AGU SERIES
Ground Fault Sensor

AGU Series is a UL Listed ground fault sensor that detects 5 mA 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 to UL508 as an industrial control switch.

When combined with a breaker (MCB or MCCB) equipped with an appropriate 120 VAC shunt trip accessory, the AGU is for use in ordinary locations in accordance with the National Electrical Code NFPA 70.

Ground Fault Detection Applications

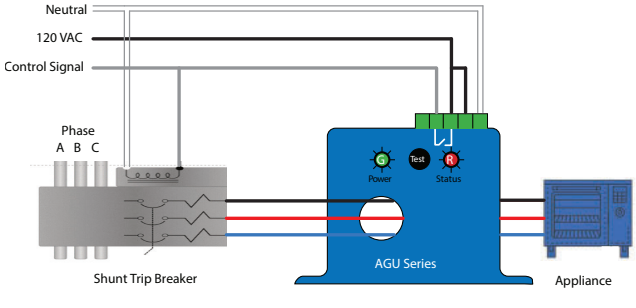
Projects that require ground fault detection:

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,



Ground Fault Detection 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.
- 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 sensor and separate breaker with shunt trip accessory.

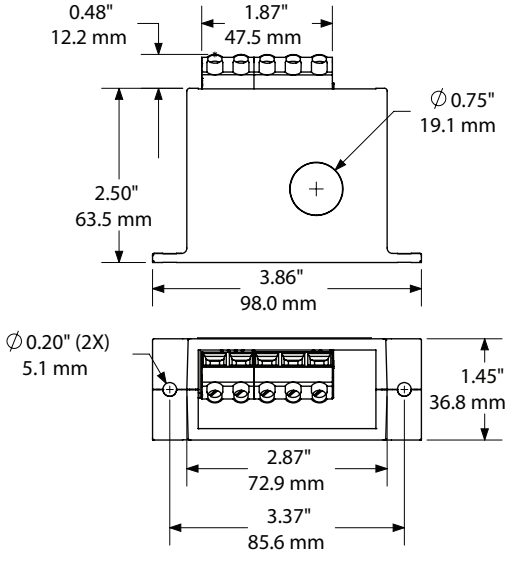
Compatible with Standard Equipment
- Applicable on single and three-phase systems.
- Ideal for use with 120 VAC shunt trip breakers.
- Monitored circuit isolated from control power.

"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.

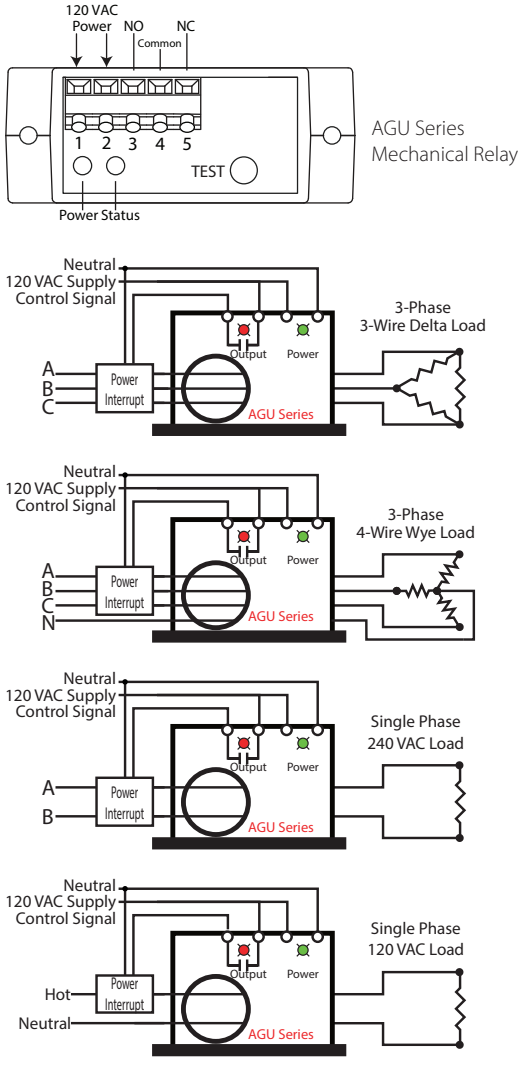
NK Technologies

FIVE YEAR 5 WARRANTY RoHS Compliant

Ground Fault Sensor Dimensions



Ground Fault Sensor Connections



Ground Fault Sensor 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)

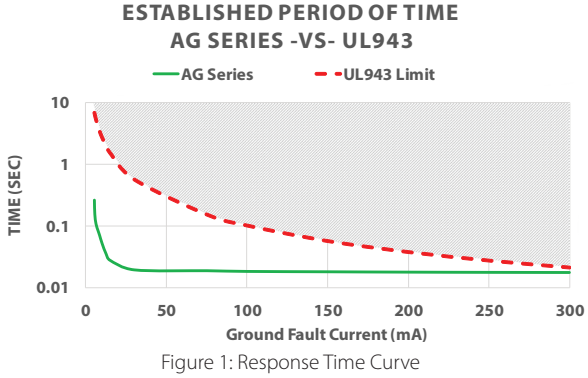


Figure 1: Response Time Curve

Ground Fault Sensor 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 Sensor Ordering Information

Mechanical Output Models

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

Ground fault sensor 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

* The AGU Series detects ground fault conditions and is UL listed to UL508 as an industrial control switch. It does not provide branch circuit interruption and has not been evaluated under UL943 for GFCI devices.