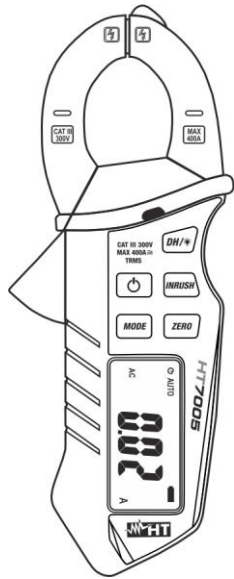


HT7005 USER MANUAL



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1. PRECAUTIONS AND SAFETY MEASUREMENTS

This instrument complies with safety Standard IEC/EN61010-1 related to electronic measuring instruments. For your own safety and to avoid damaging the instrument follow the procedures described in this instruction manual and read carefully all notes preceded by this symbol

CAUTION

- Avoid measuring in humid or wet places
- Avoid measuring in rooms where explosive gas, combustible gas, steam or excessive dust is present
- Keep you insulated from the object under test
- Do not touch exposed metal parts such as test lead ends, sockets, fixing objects, circuits etc.
- Avoid doing that if you notice anomalous conditions such as breakages, deformations, fractures, leakages of battery fluid, blind display etc.
- Be careful when measuring on circuits with voltages exceeding 20V to avoid risks of electrical shock

The following symbols are used in user manual and on the meter:

- CAUTION - refer to the instruction manual - an improper use may damage the instrument or its components
- Double insulated meter
- This symbol indicates that the clamp can operate on live conductors
- AC and DC current
- Ground reference
- CAUTION:** this symbol indicates that equipment, its accessories and battery shall be subject to a separate collection and correct disposal

1.1 Preliminary instructions

CAUTION

- This instrument has been designed for use in environments with pollution degree 2
- It can be used for **AC** and **DC CURRENT** measurements on installations with measurement category CAT III 300V
- Do not test or connect to any circuit exceeding the specified overload protection
- Do not effect measurements under environmental conditions exceeding the limits indicated in § 11.2
- Make sure that battery is properly installed
- When the instrument is connected to measuring circuits never touch any unused terminal
- If during measurement the displayed values remain constant check whether the HOLD function is active

1.2 Measuring overvoltage category definitions

According to the IEC/EN61010-1 guidelines the circuits are divided into the following measurement categories:

- **CAT IV** is for measurements performed at the source of the low-voltage installation
Examples are electricity meters and measurements on primary overcurrent protection devices and ripple control units
- **CAT III** is for measurements performed in the building installation
Examples are measurements on distribution boards, circuit breakers, wiring, including cables, bus-bars, junction boxes, switches, socket-outlets in the fixed installation, and equipment for industrial use and some other equipment, for example, stationary motors with permanent connection to fixed installation
- **CAT II** is for measurements performed on circuits directly connected to the low voltage installation
Examples are measurements on household appliances, portable tools and similar equipment
- **CAT I** is for measurements performed on circuits not directly connected to MAINS
Examples are measurements on circuits not derived from MAINS, and specially protected (internal) MAINS-derived circuits. In the latter case, transient stresses are variable; for that reason, the standard requires that the transient withstand capability of the equipment is made known to the user

6. FUNCTION KEYS DESCRIPTION

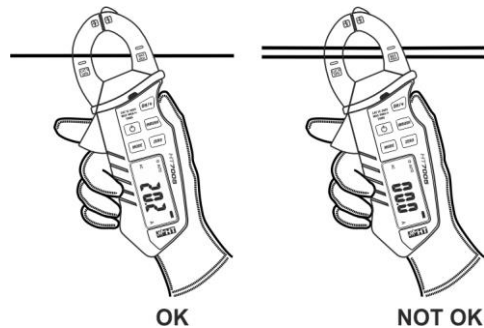
- 6.1 key**
Press key to switch on the instrument. Press and hold the key to switch off the instrument
- 6.2 DH/ key**
By pressing DH/ key the measured value is hold on the display where the symbol appear. Press again the key to disable this function and resume normal operation. Press and hold the DH/ key to activate/deactivate the display backlight
- 6.3 MODE key**
The **MODE** key allows the selection of the type of current measurement. The "AC" and "DC" symbols are shown at display
- 6.4 ZERO key**
The **ZERO** key, which is active only in DC current measurement, allows to activate/deactivate the zeroing of value at display in order to remove the residual magnetization (see § 7.1). The "" symbol is shown at display
- 6.5 INRUSH key**
The **INRUSH** key, which is active only in AC current measurement, allows to activate/deactivate the Inrush current measurement (instantaneous current peaks) of a installation. The **INRUSH** symbol is shown at display and the 400A range is automatically selected. Press and hold the INRUSH key to select the 40A range. Press **INRUSH** key again to exit by the function
- 6.6 Detection of AC Voltage without contact**
- Switch on the instrument with key
 - Move the NCV sensor (see figure) close to AC source
 - The switch on of red LED indicate the voltage presence
- 6.7 Auto Power OFF feature**
In order to preserve internal batteries, the instrument switches automatically off approximately 15 minutes after it was last used. The symbol appears on the display when this function is active

7. HOW TO PERFORM THE MEASUREMENTS

7.1 DC and AC Current measurement

CAUTION

- Put the conductor as close as possible to the middle of the jaws in order to meet the meter accuracy specifications
- When apply/remove the instrument on/from live conductors, if is not possible to de-energize the circuit on test, **use appropriate security measures (e.g. protective gloves)** to avoid dangerous electric shock for the operator and a possible damage of the instrument
- Disconnect the main voltage or wear protective gloves before performing measurement
- Put the hand below the safety line during the measurement as indicated in § 5



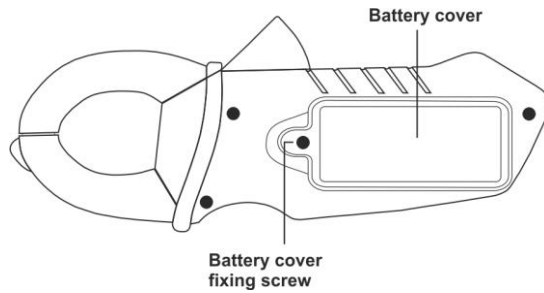
- Switch on the instrument by pressing key
- Press **MODE** key to select AC or DC measurement
- For DC current measurement press the **ZERO** key in order to remove the residual magnetization
- Open the clamp jaw and insert the cable in the middle of it (see figure - left part). Take care to the polarity for DC current measurement
- Do not perform measurements with more cables included in the clamp jaw (see figure - right part)
- The AC or DC current value will be shown on the display
- If the message "**OL**" is displayed the maximum current value was exceeded
- For Data HOLD and INRUSH features see § 6.2 and § 6.5

8. BATTERY REPLACEMENT

When the low battery indication is displayed the battery must be replaced.

CAUTION

Only expert technicians should perform this operation. Before carrying out this operation, make sure you have removed the cable being tested from inside the clamp jaw



- Switch off the instrument by pressing key
- Remove the fixing screw and the battery compartment cover
- Remove the batteries and replace them with new one of the same type (see § 11.2) by respecting the correct polarity
- Replace battery compartment cover
- Do not scatter old batteries into the environment. Use the relevant containers for disposal

9. CLEANING THE INSTRUMENT

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

10. END OF LIFE

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

2. GENERAL DESCRIPTION

The instrument has the following features:

- DC/AC TRMS Current measurement up to 400A in Autorange
- Inrush current measurement
- Data HOLD and ZERO features
- Backlight
- Detection of AC Voltage without contact
- Auto Power OFF

The selected quantity is displayed with indication of measuring unit and active functions. The instrument is provided with an Auto Power Off function consisting in an automatic switching off 15 minutes after last pressure on keys.

3. PREPARATION FOR USE

3.1 Initial checks

This instrument was checked both mechanically and electrically prior to shipment. All possible cares and precautions were taken to let you receive the instrument under perfect conditions.

Notwithstanding we suggest you to check it rapidly (any damage may have occurred during transport - if so please contact the local distributor from whom you bought the item).

Make sure that all standard accessories mentioned in § 11.2 are included. Should you have to return back the instrument for any reason please follow the instructions mentioned in § 12

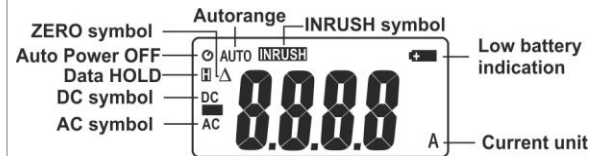
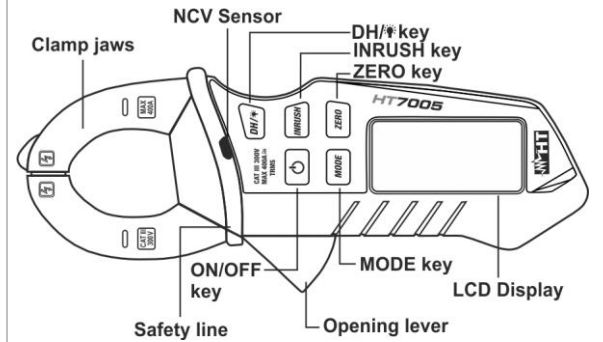
3.2 Supply voltage

The instrument is powered by 2x1.5V battery type AAA IEC LR03 included on meter. When battery is low the symbol is displayed. To replace/insert the batteries follow the instructions indicated in § 8

3.4 Storage

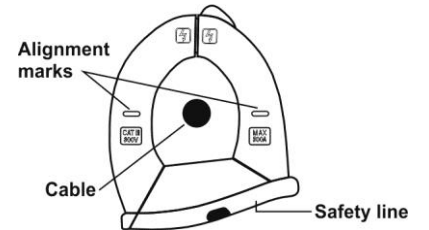
After a period of storage under extreme environmental conditions exceeding the limits mentioned in § 11.2 let the instrument resume normal operating conditions before using it

4. INSTRUMENT AND DISPLAY DESCRIPTION



5. SAFETY LINE

Put the cable as close as possible to the middle of the jaws (considering the alignment marks) in order to meet the meter accuracy specifications and take the hand under the safety line (see below figure)



11. TECHNICAL SPECIFICATIONS

11.1 Technical characteristics

Accuracy declared at temperature: 23°C ±5°C, <80%RH

DC/AC TRMS Current

Range	Resolution	Frequency	Accuracy
40.00A AC	0.01A	50Hz±60Hz	±(2.5%rdg+10dgt)
400.0A AC	0.1A		±(2.8%rdg+8dgt)
40.00A AC	0.01A	60Hz±400Hz	±(2.8%rdg+10dgt)
400.0A AC	0.1A		±(2.8%rdg+8dgt)
40.00A DC	0.01A	DC	±(2.5%rdg+10dgt)
400.0A DC	0.1A		±(2.8%rdg+8dgt)

For not sinusoidal waveforms the frequency range is: 50Hz ±60Hz
Overload protection: 400A AC
INRUSH current 40A range: 3A ÷ 40A, 50/60Hz, Accuracy: ±10%rdg
INRUSH current 400A range: 10A ÷ 400A, 50/60Hz, Accuracy: ±10%rdg
INRUSH current response time: 100ms

11.2 General specifications

Reference guidelines
Safety: IEC/EN61010-1, EMC: IEC/EN61326-1
Measurement category: CAT III 300V
Pollution degree: 2, Insulation: double insulation
Max height of use: 2000m (6562ft)
Mechanical protection: IP30
Compliance with 2014/30/EU (EMC) and 2014/35/EU (LVD)

Display

Characteristics: LCD, 3 1/2dgt, 4000 points + decimal point
Conversion type: TRMS
Sampling rate: 3 times/s
Over range indication: "**OL**" symbol at display

Power supply

Battery type: 2x1.5V battery type AAA IEC LR03
Battery life: ca 85h (with backlight), ca 240h (without backlight)
Low battery indication: symbol at display
Auto Power OFF: after 15 minutes of idleness

Environmental conditions for use

Working temp.: 5÷40°C (41°F ÷ 104°F), <80%RH
Storage temperature: -20 ÷ 60°C (-4°F ÷ 140°F), <80%RH

Mechanical characteristics

Dimensions (L x W x H): 155x60x25mm (6x2x1in)
Weight (with batteries): 140g (5 ounces)
Max diameter cable: 20mm (1in)

Standard accessories

- Batteries
- Carrying case
- User manual

12. SERVICE

12.1 Warranty conditions

This instrument is guaranteed for one year against material or production defects, in accordance with our general sales conditions. During the warranty period the manufacturer reserves the right to decide either to repair or replace the product.

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

12.2 Service

Should the instrument not work properly, make sure that battery is correctly installed and working and replace if necessary before contacting your distributor. Should you need for any reason to return back the instrument for repair or replacement take prior agreements with the local distributor from whom you bought it. Do not forget to enclose a report describing the reasons for returning (detected fault). Use only original packaging. Any damage occurred in transit due to not original packaging will be charged anyhow to the customer. The manufacturer will not be responsible for any damage to persons or things



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