



Testing NA 208 V / 240 V Equipment with the vPad Electrical Safety Analyzer

Introduction

The vPad Electrical Safety Analyzer is intended for use with the standard AC mains supply, which typically consists of one **hot** connector (Line 1) carrying high voltage, one **neutral** connector (Line 2), and one protective **earth** connector (PE). In North America, Line 1 is nominally 120 V relative to Line 2.

Some power installations in North America may include AC mains supplies at higher voltages, typically at 208 V or 240 V, intended for equipment with greater voltage or power requirements. In addition to the higher voltage, these supplies differ from the standard AC mains in two ways:

- There is no **neutral** conductor. Instead, Line 1 and Line 2 are both **hot** in the sense that they both carry high voltage relative to **earth**.
- The high-voltage plug (NEMA 14-30, NEMA 14-50, NEMA 6-15, etc.) is incompatible with standard NEMA 5-15 supply cables.

Preparation

It is possible to use the vPad Electrical Safety Analyzer with 208 V / 240 V AC mains, provided that users are able to safely achieve the following:

- Build or obtain an *AC supply adapter* to connect the high-voltage wall outlet to a standard NEMA 5-15 or NEMA 5-20 female receptacle. This adapter should be clearly marked to prevent accidental misuse.
- Build or obtain a *test receptacle adapter* to connect the NEMA 5-20 receptacle on the vPad to the AC supply input of the device under test.
- Ensure all adapters convey a protective earth conductor from input to output.

Performing Electrical Safety Tests

To begin testing, use the *AC supply adapter* to connect the vPad Electrical Safety Analyzer to high-voltage AC mains. Start your vPad test app on the tablet as usual and wait for startup self test to finish. When startup is complete, the app may warn of an AC supply fault: this warning is caused by the differences between AC mains supplies detailed above, and is completely normal. Press "Continue" on the warning dialog to proceed.

Use the *test receptacle adapter* to connect the device under test to the vPad test receptacle. From this point on, electrical safety tests should proceed as normal.

If you are using an automated safety test app, the AC supply fault warning may appear when a mains voltage and/or leakage current test is performed within an automated test sequence. Ignore the warning and simply press "Continue" on the dialog to proceed.

For specifications and further instructions for safety testing with the vPad Electrical Safety Analyzer, see the Operating Manuals that accompany your vPad system.

To find out more about the vPad system, go to www.datrend.com/products/vpad-products or contact us at customerservice@datrend.com



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