

## TECHNICAL DATA

# Fluke 2052 Advanced Wire Tracer



### FASTER, EASIER, SAFER TROUBLESHOOTING

- Locate energized and de-energized wires quickly and accurately
- Find breaks or opens and shorts
- Identify breakers and fuses
- CAT IV 600 V

### Built to keep you safe

The Fluke 2052 Advanced Wire Tracer accurately and safely troubleshoots energized and de-energized wires in residential, commercial, and industrial environments up to CAT IV 600 V. This CAT rating offers the highest protection available on any wire tracer. It's designed to protect you from the most dangerous levels of transient overvoltage, spikes up to 8,000 V, that can occur in industrial and utility environments. This is especially important for scenarios you may encounter in environments like industrial plants, factories, and hospitals where critical equipment cannot be taken offline.

### Wire tracing customized for your application

Whether troubleshooting electrical wiring and equipment in residential homes, commercial buildings, or high-voltage utility plants, the Fluke 2052 can find breaks or opens and shorts. Its different modes and functions give you the flexibility to troubleshoot a wide range of electrical wiring and circuitry problems you may encounter on the job.

### Four receiver tracing modes

The 2052 Receiver detects the signal in wires and cables using two methods: passive tracing without the transmitter for non-contact voltage detection and active tracing with the transmitter for all other modes. The receiver's tip sensor can trace wires in corners, tight spaces, and junction boxes.

- **Quick Scan** mode for quick signal identification
- **Precision** mode for more precise detection of a wire
- **Breaker** mode for easy breaker and fuse identification based on the highest recorded signal detected from the transmitter
- **Non-contact voltage detection** mode to trace energized wires without the use of the transmitter



### Three transmitter power modes

The 2000T Transmitter works on energized and de-energized circuits up to CAT IV 600 V and features high, low, and loop modes. These modes change the strength of the induced signal and can help provide more accurate results, depending on the circuit you're tracing.

- **High** mode for normal energized and de-energized circuits
- **Low** mode for precision tracing with a low signal to reduce coupling to nearby wires and metal objects
- **Loop** mode for closed loop de-energized circuits

### Two transmitter output frequencies

The 2000T automatically senses whether the system is energized or de-energized and selects a 6 kHz or 33 kHz output frequency.

### Eight receiver sensitivity levels

More sensitivity levels mean more flexibility and accuracy when tracing.



### Complete kit

The Fluke 2052 Advanced Wire Tracer Kit conveniently comes with everything required to start tracing wires and circuits. The accessory kit includes test leads, test probes, blade and round outlet adapters, and alligator clips to connect the transmitter to electrical systems. Connecting the transmitter to a bare conductor with the included alligator clips and test leads will always provide the most accurate results. However, in situations where a direct connection to a bare conductor is not available, the included i400 AC Current Clamp can be used with the "Loop" mode to induce a boosted 6 kHz signal through the insulation. The kit also includes batteries and a hard carrying case.



## Specifications

|                                    | 2052R Receiver  | 2000T Transmitter   | i400 AC Current Clamp             |
|------------------------------------|---|---|-----------------------------------|
| <b>General</b>                     |   |   |                                   |
| Measurement category               | CAT IV 600 V  | CAT IV 600 V  | CAT IV 600 V, CAT III 1000 V      |
| Operating voltage                  | 600 V AC/DC   | 600 V AC/DC   | 1000 V AC                         |
| Operating frequency                | Energized: 6.25 kHz<br>De-Energized: 32.768 kHz   | Energized/Loop: 6.25 kHz<br>De-Energized: 32.768 kHz  | N/A                               |
| Signal indications                 | Numeric, bar graph display and audible beep   | LEDs and audible beep   | N/A                               |
| Response time                      | Tip Sensor (Energized/De-Energized): 500 ms<br>NCV: 500 ms<br>Battery monitoring: 5 s   | Line voltage monitoring: 1 s<br>Battery voltage monitoring: 5 s   | N/A                               |
| Current output of signal (typical) | N/A   | <b>Energized circuit:</b><br>High mode: 60 mA rms<br>Low mode: 30 mA rms<br><b>De-energized circuit:</b><br>High mode: 110 mA rms<br>Low mode: 40 mA rms<br>Loop mode with test leads: 160 mA rms<br>Loop mode with i400 AC Current Clamp: 385 mA rms   | N/A                               |
| Signal voltage output (nominal)    | N/A   | <b>Energized circuit:</b><br>High mode: 14 W @ 230 V ac/50 Hz, 3.33 k $\Omega$ @ 230 V ac<br>Low mode: 4.6 W @ 230 V ac/50 Hz, 11.5 k $\Omega$ @ 230 V ac<br><b>De-energized circuit:</b><br>High mode: 31 V RMS, 140 Vp-p, 0.86 W @ 1 k $\Omega$ load<br>Low mode: 27.5 V RMS, 120 Vp-p, 0.1 W @ 1 k $\Omega$ load<br>Loop mode with test leads: 32 V RMS, 140 Vp-p, 0.87 W @ 1 k $\Omega$ load<br>Loop mode with i400 AC Current Clamp: 31 mV, 0.89 W @ 1 $\Omega$ load | N/A                               |
| Range detection (open air)         | <b>Tip Sensor: Energized</b><br>Max distance via air: up to 6.1 m (20 ft)<br>Pinpointing: approx. 5 cm (1.97 in)<br><b>Tip Sensor: De-Energized</b><br>Max distance via air: up to 4.5 m (14.7 ft)<br>Pinpointing: approx. 5 cm (1.97 in)<br><b>NCV (40 Hz to 400 Hz)</b><br>Max. sensitivity: 90 V up to 2 m<br>Min. sensitivity: 600 V up to 1 cm | N/A   | N/A                               |
| Current range                      | N/A   | N/A   | 400 A                             |
| Basic accuracy                     | N/A   | N/A   | 2 % + 0.06 A<br>(45 Hz to 400 Hz) |

## Specifications (continued)

|                             | 2052R Receiver   | 2000T Transmitter  | i400 AC Current Clamp  |
|-----------------------------|--|--|--|
| <b>Display</b>              |  |  |  |
| Display size                | LCD 63 mm (2.5 in)   | LEDs   | N/A  |
| Display dimensions (W x H)  | 37 mm x 49 mm (1.45 x 1.93 in)   | N/A  | N/A  |
| Display Resolution          | 240 px x 320 px  | N/A  | N/A  |
| Display type                | TFT LCD  | LEDs   | N/A  |
| Display color               | 16-bit   | Operating mode LEDs: red<br>Battery status LEDs: green, yellow, red  | N/A  |
| Backlight                   | Yes  | N/A  | N/A  |
| <b>Environmental</b>        |  |  |  |
| Operating temperature       | -20 °C to 50 °C<br>(-4 °F to 122 °F)   | -20 °C to 50 °C<br>(-4 °F to 122 °F)   | -20 °C to 50 °C<br>(-4 °F to 122 °F)   |
| Operating humidity          | 45%: -20 °C to <10 °C or 40 °C to 50 °C<br>(-4 °F to <50 °F or 104 °F to 122 °F)<br>95% (non-condensing): 10 °C to <30 °C<br>(50 °F to 86 °F)<br>75%: 30 °C to <40 °C (86 °F to <104 °F) | 45%: -20 °C to <10 °C or 40 °C to 50 °C<br>(-4 °F to <50 °F or 104 °F to 122 °F)<br>95% (non-condensing): 10 °C to <30 °C<br>(50 °F to 86 °F)<br>75%: 30 °C to <40 °C (86 °F to <104 °F) | 10 °C to <30 °C<br>(95%: 50 °F to <86 °F)<br>30 °C to <40 °C<br>(75%: 86 °F to <104 °F)<br>40 °C to <50 °C<br>(45%: 104 °F to <122 °F) |
| Operating altitude          | 2000 m (6561 ft)   | 2000 m (6561 ft)   | 2000 m (6561 ft)   |
| Transient protection        | N/A  | 8.00 kV (1.2/50µs surge)   | N/A  |
| Pollution degree            | 2  | 2  | 2  |
| IP rating                   | IP 40  | IP 40  | IP 40  |
| Drop test                   | 1 m (3.28 ft)  | 1 m (3.28 ft)  | 1 m (3.28 ft)  |
| <b>Mechanical</b>           |  |  |  |
| Power supply                | 4 x AA (alkaline)  | 8 x AA (alkaline)  | N/A  |
| Power consumption (typical) | 110 mA   | High/low mode: 70 mA<br>Loop mode with Clamp: 90 mA<br>Consumption without signal transmission: 10 mA  | N/A  |
| Battery life                | Approx. 16 h   | High/low mode: approx. 25 h<br>Loop mode: approx. 18 h   | N/A  |
| Low battery indication      | Yes  | Yes  | N/A  |
| Fuse                        | N/A  | 1.6 A, 700 V, fast-acting,<br>Ø 6 x 32 mm, 50 kA interrupt   | N/A  |
| Maximum conductor size      | N/A  | N/A  | 32 mm (1.26 in)  |
| Dimensions (L x W x H)      | Approx. 183 x 75 x 43 mm<br>(7.2 x 2.95 x 1.69 in)   | Approx. 183 x 93 x 50 mm<br>(7.2 x 3.66 x 1.97 in)   | Approx. 150 x 70 x 30 mm<br>(5.9 x 2.75 x 1.18 in)   |
| Weight                      | Approx. 0.27 kg (0.6 lb)   | Approx. 0.57 kg (1.25 lb)  | Approx. 0.114 kg (0.25 lb)   |



**Specifications (continued)**
**2000ACC Test Lead Accessory Kit**

| <b>General</b>                   |   |
|----------------------------------|---|
| Includes                         | 2x 1 m Test leads (red, black), 1x 7 m Test lead (green)<br>2x Test probes (black), 2x Alligator clips (red, black)<br>2x Outlet blade adapters (red, black), 2x Outlet round adapters (red, black) |
| Measurement category             | CAT IV 600 V (test leads), CAT II 1000 V (test probes), CAT IV 600 V (alligator clips), CAT II 300 V (outlet adapters)  |
| Operating voltage and current    | 600 V, 10 A max. (red/black leads), 600 V, 10 A max. (green lead), 1000 V, 8 A max. (black probe)<br>600 V, 10 A max. (alligator clips), 300 V, 10 A max. (outlet adapters)                         |
| Operating temperature            | 0 °C to 50 °C (32 °F to 122 °F)   |
| Operating humidity               | 10 °C to <30 °C (95 %: 50 °F to <86 °F), 30 °C to <40 °C (75 %: 86 °F to <104 °F),<br>40 °C to <50 °C (45 %: 104 °F to <122 °F)   |
| Storage temperature and humidity | 0 °C to 60 °C (32 °F to 140 °F), <95 % (non-condensing)   |
| Operating altitude               | 2000 m (6561 ft)  |
| Pollution degree                 | 2   |
| Water and dust resistance        | IP 20   |
| Drop proof                       | 1 m (3.28 ft)   |
| Dimensions                       | Red/black leads: 1 m (3.28 ft), Green lead: 7 m (22.97 ft), Alligator clips: approx. 95 x 45 x 24 mm (3.74 x 1.77 x 0.94 in),<br>Outlet adapters: 72 x 18 x 18 mm (2.83 x 0.71 x 0.71 in)           |
| Weight                           | Approx. 0.4 kg (0.88 lb)  |

## Ordering information

### FLUKE 2052

#### What's included

- Fluke 2052R Advanced Wire Tracer Receiver
- Fluke 2000T Advanced Wire Tracer Transmitter
- i400 AC Current Clamp
- Fluke 2000ACC Test Lead Accessory Kit for 2052/2062
- Premium hard carrying case
- Batteries
- Quick reference guide

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