

POWER METER PW3337

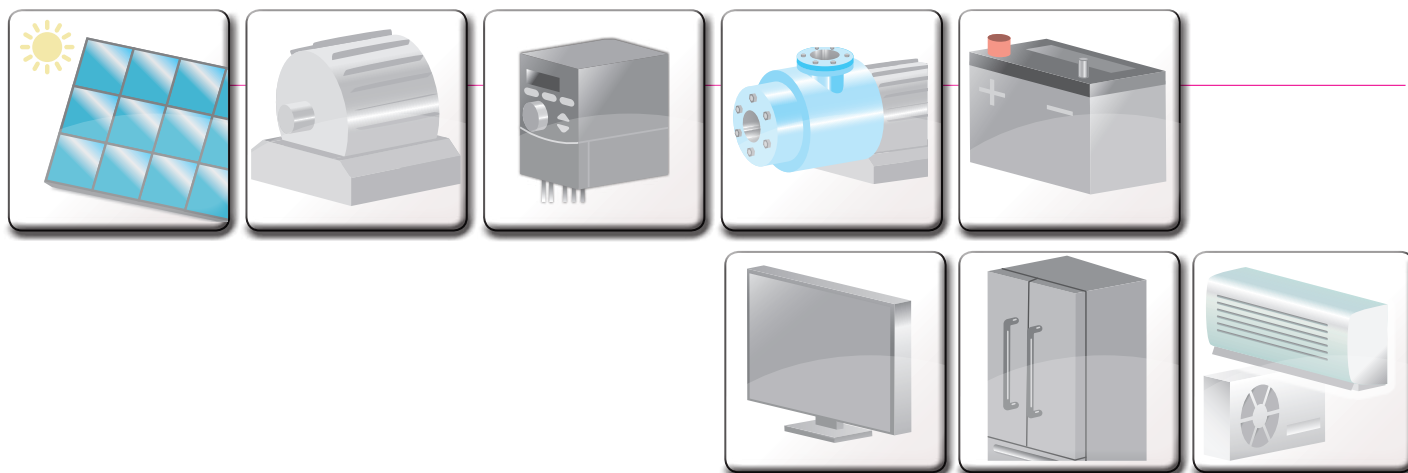
Power measuring instruments



Application Guide



**Get a Complete Diagnosis of
Motors, Inverters, Power Conditioners
& Other Power Devices**



ISO 9001
JMI-0216



ISO 14001
JQA-E-90091



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Maximize Efficiency of Power Devices

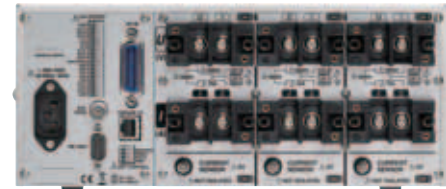
Why is Evaluating Conversion Efficiency Important?

New energy sources such as photovoltaic, wind and fuel cell systems are becoming increasingly popular. The power generated by these new energy sources is often connected to grids, or the traditional power supply network, after converting to 50 or 60Hz signals using a power conditioner, which uses a power inverter with a sine wave output. To ensure that the precious energy sources are maximized to their fullest potential, it is important to evaluate the conversion efficiency and output of the power conditioners. Even a 1% increase in efficiency can lead to tremendous overall savings.

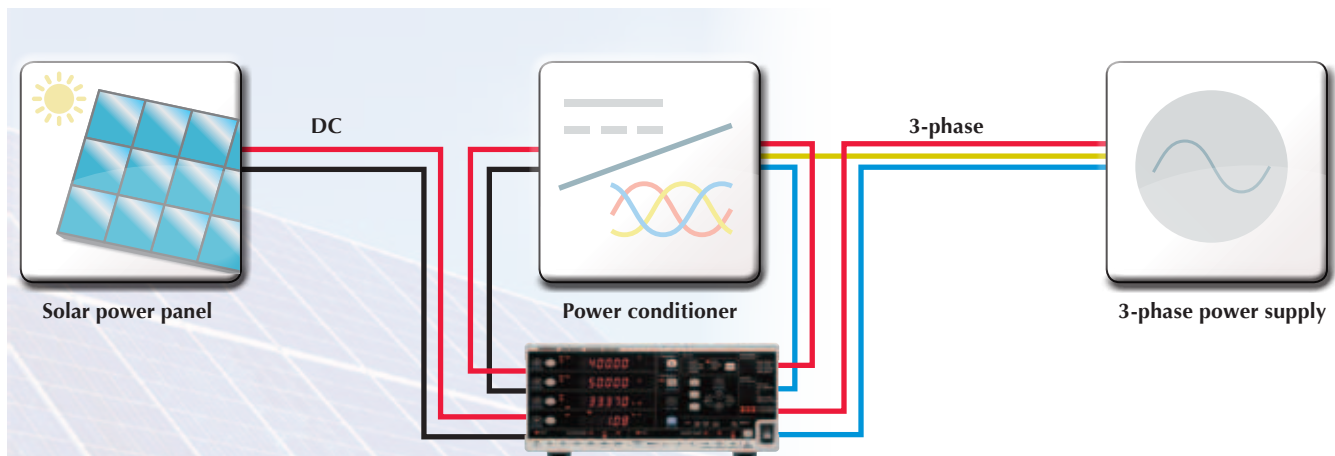
Helping Customers Bring the Best Products to Market

High-accuracy, multi-channel power meters save manufacturers time and money by enabling the simultaneous testing of both primary and secondary AC and DC signals. The PW3337 outperforms competitors by providing independently configurable range settings for each side, enabling you to use the optimal range and assuring the proper resolution and precision to make a valid analysis.

3 independently configurable channels



PW3337 series
Measure 1P2W/1P3W/3P3W/3P4W



Steps to Analyzing Power Conditioner Efficiency

- ✓ Measure the output at the primary DC side and secondary 3-phase AC side, setting the optimal range for each
How? Because the PW3337 has 3 independently configurable AC and DC channels
- ✓ Monitor and record the resulting efficiency displayed on the PW3337
How? Because the PW3337 comes with 4 rows of displays and the data can be downloaded to a PC
- ✓ Use clamp sensors if the measured current exceeds 65A
How? Because the PW3337 has built-in current sensor input terminals to support the larger currents
- ✓ Calculate efficiency by performing output/input calculations
- ✓ Calculate the ripple rate: what is the ratio of the AC component that is superimposed on the DC line?
- ✓ Test for harmonic components such as voltage THD, which can be a concern with grid-linked systems
How? Because the PW3337 has advanced built-in processing of all power and harmonic data!

What Do You Get?

- ✓ Increased added-value of your products
- ✓ Improved speed and accuracy during factory inspections
- ✓ A power meter that is 2/3 the price of competitors



Simultaneous processing of all data

Voltage RMS value

Voltage mean value

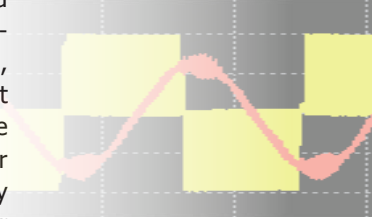
Voltage fundamental wave component

Total harmonic distortion (THD)

Diagnose Inverter Performance

Inverters are Everywhere

Motor control using inverters is increasingly on the rise as a means to save energy and drive efficiency. In daily life, inverters are widely used in electrical appliances such as air-conditioners and refrigerators, and as well as the motors used in elevators and pumps, etc. In addition, inverters are used for UPS (uninterruptible power supply), fluorescent lamps, LCD backlights, and other common devices. Recently, applications for inverters are further spreading to motor control of electric vehicles and hybrid cars, as well as power conditioners for new energy sources like photovoltaic systems. As demand for energy saving measures increase in the near future, so will the applications incorporating inverter technology.

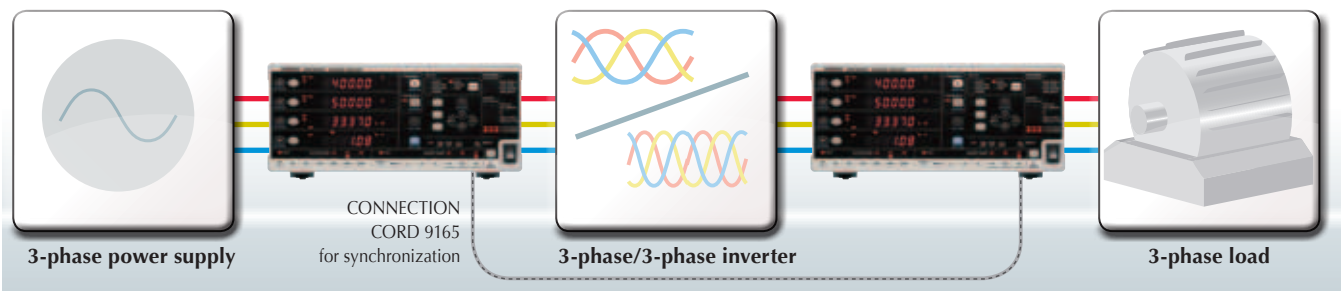


Issues with Inverters

Inverters are becoming indispensable, but they are also notorious as a source of harmonics and noise. Inverter output also contains a high level of common mode voltage, so it is critical that the output is measured in order to evaluate the inverter's abilities as well as the subsequent motor control through the use of the inverter. A high accuracy multi-functional power meter is indispensable in verifying the inverter's true capabilities and helps developers make corrections to the inverter's design so that the power source is optimized.

What Do You Get?

- ✓ Increased inverter efficiency
- ✓ Save time by easily calculating efficiency using free software
- ✓ Save money by essentially setting up a 6-channel power meter that is 1/2 the price of competitors



Steps to Analyzing Inverter Efficiency

- ✓ Connect multiple instruments to synchronize their operation, including display updates, data updates, and start of integration
How? Because you can synchronize up to 8 units of Model PW3337
- ✓ Measure all data with simultaneous parallel processing, including RMS values, mean values, fundamental wave components, THD, and harmonic components
How? Because the PW3337 has advanced built-in processing of all power and harmonic data!
- ✓ Measure the wide frequency band at the inverter's secondary side
How? Because the PW3337 offers an expanded frequency band from DC and 0.1 Hz to 100 kHz
- ✓ Use clamp sensors if the measured current exceeds 65A
How? Because the PW3337 has built-in current sensor input terminals to support the larger currents

Sync Up to 8 Power Meters

Fully synchronize up to 8 power meters to get 24 channels of simultaneous calculations, display updates, data updates, integration control, display hold timing, and zero-adjustment and use the free PC application to calculate efficiency values across multiple units.



By connecting one of a variety of Hioki clamp on sensors to the PW3337, you can measure currents of up to 5,000 A AC with guaranteed accuracy. Choose from a range of high-accuracy, clamps or pass-through AC/DC current sensors and models specifically designed for 50/60 Hz measurement. Clamp sensor terminals are built-in to the power meter at no additional charge.

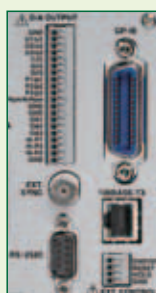
View and Download Data to a PC from 2 Power Meters Simultaneously

PW3336/PW3337 Communicator

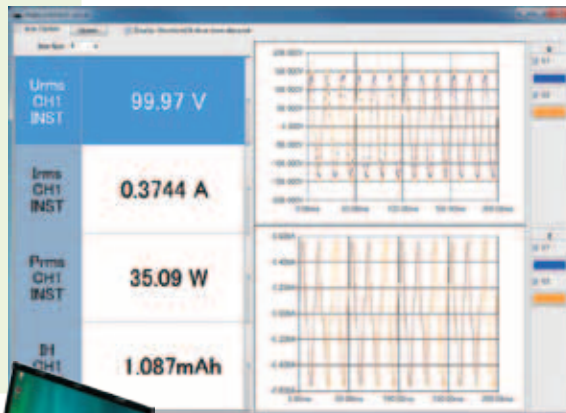
Free Download

Use the free PW3336/PW3337 Communicator to view measurement data from up to 2 power meters on a PC as well as save the results in CSV format. Connection can be done via LAN, GP-IB, or RS-232C on supported devices.

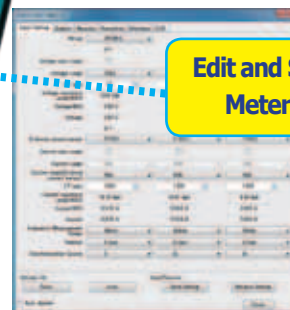
- ✓ Monitor more than **180 parameters** being measured by the power meter, in addition to all the harmonic data from 0 to 50th order
- ✓ **Automatically save data** as CSV files at pre-set intervals or manually
- ✓ **Configure** the power meter
- ✓ Make up to **8 numerical calculations** based on measurement data taken from multiple power meters, including efficiency
- ✓ **Graph voltage and current waveforms** for each channel (LAN only)



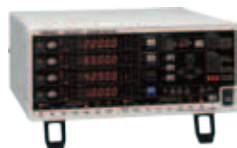
PW3337-03



Edit and Send Power Meter Settings



Power Meter PW3337 Series - 3 Channels



PW3337	(Basic)
PW3337-01	(with GP-IB terminal)
PW3337-02	(with D/A output terminal)
PW3337-03	(with GP-IB terminal and D/A output terminal)

Also Available:
PW3336 Series
with
2 Channels