The 6010 offers economical phase and amplitude measurements in the 10Hz to 10kHz frequency range.

With full portability and optional IEEE488, or RS232 interfaces or an 8-channel Analog Output, the 6010 delivers many cost-saving benefits to engineering, production test, and field service. The implementation of simple and infrequent front panel (covers on) external calibration enables the user to maintain the high accuracy of the instrument with ease and with a minimum of costly calibration equipment.

XITRON’s Digital Signal Processing Technology delivers flexibility. Impressive accuracy (0.2% amplitude, 0.5 deg phase) and bandwidth (10Hz to 10kHz), coupled with ease-of-use, make the 6010 ideal for field service and production engineers.

**Quality and Reliability**

XITRON Technologies, founded in 1990, is the premier source for precision power testing and measurement instruments used in industrial manufacturing and medical electronics. Using the latest digital signal processing and circuitry, XITRON’s sophisticated technology gives our customers the edge in design verification and product manufacturability. XITRON is ISO 9001:2000, EN46001 registered, and FDA (GMP 820) compliant.

**Ordering Information**

<table>
<thead>
<tr>
<th>PART#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6010</td>
<td>Portable Phase Angle Voltmeter (30Vrms full-scale)</td>
</tr>
<tr>
<td>6010-150</td>
<td>Portable Phase Angle Voltmeter (300 Vrms full-scale)</td>
</tr>
</tbody>
</table>

**Options**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS-BAT</td>
<td>RS232 interface</td>
</tr>
<tr>
<td>IE-BAT</td>
<td>IEEE 488 interface</td>
</tr>
<tr>
<td>T5</td>
<td>Universal free-standing charging adapter</td>
</tr>
<tr>
<td>CC</td>
<td>Canvas carrying case with accessory pouches</td>
</tr>
<tr>
<td>MO6010</td>
<td>Additional operating manual</td>
</tr>
<tr>
<td>RA</td>
<td>Rack adapter kit (single instrument)</td>
</tr>
<tr>
<td>RB</td>
<td>Rack adapter kit (three instruments)</td>
</tr>
<tr>
<td>NB</td>
<td>No internal battery</td>
</tr>
</tbody>
</table>

**Industries Served**

- LVDT/RVDT Manufacturers
- Synchro/Resolver Manufacturers
- Military
- Aerospace
- Engineering Labs
- General R&D
- Gyroscope Manufacturers
- Turbine Testing
- Test Labs

**Key Features**

- Wide Bandwidth 10-10kHz
- 0.2% Amplitude Accuracy
- Full +/-180° range with 0.5° accuracy
- Total RMS, in phase, quadrature and frequency are measured
- RMS level or ratio displays
- Full 20mV to +/-15V input range on both inputs
- Optional +/- 150V input range
Frequency Range: 10Hz to 10kHz (typical performance to 20kHz)
Isolation: Inputs are isolated from each other for voltages of up to 30Vpk
Isolation from ground (chassis), interface (if fitted), and Charging Module for
voltages up to 1500Vpk
Input Voltage Range: Specifications are valid for input signals with RMS values
between 30mV and +/-15V. Also available with +/- 150V input range
Max. Input Slew Rate: Specifications are valid for input voltage signals (either
series or common mode) having <300V/µs slew rate
Measurement Period: Approximately 0.5s
Settling Time: 8ms
Amplitude Accuracy
(Multiply by 10 for 150V input range)
Resolution: 1mV for inputs up to 7.5V RMS, 10mV up to 15V RMS
Accuracy:
0.03 to 3.75V : 8mV + 0.8mV/kHz
3.75 to 7.5V : 15mV + 1.5mV/kHz
7.5 to 15V : 30mV + 3mV/kHz
Crest Factor: Better than 2:1 at 15V RMS, increasing linearly to 250:1 at 30mV.
30V peak max. input to maintain accuracy
Protection: 1000V peak continuously
Input Impedance: 100KΩ from any terminal to the Input A Low terminal
>1000MΩ || 5000pF from the Input A Low terminal to chassis
Phase Accuracy
Resolution: 0.1°
Accuracy: 0.5° + 0.1°/kHz + 0.01°/(15/Input A level) + 0.01°/(15/Input B level)
Technique: Proprietary correlation technique computing phase shift between
correlating components in both input signals
General Specifications
Battery Discharge Time: Greater than 2.5 hours following full charge
Battery Charge Time: Less than 15 hours to full charge, may be operated
continuously from the Charging Module if desired
Charging Input: Rear Panel mounted DC charging connector,
10-16V DC @ 2.5A max
Charging Module: 115VAC 50/60Hz US wall-socket type (others also available)
Battery Type: Sealed Lead Acid
Physical
Overall Size: 4.1" (104mm) wide by 6.3" (160mm) high by 9.7" (246mm) deep
Weight: 3lbs. (1.4Kg) in use, 8lbs. (2.3Kg) shipping

Environmental
Operating: 0°C to 45°C, less than 75% RH @ 40°C
(non-condensing)
Storage: -30°C to +65°C, less than 95% RH @ 40°C
(non-condensing)

Digital Interface
With either IEEE488 or RS232 interface, multi-instrument
systems may be controlled via a single interface. Each
instrument also may be controlled by individual interfaces
IEEE488: Full Talk/Listen capabilities.
RS232: Full Talk/Listen capabilities. Selectable baud rate of
1200, 2400, 4800, 9600 or 19200 baud

Analog Interface
Number of Channels: 8
Output Voltage: -5V to +5V DC. Common ground
Resolution: 5mV
Accuracy: 0.1% of output + 5mV
Usage: Each output may be independently “connected” to
any displayable parameter
Setting Time: Within accuracy specifications <0.5 seconds
following measurement period changing parameter
Output Drive: 2mA max. load on each output, 10mA max.
total load
Output Impedance: Less than 0.2W

External Calibration
The user may command an external calibration whenever
desired. A one year external calibration interval is
recommended for normal use. While calibration at 23°C
ambient is recommended, this may be performed at any
temperature from 10°C to 35°C without degradation of
accuracy specifications