

# ICLAMP

## 1000 A AC Current Probe



- **CAT IV 600 V current measurement to 1000 A AC**
- **1 mA/1 A sensitivity with rated burden of 1  $\Omega$**
- **Large jaws for cables up to 52 mm**
- **Overtoltage protection of the output terminals**
- **Suitable for leakage currents**

### DESCRIPTION

The ICLAMP current probe is designed for measurements of AC currents up to 1000 A with a 1000:1 step-down ratio.

The probe offers excellent accuracy (0.3% error at full range) and small phase shift (0.7° at full range) so it can be used for metering of power, energy and power quality applications.

Such high performance is achieved because the magnetic cores are made from high-permeability Ni-Fe alloy.

The rated terminating resistance (burden) of 1  $\Omega$  must be provided by the instrument connecting to ICLAMP.

The output terminals of ICLAMP are protected with a voltage limiting circuit ensuring a safe-to-touch voltage under all rated conditions.

ICLAMP is rated to CATIV 600 V, according the international standard IEC 61010.

### APPLICATIONS

The ICLAMP is a non contact current sensing clamp which is simple to use and has application with the following instruments:

- Power quality analysers
- Oscilloscopes
- Motor testers
- Clamp enabled earth testers
- Attached Rod Technique (ART)
- Stakeless testing
- Data loggers
- Digital multimeters

### Clamp Usage

The ICLAMP is intended to clamp around a single phase of the asset to be tested and not phase + neutral because this would yield an incorrect result as a consequence of current flowing in opposite directions. Try to keep clamps separate wherever possible to improve quality of multiphase current measurements.

An ammeter measuring up to 1 A can be connected directly to the ICLAMP. A current of 1000 A will result in the ammeter reading 1 A (1000:1 step down ratio).

The ICLAMP generates 1 mV output signal across 1  $\Omega$  burden resistance for every 1 A of primary current, so if using a multimeter, one with a mV AC range is required. Dedicated earth tester instruments like Megger's DET3TC, DET4TC and DET4TCR will need to ensure the input resistance and measurement circuitry are appropriate for the 1 mV – 1 V input range and a primary current limit of 20 A.

If using a TRMS multimeter the voltage reading will be TRMS because of the accuracy and crest factor performance of the ICLAMP.

## ELECTRICAL SPECIFICATIONS

**Step-down current ratio** 1000:1

**Sensitivity** 1 mA/A

### Amplitude and phase accuracy of the output signal

Primary current *	Accuracy of output signal	Phase shift of output signal
1 mA – 100 mA	≤1% + 5 μA	not specified
0.1 A – 1 A		≤0.7°
1 A – 10 A		
10 A – 100 A	≤0.5%	
100 A – 1000 A	≤0.3%	

\* Unless otherwise specified, reference conditions are: 22 ±3°C, 50% humidity, sinusoidal current at 50/60 Hz, no DC offset, centred conductor, external magnetic field <40 A/m, load impedance (burden) ≤1 Ω.

### Maximum continuous current

1000 A at ≤500 Hz

100 A at >500 Hz

**Frequency bandwidth** 15 Hz – 10 kHz

**Crest factor** ≥6 for current up to 2000 A peak (300 A rms)

**Influence of crest factor** ≤1% for CF≤4

**Nominal load impedance** ≤1 Ω (burden resistance)

**Maximum output voltage** ≤28 V peak (electronic limiter)

**Influence of frequency** 30 Hz – 5 kHz ≤0.25%

**Influence of conductor position in the jaws** ≤0.3% of amplitude

**Load influence up to 5Ω** amplitude within specification up to 900 A  
 ≤0.25% of amplitude above 900 A  
 ≤0.1° on phase

**Influence of DC offset** ≤2% up to 20 A DC

**Working voltage** ≤600 V rms

## ENVIRONMENTAL

**Operating temperature** -20 °C to +50 °C, <85% RH  
 -4 F to +122 F, <85% RH  
 (excluding ice or dirt in the jaws)

**Storage temperature** -40 °C to +70 °C, <85% RH  
 -40 F to +158 F, <85% RH

**Influence of temperature** ≤0.1% on amplitude phase within specification

**Influence of humidity** amplitude and phase within specification (excludes ice or dirt on the jaws)

**Max. conductor diameter** 52 mm

## GENERAL SPECIFICATIONS

**Casing protection** IP40 with jaws closed

**Operating altitude** 2000 m

**Output terminals** 4 mm shrouded sockets

**Electrical safety** IEC 61010-1:2010 + IEC 61010-2-030:2010 + IEC61010-2-032:2002

**EMC** IEC61326-1

**Safety** CAT IV 600 V Pollution degree 2

**Weight** 700g

**Dimensions** 45 mm x 110 mm x 218 mm

## ORDERING INFORMATION

Item (Qty)	Cat. No.
ICLAMP	1001-012
VCLAMP	1001-013