

# INSTALLATION & MAINTENANCE MANUAL HP-38A

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230V  
50Hz

IP  
64



CAT  
III

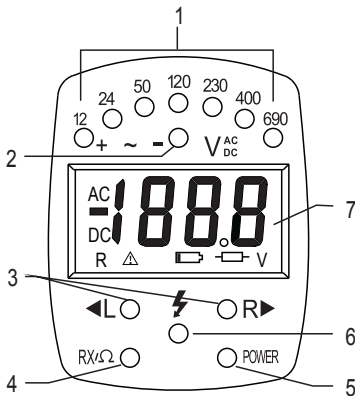
## SAFETY

Please read these operating instructions before using this instrument.

## WARNING

- Never take measurements on a circuit in which the electrical potential exceeds 690V. (When the measured voltage exceeds 690V, all the voltage LED displays will light up)
- Do not attempt to take measurements in the presence of flammable gasses, as the use of the instrument may cause sparking, which could lead to an explosion.
- Never attempt to use the instrument if the surface of your hands are wet. (Do not use in rain.)
- Keep your hands and fingers behind the barriers during measurements.
- Never unlock and open the battery case during measurements.
- Verify proper operation on a known source before taking action as a result of the indication.
- Never attempt to make any measurement in any abnormal conditions, such as a broken case or exposed metal parts are present on the instrument or test probes.
- Do not make any modification to the instrument..
- Take extreme caution when live circuit LED flashes or lights up.
- Correct indication of LEDs is only guaranteed within a temperature range of -10 °C up to 55 °C (<85%RH).

## INSTRUMENT LAYOUT



- 1 12/24/50/120/230/400/690V LEDs for European voltage indication
- 2 Polarity indication LEDs for DC voltage
- 3 L/R LEDs for phase rotation test
- 4 Continuity test/Live circuit LED
- 5 Power LED
- 6 High voltage indication more than 50V LED will light up
- 7 LCD



- A L1 probe
- B L2 probe
- C Barrier
- D Pen light

- E Pen light or back Light switch
- F Battery case
- G Probe clip

## OPERATING INSTRUCTIONS

### Auto-power-on/Self-diagnostic test



- Auto-power-on Short-circuiting the probes as follows powers on the Instrument automatically and goes into a self-diagnostic test.

### Self-diagnostic test

- Battery voltage is normal when power LED is lighting up.
- When the battery voltage is below 2.4 0.1V, power LED flashes or goes off. If the following problems occur:
  - Self-diagnostic test cannot be performed before/after use of the instrument.
  - Automatic power-off does not operate. Replace the batteries

## VOLTAGE TEST



(Double-pole test)  
Connect both probes to the object under test. The voltage is indicated by LEDs and LCD



Voltage polarity is indicated in following Manner.



**NOTE:** When the L2 probe + is the positive (negative) potential, the polarity indication LED indicates "+DC" ("-DC").

## CONTINUITY TEST

### WARNING

Make sure the object under test isn't live. Instrument operates as follows when measuring continuity.

- LED RXin should be lit and the buzzer should sound continuously.

### NOTE

In continuity mode the instrument works in the same way as the self-diagnostic test.

### NOTE

The light is available while the instrument is powered off.

Using the Pen light shortens th battery life.

## PHASE ROTATION TEST

Connect both probes to the object under test. The voltage is indicated by LEDs and LCD

- If ◀L LED is lighting up, the L2 probe is Connected to A line, the L1 probe is Connected to B line.
- If ▶R LED is lighting up, the L1 probe is Connected to A line, the L2 probe is Connected to B line.

## SWITCH FUNCTION

Short press the button on or off pen light, Press the button more than 2 seconds, on or off the back light.

## BATTERY REPLACEMENT

When power LED flashes or goes off at self-diagnostic test. Follow the procedure below to replace batteries with new ones (Type IEC LR03 1.5V).

Unlock the battery case with a coin-shaped object.




Lock



Unlock

- Pull out the battery case and replace the batteries. Insert new batteries according to the engraving on the battery case.
- Insert the battery case into the instrument And firmly lock the case again.

 **WARNING** Confirm that the battery case is Properly locked prior to measurements.

## Specification

### LED Indication Voltage Test

Voltage Range	12-690V AC/DC
Nominal Voltage	Europe: 12/24/50/120 /230/400/690V

Tolerance(Threshold Voltage)	Light on at more than
	: 7 ± 5V (12V LED)
	: 18 ± 5V (24V LED)
	: 37.5 ± 5V (50V LED)
	: 75% ± 5% of nominal voltage
	120/230/400/690V

Response Time voltage	<0.5s at 100% of each nominal
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### LCD Display Voltage Test

Range/Resolution	7-690V/1V(Auto-range)
Accuracy(23±5)	± (3%+3) or 5V
Overrange indication	All Voltage LED light up
Response Time	<1s at 90% of each voltage
Internal Battery Consumption	Approx.33mA(battery 3V, measuring 690V AC)

### High Voltage Indication

Voltage Range	50-690V AC/DC
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### Phase Rotation Test

System	Three-phase 4-Wire system AC
50/60Hz	
Phase Range	120±5 degree

### Continuity Test

Detection Range	0-550kΩ
Test Current	Approx. 1.5μA(battery 3V 0Ω)
Internal Battery	Approx. 30mA Consumption (Battery 3V 0Ω)

### Reference condition

Battery	2X1.5V(IEC LR03 1.5Vx2)
Temperature	-10~55°C Operation
	-20~60°C Storage
	No condensation
Humidity	Max 85% RH
Used Location	Altitude up to 2000m

### Safety


Standard Category	EN 61243-3/IEC 61243-3
	EN 6101-1/IEC 6101-1
	CAT III 690V/CAT IV 600V
	ETL: UL 6101-1
	CAT III 690V/CAT IV 600V
Pollution Degree	2
IP Rating	IP64


## CLEANING AND STORAGE




- Use a lightly damp cloth with neutral detergent For cleaning the instrument.
- Do not use abrasives or solvents.
- Do not expose the instrument to the direct sun, High temperature and humidity or dewell.
- Put the Probe protection cover on the Tips while not in use . Otherwise it may cause an injury.
- Remove batteries when the instrument will not be in use for a long period.
- Do not install the Battery Case without batteries.
- Please operate this unit strictly according to the manual instruction.

### Safety Symbol

 Always check proper operation of the device On a known working circuit before using.

 Equipment protected throughout by Double insulation or reinforced insulation.

Caution, risk of electric shock.

 Under normal use, hazardous voltage May be present.

 Alternating current.

## MEASUREMENT CATEGORY

**Category IV is for measurements performed at the source of the low- voltage installation.**

**Category III is for measurements performed in the Building installation.**



**For Environment**  
Do not dispose electrical appliances as unsorted municipal waste, use separate collection facilities, -contact your local government for - information regarding the conlect systems available.

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