Specifications

Power Supply	120 VAC (66-132 VAC) 50/60 Hz
Power Consumption	2.5 VA
Monitored Circuit	600 VAC max, 50/60 Hz
Isolation Voltage	2200 VAC
Output Rating	Single Pole, Double Throw (SPDT) relay 1.0 A @ 120 VAC, 2 A @ 30 VDC resistive
Response Time	150 ms @ 5% over setpoint 100 ms @ 50% over setpoint 50 ms @ 500% over setpoint
Power (Green) LED	Power supply energized
Status (Red) LED	Relay has operated
Case Dimensions	4.25"H x 3.0"W x 3.25"D (108 x 76 x 89 mm)
Sensing Aperture	Aperture 1.76" (44.7 mm) inside diameter
Case	UL94 V-0 Flammability rated
Terminal Torque	5.3 inch-pounds (0.6 newton-meter)
Environmental	-4 to 122°F (-20 to 50°C) 0-95% RH, Non-condensing Pollution Degree 2 Altitude to 6561 ft (2000 meters)
Listings	UL/cUL, CE

For products intended for the EU market, the following is applicable to the CE compliance of the product:
The AGL3 series complies with EN 61010-1 CAT III 300 V max. line-to-neutral measurement category. Use twisted pair for output connection. De-energize power before changing set point jumper position.

120 VAC 50/60 Hz Power Supply
Fuse at 5 amps maximum
Overvoltage Category II

Warning! Risk of electric shock or personal injury

Safe operation can only be guaranteed if the sensor is used for the purpose for which it was designed and within the limits of the technical specifications. When this symbol is used, it means you must consult all documentation to understand the nature of potential hazards and the action required to avoid them.

Warning! Risk of hazardous voltage

When operating the sensor, certain parts may carry hazardous live voltage (e. g. primary conductors, power supply). The sensor should not be put into service if the installation is not complete.

NK Technologies

Model Number Key

AGL3 - SDT1 - 120 - DEN - MAR

Setpoint:
MAR - Dual-Set, 30 & 100 mA, Jumper Select (default to 30 mA when jumper removed)

Options:
DEN - Normally De-energized

Power Supply:
120 - 120 VAC

Output Type:
SDT1 - SPDT (Form C Relay)

Setpoint Range:
3 - Dual-Set, 30 & 100 mA, Jumper Select

AGL Series Ground Fault Relay

Description

AGL-MAR Series Ground Fault Relay monitors all current carrying wires in single or three phase systems to detect ground faults. It provides a contact output that can operate breakers (MCB or MCCB) equipped with a 120 VAC shunt trip accessory. Designed for marina applications, the AGL-MAR Series has two jumper selectable trip points for both 30 mA shore power and 100 mA branch circuit applications.

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 AGL relay 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. **The sensor is not designed for use on ungrounded Delta systems.**

NK Technologies

INSTRUCTIONS



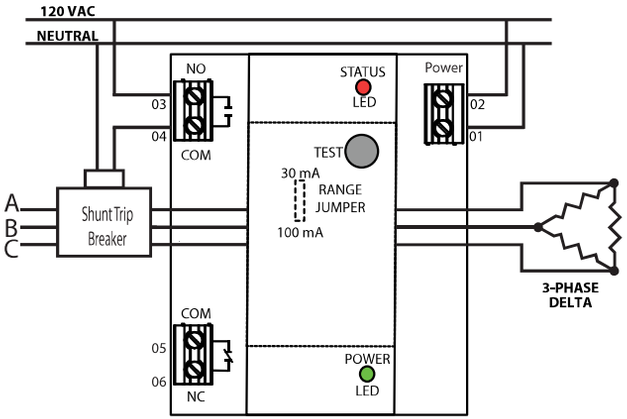
AGL3-SDT1-120-DEN-MAR

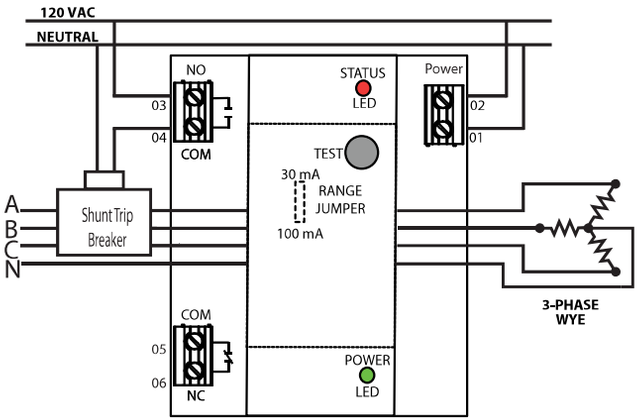
Ground Fault Relay with Auto-Reset Output For Marina Applications

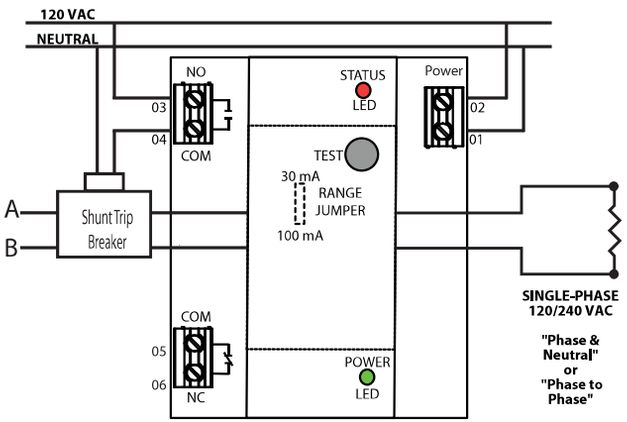
Quick "How To" Guide

1. Run all current carrying conductors through relay window.
2. Mount the relay to a surface if needed.
3. Connect output & power wiring.
   A. Use 22-14 AWG 60°C minimum copper wires.
   B. Make sure power and load matches those shown on the sensor's label.
4. Test.
   A. Pressing the "TEST" button tests the relay's internal circuits. CAUTION: The output and any connected loads will switch!

490680015 Rev 2







Power Supply Notes

All low-current Ground-Fault Relays are sensitive devices that require reasonable care in system design to avoid false trips caused by high electrical noise levels. Keep in mind that the best way to reduce noise in a system is to suppress it at its source.

1. Keep the relay power isolated from noisy circuits.
2. Do not power the relay with the same circuit that switches contactors or other high current, inductive loads.

Installation & Wiring

AGL Series relays 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 relay and other magnetic devices. Run all current carrying conductors through the opening in the relay. (See "Principal of Operation") Be sure all wires are oriented so current flows in the same direction.

AGL sensors are designed to mount securely to a standard DIN rail. NK Technologies can also provide our DINKIT, including a 175 mm long piece of rail and two end stops for added convenience when installing.

Wiring

Use 22-14 AWG 60°C minimum copper wire and tighten terminals to 5.3 inch-pounds torque. See Diagram.

Power

Connect power wiring to Terminals 1 & 2. Be sure that the power supply matches the power rating on the relay label. Green LED (Power) will light.

Output

Connect output wiring to Terminals 3 & 4 or 5 & 6.

Test Button

Pressing the TEST button will simulate a fault, and trip the output relay.

Operation

AGL Series Auto-Reset Ground fault relays operate in one of two states: Normal or Tripped. The DEN versions trips the output only with fault current over the set point. To test operation, gently press the TEST button. This simulates a fault and tests the internal switching circuits.

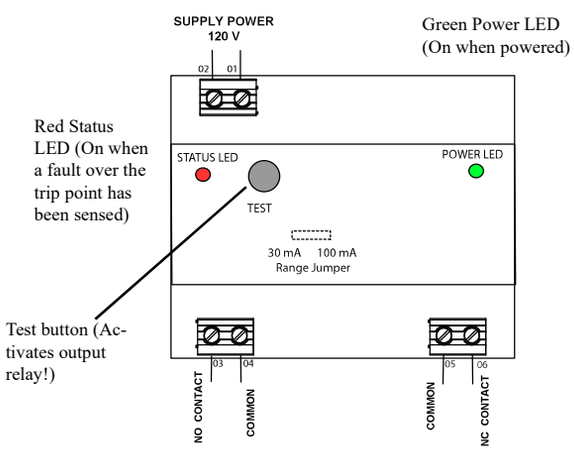
CAUTION: Any circuit connected to the relay will be operated.

The normally open contact closes on sensed fault current over the set point, and the normally closed contact opens on fault.

AGL3 field selectable models use a jumper to select the trip point. With the jumper removed, the relay will trip at the lowest set point. The jumper can be placed over two pins to set the trip point at the 30 mA level, or the other two pins to be set at the 100 mA trip point.

Output Type	No Power at Sensor		Power Applied		Fault Sensed	
	3-4	5-6	3-4	5-6	3-4	5-6
DEN	Open	Closed	Open	Closed	Closed	Open

Power Supply Input (1 & 2)



Output Connection:

DEN output action

NO (3 & 4) closes on fault, NC (5 & 6) opens on fault.

490680015 Rev 2