

# ALC-110 Leakage Current Clamp

Prevent unplanned downtime by detecting leakage currents with the ALC-110 Leakage Current Clamp. Rated CAT III 600 V to ensure electrical safety, the ALC-110 is designed to resist external magnetic fields for highly accurate readings.

## Features

- **Low influence of external low frequency magnetic fields:** @ In: 3.500 mA – 600.0 mA ≤ 30 A/m, operating class 2
- **True-rms measurements** for accuracy when measuring complex, non-sinusoidal waveforms
- **Mechanical jaw lock** to assure accuracy of low current measurements, avoiding disturbance from measured wires and magnetic fields; jaw opening 1.2 in (30 mm)
- **Highest resolution of 0.001 mA**, measure up to 60 A
- **Broad frequency range 15 Hz to 1 kHz** for a variety of different applications, including industrial and railway
- **Selectable filters:**
  - Low Pass 50/60Hz filter to perform measurements on equipment driven by Variable Frequency Drives (VFDs) or affected by high frequency noise
  - Appliance Filter to conduct leakage current measurements on appliances
  - No filter
- **Selectable limits:** 0.25 mA, 0.5 mA, 3.5 mA, 10 mA, 12 mA
- **Max readings and hold function**
- **High safety rating:** CAT III 600 V
- **Battery-saving design** with an auto backlight off and auto power off

## Applications

- **Measure:**
  - Earth and differential leakage currents
  - Leakage currents through the earth (PE) conductor
  - Appliance current consumption without interruptions to the circuit
- **Trace the source** of earth leakage current
- **Identify intermittent GFCI trips** without switching equipment off
- **Check a system for an electrical break** of insulation where current is flowing to the ground
- **Where industrial leakage current testing is required**



**ALC-110**  
Leakage Current Clamp

CAT III 600 V

UL US CE

### Safety Certification

All Amprobe tools, including the Amprobe ALC-110, are rigorously tested for safety, accuracy, reliability, and ruggedness in our state-of-the-art test lab. In addition, Amprobe products that measure electricity are listed by a 3rd party safety lab, either UL or CSA. This system assures that Amprobe products meet or exceed safety regulations and will perform in a tough, professional environment for many years to come.



## Specifications

Features	ALC-110
Complies with IEC/EN 61557-13	•
Built according IEC/EN 61010-2-032	•
Low frequency magnetic fields	≤ 30 A/m, operating class 2 @ I <sub>n</sub> : 3.500 mA to 600.0 mA / 40 Hz to 1 kHz
Safety, measurement category	CAT III 600 V
True-rms	•
AC frequency	15 Hz to 1 kHz
Low pass filter	50 Hz to 60 Hz, for appliance measuring acc. EN61557-16 amendment A, no filter
Limit judgement	0.25 mA, 0.5 mA, 3.5 mA, 10 mA, 12 mA
Jaw opening	1.2 in (30 mm) max.
Jaw locking	•
Data hold	•
Backlight function	•
Overload protection	60 A
Auto power off	Idle 20 minutes
Auto ranging	•
Max hold	•

AC current <sup>[1] [2] [3]</sup>					
Range	Resolution	Accuracy			
		15 Hz to 40 Hz	> 40 Hz to 50 Hz	> 50 Hz to 60 Hz	> 60 Hz to 1 kHz
6.000 mA	0.001 mA	±(5.0%+5D)	±(2.0%+5D)	±(1.0%+5D)	±(2.0%+5D)
60.00 mA	0.01 mA	±(5.0%+5D)	±(2.0%+5D)	±(1.0%+5D)	±(2.0%+5D)
600.0 mA	0.1 mA	±(5.0%+5D)	±(2.0%+5D)	±(1.0%+5D)	±(2.0%+5D)
6.000 A	0.001 A	Unspecified	±(2.0%+5D)	±(1.0%+5D)	±(2.0%+5D)
60.00 A	0.01 A	Unspecified	±(2.0%+5D)	±(1.0%+5D)	±(2.0%+5D)

<sup>[1]</sup> Crest Factor (C.F.) may be up to 3.0 as 3000 counts. For non-sinusoidal waveforms: Add 1.0% for C.F. 1.0 to 2.0 / Add 2.5% for C.F. 2.0 to 2.5 / Add 4.0% for C.F. 2.5 to 3.0. Position error of clamp: +/- 1% of LCD reading.

<sup>[2]</sup> Minimum reading is 0.010 mA.

<sup>[3]</sup> When operating in magnetic fields up to ≤ 30 A/m, add ±0.3 mA error to accuracy.

General Specifications	
Display	Digital: 6000 counts, updates 5/sec
Range	Auto ranging
Over range indication	OL or -OL
Operating temperature	32 °F to 86 °F (0 °C to 30 °C), ≤ 80% RH 86 °F to 104 °F (30 °C to 40 °C), ≤ 75% RH 104 °F to 122 °F (40 °C to 50 °C), ≤ 45% RH
Operating altitude	≤ 2000 m
Storage temperature	-4 °F to 140 °F (-20 °C to 60 °C)
Pollution degree	2
Temperature coefficient	0.1 x (specified accuracy) / °C (<21 °C, >25 °C)
Vibration requirement	acc. IEC 61557-1 clause 4.10
Drop proof	4 ft (1.2 m)
Battery	2 x batteries 1.5 V IEC LR03 AAA
Battery life	60 hours typical
Low battery indication	
Safety compliance	IEC/EN 61010-1, IEC/EN 61010-2-032, IEC/EN 61557-13
EMC compliance	IEC/EN 61326-1, IEC/EN 61326-2-2
Agency approvals	
Dimensions (H x W x L)	8.7 x 3.5 x 1.8 in (221 x 89 x 48 mm)
Weight	0.9 lb (410 g) with batteries installed

Included: 2 x AAA batteries, soft carrying case and user manual