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# AT-7000 Advanced Wire Tracer

## Wire Tracing Reinvented

Get accurate results in minutes with new features and technologies that simplify wire tracing and breaker identification. The Receiver's patented Smart Sensor,™ with its innovative new antenna design and advanced signal processor, clearly displays the location and orientation of energized wires in walls, floors and ceilings on the large color TFT LCD screen. The powerful Transmitter utilizes two optimal frequencies for both energized and de-energized wire and breaker tracing, delivering consistently accurate results for novice users and experts alike. The new Scan and Locate feature clearly identifies the one correct breaker or fuse, eliminating the confusion from multiple false positive readings common in older technology tracing tools.


**AT-7000-R Receiver**


## AT-7000 Features

- **Traces wires in walls, ceilings, floors and corners**
- **Locates breakers and fuses**
- **Pinpoints shorts and opens**
- **High resolution 3.5" TFT LCD color display**
- **Three power modes**
  - "High" power mode for normal circuits
  - "Low" power mode for precision tracing in difficult areas
  - "Clamp" power mode provides a boosted signal using signal clamp
- **Two automatically selected frequency modes for optimal tracing on energized and de-energized circuits**
- **Signal booster rechargeable battery pack (BR-7000-T) increases transmitter signal strength**
- **Clamp-on attachment (SC-7000) for inducing signal into wires without access to bare conductors**
- **Embedded help screens make set-up easy and error free**

CAT IV 300 V

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# AT-7000 Features and Functions




## Tip Sensor

The shape of the tip sensor allows tracing in hard to reach areas, corners & tight spaces, as well as precise circuit breaker and fuse identification. By utilizing two different types of antennas (inductive coil and capacitive), the tip sensor enables optimal tracing results of both energized and de-energized circuits, which are automatically selected by operating mode.


## Smart Sensor™

Quickly and easily determine the precise direction and location of energized wires in walls, floors and ceilings with the patented Smart Sensor™. Combined with a fast signal processor that measures small changes in the detected signal multiple times per second, this new technology provides unmatched precision and ease of use for tracing energized wires.

## Signal Clamp

When there's no access to bare conductors, use the SC-7000 signal clamp to induce a signal into either energized or de-energized circuits for wire tracing and load locating. The AT-7000-T transmitter's "clamp" mode provides a boosted 6 kHz signal through the clamp to further improve accuracy and performance.

## AT-7000-T Transmitter

Featuring three power modes "high", "low", and "clamp" and two output frequencies (6kHz and 33 kHz), the AT-7000-T incorporates the best technologies available for optimal wire tracing and breaker identification on both energized and de-energized circuits. The AT-7000-T automatically sets the frequency based on detected voltage, and prompts the user to set the power level based on their application. The color TFT LCD screen displays the detected voltage, frequency output and power mode.

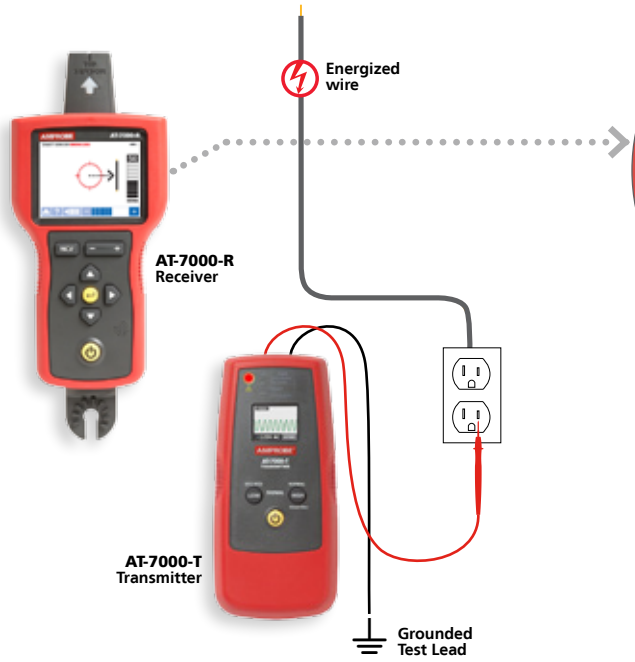
### The AT-7000 Advanced Wire Tracer is available in two feature-packed kits

| Features | AT-7020 Kit | AT-7030 Kit |
|---|---|---|
| **Traces Energized and De-Energized Wires** | • | • |
| **Locates Energized and De-Energized Breakers** | • | • |
| **Pinpoints Shorts and Opens** | • | • |
| **Three Power Modes**<br>• "High" power mode for normal circuits<br>• "Low" power mode for precision tracing in difficult areas<br>• "Clamp" power mode provides a boosted induction signal via the signal clamp | • | • |
| **Two Frequency Modes for Optimal Tracing**<br>• 6 kHz for energized circuits<br>• 33 kHz for de-energized circuits | • | • |
| **Signal Booster Rechargeable Battery Pack (BR-7000-T)**<br>• Longer life LI-ION battery<br>• Recharges when AT-7000-T transmitter plugged into energized circuit<br>• Improved signal for open and energized tracing<br>• Boosted signal when in "Clamp" mode | *(optional)* | • |
| **Signal Clamp (SC-7000)**<br>• Clamp-on attachment for inducing signal into wires without access to bare conductors | *(optional)* | • |

**Quick and Easy Wire Tracing with the Smart Sensor™**

# Tracing Wires in Walls, Ceilings and Floors

Tracing wires can be a challenge. The Amprobe AT-7000 makes tracing energized wires easier and more accurate than ever before. The Smart Sensor's™ patented sensor array and advanced signal processor provides instant feedback of wire location and direction on the large TFT LCD color display. Easily determine the direction and orientation of wires in walls, floors and ceilings up to 2 in/5 cm accuracy.





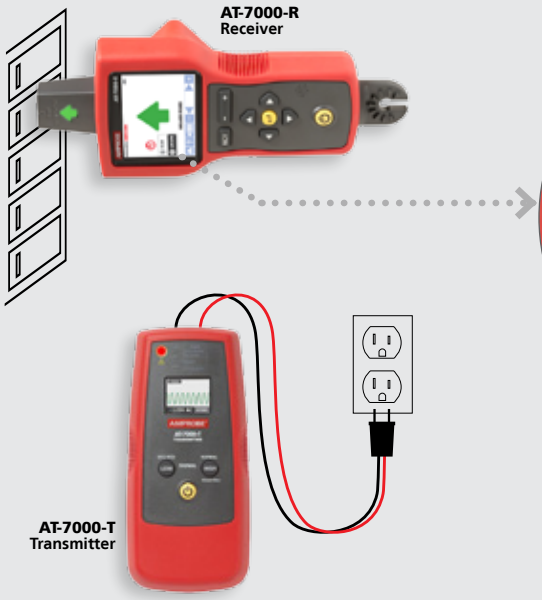
**Large dynamic TFT LCD color display guides you in the direction and orientation of the energized wire.**


**Display shows when the Smart Sensor™ is centered over the location of the energized wire and indicates its precise direction and orientation.**

**Clear and Accurate Breaker Identification**

# Identifying breakers and fuses

Combined with our powerful transmitter utilizing optimal frequencies for energized and de-energized tracing, the new Scan and Locate feature identifies the one correct breaker or fuse with the highest recorded signal. This eliminates the confusion from multiple false positive readings common in older technology tracing tools.





**The solid green arrow and audible alert indicates the target breaker has been found.**


Trace energized or de-energized wires by removing the junction box cover.

## Trace Wires Inside Conduit

Trace energized and de-energized wires enclosed in metal conduit by removing the junction box cover and using the AT-7000-R Receiver's Tip Sensor to identify the specific wire carrying the transmitted signal generated by the AT-7000-T Transmitter. Wires in non-metal conduit can be traced directly without opening the junction box and using the AT-7000-R Receiver's Smart Sensor™.


Induce signal with the signal clamp when there is no bare conductor.

## Trace energized wires without access to exposed conductors

The SC-7000 signal clamp accessory can be used with the AT-7000-T Transmitter to induce a signal into energized and de-energized wires when there is no access to bare conductors. Simply clamp around the desired wire to induce the signal, then begin tracing.


Use the Tip Sensor to trace wires in hard to reach areas.

## Use the Tip Sensor to trace wires in hard to reach areas

When used with the AT-7000-T Transmitter, the Tip Sensor pinpoints the location of energized and de-energized wires in tight, hard to reach spaces. It easily and accurately traces the targeted energized and de-energized wires in junction boxes, corners, walls, floors and ceilings to a depth of up to 20 feet.


Non-contact voltage (NCV) detection.

## Non-contact voltage (NCV) detection

The NCV feature extends functionality of the AT-7000-R Receiver by detecting energized wires from 90 to 600 V and 40 to 400 Hz without the use of the AT-7000-T Transmitter. Its adjustable sensitivity fits a range of applications, from detecting presence of voltage (higher sensitivity) to precisely pinpointing a hot wire in a bundle (lower sensitivity).


Trace wires in hard to reach places with the TIC 410A.

## Hot Stick attachment

The optional TIC 410A Hot Stick accessory enables easier tracing of wires in high ceilings, walls and along floors.

**TIC 410A**
Hot Stick Attachment

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# AT-7000 Advanced Wire Tracer

| Specifications | AT-7000-R Receiver | AT-7000-T Transmitter | SC-7000 Signal Clamp |
|---|---|---|---|
| **TFT LCD Color Display size** | 3.5 in (8.89 cm) | 1.77 in (4.5 cm) | – |
| **TFT LCD Color Display Dimensions** | 2.76 x 2.07 in (7.01 x 5.26 cm) | 1.1 x 1.38 in (2.79 x 3.51 cm) | – |
| **TFT LCD Color Display Resolution** | 320px x 240px | 128px x 160px | – |
| **TFT LCD Color Display type** | TFT LCD | RGB x TFT | – |
| **TFT LCD Color Display** | • | • | – |
| **Backlight** | • | • | – |
| **mDDR** | 64 MB | 64 MB | – |
| **FLASH memory** | 128 MB | 128 MB | – |
| **Audio** | 95 dB | – | – |
| **Operating Temperature range** | 0 to 120°F (-17.77 °C to 49°C) | 0 to 120°F (-17.77°C to 49°C) | 0 to 120°F (-17.77°C to 49°C) |
| **Storage Temperature** | -40 to 150°F (-40 to 65.5°C) | -40 to 150°F (-40 to 65.5°C) | -40 to 150°F (-40 to 65.5°C) |
| **Operating Humidity** | 95% R.H max | 95% R.H max | 95% R.H max |
| **Operating altitude** | 2000 m | 2000 m | 2000 m |
| **Measurement Category** | CAT IV 600 V | CAT IV 300 V | CAT IV 600 V |
| **Transient protection** | – | 8.00 kV (1.2/50 uS surge) | – |
| **Pollution degree** | 2 | 2 | 2 |
| **Drop test** | 3.28 ft (1 m) | 3.28 ft (1 m) | 3.28 ft (1 m) |
| **Power Supply** | 4xAA Alkaline battery | 90-270 V AC/DC, 40-400 Hz<br>**AT-7030:** BR-7000-T: LI-ION, 7.2 V, 2.2 Ah<br>**AT-7020:** 6x AA Alkaline Battery | – |
| **Power consumption** | 4xAA battery: 2W | **AT-7030:** BR-7000-T battery: 2W<br>**AT-7020:** 6xAA battery:2W<br>AC line voltage (Charging state): 10W<br>AC line voltage: 3W | – |
| **Charging voltage (BR-7000-T)** | – | 85-270 V | – |
| **Charging duration (BR-7000-T)** | – | 16 h | – |
| **Power up time** | 30 s | 20 s | – |
| **Non-Rechargeable Battery lifetime** | 9 h | 9 h | – |
| **Rechargeable Battery lifetime (BR-7000-T)** | – | 10 h | – |
| **Leakage current (non-rechargeable)** | 1.1 to 2.6 uA | 6 to 14 uA | – |
| **Leakage current (rechargeable)** | – | 1.2 to 4 uA | – |
| **IP Rating** | IP52 | IP40 | – |
| **Sampling rate** | **6.25 kHz Signal:** 62.5 kSPS<br>**32.768 kHz:** 256 kSPS<br>**NCV:** 62.5 kSPS | 62.5 kSPS | – |
| **Signal Response** | Audible beep, bargraph display, numeric display | Numeric display | – |
| **Response time** | **Smart mode:** 750 ms<br>**Tip Sensor Energized:** 300 ms<br>**Tip Sensor De-Energized:** 750 ms<br>**NCV:** 500 ms, **Battery monitoring:** 5 s | **Voltage measurement:** 1.5 s<br>**Battery monitoring:** 5 s | Instantaneous |
| **Voltage Measurement** | – | 9-300 V, DC to 400 Hz | – |
| **Non-Contact Voltage (NCV)** | 90-600 V AC | – | – |
| **LED Indicator** | **Green Flashing:** Signal Detection | **Red:** Energized<br>**OFF:** De-Energized<br>**Orange:** Over voltage | – |
| **Operating Frequency** | **Energized:** 6.25 kHz<br>**De-Energized:** 32.768 kHz | **Voltage measurement:** 40-400 Hz<br>**Energized:** 6.25 kHz<br>**De-Energized:** 32.768 kHz | **Energized:** 6.25 kHz<br>**De-Energized:** 32.768 kHz |
| **Acoustic Indication** | 1 kHz Piezo Buzzer | – | – |
| **Range Detection (Open air)** | – | – | – |
| **Smart mode** | **Pinpointing:** Around 1.97 in (5 cm) radius<br>**Direction indication:** Up to 5 ft (152.4 cm) | – | – |
| **TIP Sensor: Energized** | **Pinpointing:** Around 1.97 in (5 cm)<br>**Detection:** Up to 22 ft (670.56 cm) | – | – |
| **TIP Sensor: De-Energized** | **Pinpointing:** Around 1.97 in (5 cm) radius<br>**Detection:** Up to 14 ft (426.72 cm) | – | – |
| **NCV** | **Detection:** Up to 4 ft (121.92 cm) | – | – |
| **Current Output (Low) Energized** | – | 53 mA rms | – |
| **Current Output (High) Energized** | – | 92 mA rms | – |
| **Current output (Low)** with BR-7000-T Energized | – | 53 mA rms | – |
| **Current output (High)** with BR-7000-T Energized | – | 120 mA rms | – |
| **Voltage output (Low) De-Energized** | – | 60 Vp-p | – |
| **Voltage output (High) De-Energized** | – | 120 Vp-p | – |
| **Voltage output (Clamp) De-Energized** | – | 180 Vp-p | – |
| **Jaw Opening** | – | – | 2 in (5.08 cm) |
| **Fuse** | – | 3.15A, 600V MAX, SLOW 5X20MM | – |
| **Dimensions** | 10.92 x 4.43 x 2.55 in (27.75 x 11.25 x 6.483 cm) | 8.5 x 4 x 2.2 in (21.59 x 10.16 x 5.59 cm) | 8.2 x 3.2 x 1.68 in (20.83 x 8.13 x 4.27 cm) |
| **Weight** | 1.20 lb (0.544 kg) | 1.30 lbs (0.593 kg) | 0.648 lb (0.294 kg) |

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AT-7030

**AT-7020**
Advanced Wire
Tracer Kit

**AT-7030**
Advanced Wire
Tracer Kit

# AT-7000 Wire Tracer Kits

| | AT-7020 Kit | AT-7030 Kit | Description |
|---|---|---|---|
| **AT-7000-R** Receiver | • | • | Receiver unit with Smart Sensor, Tip Sensor and color TFT LCD display |
| **AT-7000-T** Transmitter | • | • | Transmitter with two transmission frequencies (6 kHz and 33 kHz) and three power modes (High, Low, Clamp) |
| **TL-7000** Test Leads | • | • | Test Lead Set with alligator clips (Black & Red), 30 ft. grounding lead, power cord, plug adaptors and light socket adapter |
| **CC-7000** Carrying Case | • | • | Custom Amprobe hard carrying case that securely holds transmitter, receiver, signal clamp, test leads and accessories |
| **SC-7000** Signal Clamp | *(optional)* | • | Signal Clamp accessory for inducing a signal into wires without access to bare conductors |
| **HS-1** Hanger | *(optional)* | • | Three-way magnetic hanger for AT-7000-T transmitter, allowing for convenient hanging of unit, placement on belt or as a stand |
| **BR-7000-T** Booster Battery | *(optional)* | • | Signal Booster Rechargeable Battery Pack (LI-ION, 7.2 V, 2.2 Ah), provides increased signal transmission power in High and Clamp modes |
| **BR-7000C** Battery Charger | *(optional)* | *(optional)* | External battery charger for BR-7000-T |
| **Kit Specifications** | | | |
| **Kit Weight** | 8.95 lbs (4.06 kg) | 10.30 lbs (4.67 kg) | |
| **Case Size** | 16 x 13 x 7 in (40.6 x 33 x 17.8 cm) | 16 x 13 x 7 in (40.6 x 33 x 17.8 cm) | |

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For complete information about Amprobe test tools, visit **www.Amprobe.com**