Specifications

Power Supply	120 VAC (66-132 volts, 50-60 Hz) 2.5 VA consumption Green LED = Power supply energized
Setpoint Range	AGU1 Series: 5 mA
Isolation Voltage	Up to 1500 VAC
Frequency Range	50-60 Hz (monitored circuit)
Output Rating	Relay output: 1.0 A @ 120 VAC, 2 A @ 30 VDC
Response Time	150 ms @ 5% over setpoint 100 ms @ 50% over setpoint 50 ms @ 500% over setpoint
Dimensions	2.98”H x 3.86”W x 1.45”D (76 x 98 x 37 mm) Case aperture 0.75” (19 mm) diameter
Case	UL94 V-0 Flammability rated
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

Model Number Key

AGU 1 - SDT - 120 - DEN - 005 - FL

CASE STYLE:
FL - Solid-Core

SETPOINT:
005 - Factory Adjusted Setpoint of 5 mA

OPTION:
DEN - Normally De-energized

POWER SUPPLY:
120 - 120 VAC

OUTPUT TYPE:
SDT - SPDT Relay (Form C)
1 A @ 120 VAC, 2 A @ 30 VDC

SETPOINT RANGE:
1 - 5 mA

AGU Series Ground Fault Detector

NK Technologies

INSTRUCTIONS

AGU1 SERIES

Ground Fault Detectors with Relay Outputs, Auto-Reset

System Grounding

Good design practice and code require that all AC power systems be grounded. AGU Series detectors are designed to work on grounded AC power systems. They may not operate properly on ungrounded systems.

Power Supply Notes

All low-current Ground-Fault Detectors 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 detector power isolated from noisy circuits.
2. Do not power the detector with the same circuit that switches contactors or other high current, inductive loads.

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Quick “How To” Guide

1. **Run all current carrying conductors through detector window.**
2. **Mount the detector to a surface if needed.**
3. **Connect output & power wiring.**
   A. Use 30-10 AWG copper conductors rated 75°C minimum. Tighten to 5-7 inch-pounds.
   B. Make sure power and load matches those shown on the sensor’s label.
4. **Test.**
   A. Pressing the “TEST” button tests the detectors internal circuits. CAUTION: The output and any connected loads will switch!

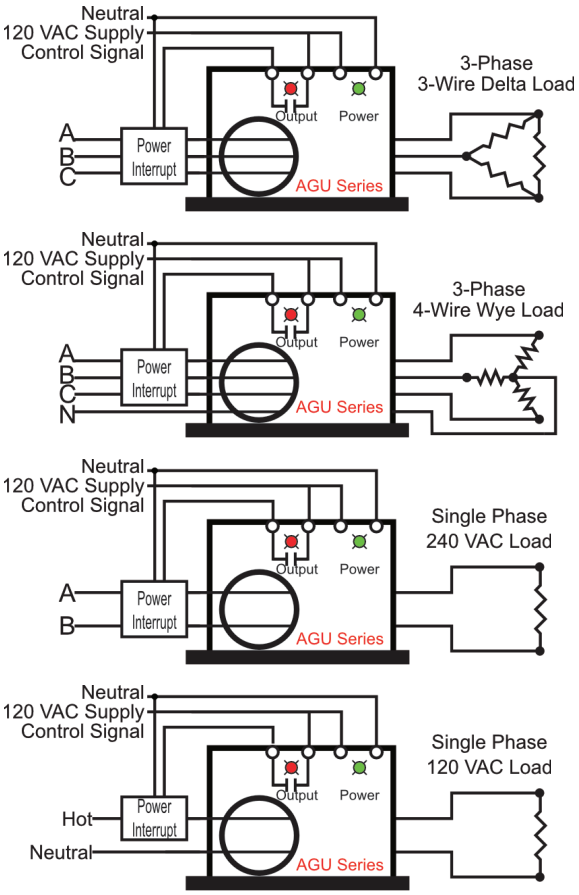
490100007 Rev 1

Description

AGU Series detectors monitor all current carrying wires in single or three phase systems to detect ground faults. They provide a contact output that can operate shunt trip breakers, 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 AGU detector 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.



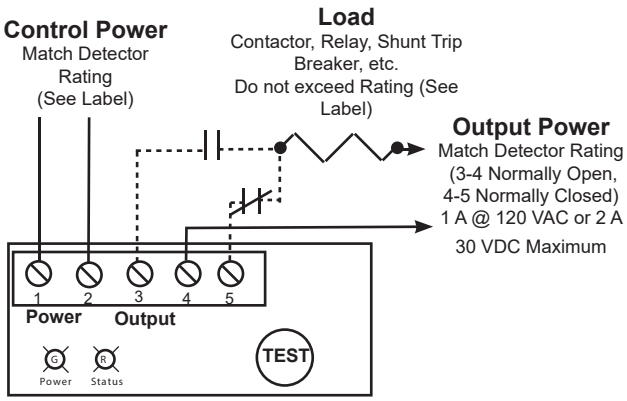
Installation & Wiring

AGU Series detectors 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 detector and other magnetic devices.

Run all current carrying conductors through the detector aperture in the same direction. (See "Principal of Operation")

Connect power wiring to the detector. Be sure that the power supply matches the power rating on the detector label. Use 30-10 AWG copper conductors and tighten terminals to 5-7 inch-pounds torque.

Connect output wiring to the detector. Be sure that the output load is less than or equal to the output rating on the detector label. Use 30-10 AWG copper conductors and tighten terminals to 5-7 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.

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

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

Contact and status LED conditions

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