
Bierer
METERS

Safety is number one.



Manufacturing & Service: Bierer & Associates Inc.

HP72 HI POT Meter Operating Instructions



Limitation of Warranty and Liability

Bierer & Associates Inc. warrants this product to be free from defects in workmanship and material, under normal use and service conditions for a period of one year from date of shipment.

Due to continuous product improvement and development, Bierer & Associates Inc. reserves the right to modify product designs and specifications without notice.

It is impossible to eliminate all risks associated with the use of high voltage electrical devices including this device. Risks of serious injury or death are inherent in working around energized electrical systems. Such risks include but are not limited to variations of electrical systems and equipment, manner of use or applications, weather and environmental conditions, operator mentality, and other unknown factors that are beyond the control of Bierer & Associates Inc.

Bierer & Associates Inc. do not express or imply to be an insurer of these risks, and by purchasing or using this product you **AGREE TO ACCEPT THESE RISKS**. IN NO EVENT SHALL Bierer & Associates Inc. BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

SAFETY MESSAGE DEFINITIONS per ANSI Z535

These instructions contain important safety messages to alert the user to potentially hazardous situations, how to avoid the hazard, and the consequences of failure to follow the instruction.

The safety alert symbol  identifies a safety message. The signal word following the symbol indicates:

 **DANGER** A hazardous situation which, if not avoided, **will** result in death or serious injury and equipment damage.

 **WARNING** A hazardous situation which, if not avoided, **could** result in death or serious injury and equipment damage.

 **CAUTION** A hazardous situation which, if not avoided, **could** result in minor or moderate injury and equipment damage.

NOTICE Important safety message relating to equipment damage only.

PRODUCT SAFETY INFORMATION



WARNING

1. Meter assembly, interconnect cable assembly, and live line tool adapters shall be considered **non-insulating**. Do not let live line tool fittings come in contact with energized or grounded conductors. **The live line tool adapters, fittings, and handles shall not be used on any other devices.**
2. Use appropriate length live line tools for voltage being worked and maintain minimum approach distances as outlined in OSHA 1910.269, Table R-6.
3. All Phasing Meters and Voltage Detectors manufactured during and after 2007 will have a limit mark engraved on the high voltage probe(s) 2.5 inches from the tip to indicate to the user the physical limit that should not be exceeded when approaching and contacting an electrical conductor or other electrical test points. Zero Ohm insulated adapters (81280IE) should be used if limit mark will be exceeded.
4. This equipment should be used only by qualified employees, trained in and familiar with the safety-related work practices, safety rules and other safety requirements associated with the use of this type of equipment.
5. These instructions are not intended as a substitute for adequate training, nor do they cover all details or situations which could be encountered when operating this type of equipment.
6. Before operating this equipment, read, understand and follow all instructions contained in this manual. Keep instructions with equipment.

INSPECTION & MAINTENANCE BEFORE USE



WARNING

1. Prior to using any high voltage test equipment a careful inspection should be made to ensure the unit is free from any contaminants such as dirt, grease, etc. and that there are no apparent physical damages.
2. High voltage probe assemblies shall be wiped clean prior to each use with a silicone impregnated cloth and kept clean and

DESIGN and FUNCTION

The HI POT meter is designed to HI POT cable at 7.2kV phase to ground. The hi-pot DC diode is built into the meter and the interconnect cable between the meter and second probe is removable and available in varying lengths.

There are two selector toggle switches on meter, one on the back and one on the side of the meter housing. The toggle on the back allows the user to select between 7.2kV Test. The selector switch located on the side allows the user to test the meter operation and turn on an LED back light for low light work conditions.

Note: Meter back-light and test operate off of a 9volt battery located in the meter housing. The meter will still operate with a dead battery but the light and test functions will not.

BATTERY REPLACEMENT

The threaded live line tool fitting on the face of the meter probe is furnished with two flat edges for use with a wrench or slip joint pliers to remove and install the fitting from the meter housing. To remove, turn the live line tool fitting in a counterclockwise direction and install in a clockwise direction.

METER SET-UP and TESTING



WARNING

- see “Product Safety Information”, page 3.
 - see “Inspection & Maintenance”, page 3.
1. Attach the interconnect cable to the meter probe and second probe.
 2. Test the meter by flipping the toggle on the back of the meter housing to the test position. Then move the small side switch to the momentary on position to activate the test. The needle should move smoothly all the way to the far right, at or past the red indication area.

3. Turn on back light by flipping the toggle on the side of meter housing until the LED comes on.
4. Flip the toggle on the back of the meter to the 7.2kV position.
5. Screw on the bushing adapters to the ends of the meter & reference probes.
6. Attach the meter probe and second probe to appropriate length live line tool for the voltage being tested.

URD CABLE DC LEAKAGE TESTER “Hi-Potting”



WARNING – see “Meter Set-Up & Testing”, page 4.

Testing DC Hi Pot Meter on line voltage.

1. Attach Meter & Second probe to appropriate length live line tools for the voltage being worked.
2. Place second probe on a suitable ground and make contact with Meter to source voltage.
3. **Meter should read 100%**

Testing Riser Pole to First Transformer

1. Following standard operating procedures, isolate both ends of the cable to be tested using a feed thru bushing at transformer, see NOTE 1.
2. Attach Meter & Second probe to appropriate length live line tools for the voltage being worked.
3. Attach the hook adapter to Meter probe.
4. Attach straight adapter to Second probe.
5. Place Meter probe on source voltage and second probe on cable termination. SEE NOTE 2.
6. On a non-faulted cable the meter will momentarily read into the red and diminish into the green area.
7. On a faulted cable the meter will read into the red area of the display.
8. A pulsating meter reading indicates the presence of an internal flashover.
9. Discharge cable to ground after each test by contacting tested cable with Meter probe and contacting a suitable ground with the Second probe.



WARNING – Failure to discharge cable could result in death or serious injury, equipment damage, and/or false readings.

Testing Between Transformers

1. Following standard operating procedures, isolate both ends of the cable under test using feed thru bushings, see NOTE 1.
2. Attach Meter & Second probe to appropriate length live line tools for the voltage being worked.
3. Attach the Bushing adapters to Meter & Second probes.
4. Insert the Meter probe with adapter into the energized bushing of transformer and second probe into the open feed thru bushing isolating cable under test. SEE NOTE 2.
5. On a non-faulted cable the meter will momentarily read into the red and diminish into the green area.
6. On a faulted cable the meter will read within the red area.
7. A pulsating meter reading indicates the presence of an internal flashover.
8. Discharge cable to ground after each test by contacting tested cable with Meter probe and contacting a suitable ground with the Second probe.



WARNING – Failure to discharge cable could result in death or serious injury, equipment damage, and/or false readings.

NOTE 1: The section of cable under test must be isolated on both ends and cannot be connected to/or through equipment or lighting arrestors.

NOTE 2: The maximum reading during the hi-potting test is 100%. 100% represents approximately 70% of the line-to-ground source voltage, i.e. $7.2\text{kV} \times .70 = 5\text{kV}$. This value is representative of a direct fault on the cable. Readings near zero represent a good cable with little or no cable leakage.

NOTES_____



Technical & Service

Bierer & Associates Inc.
Manufacturing & Repair
10730 Farrow Rd.
Blythewood, SC 29016
Tel: (803) 786-4839
Fax:(803)786-5457
www.bierermeters.com

