


## AP-1M HIGH IMPEDANCE ADAPTER

The AP-1M Adapter provides a high impedance (1 M $\Omega$ ) interface for use on the WaveMaster family of products (DSO, DDA, SDA). The Adapter presents a high impedance path (instead of the 50  $\Omega$  WaveMaster input impedance) and allows you to measure higher voltage signals while also expanding the full-scale range capability of measurement.

The specifications pertain only to the AP-1M Adapter itself. You can achieve even higher full-scale ranges and offset ranges with the overall signal measurement chain (WaveMaster family product + AP-1M Adapter + Probe), depending on the probe used. The AP-1M Adapter is supplied with a PP005A passive probe, but it is suitable for use with other probe types, including current probes, which require a 1 M $\Omega$  path. The AP-1M also serves as a ProLink-to-ProBus adapter.



- Bandwidth: 500 MHz typical, 350 MHz guaranteed
- Input Impedance: 1 M $\Omega$
- Full-scale Range:  $\pm 8 V_{pk}$  ( $\pm 80 V_{pk}$  with PP005A probe)
- Offset Range (12-bit resolution):
  - $\pm 2.5 V_{pk}$  below 200 mV/div ( $\pm 25 V_{pk}$  below 2 V/div with PP005A probe);
  - $\pm 50 V_{pk}$  at and above 200 mV/div ( $\pm 500 V_{pk}$  at and above 20 V/div with PP005A probe)
-  Max. Withstand Voltage:  $\pm 150 V_{pk}$  Cat I
- Input Capacitance: 20 pF  $\pm 2$  pF
  - With PP005A: 11 pF at probe tip
- Coupling: DC, AC (cutoff < 10 Hz)
- Gain accuracy:  $\pm 3\%$  system accuracy with AP-1M Adapter used with WaveMaster family products
- Offset Accuracy:  $\pm (3\%$  of full scale + 1.5% of offset value + 2 mV)
- Meets or exceeds Environmental Specifications (Operating Temperature: 5  $^{\circ}$ C to 40  $^{\circ}$ C, etc.) of WaveMaster family products.
- Certification: CE Approved, Conforms to EN 61010-1 (Safety) and EN 61326-1 (EMC)



### CAUTION

Do not apply a voltage to the AP-1M Adapter's measuring terminal that exceeds its maximum specified withstand voltage ( $\pm 150 V_{pk}$ ).

**Calibration**

The recommended calibration interval is one year. Calibration should be performed by qualified personnel only.

**Operating Environment**

The AP-1M Adapter is intended for indoor use and should be operated in a clean, dry environment.

The design of the AP-1M Adapter has been verified to conform to EN 61010-1 safety standard per the following limits:

- Installation (Overvoltage) Category I: Refers to signal level, which is applicable for equipment measuring terminals that are connected to source circuits in which measures are taken to limit transient voltages to an appropriately low level.
- Pollution Degree 2: Refers to an operating environment where normally only dry non-conductive pollution occurs. Occasionally a temporary conductivity caused by condensation must be expected.

**Abnormal Conditions**

Operate the AP-1M Adapter only as intended by the manufacturer. Remove the AP-1M Adapter from operation if you suspect the AP-1M Adapter has been impaired. The AP-1M Adapter protection is likely to be impaired, if for example, it fails to perform the intended measurements or the adapter shows signs of visible damage.

**Cleaning**

The exterior of the AP-1M Adapter should only be cleaned with a soft cloth moistened with either water or isopropyl alcohol. Under no circumstances should moisture be allowed to penetrate the AP-1M Adapter.

**Safety Symbols**

The following symbols appear on the AP-1M Adapter's cover or in this manual and alert the customer to important safety considerations.



Refer to the accompanying information or documents in order to protect against personal injury or damage to the instrument.

**CAUTION**

The CAUTION sign indicates a potential hazard. It calls attention to a procedure, practice, or condition, which, if not followed, could possibly cause damage to the equipment. If a CAUTION is indicated, do not proceed until its conditions are fully understood and met.