

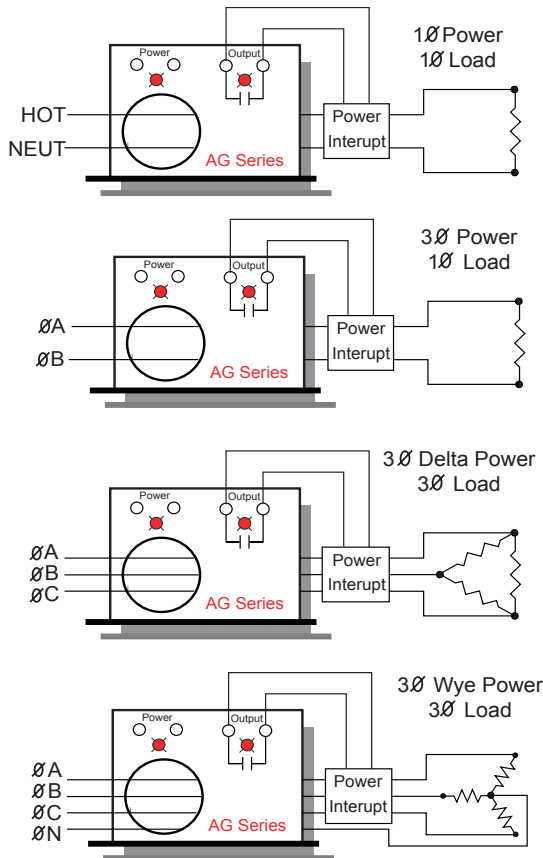


## Description

AG Series sensors monitor all current carrying wires in single or three phase systems to detect ground faults. They provide a contact output that can operate relays, contactors or signal automation systems.

## Principal of Operation

Under normal conditions, the current in one wire of a two wire load is equal in strength but opposite in sign to the current in the other wire. The two wires create magnetic fields that cancel, a condition known as “Zero Sum Current”. If any current leaks to ground (Ground Fault), the two currents become unbalanced and there is a net resulting magnetic field. The AG sensor detects this minute field and changes the output state. This concept extends to three phase systems such as 3 wire Delta and to 4 wire Wye.

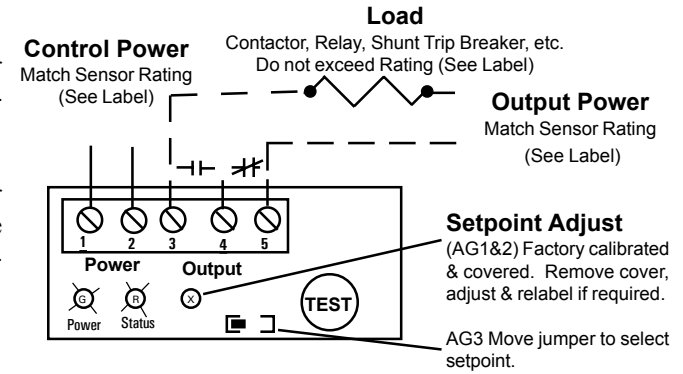


## Installation & Wiring

AG Series sensors work in the same environment as motors, contactors, heaters, pull-boxes, and other electrical enclosures. They can be mounted in any position or hung directly on wires with a wire tie. Just leave at least one inch distance between sensor and other magnetic devices.

Run all current carrying conductors through the sensor aperture in the same direction. (See “Principal of Operation”)

Connect power wiring to the sensor. Be sure that the power supply matches the power rating on the sensor label. Use up to 14 AWG copper wire and tighten terminals to 7 inch-pounds torque.



## Operation

To test operation, gently press the TEST button. This simulates a fault and tests the internal switching circuits. You should observe the following operation.

**CAUTION: Any circuit connected to the sensor will be operated.**

**Normally Energized Models (-ENE)** Detects Ground Faults and loss of control power

| NO POWER             |        | CONTROL POWER APPLIED |                |
|----------------------|--------|-----------------------|----------------|
| Output               | LED    | No Fault              | Fault Detected |
| N.C. Normally Closed | CLOSED | OFF                   | ON             |
| N.O. Normally Open   | OPEN   | OFF                   | ON             |

**Normally De-Energized Models (-DEN)** Detects Ground Faults only.

| NO POWER             |        | CONTROL POWER APPLIED |                |
|----------------------|--------|-----------------------|----------------|
| Output               | LED    | No Fault              | Fault Detected |
| N.C. Normally Closed | CLOSED | OFF                   | ON             |
| N.O. Normally Open   | OPEN   | OFF                   | ON             |

## Setpoint Adjustment

**AG1 & AG2** Series sensors are factory calibrated to trip at the setpoint specified at the time order. We highly recommend leaving this factory calibrated setpoint alone. If you must change the factory setpoint, follow these steps:

- Setup  
Connect control power and output circuits. Run a conductor through the aperture with current equal to your desired setpoint.
- Adjust Setpoint to Maximum  
Remove the Setpoint Cover. Turn the adjustment pot 5 revolutions CCW (Counter Clockwise) to the maximum (least sensitive) setpoint. The Status LED should be OFF.

Connect output wiring to the sensor. Be sure that the output load is less than or equal to than the output rating on the sensor label. Use up to 14 AWG copper wire and tighten terminals to 7 inch-pounds torque.

The adjustment pot has a slip clutch so you cannot feel or damage the end point.

**C. Dial in new Setpoint**  
Turn the pot slowly CW (Clockwise) until the LED turns ON. The sensor is now adjusted to trip at the current that is passing through the aperture. Reset the sensor.

**D. Relabel Sensor**  
Relabel the sensor with the new setpoint. Use a label maker or tape with a permanent marker.

**AG3** Move the jumper to the desired setpoint as shown on the label.