

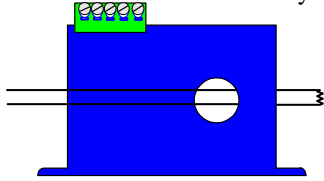
Description

AGL 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.

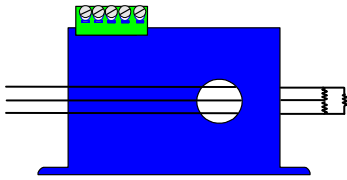
Principal of Operation

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.

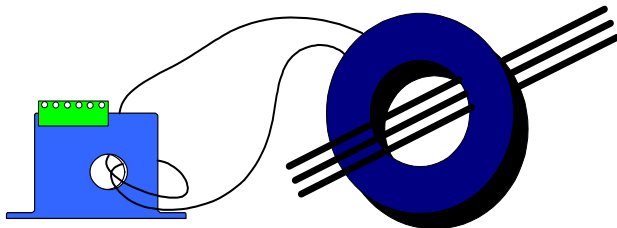
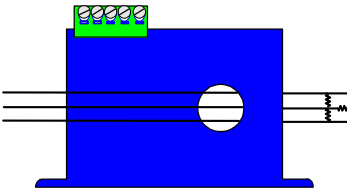
Single Phase (Phase & Neutral or Phase to Phase)



3 Phase Delta (Include neutral if the load uses neutral)



3 Phase Wye (Include neutral if load uses neutral)



3 Phase Load, using an auxiliary Current Transformer. Contact factory for details.

Installation & Wiring

AGL Series sensors may be applied in the same environment as motors, contactors, heaters, pull-boxes, and other electrical enclosures. Mounting can be in any position or hung directly on wires with a wire tie. Ensure at least one inch clearance between sensor and other magnetic devices. Route all current carrying conductors through the opening in the sensor being sure all wires are oriented so current flows in the same direction.

Wiring

Use up to 10 AWG copper wire and tighten terminals to 4.5 inch-pounds torque. See Diagram.

Power

Connect power wiring to Terminals 3 & 4. 120VAC supply power is not polarity sensitive, however, be sure that power supply matches the power rating on the sensor label.

Output

Connect output wiring to Terminals 5 & 6 (NO) or 7 & 8 (NC).

Momentary Reset Switch

Connect a momentary dry contact to the reset terminals (1 & 2.) Limit wire run to 200' of 18 AWG or larger wire. The sensor will not work properly if the reset terminals are closed (shorted) continuously. Only close the reset terminals momentarily.

Operation

AGL Series latching ground fault sensors exist in one of two states: normal or latched. If control power is removed, the sensor remains in it's last state (latched or normal). For models with the power cycle reset feature, once power is removed (minimum of 1 second duration) and cycled back on, the sensor will reset to it's normal state.

Normal

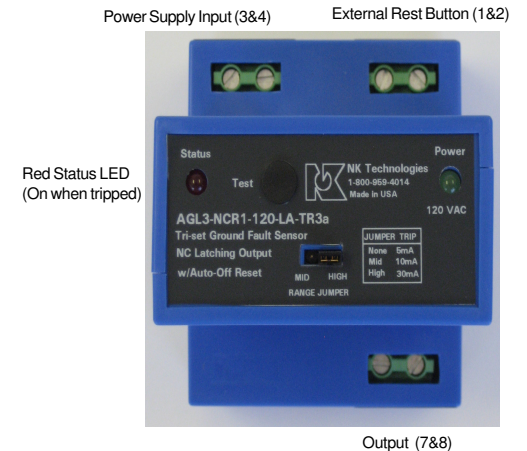
Out of the box, or with supply power applied and no fault detected, the output is in the “normal” position. For -NOR1 suffix, the contact is open in the normal state. For -NCR1 suffix, the contact is closed in the normal state.

Latched

Upon detecting a fault or when the TEST switch is pressed, the output will energize/change state and “latch”. The output will remain latched until the ground fault is removed and the output is reset by a momentary dry contact on Terminals 1 & 2, or for units with the power cycle reset feature, until the power is cycled off and back on.

Parallel Reset Connection

Multiple sensors may be connected to the same reset switch in parallel. Only the sensors that have detected a fault and have latched will be reset. A sensor will not reset unless the fault has dropped below setpoint.



Notes:
Test button will activate output relay
Power cycle reset units will reset latched output after min. 1 sec. supply power interruption

Test

To test operation, gently press the TEST button. This simulates a fault and tests the internal switching circuits. After the test is complete, reset the sensor with a momentary dry contact on Terminals 1 & 2. **CAUTION: Any circuit connected to the sensor output terminals (5 -- 8) will be operated during this test.**