WT Series & PZ

Power Analyzer WT series & PZ

WT3000
Accuracy: 0.02%
Frequency range: DC, 0.1 Hz to 1 MHz

WT230
Accuracy: 0.1%
Frequency range: DC, 0.5 Hz to 100 kHz

WT1600
Accuracy: 0.1%
Frequency range: DC, 0.5 Hz to 1 MHz

WT210
Accuracy: 0.1%
Frequency range: DC, 0.5 Hz to 100 kHz

PZ4000
Accuracy: 0.1%
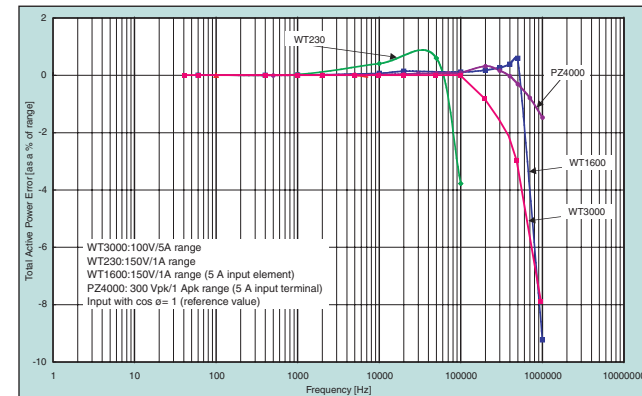**Frequency range: DC, 0.1 Hz to 1 MHz**

3-Year Warranty

C E

Yokogawa's WT Series & PZ Power Analyzers and PZ:
Advanced Technology and High Reliability for a Wide Range of Power Measurement Solutions
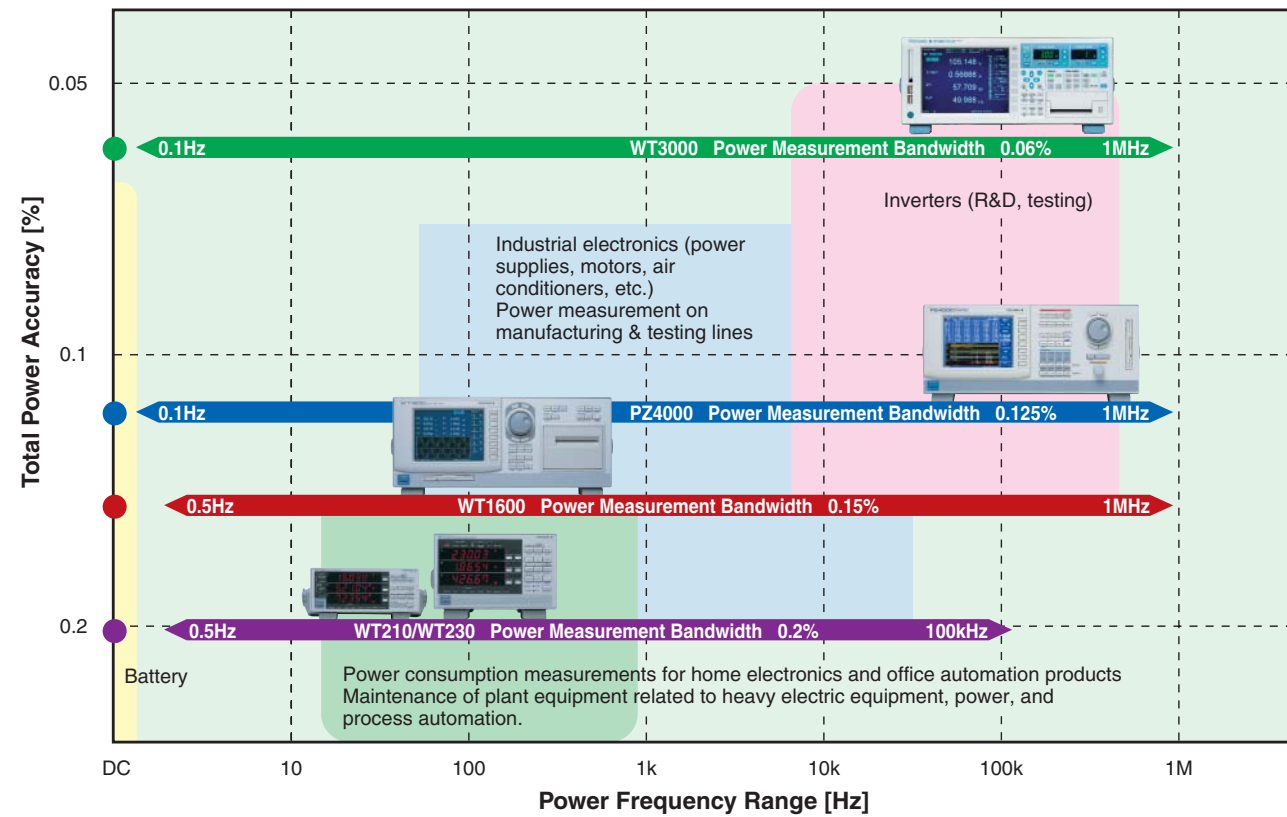
Total Power Accuracy [%] vs **Power Frequency Range [Hz]**

- WT3000 Power Measurement Bandwidth 0.06% 0.1Hz – 1MHz
- Inverters (R&D, testing)
- Industrial electronics (power supplies, motors, air conditioners, etc.) Power measurement on manufacturing & testing lines
- PZ4000 Power Measurement Bandwidth 0.125% 0.1Hz – 1MHz
- WT1600 Power Measurement Bandwidth 0.15% 0.5Hz – 1MHz
- WT210/WT230 Power Measurement Bandwidth 0.2% 0.5Hz – 100kHz
- Battery
- Power consumption measurements for home electronics and office automation products
  Maintenance of plant equipment related to heavy electric equipment, power, and process automation.

WT3000

High end model with world-class accuracy and stability that also offers support for IEC/JIS standards testing

- Power measurement bandwidth: DC, 0.1 Hz to 1 MHz
- Basic power accuracy: 0.02%.
- Harmonic analysis and voltage fluctuation/flicker measurement conforming to IEC standards (optional).
- Select a current input element of 5m A to 2 A or 0.5 A to 30 A.
- A variety of options available for FFT analysis, cycle-by-cycle measurement, and other functions.

Dim. 426 (W) × 177 (H) × 459 (D) mm
Approximately 15 kg
(main unit with four elements installed)

WT1600

Vivid waveform and vector display and a wide range of features for a variety of applications

- Power measurement frequency range: DC and 0.5 Hz to 1 MHz
- Basic power accuracy: 0.1%.
- High-voltage measurement (1.5 to 1000 Vrms)
- Wide current input range (10 mA to 5 A or 1 A to 50 A range)
- As many as six input elements can be installed to enable simultaneous three-phase power measurements on two separate systems.
- Motor evaluation function (torque, rotating speed inputs) enables computation of total motor efficiency.

Dim. 426 (W) × 177 (H) × 400 (D) mm
Approximately 15 kg
(main unit with six input elements installed)

WT230

Compact three-phase model with optional harmonic measurement function

- Three-phase model (three-phase, three-wire: two input elements; three-phase, four-wire: three input elements)
- Power measurement frequency range: DC and 0.5 Hz to 100 kHz
- Basic power accuracy: 0.1%
- Four-channel DA output and four-channel comparator output enabling GO/NO-GO evaluations on production and testing lines (optional)
- A variety of other features, including line filter, maximum hold, and integration function with categorization of positive and negative polarity, and average active power function

Dim. 213 (W) × 132 (H) × 350 (D) mm
Approximately 5 kg

WT210

Low-priced model providing mobility for standalone measurement of standby consumed power and rated power

- Single-phase model
- Power measurement frequency range: DC and 0.5 Hz to 100 kHz
- Basic power accuracy: 0.1%
- Wide current input range (5 mA to 20 A)
- A variety of other features, including line filter, maximum hold, and integration function with categorization of positive and negative polarity, and average active power function

Dim. 213 (W) × 88 (H) × 350 (D) mm
Approximately 3 kg

PZ4000 Power Analyzer

Analyzer with wide frequency range and waveform analysis functions

- Frequency characteristics: DC and 0.1 Hz to 1 MHz
- Basic power accuracy: 0.1%.
- Wide variety of waveform analysis functions, including zoom, cursor measurement, and waveform computation
- Harmonic measurement function (up to 500 orders) and FFT Math function
- As many as four input elements can be installed to enable simultaneous three-phase power measurements on two separate systems.
- Motor evaluation function (torque, rotating speed inputs) enables computation of total motor efficiency.

Dim. 426 (W) × 177 (H) × 450 (D) mm
Approximately 15 kg
(main unit with four-input module installed)

There are limitations on some specifications and functions. See the individual product catalogs for details.
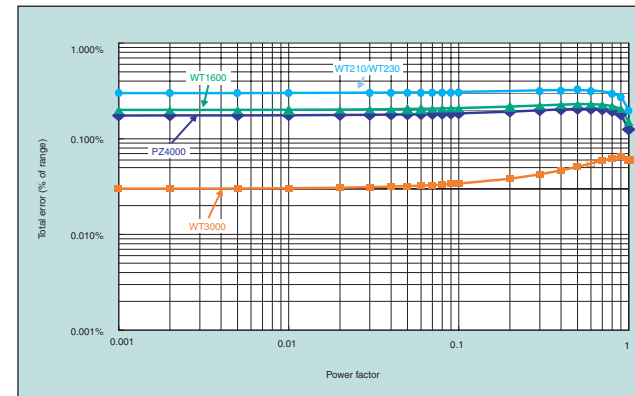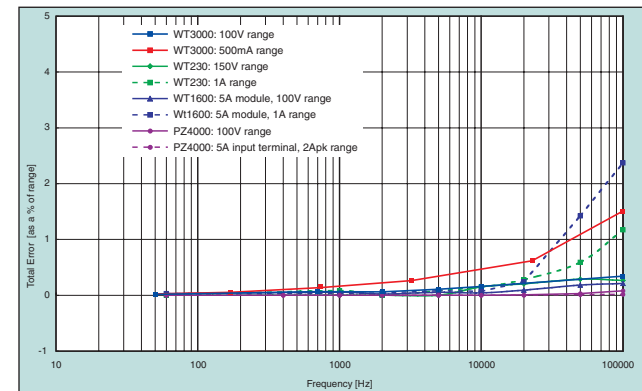
■ Specification of WT Series and PZ4000

Frequency versus Power Accuracy at Unity Power Factor (example)

WT3000:100V/5A range
WT230:150V/1A range
WT1600:150V/1A range (5 A input element)
PZ4000: 300 Vpk/1Apk range (5 A input terminal)
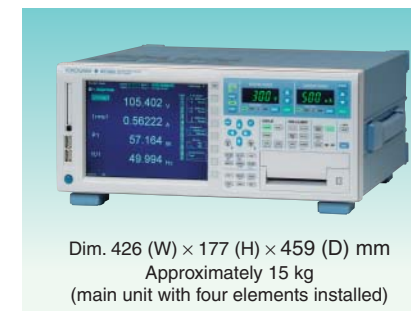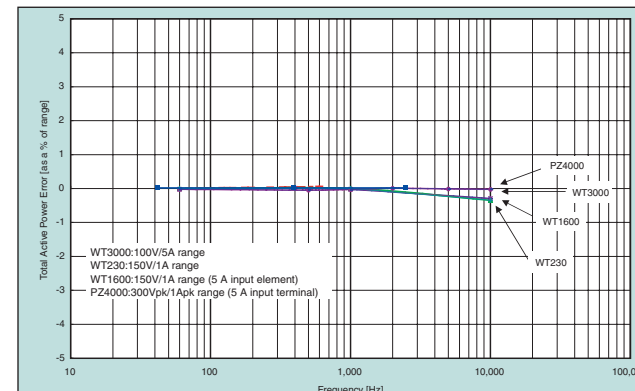Input with cos ϕ= 1 (reference value)

Total power error with rated range input for an arbitrary power factor (50/60Hz, 30A input element)

Effect of Common Mode Voltage on Readings

- WT3000: 100V range
- WT3000: 500mA range
- WT230: 150V range
- WT230: 1A range
- WT1600: 5A module, 100V range
- WT1600: 5A module, 1A range
- PZ4000: 100V range
- PZ4000: 5A input terminal, 2Apk range

Frequency versus Power Accuracy at Zero Power Factor (example)

WT3000:100V/5A range
WT230:150V/1A range
WT1600:150V/1A range (5 A input element)
PZ4000:300Vpk/1Apk range (5 A input terminal)

Select the Best Model for Your Applications

■ Specifications for WT Series and PZ

		WT3000	WT1600	WT210/WT230	PZ4000
Range	Basic power accuracy (50/60Hz)	0.02% of reading + 0.04% of range	0.1% of reading + 0.05% of range	0.1% of reading + 0.1% of range	0.1% of reading + 0.025% of range
	Power frequency range	DC, 0.1 Hz to 1 MHz	DC, 0.5 Hz to 1 MHz	DC, 0.5 Hz to 100 kHz	DC, 0.1 Hz to 1 MHz
	Input elements	1, 2, 3, 4	1, 2, 3, 4, 5, 6	1 (WT210), 2 or 3 (WT230)	1, 2, 3, 4
	voltage range	15/30/60/100/150/300/600/1000[V]	1.5/3/6/10/15/30/60/100/150/300/600/1000[V]	15/30/60/100/150/300/600[V]	30/60/100/200/300/600/1200/2000[Vpk]
	Current range (direct input)	5m/10m/20m/50m/100m/200m/500m/1/2[A] or, 0.5/1/2/5/10/20/30[A]	10m/20m/50m/100m/200m/500m/1/2/5[A] or, 1/2/5/10/20/50[A]	5m/10m/20m/50m/0.1/0.2/0.5/1/2/5/10/20[A](WT210) 0.5/1/2/5/10/20/50[A] (WT230)	5A module: 0.1/0.2/0.4/1/2/4/10[Apk] (5Arms) 20A module: 0.1/0.2/0.4/1/2/4/10[Apk] (5Arms) 1/2/4/10/20/40/100[Apk] (20Arms)
	Current range (external sensor input)	50m/100m/250m/500/1/2/5/10[V]	50m/100m/250m/500/1/2.5/5/10[V]	50m/100m/250m[V] or 2.5/5/10[V] (option)	0.1/0.2/0.4/1[Vpk]
	Guaranteed accuracy range for voltage and current	1% to 130%	1% to 110%	1% to 130%	5% to 70% (peak range)
Measurement parameters	Main measurement parameters	Voltage, current, active power, reactive power, apparent power, power factor, phase angle, peak voltage, peak current, crest factor			
	Peak hold (instantaneous maximum value hold)	✔	✔	✔	
	MAX hold	✔	✔	✔	
	Voltage RMS/MEAN simultaneous measurement	✔	✔		✔
	Mean active power	✔ (user-defined function)	✔ (user-defined function)	✔	
	Active power integration (WP)	✔	✔	✔	
	Apparent power integration (WS)	✔			
	Reactive power integration (WQ)	✔			
	Frequency	2ch (up to 8 channels with option /FQ)	3ch	1ch	2ch / module
	Efficiency	✔	✔	✔	✔
	Motor evaluation	Torque, rotating speed input (motor version)(/MTR)(opt.)	Torque and rotational velocity input (/MTR)(opt.)		Torque and rotational velocity input (requires sensor input module 253771)(opt.)
	FFT spectral analysis	(/G6)(opt.)			✔
	User-defined functions	✔ (20 functions)	✔ (4 functions)		✔ (4 functions)
Display	Display	8.4-inch TFT color LCD	6.4-inch TFT color LCD	7-segment display	6.4-inch TFT color LCD
	Display format	Numerical values, waveforms, trends, bar graphs, vectors	Numerical values, waveforms, trends, bar graphs, vectors	Numerical values (3 values)	Numerical values, waveforms, trends, bar graphs, vectors, X-Y
	Sampling frequency	Approximately 200 kS/s	Approximately 200 kS/s	Approximately 50 kS/s	Maximum 5 MS/s
Measurement / functions	Harmonic measurement	(/G6)(opt.)	✔	(/HRM)(opt.)	
	IEC standards-compliant harmonic measurement	(/G6)(opt.)(10cycle/50Hz, 12cycle/60Hz)			
	Flicker measurement	(/FL)(opt.)			
	Cycle by cycle measurement	(/CC)(opt.)			
	Delta calculation function	(/DT)(opt.)	✔ (diff are not supported)		✔
	DA output	20 channels (/DA)(opt.)	30 channels (/DA)(opt.)	4 channels (/DA4)(opt.) (WT210) 12 channels (/DA12)(opt.) (WT230)	None, but acquisition memory has 100 kW/channel (up to 4 MW/channel can be installed with /M3 option)
	Storage (internal memory for storing data)	approximately 30MB	Approximately 11MB	Maximum 600 samples (WT210) Maximum 300 samples (WT230)	
Other features	Interfaces	GP-IB; RS-232 (/C2)(opt.); USB (/C12); VGA output (/V1)(opt.); Ethernet (/C7)(opt.)	GP-IB or RS-232;SCSI (/C7)(opt.); Ethernet (/C10)(opt.); VGA output	GPIB(/C1) or RS-232(/C2)(opt.) (WT210) ✔GPIB or RS-232 (WT230)	GP-IB; RS-232;Centronics; SCSI (/C7)(opt.)
	Data updating interval	50m/100m/250m/500m/1/2.5/10/20[S]	50m/100m/200m/500m/1/2/5[S]	100m/250m/500m/1/2/5[S]	Depends on waveform acquisition length and calculations
	Removable storage	PC card interface; USB (/C5)(opt.)	FDD		FDD
	Built-in printer	front side (/B5)(opt.)	front side (/B5)(opt.)		top side (/B5)(opt.)

There are limitations on some specifications and functions. See the individual product catalogs for details.
(opt.):Optional

Application

● Power measurement for motors and inverters (with the WT3000, WT1600, and PZ4000). Select the model that fits your measurement application.

Input signal example

Output signal example

Inverter Motor Torque meter Load

WT or PZ

Torque rotation speed trend display example (optional motor evaluation function required)

*1 751574 can measure large current up to 600A peak

Current Transducer 751574 (DC to 100 kHz/600 Apk)
- Wide dynamic range: 0 to 600 A (DC)/600 Apeak (AC)
- Wide measurement frequency range: DC to 100 kHz (-3 dB)
- Highly precise basic accuracy:±(0.05% of reading + 40 µA)
- Requires DC ±15 V power supply, connectors, and load resistors.

WT3000 — Top-Class, High Precision Measurement
Offers high precision measurement with world-class basic power accuracy of ±0.02%. High-end model with an array of optional advanced computation functions.

WT1600 — Wide Range Multichannel Measurement
High-functionality model with up to 6 channels of multichannel capability and expandable to wide ranges of 1.5 V to 1000 V and 10 mA to 50 A.

PZ4000 — Waveform Analysis Measurement
Model that can observe rapidly fluctuating power transients using waveform measurement and computation functions with high speed (5 MS/s) sampling rates.

● Power Data Acquisition for the Pursuit of Cost-Performance (WT210 and WT230)

Select direct input or clamp input measurement

Clamp probe

WT210 15V to 600V 5mA to 20A
WT230 15V to 600V 0.5A to 20A

External sensor input (Option)

WT210   WT230

D/A Output (Option)   GP-IB or RS232C (Option)

Recorder

■ **Large-current Measurement Using Current Clamps External input for current sensor**
Select either 50/100/200 mV or 2.5/5/10 V. A current clamp lets you measure currents without needing to disconnect the power supply circuit wiring.

WTViewer software display for WT210/WT230

■ **Application Software**
WTViewer for the WT210/WT230 is a software application that allows you to load numeric and waveform data from a WT210 or WT 230 Digital Power Meter to a PC via GP-IB or serial (RS-232-C) communications.

■ **Recording to a Recorder**
This option lets you output a variety of measurement data, such as voltage, current, and power measurements, with ±5 V rating, for recording on a recorder. The recorder can then be used to check changes in data over time.

■ **Harmonic Measurements**
Calculate voltage, current, reactive power, content ratio, and phase angle relative to fundamental frequency for up to 50 orders. This option is well-suited to power supply environment evaluations.

● Support for IEC Standards Testing

◆ Compliance with the IEC Standard
IEC61000-3-2Ed2.2:2004
(Advanced Calculation Function /G6 and software for testing standards compliance)
IEC61000-3-3Ed1.1:2002
(Voltage fluctuation/flicker measurement, with the /FL option)

Running on commercial power

DUT

Power supply for measurement

WT3000 Precision Power Analyzer

PC Software

◆ Harmonic/Flicker Measurement Software (Model 761922)
Model 761922 offers support for IEC standards compliance tests of harmonics and voltage fluctuation/flicker in a single program.

Example of judgments and report on conformance to IEC61000-3-2 limit values

■ **Voltage Fluctuation/Flicker Measurement (on the WT3000 main unit)**
This is an example of the flicker measurement display on the WT3000. The unit shows the limits, dc, dmax, Pst, and other values, and determines Pass or Fail for each observation period.

Example of judgments and CPF graph/report on conformance to IEC61000-3-3 flicker limit values
* An impedance network is required for flicker measurement

■ Wiring Types and Model Numbers

Wiring type	Required input modules	WT210/WT230
Single-phase 2-wire	1	760401
Single-phase 3-wire	2	760502
3-phase 3-wire (2 voltages, 2 currents) *	2	760502
3-phase 3-wire (3 voltages, 3 currents) *	3	760503
3-phase 4-wire	3	760503

For WT3000, WT1600 and PZ4000, use the above table as a reference in determining the number of input modules.
*Measured using the 2 powermeter method

Related Products for Power Measurement

Current sensor Units Current Transducer Current Clamp-on Probes

751521 and **751523**

DC to 100 kHz/600 Apk and Combined Calibration
- Wide dynamic range: 0 to 600 A (DC)/600 Apeak (AC)
- Wide measurement frequency range: DC to 100 kHz (-3 dB)
- High-precision basic accuracy: ±(0.05% of reading + 40 µA)
- Innovative casing design for superior noise withstanding ability and CMRR characteristics
- Can be combined with WT series or PZ4000 for assured accuracy and combined calibration.
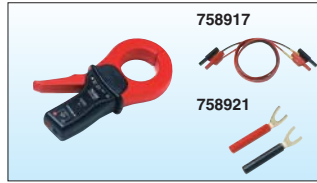
*These models don't conform with CE Marking.

751574

DC to 100 kHz/600 Apk
- Wide dynamic range: 0 to 600 A (DC)/600 Apeak (AC)
- Wide measurement frequency range: DC to 100 kHz (-3 dB)
- Highly precise basic accuracy: ±(0.05% of reading + 40 µA)
- Requires DC ±15 V power supply, connectors, and load resistors.

751552

AC 1000 Arms (1400 Apeak)
- Wide dynamic range: 0.001 to 1000 Arms, Max. 1400 Apk (AC)
- Wide measurement frequency range: 30 Hz to 5 kHz (±2%)
- Highly precise basic accuracy: ±0.3% of reading
- Phase error: 0.7 deg (50/60 Hz)
- Current output type: 1 mA/A

751550

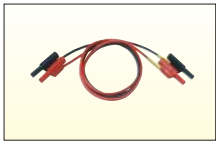**AC 400 Arms (600 Apeak)**
- Wide dynamic range: 0.5 to 400 Arms (AC)
- Wide measurement frequency range: 20 Hz to 20 kHz (±5%)
- Basic accuracy: ±1.0% of reading ±0.2 mV
- Voltage output type: 10 mV/A

*This model is treated as a special-order product.

See the power meter accessories catalog (Bulletin 7515-52E) for detailed specifications and a product selection guide.

Connectors and Cables

758917

Test lead set
Two leads (read and black) to a set. Use with model 758922 or 758929.
Total length: 0.75 meter
Rating: 1000 V

758922

Alligator clip adapters (small)
Two adapters to a set. Connected to model 758917 measurement leads.
Rating: 300 V

758929

Alligator clip adapters (large)
Two adapters to a set. Connected to model 758917 measurement leads.
Rating: 1000 V

758923 *1

Safety terminal adapter set
(spring-hold type) Two adapters in a set.

758931 *1

Safety terminal adapter set
(screw-fastened type)
Two adapters to a set.
1.5 mm hex wrench is attached to fasten cable.

758921

Fork terminal adapter
Two adapters (red and black) to a set. Used when attaching banana plug to binding post.

701959

Safety mini-clip set (hook Type)
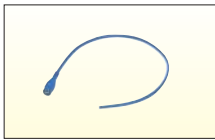2 pieces (red and black) in one set. Rating 1000V

758924

Conversion adapter
For conversion between male BNC and female banana plug

366924/25 *2

BNC cable
(BNC-BNC 1m/2m)
For connection to simultaneously measurement with 2 units, or for input external trigger signal.

B9284LK *3

External Sensor Cable
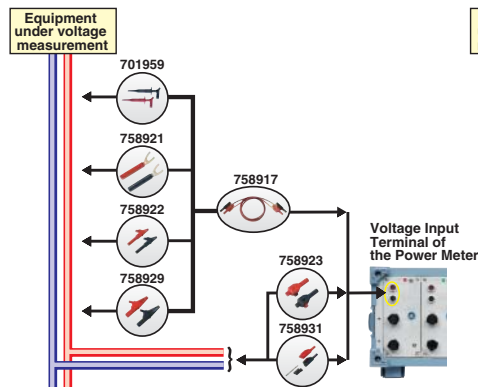For connection the external input of the WT3000 to current sensor.
Length:50cm

⚡ Due to the nature of this product, it is possible to touch its metal parts. Therefore, there is a risk of electric shock, so the product must be used with caution.

*1: These accessories do not conform to CE Marking.
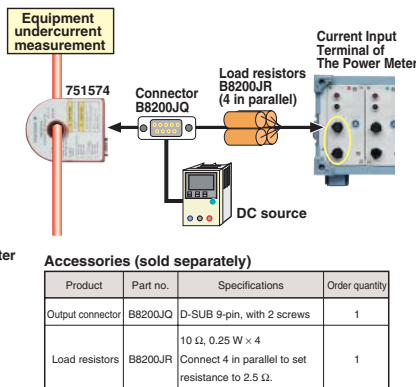*2: Use these products with low-voltage circuits (42 V or less).
*3: The coax cable is simply cut on the current sensor side. Preparation by the user is required.

Connecting Diagram

Connecting the Measurement Cables and Adapters

Equipment under voltage measurement
701959
758921
758922
758929
758917
758923
758931
Voltage Input Terminal of the Power Meter

Connecting Diagram for Current Transducer

Equipment undercurrent measurement
751574
Connector B8200JQ
Load resistors B8200JR) (4 in parallel)
Current Input Terminal of The Power Meter
DC source

Accessories (sold separately)

Product	Part no.	Specifications	Order quantity
Output connector	B8200JQ	D-SUB 9-pin, with 2 screws	1
Load resistors	B8200JR	10 Ω, 0.25 W × 4 Connect 4 in parallel to set resistance to 2.5 Ω.	1

Connecting Diagram for Clamp-on Probe

Equipment under current measurement
751550
Voltage output
751552
Current output
758917
758921
EXT Input Terminal of The Power Meter
758924
Current Input Terminal of The Power Meter
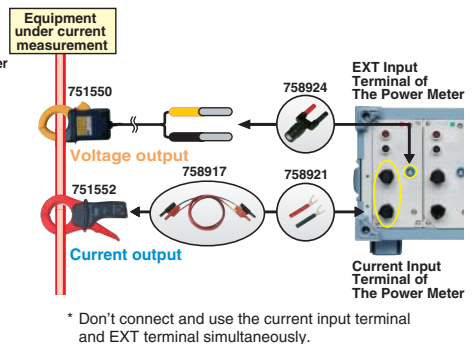
* Don't connect and use the current input terminal and EXT terminal simultaneously.

Data Acquisition and Remote Control Using a PC

Software

● WTViewer760122 (WT3000/WT1600) [3]

WTViewer is a software application that allows you to load numerical and waveform data measured by the WT3000 Precision Power Analyzer or WT1600 Digital Powermeter onto a PC via GP-IB, serial (RS-232), Ethernet, or USB (WT3000 only) communications for waveform display and analysis/saving of the data.

Model Compatibility Chart for Communications with WTViewer

| Product	GP-IB	RS-232	Ethernet	USB
WT3000	Standard	Option[1]	Option	Option[1]
WT1600	Standard[2]	Standard[2]	Option	×
WT210[3]	Option[2]	Option[2]	×	×
WT230[3]	Standard[2]	Standard[2]	×	×

Standard: Supported (WT communication comes standard)
Option: Supported (WT communication optional)
× : Not supported (not a function of the WT main unit)
1 : An RS-232 and USB port (PC) cannot both be installed on a single WT main unit.
2 : RS-232 and GP-IB cannot both be installed on a single WT main unit.
3 : Free software available for those using only the WT210/WT230. Please check our Web site for details.
Note) When connecting the WT and WTViewer, simultaneous connections with multiple instances of communication, and simultaneous data acquisition with a mixed configuration of models are not possible.
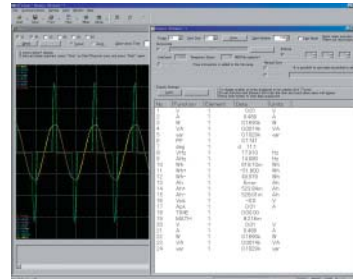
● PowerViewer Software 253734 (PZ4000)
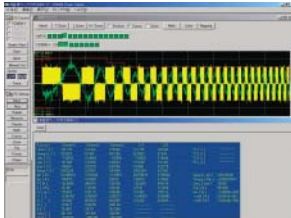
Power Viewer is a software package that can load measurement data from a PZ4000 power analyzer into a PC, through a communication interface or from a file. Power Viewer can display or analyze the loaded data, or can use math functions to simultaneously compute and display up to 4 megawords of captured multichannel data.

● LabView Driver

Data acquisition possible using LabVIEW. LabVIEW drivers can be downloaded from our Web site.

● LabVIEW is a registered trademark of National Instruments Corporation.

Please check our Web site for details on the various software programs.

Model and Suffix Codes

WT200 Series

Model	Suffix Code		Description	
760401			WT210, 1-input element model	
Power cord	-D		UL/CSA standard	
	-F		VDE standard	
	-R		SAA standard	
	-Q		BS standard	
	-H		GB standard	
Options	/C1		GP-IB communications function	Select one.
	/C2		RS-232-C communications function	
		/EX1	External input 2.5/5/10 V	Select one.
		/EX2	External input 50/100/200 mV	
		/HRM	Harmonic analysis function	
		/DA4	4-channel D/A output	Select one.
		/CMP	Comparator & D/A, each of 4 channels	

Note: The WT200 communications feature cannot be modified or provided later after delivery of the product.

Model	Suffix Code		Description	
760502			WT230, 2-input element model	
760503			WT230, 3-input element model	
Interface	-C1		GP-IB communications function	Select one.
	-C2		RS-232-C communications function	
Power cord	-D		UL/CSA standard	
	-F		VDE standard	
	-R		SAA standard	
	-Q		BS standard	
	-H		GB standard	
Options	/EX1		External input 2.5/5/10 V	Select one.
	/EX2		External input 50/100/200 mV	
		/HRM	Harmonic analysis function	
		/DA12	12-channel D/A output	Select one.
		/CMP	Comparator & D/A, each of 4 channels	

WT1600

Model	Suffix Code	Description						
760101		WT1600 digital power meter main unit						
			Element Number					
Element types and quantities			1	2	3	4	5	6
	-01		50					
The numbers in the "Description" column have the following meanings.	-02		50	50				
	-03		50	50	50			
	-04		50	50	50	50		
50: 50 A input element	-05		50	50	50	50	50	
5: 5 A input element	-06		50	50	50	50	50	50
Blank: No element	-10		5					
	-11		5	50				
	-12		5	50	50			
Elements are inserted in the order shown starting on the left side on the back.	-13		5	50	50	50		
	-14		5	50	50	50	50	
	-15		5	50	50	50	50	50
	-20		5	5				
	-21		5	5	50			
	-22		5	5	50	50		
	-23		5	5	50	50	50	
	-24		5	5	50	50	50	
	-30		5	5	5			
	-31		5	5	5	50		
	-32		5	5	5	50	50	
	-33		5	5	5	50	50	50
	-40		5	5	5	5		
	-41		5	5	5	5	50	
	-42		5	5	5	5	50	50
	-50		5	5	5	5	5	
	-51		5	5	5	5	5	50
	-60		5	5	5	5	5	5
Communication functions	-C1	GP-IB				Select one.		
	-C2	Serial (RS-232)						
Power cord	-D	UL/CSA Standard						
	-F	VDE Standard						
	-R	SAA Standard						
	-Q	BS Standard						
	-H	GB Standard						
Options	/B5	Internal printer						
	/C7	SCSI interface				Select one.		
	/C10	Ethernet, HDD, SCSI						
	/DA	30-channel DA output						
	/MTR	Motor evaluation function						

7

Precision Power Analyzer WT3000

Model	Suffix Codes			Description	
760301				WT3000 1 input element model	
760302				WT3000 2 input elements model	
760303				WT3000 3 input elements model	
760304				WT3000 4 input elements model	
Element number	-01				for 760301 model
	-02		30A input element		for 760302 model
	-03				for 760303 model
	-04				for 760304 model
	-10				for 760301 model
	-20		2A input element		for 760302 model
	-30				for 760303 model
	-40				for 760304 model
Version	-SV			Standard Version	
	-MV			Motor Version	
Power cord		-D		UL/CSA standard	
		-F		VDE standard	
		-R		SAA standard	
		-Q		BS standard	
		-H		GB standard	
Options			/G6	Advanced Computation (IEC standard testing*, harmonic, FFT, Waveform computation)	
			/B5	Built-in Printer	
			/DT	Delta Calculation	
			/FQ	Add-on Frequency Measurement	
			/DA	20ch D/A output	
			/V1	VGA Output	
			/C2	Serial (RS-232) Interface	Select one
			/C12	USB port (PC)	
			/C5	USB port (Peripheral)	
			/C7	Ethernet function	
			/CC	Cycle by Cycle	
			/FL	Voltage Fluctuation, Flicker	

* requires 761922 software

Note: Mixing of the 30 A and 2 A input elements is not supported, whether purchasing a new unit or reworking an existing one. Also, the unit cannot be modified to change the current range. Adding input modules after initial product delivery will require rework at the factory. Please choose your models and configurations carefully, and inquire with your sales representative if you have any questions.

PZ4000

Model	Suffix Code	Description	
253710		PZ4000 Power Analyzer	
Power cord	-D	UL/CSA standard	
	-F	VDE standard	
	-R	SAA standard	
	-Q	BS standard	
	-H	GB standard	
Options	/M1	Memory extension to 1 M word/CH	Select one.
	/M3	Memory extension to 4 M word/CH	
	/B5	Built-in printer	
	/C7	SCSI interface	

Model	Suffix Code	Description
253751		Power measurement module Voltage: 1000 V Current: 5 A, current sensor: 500 mV
253752		Power measurement module Voltage: 1000 V Current: 5 A and 20 A, current sensor: 500 mV
253771		Sensor input module Torque / Rotating speed input
Module specifications	-E1	Plug-in unit

* Sensor input module can be used element 4 slot only.

Current Sensor Unit

Model	Suffix code	Description	
751521		Single-phase	DC to 100 kHz (-3 dB). -600 A to 0 A to +600 A (DC)
751523	-10	Three-phase U, V	Basic accuracy:±(0.05% of rdg* + 40 mA) Superior noise withstanding ability and CMRR characteristic due to optimized casing design
	-20	Three-phase U, W	
	-30	Three-phase U, V, W	
Supply voltage	-1	100 V AC (50/60 Hz)	
	-3	115 V AC(50/60 Hz)	
	-7	230 V AC(50/60 Hz)	
Power card	-D	UL/CSA standard	
	-F	VDE standard	
	-R	SAA standard	
	-J	BS standard	
	-H	GB standard	

* 751523-10 is designed for WT3000, PZ4000 and WT1600. 751523-20 is designed for the WT200 Series.
* 751521/751523 do not conform to CE Marking.

Clamp on Probe / Current transducer

Model	Product	Description
751552	Clamp-on probe	30 Hz to 5 kHz, 1400Apk (1000Arms)
751574	Current transducer	DC to 100 kHz (-3dB), 600Apk

* For detailed information, see Power Meter Accessory Catalog Bulletin 7515-52E

Application Software

Model	Product	Description	Order Q'ty
760122	WTViewer Software	Data acquisition software	1
761922	Harmonic/Voltage fluctuation/Flicker Measurement Software	Standard-compliant measurement	1

Accessory (sold separately)

Model/parts number	Product	Description	Order Q'ty
758917	Test read set	A set of 0.8m long, red and black test leads	1
758922 ⚠	Small alligator-clip	Rated at 300V and used in a pair	1
758929 ⚠	Large alligator-clip	Rated at 1000V and used in a pair	1
758923	Safety terminal adapter	(spring-hold type) Two adapters to a set.	1
758931	Safety terminal adapter	(screw-fastened type) Two adapters to a set. 1.5 mm hex Wrench is attached	1
758921 ⚠	Fork terminal adapter	Banana-fork adapter. Two adapters to a set	1
701959	Safety mini-clip	Hook type. Two in a set	1
758924 ⚠	Conversion adapter	BNC-banana-jack(female) adapter	1
366924 ⚠*	BNC-BNC cable	1m	1
366925 ⚠*	BNC-BNC cable	2m	1
B9284LK ⚠	External sensor cable	Current sensor input connector. Length 0.5m	1
B9316FX ⚠	Printer roll pager	Thermal paper, 10 meters (1 roll)	10

⚠ Due to the nature of this product, it is possible to touch its metal parts. Therefore, there is a risk of electric shock, so the product must be used with caution.
* Use these products with low-voltage circuits (42V or less).