

ENGLISH


User manual



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1 PRECAUTIONS AND SAFETY MEASURES

The instrument has been designed in compliance with directive IEC/EN61010-1 relevant to electronic measuring instruments. For your safety and in order to prevent damaging the instrument, please carefully follow the procedures described in this manual and read all notes preceded by symbol  with the utmost attention. Before and after carrying out measurements, carefully observe the following instructions:

- Do not carry out any measurement in humid environments.
- Do not carry out any measurements in case gas, explosive materials or flammables are present, or in dusty environments.
- Avoid any contact with the circuit being measured if no measurements are being carried out.
- Avoid any contact with exposed metal parts, with unused measuring probes, circuits, etc.
- Do not carry out any measurement in case you find anomalies in the instrument such as deformation, breaks, substance leaks, absence of display on the screen, etc.
- Pay special attention when measuring voltages higher than 20V, since a risk of electrical shock exists.

In this manual, and on the instrument, the following symbols are used:



Warning: observe the instructions given in this manual; improper use could damage the instrument or its components.



Double-insulated meter



AC voltage

CAUTION



- Do not use the instrument in case it is totally or partially damaged and contact HT's After-sales Service.
- **Do not use the instrument in circuits or systems with a voltage higher than 250VAC.**
- Always check for the correct presence of phase, neutral and earth cables in the circuits to be tested.
- Do not use the instrument if the protection conditions on the circuit are limited or protection devices are damaged.
- Do not use the instrument in environments where a danger of explosion exists, or in case dust or vapours are present.
- Do not use the instrument in circuits with voltages higher than the rated ones.
- Do not use the instrument without its batteries and check that it has been installed correctly.

2 GENERAL DESCRIPTION

Model **HT38**, consisting of units **HT38T** (Transmitter) and **HT38R** (Receiver), is an instrument designed to localize protection devices within live control panels. The instrument has the following features:

- Visual LED indication and acoustic indication with variable tone
- Localization of protection devices
- Use in live circuits with a voltage up to 250VAC to earth
- LED indication of low battery charge
- Auto power off

3 PREPARATION FOR USE

3.1 INITIAL CHECKS

Before shipping, the instrument has been checked from an electric as well as mechanical point of view. All possible precautions have been taken so that the instrument is delivered undamaged.

However, we recommend generally checking the instrument in order to detect possible damage suffered during transport. In case anomalies are found, immediately contact the forwarding agent.

We also recommend checking that the packaging contains all components indicated in § 8.1.1. In case of discrepancy, please contact the Dealer.

In case the instrument should be returned, please follow the instructions given in § 9.

3.2 INSTRUMENT POWER SUPPLY

Unit HT38R is supplied by 1x9V alkaline battery type IEC 6F22 included in the package. To replace the battery, see § 7.1.

3.3 CALIBRATION

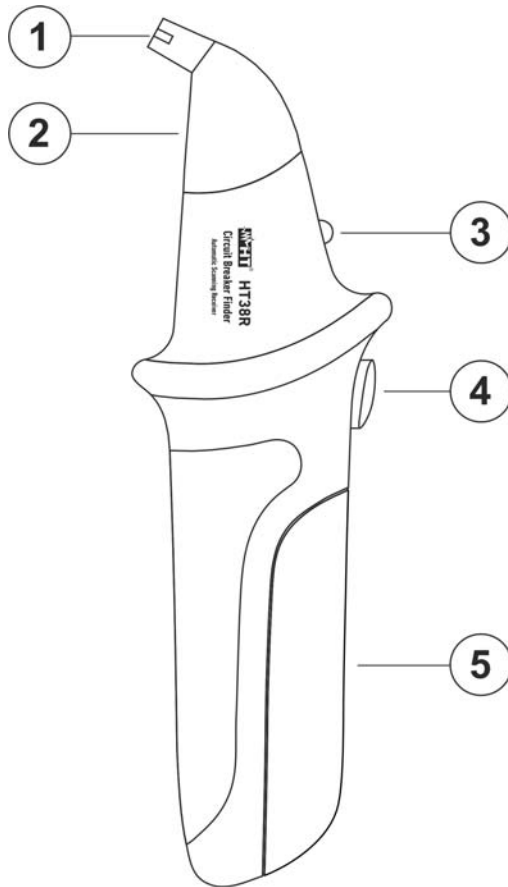
The instrument has the technical specifications described in this manual. Due to its simple structure, no periodical calibration operation is necessary.

3.4 STORAGE

In order to guarantee precise measurement, after a long storage time, wait for the instrument to come back to normal condition (see § 8).

4 DESCRIPTION OF THE INSTRUMENT

4.1 DESCRIPTION OF RECEIVER HT38R



CAPTION:


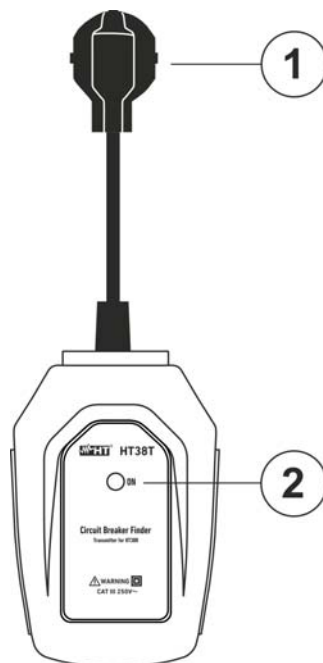
1. Sensitive element
2. Red scan LED
3. Green indication LED
4. /Reset key
5. Battery compartment

Fig. 1: Description of receiver HT38R

4.2 DESCRIPTION OF TRANSMITTER HT38T



CAPTION:

1. SHUKO Europlug
2. Signal generation LED ON

Fig. 2: Description of transmitter HT38T

5 INSTRUMENT FUNCTIONS

Instrument **HT38** consists of a Transmitter and a Receiver unit. The transmitter produces a signal which propagates through the circuit to be measured. The receiver detects the presence of this signal when correctly oriented, thus searching for the electric component to be detected. The receiver sounds with a variable tone which increases when the detected signal becomes stronger; a green LED turns on.



CAUTION

Use the instrument on a **live closed circuit** in order to guarantee the propagation of the signal generated by the transmitter.

5.1 USE OF TRANSMITTER HT38T

Transmitter HT38T is not provided with any ON/OFF button and propagation of the generated signal activates automatically after connecting it to the electric mains of the circuit to be tested (typically a live socket). The “ON” LED turns on to indicate that the transmitter operates correctly.






CAUTION

- The transmitted signal does not influence the sensitivity of electronic devices on the circuit to be tested.
- In a closed circuit, since the transmitter generates a small load current, its signal can be detected upstream through the feeder panel and the distribution transformer. The strength of the signal is reduced as it passes through the transformer in inverse proportion to the turns ratio of the transformer.
- The transmitter can be used in circuits protected by an RCD
- By operating close to inverters it is possible that the receiver turn on the green LED for effect of the strong electromagnetic field introduced by it which generates mutual couplings on the test object conductors. This condition is considered normal

5.2 USE OF RECEIVER HT38R

The receiver is provided with a /Reset button with the following modes:

- **Switching on** → Press the /Reset key to switch on the receiver. The red LED (see Fig. 1 – part 2) turns on and the buzzer sounds intermittently at regular intervals to indicate that the unit is searching for the transmitter’s signal (scanning).
- **Reset** → With the receiver switched on, press the /Reset key to reset the unit. In this condition, each scanning function in progress is zeroed. The red LED (see Fig. 1 – part 2) turns on and the buzzer sounds intermittently at regular intervals. Always use this function while keeping the receiver distant from the electric source to be tested, so that the signal generated by the transmitter is not detected.
- **Switching off** → Press and hold the /Reset key to switch off the receiver.



CAUTION

In order to preserve the internal battery, the receiver is provided with an auto power off function after **approx. 3 minutes**’ idling.

6 OPERATING INSTRUCTIONS

6.1 LOCALIZATION OF PROTECTION DEVICES WITHIN A CONTROL PANEL

1. Switch on the received by pressing the **⏻/Reset** button and check that the red LED (see Fig. 1 – part 2) is on and that the unit sounds intermittently (🔊) at regular intervals. Should it not, check and, if necessary, replace the internal battery (see § 7.1) or contact HT's After-sales Service.
2. Connect the transmitter to the electric mains through the integrated Schuko plug. The ON LED on the front of the instrument (see Fig. 2 – part 2) turns on and the unit automatically activates and sends the signal into the circuit to be tested (see Fig. 3).

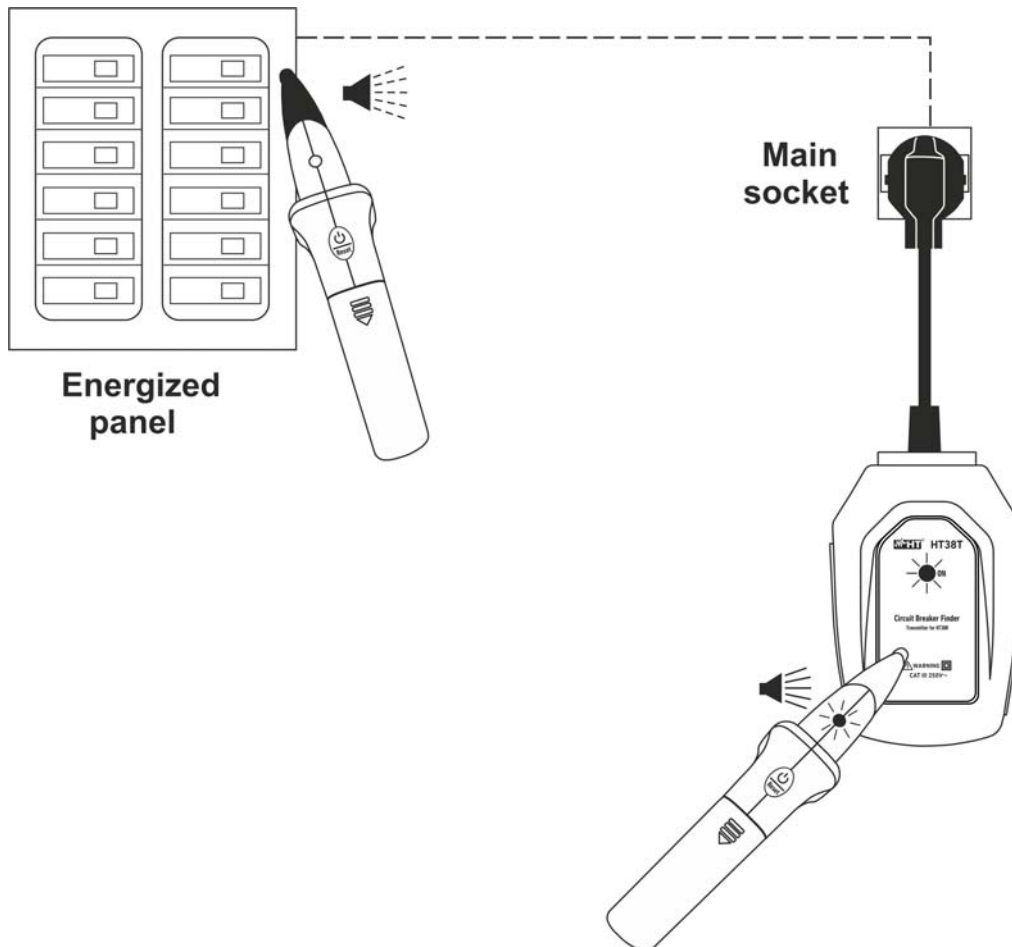


Fig. 3: Connection of transmitter to the circuit to be tested

3. Bring the sensitive element of the receiver above the transmitter (see Fig. 3) and check for a continuous sound (🔊). The green LED turning on (see Fig. 1 – part 3) and the red LED turning off (see Fig. 1 – part 2) indicate that the signal has been recognized.
4. Keep the receiver near the energized control panels and move in the direction in which the intermittent sound of the unit becomes faster to signal that the source to be searched is near (see Fig. 3).

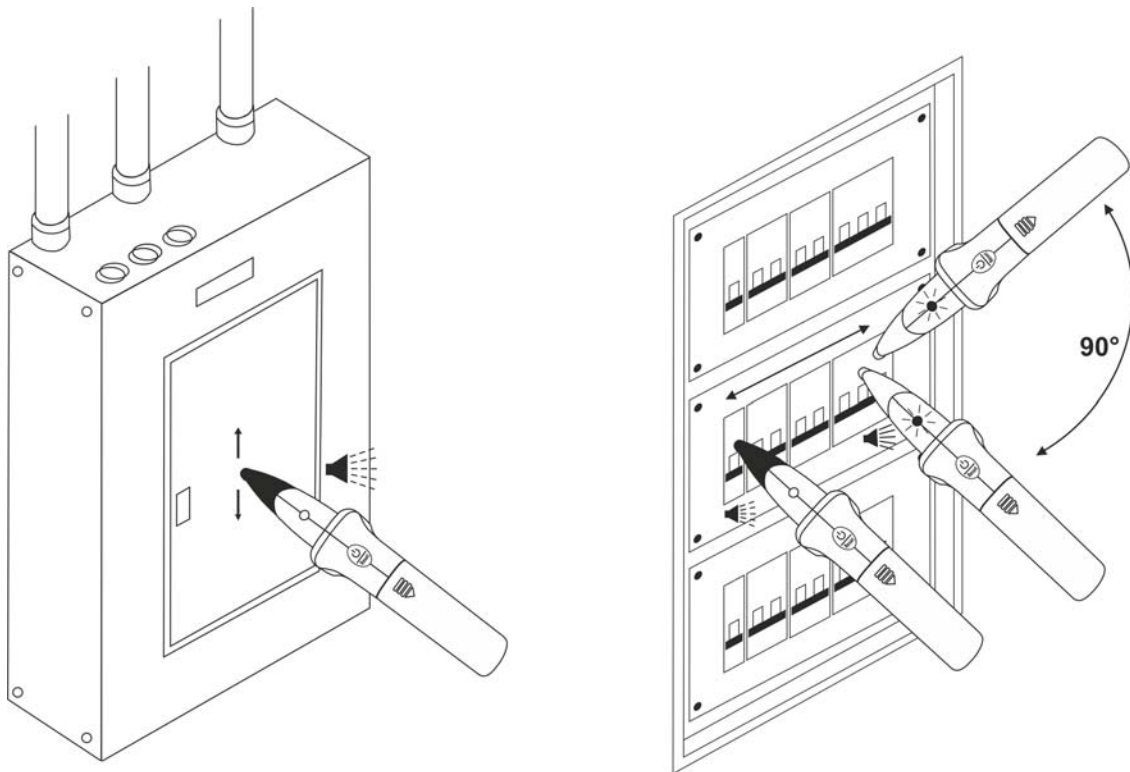



Fig. 4: Localization of protection devices

5. Move towards the control panel next to which the intermittent sound is faster and move the sensitive element in different directions (see Fig. 4 – left side).
6. Slowly move the sensitive element of the receiver above the protection devices found within the panel until the presence of the signal generated by the transmitter is detected. In this condition, the red LED turns off, the green LED turns on and the internal buzzer is fast and continuous.

Suggestions for test optimization

- Reset the receiver (see § 5.2) before starting the scanning test in order to always detect the signal with the highest intensity.
- Carry out the scanning by resting the sensitive element on the upper part of the protection device.
- In case of difficulties in detecting the searched for protection device (e.g. two adjacent devices cause the instrument to sound with the same intensity), turn the receiver by 90° (see Fig. 4 – right side) in order to make the search for the signal easier. In general, follow the angle at which the protection device was installed within the panel.
- **The first signal with strong intensity detected might not be the one searched for. Since the technology for scanning is comparative, it is always necessary to carry on this operation on all protection devices which potentially control the socket to be tested.**
- In case the red LED starts flashing and then turns off during the test, press the /Reset key to reset the instrument in order to detect again the signal with the strongest intensity.

7 MAINTENANCE




CAUTION

- Only expert and trained technicians should perform maintenance operations. Before carrying out maintenance operations, disconnect all cables from the input terminals.
- Do not use the instrument in environments with high humidity levels or high temperatures.
- In case the receiver is not to be used for a long time, remove the battery to avoid liquid leaks that could damage the instrument's internal circuits.

7.1 REPLACING THE BATTERY OF THE RECEIVER

When the green LED turns on intermittently, and the receiver sounds continuously, it is necessary to replace the battery.

1. Switch off the receiver by pressing and holding the /Reset key.
2. Open the battery compartment cover by pressing it outwards.
3. Remove the battery and insert a new battery of the same type (see § 8), respecting the indicated polarity.
4. Restore the battery compartment cover to its position.
5. Do not scatter old batteries into the environment. Use the relevant containers for disposal.

7.2 CLEANING THE INSTRUMENT

Use a soft and dry cloth to clean the instrument. Never use wet cloths, solvents, water, etc.

7.3 END OF LIFE



CAUTION: the symbol on the instrument indicates that the appliance and its accessories must be collected separately and correctly disposed of.

8 TECHNICAL SPECIFICATIONS

Transmitter

| | |
|------------------------|------------------------------|
| Power supply: | 230VAC, 50Hz |
| Signal output current: | <20mA |
| External connection: | integrated Schuko Europlug |
| Operating temperature: | 0°C ÷ 40°C (32°F ÷ 104°F) |
| Operating humidity: | <80%RH |
| Storage temperature: | 0°C ÷ 50°C (32°F ÷ 122°F) |
| Storage humidity: | <95%RH |
| Size (L x W x H): | 95 x 60 x 30mm (4 x 2 x 1in) |
| Weight: | 140g (5 ounces) |

Receiver

| | |
|------------------------|-------------------------------------|
| Power supply: | 1x9V alkaline battery type IEC 6F22 |
| Auto Power OFF: | after 3 minutes' idling |
| Operating temperature: | 0°C ÷ 40°C (32°F ÷ 104°F) |
| Operating humidity: | <80%RH |
| Storage temperature: | 0°C ÷ 50°C (32°F ÷ 122°F) |
| Storage humidity: | <95%RH |
| Size (L x W x H): | 195 x 60 x 35mm (8 x 2 x 1in) |
| Weight: | 130g (5 ounces) |

General characteristics

| | |
|-------------------------|-------------------|
| Safety: | IEC/EN61010-1 |
| EMC: | IEC/EN61326-1 |
| Insulation: | double insulation |
| Pollution level: | 2 |
| Measurement category: | CAT III 250V |
| Max operating altitude: | 2000m (6562ft) |

This instrument satisfies the requirements of Low Voltage Directive 2014/35/EU (LVD) and of EMC Directive 2014/30/EU
This instrument satisfies the requirements of European Directive 2011/65/EU (RoHS) and 2012/19/EU (WEEE)

8.1 ACCESSORIES

8.1.1 Accessories provided

- Transmitter HT38T
- Receiver HT38R
- Battery (receiver)
- Carrying bag
- User manual

9 ASSISTANCE

9.1 WARRANTY CONDITIONS

This instrument is warranted against any material or manufacturing defect, in compliance with the general sales conditions. During the warranty period, defective parts may be replaced. However, the manufacturer reserves the right to repair or replace the product.

Should the instrument be returned to the After-sales Service or to a Dealer, transport will be at the Customer's charge. However, shipment will be agreed in advance. A report will always be enclosed to a shipment, stating the reasons for the product's return. Only use original packaging for shipment. Any damage due to the use of non-original packaging material will be charged to the Customer. The manufacturer declines any responsibility for injury to people or damage to property.

The warranty shall not apply in the following cases:

- Repair and/or replacement of accessories and battery (not covered by warranty).
- Repairs that may become necessary as a consequence of an incorrect use of the instrument or due to its use together with non-compatible appliances.
- Repairs that may become necessary as a consequence of improper packaging.
- Repairs which may become necessary as a consequence of interventions performed by unauthorized personnel.
- Modifications to the instrument performed without the manufacturer's explicit authorization.
- Use not provided for in the instrument's specifications or in the instruction manual.

The content of this manual cannot be reproduced in any form without the manufacturer's authorization.

Our products are patented and our trademarks are registered. The manufacturer reserves the right to make changes in the specifications and prices if this is due to improvements in technology.

9.2 ASSISTANCE

If the instrument does not operate properly, before contacting the After-sales Service, please check the conditions of the battery and replace it, if necessary. Should the instrument still operate improperly, check that the product is operated according to the instructions given in this manual. Should the instrument be returned to the After-sales Service or to a Dealer, transport will be at the Customer's charge. However, shipment will be agreed in advance. A report will always be enclosed to a shipment, stating the reasons for the product's return. Only use original packaging for shipment. Any damage due to the use of non-original packaging material will be charged to the Customer.