HIGH VOLTAGE, INC.

FIELD PORTABLE DC HIPOT TEST SETS

PTS SERIES PRODUCT CATALOG

PTS SERIES CONTENTS

For further information and to see our complete product line, please visit **www.hvinc.com**

PORTABLE DC HIPOT TEST SETS FOR FIELD AND FACTORY USE

The PTS series of DC hipot test sets was designed to be the most functional and versatile portable hipots we could manufacture. The PTS series hipots are roughly the same size and weight or smaller than the competition but offer far more features and functionality. Our DC hipots up to 130 kV are rated for 10 mA units from 200 kVDC - 600 kVDC are rated for 5 mA. Hipots up to 75 kVDC contain a +/- 1% line voltage regulator built in to stabilize the incoming power source, resulting in more stable and accurate leakage current readings. All PTS units have a built in high voltage megohmmeter enabling the same instrument to be used for insulation resistance testing. Our meters use 100 uA meter movements, with digital meters as an available ordering option. The meters are also transit-protected, reducing the risk of breakage during transportation.

Applications

The PTS series are designed for field, shop or factory testing of shielded power cables, switchgear, wire harnesses, motors, generators, hotline tools/safety products, aerial lifts/bucket trucks and substation apparatus. The PTS series is ideal for any DC over voltage withstand test. The guard-ground circuit allows for precise leakage current measurement. The built in megohmmeter scale inverse to the current meter scale allows for accurate insulation resistance measurements able to be taken at any voltage.

Motors and Generators

Aerial Lifts & Bucket Trucks

Substation Apparatus

Hotline Tools

PTS Series Advantages

High Voltage, Inc. produces the top DC Hipots available. Our standard models range from 37.5 kVDC to 600 kVDC. The PTS series hipots are roughly the same size and weight or smaller than the competition but offer far more features and functionality. Our DC hipots, up to 130 kV, are rated for 10 mA, not 5 mA. Models up to 75 kVdc contain a +/- 1% line voltage regulator built in to stabilize the incoming power source, resulting in more stable and accurate leakage current readings. All PTS units have a built in high voltage megohmmeter enabling the same instrument to be used for insulation resistance testing. Our meters use 100 uA meter movements, rather than the 5 or 10 uA of others on the market. This makes our meters much more durable. We have transit-protected meters, reducing the breakage from rough handling during transit.

Standard features and benefits:

- Secondary Connected 2 Range Voltmeter
- 5 Range Current/Megohmmeter
- Megohm readings taken at any voltage
- 3.5 Digit Digital Meters Optional
- Factory Fixed Overcurrent Overload
- Guard/Ground Circuit for Accurate Current Measurement
- Anti-static Glass Faced Volt and Current Meters
- Transit Protected Volt and Current Meters
- Full-wave Bridge Rectifier
- External Safety Interlock Provisions
- Zero Start Safety Interlock
- Under Lid and/or HV Tank Mounted Storage for All Accessories

PTS-75 & PTS-80 Differences

The PTS-75 and the PTS-80 are very similar. The PTS-75 offers a 75kVdc output while the PTS-80 provides 80kVdc. All other specifications and features are the same except for one important difference. The PTS-75 contains a +/- 1% input voltage regulator circuit designed to stabilize the incoming voltage powering the instrument. This enables the user to make more precise and stable leakage current readings, as the output voltage and current, does not fluctuate as much as it would without this circuit. The PTS-80 does not have this circuit. The regulating circuit is a ferro-resonant transformer/capacitor circuit. It is sensitive to frequency fluctuations and the input waveform. It works extremely well when the hipot is powered from utility power or a “sine wave” output inverter. It may not work properly if powered from a poorly regulated output from a motor generator or an inverter with a “modified sine wave” output, which is really a chopped square wave. If you only have available an inverter that is not a “true sine wave” design, then buy the PTS-80.

PTS-75 - Utility, stable generator, or true sine wave inverter power source
PTS-80 - Any input power source, including “modified sine wave” inverter

High Voltage Section Configurations

Cable Output

Shielded output cable terminated with a red booted alligator clip is standard on PTS-15, PTS-37.5, PTS-75, PTS-80, PTS-100, PTS-130, and PTS-200.

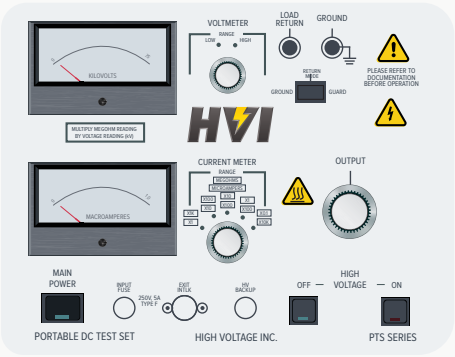
Toroidal Output

Aluminum Toroid is standard on the PTS-300 and PTS-600BT. External Current Limit Resistors are provided. No output cable provided.

Controls and Configuration

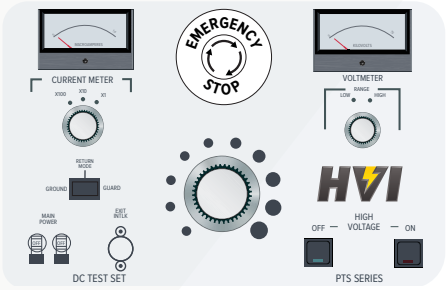
PTS-15, PTS-37.5, PTS-75, PTS-80, PTS-100, and PTS-130

- Continuously adjustable output voltage
- Secondary connected 2 range analog voltmeter
- 5 range analog current/megohmmeter
- Guard/ground circuit for accurate leakage current measurement
- Transit protected, glass faced meters to prevent damage
- Fixed overload set to 11mA current
- Zero start safety interlock
- External interlock provisions



PTS-200, PTS-300 and PTS-600BT

- Continuously adjustable output voltage
- Secondary connected 2 range analog voltmeter
- 5 range analog current/megohmmeter
- Guard/ground circuit for accurate leakage current measurement
- Transit protected, glass faced meters to prevent damage
- Fixed overload set to 6mA current
- Zero start safety interlock
- External interlock provisions



PFT Series Specifications

CE

PTS-15

CE

PTS-37.5

	PTS-15	PTS-37.5
Input:	120Vac, 60Hz, 10A (PTS-15) 230Vac, 50Hz, 5A (PTS-15F5) 230Vac, 60Hz, 5A (PTS-15F6) +/-1% input voltage regulator	120Vac, 60Hz, 10A (PTS-37.5) 230Vac, 50Hz, 5A (PTS-37.5F5) 230Vac, 60Hz, 5A (PTS-37.5F6) +/-1% input voltage regulator
Output:	0 – 15 kV DC @ 10 mA, negative polarity, positive ground Full Wave Bridge Rectification	0 – 37.5 kV DC @ 10 mA, negative polarity, positive ground Full Wave Bridge Rectification
Duty:	Continuous, capacitive charging	Continuous, capacitive charging
Voltmeter:	3.5”, scaled 0 – 7.5/15 kV DC, ±2% F.S.	3.5”, scaled 0 – 15/37.5 kV DC, ±2% F.S.
Current Meter:	3.5”, scaled 0 – 1.0 µAdc, ±2% F.S. with multipliers of x 1, x 10, x 100, x 1 k, x 10 k. Guard/ground load return	3.5”, scaled 0 – 1.0 µAdc, ±2% F.S. with multipliers of x 1, x 10, x 100, x 1 k, x 10 k. Guard/ground load return
Megohmmeter:	Scaled 100 -1 MΩ ±2% F.S. with multipliers of x 0.1, x 1, x 10, x 100, x 1 k	Scaled 100 -1 MΩ ±2% F.S. with multipliers of x 0.1, x 1, x 10, x 100, x 1 k
Size & Weight:	14 x 11 x 14 in., 55 lb. 356 x 279 x 356 mm, 25 kg	14 x 11 x 14 in., 61 lb. 356 x 279 x 356 mm, 28 kg
Output Termination:	20 ft. (6 m) shielded output cable with alligator clamp	20 ft. (6 m) shielded output cable with alligator clamp
Scope of Supply:	20ft red test lead, 20ft black test leads, 10in safety ground stick, external interlock plug, operations manual, calibration certificate	20ft red test lead, 20ft black test leads, 10in safety ground stick, external interlock plug, operations manual, calibration certificate

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PTS-75

PTS-80

	PTS-75	PTS-80
Input:	120Vac, 60Hz, 10A (PTS-75) 230Vac, 50Hz, 5A (PTS-75F5) 230Vac, 60Hz, 5A (PTS-75F6) +/-1% input voltage regulator	120Vac, 60Hz, 10A (PTS-80) 230Vac, 50/60Hz, 5A (PTS-80F)
Output:	0 – 75 kV DC @ 10 mA, negative polarity, positive ground Full Wave Bridge Rectification	0 – 80 kV DC @ 10 mA, negative polarity, positive ground Full Wave Bridge Rectification
Duty:	Continuous, capacitive charging	Continuous, capacitive charging
Voltmeter:	3.5”, scaled 0 – 37.5/75 kV DC, ±2% F.S.	3.5”, scaled 0 – 40/80 kV DC, ±2% F.S.
Current Meter:	3.5”, scaled 0 – 1.0 µAdc, ±2% F.S. with multipliers of x 1, x 10, x 100, x 1 k, x 10 k. Guard/ground load return	3.5”, scaled 0 – 1.0 µAdc, ±2% F.S. with multipliers of x 1, x 10, x 100, x 1 k, x 10 k. Guard/ground load return
Megohmmeter:	Scaled 100 -1 MΩ ±2% F.S. with multipliers of x 0.1, x 1, x 10, x 100, x 1 k	Scaled 100 -1 MΩ ±2% F.S. with multipliers of x 0.1, x 1, x 10, x 100, x 1 k
Size & Weight:	14 x 11 x 18 in., 68 lb. 356 x 279 x 457 mm, 31 kg	14 x 11 x 18 in., 65 lb. 356 x 279 x 457 mm, 29 kg
Output Termination:	20 ft. (6 m) shielded output cable with alligator clamp	20 ft. (6 m) shielded output cable with alligator clamp
Scope of Supply:	20ft red test lead, 20ft black test leads, 10in safety ground stick, external interlock plug, operations manual, calibration certificate	20ft red test lead, 20ft black test leads, 10in safety ground stick, external interlock plug, operations manual, calibration certificate

PFT Series Specifications

PTS-100

PTS-100U

	PTS-100	PTS-100U
Input:	120Vac, 50/60Hz, 15A (PTS-100) 230Vac, 50/60Hz, 8A (PTS-100F)	120Vac, 50/60Hz, 15A (PTS-100U) 230Vac, 50/60Hz, 8A (PTS-100UF)
Output:	0 – 100 kV DC @ 10 mA, negative polarity, positive ground Full Wave Bridge Rectification	0 – 100 kV DC @ 10 mA, negative polarity, positive ground Full Wave Bridge Rectification
Duty:	Continuous, capacitive charging	Continuous, capacitive charging
Voltmeter:	3.5", scaled 0 – 50/100 kV DC, ±2% F.S.	3.5", Scaled 0 - 50/100 kV DC, ±2% F.S
Current Meter:	3.5", scaled 0 – 1.0 µAdc, ±2% F.S. with multipliers of x 1, x 10, x 100, x 1 k, x 10 k. Guard/ground load return	3.5", scaled 0 – 1.0 uA DC, ±2% F.S. with multipliers of x 1, x 10, x 100, x 1 k, x 10k Guard/ground load return
Megohmmeter:	Scaled 100 -1 MΩ with multipliers of x 0.1, x 1, x 10, x 100, x 1 k	Scaled 100 -1 MΩ with multipliers of x 0.1, x 1, x 10, x 100, x 1 k
Size & Weight:	Case: 14 x 11 x 14 in., 30 lb. 356 x 279 x 356 mm, 14 kg HV Tank: 9.5 x 11.75 x 14.5 in., 68lb. 241 x 298 x 368 mm, 31 kg	Case: 14 x 11 x 14 in., 30 lb. 356 x 279 x 356 mm, 14 kg HV Tank: 9.5 x 11.75 x 14.5 in., 68 lb. 241 x 298 x 368 mm, 31 kg
Output Termination:	20 ft. (6m) shielded EPR output cable with alligator clamp EPR cable stays flexible in cold weather	5 0ft. (15m) shielded EPR output cable with alligator clamp EPR cable stays flexible in cold weather
Scope of Supply:	20ft EPR shielded output cable, 20ft red test lead, x2 20ft black test leads, 14in safety ground stick, external interlock plug, operations manual, calibration certificate	50ft EPR shielded output cable, 50ft red test lead, x2 50ft black test leads, 14in safety ground stick, external interlock plug, operations manual, calibration certificate

PTS-130

PTS-200

	PTS-130	PTS-200
Input:	120Vac, 50/60Hz, 15A (PTS-130) 230Vac, 50/60Hz, 8A (PTS-130F)	120Vac, 50/60Hz, 15A (PTS-200) 230Vac, 50/60Hz, 8A (PTS-200F)
Output:	0 – 130 kV DC @ 10 mA, negative polarity, positive ground Full Wave Bridge Rectification	0 – 200 kV DC @ 5 mA, negative polarity, positive ground Full Wave Bridge Rectification
Duty:	Continuous, capacitive charging	Continuous, capacitive charging
Voltmeter:	3.5”, scaled 0 – 75/150 kV DC, ±2% F.S.	3.5”, scaled 0 – 80/200 kV DC, ±2% F.S.
Current Meter:	3.5”, scaled 0 – 1.0 µAdc, ±2% F.S. with multipliers of x 1, x 10, x 100, x 1 k, x 10 k. Guard/ground load return	3.5”, scaled 0 – 1.0 µAdc, ±2% F.S. with multipliers of x 1, x 10, x 100, x 1 k, x 10 k. Guard/ground load return
Megohmmeter:	Scaled 100 -1 MΩ ±2% F.S. with multipliers of x 0.1, x 1, x 10, x 100, x 1 k	Scaled 100 -1 MΩ ±2% F.S. with multipliers of x 0.1, x 1, x 10, x 100, x 1 k
Size & Weight:	Case: 14 x 11 x 14 in., 34 lb. 356 x 279 x 356 mm, 15 kg HV Tank: 12.25 x 12 x 18 in., 87lb. 311 x 305 x 457 mm, 39 kg	Case: 14 x 11 x 14 in., 34 lb. 356 x 279 x 356 mm, 15 kg HV Tank: 13 x 14 x 27.5 in., 150 lb. 330 x 356 x 699 mm, 68 kg
Output Termination:	20ft. (6m) shielded EPR output cable with alligator clamp EPR cable stays flexible in cold weather	20 ft. (6m) shielded EPR output cable with alligator clamp EPR cable stays flexible in cold weather
Scope of Supply:	20ft EPR shielded output cable, 20ft red test lead, x2 20ft black test leads, 14in safety ground stick, external interlock plug, operations manual, calibration certificate	20ft EPR shielded output cable, 20ft red test lead, x2 20ft black test leads, 14in safety ground stick, external interlock plug, operations manual, calibration certificate

PFT Series Specifications

PTS-300

PTS-600BT

	PTS-300	PTS-600BT
Input:	120Vac, 50/60Hz, 15A (PTS-300) 230Vac, 50/60Hz, 8A (PTS-300F)	120Vac, 50/60Hz, 30A (PTS-600) 230Vac, 50/60Hz, 15A (PTS-600F)
Output:	0 – 300 kV DC @ 5 mA, negative polarity, positive ground Full Wave Bridge Rectification	0 - 600kV DC @ 5 mA Bench top controller, negative polarity, positive ground Full Wave Bridge Rectification
Duty:	Continuous, capacitive charging	Continuous, capacitive charging
Voltmeter:	3.5", scaled 0 – 120/300 kV DC, ±2% F.S.	3.5", scaled 0-300/600 kV DC ±2% F.S.
Current Meter:	3.5", scaled 0 – 1.0 µAdc, ±2% F.S. with multipliers of x 1, x 10, x 100, x 1 k, x 10 k. Guard/ground load return	3.5", scaled 0-1.0 µA DC, ±2% F.S. with multipliers of x 1, x 10, x 100, x 1 k, x 10 k Guard/ground load return
Megohmmeter:	Scaled 100 -1 MΩ ±2% F.S. with multipliers of x 0.1, x 1, x 10, x 100, x 1 k	100 – 1 MΩ w/x.1, x1, x10, x100, x1k ranges, w/analog meters
Size & Weight:	Case: 14 x 11 x 14 in., 34 lb. 356 x 279 x 356 mm, 15 kg HV Tank: 36 x 36 x 43.5 in., 380 lb. 915 x 915 x 1105 mm, 172 kg	Case: 21 x 15.5 x 15 in., 70 lb. 535 x 395 x 382 mm, 32 kg HV Tank: 36 x 15 x 89 in., 580 lb. 914 x 381 x 1105 mm, 263 kg
Output Termination:	Top toroid	Top toroid
Scope of Supply:	20ft red test lead, x2 20ft black test leads, x2 20kohm external limit resistors, 14in safety ground stick, external interlock plug, operations manual, calibration certificate	20ft red test lead, x2 20ft black test leads, x4 20kohm external limit resistors, 14in safety ground stick, external interlock plug, operations manual, calibration certificate

Optional Accessories

Hand and Foot Safety Interlock Switches

Dead man style safety switches that connect to the external interlock provisions on the front panel of the PTS DC Hipot test set. The switch must be depressed before “HV On" and remain depressed during the duration of the testing. Releasing the switch has the same effect as hitting "HV Off", turning off the high voltage circuit. Supplied with 12 foot lead.

Grounding Sticks

Safely confirm the device under test has been discharge and is at ground potential before handling after testing.

Reusable Shipping Center

Reusable hard shipping cases designed for safe transportation of your PTS Series DC Hipot.

Optional Upgrades

Digital Metering

Add 3.5-digit digital meters to models with analog meters as standard equipment. Deletes or modifies any volt or current meter range switches.

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