

# Artificial Neutral Model AN-1



The Artificial Neutral Model AN-1 generates a momentary grounded artificial neutral to allow the measurement of fault currents on ungrounded three-phase systems.

The Artificial Neutral is grounded intermittently through a relay driven by an internal electronic timer. This periodic grounding technique performs

three functions – limits the possibility of insulation faults within the instrument, allows for better discrimination of actual fault current and limits instrument overheating.

Relay closure time is switch selectable, Fast (0.5 seconds) or Slow (2.3 seconds), so that the ground fault clamp can be used on a meter with

either an analog or digital display. An internal buzzer, also driven by the relay, is activated each time the neutral connection is grounded. Three LEDs, one for each phase, show the presence of each of the three phases prior to measurement. A fourth green LED indicates that the instrument is operating.

 **CALRIGHT  
INSTRUMENTS**  
*The Right Source For Your Test & Measurement Needs*

8715 Mesa Point Terrace San Diego, CA 92154  
Toll Free: 1.866.363.6634 Tel: 1.619.429.4545 Fax: 1.619.374.7012  
Email: [sales@calright.com](mailto:sales@calright.com) <http://www.calright.com>

## Features

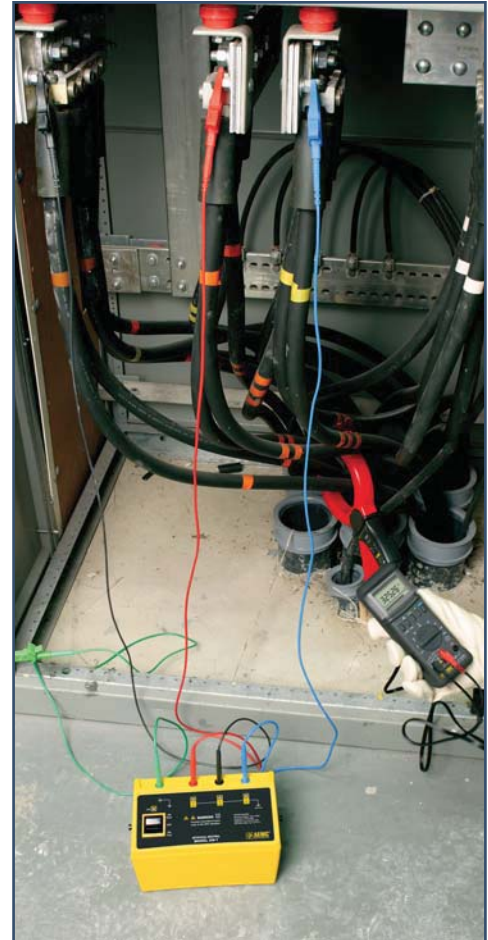
- Designed for ungrounded networks — provides intermittent path to ground for leakage current measurements
- Works from 30 to 600VAC
- Red LED phase fault indicator
- Switch selectable ground fault cycling of 500mS or 2.3 seconds
- Buzzer alerts each momentary fault
- Battery operated
- Double insulated, fire retardant case
- Four color-coded 5 ft 1000V rated leads supplied with alligator clips
- Works with Model 2620 and other leakage current probes



Leads are included with Model AN-1

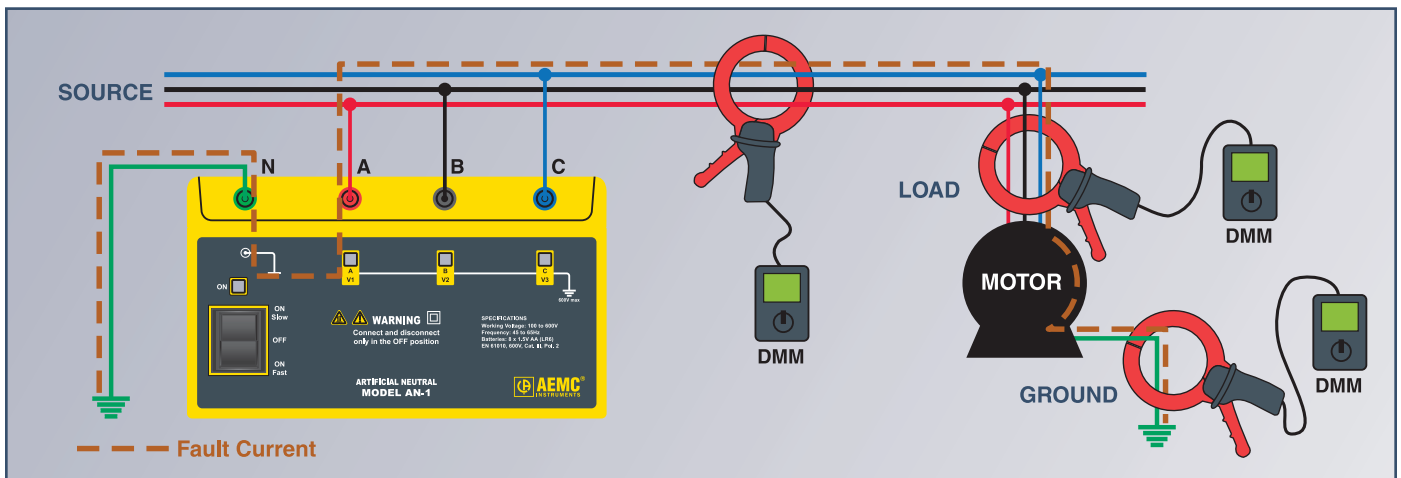
## Applications

- Troubleshoot faulty three-phase ungrounded devices
- Assist in leakage current measurements on ungrounded systems
- Create momentary ground conditions to detect fault currents



Model AN-1 creates a momentary ground to assist in fault current detection.

## Typical Points for Measuring Leakage Current



On ungrounded networks, the Model AN-1 generates a momentary grounded artificial neutral. Leakage current measurements can then be made, using a leakage current clamp and a multimeter, between the Model AN-1 and the load.



The Right Source For Your Test & Measurement Needs

8715 Mesa Point Terrace San Diego, CA 92154  
Toll Free: 1.866.363.6634 Tel: 1.619.429.4545 Fax: 1.619.374.7012  
Email: [sales@calright.com](mailto:sales@calright.com) <http://www.calright.com>

Artificial Neutral Model AN-1 04/05

## Specifications

MODEL	AN-1
<b>ELECTRICAL</b>	
Working Voltage	30 to 600V
Frequency	45 to 65Hz
Resistance Per Phase	3.9k $\Omega$ $\pm$ 5%
Relay Duty Cycle	Slow: 500ms – Fast: 2.3 seconds
Power Source	Eight 1.5V AA batteries
<b>MECHANICAL</b>	
Dimensions	8.7 x 5.4 x 5.9" (220 x 136 x 150mm)
Weight	2.9 lbs (1.3kg)
Case	Fire resistant polycarbonate UL94 V0
Protection Index	IP20
<b>ENVIRONMENTAL</b>	
Operating Temperature	32° to 122°F (0° to 50°C); 10 to 90% RH (non-condensing)
Storage Temperature	-40° to 158°F (-40° to 70°C); 10 to 90% RH (non-condensing)
<b>SAFETY</b>	
Safety Rating	600V Cat. III
Double Insulation <input type="checkbox"/>	Yes
CE Mark	Yes

## Construction



## ORDERING INFORMATION

## CATALOG NO.

Artificial Neutral Model AN-1 .....	Cat. #1971.01
Accessories (Optional)	
AC Leakage Current Probe Model 2620 .....	Cat. #2125.52



*The Right Source For Your Test & Measurement Needs*

8715 Mesa Point Terrace San Diego, CA 92154  
Toll Free: 1.866.363.6634 Tel: 1.619.429.4545 Fax: 1.619.374.7012  
Email: [sales@calright.com](mailto:sales@calright.com) <http://www.calright.com>