

# AGL SERIES

## Large Aperture Ground Fault Relay

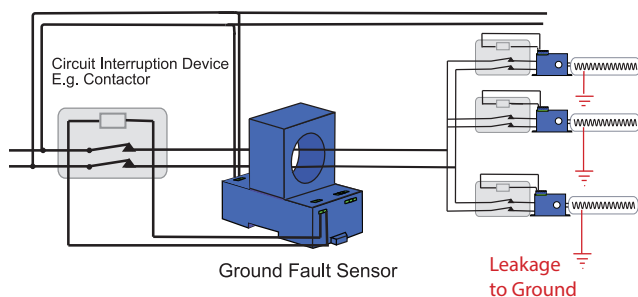
AGL Series Large Aperture Ground Fault Relays offer one of the largest aperture diameters in the industry while maintaining a compact overall profile. Intended for sensing earth leakage, the AGL Series offers a choice of N.O. or N.C. latching relays or an SPDT Form C relay with auto-reset. Case features integral DIN rail mounting as standard and optional noise immunity coatings for applications in harsh EMI/RFI environments.



### Ground Fault Relay Applications

- Replace bulky two-piece sensor solutions which require separate CTs or relay modules.
- Use with shunt trip breakers to provide total ground fault protection to sensitive machine electronics.
- Detect ground faults in resistance/impedance heating, industrial automation and control, theatrical lighting, portable power distribution, and snow melt/heat trace applications.
- Sense progressive levels of ground fault in motors or heating systems to detect deterioration prior to catastrophic failure.

Moisture Ingress on a Submersible Pump Motor



### Ground Fault Relay Features

#### Setpoint Options Maximize Ease-of-Use

- Setpoint options include factory-adjustable setpoint from 5 mA –950 mA or “TR3 Tri-Set” models with field-selectable 5/10/30 mA settings.
- Finger-safe terminals for worry-free installation and operation.
- Aperture orientation is perpendicular to DIN rail, allowing for clean and efficient wiring and minimizing space between multiple components.
- Choice of dependable latching SPST or auto-reset SPDT (form C) electromechanical relay outputs.
- Uses “Zero Sum” operating principle to reliably sense imbalance in magnetic fields associated with current leakage to ground.
- Typical response times from 50 ms to 150 ms.
- Integral “push-to-test” button with LED indication of contact status.

#### DIN Rail Mount\*

- Integral DIN rail mount with spring loaded mounting clips.

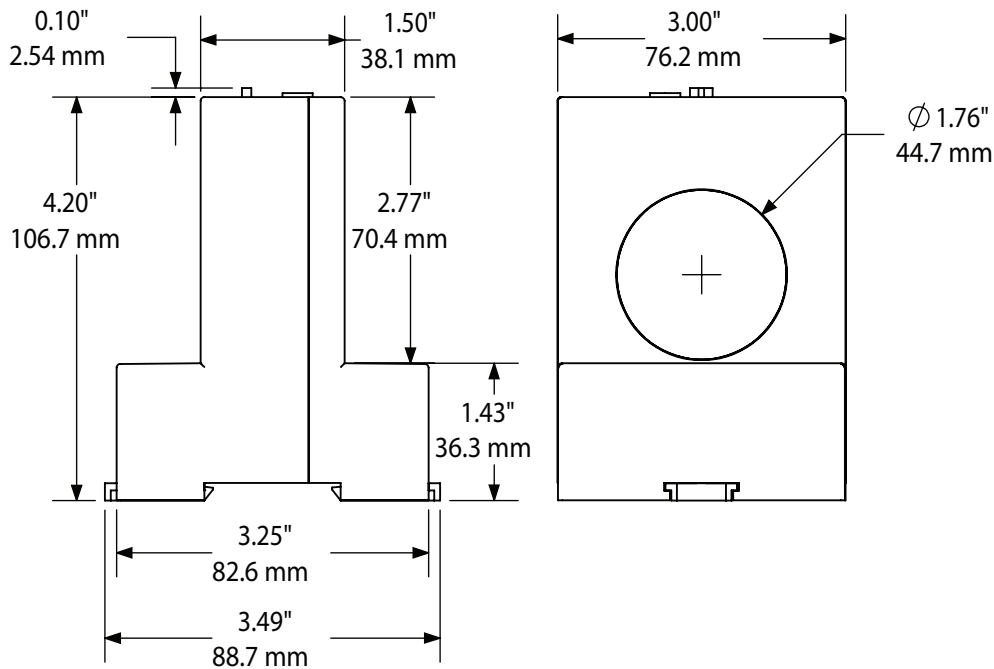
#### UL/cUL and CE Approved.

- Accepted worldwide.

\*For information on the DIN rail accessories kit, see page 147.

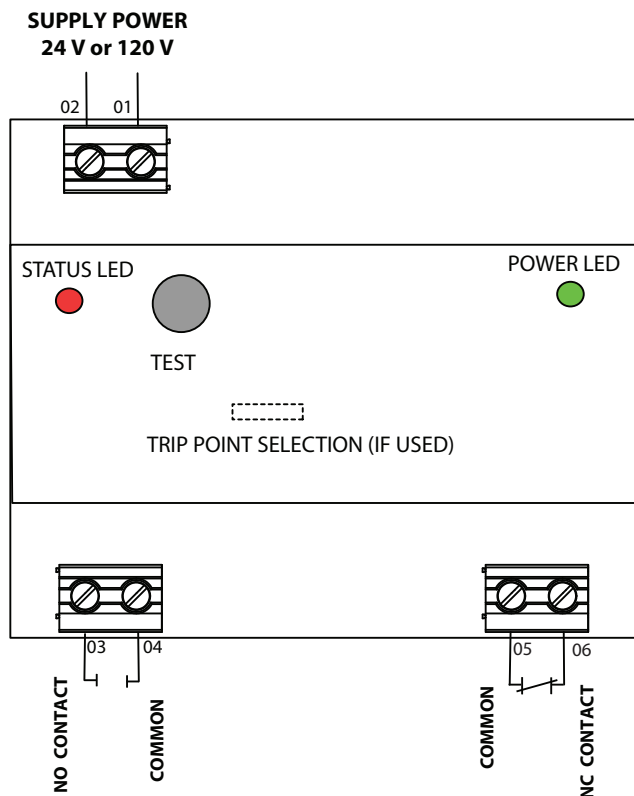
For additional Application Examples, go to [www.nktechnologies.com/applications](http://www.nktechnologies.com/applications)

## Ground Fault Relay Dimensions

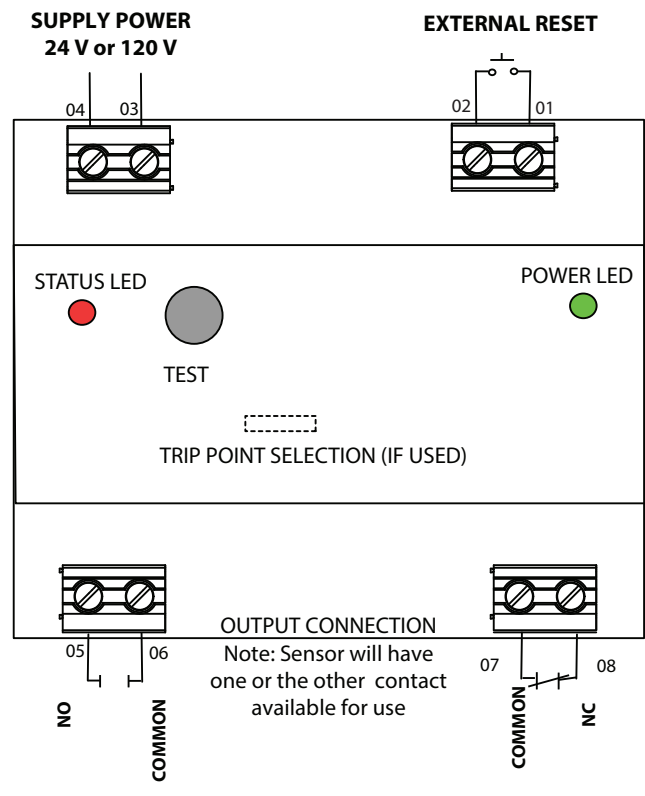


## Ground Fault Relay Connections

Auto-Reset



Latching



## Ground Fault Relay Specifications



<b>Power Supply</b>	<ul style="list-style-type: none"> <li>• 120 VAC (66–132 V)</li> <li>• 24 VAC/VDC (19–29 V)</li> </ul>
<b>Power Consumption</b>	2.5 VA
<b>Setpoint Range</b>	Factory-calibrated models (specify when ordering): <ul style="list-style-type: none"> <li>• AGL1: 5–100 mA (005–100)</li> <li>• AGL2: 80–950 mA (080–950)</li> </ul> TR3 “Tri-set” models (field jumper select): <ul style="list-style-type: none"> <li>• AGL3: 5, 10, or 30 mA (defaults to lowest setpoint, 5 mA, when jumper is removed)</li> </ul>
<b>Output Switch</b>	Electromechanical SPDT relay
<b>Output Rating</b>	1 A @ 120 VAC, 2 A @ 30 VDC
<b>LED Display</b>	<ul style="list-style-type: none"> <li>• Green LED = Power On indication</li> <li>• Red LED = Tripped Output Relay indication</li> </ul>
<b>Response Time</b>	<ul style="list-style-type: none"> <li>• 150 ms @ 5% over setpoint</li> <li>• 100 ms @ 50% over setpoint</li> <li>• 50 ms @ 500% over setpoint</li> </ul>
<b>Time Delay</b>	None
<b>Noise Immunity</b>	<ul style="list-style-type: none"> <li>• EMI/RFI Shielding</li> <li>• Power supply noise filtering</li> </ul>
<b>Isolation Voltage</b>	Tested to 1.5 KV
<b>Frequency Range</b>	50–60 Hz (monitored circuit)
<b>Case</b>	UL94 V-0 Flammability Rated
<b>Environmental</b>	-4 to 122°F (-20 to 50°C) 0–95% RH, non-condensing
<b>Listings</b>	UL/cUL, CE

## Ground Fault Relay Output Tables

Normally Energized Models  
(-ENE Option)

Protection from faults and control power loss.

	Control Power Applied		
	No Power	No Fault	Fault
N.C. Normally Closed	closed	open	closed
N.O. Normally Open	open	closed	open

Normally De-energized Models  
(-DEN Options)

Protection from faults only when power is applied.

	Control Power Applied		
	No Power	No Fault	Fault
N.C. Normally Closed	closed	closed	open
N.O. Normally Open	open	open	closed

## Ground Fault Relay Ordering Information

Sample Model Number: AGL1-NOR1-120-LA-005

Ground fault relay with normally open SPST latching relay output, 120 VAC power supply and 5 mA trip point.

(1) (2) (3) (4) (5) (6)

AGL   -      -     -     -      -      

## (1) Setpoint Range

1	5–100 mA factory set
2	80–950 mA factory set
3	5/10/30 mA jumper set

## (2) Output Type

NCR1	Normally Closed SPST Relay Form B (Available only with -LA option)
NOR1	Normally Open SPST Relay Form A (Available only with -LA option)
SDT1	SPDT Relay (Form C) with auto-reset (Available only with -DEN and -ENE options)

## (3) Power Supply

120	120 VAC
24U	24 VAC/VDC

## (4) Options

ENE	Normally energized, auto-reset (SDT1 output only)
DEN	Normally de-energized, auto-reset (SDT1 output only)
LA	Latching (NOR1 and NCR1)

## (5) Setpoint

TR3	(Tri-set AGL3 only)
005 to 950	Factory set trip point in mA (AGL1 and AGL2 only)

## (6) Noise Immunity

N	Noise immunity
	None (blank)