Comprehensive Evaluation of Inverter Motors

One instrument can measure the voltage, torque, rotation, frequency, slip, motor output and electric angle required for motor analysis.

- Measure all data can be simultaneously, and collect data and evaluate characteristics at the industry's fastest speed of 50 ms.
- A-phase and Z-phase pulse inputs for an incremental encoder are available, which allow detecting and measuring the home position of a motor more accurately and simply so that the electric angle that is important for motor analysis can be measured more accurately.
- Analyze 0.5 Hz to 5 kHz harmonics without using an external clock.
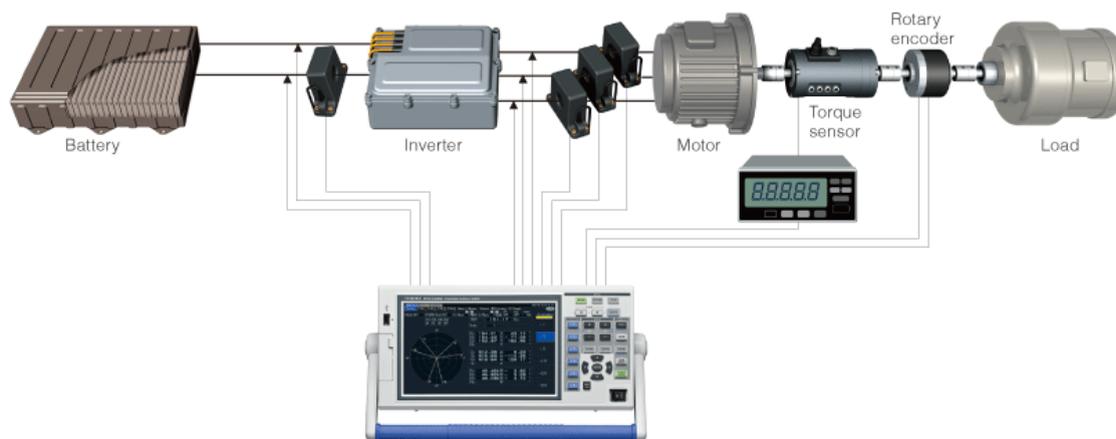
Step1. Connect the voltage cord and the current sensor.
Step2. Connect the outputs of the torque meter and incremental rotary encoder to the input terminals of the motor option.
    ・CH A torque input terminal ← Torque output of the torque meter
    ・CH B rotation signal input terminal ← A-phase pulse output of the incremental rotary encoder
    ・CH Z rotation signal input terminal ← Z-phase pulse output of the incremental rotary encoder
Step3. Rotate the motor from the load side without energizing the motor and measure the induced voltage generated in the input terminal of the motor.
Step4. Adjust the phase difference between the rotation input signal and fundamental wave component of U1 to zero using the phase zero adjustment function.
Step5. Energize the motor to rotate it and then perform measurements.
    All parameters can be measured while measuring the phase in reference to the induced voltage.

Products used

Power meter：POWER ANALYZER PW3390
            MOTOR TESTING OPTION 9791
            MOTOR TESTING ＆ D／A OUTPUT OPTION 9793
            AC／DC CURRENT SENSOR CT6862（50Aac/dc）
            AC／DC CURRENT SENSOR CT6863（200Aac/dc）
            AC／DC CURRENT SENSOR 9709（500Aac/dc）
            AC／DC CURRENT SENSOR CT6865（1000Aac/dc）

Torque meter：Please prepare an incremental rotary encoder (voltage output) separately.