V7X Series
Hipot Testers

Electrical safety testing will never be the same.

With color touch LCD and high speed DSP technology, the compact and rugged V7X sets the standard for price/performance ratio. Made in the USA to meet tough UL, CSA, TUV and IEC Hipot requirements—the V7X provides unbeatable speed, accuracy, user safety and reliability.

Choose from six low cost models offering AC and DC Hipot to 5KV, leakage current measurement to 100 nano-amps, Insulation Resistance to 450GΩ, Ground Bond to 30 amps and built-in switching. Combine all that with USB, RS232 and Digital I/O interfaces, plus a two year warranty.

The V7X is simply unbeatable.
Vitrek V7X Series
For nearly 25 years, an obsession has driven us to keep improving how hipot testers perform—speed, accuracy, user safety and reliability have been our driving force. Building a better hipot tester is in our DNA—it drove us to successfully engineer the first 4-in-1 safety tester back in 1990 and it has driven us to redefine performance in low cost hipot testers today.

The Hipot Experience has been Redefined
Our goal for the V7X series has been to achieve the unheard of. To provide state-of-the-art performance in a powerful yet compact multi-function hipot tester—and do it at an entry level price. From our easy-to-use Touch user interface, to its ultra-reliability, high efficiency, fan free design—the V7X provides unrivaled performance. Have we met our goal? You be the judge—compare the V7X to our made in China competitors and see how well American engineering stands up. We build Vitrek Hipot Testers. What’s on your production line?

Test 8 DUTs at a Time with the V76
For multi-channel hipot testing—choose the V76 with 24 channels of built-in high voltage switching. With the versatile V76, you can test hipot or IR for any combination of up to eight test points and you can measure low resistance (from .001 ohm to 60K ohms) on up to eight conductors. All automatically with a single touch and all from a single compact tester. For requirements exceeding eight points, the V7X can control up to four Vitrek 964i 64 channel HV Switching Systems—providing up to 256 channels of Hipot test capability. Simple, fast, automatic multi-point hipot—make the switch to the Vitrek V7X. You will be glad you did.

Features and Benefits
• 4.3” Color Touch Display—Easy To Use Intuitive User Interface
• 6 Functions to Choose From—AC/DC Hipot, IR, Ground Bond, Continuity and Built-in Switching
• Made in the USA—Designed and Built in San Diego CA
• Compact, Lightweight, Rugged, Fan Free, Fast (100mS min test time) and Accurate
• 5KV AC/DC Hipot, 20mA max source current
• Ground Bond 1-30A RMS (42 A peak), 100µΩ Resolution
• 100 nano-Amp Leakage Current Resolution
• 100 nano-Amp Leakage Current Resolution
• Low Cost of Ownership—Two Year Calibration Interval
• USB 2.0, Serial/RS232, Digital I/O Interfaces are Standard
• Continuously Variable Insulation Resistance 20-5000V, 450GΩ Max
• Multi Mode IR with Steady/Rising Pass Mode
• Test Memory Stores up to 999 Steps and 60 Test Sequences
• Internal Self Test Fully Exercises Output and Verifies Current Accuracy
• Pre-Programmed Daily Verification Test With Optional PVD Test Load
• 150µS Safety Shutdown
• Ramped Discharge Capability
• Selectable ARC Detection 1-20mA
• Meets UL, CSA, IEC Safety Tester Requirements
• CE Safety Mark Certified to EN61010
• Two Year Parts and Labor Warranty

Vitrek V7X Series – No other Hipot can touch ‘em
Vitrek V7X Series Performance Specifications

AC Hipot
Output Voltage
10 to 5000V RMS, 50/60 Hz (2500V max on V76)
Accuracy: 1% of setting +5V, No load to full load
Resolution: 1V at all levels
Max load current: 20mA

Leakage Current
Accuracy: 1% of reading +5uA
Resolution: 1uA

DC Hipot
Output Voltage
20 to 5000V (2750V max on V76)
Accuracy: 2.5% of setting +5V, No load to full load
Resolution: 1V at all levels
Max load current: 10mA

Leakage Current
Accuracy: 1% of reading +1uA
Resolution: 0.1uA

IR - Insulation Resistance
Test Voltage
20 to 5000VDC (2750V max on V76)
Accuracy: 2.5% of setting +5V, No load to full load
Resolution: 1V at all levels
Max Charge Current: 5mA automatic
Max Capacitive Load: 2uF

Resistance
Max IR: 450Gigohm (90MΩ per volt)
Min IR: 150kΩ
Accuracy: 2% (rdg <5% of max IR), 5%
(<15% of max IR), 10% (<30% of max IR), 20%
(>30% of max IR)
Max Resolution: 0.1% of value
Min/Max Limits: Defined for each step, max may be set to none

Test Functions

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<th>Function</th>
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IR - Insulation Resistance

Test Voltage
20 to 5000VDC (2750V max on V76)
Accuracy: 2.5% of setting +5V, No load to full load
Resolution: 1V at all levels
Max Charge Current: 5mA automatic
Max Capacitive Load: 2uF

Ground Bond

Test Current
1 to 30Arms (42A peak), 50/60Hz
Accuracy: 2.5%+10mA
Resolution: 0.1% of value
Min/Max Limits: Defined for each step, max may be set to none

Low Resistance

Test Function
2 terminal measurement, 10.5mA/4.15V max

Resistance Offset
Test leads/fixture measurement offset may be universally applied.

Ground Bond

Test Current
1 to 30Arms (42A peak), 50/60Hz
Accuracy: 2.5%+10mA
Resolution: 0.1% of value
Min/Max Limits: Defined for each step, max may be set to none

Method
4 terminal measurement

Resistance
Max Resistance: Up to compliance V limit at defined test current (4.5ohms max)
Min/Max Limits: Defined for each step, min may be set to none
Accuracy: 2.5%+3mΩ (<2A), 2mΩ (<6.5A), 1mΩ (otherwise)
Resolution: 0.1mΩ (>6.5A), 1mΩ (otherwise)

Resistance Offset
Test leads/fixture measurement offset may be universally applied.

Test Timing

Ramp Time
For AC/DC Hipot: 0 to 99.9sec (0.1sec resolution, 0.05sec accuracy)
Test/Dwell Time
0.1 to 9999sec or user end (0.1sec resolution, 0.15sec accuracy)

Ramp Down
May be set to 0sec or same as Ramp time, automatically skipped if no failure and next step is same AC/DC or IR test type.
Vitrek V7X Series Performance Specifications (continued)

ShUTDOWN
Breakdown: within 150us
HV Safety: within 1ms
User Stop or Interlock opened: within 2ms
Resistance/Current Limit: within 100ms

BREAKDOWN
For Hipot tests, automatically checks for sudden uncontrolled increases of load current throughout test, no min/max leakage required.

ARC DETECT
For Hipot tests, settable to none or adjustable level between 1 and 30mApk, 5MHz bandwidth.

PAUSE STEP
A timed pause of defined length between 0.1s and 999.9s.

HOLD STEP
A user continued hold step with a two line message to be displayed to the user while the step is executing.

SWITCH STEP
Provides control of built-in 24 relay switching for hipot/IR and continuity (V76 only). For all other V7X models, provides control of up to 4 Vitrek 964 switch units, each switch step allows complete control over the states of all switches.

TEST MEMORY
Up to 999 total test steps may be defined in up to 60 different sequences.

GENERAL SPECIFICATIONS

DSP MEASUREMENT
40,000 samples per second for output control and parameter measurement

DISPLAY
4.3” 480 x 272 Color touch LCD user interface

INTERFACES
USB 2.0, Scanner Control port (N/A on V75), RS232 and Contact Closure Digital I/O with Safety Interlock

FACTORY WARRANTY
Two year parts and labor

STANDARD ACCESSORIES
Alligator test leads for hipot and continuity units (TL-209), 4-wire alligator test leads for GB units (K-2R), operator’s manual CD, QT Pro V utility software, evaluation version QT Pro test automation software and power cord

CALIBRATION
Two year accuracy specifications and recommended calibration interval, ANSI/ NCSL Z540 NIST Traceable cal cert with data included at no additional charge.

SAFETY
CE mark certified to EN61010

POWER
115 or 230VAC ±10% factory set, 50-60Hz, 200VA max

DIMENSIONS
5.25” (133mm) H x 9.5” (240mm) W x 11” (280mm) D

WEIGHT
12 lbs, 5.5kg net (V70-73 and V75), 16 lbs, 7.3kg net (V74 and V79)

COUNTRY OF ORIGIN
Made in the USA

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www.vitrek.com

Prices and specifications subject to change

Ordering Information

V70 AC Hipot Tester
V71 AC/DC Hipot Tester
V73 AC/DC/IR Hipot Tester
V74 AC/DC/IR/GB Hipot Tester
V76 AC/DC/IR Hipot Tester with Built-in Scanner
V79 Ground Bond Tester
V7X-230V Factory Set for 230V Line
QT Pro 7 QuickTest Software
TL-115-1 115V Receptacle Hipot Test Adaptor
TL-115-2 115V Receptacle Hipot & GB Test Adaptor
TL-209 Additional HV/Continuity Test Lead set
K-2R Additional Ground Bond Lead Set
HVW-7 High Voltage Warning Light
RSS-7 Remote Start Switch
RSF-7 Remote Start Footswitch
TL-TP1 High Voltage Test Pistol
HC-V7X Hard Carrying Case with Die Cut Foam