

## Operating Instructions

CP 30  
CP 330  
CP 1100  
CP 1800  
AC/DC current probe

3-349-600-37  
2/5.13



## Order Reference

CP 30  
CP 330  
CP 1100  
CP 1800

## Order No.

Z201B  
Z202B  
Z203B  
Z204A

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.

## 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 the operating instructions completely and carefully before placing your instrument into service, and follow all instructions contained therein.

### 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 probe is removed from any live electrical circuit, before removing the battery cover.
- Do not hold the probe anywhere beyond the tactile barrier see FIG 1, in order to avoid dangerous contact with the conductor.

## 2. INTRODUCTION

The CP 30, CP 330, CP 1100 and CP 1800 AC/DC current probe have been designed for reliable and accurate, non-intrusive measurement of AC, DC and complex waveform currents.

Using advanced Hall Effect technology the CP 30, CP 330 and CP 1100 can measure currents accurately up to 30 Amps (CP 30), up to 450A (CP 330), up to 1400A (CP 1100) and up to 1800A (CP 1800).

Measurement features include:

- AC and DC current measurement
- High accuracy
- 1mA / 50mA / 100 mA Resolution
- Auto Power Off

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°C ± 1°C)

#### CP 30 (Z201B)

Measuring range .....	0 to 30A DC or ACpk
Current Range .....	30A
Resolution .....	1mA
Overload capacity (60s) .....	500A
Basic accuracy (DC...300Hz) ...	±1% of rdg ±2mA
Temperature Coefficient .....	±0.01% of reading/°C
Frequency range .....	DC to 20kHz (-1dB)

#### CP 330 (Z202B)

Measuring range .....	0 to 450A DC or ACpk
Current Ranges .....	30A / 300A
Resolution .....	10mA / 100mA
Overload capacity (60s) .....	600A
Basic accuracy (DC...300Hz) ...	±1% of rdg ±50/100mA
Frequency range .....	DC to 20kHz (-3dB)

#### CP 1100 (Z203B)

Measuring range .....	0 to 1400A DC, ACpk
Current Ranges .....	100A / 1000A
Resolution .....	100mA / 500mA
Overload capacity (60s) .....	2000A
Basic accuracy (DC...300Hz) ...	±1% of rdg ±100/500mA
Frequency range .....	DC to 20kHz (-3dB)

#### CP 1800 (Z204A)

Measuring range .....	0 to 1800A DC, ACpk
Current Ranges .....	125A / 1250A
Resolution .....	100mA / 500mA
Overload capacity (60s) .....	2000A
Basic accuracy (DC...300Hz) ...	±1% of rdg ±100/500mA
Frequency range .....	DC to 20kHz (-3dB)

## 3.2 General data

Overall DC accuracy .....	±1% of rdg
Working voltage .....	300V ACRMS or DC
Operating temperature .....	0°C to +50°C
Storage temperature with battery removed .....	-20°C to +85°C
Power supply .....	9 V Alkaline battery
.....	PP3, MN 1604
.....	or IEC6LR61
Battery life .....	30 hours (typical)
Output connection: .....	1.5m cable with 4mm safety connectors
Conductor size .....	25 mm diameter
CP 1100, CP 1800 .....	32 mm diameter
Weight .....	320 g
Dimensions (H, W, D) .....	194 x 74 x 25mm
CP 1100, CP 1800 .....	200 x 74 x 25mm

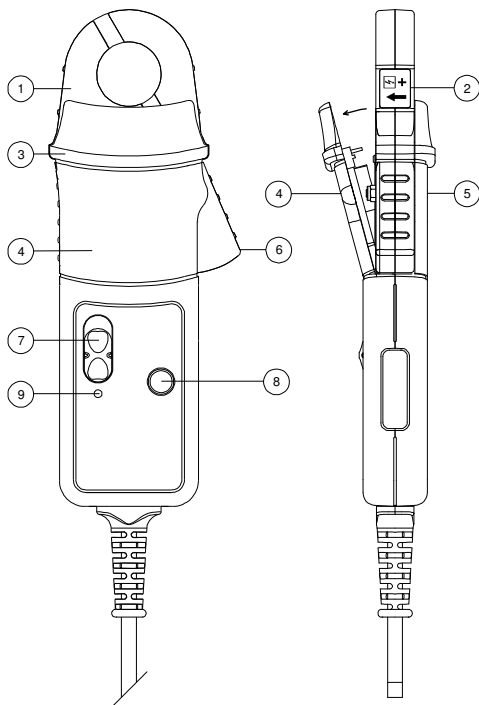


FIG 1

1. Jaws
2. Conventional current direction
3. Safety zone delimiter (Tactile Barrier):  
**Do not reach beyond the safety collar!**
4. Battery cover
5. Battery cover screw
6. Jaw trigger
7. ON/OFF / Range switch
8. Auto zero button
9. LED

## 4. OPERATING INSTRUCTIONS

### 4.1 Switch On

When the probe is switched on, the **green LED** will illuminate. The LED starts flashing when the battery voltage is too low for normal operation and warns the user that it requires changing. This procedure is described in Section 5.

### 4.2 Auto Zero

The output zero offset voltage of the probe may change due to thermal shifts and other environmental conditions. To null the output voltage depress the Auto Zero button. Ensure that the probe is away from the current carrying conductor whilst the probe is being nulled.

### 4.3 Current Measurement

Switch on the probe and check that the LED is lit.

Connect the output lead to an oscilloscope, multimeter or other measuring equipment.

Zero the probe using the Auto Zero button.

Clamp the jaws of the probe 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 Auto Power OFF

In order to save battery life, the probe 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. The red LED will illuminate and the probe will stay On until switched off again.

### 4.5 Battery Replacement

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

The green or red LED will flash when the minimum operating voltage is approached. Refer to Fig.1. Use the following procedure.

Unclamp the probe from the conductor, turn it off using the **On - Off** switch and disconnect the output leads, from external equipment.

Loosen the captive screw which secures the battery cover. Lift the cover through 30° and pull it clear of the probe 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°C to +50°C
- maximum relative humidity 80% for temperatures up to 31°C decreasing linearly to 40% relative humidity at 50°C.

Use of the probe on **uninsulated conductors** is limited to 300V AC<sub>RMS</sub> 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 probe. Always inspect the probe for damage before use.

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

Use Isopropyl alcohol to clean the probe.

## 6. WARRANTY

Your AC/DC current probe 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.

## 7 PRODUCT SUPPORT

If required please contact:

GMC-I Messtechnik GmbH

### Product Support Hotline

Phone: +49 911 86 02-0

Fax: +49 911 86 02-7 09

Email: [support@gossenmetrawatt.com](mailto:support@gossenmetrawatt.com)

## 8 REPAIR AND REPLACEMENT PARTS SERVICE DKD CALIBRATION CENTRE AND RENTAL INSTRUMENT SERVICE

If required please contact:

GMC-I Service GmbH

Service Center

Thomas-Mann-Strasse 20

90471 Nürnberg, Germany

Phone: +49 911 817718-0

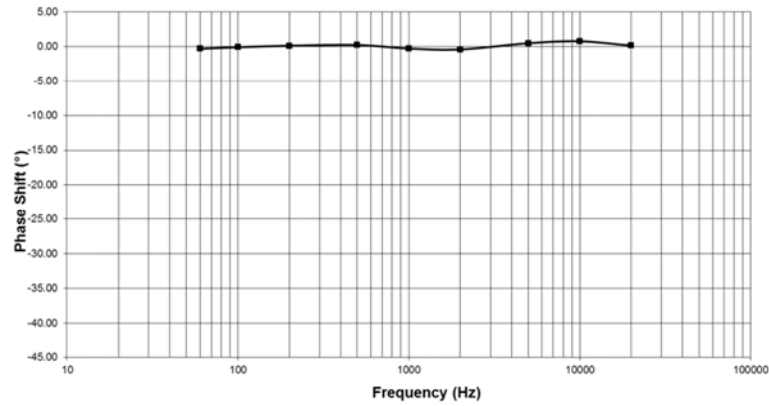
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E-mail: [service@gossenmetrawatt.com](mailto:service@gossenmetrawatt.com)

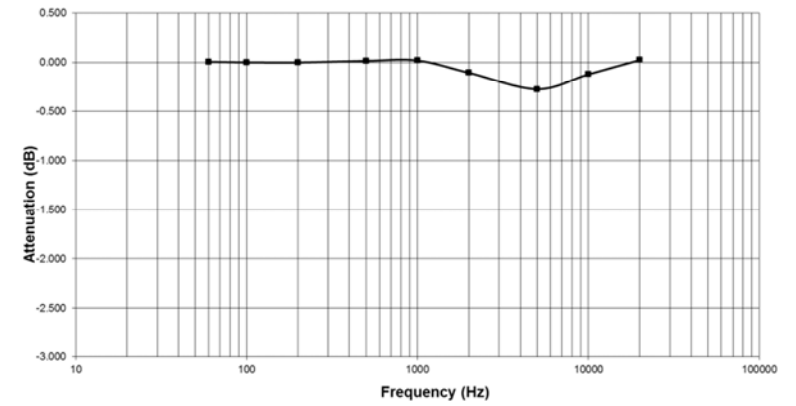
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CP30\_CP330\_CP1100 English Rev 1.3

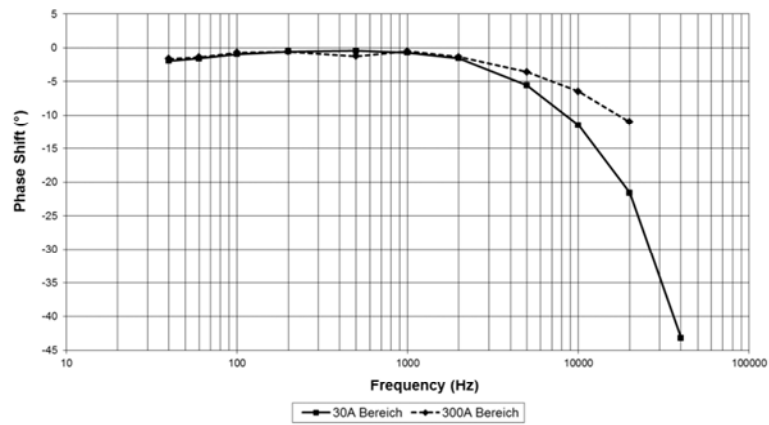
Frequency Response CP 30



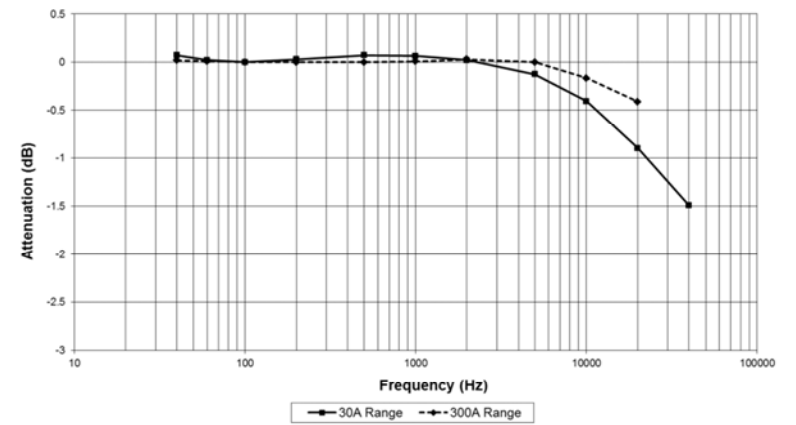
Frequency Response CP 30



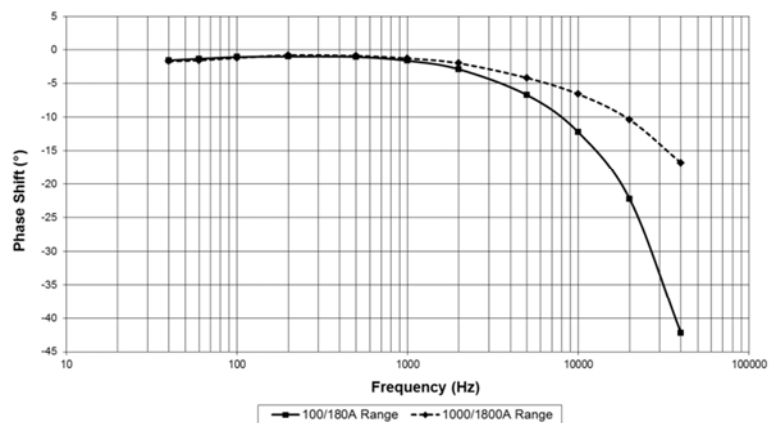
Frequency Response CP330



Frequency Response CP330



Frequency Response CP1100/CP1800



Frequency Response CP1100/CP1800

