

## WT1800E High Performance Power Analyser

### Accuracy with flexibility

The WT1800E High Performance Power Analyser offers accurate and precise power analysis for applications such as motor/inverter measurement, standby power measurement and battery efficiency testing.

## Precision Making



**WT1800E High  
Performance Power  
Analyser**

#### Ideal for efficiency analysis of:

- Inverters, motors and drives
- Hybrid and electric vehicles
- Wind power generation
- Photovoltaic inverters
- LED and fluorescent lighting
- Domestic / office appliances
- Aircraft power systems
- Pumps and matrix converters
- Standby power measurement
- Batteries and power supplies

- **Guaranteed power accuracy 0.05% reading + 0.05% range at 50/60 Hz**
- **Frequency power range 1MHz**
- **Sampling rate 2 MS/s (16-bit)**
- **Current measurement 100  $\mu$ A to 55 A**
- **High speed data capture 5 ms response**
- **Connectivity GP-IB, USB, Ethernet Modbus/TCP, web server**

#### High precision harmonics

Analyse harmonics up to the 500th order for fundamentals up to 2.6 kHz. With a lower frequency limit of 0.5 Hz, the WT1800E enables measurement of harmonics and total harmonic distortion (THD) even at very low motor rotation speeds. Measurement of higher order harmonics is important in power supplies for inverters (up to 9 kHz) and avionics (greater than 300th order harmonics). Users can view harmonics alongside conventional RMS values of voltage and current or compare different inputs side by side (particularly useful when comparing input and output of inverters, ballasts, emergency power supplies etc.).

#### Insights from up to 6 channels

Make simultaneous measurements on up to 6 inputs and compare them in split screen mode on the high resolution 8.4 inch XGA display. The WT1800E is ideal for efficiency tests of inverter driven motors, renewable energy technologies and traction applications like pumps, fans and hybrid/electric vehicles. View up to 12 pages of up to 146 measurement items or view them in vector and trend formats.

#### Motor evaluation and user defined functions

The motor version of the WT1800E makes it possible to simultaneously monitor changes not only in the voltage, current and power but also in the rotation speed and torque caused by the dynamic load. The A, B & Z speed inputs of the motor function makes it possible to detect the rotation direction and measure the electrical angle of the motor. Users can also define and use up to 20 expressions for custom calculations such as ripple factor or average active power within a power integration period.



### Easy wiring and star - delta conversion

Obtain differential voltages, line and phase voltages from the sums and differences of the instantaneous values of voltage and current in each element. The WT1800E enables conversion of measurement values for a 3 phase star wiring system to those for a delta wiring system and vice versa.

### Flexible & automatic data updates

Manually or automatically set measurement intervals. The WT1800E offers 9 data update interval options between 50ms to 20s but can also follow fluctuating input frequencies by changing the data update rate automatically. This is useful when measuring devices like motors whose input signal frequency varies with RPM.

### Digital and analogue filters for each element

Remove unnecessary high frequency components superimposed on signals with the WT1800E's digital and analog filters. In power evaluation of inverters and distorted waveforms, measurement values are affected by high frequency components. The WT1800E features an analogue filter for 1 MHz/300 kHz, and digital filter from 100 Hz to 100 kHz in increments of 100 Hz. A filter can be independently set for each input element.

### Current sensor power supply

For measurements involving currents higher than 55 A, sensors can be used. The WT1800E sensor power supply option, together with the dedicated cables and shunt resistors, significantly improve the signal to noise ratio and noise immunity.

## Why choose the WT1800E ?

**Guaranteed accuracy** – The WT1800E can be calibrated to be more accurate than its specifications. With the ability to calibrate at low power factors and frequencies up to 100 kHz, Yokogawa's ISO17025 accredited calibration facility can offer certification for both standard and customer specified conditions.

**Reliability** – The stability of the WT1800E ensures that precision measurements made today will remain consistent for years to come.

**Flexibility** – With up to 6 channels, and a wide array of display and analysis features, the WT1800E is ideal for a broad range of power efficiency and harmonic analysis requirements

## 3 years warranty

The quality and reliability of a power analyser is supported by a standard 3 year warranty.

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