHz | 0.02 Ω @ 1 MHz 0.15 Ω @ 15 MHz |
| Max Hardware Volts | 500 V | 700 V |
| Max Conductor Diameter | 0.15 inch | 0.83 inch |
| System Prop Delay | \approx 30 ns | \approx 40 ns |
| Cable Length | 2 m | 2 m |
| Tangential Noise | 0.3 mA | 3 mA |
| Aberrations | \pm 5% | \pm 5% |
| Magnetic Susceptibility | 250 μ A/Gauss | 25 mA/Gauss |
| Operating Temp | 0 to +50°C | 0 to +50° C |

*1 A6302/AM 503 or A6303/AM 503 calibrated as a set.

ORDERING INFORMATION

A6302 2 m Current Probe \$625
Includes: 5-in (130 mm) Ground lead (G7, 175-0124-01); 3 in (75 mm) Ground lead (G7, 175-0263-01); 2 Miniature alligator clips (A16, 344-0046-00); Instruction manual (070-3905-01).
A6303 2 m Current Probe \$1,180
Includes: Carrying case (016-0622-00); Instruction manual (070-3906-01).



AM503S (in use).

Data sheets for the A6302 (60W-6649) and A6303 (60W-6648) are available.

AM 503 Current Probe Amplifier For 50 Ω /1 M Ω



The AM 503 operates in any one of the TM 500 power modules and is connected to the A6302 or A6303 probes through a multipin connector.

It is calibrated in 12 steps; the knob skirt is illuminated to indicate current per division. Bandwidth can be limited to 5 MHz to eliminate unwanted transients. Both ac and dc coupling are provided. AC coupling allows the measurement of low amplitude signals on a high level dc current. A front panel light warns of input currents above 100 A dc with the A6303 or 20 A dc with the A6302. A pushbutton allows degaussing of probe when it is removed from the circuit and locked in operating position.

The output of the A6303/AM 503 can be displayed on any oscilloscope that has at least a 50-MHz bandwidth and a 10 mV sensitivity. The A6302/AM 503 can be used on a 100-MHz oscilloscope with 10 mV sensitivity to display the probe's full bandwidth. The AM 503 output can be plugged directly into a 50 ohm recording instrument, or a 50 ohm termination which is supplied.

AM 503S

To achieve optimum performance the current probe and current probe amplifier should be calibrated as a system. The AM503S system provides a fully calibrated system.

ORDERING INFORMATION

AM 503 Current Probe Amplifier \$1,240
Includes: 50 Ω BNC cable (012-0057-01); 50 Ω BNC termination (011-0049-01); Instruction manual (070-2052-01).

The AM 503 requires one of the TM 500 Series power modules. See page 419.

AM 503S Current Probe System \$2,120
Includes: AM 503 Current Probe Amplifier; TM 502A Power Module; A6302 Current Probe; Plug-in tool box (216-0362-02).

OPTIONS

Option 01—Adds A6303 Current Probe. + \$1,175
Option 03—Substitute A6303 for A6302. + \$550