

# PCI-600

Primary Current Injection Source



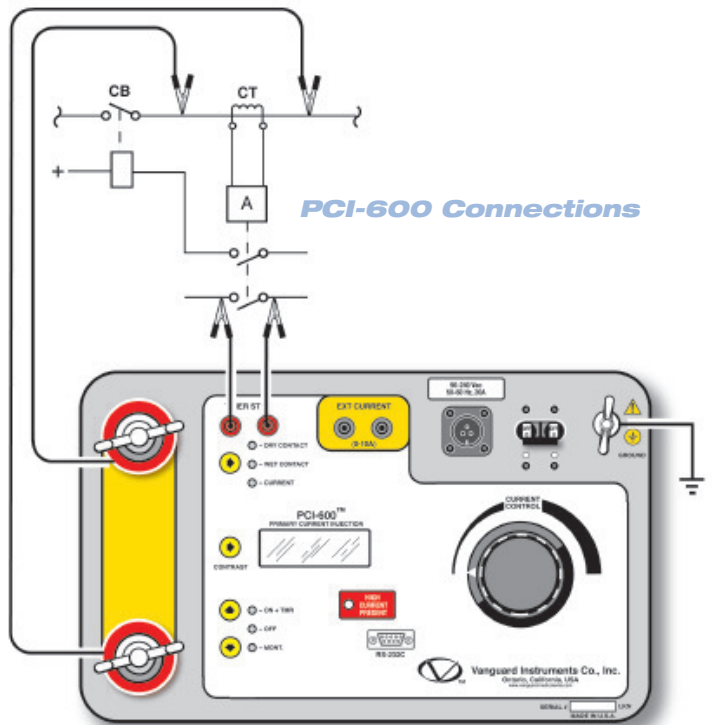
**Vanguard Instruments Company**

[www.vanguard-instruments.com](http://www.vanguard-instruments.com)

# Rapidly Test

## OUTPUT CURRENT

Output @120Vac	Output @240Vac	Time
5.6 Vac @ 100 A	9.5 Vac @ 100 A	1 hour
5.3 Vac @ 200 A	9.4 Vac @ 200 A	5 minutes
4.9 Vac @ 300 A	9.0 Vac @ 300 A	2 minutes
4.6 Vac @ 400 A	8.2 Vac @ 400 A	1 minute
4.2 Vac @ 500 A	7.5 Vac @ 500 A	30 seconds
3.9 Vac @ 600 A	7.0 Vac @ 600 A	20 seconds



### FEATURES

- Isolated 10-600 ampere alternating (ac) current source
- Test protection system (using primary injection current source)
- Tests the time-delay characteristic of protection relays and molded-case circuit breakers
- Measures internal and external currents
- The PCI-600 is Thermally Protected

### Ordering Information

PCI-600 Primary Current Injection Tester

PCI-600 Universal Current Source	Part No: PCI-600
PCI-600 Shipping case	Part No: PCI-600 case
PCI-600 Test Leads-10 ft	Part No: PCI-600 Test Leads-10 ft
PCI-600 Test Leads-20 ft	Part No: PCI-600 Test Leads-20 ft



# PCI-600™

The VIC Model PCI-600 is a programmable, high-current source that is designed specifically for utility-substation applications. This alternating current (ac) test device is used primarily for injection testing of protective relays. This same device can also be used for testing thermal, magnetic and solid-state motor-protection relays and molded-case circuit breakers. The PCI-600 is versatile and can also be used in many other applications that require a high-current source.

### PCI-600 Timer Function

The PCI-600 built-in timer tests the time-delay characteristics of protection-relays and molded-case circuit breakers. The current source turns on and the timer starts timing at the next zero-crossing point of the ac current. The timer is stopped when the PCI-600 input detects a change of continuity in the dry contact, a change of voltage input or detects the removal of the test current. Test results are displayed in milliseconds and fractional periods of an ac cycle on a 4-line by 20-character backlit LCD digital readout.

### PCI-600 Current Source Functions

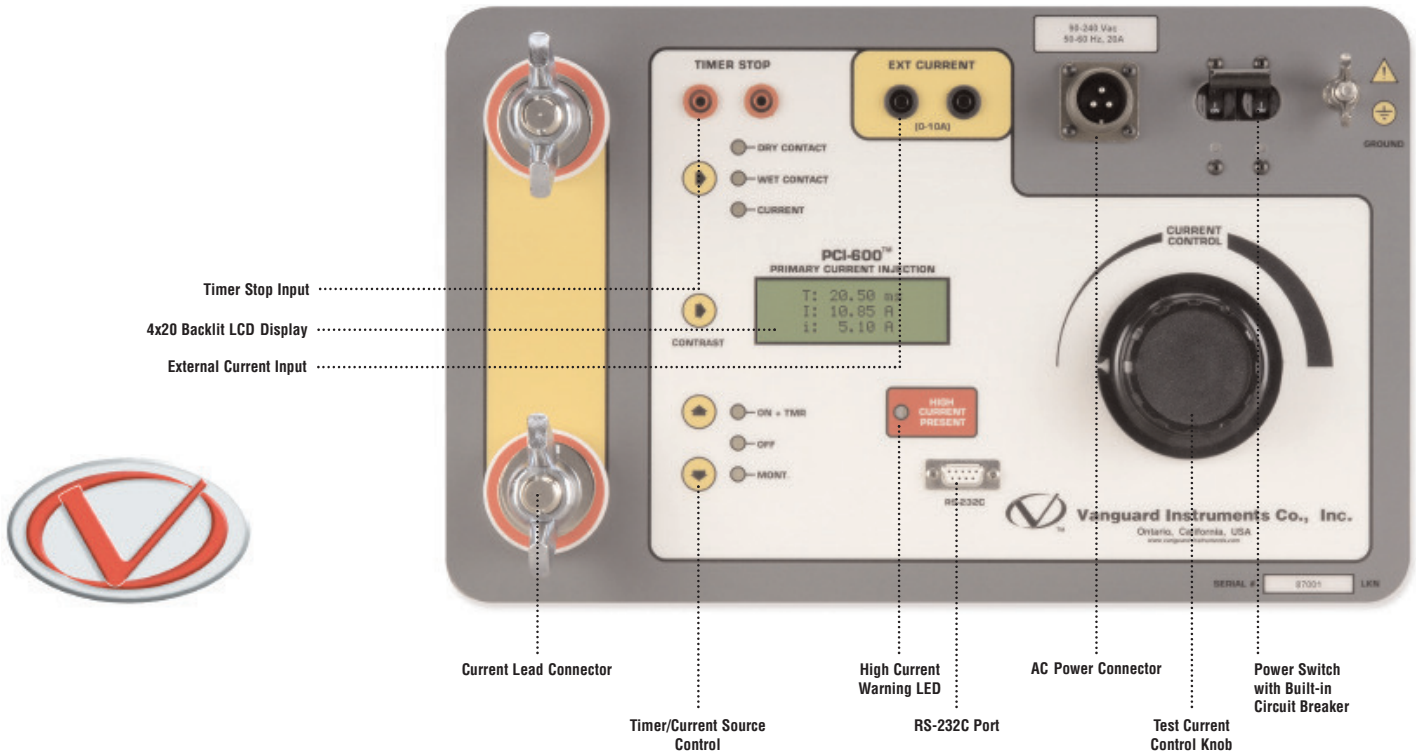
Test currents; from 10 to 600 amperes are set by a rotary-dial knob located on the control panel. The test current is measured and displays on an LCD digital readout. When using the PCI-600 as a current source, the current-on time (duration of current flow) displays on the LCD digital readout.

### External Current Input Functions

The PCI-600 also has an external-current input (0-10 A). This feature enables a user to view the internal-current source amplitude and the external-current source measurement readings at the same time.

# Primary Current Injection Tester

# Protective Relays, thermal, magnetic and solid state motor-protection relays & molded case circuit breakers



## SPECIFICATIONS

<b>TYPE</b>	Special purpose test equipment, 10-600 amp current source
<b>PHYSICAL SPECIFICATIONS</b>	16.8" W by 12.6" H by 10.6" D. (42.6 cm by 32.0 cm by 27 cm), Weight 46lbs (21kg)
<b>INPUT POWER</b>	90-130 Vac or 200-240 Vac, 50/60 Hz (factory pre-set)
<b>INTERNAL CURRENT METER</b>	100 mA to 1000A. Accuracy: 1% of reading, $\pm 20$ mA
<b>MEASURING METHOD</b>	Isolated CT
<b>EXTERNAL METER RANGE</b>	10 mA to 10A. Accuracy: 1% of reading, $\pm 2$ mA
<b>MEASURING METHOD</b>	Isolated CT
<b>TIMER READING RANGE</b>	1ms to 2 hours. Accuracy: 0.1% of reading $\pm 1$ ms
<b>TIMER STOP INPUT</b>	Voltage input (24-300 V, dc or peak AC); Or Dry Contact Input; Or removal of primary current
<b>COMPUTER INTERFACE</b>	RS-232C, 19200 Baud (Factory Calibration and Diagnostic)
<b>SAFETY</b>	Designed to meet IEC61010 (1995), UL 61010A-1, CSA-C22.2
<b>ENVIRONMENT</b>	Operating: $-10^{\circ}\text{C}$ to $50^{\circ}\text{C}$ ( $15^{\circ}\text{F}$ to $+122^{\circ}\text{F}$ ); Storage: $-30^{\circ}\text{C}$ to $70^{\circ}\text{C}$ ( $-22^{\circ}\text{F}$ to $+158^{\circ}\text{F}$ )
<b>CABLES</b>	Power cord, Ground cable, 10 ft, #1/0 AWG test leads.
<b>OPTIONS</b>	Shipping Case
<b>WARRANTY</b>	One Year Parts & Labor

Note: The above specifications are valid at nominal voltage and ambient temperature of  $+25^{\circ}\text{C}$  ( $+77^{\circ}\text{F}$ ). Specifications are subject to change without notice.

**Vanguard Instruments Company**  
Reliability Through Instrumentation

RvFeb07

## **Vanguard Instruments Company, Inc.**

Vanguard Instruments Co., (VIC), was founded in 1991. Currently, our 28,000 square-foot facility houses Administration, Design & Engineering, and Manufacturing operations. From its inception, VIC's vision was, and is to develop and manufacture innovative test equipment for use in testing substation EHV circuit breakers and other electrical apparatus.

The first VIC product was a computerized circuit-breaker analyzer, which was a resounding success. It became the forerunner of an entire series of circuit-breaker test equipment. Since its beginning, VIC's product line has expanded to include microcomputer-based, precision micro-ohmmeters, single and three-phase transformer winding turns-ratio testers, winding-resistance meters, transformer tap-changing controllers, megaohm resistance meters, and a variety of other electrical utility maintenance support products.

VIC's performance-oriented products are well suited for the utility industry. They are rugged, reliable, accurate, user friendly, and most are computer controlled. Computer control, with innovative programming, provides many automated testing functions. VIC's instruments eliminate tedious and time-consuming operations, while providing fast, complex, test-result calculations. Errors are reduced and the need to memorize long sequences of procedural steps is eliminated. Every VIC instrument is competitively priced and is covered by a liberal warranty.



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