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Data Sheet

August 13, 2026

YOKOGAWA

Yokogawa WT1803E Precision Power Analyzer

Yokogawa WT1803E Precision Power Analyzer The Yokogawa WT1803E is the three-input-element model of the WT1800E high-performance power analyzer family. It measures three-phase voltage, current, and power with basic accuracy $\pm(0.05\%$ of reading + 0.05% of range), bandwidth DC and 0.1 Hz to 1 MHz, and 2 MS/s 16-bit sampling for inverter, motor-drive, and three-phase efficiency tests. Three-phase three-wire and four-wire power and efficiency; inverter input or output harmonic evaluation to the 500th order of 50/60 Hz; PWM motor-drive loss analysis with per-element line filters; optional motor torque/speed evaluation; automated test via USB, GP-IB, and Ethernet. The Yokogawa WT1803E is the three-input-element model of the WT1800E high-performance power analyzer family. It measures three-phase voltage, current, and power with basic accuracy $\pm(0.05\%$ of reading + 0.05% of range), bandwidth DC and 0.1 Hz to 1 MHz, and 2 MS/s 16-bit sampling for inverter, motor-drive, and three-phase efficiency tests. Three-phase three-wire and four-wire power and efficiency; inverter input or output harmonic evaluation to the 500th order of 50/60 Hz; PWM motor-drive loss analysis with per-element line filters; optional motor torque/speed evaluation; automated test via USB, GP-IB, and Ethernet.



MODEL

**Yokogawa
WT1803E**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

WT1803E

LISTING

<https://aumictechlabs.com/products/wt1803e-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Yokogawa WT1803E is a precision power analyzer engineered for high-accuracy measurement of electrical power parameters across R&D, manufacturing, and energy efficiency applications. It simultaneously acquires up to 6 voltage and 6 current inputs at 2 MS/s with 16-bit resolution, displayed on an 8.4-inch XGA touch-screen interface. The instrument delivers 0.05% basic power accuracy and supports harmonic analysis to the 500th order, making it ideal for characterizing power supplies, inverters, motors, and frequency conversion equipment.

Technical Specifications

- Simultaneous measurements: 6 voltage + 6 current inputs
- Sampling rate: 2 MS/s, 16-bit resolution
- Voltage range: 1.5 V to 1000 V direct input
- Frequency bandwidth: 2 MHz (voltage and current at 5 MHz, -3 dB typical)
- Power accuracy: 0.05% of reading $\pm$ 0.05% of range (1% to 110% of selected range)
- Low power factor error: 0.1% of apparent power
- Harmonic analysis: Up to 500th order at 50/60 Hz fundamentals - includes THD, HDF, THF, and impedance measurements
- Dual Harmonic option: Simultaneous analysis of two independent sources
- Data capture rate: 5 ms (external sync OFF) or 1-100 ms (external sync ON)
- Frequency measurement: Down to 0.1 Hz for low-speed motor evaluation
- Input elements: Configurable 5 A and 50 A ranges; single unit supports mixed element installation

Key Features

- High-resolution 8.4-inch XGA color display with touch-screen control
- Split-screen waveform viewing: up to 6 simultaneous traces
- Parameter display: up to 12 diverse pages
- Motor evaluation functions (optional): rotational speed, torque, slip, electrical angle, mechanical power, motor efficiency
- Auxiliary input measurement (optional): 2 additional channels
- Reduced power factor error ensures accuracy even at low displacement factors

Typical Applications

- Power supply and inverter characterization
- Motor efficiency and performance evaluation
- Harmonic distortion analysis in frequency conversion equipment
- High-frequency electronic product testing

Compatibility & Integration

Flexible input element architecture accommodates 5 A and 50 A current ranges in a single chassis, scaling from single to triple input element configurations.

Features & description

From manufacturer datasheet

Features

- Three mixable 5 A and/or 50 A input elements for three-phase wiring in one chassis
- Harmonics to the 500th order at 50 ms update; optional dual harmonics (/G6) when a second source is in range
- Independent analog (1 MHz/300 kHz) and digital (100 Hz to 100 kHz) line filters per element
- 8.4-inch XGA color TFT with numeric, waveform, vector, trend, and bar-graph pages
- Optional /MTR motor evaluation (analog/pulse torque and speed)
- USB, GP-IB, and Gigabit-class Ethernet with Modbus/TCP and web server

WT1803E Characteristics / Specifications

PARAMETER	VALUE
Model	WT1803E
Manufacturer	Yokogawa
Instrument Type	Precision Power Analyzer
Series	WT1800E
Input Elements	3 elements (mix 5 A and 50 A types)
Basic Power Accuracy	+/- (0.05% of reading + 0.05% of range) at 45 to 66 Hz, CF3
Frequency Range	DC, 0.1 Hz to 1 MHz (approx. 5 MHz -3 dB typical)
Effective Accuracy Span	1% to 110% of selected voltage and current range
Low Power Factor Error	+/- 0.07% of apparent powerSat cos phi = 0, 45 to 66 Hz
Voltage Ranges CF	1.5 V, 3 V, 6 V, 10 V, 15 V, 30 V, 60 V, 100 V, 150 V, 300 V, 600 V, 1000 V
Current Ranges 5 A Element CF	10 mA, 20 mA, 50 mA, 100 mA, 200 mA, 500 mA, 1 A, 2 A, 5 A
Current Ranges 50 A Element CF	1 A, 2 A, 5 A, 10 A, 20 A, 50 A
External Sensor Ranges CF	50 mV, 100 mV, 200 mV, 500 mV, 1 V, 2 V, 5 V, 10 V
Crest Factor	3 (6 or 6A on reduced ranges); up to 300 relative to minimum valid input
Sampling Rate	approx. 2 MS/s (16 bit, approx. 500 ns conversion)
Harmonic Order	up to 500th of 50/60 Hz fundamental
Data Update Rate	50 ms, 100 ms, 200 ms, 500 ms, 1 s, 2 s, 5 s, 10 s, 20 s, Auto
Voltage Input Impedance	approx. 2 MOhm, 10 pF
Current Shunt 5 A Element	approx. 100 mOhm + 0.07 uH
Current Shunt 50 A Element	approx. 2 mOhm + 0.07 uH
Common Mode Voltage	1000 Vrms continuous (50/60 Hz) on voltage terminals
Wiring	three-phase three-wire or four-wire (three elements)
Display	8.4-inch color TFT LCD (XGA class)
Interfaces	USB; GP-IB; Ethernet 1000BASE-T/100BASE-TX (Modbus/TCP, VXI-11, FTP)

PARAMETER	VALUE
Motor Evaluation	optional analog/pulse torque and speed inputs (/MTR)
Power Supply	100 to 240 VAC, 50/60 Hz; max 150 VA with printer (450 VA with /PD sensor power)
Dimensions	approx. 426 W x 177 H x 459 D mm (printer stored)
Mass	approx. 15 kg class (OEM figure is for six elements plus options without /PD)
Warm Up Time	approx. 30 minutes
Operating Temperature	5 to 40 degCStorage Temperature: -25 to 60 degCAlias: WT1803E Notes Specs from Yokogawa WT1800E datasheet (WT1803E three-element configuration). Confirm installed 5 A versus 50 A element mix, /G5 or /G6 harmonics, /MTR, /EX, and /PD on the unit and calibration certificate.
Bandwidth	DC and 0.1 Hz to 1 MHz, and 2 MS/s 16-bit sampling for inverter, motor-drive, and three-phase efficiency tests.
Storage temperature	25 to 60 degCAlias: WT1803E

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	25 to 60 degCAlias: WT1803E
Operating temperature	5 to 40 degCStorage Temperature: -25 to 60 degCAlias: WT1803E
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Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

performance power analyzer family. It measures three-phase voltage, current, and power with basic accuracy +/- (0.05% of reading + 0.05% of range), bandwidth DC and 0.1 Hz to 1 MHz, and 2 MS/s 16-bit sampling for inverter, motor-drive, and three-phase efficiency tests.

Applications

Three-phase three-wire and four-wire power and efficiency; inverter input or output harmonic evaluation to the 500th order of 50/60 Hz; PWM motor-drive loss analysis with per-element line filters; optional motor torque/speed evaluation; automated test via USB, GP-IB, and Ethernet.

Key Features

- Three mixable 5 A and/or 50 A input elements for three-phase wiring in one chassis
- Harmonics to the 500th order at 50 ms update; optional dual harmonics (/G6) when a second source is in range
- Independent analog (1 MHz/300 kHz) and digital (100 Hz to 100 kHz) line filters per element
- 8.4-inch XGA color TFT with numeric, waveform, vector, trend, and bar-graph pages
- Optional /MTR motor evaluation (analog/pulse torque and speed)
- USB, GP-IB, and Gigabit-class Ethernet with Modbus/TCP and web server

Technical Specifications

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Effective Accuracy Span	1% to 110% of selected voltage and current range
Low Power Factor Error	+/- 0.07% of apparent power S at cos phi = 0, 45 to 66 Hz
Voltage Ranges CF3	1.5 V, 3 V, 6 V, 10 V, 15 V, 30 V, 60 V, 100 V, 150 V, 300 V, 600 V, 1000 V
Voltage Ranges CF6	0.75 V, 1.5 V, 3 V, 5 V, 7.5 V, 15 V, 30 V, 50 V, 75 V, 150 V, 300 V, 500 V
Current Ranges 5 A Element CF3	10 mA, 20 mA, 50 mA, 100 mA, 200 mA, 500 mA, 1 A, 2 A, 5 A
Current Ranges 50 A Element CF3	1 A, 2 A, 5 A, 10 A, 20 A, 50 A
External Sensor Ranges CF3	50 mV, 100 mV, 200 mV, 500 mV, 1 V, 2 V, 5 V, 10 V
Crest Factor	3 (6 or 6A on reduced ranges); up to 300 relative to minimum valid input
Sampling Rate	approx. 2 MS/s (16 bit, approx. 500 ns conversion)
Harmonic Order	up to 500th of 50/60 Hz fundamental

PARAMETER	VALUE
Data Update Rate	50 ms, 100 ms, 200 ms, 500 ms, 1 s, 2 s, 5 s, 10 s, 20 s, Auto
Voltage Input Impedance	approx. 2 MOhm, 10 pF
Current Shunt 5 A Element	approx. 100 mOhm + 0.07 uH
Current Shunt 50 A Element	approx. 2 mOhm + 0.07 uH
Common Mode Voltage	1000 Vrms continuous (50/60 Hz) on voltage terminals
Wiring	three-phase three-wire or four-wire (three elements)
Display	8.4-inch color TFT LCD (XGA class)
Interfaces	USB; GP-IB; Ethernet 1000BASE-T/100BASE-TX (Modbus/TCP, VXI-11, FTP)
Motor Evaluation	optional analog/pulse torque and speed inputs (/MTR)
Power Supply	100 to 240 VAC, 50/60 Hz; max 150 VA with printer (450 VA with /PD sensor power)
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Alias	WT1803E

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Voltage Ranges CF6	0.75 V, 1.5 V, 3 V, 5 V, 7.5 V, 15 V, 30 V, 50 V, 75 V, 150 V, 300 V, 500 V
Current Ranges 5 A Element CF3	10 mA, 20 mA, 50 mA, 100 mA, 200 mA, 500 mA, 1 A, 2 A, 5 A

PARAMETER	VALUE
Current Ranges 50 A Element CF3	1 A, 2 A, 5 A, 10 A, 20 A, 50 A
External Sensor Ranges CF3	50 mV, 100 mV, 200 mV, 500 mV, 1 V, 2 V, 5 V, 10 V
Crest Factor	3 (6 or 6A on reduced ranges); up to 300 relative to minimum valid input
Sampling Rate	approx. 2 MS/s (16 bit, approx. 500 ns conversion)
Harmonic Order	up to 500th of 50/60 Hz fundamental
Data Update Rate	50 ms, 100 ms, 200 ms, 500 ms, 1 s, 2 s, 5 s, 10 s, 20 s, Auto
Voltage Input Impedance	approx. 2 MOhm, 10 pF
Current Shunt 5 A Element	approx. 100 mOhm + 0.07 uH
Current Shunt 50 A Element	approx. 2 mOhm + 0.07 uH
Common Mode Voltage	1000 Vrms continuous (50/60 Hz) on voltage terminals
Wiring	three-phase three-wire or four-wire (three elements)
Display	8.4-inch color TFT LCD (XGA class)
Interfaces	USB; GP-IB; Ethernet 1000BASE-T/100BASE-TX (Modbus/TCP, VXI-11, FTP)
Motor Evaluation	optional analog/pulse torque and speed inputs (/MTR)
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Mass	approx. 15 kg class (OEM figure is for six elements plus options without /PD)
Warm Up Time	approx. 30 minutes
Operating Temperature	5 to 40 degCStorage Temperature: -25 to 60 degCAlias: WT1803E

Notes

Specs from Yokogawa WT1800E datasheet (WT1803E three-element configuration). Confirm installed 5 A versus 50 A element mix, /G5 or /G6 harmonics, /MTR, /EX, and /PD on the unit and calibration certificate.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.