

Current Measurement Systems

AM5030 * AM5030S * AM503S * AM503B



AM5030. - Three AM5030s in a TM5003 mainframe. All current measurement parameters can be set using a GPIB controller.

> **Features**

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FEATURES

AM5030/AM5030S

- GPIB Programmable Current Probe Amplifier
- Plugs into TM5000 Power Modules
- Operated with External Controller or Manually from Front Panel

AM503S/AM503B

- Manual Current Probe Amplifier
- Push Button Auto Balance/Degauss
- Bright LED Current/Division Display
- Plugs into TM500/5000 Power Modules
- AC/DC Measurements
- With A6302 Probe:
 - DC to 50 MHz
 - 20 A Continuous/50 A Peak
 - Max. Conductor Diameter: 0.15 in.
- With A6303 Probe:
 - DC to 15 MHz
 - 100 A Continuous/500 A Peak
 - Max. Conductor Diameter: 0.83 in.
- With A6304XL Probe:
 - DC to 2 MHz
 - 500 A Continuous/700 A Peak
 - Max. Conductor Diameter: 0.83 in.
- With A6312 Probe:
 - DC to 100 MHz
 - 20 A Continuous/50 A Peak
 - Max. Conductor Diameter: 0.15 in.

APPLICATIONS

- Switching Power Supplies/Inverters
- Disk Drives
- Electronic Ballasts
- Motor Drives

AM503 Current Measurement Family

The AM503 Current Measurement system family is the most sophisticated current measurement solution available. The split core probes incorporate both a transformer for AC and a Hall Effect device for DC measurements to provide broadband current measurements from DC to 100 MHz. The AM5030 Programmable Current Probe Amplifier automates time consuming manual measurements via a GPIB command set. The industry standard AM503S Current Probe System provides a complete current measurement system in a single package.

The XL Series of probes features eight-meter cables for convenient access to test points. The A6304XL enables measurements of 500 A at DC, 700 A Peak.

For more information about the AM503 Current Measurement Family, order Data Sheet 51W-7955-2.

AM5030 Programmable Current Probe Amplifier

The AM5030 Current Probe Amplifier with General Purpose Interface Bus (GPIB) adds programmability to the versatile AM503B. The AM5030 enables you to use automated techniques to make wide bandwidth AC/DC current measurements. The AM5030 is a TM5000 single-wide module that plugs into a 3-slot TM5003 power module mainframe. While the non-programmable AM503B will operate in either a TM500 or TM5000 power module mainframe, the AM5030 works only in a TM5000 mainframe. The AM5030 uses A6312, A6302, A6303 and the XL Series of current probes and connects to any scope or analyzer via a BNC cable.

Like the AM503B, the AM5030 does not have to be calibrated with specific current probes. This is a tremendous operational improvement over the older AM503. The AM5030 and AM503B also provide several improvements over the AM503A, including a faster Degauss/self-calibration cycle and more responsive, reliable front-panel controls.

The AM5030 uses the IEEE 488.1 bus standard. Using a simple command set, you can configure and confirm the settings of the amplifier or read the instrument's serial number. You can determine whether the current probe is open or closed, use bus commands to initiate

a self-test or force a probe Degauss and DC balance operation. The AM5030 bus address is set through the front panel and the address is retained when power is removed. The AM5030 does not require an external controller to operate. It can be completely controlled using the front panel; however, when used with a controller, the front panel can be disabled to prevent manual operator adjustments.

For more information about the AM5030, request the AM5030 Programmable Current Probe Amplifier Data Sheet 51W-8941-0.

AM5030S

The AM5030S consists of an AM5030 and a TM5003. If you already own a power module, order only an AM5030. If you need a power module, order an AM5030S. Order the appropriate probes separately.

AM503S Current Probe System

The AM503S Current Probe System is the most versatile current measurement system available. Since the probes incorporate both a transformer and a Hall Effect device, broadband AC/DC current can be measured simultaneously. Depending on the probe used, current from DC to 100 MHz and up to 700 A can be measured by clipping the split-core probes around the conductor. The AM503S is truly a system, consisting of an AM503B Current Probe Amplifier, a TM502A two-wide Power Module and an A6302 Current Probe. Options enable you to add or substitute an A6312 Current Probe, A6303 Current Probe or delete the A6302 Current Probe. If you require any of the XL current probes (longer length), then use Option 09, which deletes the A6302.

Order AM503S Current Measurement System Data Sheet 51W-10226-1 for more information.

AM503S Systems -
AM503S with A6312 and
A6303 probes.





AM503B Current Probe Amplifier

The AM503B Current Probe Amplifier is the heart of the AM503S System. The AM503B amplifies and sums the voltage outputs from the transformer and Hall Effect device and outputs it to the measurement instrument. It also provides the Hall Effect Device bias voltage and a reverse "bucking" current that resists saturation of the A6312/A6302/A6303 Current Probe core.

The AM503B Current Probe Amplifier replaces the AM503A. All functions are microprocessor controlled, providing a significant improvement in ease of use and functionality. The AM503B uses bright, easy-to-read LEDs to display current/division settings which are controlled with up/down push buttons. A single push button provides both Degauss and auto-balance functions. An additional significant improvement with the AM503B is that individual A6312/A6302/A6303 probes no longer need to be calibrated with a specific amplifier but can be interchanged between AM503Bs and AM5030s. The AM503B and the AM5030 both support the new XL Series of current probes. The AM503 and the AM503A do not support the XL Series. The AM503B operates in any TM500/TM5000 power module. The 50 Ohm output of the AM503B can be displayed on any oscilloscope or measurement instrument that has a sensitivity setting of 10 mV/div. A 50 Ohm output cable and termination is included with the AM503B. The scope or measurement instrument requires at least a 400 MHz bandwidth to display the full bandwidth of the A6312 (100 MHz) and 50 MHz for the A6303. You can select either AC only mode or a DC mode which allows you to display a combined AC/DC current signal.

 [Top of Page](#)

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