# TIF Tic Tracers

## Owner's Manual

Covers models
TIF100, TIF300cc & TIF300hv

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# INTRODUCTION

Thank you for purchasing a TIF Tic Tracer. You now own one of the finest electrical safety tools available. This manual covers three models with slightly different features. Basic operation of each is the same; differences are described within the text. Please refer to the unit's packaging to determine the model you have.

Please read this manual carefully before using your new Tic Tracer, as it contains IMPORTANT Safety information. If you have any questions, please call our toll free customer Service hotline at 1-800-327-5060.

# FEATURES

**TIF100, TIF300cc & TIF300hv**

- Detects AC voltage without connection
- Audible signal
- Lightweight yet rugged
- Integrated switchguard
- Handheld
- 9VDC power supply
- Locates breaks in insulated wire
- Checks fuses and breaker panels
- Checks for proper grounding
- Made in USA
- One Year Warranty

**Additional TIF300cc Features:**

- Continuity checks
- Capacitor checks

**Additional TIF300hv Features:**

- High and Low ranges
- Visual Indicator
- Adaptable to "Hot Stick"

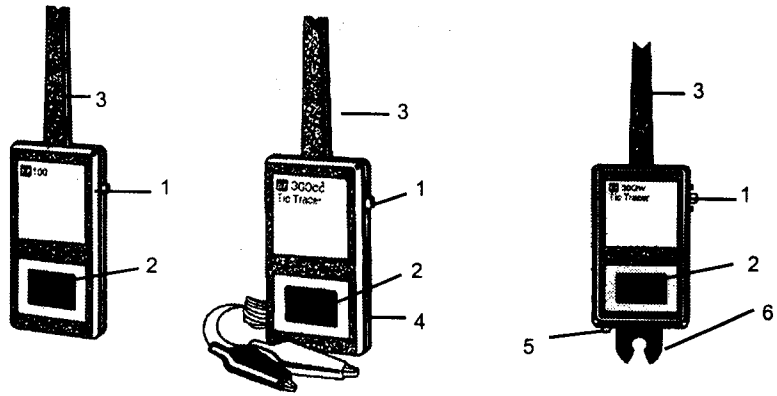
# PRECAUTIONS & WARNINGS

**CAUTION!:** Because you will entrust your personal safety to this instrument, test its operation on a flourescent lamp or known conductor of AC voltage.
If the unit is dropped, or for any reason you suspect it may malfunction, test it on a known AC conductor before making checks or high voltage tests.The TIF Tic Tracers only detect voltage in non-metallic covered wires.

## PRECAUTIONS & WARNINGS

**!WARNING!:** 3-phase feeder cables with conductors close together may self-cancel the field detected by your Tic Tracer. Always separate such conductors by at least 4" (10cm) before testing for AC voltage.
**TIF300hv**: When approaching an unknown voltage, especially a high one, always start with the unit switched to the Low range. Then approach the voltage from a distance. Use a "Hot Stick" at all times.
**NOTE** that with the switch in the High range, the unit will only detect voltage above 1500 VAC.

## PARTS AND CONTROLS




1 Power Switch
2. Speaker
3. Sensing probe
4. **300cc Only-** Test lead connex (on back)
5. **300hv Only-** Visual Indicator
6. **300hv Only-** Hot Stick adapter

**NOTE:** Battery Compartment is located in the back

## OPERATING INSTRUCTIONS

Before operating, the 9V battery must be installed as described in the Maintenance section.

**Voltage Detection**

1. Turn unit on by sliding the power switch down to the ON position. **TIF300hv-** Slide the switch down to the LOW position to begin.
2. An approximately once per second "beep" will be heard, indicating the unit is on and operating. **TIF300hv-** The LED visual indicator will flash in concert with the "beep" rate.
3. Approach a flourescent lamp, or known AC conductor, to ensure the tool is working properly.



## OPERATING INSTRUCTIONS

4. Place the tip of the probe on or near the circuit to be tested. If voltage is present, the "beep" rate will increase to a rapid beep or siren.

The slower the beep rate, the lower the voltage. If no increase in 'beep' rate is heard, AC voltage is not present.

**TIF300hv-** When probing for voltage higher than 1500 VAC, use proper safety equipment and, after determining the existence of voltage in the Low range, switch to the High range.

**TIF300CC ADDITIONAL TESTS**

**To Check Circuit Continuity**

1. Attach the included test clip harness to the jack on the bottom of the back side of the unit.
2. Switch the unit on and verify the normal, once per second "beep".
3. Clip the test leads together and verify that a steady siren, or whistle, occurs.
   The TIF300cc checks continuity up to 1MegOhm.
4. Connect the clip leads to the circuit to be tested. A steady siren, or whistle indicates continuity; a normal "beep" rate indicates open circuit.

**To Check High Value Capacitors**

1. De-energize the circuit containing the capacitor to be tested.
2. Attach the test clip harness to the jack on the bottom of the back side of the unit.
3. With the unit switched OFF, disconnect one lead of the capacitor and connect the test clips to both leads of the capacitor.
4. Switch to ON-
   **Capacitor is Good**- first a whistle, then slow 'beeps'. The duration of the whistle in seconds is proportional to the capacitance in microfarads (mfds).
   **Capacitor is Shorted or Leaky**- continuous whistle, as if the leads were touched together.
   **Capacitor is Open**- steady slow 'beeps' only.

**To Check Low Value Capacitors**

1. De-energize the circuit containing the capacitor to be tested.
2. Attach the test clip harness to the jack on the bottom of the back side of the unit.
3. Switch the unit ON and disconnect one lead of the capacitor, then connect one test clip to the capacitor.
4. Touch the other test clip to the remaining lead of the capacitor-
   **Capacitor is Good**- a quick "extra" beep will be heard.
   **Capacitor is Shorted or Leaky**- continuous whistle, as if the leads were touched together.
   **Capacitor is Open**- steady slow 'beeps' only.

## OPERATING INSTRUCTIONS

**To Test Diodes**
1. Attach the test clip harness to the jack on the bottom of the back side of the unit.
2. Connect the test clips accross the diode, note the signal, and reverse the connection.
   **Diode is Good**- a normal 'beep' is heard during one connection, a whistle in the other.
   **Diode is Shorted**- steady whistle during both connections.
   **Diode is Open**- normal 'beep' during both connections.

## APPLICATIONS

**To Check Fuses and/or Breakers**
You may check screw-in type, cartridge type or resettable breaker type fuses with your Tic Tracer. With the circuit energized, a good screw-in type fuse will create a whistle when the probe is placed on it. Good cartridge fuses and breakers should sound a siren on both ends, and accross their length.
NOTE that becuase the Tic Tracers detect the electrostatic field, it may be necessary to remove the metal fuse panel cover, as it may act as a shield.

**To Locate Heating Wire within Walls**
Traces heating wires within plastered walls. A quickened signal indicates an energized wire, if it ceases, a break is located.

**To Locate Breaks in Insulated Wire and Heating Elements**
Energize the wire or element and trace along it until the quickened 'beep' or siren ceases. This indicates the point of the break, or 'open'

**Outlets and Switches**
Place probe tip against an outlet or switch contact; increased 'beeping' indicates voltage.

**Safety Check on Power Tools and Appliances**
While the device is connected to AC voltage, touch the probe tip to the metal casing. Test with device switched off and on. No increase in beep rate indicates a safely grounded tool or appliance.

**TIF300hv High Voltage Aplications**
With the unit switched in the High range the instrument will detect voltages above 1500. Always use a Hot Stick in these applications

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|---|---|
| Loadbreak Connectors- | Check for power at high voltage transformers at elbow test point. |
| Transmission Lines- | Determine which conductor carries power and if ground cables carry high static charge. |
| TV High Voltage- | Check picture tube and HV transformer. |



## MAINTENANCE

No normal maintenance apart from battery replacement is necessary with your Tic Tracer.
Replace the battery when no signal is heard when the instrument is switched ON.

**Battery Relacement**
1. Slide the small latch on the top of the battery compartment downward.
2. Tilt out and remove the battery cover.
3. If applicable, disconnect old battery from the connector.
4. Connect a new, and/or tested, 9V battery to the connector, and replace in compartment.
5. Replace cover and move latch upwards to secure.

## SPECIFICATIONS

| | |
|---|---|
| **Power Supply:** | 9VDC Battery |
| **Voltage Detection Range:** | |
| TIF100/TIF300cc- | 30 to 1500 VAC |
| TIF300hv- | Low- 30 to1500VAC |
| | High- 1500 to 122,000* VAC |
| **Operating Temperature Range:** | 30° to 125° F (0° to 52° C) |
| **Battery Life:** | Approximate Battery shelf life |
| **Duty Cycle:** | Continuous |
| **Response Time:** | Instantaneous |
| **Dimensions:** | 8.5" x 2.75"x 1" (21.6 x 7x 2.5cm) |
| **Weight:** | 5 ounces (140 gr) |

*Use only with Hot Stick and proper safety equipment. TIF310 for voltages up to 46kV; TIF410 above 46kV.