

# CP 30 / CP 330 / CP 1100 / CP 1800 AC / DC Current Probe

3-349-601-03  
6/12.16

- AC and DC current measurement  
CP 30: max. 30 A  
CP 330: max. 450 A  
CP 1100: max. 1400 A  
CP 1800: max. 1800 A
- Resolution:  
CP 30: 1 mA  
CP 330: 50 mA  
CP 1100: 100 mA  
CP 1800: 100 mA
- Opening angle of current clamp brackets:  
CP 30: 25 mm Ø  
CP 330: 25 mm Ø  
CP 1100: 32 mm Ø  
CP 1800: 32 mm Ø
- High accuracy
- Automatic zero balancing
- Auto Power Off
- Using advanced Hall effect technology



## Applications

The CP 30, CP 330, CP 1100 and CP 1800 AC / DC current probes have been designed for reliable and accurate, contactless measurement of AC, DC and complex waveform currents. Their special characteristics make these current probes high-performance instruments for the measurement of inverters, switched-mode power supply units, industrial control systems and other applications which require current measurement or waveform analysis.

## Features

### Auto Power OFF

The device is switched off automatically after approx. 10 minutes if none of its keys have been activated during this time. Automatic shutdown can be deactivated.

## Characteristic Values

|                                 | CP 30                   | CP 330                  | CP 1100                 | CP 1800                 |
|---------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Measuring Range <sup>1)</sup>   | 30 A                    | 30 A / 300 A            | 100 A / 1000 A          | 125 A / 1250 A          |
| Resolution                      | 1 mA                    | 50 mA / 100 mA          | 100 mA / 500 mA         | 100 mA / 500 mA         |
| Overload Capacity (60 s)        | 500 A                   | 600 A                   | 2000 A                  | 2000 A                  |
| Temperature Coefficient         | ±0.01 % rdg./°C         | ±0.1 % rdg./°C          | ±0.1 % rdg./°C          | ±0.1 % rdg./°C          |
| Transformation Ratio            | 100 mV/A                | 10 mV/A<br>1 mV/A       | 10 mV/A<br>1 mV/A       | 10 mV/A<br>1 mV/A       |
| Overall Accuracy                | ±1 % rdg. ±2 mA         | ±1 % rdg. ±50/100 mA    | ±1 % rdg. ±100/500 mA   | ±1 % rdg. ±100/500 mA   |
| Frequency Range                 | DC up to 20 kHz (-1 dB) | DC up to 20 kHz (-3 dB) | DC up to 20 kHz (-1 dB) | DC up to 20 kHz (-1 dB) |
| Phase shift <sup>2)</sup>       | <2°                     |                         |                         |                         |
| Load Impedance                  | >100 kΩ and ≤100 pF     |                         |                         |                         |
| Influence of Conductor Position | ±1 % <sup>2)</sup>      |                         |                         |                         |

<sup>1)</sup> CP 30: DC or AC<sub>pk</sub>; CP 330/CP 1100/CP 1800: DC or AC<sub>RMS</sub>

<sup>2)</sup> under reference conditions

Operating voltage 300 V AC<sub>RMS</sub> or DC  
Key rdg. = reading (measured value)

# CP 30 / CP 330 / CP 1100 / CP 1800

## AC / DC Current Probe

### Reference Conditions

|                                 |                                                                                        |
|---------------------------------|----------------------------------------------------------------------------------------|
| Ambient temperature             | +22 °C ... +24 °C                                                                      |
| Conductor position              | Conductor located vertically in relation to sensor level and at the geometrical center |
| Frequency of measuring quantity | 45 Hz ... 65 Hz                                                                        |

### Ambient Conditions

|                                                  |                                                                                                         |
|--------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Operating temperature range                      | 0 °C ... +50 °C                                                                                         |
| Relative humidity                                | max. 80 %, up to 31 °C decreasing linearly to 40 % relative humidity at 50 °C (no condensation allowed) |
| Storage temperature range with batteries removed | -20 °C ... + 85 °C                                                                                      |
| Elevation                                        | to 2000 m                                                                                               |
| Deployment                                       | indoors; outdoors except within specified ambient conditions                                            |

### Power Supply

|                    |                                                                                             |
|--------------------|---------------------------------------------------------------------------------------------|
| Batteries          | 9 V alkaline battery; PP3, MN 1604 or IEC 6LR61                                             |
| Service life       | 30 hrs. (typical)                                                                           |
| Automatic shutdown | to save batteries, the current probe is switched off automatically after approx. 10 minutes |

### Electrical Safety

|                    |               |
|--------------------|---------------|
| Measuring category | 300 V CAT III |
| Pollution degree   | 2             |

### Electromagnetic Compatibility (EMC)

|                        |                   |
|------------------------|-------------------|
| Interference emission/ |                   |
| Interference immunity  | EN 61326-2-2:2013 |

### Mechanical Design

|                                         |                                                                                                                              |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Dimensions                              | CP 30 / CP 330:<br>194 mm x 74 mm x 25 mm<br>CP 1100 / CP 1800:<br>200 mm x 74 mm x 25 mm                                    |
| Weight                                  | 320 g                                                                                                                        |
| Opening angle of current clamp brackets | CP 30 / CP 330: 25 mm Ø<br>CP 1100 / CP 1800: 32 mm Ø                                                                        |
| Output terminals                        | 1.5 m cable with two 4 mm safety plugs<br>CP 30/CP 1100: shielded two-way adapter<br>CP 330/CP 1800: 2 separate angled plugs |

### Applicable Regulations and Standards

|                                       |                                                                                                                    |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| IEC 61010-1/EN 61010-1/<br>VDE 0411-1 | Safety requirements for electrical equipment for measurement, control and laboratory use – General requirements    |
| EN 61010-2-032/<br>VDE 0411-2-032     | Special requirements for current clamps                                                                            |
| EN 60529<br>VDE 0470, part 1          | Test instruments and test procedures<br>Degrees of protection provided by enclosures (IP code)                     |
| DIN EN 61326-1<br>VDE 0843-20-1       | Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 1: General requirements |

### Standard Equipment

- 1 AC / DC current probe
- 1 9 V alkaline battery
- 1 Operating instructions

### Order Information

| Description           | Type    | Article number |
|-----------------------|---------|----------------|
| AC / DC current probe | CP 30   | Z201B          |
| AC / DC current probe | CP 330  | Z202B          |
| AC / DC current probe | CP 1100 | Z203B          |
| AC / DC current probe | CP 1800 | Z204A          |

For additional information regarding accessories please refer to

- our Measuring Instruments and Testers catalogue or