AGU SERIES
Ground Fault Relay



AGU Series Ground Fault Relays help protect personnel from ground fault conditions by monitoring all branch circuit current-carrying conductors in grounded, single and three-phase delta or wye configured equipment. The AGU Series is UL Listed and designed to meet NEC 210.8 for GFCI protection when combined with a breaker (MCB or MCCB) equipped with a 120 VAC shunt trip accessory.

Ground Fault Protection Applications

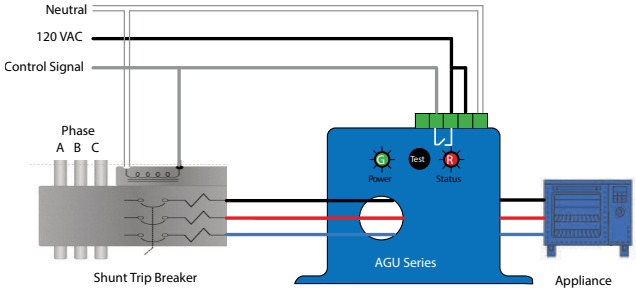
Commercial and industrial building projects that require GFCI protection to either outlets or receptacles per NEC 200 and 210.8(B) through (F) and special equipment.

Project Types:
- Retail/Kitchens
- Education/Cafeteria
- Commercial/Corporate Offices
- Healthcare/Hospital & Offices
- Entertainment/Sporting Venues
- Fueling/Convenience Stores
- Core & Shell
- Mission Critical

Equipment:
- Electric Ovens
- Dishwashers
- Electric Pressure & Open Fryers
- Bone Cutters
- Meat Grinders
- Laundry

Regulatory & Safety:

c UL us LISTED Accepted worldwide



For additional Application Examples, go to www.nktechnologies.com/applications

Ground Fault Protection Features

The AGU Series provides a 0.75" aperture that supports typical wire bundles for single-phase up to 100 Amps and three-phase up to 50 Amps. Consider the AGL Series when a larger aperture is required.

60 A 3-phase circuits that utilize a 3-wire bundle (delta configuration) typically fit through the 0.75" AGU Series aperture. 4-wire bundles (wye configuration) typically require the AGL. See NK Technologies "Ground Fault Considerations: Tech Guide" for further details.

Key Features Maximize Ease of Use
- 5 mA fixed factory-calibrated setpoint.
- Response time meets "established period of time" requirement defined by the NEC for GFCI.
- N.O./N.C. mechanical relay outputs.
- Normally de-energized contacts.
- Green "power" LED indicates device powered.
- Red "status" LED indicates fault.
- Manual test button simulates fault condition to confirm functionality of both the ground fault relay and separate breaker with shunt trip accessory.

Compatible with Standard Equipment
- Applicable on single and three-phase systems.
- Ideal for use with 120 VAC shunt trip breakers.
- Monitored circuit isolated from control power.

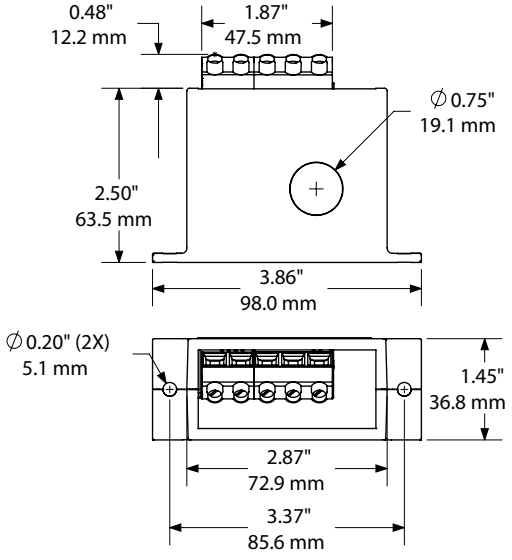
"Zero Sum" Operating Principle:
In single and three-phase AC systems, under normal conditions current flows from the power source to the load and back to the source. As a result, the electromagnetic fields surrounding the conductors cancel, producing a "zero sum current." As soon as current leaks to ground (fault condition) the current becomes imbalanced and a net magnetic field results. AGU Series detectors monitor this field and trip alarm contacts when the leakage rises above the setpoint.

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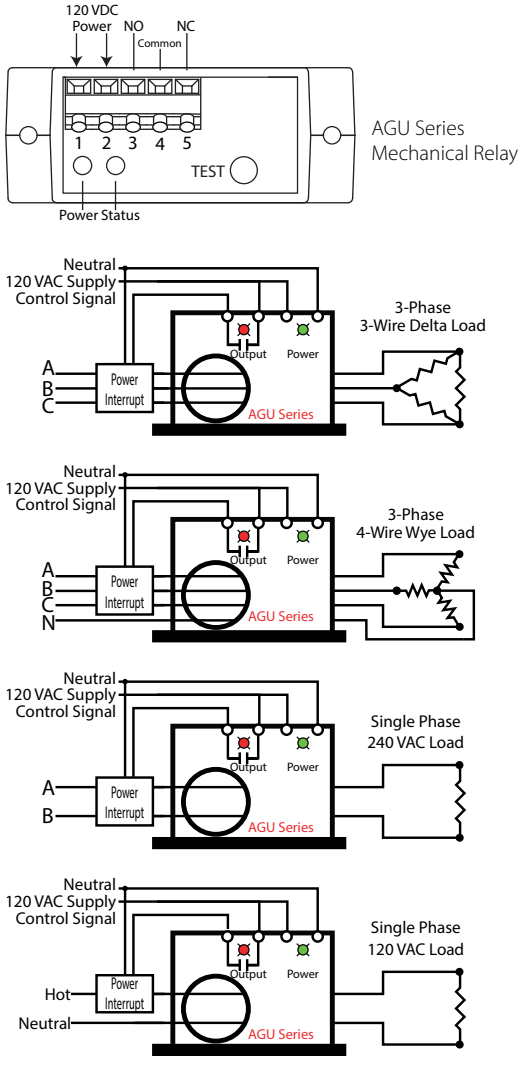
FIVE YEAR 5 WARRANTY RoHS Compliant

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Ground Fault Protection Dimensions



Ground Fault Protection Connections



Ground Fault Protection Specifications

Power Supply	120 VAC, Nominal 66-132 VAC, Range
Power Consumption	2.5 VA max.
Setpoint	5.0 mA, +/-5%
Output	SDT: SPDT non-latching Form C relay, auto-reset DEN: De-energized coil
Output Rating	1 A @ 120 VAC, 2 A @ 30 VDC
Response Time	150 ms @ 5% above setpoint See Figure 1, Response Time Curve
Monitored Circuit	Up to 600 VAC
Isolation Voltage	Tested up to 1500 VAC
Frequency Range	50–60 Hz (monitored circuit)
Case	UL94 V-0 Flammability Rated
Environmental	-4 to 122°F (-20 to 50°C) 0–95% RH, non-condensing
Listings	UL Listed to UL 508 (NRNT.E129625)

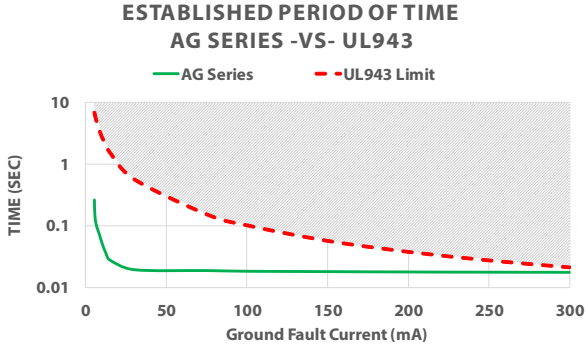


Figure 1: Response Time Curve

Ground Fault Relay Output Tables

Normally De-energized Model (-DEN)

Protection from faults only when power is applied.

		Control Power Applied	
	No Power	**No Fault**	**Fault**
N.C. Normally Closed (4, 5)	closed	closed	open
N.O. Normally Open (3, 4)	open	open	closed

Ground Fault Relay Ordering Information

Mechanical Output Models

Sample Model Number: AGU1-SDT-120-DEN-005-FL

Ground fault relay with de-energized SPDT normally open non-latching auto-reset relay output, 120 VAC input voltage and 5 mA ground fault current trip point in a solid-core FL case.

A	G	U	1	–	S	D	T	–	1	2	0	–	D	E	N	–	0	0	5	–	F	L

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