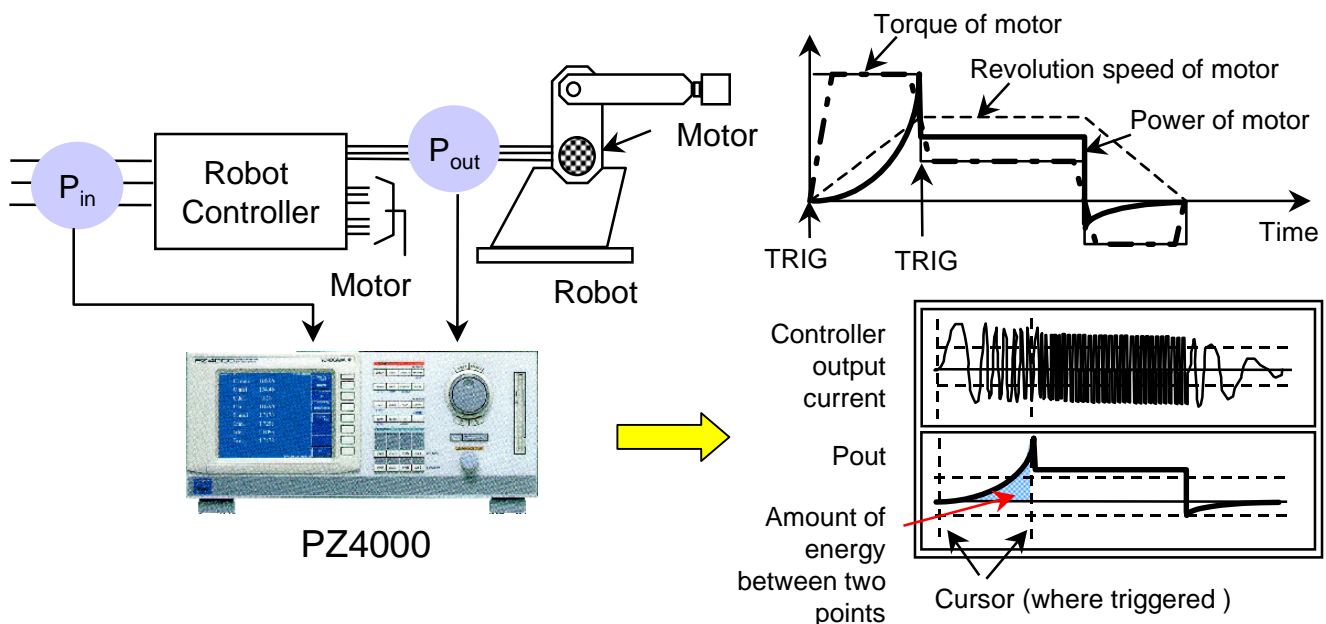


Characteristics of Transient Response from Industrial Robots

[Application]

To evaluate a motor driven robot, power consumption to the motor and controller is measured while the speed is controlled through an action pattern as shown in the graph below. Design engineers need to measure inrush power, voltage and current over one pattern of repeated actions. The efficiency of mechanical output with respect to input power can be calculated.

During actual operating conditions, The time to accelerate and decelerate the motor can be as short as several hundreds milliseconds to several seconds. As an inverter-driven motor rotates from stop to the top speed, the drive frequency changes from DC to several hundred Hz.



[Solution Features]

#Performance required from the power meter

- Measuring fluctuating transient input - determine period in input waveform to average
- Consuming power measurement and efficiency calculation of repeated actions
- Capturing one pattern of waveform with large amount of memory - 4MW/ch

#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 calculations are based on the waveform data.
- You can input signals without using isolated amplifiers or current sensors. This reduces the error of such accessories.