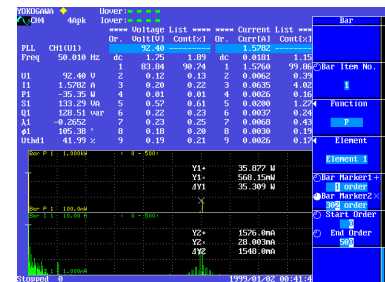
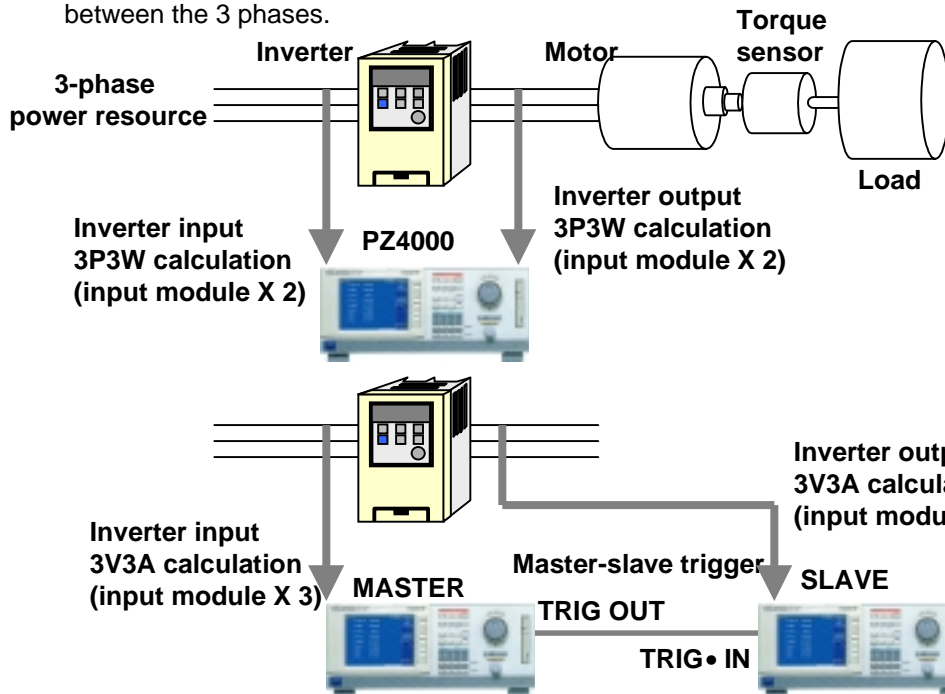


Evaluating Inverters and Motors

[Application]

Because both primary and secondary circuit of inverter has many harmonic and high frequency components, power measuring instruments require wide bandwidth and high accuracy performance.

The PZ4000 can measure the high frequency voltage and currents which contain high harmonic content found in power inverters. Both the input and output of a three-phase inverter can be measured simultaneously, and the efficiency calculated. Power measurement of a three-phase three-wire system can be made using the two wattmeter method with two input modules. Since the PZ4000 can be configured with 4 input modules, it can perform the functions which previously required two instruments. Or, a synchronized measurement of 2 PZ4000s is possible with the trigger in/out function (master-slave connection). Harmonic measurement function enables measurement of fundamental power component and each harmonic order. Vectors for relationships of fundamental components of voltage and current can be displayed to give a visual presentation of the balance between the 3 phases.



Example of harmonic measurement



Example of vector display between 3 phases

[Solution Features]

#Performance required from power meter

- High-precision power measurements in high-frequency range, simultaneous measurements for 4 input modules and synchronized measurements with multiple units.
- Harmonic measurement to 500 orders, FFT analysis function and vector display for fundamental components.

#Benefits for the user

- The PZ4000 performs the functions of three instruments. Waveform observation, value display and harmonic measurements are performed in one instrument, saving the user test and evaluation time, cost and space for many instruments. The measuring results are highly reliable because the numeric calculation is performed based on the waveform data.
- You can input signals without using isolated amplifiers or current sensors. This reduces the error of such accessories.
- High frequency components analysis of carrier signal and harmonic analysis of primary circuit.