Supports Your Needs from Low Frequency EMC Testing to Creating Reports

- Supports harmonic and voltage fluctuation/flicker standards tests of the IEC and the JIS for single/three-phase applications.*
  - Harmonics
    - EN61000-3-2 / IEC61000-3-2
    - JIS C 61000-3-2
    - EN61000-3-12 / IEC61000-3-12
  - Voltage fluctuation/flicker
    - EN61000-3-3 / IEC61000-3-3
    - EN61000-3-11 / IEC61000-3-11

- Supports the WT3000 Precision Power Analyzer with the /G6, /FL and /FQ options

*Investigative by Yokogawa, as of June, 2012
The measurement procedures and settings for harmonic/flicker standards testing have been precisely defined. Engineers must also stay current with the specialized knowledge and up-to-date information required to periodically review the contents of the standards and perform the standards conformance tests. The model 761922 Harmonic/flicker Measurement Software enables engineers without specialized knowledge to perform a range of operations using the WT3000 Precision Power Analyzer including judging standards compliance and outputting test reports.

### Supported Standards

**Harmonics**
- EN61000-3-2 / IEC61000-3-2
- EN61000-3-12 / IEC61000-3-12
- JIS C 61000-3-2

**Voltage fluctuation/flicker**
- EN61000-3-3 / IEC61000-3-3
- EN61000-3-11 / IEC61000-3-11

- **Limits for harmonic current emissions**
  - (Equipment i rated current ≤ 16 A per phase)
  - (16 A < Equipment rated current ≤ 75 A per phase)
  - (Equipment rated current ≤ 20 A per phase)

- **Limitation of voltage fluctuations and flicker**
  - (Equipment rated current ≤ 16A per phase and not subject to conditional)
  - (Equipment rated current ≤ 75 A and subject to conditional)

### Wiring

**Single Phase I≤20A**

Reference Impedance Network

Power Supply

WT3000 Precision Power Analyzer
Recommended model: 760301-01-SV-G6/FL
* The recommended model is the configuration with the minimum of required options.

GPIB or Ethernet *

**Three Phase I>20A**

Reference Impedance Network

Current transducer 751574

Power Supply for 751574

Shunt Resistor

WT3000 Precision Power Analyzer
Recommended model: 760303-03-SV-G6/FL/Q
* The recommended model is the configuration with the minimum of required options.
* Connecting to External Sensor Input of WT3000

GPIB or Ethernet *

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**Significance of Low Frequency EMC Standards Testing**

**Harmonic Current**

Harmonic current is generated by condenser input type switching mode power supplies and other sources. Proliferation of these types of power supplies has resulted in harmonic distortion in the commercial power supply that can cause problems such as equipment malfunction and heating of the condensers in the power supply system. Because of this, international standards have been established for equipment that emits harmonic currents.

**Voltage Fluctuation/Flicker**

When large currents flow in running equipment, impedance in the power system causes the power supply voltage to drop. Because the brightness of an incandescent light bulb is proportional to the square of the power supply voltage, this voltage drop causes the bulb to flicker. The voltage fluctuation/flicker standards were enacted to reduce this undesirable flicker.

**Enforceability**

A consistent level of stability is required of products shipped to the EU market, and the governments of the EU must conform their laws to the EC directives. These directives include the Machinery Directive, EMC Compatibility Directive, and Low Voltage Directive. The items of the EMC directive include a low frequency EMC standard. Most products shipped to the EU for sale to the general consumer are subjected to low frequency EMC standards testing, and they must be checked to ensure that they are within the limits defined by the standard.
Standards Testing

### Harmonics

- **Class judgment screen**  Supports IEC/JIS standards  
  You can specify class A, B, C, or D according to the DUT. Pass or Fail is automatically determined based on the judgment criteria for the specified class.

- **Measured results screen**  List/bar graph displays  
  You can easily ascertain the harmonic level of the measured data relative to the limits of the standard. Test results are color coded for easy visual identification (blue: within limits; red: exceeding limits).

- **Trend display**  Displays harmonic current in a time series  
  Displays all harmonic measurement results in a time series by order. You can check all measured results at once, allowing you to identify the timing at which limits were exceeded.

- **Support for IEC61000-3-12**  
  Supports calculation of the rated power $S_{sc}$ and short-circuit ratio $R_{sce}$ and judgement.

### Voltage Fluctuation/Flicker

- **Measured results screen**  
  You can measure data required for flicker standards testing (including the relative steady-state voltage change $d_{c}$, maximum relative voltage change $d_{max}$, time at which relative voltage change exceeds threshold $d(t)$, short-term flicker value $P_{st}$, and long-term flicker value $P_{lt}$) and check the results (data and Pass/Fail) in a list.

- **CPF graph display**  
  You can determine the flicker level probability density function from the instantaneous flicker sensation ($IFS$), and display the cumulative probability function ($CPF$) representing cumulative flicker levels above a certain value. You can visually confirm the state of the flicker's fluctuations.

- **Trend display**  Time series display of each parameter  
  The time series voltage fluctuations can be shown in trend displays which are useful in creating countermeasures against flicker.

- **Support for IEC61000-3-11**  
  Supports tests of supply current capacities of 100 A or more. You can set a $Z_{test}$ value and convert results.

### Report

Results of harmonic/flicker measurements can be displayed in a numerical list or graph, printed, or saved as screen images. Values needed for judgments or reports can be displayed (in English) and used as-is in test reports.

- **Harmonic judgment report (average value)**
- **Harmonic judgment report (max. value)**
- **Voltage fluctuation/flicker judgment report**
<table>
<thead>
<tr>
<th>Specifications</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>W71574</td>
</tr>
<tr>
<td>Equipment</td>
<td>Current Transducer DC to 100 kHz/600Apeak</td>
</tr>
<tr>
<td>DC and up to 150 kHz (3 dB)</td>
<td>±0.05% of reading ± 40 µA</td>
</tr>
<tr>
<td>Wide dynamic range</td>
<td>0-600 A (DC)/600 A PAA (AC)</td>
</tr>
<tr>
<td>+ ±15 V DC power supply, connector, and load resistor required.</td>
<td></td>
</tr>
<tr>
<td>For detailed information, see Power Meter Accessory Catalog Bulletin CT1000-00E.</td>
<td></td>
</tr>
</tbody>
</table>

**Connection Information**

The W71574 is used in a one-to-one configuration. Use 1 for single-phase, and 3 for 3-phase Power supplies and cable sold separately.

**Accessories (sold separately)**

<table>
<thead>
<tr>
<th>Product</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screen/connector</td>
<td>D-Sub 9-pin, with 3 screws</td>
</tr>
</tbody>
</table>

The W71574 is the same as defined by IEC61000-4-7 or JIS C 61000-4-7.