

TYPICAL RESULTS

GOOD CABLE

A good cable will initially give a peak value, and quickly decrease towards zero and stabilize.

BOLTED FAULT

If the cable has a bolted fault such as grounding equipment still on the line, the meter will initially give a peak reading, and this reading will NOT decrease because the cable will not accept a charge.

PUNCTURED CABLE

If there is a break or puncture in the insulation, the cable will give a peak value, and then will start to decrease as the cable charges. When the voltage on the cable is sufficient to cause a breakdown in the insulation at the puncture, the cable will discharge through the puncture. This will be indicated by the Phase Meter returning quickly to the initial value, then the process starting over again. **Continued fluctuation is an indication of a bad cable.**

WARNING

Failure to follow these instructions could result in injury or death. At the completion of all testing the Phase Meter may indicate a low value, but the cable will be at its maximum charge. Extreme care must be used until this charge has been removed.

To discharge the cable:

1. Remove both ends of the assembly from the bushing and feed thru.
2. Connect the METERED side to the feed thru (with the test cable still installed).
3. Touch the NON-METERED side to the concentric neutral or ground rod.
4. Maintain this connection for at least the same length of time required to charge the cable. If your Phase Meter has a Hi-Pot mode, the discharging of the cable will be displayed on the Phase Meter.

The cable should always be considered energized unless properly grounded with appropriate grounding equipment.



P30462-R3

D.C. HIPOT ADAPTER INSTRUCTIONS

Cat. No. 6702-2



A WORLDWIDE SUPPLIER OF
Hot Line Tools & Equipment

1301 W. Green St., P.O. BOX 218

Hastings, Michigan 49058-0218

Phone: (269) 945-9541

Fax: (269) 9454623

E-mail: hastings@hfgp.com

www.hfgp.com

INSTRUCTIONS

The D.C. Hi-Pot Adapter is a device that when used in combination with the Hastings 6702 Digital Voltage Phase Meter or 6702-A Analog Voltage Phase Meter, will help determine the integrity of underground cable. It will enable the user to check sections of a line to determine which section contains a fault, without subjecting the line to fault currents. It will also enable the user to determine if all grounds have been removed from the cable at the completion of a job, again without the risk of energizing the line with fault current.

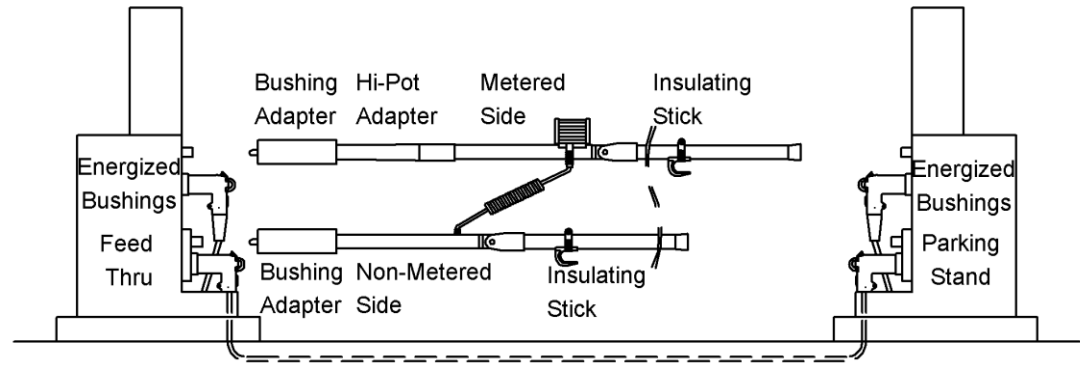
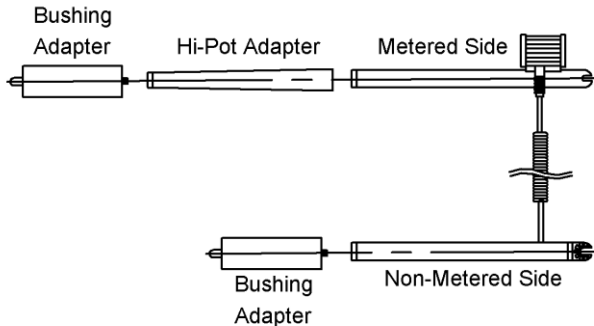
WARNING

This unit must be used in conjunction with insulated sticks long enough to meet OSHA and your utility's clearance requirements. Failure to do so could result in injury or death. Do not use on system voltages above 35 kV phase to phase.

When using the Phase Meter with a DC Hi-Pot Adapter installed, do not use on DC power systems. The Hi-Pot Adapter can block the DC voltage being supplied, and the Phase Meter will not be able to display the system voltage.

OPERATION

To use the Hi-Pot Adapter, it MUST be installed on the METERED side of the Phase Meter. This is accomplished by removing the hook from the METERED side of the Phase Meter and replacing it with the Hi-Pot Adapter. Then the appropriate bushing adapters must be attached to the Phase Meter and the Hi-Pot Adapter. Bushing adapters are available for 15, 25, and 35 kV bushings.



If your Phase Meter has a Hi-Pot mode, the Phase Meter must be in Hi-Pot mode to use with the Hi-Pot Adapter.

The section of line to be tested must be disconnected on both ends. The end being worked will need to be placed on a feed thru. The opposite end must be installed on an isolated parking stand. Once this is accomplished, the Phase Meter Hi-Pot assembly is connected between an energized bushing and the open end of the feed thru as follows:

1. Connect the NON-METERED side of the assembly to the feed thru (with the cable to be tested already installed).
2. Connect the METERED side (with the Hi-Pot Adapter attached) to an energized bushing. At the **instant** this connection is made, the Phase Meter must be watched to verify an initial reading occurred.

When the connection is made, the Phase Meter will indicate an initial peak reading. As the cable charges, the reading will decrease. The rate the Phase Meter value decreases depends on the capacitance of the cable, which is determined by the diameter and length of the cable being tested. Short cables may go to zero so quickly the user won't be able to read the initial reading. The value of the initial reading is not important, only that there was current flow before the Phase Meter value reaches zero.

Since the Hi-Pot Adapter allows current to flow in only one direction, the cable will charge until the D.C. voltage on the cable is equal to the peak A.C. voltage supplied. If this voltage is reached, current stops flowing and the Phase Meter will read zero. In reality, there will be some losses in the cable and the Phase Meter may decrease to a value near zero and stabilize. A Phase Meter value that has an initial peak value, decreases towards zero, and either stabilizes at a value near zero or reaches zero, is a normal response and indicates good cable.

On the 6702, the initial peak reading will be displayed on the lower bar graph. On the 6702-A, the initial peak reading will be displayed on the Analog graph. On both models, the initial peak reading will remain displayed until the meter reads a value of zero.

Instructions continued on the back side of this page.