MS 300 SERIES METER

USER'S MANUAL

Safety

Meaning of symbol ⚠

CAUTION! Please consult the operating instructions before using the device. In these operating instructions, failure to follow or carry out instructions preceded by this symbol may result in personal injury or damage to the device and the installations.

Meaning of symbol ⧈

This appliance is protected by double insulation or reinforced insulation. It does not have to be connected to an earth protection terminal for electrical safety.

Thank you for purchasing this MS301 meter.
To obtain the best service from your unit:

⚠ **- Read** these operating instructions carefully,
- Comply with the precautions for use.

⚠ PRECAUTIONS FOR USE

- Never use on a voltage network over 600V with respect to the earth connection. This voltage surge category III current meter complies with stringent reliability and availability requirements, corresponding to fixed industrial and domestic installations (see IEC 664-1).
- Do not use on alternative and continuous voltages > 600V.
- Indoor use in environments with a maximum pollution level of 2 (EN 50419:2006) temperature of -10ºC to +50ºC and relative humidity below 90%.
- Respect the value and type of the fuses to avoid damaging the instrument and canceling the warranty.
- Fuse 500V/3A
- Fuse 500V/10A
- Use accessories corresponding to safety standards (EN 61010-1:2001) with 600V minimum voltage and surge category III.
- Before any measurement, ensure correct positioning of the leads on the current meter and of the switch. When the value range of a measurement is not known, place the switch at the highest caliber, and then gradually reduce it until the appropriate caliber is achieved: the reading should preferably be in the upper 2/3 of the range.
- During current intensity measurements (without a clip-on current meter), stop circuit power supply before connecting or disconnecting the current meter or changing caliber.
- The leads must be disconnected to open the lower half of the meter case
- Never connect to the circuit to be measured if the casing is not properly closed.

CONTENTS

1 DESCRIPTION

The MS301 meter is for everyday use by electricity professionals. It offers the following functions:

-Current meter: current intensity measurement (A_{DC} and A_{AC})

1-1 Safety terminals, Φ4mm

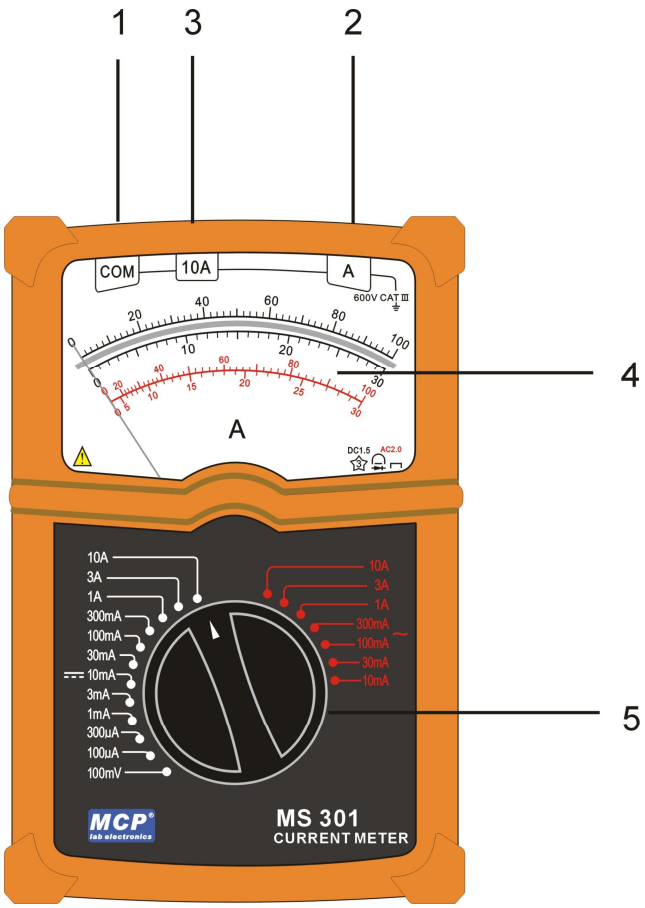
- **COM** common, terminal receiving the black lead (1)
- **A** for A_{DC} and A_{AC} calibers (2)
- **10A** for 10A calibers (DC/AC) (3)

1-2 4-range dial (4)

2 black, with anti-parallaxe mirror, for the A_{DC}

2 red for the A_{AC} measurements

1-3 Function selection switch (5)



2 REFERENCE CONDITIONS

Temperature: 23ºC±2ºC
Humidity: 45%RH±5%
Position: horizontal±2°

Ensure that the pointer is at zero before starting any measurements.
Zero adjustment: open the device. Mechanical zero adjustment is carried out by turning the screw on the back of the null meter.

Ensure that the switch is correctly positioned.
When an estimated measurement is unknown, place the switch at the highest caliber, and then gradually reduce it until the appropriate caliber is achieved: the reading should preferably be in the upper 2/3 of the range.

3 SPECIFICATIONS

3-1 DC CURRENT

ADC	Scale(indication)	Reading coefficient	Voltage drop at inputs	Accuracy	Protection
100mV	100	×1	100mV	1.5%	3A/500V
100μA	100	×1	375mV		
300μA	30	×10	375mV		
1mA	100	×0.01	375mV		
3mA	30	×0.1	375mV		
10mA	100	×0.1	375mV		
30mA	30	×1	375mV		
100mA	100	×1	375mV		
300mA	30	×10	375mV		
1A	100	×0.01	375mV		
3A	30	×0.1	375mV		
10A	100	×0.1	100mV		10A/500V

Do not use input A_{AC} on unprotected intensity transformers.

3-2 AC CURRENT

AAC	10mA	30mA	100mA	300mA	1A	3A	10A
Scale(indication)	100	30	100	30	100	30	100
Reading coefficient	×0.1	×1	×1	×10	×0.01	×0.1	×0.1
Voltage drop at inputs	750mV	750mV	750mV	750mV	750mV	750mV	100mV
Accuracy	2.0%						
Protection	3A/500V						10A/500V

4 GENERAL CHARACTERISTICS

4-1 Dimensions and weight

Dimensions: 165×105×50mm

Weight: 670g

4-2 Maximum climatic conditions

Temperature use -10ºC to +50ºC; storage -30ºC to +70ºC

Relative humidity use ≤80% HR

Altitude use <2000m

4-3 Compliance with international standards

Electrical safety (EN 61010-1 -2001)

CEI 1010-1 EN61010 NF-C 42020 VDE 0411

- Double insulation: ⧈
- Pollution level: 2
- Installation category: III according to CEI 664
- Allocated voltage: 600V

4-4 Electromagnetic compatibility

- Emission (EN 61326-1:2006)
- Immunity (EN 61326-1:2006)

Maximum influence in the presence of conducted radio frequencies: 3 times the accuracy class if the length of the measured circuit is >3m

5 SUPPLY

To order **MS301**

Delivery:

- 1 current meter
- 1 user's manual

6 MAINTENANCE

Only use the specified spare parts for maintenance. The manufacturer shall not be held liable for any incident occurring following repairs carried out by a party other than its after-sales service or approved repairers.

6-1 Fuse change

Opening the current meter:

Open the device. Use the same type of fuses to ensure the safety of users and of the device.

A and COM = (3A fuse(s)),

10A and COM = (10A fuse).

6-2 Cleaning

The current meter must be disconnected from all electricity sources.

To clean the casing, use a cloth dampened with soapy water. Wipe over with a damp cloth. Dry quickly with a dry cloth or forced air.