

Hastings Hot Line Tools

Phase-Tell III

Catalog Number 6722



Wireless Phasing Tool

Instruction Manual

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INTRODUCTION

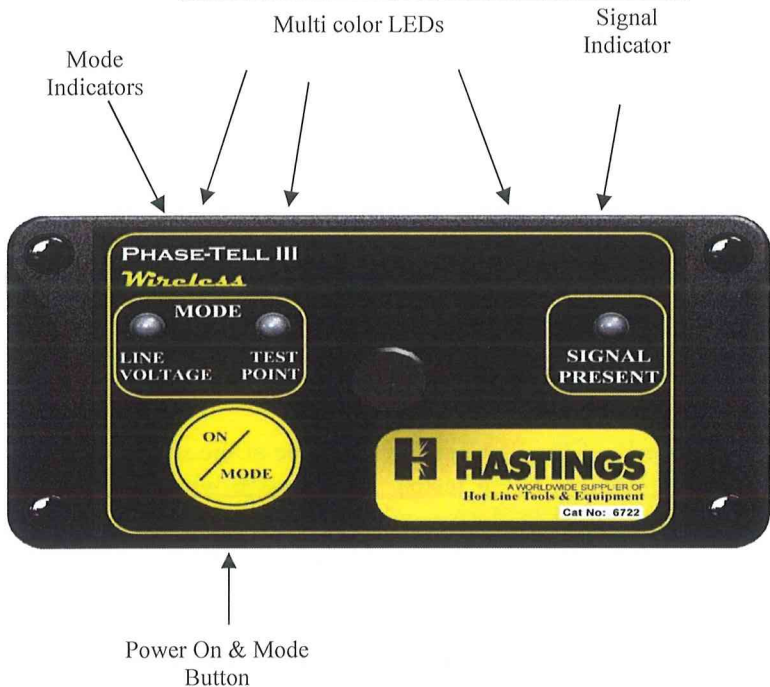
The Phase-Tell III from Hastings is a battery operated two piece wireless phasing tool. A trained utility line crew can use this tool to quickly determine the phase relationship between conductors in a three phase power system. These testers are designed to be attached to an approved hotstick before use. The two Phase-Tell IIIs in this kit are identical. When the Phase-Tell IIIs makes **contact** with an energized phase, both will compare and display an *in phase* or *not in phase* result. The result of the test is displayed using ultra-bright LEDs and an audible horn.



SAFETY

- The Phase-Tell III system must only be used by trained personnel familiar with the use of such devices in the vicinity of high voltage equipment. The voltages this device is used with are potentially lethal. Improper use may result in serious injury or death.
- Always follow OSHA and company work procedures when using the Phase-Tell III
- Always use the Phase-Tell III with an appropriate hotstick length for the potential being tested.
- Phase-Tell III's startup self test is automatic. If the device does not complete the startup self-test do not attempt to use it. (See Page 7 Step 2.0)
- The body of the Phase-Tell III will be at the same potential as the equipment being tested. Use caution when operating the Phases-Tell III in close proximity to grounded surfaces.
- The Phase-Tell III is only intended for operation on 3 phase 60Hz or 50Hz power systems. Do not use in situations where the 2 potentials may not be at the same frequency.
- The Phase-Tell III probes must be in contact with the potential source. Due to the strong fields the device may indicate operation before contact is made but such results may not be accurate.
- The Phase-Tell III must not be used as a voltage indicator

FEATURES OF THE PHASE-TELL III



Two wireless Phase-Tell IIIs perform a continuous comparison of the phase relationship.

Three multi-color, ultra-bright LEDs indicate status of the unit.

Wide range of operation from elbow test points to 500kv.

Both units report the test result.

Long Battery life from two "AA" batteries

High Quality rugged extruded aluminum enclosure

FCC Certified # Q7V-3F090003X

OPERATING INSTRUCTIONS

1.0 Prepare to Use

Remove the units from their storage case and inspect for damage.

Attach each Phase Tell to a Hotstick of appropriate length for the voltages to be tested.

2.0 Perform and observe “SELF TEST” result

Press and release the ON/MODE button once to begin self test.

- All LEDs flash BLUE three times. **
- All indicators flash RED three times
- All indicators flash GREEN three times
- All indicators turn on 'multi-color' during battery test*
- The buzzer will sound three times

*If the batteries are low, all indicators will finish the test in yellow.

The unit will still continue to operate following this warning.

The phase test result will be accurate in this condition, however the unit may cease to operate at any time during the test.

** The number of BLUE flashes indicates the radio channel.

The factory default is 3 (See Custom Configuration in Page 11)

3.0 Select Mode of Operation

The flashing Blue LED indicates the active MODE.

LINE VOLTAGE

System line voltage

TEST POINT

URD elbows at the test point

Press and release the ON/MODE button to change modes

4.0 Contact Phase Tell Probe with the voltage source

When a phase signal is detected, the SIGNAL PRESENT indicator will turn on solid BLUE

When each unit indicates SIGNAL PRESENT, the radios will turn on and establish a wireless link

Maintain contact with the source for 5 seconds to ensure an accurate test.

5.0 Phase Test Result

In Phase: ALL indicators Flashing GREEN

NOT in Phase: ALL indicators flashing RED

RED out of phase results will flash and sound faster than GREEN, in phase results.

6.0 Accessories: Catalog Number 266 Bushing Adapter

If phasing at the Elbow Test point is not approved at your utility, it is still possible to phase your U.G. Circuit with the use of Hastings Catalog No.266 Bushing Adapters.

To do so remove the hooks from the Phase-Tell III. Install the 266 Bushing Adapter on each unit of the Phase-Tell III

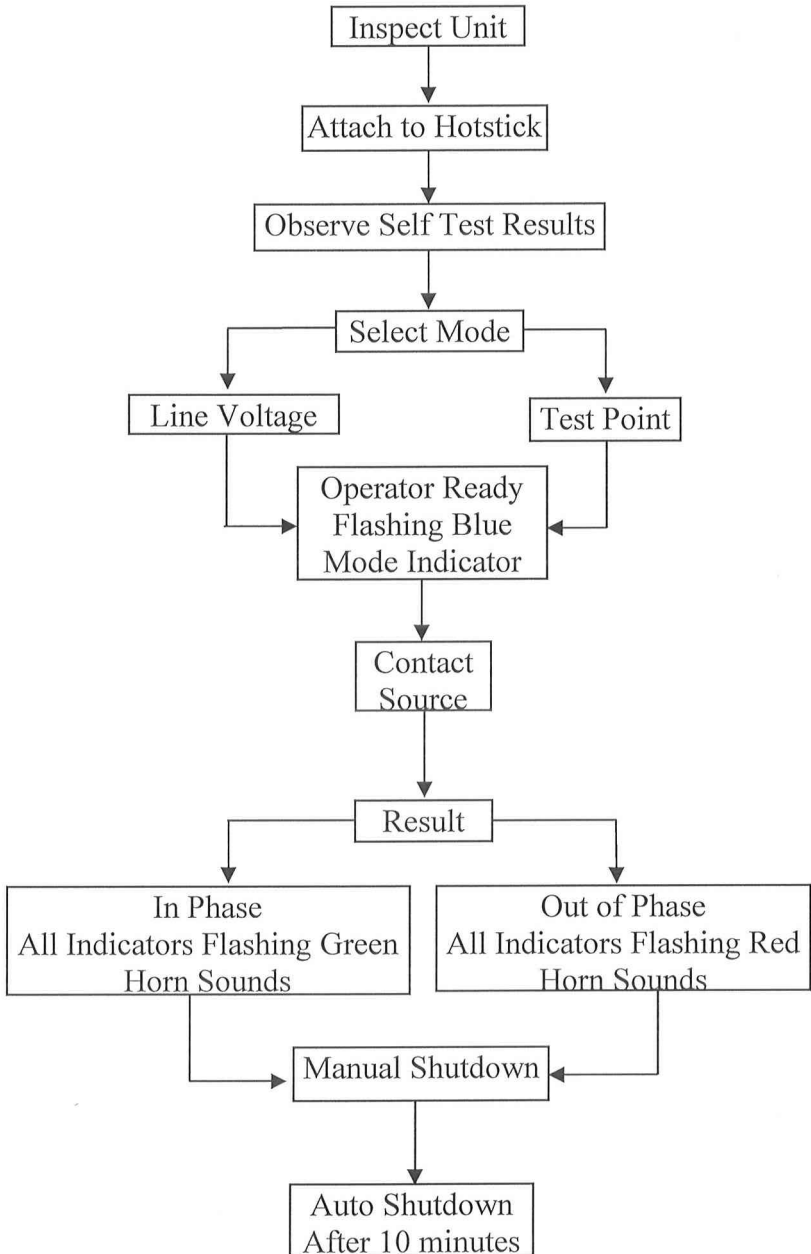
Per the standard work practice at your utility, isolate your URD elbows on a feed-through device. **Set the phase-Tell III to Line Voltage mode.** Once the elbows / circuits have been isolated, and the Line Voltage mode has been selected, you are now ready to continue the phasing process at the feed through device.

7.0 Shutdown

To turn the units off press and hold the ON/MODE pushbutton until the horn begins to sound then release.

Each Phase Tell III will automatically shut down after 10 minutes if no input signal is detected.

Phase Tell III Operating Instructions



TROUBLESHOOTING

Two Phase-Tell IIIs sense local signal but fails to communicate.	Verify that the two units are factory configured for the same operating channel. This can be determined by counting the number of BLUE flashes of the LEDs during power-up self-test.
Phase-Tell III will not turn on	Check Batteries (if the batteries were installed incorrectly, they will be quickly drained)
A result appears, but the signal present LED is BLUE	The unit is in communications test function. Press the ON/MODE switch to return to operating mode.
The Units indicate a result before making contact	High voltage fields may cause the units to sense and detect the signal before contact is made, this is normal.

COMMUNICATIONS TEST FUNCTION

This function is provided for radio link testing only.

Phasing cannot be performed when using this function.

To start this test function, DURING self test, press and hold the ON/MODE switch for at least 4 seconds.

At the end of the self test, all the indicators will cycle BLUE indicating that the unit is now in the communication test function.

The SIGNAL PRESENT LED will remain flashing BLUE at all times during communications testing.

During this test each unit will create an internal phase signal. This will cause the two units to operate their radios and establish a communications link.

If a link is made, the mode indicators and buzzer will flash (SIMILAR) to an actual phase test result. This is NOT an indication of phase, and ONLY shows that the radio link is good.

If this result does not happen, the radio link between the two units is not functioning. (See Troubleshooting Section on Page 10)

CUSTOM CONFIGURATIONS

Radio Channel

The Phase-Tell III can be adjusted to operate on different radio 'channels'. It is not recommended that this be changed in the field. Your instrument maintenance department can contact Hastings and receive instructions on how to make these adjustments.

Frequency

The Phase Tell III is factory configured for use on 60Hz power systems. For use on 50Hz systems, a simple internal adjustment may be made by your service department.

BATTERY REPLACEMENT

The Phase-Tell III uses two “AA” cells. These may be either Alkaline or NiMH.

In order to extend battery life, the internal radios will only operate when a voltage signal is detected (SIGNAL PRESENT LED BLUE).

The battery holder is located on the back of the unit near the hook. To replace the batteries remove the cover by turning $\frac{1}{4}$ turn.



IMPORTANT:

Be sure to insert the batteries into the holder negative end first. Failure to do so will drain the batteries.

SPECIFICATIONS

Operating Distance	Up to 300 feet line of sight depending on conditions
Line Voltage Mode	4kv - 500kV Phase to Phase
Test Point Mode	120V-4800v Phase to Phase
Operating frequency	60Hz (Internal switch to 50Hz)
Phase Discrimination	In phase indication for phase angles difference of $< 20^{\circ}$
Batteries	2x 1.5V Alkaline or NiMH "AA"
Radio Frequency	902-928Mhz Band (FCC ID: Q7V-3F090003X)
Radio Power	10mW
Operating Temperature	-40°F to 122°F
Storage Temperature	-40°F to 158°F
Weight	1.8lb (825g)

WARRANTY

HASTINGS warrants the catalog number 6722 Phase-Tell III to be free from manufacturing defects, for a period of one year from the date of purchase to the original owner. At the discretion of the company, units returned under this warranty shall be either repaired or replaced at no cost to the customer. This warranty will not apply to normal wear and tear or inappropriate use, alteration or abuse of the device.

For warranty or repair send units to:

HASTINGS Hot Line Tools
1301 W. Green St.
Hastings, MI 49058

Attn: Warranty Repair Department

For Enquiries or technical assistance call:

269-945-9541 or FAX 269-945-4623

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