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- Application notes
- Product specifications
- User manuals

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AMPROBE®

ECB50A, ECB50A-E, ECB50A-FGIS
Circuit Breaker Finder and AC Cable Tracer

User Manual
- **Mode d'emploi**
- **Bedienungshandbuch**
- **Manuale d'Uso**
- **Manual de uso**

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PN 2099447
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English

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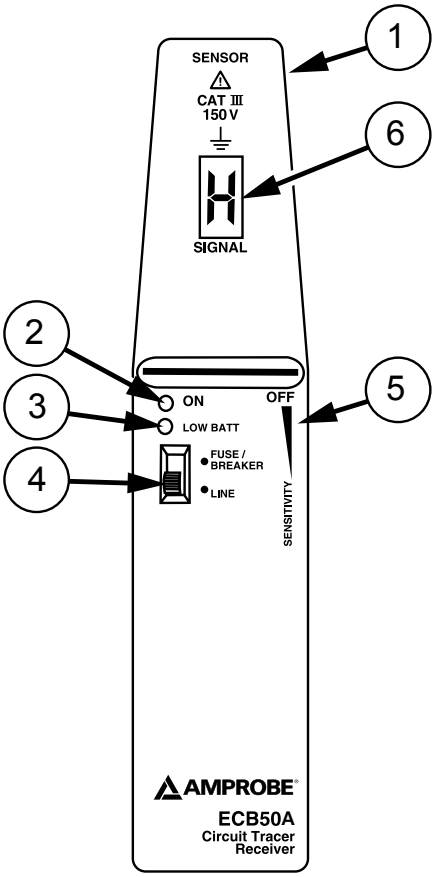
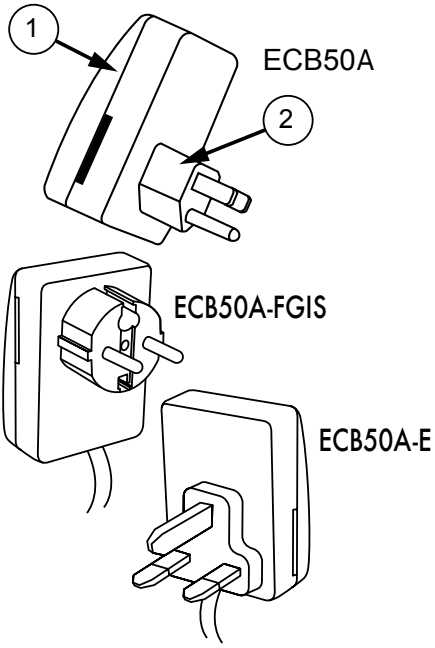
Contents



ECB50A Receiver

1	Sensor
2	On / Pulse LED
3	Low Battery Indicator
4	Fuse- Line mode switch
5	On/Off-and sensitivity adjustment switch
6	Code Display. “H” indicates signal received.



ECB50A Transmitter

1	Handgrip
2	Plug connector

Safety Information

To avoid possible electric shock or personal injury, follow these guidelines:

- **Do not use the transmitter/receiver if it is damaged. Before you use the transmitter/receiver, inspect the case. Look for cracks or missing plastic. Pay particular attention to the insulation surrounding the connectors.**
- **If this product is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.**
- **Do not use the transmitter/receiver if it operates abnormally. Protection may be impaired. When in doubt, have the transmitter/receiver serviced.**
- **Do not attempt to repair this transmitter/receiver. There are no user serviceable parts.**
- **Use caution when working above 30 V ac rms, 42 V peak, or 60 V dc. Such voltages pose a shock hazard.**
- **Do not operate the transmitter/receiver with the battery door removed or loosened.**
- **CAT III equipment is designed to protect against transients in equipment in fixed-equipment installations, such as distribution panels, feeders and short branch circuits, and lighting systems in large buildings.**

Symbols Used in this Manual

Symbols on the instrument and in the instruction manual:

⚠	Warns of potential danger. Refer to the manual	⚠	Dangerous Voltage
⧈	Double insulated. Continuous double or reinforced insulation complies to IEC 536, Class II	CE	Symbol of conformity, confirms conformity with relevant EU directives. The instrument complies with the EMC Directive (89/ 336/ EEC) specifically standards EN50081-1 and EN50082-1, as well as the Low Voltage Directive (73/23/EEC) described in the standard EN61010-1.
		UL	UL 1244

Introduction

The ECB50A Circuit Breaker Finder and AC Cable Locator consists of a transmitter and a receiver. Similar to radio signals, the transmitter functions by means of a coded carrier sending a signal into the cable. Using the built-in sensor, the receiver can indicate the transmitted code as a symbol on the display as well as providing an audible signal. The audible sound level automatically intensifies as the source is approached.

The ECB50A is the ideal tracing instrument for sorting out AC wires in a bundle of cables, tracing lines in overhead installations and walls, and assigning current circuits to fuses.

Using the ECB50A you can:

- Sort out a single wire in a bundle of cables.
- Trace and find AC cable in walls.
- Assign current circuits to fuses within fuse panels.
- Switch between locating cable lines or locating fuses.
- Adjust sensitivity when tracing lines and locating cables.

Finding Circuit Breakers and Fuses See Figure -1-

1. Turn on the ECB50A receiver using the On/Off switch.
2. Set the Fuse/Line switch to the Fuse position.
3. Plug the ECB50A transmitter into the voltage socket connected to the fuse or circuit breaker.
4. Turn the On/Off switch toward the top of the receiver to set sensitivity to the highest sensitivity level. Turn toward the bottom of the receiver to reduce sensitivity.
5. Position the receiver at a 90 degree angle (perpendicular) over the top of the fuse or circuit breaker. Adjust the sensitivity level until the “H” code is displayed along with a blinking LED and an audible tone.
6. If a reception signal is received at several fuses/circuit breakers, use the On/Off switch to reduce the sensitivity until the minimum reception is received. Repeat this procedure until only one fuse indicates a reception signal. This fuse/circuit breaker protects the socket to which the transmitter has been connected. The tracing depth amounts to approximately 10 cm (4 in).

⚠Caution

Keep hands clear of wiring when tracing wires or fuses in distribution panels.

Locating and Tracing Cables in Walls See Figure -2-

1. Turn on the receiver using the On/Off switch.
2. Set the Fuse/Line switch to the Line position.
3. Plug the ECB transmitter into the socket for AC line to be traced.
4. Turn the On/Off switch toward the top of the receiver to set sensitivity to the highest sensitivity level. Turn toward the bottom of the receiver to reduce sensitivity.
5. Place the ECB50A receiver close to the transmitter to receive a confirmation signal that both ECB50A test components are active and working. The receiver is receiving a signal from the transmitter when it displays the letter "H" on the display and the LED is blinking. Also an audible signal is present with varied loudness depending on strength of signal received.
6. Next, begin locating the signal in the cable to be traced by circling around the socket. When you receive a signal, reduce the sensitivity until the minimum signal is received. If the signal decreases, the receiver is either moving off the AC cable path or the cable is installed deeper into the wall. If necessary, adjust the sensitivity level to increase the signal strength. Depending on local conditions, the tracing depth amounts to approx. 0 to 40 cm (0 to 15 inches).

Sorting Out a Single Wire in a Bundle of Cables See Figure -3-

1. Turn on the receiver using the On/Off switch.
2. Set the Fuse/Line switch to the Line position.
3. Plug the ECB transmitter into the socket of the AC wire to be traced.
4. Turn the On/Off switch toward the top of the receiver to set sensitivity to the highest sensitivity level. Turn toward the bottom of the receiver to reduce sensitivity.
5. Place the ECB50A receiver close to the transmitter to receive a confirmation signal that both ECB50A test components are active and working. The receiver is receiving a signal from the transmitter when it displays the letter "H" on the display and the LED is blinking. Also an audible signal is present with varied loudness depending on strength of signal received.

6. Next, try to locate the transmitted signal at the bundle of cables. When you receive a signal, reduce the sensitivity until the minimum reception of the signal is heard and seen. If necessary, increase the sensitivity somewhat to confirm the signal.

Product Maintenance

As long as the instructions in this manual are followed, no special maintenance is required.

Cleaning

Disconnect the instrument from all circuits. To clean the transmitter/receiver, use a soft cloth moistened with water. To avoid damage to the plastic components do not use benzene, alcohol, acetone, ether, paint thinner, lacquer thinner, ketone or other solvents to clean the transmitter/receiver. Allow a recovery time of 6 hours after cleaning before operating the instrument.

Replacing the Battery See Figure -4-

A red LED indicates that the battery needs to be replaced. To replace the battery:

1. Turn off the instrument using the On/Off switch
2. Loosen the screw on the back of the instrument and open the case.
3. Remove the battery and insert the new 9 V alkaline battery using the correct polarity. Recycle your discharged battery.
4. Reassemble the case.
5. Insert the screw and tighten it.

Specifications

Humidity: Valid for 23 °C ± 5°, for less than 80% relative humidity)

Transmitter

Voltage range: 100 V to 125 V for ECB50A; 100 V to 250 V for ECB50A-E and ECB50A-FGIS

Power consumption: approximately 1 W

Frequency range: 30 to 70 Hz for ECB50A; 50 to 60 Hz for ECB50A-E, ECB50A-FGIS

Transmission frequency: approximately 8 kHz

Transmitter frequency: approximately 10 Hz

Temperature range: -10 °C to 40 °C at maximum 80% relative humidity

Dimensions: 70 x 55 x 86 mm (2.8 x 2.1 x 3.4 in)

Weight: approximately 65 g (2.3 oz)

Overvoltage category: CAT III 150 V ECB50A, Cat III 300 V ECB50A-E, and ECB50A-FGIS, UL 1244

Pollution degree: 2

Protection class: IP20

Receiver

Tracing depth for fuse identification: approximately 0 to 10 cm (4 in) depending on local conditions

Tracing depth for cable location: approximately 0 to 40 cm (15 in) depending on local conditions.

Sensitivity setting: Using On/Off control potentiometer

Low battery indication: 7.5 V

Switching fuse/cable: manually using Fuse-Line switch

Temperature range: -10 °C to 40 °C (14 ° to 104 °F) at maximum 80% relative humidity

Dimensions: 22 x 162 x 34 mm (0.9 x 6.4 x 1.3 in)

Weight: approximately 100 g (3.5 oz)

Overvoltage category: CAT III 150 V ECB50A, Cat III 300 V ECB50A-E, and ECB50A-FGIS, UL 1244

Pollution degree: 2

Protection class: IP20

Power supply: 9 V battery, IEC 6LR61, Alkaline only

Applicable directives and standards: EMC: EN 50081-1, EN 50082-1 ECB50A, Cat III 300 V ECB50A-E, and ECB50A-FGIS, UL 1244 Low Voltage Directive: EN 61010-1 ECB50A-E and ECB50A-FGIS

Limited Warranty and Limitation of Liability

Your Amprobe product will be free from defects in material and workmanship for 1 year from the date of purchase. This warranty does not cover fuses, disposable batteries or damage from accident, neglect, misuse, alteration, contamination, or abnormal conditions of operation or handling. Resellers are not authorized to extend any other warranty on Amprobe's behalf. To obtain service during the warranty period, return the product with proof of purchase to an authorized Amprobe Test Tools Service Center or to an Amprobe dealer or distributor. See Repair Section for details. THIS WARRANTY IS YOUR ONLY REMEDY. ALL OTHER WARRANTIES - WHETHER EXPRESS, IMPLIED OR STAUTORY - INCLUDING IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, ARE HEREBY DISCLAIMED. MANUFACTURER SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, ARISING FROM ANY CAUSE OR THEORY. Since some states or countries do not allow the exclusion or limitation of an implied warranty or of incidental or consequential damages, this limitation of liability may not apply to you.

Repair

All test tools returned for warranty or non-warranty repair or for calibration should be accompanied by the following: your name, company's name, address, telephone number, and proof of purchase. Additionally, please include a brief description of the problem or the service requested and include the test leads with the meter. Non-warranty repair or replacement charges should be remitted in the form of a check, a money order, credit card with expiration date, or a purchase order made payable to Amprobe® Test Tools.

In-Warranty Repairs and Replacement – All Countries

Please read the warranty statement and check your battery before requesting repair. During the warranty period any defective test tool can be returned to your Amprobe® Test Tools distributor for an exchange for the same or like product. Please check the "Where to Buy" section on www.amprobe.com for a list of distributors near you. Additionally, in the United States and Canada In-Warranty repair and replacement units can also be sent to a Amprobe® Test Tools Service Center (see address below).

Non-Warranty Repairs and Replacement – US and Canada

Non-warranty repairs in the United States and Canada should be sent to a Amprobe® Test Tools Service Center. Call Amprobe® Test Tools or inquire at your point of purchase for current repair and replacement rates.

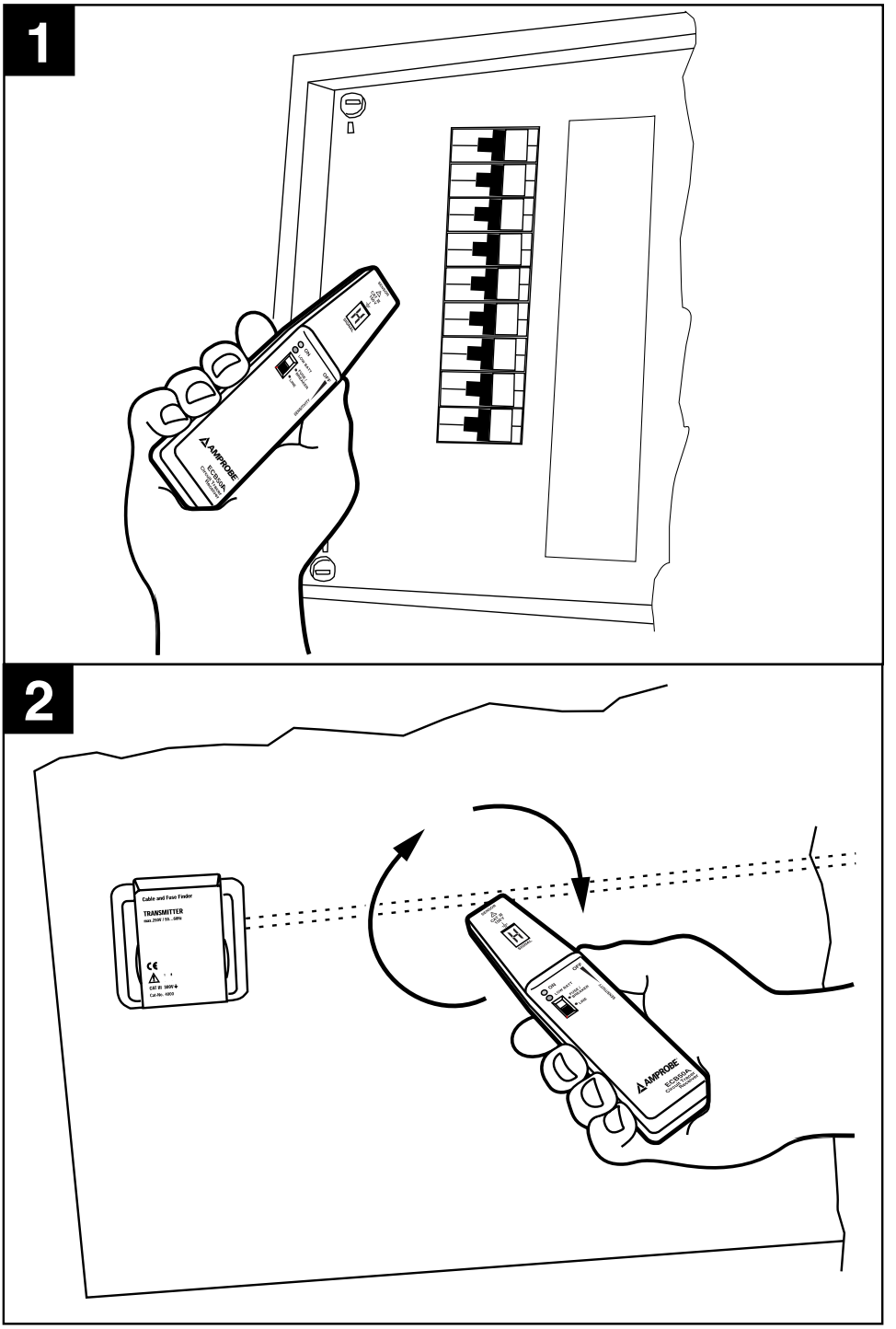
In USA
Amprobe Test Tools
Everett, WA 98203
Tel: 877-AMPROBE (267-7623)

In Canada
Amprobe Test Tools
Mississauga, ON L4Z 1X9
Tel: 905-890-7600

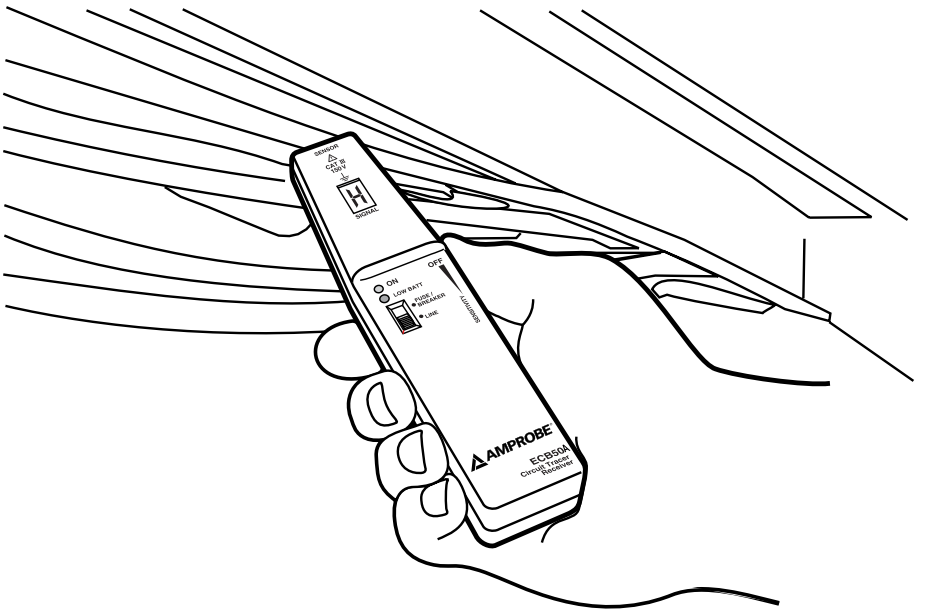
Non-Warranty Repairs and Replacement – Europe
European non-warranty units can be replaced by your Amprobe® Test Tools distributor for a nominal charge. Please check the "Where to Buy" section on www.amprobe.com for a list of distributors near you.

European Correspondence Address*
Amprobe® Test Tools Europe
P.O. Box 1186
5602 BD Eindhoven
The Netherlands

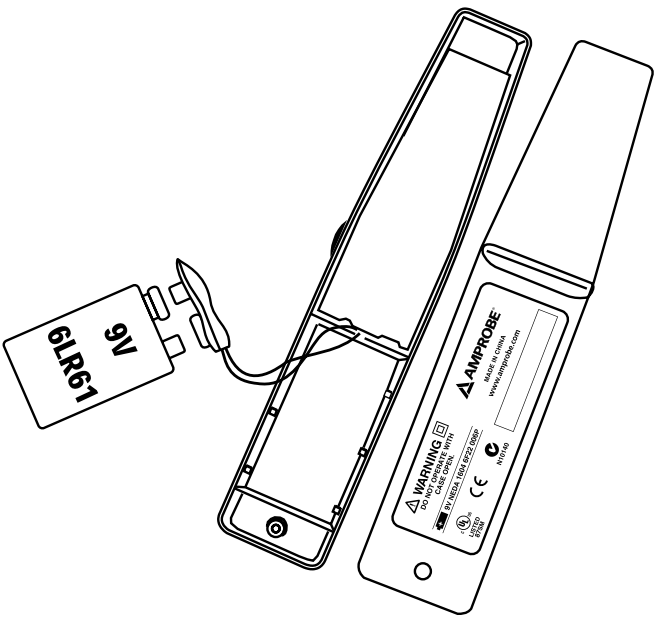
*(Correspondence only – no repair or replacement available from this address. European customers please contact your distributor.)


1
2
Cable and Fuse Finder
TRANSMITTER
AMPROBE
ACD-60A

3


SENSOR
CAT III
ON
LOW BATT
FUSE /
BREAKER
LINE
OFF
AMPROBE
ECB50A

4


9V
6LR61
AMPROBE
MADE IN CHINA
www.amprobe.com
WARNING
DO NOT OPEN WITH CASE OPEN.
BY NEDA 1604 6F22 006P

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ECB50A, ECB50A-E, ECB50A-FGIS

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Francias

French

Détecteurs de câbles secteur et de disjoncteurs ECB50A, ECB50A-E et ECB50A-FGIS

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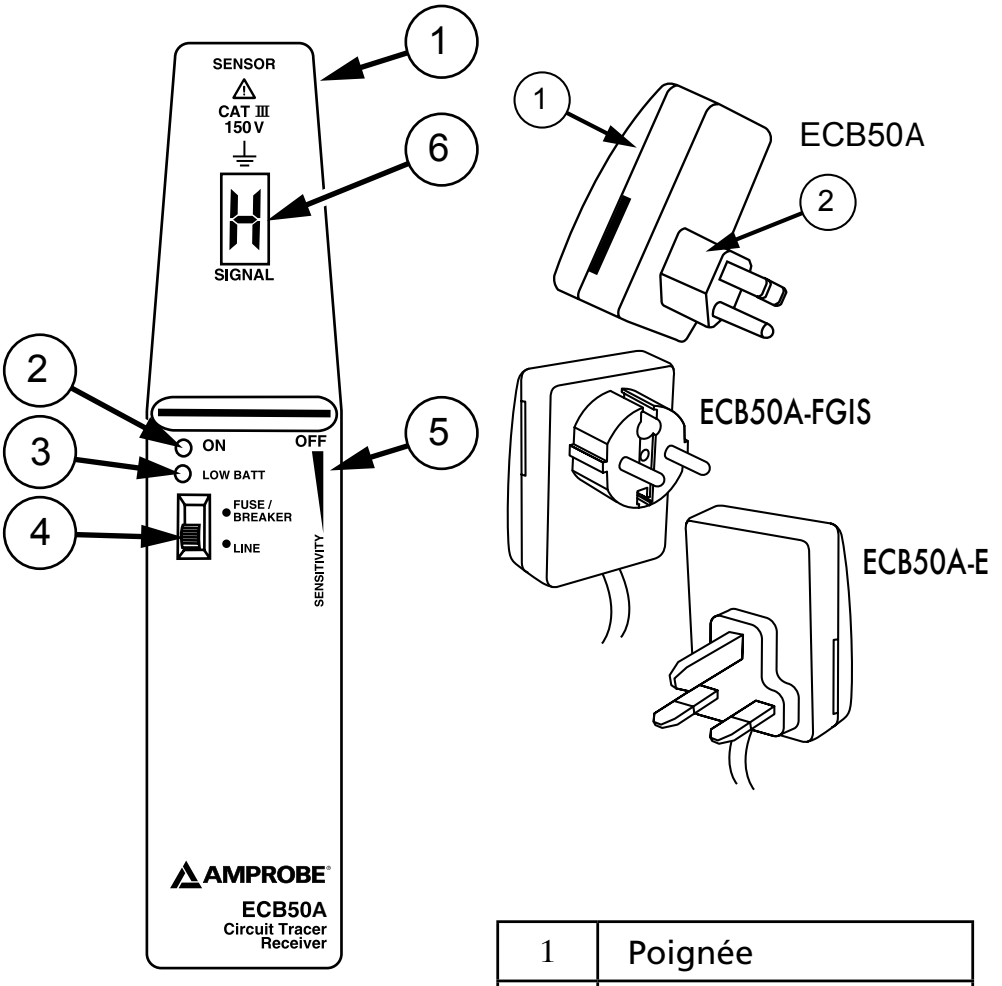

1	Poignée
2	Connecteur

Récepteur ECB50A

1	Détecteur
2	Témoin Marche / Impulsion
3	Indicateur de pile faible
4	Commutateur de mode fusible-secteur
5	Bouton de réglage de sensibilité et marche/arrêt
6	Affichage des codes. « H » indique un signal reçu.

Consignes de sécurité

Pour éviter tout risque d'électrocution ou de blessure corporelle, respecter les consignes suivantes :

- **Ne pas utiliser l'émetteur/récepteur s'il est endommagé. Avant d'utiliser l'émetteur/récepteur, inspecter son boîtier. Rechercher les éventuelles fissures ou les parties de plastique manquantes.Faire particulièrement attention à l'isolant entourant les connecteurs.**
- **Ne pas utiliser l'émetteur/récepteur s'il ne fonctionne pas normalement. Sa protection est peut-être défectueuse. En cas de doute, faire réviser l'émetteur/récepteur.**
- **Ne pas tenter de réparer cet émetteur/récepteur. Il ne contient pas de pièces pouvant être remplacées par l'utilisateur.**
- **Ne pas tenter de réparer cet émetteur/récepteur. Il ne contient pas de pièces pouvant être remplacées par l'utilisateur.**
- **Procéder avec prudence en travaillant avec des tensions supérieures à 30 V c.a. efficace, 42 V maximum ou 60 V c.c. Ces tensions présentent un risque d'électrocution.**
- **Ne pas utiliser l'émetteur/récepteur avec le couvercle de batterie démonté ou desserré.**
- **Les appareils CAT III sont conçus pour protéger contre les tensions transitoires dans les installations d'équipements fixes, notamment sur les panneaux de distribution électrique, les lignes d'alimentation et les circuits dérivés courts ainsi que les installations d'éclairage dans les grands bâtiments.**

Symboles utilisés dans ce mode d'emploi

Symboles sur l'instrument et dans le mode d'emploi :

⚠	Signale un danger potentiel. Se reporter au mode d'emploi	⚠	Tension dangereuse
⧈	Double isolation. Isolation renforcée ou double continue conforme à CEI 536, classe II	Π	Ce symbole confirme la conformité aux directives EU pertinentes. L'appareil est conforme à la directive CEM (89/336/CEE) aux normes spécifiques EN50081-1 et EN50082-1, et à la directive sur les basses tensions (73/23/CEE) décrite dans la norme EN61010-1.
		UL	UL 1244