

1. Safety precautions and procedures

Please follow the herewith indications before and during the performance of any test with the instrument:

CAUTION



- An improper use can damage the instrument and/or its components or injure the operator
- Avoid using the instrument in rooms where explosive gas, combustible gas, steam or excessive dust are present
- Do not perform any test if you notice anomalous conditions such as breakages, deformations, fractures, leakages of battery liquid on meter
- Do not perform any test exceeding the declared voltage conditions
- Do not perform measurements under environmental conditions exceeding the declared limits
- Do not perform any voltage detection with operator's hand beyond the hand safety protection

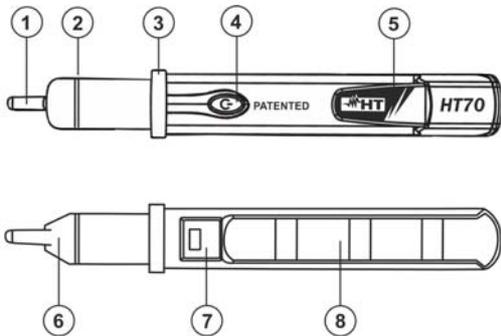
2. Introduction

HT70 meter can perform AC voltage detection and phase sequence rotation with visible LED and acoustic buzzer indications

3. Features

- AC voltage detection on conductive and insulated parts
- Phase sequence indication and conformity phase test
- Test on outlets, cables and/or electrical appliances
- Visible LED and acoustic buzzer indications
- Practical pen clip and very small size
- Auto Power OFF
- Meter suitable for any electrical installer

4. Description



1	Voltage detection sensor
2	Reference mark for CAT IV measurements
3	Hand safety protection
4	ON/OFF key
5	Pen clip
6	Internal section Green / Red LED
7	Fit part for battery cover sleigh
8	Battery cover sleigh

5. Phase sequence indication and conformity test

CAUTION



- The test results are not granted on systems with voltage values out of the 100V ÷ 1000V AC range and 50 ÷ 60Hz frequency range.
- To perform tests correctly check that L1, L2 and L3 phase terminals are not so close to each other in order to avoid any influence of their signals
- **Do not perform tests with the operator's hands beyond the hand safety protection and keep not insulated wires beyond the CAT IV reference mark (see part 2 of picture)**

1. Press ON/OFF key for at least 1s. The green and red LEDs turn on in a sequence and the buzzer is active for a while. After that, the meter gets ready to start entering a standby mode and the green LED is blinking continuously
2. Take the meter and position the sensor on L1 wire of a three phase plant (on metal or insulated part) **for at least 5s** in order to activate the phase sequence test. The red LED and the buzzer turn on during detection of correct voltage and frequency. The red LED along with the buzzer continue blinking until the correct synchronization is performed on L1 phase
3. Disconnect the sensor from L1 phase and wait for the turning off of both red LED and buzzer before positioning it on L2 phase

CAUTION



If you wait for **more than 10s** between the first and the second measurement, the green and red LEDs as well as the buzzer blink in a sequence for some seconds, then the meter goes back to its standby mode and the test shall be repeated

4. Position and hold the sensor on L2 wire of a three phase plant (on metal or insulated part) **for at least 5s**. The red LED and the buzzer turn on in order to detect correct voltage and frequency
5. At the end of the signal detection on L2 phase the below results are given by the meter:
 - Green LED turns on and buzzer intermittently sounds for some seconds before meter goes back to its standby mode → **Correct phase sequence indication**
 - Intermittent working of red LED and buzzer for some seconds before meter restores its standby mode → **Incorrect phase sequence indication**

5.1 Phase conformity test

1. Repeat points 2) 3) and 4) on the L1 phases of both three phase systems in case of conformity test. At the end of test the below results are given by the meter:
 - Green LED blinks and buzzer sounds intermittently for some seconds before meter restores its standby mode → **Correct phase conformity**
 - Red LED blinks and buzzer sounds intermittently for some seconds before meter goes back to its standby mode → **Incorrect phase conformity**

6. Voltage detection test

1. Turn on the meter by pressing ON/OFF key for at least 1s. Waiting for the standby mode when the green LED is blinking
2. Position the sensor close to or in contact with the point under test for **a time <5s**, then verify that the red LED is on and buzzer sounds continuously as evidence of voltage detection. **Do not perform test with the operator's hand beyond the hand safety protection and position not insulated wires beyond the CAT IV reference mark (see part 2 of picture)**
3. Press ON/OFF key for at least 3s to turn off the meter

7. Batteries replacement

Follow the herewith steps to replace internal batteries:

1. Remove the meter from any voltage source
2. Perform a small pressure on battery cover sleigh (see part 8 of picture)
3. Shift the battery cover sleigh from the meter
4. Replace the batteries with new ones of the same type and pay attention to keep to correct polarity indication
5. Fit the battery cover sleigh to the meter
6. Used batteries must not be disposed of as urban waste



CAUTION: this symbol indicates that the equipment and its accessories shall be subject to a separate collection and correct disposal.

8. Technical specifications

- Voltage reference range: 100 ÷ 1000V AC to ground
- Frequency reference range: 50/60Hz
- Meter indications: visible LED and acoustic buzzer
- Safety: IEC/EN61010-1
- Category of measurement: CAT IV 1000V
- Pollution degree: 2
- Batteries: 2 x 1.5V alkaline type AAA IEC LR03
- Autonomy: >9000 tests
- Auto Power OFF: after 5 minutes of idleness
- Working temperature: -10°C ÷ 50°C (14°F ÷ 122°F)
- Working humidity: -10 ÷ 40°C <75%HR ; 40 ÷ 50°C <45%HR
14°F ÷ 104°F <75%HR ; 104°F ÷ 122°F <45%HR
- Dimensions: 160 (L) x 26 (W) x 20(H) mm ; 6 (L) x 1 (W) x 1 (H) in
- Weight (included batteries): 48g (0.1lb)