GOSSEN METRAWATT

Operating Instructions

METRACLIP 41
METRACLIP 410

3-349-589-37
1/03.10

AC/DC Current Clamp Meter

Order Reference	Order No.
METRACLIP 41	**M320A**
METRACLIP 410	**M320B**

Battery is included.

Thank you for buying this product. For safety reasons and optimum use of this instrument read through the operating instructions very carefully.

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1. SAFETY

The following symbols appear on the products:

Do not dispose of this product as unsorted municipal waste. Contact a qualified recycler for disposal.

Attention! Refer to Manual

Double/Reinforced Insulation

Application around and removal from HAZARDOUS LIVE conductors is permissible

Complies with the relevant European standards

Read all instructions completely before using this product.

To avoid electric shock:

- Use caution during installation and use of this product; high voltages and currents may be present in circuit under test.
- This product must be used only by qualified personnel practising applicable safety precautions.
- Do not use product if damaged.
- Always ensure the clamp meter is removed from any live electrical circuit, before removing the battery cover.
- Do not hold the clamp meter anywhere beyond the tactile barrier see FIG 1.

2. INTRODUCTION

The METRACLIP 41 / METRACLIP 410 current clamp meters have been designed for reliable and accurate, non-intrusive measurement of AC, DC and complex waveform currents.

Using advanced Hall Effect technology the METRACLIP 41 / METRACLIP 410 can measure currents accurately from 5mA to 40 Amps (METRACLIP 41) and a from 100mA to 400A (METRACLIP 410).

Measurement features include:

- True RMS reading
- 1mA / 10mA Resolution
- Autoranging / Autozeroing / Auto Power Off
- Data Hold

These features make it a powerful tool for use in inverters, switch mode power supplies, industrial controllers and other applications requiring current measurement and/or waveform analysis.

3. SPECIFICATION

3.1 Electrical data

(All accuracies stated at 23℃ ± 1℃)

METRACLIP 41

Measuring range	0 to 40A DC or AC_{pk}
Current Ranges (Autoranging)	4A / 40A
Resoution	1mA / 10mA
Overload capacity (60s)	200A

METRACLIP 410

Measuring range	0 to 400A DC or AC_{pk}
Current Ranges (Autoranging)	40A / 400A
Resoution	10mA / 100mA
Overload capacity (60s)	600A

3.2 General data

Overall DC accuracy	±1% of rdg ±5 digits
Temperature Coefficient	±0.1% of reading/℃
Frequency range (-0.5dB)	DC and 15 – 400Hz
Working voltage	300V AC_{RMS} or DC
Operating temperature	0℃ to +50℃
Storage temperature with battery removed	-20℃ to +85℃
Power supply	9 V Alkaline battery PP3, MN 1604 or IEC6LR61

Battery life……..15 hours (Metraclip 41)
……50 hours

Display…… 4000 count

Conductor size……..25 mm diameter

Weight…… 235 g

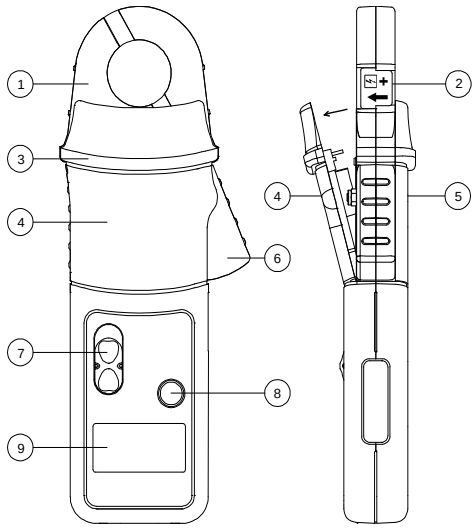

FIG 1

1. Jaws
2. Conventional current direction
3. Tactile Barrier
4. Battery cover
5. Battery cover screw
6. Jaw trigger
7. ON/OFF switch
8. Auto zero button
9. LCD Display

4. OPERATING INSTRUCTIONS

4.1 Switch On

Move the switch from OFF position to either DC or AC to select the required mode of operation.

4.2 Auto Zero

When in DC mode the display zero may change due to thermal shifts and other environmental conditions. To null the display reading depress the Auto Zero button. Ensure that the clamp meter is away from the current carrying conductor whilst the display reading is being nulled.

4.3 Current Measurement

Select DC or AC option as required using the switch.

Zero the display reading using the Auto Zero button.

Clamp the jaws round the conductor ensuring a good contact between the closing faces of the jaws.

Observe and take measurements as required. Positive output indicates that the current flow is in the direction shown by the arrow on the probe.

4.4 Data Hold

To activate the data hold press the Hold button once. The last reading will be held on the display. Press the hold button again to go back to the normal operation.

4.5 Auto Power OFF

In order to save battery life, the clamp meter will automatically switch itself off after approximately 10 minutes. To disable the Auto power off function, Switch Off the probe and Switch On whilst pressing the auto zero button.

4.6 Battery Replacement

SAFETY WARNING
Before removing the battery cover, make sure that the probe is remote from any live electrical circuit.

When the Low Battery symbol is illuminated in the display the minimum battery voltage has been reached. Refer to Fig. 1 and use the following procedure to replace the battery.

Unclamp the clamp meter from the conductor, turn it off using the **On - Off** switch.

Loosen the captive screw which secures the battery cover. Lift the cover through 30° and pull it clear of the body as shown in Fig 1. Replace the battery and re-fit the battery cover and fasten the screw .

Fit only Type 9 V PP3 Alkaline (MN 1604).

5. SAFETY STANDARDS

EN 61010-1:2001
EN 61010-2-032:2002
EN 61010-031:2002
300V Cat III Pollution Degree 2

EMC Standards

EN 61326-2-2:2006

ROHS and WEEE compliant

This product is designed to be safe under the following conditions:

- indoor use
- altitude up to 2000m
- temperature 0℃ to +50℃
- maximum relative humidity 80% for temperatures up to 31℃ decreasing linearly to 40% relative humidity at 50℃.

Use of the current clamp meter on **uninsulated conductors** is limited to 300V AC_{RMS} or d.c. and frequencies below 1kHz.

Safety in its use is the responsibility of the operator who must be a suitably qualified or authorised person. Ensure that your fingers are behind the **protective barrier** see FIG 1 when using the clamp meter. Always inspect the clamp meter for damage before use.

To avoid electric shock, keep the clamp meter clean and free of surface contamination.

Use Isopropyl alcohol to clean the clamp meter.

6. WARRANTY

Your Metraclip is guaranteed for two years from the date of purchase against defective material or workmanship. If the unit fails during the warranty period, we shall at our discretion, repair or replace it with a new or reconditioned unit provided we are satisfied that the failure is due to defective material or workmanship. To make a claim under warranty, the probe should be returned to us, postage prepaid, with a description of the defect. The use of a battery or external power supply, other than that specified invalidates this warranty.

Goods alleged by the buyer to be defective shall not form the subject of any claim for injury, loss, damage, or any expense howsoever incurred whether arising directly or indirectly from such alleged defects other than death or personal injury resulting from the seller‘s negligence.

No condition is made or to be implied nor is any warranty given or to be implied as to the life or wear of goods supplied or that they will be suitable for any particular purpose or for use under specific conditions, notwithstanding that such purpose or conditions may be made known to the seller.