

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



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 _n : 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 – 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 ^{[1] [2] [3]} | | | | | |
|-----------------------------------|------------|-------------|-------------|-------------|-------------|
| Range | Resolution | Accuracy | | | |
| | | 15 to 40 Hz | 40 to 50 Hz | 50 to 60 Hz | 60 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) |

^[1] 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.

^[2] Minimum reading is 0.010 mA.

^[3] 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 61010-2-030, 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