

SPECIFICATIONS & FEATURES

PHYSICAL/MECHANICAL:

Size

Each Stick -- 24" overall length

Weight

3.8 pounds without case

Conductor Hooks

1/4-20 UNC threaded 2" diameter hooks

Hot Stick Attachment

Slotted fitting designed to mate with standard "universal" fittings.

Switch

Single three position toggle switch
(POWER - NO LIGHT - LIGHT)

Operating Temperature

-20 to 60 C (-4 to 140 F)

Storage Temperature

-20 to +70 C (-4 to 158 F)

ELECTRICAL:

Power Source

9 volt battery

Power Drain

11 milliamperes with meter only
125 milliamperes with meter and light

Battery Life

40 hours with meter only
4 hours with meter and light

Output

3 digit .500" tall LCD with backlight

Range

0 to 40 kilovolts



P30450

Rev. 5/02

INSTRUCTIONS

for

PHASE-TELL

Cat. No. 6702

Patent No. 5,136,234



HASTINGS

A WORLDWIDE SUPPLIER OF
Hot Line Tools & Equipment

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INSTRUCTIONS

WARNING

This unit must be used in conjunction with insulated sticks. For the purpose of determining clearances, the Phase-Tell (including the cord) must be considered conductive. Failure to do so could result in injury or death. Do not use on system voltages above 40 kV phase to phase without extension resistors (Cat. No. 6703).

The Phase-Tell must be mounted on universal sticks of appropriate length to allow contact to be made between the Phase-Tell probes and the conductor. The sticks must be long enough to meet OSHA and your utility's clearance requirements. For the purpose of determining clearances, the Phase-Tell (including the cord) must be considered conductive. Attach the appropriate style adapters prior to use.

This unit has a timer that will automatically shut the unit off after 10 minutes. The power switch has one momentary position (power) and two operating positions (no light, light). Pushing the switch to the "power" position will turn on the unit; once the unit is on pushing the switch in the opposite direction will turn on the light. The timer is reset by momentary switch activation and when a reading other than 0 is taken. For manual shutdown, hold the switch in the "power" position for more than 2 seconds and release it. Battery life is approximately 40 hours without the light and 4 hours with the light. The letters "BAT" appearing in the upper left hand corner of the display indicates low battery condition.



When this occurs the battery must be replaced.

Extremely cold conditions may affect the performance of the Phase-Tell and the battery. The Phase-Tell should not be stored in a location where the temperature will be below -20 C (-4 F). Before using in temperatures below freezing, the battery and the Phase-Tell should be placed in a warmer location.

The Phase-Tell has encapsulated resistors in each of the two sticks which are connected together with a coiled cord. The meter reads the current through the sticks to determine the voltage applied. Capacitive current between the cord and other objects will cause a slight reading in the meter. This

is most pronounced when both sticks are connected to the same phase and the cord allowed to hang below the tool. The reading should be zero since both ends are at the same potential, but because of the leakage current flow from the cord, there may be a small voltage indicated. This can be minimized by controlling the amount of slack cable. While the connecting cord is insulated it should be kept clear of any other objects.

The PHASE-TELL is supplied with two 2" diameter hooks, battery and carrying case.

ACCESSORIES

The Phase-Tell may be used on voltages higher than 40 kV phase to phase with additional pairs of extension resistors (Cat. No. 6703). The extension resistors can be attached to the Phase-Tell by removing the supplied hooks and attaching the resistors in their place. These extension resistors **MUST** be used in pairs to increase the voltage ranges. The multiplying factors and ranges are as follows:

Number of Resistor Pairs	Multiplying Factor	Range
0	1	40 kV
1	2	80 kV
2	3	120 kV
3	4	160 kV
4	5	200 kV
5	6	240 kV

Underground bushing adapters for 35 kV Elastimold, and all 15 and 25 kV bushings (Cat. No. 6702-1) and for 35 kV RTE bushings (Cat. No. 6702-3) can be attached to the Phase-Tell by removing the supplied hook and replacing it with the appropriate adapter.

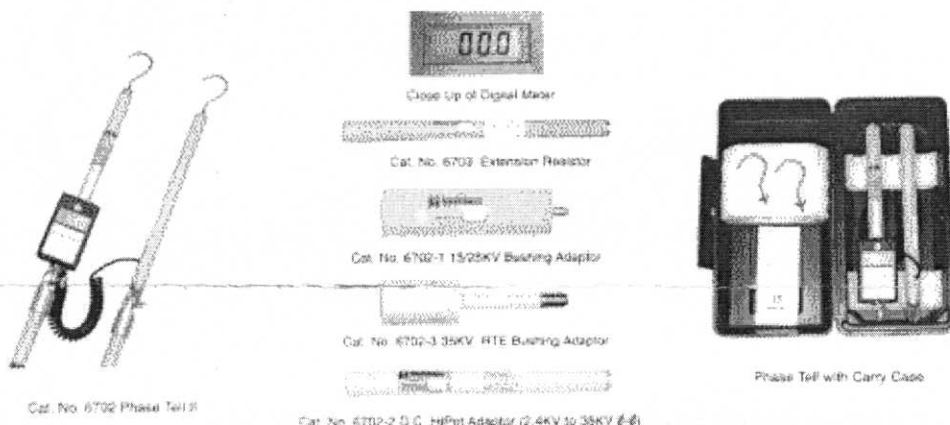
A. D.C. Hipot Adapter (Cat. No. 6702-2) is available which allows the testing of underground cable by rectifying the available system voltage and charging the cable to a d.c. voltage equal to the peak a.c. voltage supplied. While the d.c. voltage is high enough to test the cable, the current is limited by the Phase-Tell. In the event the cable is defective or grounds have been left on, fault currents will not result.

DIGITAL HIGH VOLTAGE PHASING METER PHASE TELL (PATENT NO. 5,136,234)



Instrument for: Circuit Phasing/Potential Testing
and URD Cable Testing

- **Circuit Potential Testing** — The digital high voltage meter can be used for measuring high voltage on cables. This includes phase to phase and phase to ground 0-40KV. Voltages up to 240KV can be obtained in 40KV increments with add on resistors Cat. No. 6703. (See chart below.)
- **URD Cable Testing** — This same meter can be used on underground cables. In addition to phasing and potential testing, the tester can be used to determine the insulation integrity of buried cables with the use of the D.C. HiPot unit. (See following page I-8 for application.)



I-7 INSTRUMENTS/RECORDERS

FEATURES AND BENEFITS

- **Digital display** reads directly in kilovolts with three $\frac{1}{2}$ " high digits on sharp contrast liquid crystal display. Readout is given to the nearest 100 volts. Example: A 12,470 volt line phase to phase reads 12.5 on display.
- The digital display has a **lighted background** that can be switched on by the operator, if needed, during use in poor light conditions. The meter is solid state design and eliminates problems associated with analog type meters.
- The unit is **powered** by a readily available 9-volt battery and is field replaceable. If a low battery condition exists, it will be indicated on the display. Meter shuts off automatically after 10 minutes without contacting live voltage.
- The coiled, self-retracting cable is 16" (.40 meters) retracted and 10 ft. (3.04 meters) when fully extended. This design simplifies use of the instrument.
- **Compact storage** is provided by a rugged plastic case 19"L x 7"W x 5½"H. The case will also accommodate a pair of add-on resistor extensions.
- The meter and coiled cable is attached to two 1¼" dia. x 16" long fiberglass sticks. Female universal spines are provided on one end to allow attachment on all universal hot sticks. (See Cat. Pages B-3 and B-4.) Two conductor hooks with 2" dia. are provided on other end.

ORDERING INFORMATION

CAT. NO.	DESCRIPTION	WT.
6702	0-40KV Digital Volt Meter w/ conductor hooks. Unit comes complete with carry case, battery and instructions.	5.5 lbs.
6703	Pair of Extension Resistors to increase operating range.	1.3 lbs.
6702-1	Qty. of One (1) 15/25KV Loadbreak Bushing Adapter. *Also fits Elastimold 35KV Loadbreak Bushing. (NOTE: Most testing will require two (2) adapters.)	0.6 lbs.
6702-3	Qty. of One (1) 35KV Loadbreak Bushing Adapter. *Fits RTE 35KV Bushing Only. (NOTE: Most testing will require two (2) adapters.)	0.8 lbs.
6702-2	Qty. of One (1) D.C. HiPot Adapter for use up to 35KV.	0.5 lbs.
A30119	Storage Case Only 21" L x 9.5" W x 7" H	2.1 lbs.
6711	0-40KV Tester Kit includes Qty. One (1) Cat. No. 6702, Two (2) 6" x 1 1/4" dia. universal fiberglass poles with vinyl storage bag.	10.0 lbs.

EXTENDED VOLTAGE RANGES FOR PHASE-TELL (Cat. No. 6702)

The Phase-Tell may be used on voltages higher than 40 kV phase to phase with additional pairs of extension resistors (Cat. No. 6703).

These extension resistors **MUST** be used in pairs to increase the voltage ranges. The multiplying factors and ranges are as follows:

Number of Resistor Pairs	Multiplying Factor	Range
0	1	40 kV
1	2	80 kV
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3	4	160 kV
4	5	200 kV
5	6	240 kV

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