



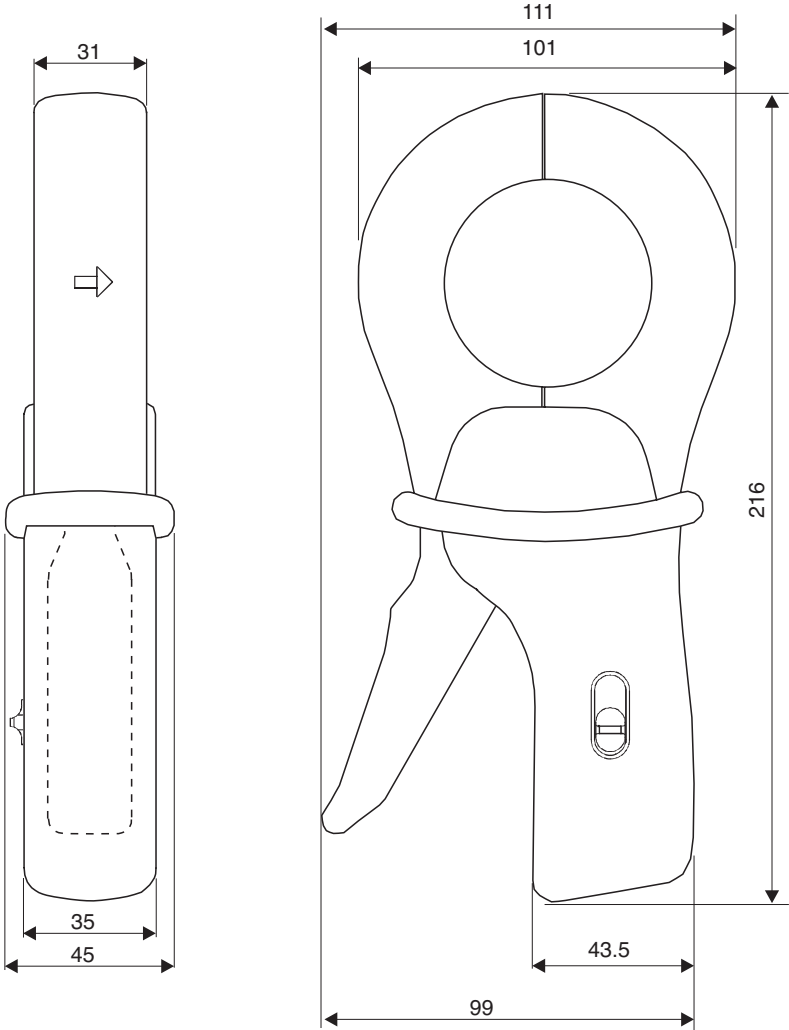
### "C 100" SERIES

The "C100" series is a range of thirteen transformer clamps with all the advantages of our old "C30" series clamps whilst incorporating considerable improvements, particularly in the field of safety, ergonomics and performance:

- 1,000 A measurement, excellent metrology, high accuracy, high level of linearity, symmetrical coil windings for minimum phase shift, pendular adjusting system for magnetic elements, maximum conductor diameter  $\varnothing$  52 mm and also some models with  $\mu$  metal core specially made for wattmeter use.
- Innovative design: excellent ergonomics, handle with finger grips, assisted opening system for jaws (patented system), IEC 1010 600 V cat. III safety (industry and services), antislip protection, conductor anti-pinching system,...

All this technology and manufacturing quality has been combined to provide the best measurement possible without any complications.

A "C100" series clamp is compatible with any instrument (multimeter, wattmeter, recorder, oscilloscope...) for safe measurement of AC currents without shutting down the installation.



# Current clamps for AC current

## Models C116 and C117

C100 series



Current	1,000 A
Output	1 mV/A

### DESCRIPTION

Thanks to their excellent technical performance (phase shift and linearity), these  $\mu$ -metal core clamps are highly recommended for wattmeter use.

### ELECTRICAL SPECIFICATIONS

- Current range:**  
0.001 A AC .. 1,200 A AC
- Output signal:**  
1 mVAC/A AC (1 V for 1,000 A)
- Accuracy and phase shift <sup>(1)</sup>:**

Primary current	1 mA .. 100 mA	0.1 A .. 1 A	1 A .. 10 A	10 A .. 100 A	100 A .. 1,200 A
% Accuracy of output signal	$\leq 3\% + 5 \mu\text{A}$	$\leq 2\% + 3 \mu\text{A}$	$\leq 1\%$	$\leq 0.5\%$	$\leq 0.3\%$
Phase shift	not specified	not specified	$\leq 2^\circ$	$\leq 1^\circ$	$\leq 0.7^\circ$

- Bandwidth:**  
30 Hz .. 10 kHz
- Crest factor:**  
 $\leq 6$  for a current  $\leq 2,000$  A peak (300 A<sub>RMS</sub>)
- Maximum currents:**  
1,000 A continuous for a frequency  $\leq 1$  kHz (limitation proportional to the inverse of frequency beyond)  
1,200 A for 40 minutes max (interval between measurements > 20 minutes)
- Output impedance:**  
 $1 \Omega \pm 1\%$
- Load impedance:**  
 $\geq 1 \text{ M}\Omega$  and  $\leq 100 \text{ pF}$
- Operating voltage:**  
600 V<sub>RMS</sub>
- Common mode voltage:**  
600 V category III and pollution degree 2
- Influence of adjacent conductor:**  
 $\leq 0.5 \text{ mA/A}$  at 50 Hz
- Influence of conductor position in jaws:**  
 $\leq 0.1\%$  of output signal for frequencies  $\leq 400$  Hz
- Load influence:**  
On receiver, for an input impedance of  $100 \Omega$ :  
 $\leq 1\%$  on measurement, no measurement on phase.  
On receiver, for an input impedance of  $1 \text{ k}\Omega$ :  
 $\leq 0.1\%$  on measurement, no measurement on phase.
- Influence of frequency <sup>(2)</sup>:**  
 $< 0.5\%$  of output signal from 30 Hz .. 48 Hz  
 $< 1\%$  of output signal from 65 Hz .. 1 kHz  
 $< 2\%$  of output signal from 1 kHz .. 5 kHz

- Influence of crest factor:**  
 $< 1\%$  of output signal for crest factor  $\leq 6$  with current  $\leq 2,000$  A peak
- Influence of DC current superimposed on rated current:**  
 $< 1\%$  of output signal for a current  $\leq 15$  A DC

### MECHANICAL SPECIFICATIONS

- Operating temperature:**  
 $-10^\circ\text{C}$  to  $+50^\circ\text{C}$
- Storage temperature:**  
 $40^\circ\text{C}$  to  $+70^\circ\text{C}$
- Influence of temperature:**  
 $\leq 0.2\%$  of output signal per  $10^\circ\text{K}$
- Relative humidity for operation:**  
0 to 85 % RH decreasing linearly above  $35^\circ\text{C}$
- Influence of relative humidity:**  
 $< 0.1\%$  of output signal from 10 % to 85 % RH
- Operating altitude:**  
0 to 2,000 m
- Max. jaw opening:**  
53 mm  
Patented progressive opening system
- Clamping capacity:**  
Cable:  $\emptyset$  max 52 mm  
Busbar: 1 busbar of  $50 \times 5 \text{ mm}$  /  
4 busbars of  $30 \times 5 \text{ mm}$
- Casing protection rating:**  
IP40 (IEC 529)
- Drop test:** 1 m (IEC 68-2-32)
- Shock resistance:**  
100 g (IEC 68-2-27)

- Vibration resistance:**  
5/15 Hz 1.5 mm  
15/25 Hz 1 mm  
25/55 Hz 0.25 mm  
(IEC 68-2-6)
- Self-extinguishing capability:**  
Casing and jaws: UL94 V0
- Dimensions:**  
216 x 111 x 45 mm
- Weight:**  
550 g
- Colours:**  
Dark grey case with red jaws
- Output:**  
C116: Safety sockets (4 mm)  
C117: two-wire cable with reinforced insulation or double insulation, length 1.5 m, terminated by 2 insulated elbowed male banana plugs,  $\emptyset 4 \text{ mm}$

### SAFETY SPECIFICATIONS

- Electrical safety:**  
Instrument with double insulation or reinforced insulation between the primary the secondary and the grippable part located under the guard as per IEC 1010-1 & IEC 1010-2-032  
- 600 V category III, pollution degree 2  
- 300 V category IV, pollution degree 2
- Electromagnetic compatibility (EMC):**  
EN 50081-1: class B  
EN 50082-2:  
- Electrostatic discharge: IEC 1000-4-2  
- Radiated field: IEC 1000-4-3  
- Fast transients: IEC 1000-4-4  
- Magnetic field at 50/60 Hz: IEC 1000-4-8

(1) Conditions of reference:  $23^\circ\text{C} \pm 3^\circ\text{K}$ , 20 % to 75 % RH, signal sinus, frequency of 48 Hz to 65 Hz, distortion factor  $< 1\%$ , no DC components, external magnetic field  $< 40 \text{ A/m}$ , no AC magnetic field, conductor centred for measurement, load impedance  $\geq 1 \text{ M}\Omega$  and  $\leq 100 \text{ pF}$

(2) Out of reference domain

To order	Reference
AC current clamp model <b>C116</b> with operating manual	P01120316
AC current clamp model <b>C117</b> with operating manual	P01120317

