

# ENGLISH


## User manual



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## 1 PRECAUTIONS AND SAFETY MEASURES

The instrument has been designed in compliance with IEC/EN61010-1 guidelines 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 under test if no measurement is in progress.
- 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 25V AC, 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.



High Voltage danger: electrical shock risk



AC voltage or current



Ground reference

### 1.1 PRELIMINARY INSTRUCTION

#### CAUTION



- The instrument can be used for **AC CURRENT** and **AC VOLTAGE** measurements on installations with CAT II 240V to ground, max load current of 16A
- Do not use the instrument on loads with absorbed currents over 16A
- 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 circuits with voltages higher than the rated ones
- 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.
- Use only indoor

## 2 GENERAL DESCRIPTION

The instrument has the following features:

- Splitting phase conductor L from N and PE conductors for 2-poles, 3-poles cables
- Easy (L-N, L-PE, N-PE) AC voltage measurement with clamps/multimeters
- Easy AC current measurement with external clamps
- Current ring x1 for direct AC current measurement
- Current ring x10 for direct AC low current measurement
- Leakage current direct measurement on PE conductor
- Leakage current indirect measurement on L-N conductors
- Use with loads with 16A maximum absorbed current

## 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 thoroughly 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 to check whether 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

The instrument is supplied directly by the main 230V with the integrated Schuko plug

### 3.3 CALIBRATION

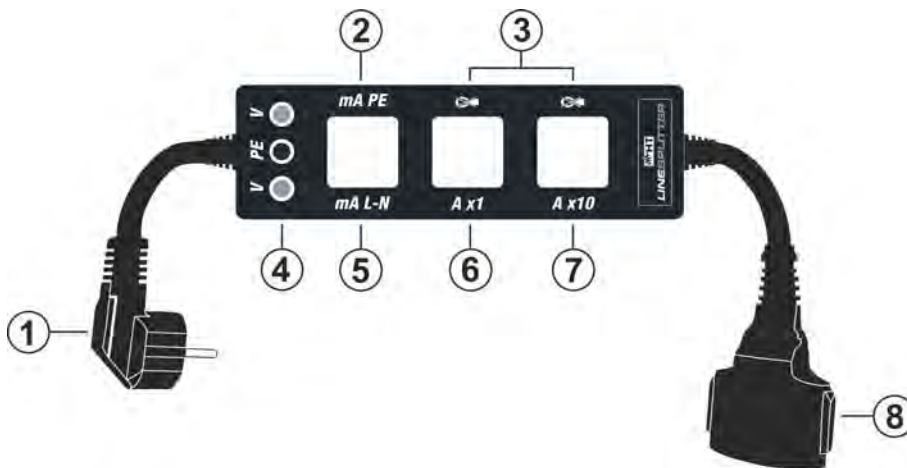
The instrument's technical specifications are described in this manual. Thanks to its simple structure, no periodical calibration procedure is required.

### 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 NOMENCLATURE

### 4.1 DESCRIPTION OF INSTRUMENT



#### CAPTION:

1. Schuko plug for connection to main supply
2. Ring for leakage measurement on PE cable
3. Not usable current rings
4. Input terminals for L-N, L-PE, N-PE voltage measurements
5. Ring for leakage measurement on L-N cables
6. Ring for line current measurement **x1**
7. Ring for line current measurement **x10**
8. Schuko plug for load connection

Fig. 1: Description of LINESPLITTER instrument

## 5 INSTRUMENT FUNCTIONS

LINESPLITTER is a useful accessory capable of performing electrical splitting between the active conductors of phase, neutral and PE for single-phase loads supplied by 2 or 3 poles cords with absorbed current up to 16A. It aims at performing an immediate current measurement directly on the cords using clamps or multimeters which would not be possible without it (null result).

LINESPLITTER has 2 rings (**Ax1** and **Ax10** - see Fig.1 parts 6 and 7) so as to respectively perform the measurement of the line current and the measurement of the same current multiplied by a factor 10 (useful with current clamps having poor sensitivity or too high ranges).

LINESPLITTER also includes other two rings (**mA PE** and **mA L-N** - see Fig 1 parts 2 and 5) for easy leakage current measurement respectively direct to ground (on the PE conductor) and indirect/differential (on L-N conductors).

Finally LINESPLITTER also allows to perform AC L-N, L-PE and N-PE voltage measurements (see Fig. 1 part 4) using digital multimeters.

## 6 OPERATING INSTRUCTIONS

### 6.1 LINE CURRENT MEASUREMENT

1. Connect LINESPLITTER to 230V AC main socket through Schuko plug.
2. Connect the main cable of the load to the instrument's Schuko plug.
3. Put the clamp around the **Ax1** or **Ax10** rings and switch on the load.
4. Read the value of line current in the Ax1 ring or divide by 10 the value of current read in the Ax10 ring (see Fig. 2)

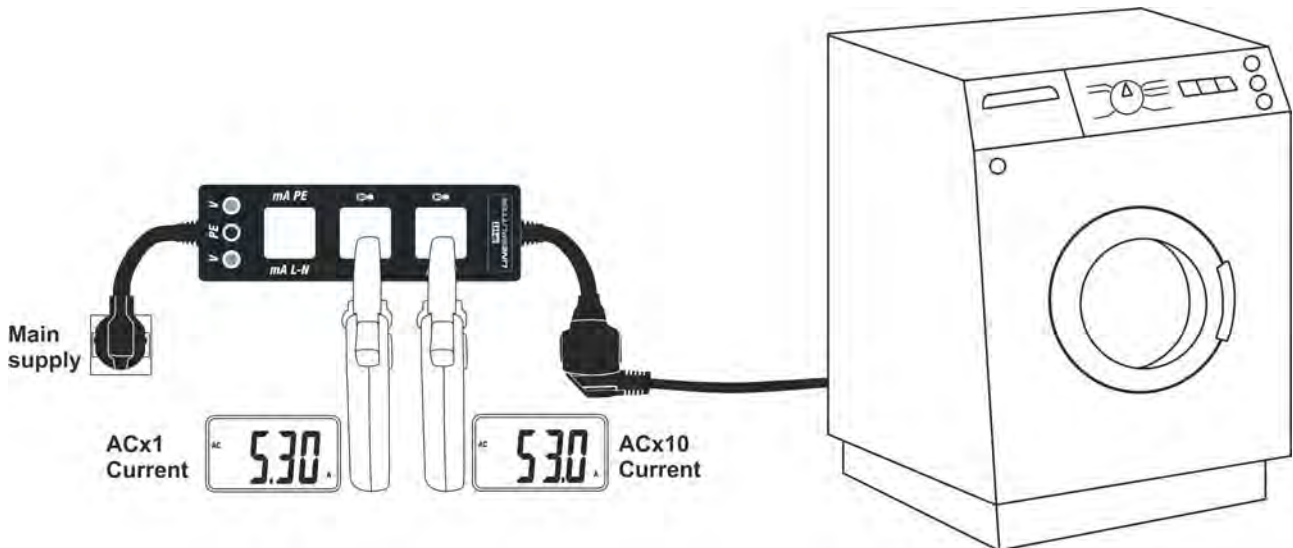


Fig. 2: Use of the instrument for line current measurement

### 6.2 LEAKAGE CURRENT MEASUREMENT

1. Connect LINESPLITTER to 230V AC main socket through Schuko plug
2. Connect the main cable of the load to the instrument's Schuko plug.
3. Put a leakage clamp around the **mA PE** or **mA L-N** rings and switch on the load.
4. Read the direct value of leakage current (PE conductor) in the mA PE ring or the indirect/differential value of leakage current (L-N conductors) in the mA L-N ring (see Fig. 3).

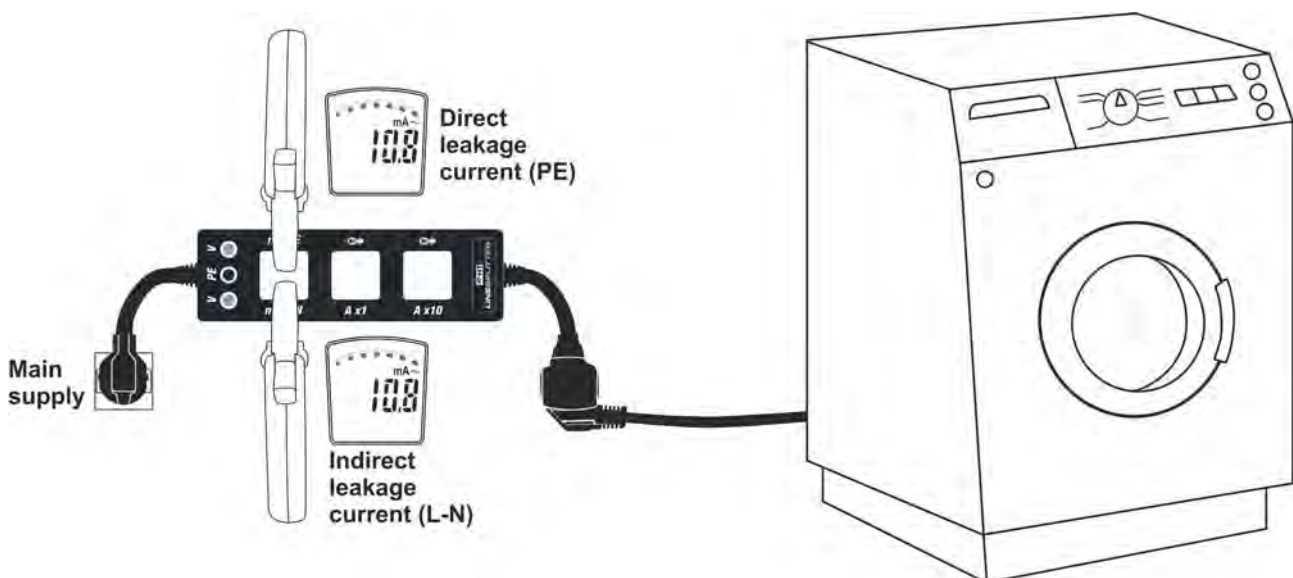


Fig. 3: Use of the instrument for leakage current measurement

### 6.3 VOLTAGE AND POWER MEASUREMENT

1. Connect LINESPLITTER to 230V AC main socket through Schuko plug
2. Connect the main cable of the load to the instrument's Schuko plug.
3. Put a power clamp (e.g. HT9020 or HT9022 models) around the **Ax1** ring and the clamp's test leads in the **V** inputs of the instrument and switch on the load
4. Read the correspondent values of current, voltage and absorbed power of the load (see Fig. 4).

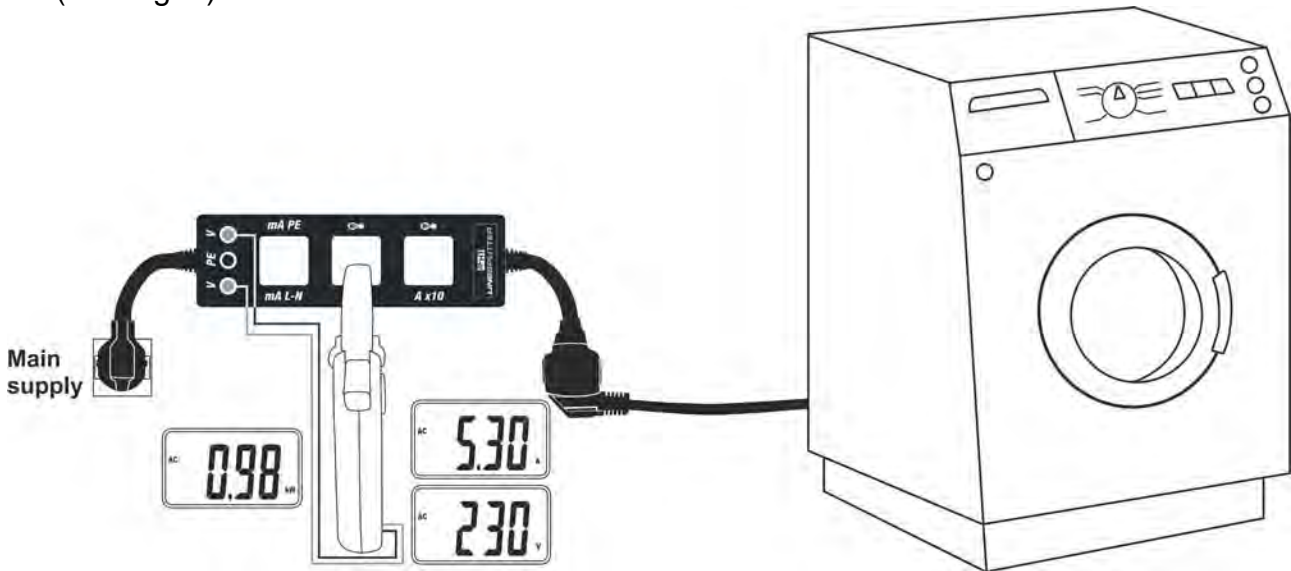


Fig. 4: Use of the instrument for current, voltage and power measurement

## 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

### 7.1 CLEANING THE INSTRUMENT

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

### 7.2 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

Power supply:	230VAC ( $\pm 10\%$ ), 240VAC ( $\pm 10\%$ ) 50/60Hz
Main connection	integrated Schuko plug, 50cm length
Load connection:	integrated Schuko plug
Load current:	max 16A
Operating temperature:	-20°C ÷ 40°C (-4°F ÷ 104°F)
Operating humidity:	<80%RH
Storage temperature:	-20°C ÷ 60°C (-4°F ÷ 140°F)
Storage humidity:	<80%RH
Safety:	IEC/EN61010-1, IEC/EN61010-02-030
Measurement category :	CAT II 240V
Max operating altitude:	2000m (6562ft)
Dimensions (L x W x H):	210 x 60 x 35mm (8 x 2 x 1in)
Weight:	385g (14 ounces)

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

### 8.1 ACCESSORIES

#### 8.1.1 Accessories provided

- 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 required by improvements in technology.**

### 9.2 ASSISTANCE

If the instrument does not operate properly, before contacting the After-sales Service, please check the conditions. 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.