

WT1800

Precision Power Analyzer

The WT1800 precision power analyzer is an instrument for accurately measuring and analyzing the power consumption and efficiency of electronic/electric devices.

In line with intensifying efforts for efficient use of energy, accurate measurement of the power consumption and efficiency of devices is desired. The WT1800 allows up to six inputs, and can measure two three-phase devices simultaneously. In addition, it can capture signals at a high-speed sampling rate of approximately 2 M samples/sec, enabling it to be used effectively in the development of energy-saving products equipped with power devices, such as inverters, which are increasing in switching/driving speed. Thus, the WT1800 contributes to improving the performance of those products.

FEATURES

- **Voltage/current frequency measurement bandwidth:**
5 MHz (-3 dB, typical)
As switching frequencies of power devices increase, the demand for wider bandwidth measurements increases. The WT1800 provides a voltage and current frequency bandwidth of 5 MHz, which is five times wider than that of previous models.
- **Two-line simultaneous harmonic measurements**
The energy-efficient use of devices, such as devices with inverters to convert 50/60 Hz AC power and control devices for interconnected systems of power grids to control reverse power flow occurring due to excess electric power, is increasing. The WT1800 can simultaneously measure the degree of distortion of both input and output of these devices of different frequency systems.
- **Motor evaluation function allowing A-phase, B-phase, and Z-phase inputs**
The simultaneous measurement of electrical input and mechanical output (calculated by measured torque and rotation speed) of motors enables measurement of their efficiency. For rotation speed, in particular, detecting the rotation direction and measuring the electrical angle are possible because A-phase, B-phase, and Z-phase can be measured.
- **User-defined event function**
To respond to users' demand for capturing only specified events, the WT1800 provides a function to trigger saving data in the internal or secondary memory when measured values enter or leave a predefined range.
- **Free design of display screens**
Image files (BMP format) created by users can be loaded as base screens, allowing measured data to be viewed in free formats. Thus, users can customize the display screen to display their logos or allocate required measurement data in easy-to-read screens.



SPECIFICATIONS

- Number of input elements: Max. 6
(Combination of Max. current range 5 A or 50 A)
- Power accuracy (Examples)
DC: $\pm (0.05\% \text{ of reading} + 0.1\% \text{ of range})$
45 Hz $\leq f \leq 66$ Hz: $\pm (0.1\% \text{ of reading} + 0.05\% \text{ of range})$
66 Hz $< f \leq 1$ kHz: $\pm (0.2\% \text{ of reading} + 0.1\% \text{ of range})$
- Measurement range (for Crest factor = 3)
Voltage: 1.5/3/6/15/30/60/100/150/300/600/1000 V
Current: direct input 1/2/5/10/20/50 A or
0.01/0.02/0.05/0.1/0.2/0.5/1/2/5 A
External current sensor input (option):
0.05/0.1/0.2/0.5/1/2/5/10 V
- Data update interval: 0.05/0.1/0.2/0.5/1/2/5/10/20 s
- Harmonic measurement (Option)
Fundamental frequency range: 0.5 Hz to 2.6 kHz
Max. analysis order: up to 500th (0.5 Hz to 600 Hz)
Number of analysis points: 1024 or 8192
(depends on data update interval)
Measured signals: all input elements
PLL source: up to two
- Motor evaluation function (option)
Input items: torque, rotation speed (A, B, Z)
Analog input: range 1/2/5/10/20 V
Sampling rate: approx. 200 kS/s
Resolution: 16 bits
Pulse input: input range ± 12 V peak
Frequency input range: 2 Hz to 1 MHz
- Display: 8.4-inch color TFT LCD display
Number of pixels: 1024 (horizontal) \times 768 (vertical) dots
Display items: values, waveforms, vectors, etc.
- Dimensions: 426 mm (W) \times 177 mm (H) \times 459 mm (D)
- Weight: approx. 15 kg (with 6 input elements and options)

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