

# Current clamp for AC current

## Model C122

C100 series

Current	1,000 A
Ratio	1000/5
Output	5 mA/A

### DESCRIPTION

An electronic voltage-limiting system protects output of clamp when operating, if the secondary circuit is opened accidentally.

### ELECTRICAL SPECIFICATIONS

- **Current range:**  
1 A AC .. 1,200 A AC
- **Current transformation ratio:**  
1000:5
- **Output signal:**  
5 mA AC / A AC (5 A for 1,000 A)
- **Accuracy and phase shift <sup>(1)</sup>:**

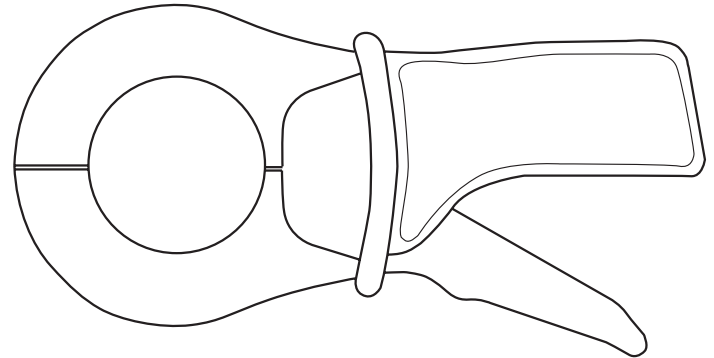
Primary current	1 A .. 20 A	20 A	50 A <sup>(2)</sup>	200 A <sup>(2)</sup>	1,000 A <sup>(2)</sup>	1,200 A <sup>(2)</sup>
Accuracy en %	≤ 6% + 0.5 mA	≤ 5%	≤ 3%	≤ 1.5%	≤ 1%	≤ 1%
Phase shift	not specified	≤ 3°	≤ 3°	≤ 1.5°	≤ 1°	≤ 1°

- **Bandwidth:**  
30 Hz .. 10 kHz
- **Crest factor:**  
≤ 6 for a current ≤ 3,000 A peak (500 A<sub>RMS</sub>)
- **Maximum currents:**  
1,000 A continuous for a frequency ≤ 1 kHz (limitation proportional to the inverse of frequency beyond)  
1,200 A for 30 minutes max (interval between measurements > 15 minutes)
- **Load impedance:**  
≤ 0.6 Ω
- **Impedance of connection leads:**  
≤ 40 mΩ
- **Maximum output voltage (secondary open):**  
Electronic protection circuit limiting voltage to 30 V peak max
- **Operating voltage:**  
600 V<sub>RMS</sub>
- **Common mode voltage:**  
600 V category III and pollution degree 2
- **Influence of adjacent conductor:**  
≤ 1 mA/A at 50 Hz
- **Influence of conductor position in jaws:**  
≤ 0.2 % of output signal for frequencies ≤ 400 Hz
- **Load influence:**  
From 0.2 Ω to 0.6 Ω  
< 0.5 % on measurement  
< 0.5° on phase
- **Influence of frequency <sup>(3)</sup>:**  
< 1 % of output signal from 30 Hz .. 48 Hz  
< 0.5 % of output signal from 65 Hz .. 1 kHz  
< 1 % of output signal from 1 kHz .. 5 kHz

- **Influence of crest factor:**  
< 1 % of output signal for crest factor ≤ 6 with current ≤ 3,000 A peak (500 A<sub>RMS</sub>)
- **Influence of DC current superimposed on rated current:**  
< 1 % of output signal for a current ≤ 30 A DC

### MECHANICAL SPECIFICATIONS

- **Operating temperature:**  
-10 °C to +50 °C
- **Storage temperature:**  
-40 °C to +70 °C
- **Influence of temperature:**  
≤ 0.1 % of output signal per 10 °K
- **Relative humidity for operation:**  
0 to 85 % RH with a linear decrease above 35 °C
- **Influence of relative humidity:**  
< 0.2 % 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: Ø max 52 mm  
- Busbar: 1 busbar of 50 x 5 mm / 4 busbars of 30 x 5 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:**  
Safety sockets (4 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 °C ± 3 °K, 20 % to 75 % RH, signal sinus, frequency of 48 Hz to 65 Hz, distortion factor < 1 %, no DC components, external magnetic field < 40 A/m, no AC magnetic field, conductor centred for measurement, load impedance 0.2 Ω (5 VA)

(2) Accuracy class in accordance with IEC 185: 5 VA - class 1 - 48 .. 65 Hz

(3) Out of reference domain

To order	Reference
AC current clamp model <b>C122</b> with operating manual	P01120306