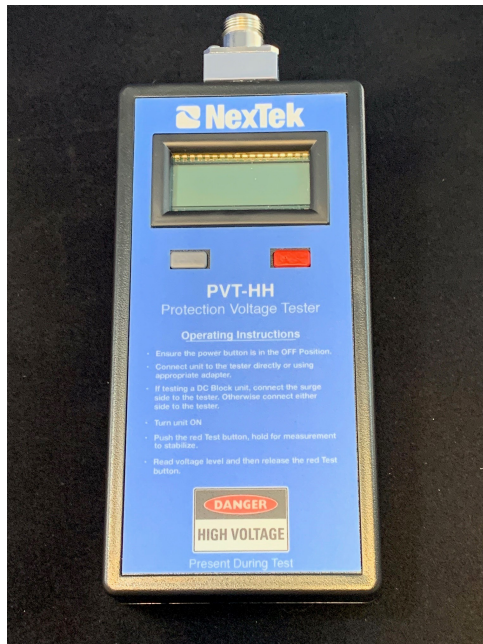


Protection Voltage Tester, PVT-HH



- **PVT-HH**
 Protection Voltage Tester, HH unit, with Type N Female Interface, Alligator Clip Assembly and Storage Case.
- **PVT-ADPKIT**
 Between Series N Male Adapters to TNC, BNC & SMA Male / Female Interfaces
- **PVT-ACNM**
 Alligator Clip with N Male Connector

FEATURES:

- Hand-Held Portable Device
- Compact & Lightweight Design
- Ability to test surge components utilizing the Alligator Clip Assembly
- Rugged Storage Case

APPLICATIONS:

- Test Surge Protection Devices
- Test Components: Diodes, Metal Oxide Varistors [MOVs,] and Gas Discharge Tubes [GDTs]

This Protector Voltage Tester [PVT] can check any surge lightning device to confirm proper functionality in order to protect your critical RF equipment from damage.

The PVT is a portable, light weight, hand-held battery powered unit. The unit is designed with one Type N female interface. However, it can also be supplied with numerous between-series adapters (PVT-ADPKIT) or an Alligator Clip (PVT-ACNM) to meet many of the popular surge protection interfaces available.

The PVT-HH is also supplied complete with a storage case, two 9-volt batteries, and operating instructions printed on the unit

Mechanical Specifications

| | |
|---------------------------|---|
| Size | 7.3" x 3.25" x 1.25" |
| Weight | 14 ounces |
| Power | Two (2) 9V Batteries |
| Test Output | 1KV min, 1 mA min, 1.5mA Max. |
| Display | 2" LCD |
| Interface | N Female |
| Included in PVT-HH | Alligator Clip Batteries Storage Case |

Embedded Features

- Auto Shut-off - For battery management purposes.
- Auto Disable of HV out if the test button is engaged longer than 10 seconds (engage test button to reactivate)
- I/O switch and TEST button designed to resist unintentional activation.
- Fast discharge time between tests.

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Preparation:

Prior to using the PVT-HH, the batteries must be installed. The PVT-HH is shipped with two standard 9V batteries.

To install the batteries, remove the four back cover screws and the back cover itself. Install both 9V batteries and replace back cover and screws. The PVT-HH is now ready to use.

Operation:

Testing of RF lightning protection devices is simple and very straightforward. Prior to testing, please read the “Warning to Users” section at the beginning of this manual to understand the potential hazards that may arise in operating the PVT-HH inappropriately.

As described in the overview section, the PVT-HH will test a broad variety of RF lightning protection and discrete component level devices. Prior to testing, the operator must remove the device to be tested from the system it protects. In the case of a RF lightning protection device, connect the surge side end of the RF lightning protection device onto one of the type-N connector. Or, if testing a discrete LP component such as a leaded GDT or MOV, using the provided flying lead adapter or other appropriate adapters and test leads, you may connect the discrete LP component to the PVT-HH.

HIGH VOLTAGE HAZARD-WARNING TO USERS:

THE PVT-HH CAN PRODUCE VOLTAGES IN EXCESS OF 1000V. ALTHOUGH THE CURRENT SUPPLIED BY THE TESTER ITSELF IS LIMITED TO A NON-LETHAL LEVEL, IT IS POSSIBLE THAT THE CAPACITANCE OF A DEVICE UNDER TEST CAN BE LARGE ENOUGH TO STORE A DANGEROUS AMOUNT OF ELECTRICAL ENERGY THAT CAN DELIVER A DAMAGING OR EVEN FATAL SHOCK TO THE USER. ACCIDENTAL CONTACT WITH THE TEST LEADS WHILE THE TESTER IS OPERATING CAN DELIVER A PAINFUL SHOCK, AND EVEN THOUGH THIS IS UNLIKELY TO BE DIRECTLY INJURIOUS OR FATAL TO A HEALTHY PERSON, THE DRAWBACK REACTION TO THE DC SHOCK MAY CAUSE THE USER TO BE INJURED BY STRIKING NEARBY OBJECTS THAT POSE A HAZARD. FOR THIS REASON, THE PVT-HH MUST BE USED WITH CARE IN CONFINED SPACES AND SENSIBLE PRECAUTIONS OBSERVED DURING OPERATION TO PREVENT INJURY.

NEXTEK CANNOT AND DOES NOT ASSUME RESPONSIBILITY FOR INJURY OR DEATH ARISING OUT OF THE USE OF THIS TESTER. ELDERLY PERSONS AND THOSE WITH ANY INDICATION OF HEART PROBLEMS ARE STRONGLY DISCOURAGED FROM USING THIS EQUIPMENT. IT IS RECOMMENDED THAT THE LP-SPT BE USED ONLY BY EXPERIENCED PERSONNEL TRAINED IN ELECTRICAL SAFETY PRACTICES. THE PROCEDURES OUTLINED IN THIS MANUAL SHOULD BE CAREFULLY FOLLOWED TO ASSURE SAFE OPERATION OF THE TEST.

Doc No. 508-0153 R00

To Use:

1. Ensure that the test meter is in the **OFF** state prior connecting DUT to the tester.
2. Once the DUT is safely and securely connected to the PVT-HH, press and hold the grey power button and wait for the LCD to display “**ON**”.
3. Once the meter is in the “**ON**” state, press and hold the red test button down to apply the test Voltage to the DUT for approximately 10 seconds. The device’s DC break down Voltage is displayed on the LCD.
4. Allow the voltage indicated on the display to stabilize. Then observe the peak DC breakdown voltage.
5. Once testing is completed, release the test button. The PVT-HH has a discharge feature that quickly discharges the output to a safe level after the test button is released². You may then remove the DUT from the PVT-HH.
6. Upon completion of testing, press and hold the power button until the LCD displays “**OFF**”, then release the power button.

Notes:

- 1) If testing multi-stage lightning protection devices, the PVT-HH will measure the peak voltage of the device with the lowest breakdown voltage in the configuration.
- 2) The PVT-HH possesses a safety feature that will quickly discharge the high voltage present on the output connectors after the test button is released.
- 3) The PVT-HH will enter “sleep” mode after 10 minutes of inactivity.
- 4) As measured with a DC supply voltage (battery) of 18.0V +/-0.1V.
- 5) The output voltage of the PVT-HH is directly affected by the state-of-charge (SoC) of the installed batteries. Although the PVT-HH will operate accurately with batteries that have a low SoC, the maximum output voltage will be lower than 1000V.

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Acceptable Voltage Limits

| NexTek Surge Arrestor Series and Part Numbers | Tester Port Side to Coaxial Arrestor | Surge Arrestor Technology | Surge Direction | Min Voltage Reading (Volts) | Max Voltage Reading (Volts) |
|--|--------------------------------------|---------------------------|-----------------|-----------------------------|-----------------------------|
| PTI-BB50 Series (1.5-1000 MHz, N Conns, DC Block, 2kW, 50kA, Hole Mount) | | | | | |
| PTI-BB50NFF | Surge Side; N-Female | DC Block | Directional | 480 | 720 |
| PTI-BB50NMP | Surge Side; N-Female | DC Block | Directional | 480 | 720 |
| PTI-BB50NMS | Surge Side; N-Male | DC Block | Directional | 480 | 720 |
| PTI-BB50 Weatherized Series (1.5-1000 MHz, N Conns, DC Block, 2kW, 50kA, Hole Mount) | | | | | |
| PTI-BB50NFF-W | Surge Side; N-Female | DC Block | Directional | 480 | 720 |
| PTI-BB50NMP-W | Surge Side; N-Female | DC Block | Directional | 480 | 720 |
| PTI-BB50NMS-W | Surge Side; N-Male | DC Block | Directional | 480 | 720 |
| PTC S-Series (DC-3.2 GHz, 50kA, NF to NF; 0.630" dia. Bulkhead Mount) | | | | | |
| PTCONFONF09S | Either Side | DC Pass; GDT | Bi-Directional | 72 | 108 |
| PTCONFONF23S | Either Side | DC Pass; GDT | Bi-Directional | 184 | 276 |
| PTCONFONF35S | Either Side | DC Pass; GDT | Bi-Directional | 280 | 420 |
| PTC E-Series (DC-6 GHz, 20kA, NF to NF; 0.630" dia. Bulkhead Mount) | | | | | |
| PTCONFONF09E | Either Side | DC Pass; GDT | Bi-Directional | 72 | 108 |
| PTCONFONF23E | Either Side | DC Pass; GDT | Bi-Directional | 184 | 276 |
| PTCONFONF35E | Either Side | DC Pass; GDT | Bi-Directional | 280 | 420 |
| QSS 1 /4-Wave Short Series (820-2.2GHz, DC Block, 1 /4-Wave Short, 60kA, 0.630" dia. Bulkhead Mount) | | | | | |
| QSSNFM0300 | Either Side | DC Short; 1 /4-Wave | Bi-Directional | 0 | 2 |
| QSSNFM0300 | Either Side | DC Short; 1 /4-Wave | Bi-Directional | 0 | 2 |
| QSS 1 /4-Wave Short Series (2.4-6 GHz, DC Block, 1 /4-Wave Short, 60kA, 0.630" dia. Bulkhead Mount) | | | | | |
| QSSNFM0400 | Either Side | DC Short; 1 /4-Wave | Bi-Directional | 0 | 2 |
| QSSNFM0400 | Either Side | DC Short; 1 /4-Wave | Bi-Directional | 0 | 2 |
| FPL AP06 Series (400-2700MHz, N Connectors, 6V DC, <4A, 25kA, DC Filtered) | | | | | |
| FPLNFMFAP06 | Either Side | DC Pass; Hybrid GDT/Diode | Directional | 5 | 7 |
| FPLNFMMA06 | Either Side | DC Pass; Hybrid GDT/Diode | Directional | 5 | 7 |
| FPLNFMFA06 | Either Side | DC Pass; Hybrid GDT/Diode | Directional | 5 | 7 |
| FPL GPS Series (1.1-1.7 GHz, 0.750" Dia Bulkhead Mount, 6V DC, <2.5A, DC Filtered; Best GPS Residuals) | | | | | |
| FPLNFMFD05 | Either Side | DC Pass; Hybrid GDT/Diode | Directional | 5 | 7 |
| FPLTFDF05 | Either Side | DC Pass; Hybrid GDT/Diode | Directional | 5 | 7 |