

## PRESS RELEASE

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### **Yokogawa Announces WT1800 Precision Power Analyzer**

Newnan, Georgia, Yokogawa Corporation of America announces its latest Precision Power Analyzer, the Model WT1800. This new addition to Yokogawa's highly recognized digital power analyzer product line offers innovative measurement functions which benefit the engineer with electrical power measurements. It is the ideal measurement solution for testing Product Efficiency, and the design of Inverters, Motor Drives, Lighting Systems, Uninterruptible Power Supplies, Aircraft Power Systems, Transformer Testing and other power conversion devices.

In developing the WT1800, Yokogawa engineers focused on improving measurement efficiency in two basic areas. One goal was to obtain highly precise and simultaneous measurements of the input and output power conversion of a piece of equipment. The other objective was to improve equipment evaluation efficiency by making simultaneous power measurements and tests easier and faster. The WT1800 is capable of performing up to 6 power measurements simultaneously which makes it possible to perform efficiency tests between the input and output of products such as inverters. With its high resolution 8.4 inch XGA display, it is simple to set up and display up to twelve different pages of measurement items in formats such as Numeric, Waveforms and Trends. In addition a Vector display is available for Voltage and Current phase Analysis. The WT1800 was not designed just for today's power measurements, but to handle the advanced complex requirements of future power conversion products.

Many of today's power conversion circuits use energy saving switching techniques. These can cause highly distorted voltage or current waveforms with high harmonic content. To measure these waveforms accurately, the WT1800 uses high resolution sixteen bit Analog to Digital converters with a digitizing rate of 2 MS/s. It has a Voltage and Current bandwidth from DC to 5 MHz. Power can be measured from DC and 0.1 Hz to 1 MHz. Basic power measurement accuracy is 0.1% of Reading plus 0.05% of Range.

The WT1800 offers an **industry first** "Dual Harmonic Measurement Function". This feature makes it possible to simultaneously measure the harmonic content and perform harmonic analysis on two different sources, such as the Input and Output of an Inverter, Variable Speed Motor Drive, Lighting Ballast, Uninterruptible Power Supply or similar devices. This will benefit the design and test engineer in product performance evaluation and for power quality conformance testing. Also the Normal power parameters and Harmonic data are measured simultaneously providing for faster and more accurate power analysis. Harmonic Analysis can now be made up to the 500th order from a 50 or 60 Hertz fundamental frequency. This is especially important in performance analysis of new power conversion and power electronics devices and for testing electronic equipment for use in today's aircraft power systems.

For Electric Motor testing applications, the WT1800 offers a unique and powerful "Motor Evaluation" function. In one unit, you can measure all the electrical power parameters along with Rotation Speed, Torque, Mechanical Power, Synchronous Speed, Slip, Motor Efficiency and Total System Efficiency. In addition, a new measurement function has been added to make it possible to detect the rotation direction of the motor and the electrical angle.

A new programmable Digital Filter function enhances the capability to remove unnecessary harmonic components and noise superimposed on signals such as from an inverter or variable speed motor drive. This filter can be set independently for each input element, from 100 Hz to 100 kHz in, in 100 Hz increments. An Analog Filter is also provided for 300 kHz and 1 MHz filtering on each input element.

In Photovoltaic power generation, a Maximum Peak Power Tracking measurement is performed to maximize the harvested power generated by photovoltaic cells. To accomplish this, the WT1800 is capable of measuring Voltage, Current and Power Peak values.

The power integration function measures the amount of power sold or purchased in grid interconnection applications. The WT1800 features Yokogawa's "Average Active Power" function, making it possible to measure power consumption under conditions where the power fluctuates greatly.

An optional Auxiliary Signal input is available for measuring parameters from various types of sensors. Applications could include the signal from a Light Sphere, a light meter and temperature signal for Solar Panel evaluation, Wind Speed and Wind Direction and other type of signals. The benefit of this Auxiliary Input is the design and test engineer can measure the electrical power parameters as well as other test data simultaneously all in one instrument. Multiple parameters can be measured without time delay and the overall test system and software can be simplified. This benefits the user by making the tests easier and faster.

Another benefit for the test engineer is the new Event Trigger. For the first time in the high-precision power analyzer industry, an Event Trigger function is available to capture only a particular event. A Trigger can be set for measured values that fall out of a pre selected range. Then, the WT1800 only stores, prints or saves data that meets the trigger condition.

All the latest communication interface ports such as Ethernet, USB and GPIB are included in the WT1800. Plus, support for USB removable storage media is provided as standard. A comprehensive library of complex application specific measurement math equations is included for quick access. This will benefit the user and save time by not having to research and develop their own equations. Typical equations include Average Active Power for fluctuating power, Power Loss, Voltage & Current Ripple and others.

Basic price for the three phase WT1800 is \$12,900.

### **About Yokogawa Test & Measurement**

Yokogawa Test & Measurement Division is a major worldwide force in the test & measurement market, with products that include oscilloscopes, power meters, wireless and optical communications test equipment, portable test instruments, recorders and data-acquisition systems, and semiconductor-related test systems.

For more information about Yokogawa Test & Measurement, please visit the company's web site at <http://tmi.yokogawa.com/>

## **About Yokogawa**

Yokogawa's global network of 25 manufacturing facilities and 80 companies spans 54 countries. Since its founding in 1915, the US\$3 billion company has been engaged in cutting-edge research and innovation, securing more than 7,200 patents and registrations, including the world's first digital sensors for flow and pressure measurement. Industrial automation and control, test and measurement, information systems and industry support are the core businesses of Yokogawa. For more information about Yokogawa, please visit our web site at [www.yokogawa.com](http://www.yokogawa.com).

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