

## Porto-Sag Voltage Sag Testing Device Licensed to Omniverter Inc.

The Electric Power Research Institute (EPRI) has licensed its Porto-Sag voltage sag testing technology to Omniverter Inc. to enable them to manufacture and offer a commercially available version of the product in the marketplace. The Porto-Sag technology allows an engineer or technician to subject an electrical/electronic device to precisely controlled voltage sags. The EPRI agreement with Omniverter will help to increase availability and warranty support of the product.

This testing device has been effective in characterizing the voltage sag immunity of hundreds of processes, machine tools, and devices since 1994. Over the years, this voltage sag technology has been used in the creation of new power quality standards, in facility power quality audits, and to characterize end-use device sensitivity to voltage disturbances. It has also been used for the testing of mitigation technologies that claim to solve power quality problems, and in the creation of a compatibility database that is an important part of the EPRI PQ Investigator facility auditing software tool.

### Overview of the Device

The Porto-Sag testing technology is a powerful diagnostic tool for creating user-selected voltage sags, and then capturing, analyzing, and exporting test results. Its purpose is to quickly identify weak links in an end-user process by injecting voltage sags of controlled magnitude and duration while monitoring the response of the process. Porto-Sag technology helps engineers quickly characterize process components ranging from simple relays to complex programmable logic controllers, and equipment in industrial facilities such as Semiconductor Tools, HVAC, lighting, even entire process lines. Its built-in data acquisition system automatically captures voltages, currents, and other user-connected signals during induced sag events.

The original Porto-Sag testing device designed and built by EPRI is a modular system built into four rugged shipping cases for portability. Over the years EPRI produced approximately 50 of these devices.

### Utility Customers Shape the Technology

The original concept for the Porto-Sag testing device was researched over a decade ago, and numerous improvements have been enabled over time by prominent utilities such as Southern Company, Tennessee Valley Authority, and FirstEnergy, among others. These improvements included higher power levels, improving portability, increasing the sophistication of the analysis software that's part of the system.

EPRI initial development efforts were based on input from utilities that recognized the need for identifying voltage sag immunity. EPRI continued to support and develop the technology over the years to meet the needs of research participants and industry stakeholders.



*EPRI's original three-phase, 200A Porto-Sag*

**"Southern Company has long supported the EPRI Porto-Sag project, and the technology has strongly contributed to Southern's ability to perform site investigations for end use customers. We are pleased by EPRI's efforts to find a company to commercialize Porto-Sag technology as it will help to insure that the technology is not only available, but also further developed by a commercial partner".**

**~ Melinda Norris, Southern Company**

## Technology that can Continue to Serve the Industry

This agreement means that the industry can continue to benefit from the availability of the Porto-Sag testing technology for years to come, and that technology development and enhancement will continue.



*Modular, Tri-mode Porto-Sag for Performing Line-to-Line and Line-to-Neutral Sag Tests*

**For more information**, contact the EPRI Customer Assistance Center at 800.313.3774 ([askepri@epri.com](mailto:askepri@epri.com))

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