

# DG SERIES

## DC Ground Fault Relay

DG Series Ground Fault Relays keep machinery and their operators safe from accidental shocks. The one-piece, solid-core design allows for installation over wires feeding loads to about fifty amps. The output relay will change state at factory setpoint between 5 and 50 mA of DC current to earth.



### Ground Fault Relay Applications

#### Monitor Photovoltaic Panels

- Detect fault currents before damage can occur. Connect the output to a shunt trip breaker operating solenoid or to the circuit powering a contactor coil.

#### Water Delivery and Treatment

- Detect moisture ingress in submersible pumps .

#### Heating Processes

- If an element shorts to ground, the sensor will activate to de-energize the circuit, keeping safety at the forefront.

#### Communications Towers

- Notification if a battery powered supply is allowing current to earth.

### Ground Fault Relay Features

#### Electromechanical Relay Output

- Auto reset models have both normally open and normally closed contacts.
- Latching models have one normally open and one normally closed contact.
- Compatible with most automation and control systems.

#### Externally Powered

- A choice of fail safe or standard auto reset operation, or latching contact.

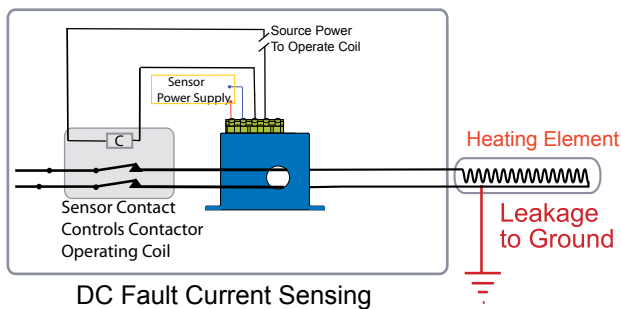
#### Solid-core Case

- Sensing window provides ample space for multiple conductors.

#### Designed for UL, CUL and CE Approval

- Accepted worldwide.

DC Fault Current Sensing



### Contact Action Table

	No Power		Powered		Fault Detected	
	NO	NC	NO	NC	NO	NC
DEN	open	closed	open	closed	closed	open
ENE	open	closed	closed	open	open	closed
LA	open	closed	open	closed	closed	open

LED ACTION TABLE

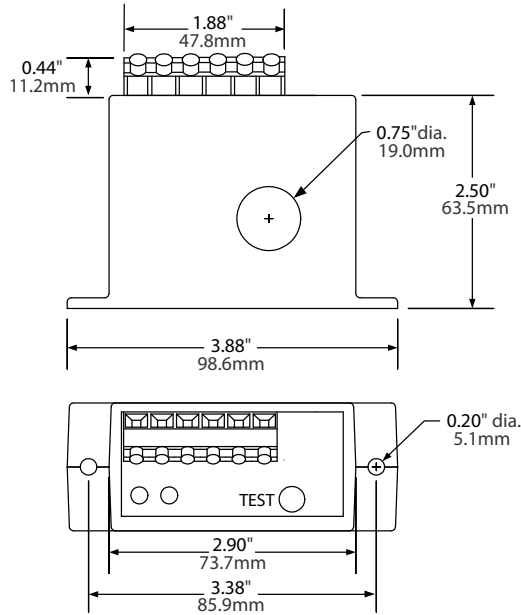
	Power		Status		Power		Status	
	Power	Status	Power	Status	Power	Status	Power	Status
DEN	Off	Off	On	Off	On	On	On	On
ENE	Off	Off	On	On	On	On	Off	Off
LA	Off	Off	On	Off	On	On	On	On

Note that the Power LED indicates that the sensor is energized  
 Note that the Status LED indicates that the output contacts have changed state: NO has closed, NC has opened.

**OEMs** Test & Evaluation Units for OEMs  
 Free program expedites evaluation process. See page 3 for details.



**Ground Fault Relay Dimensions**

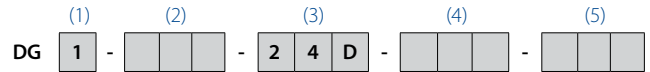


**Ground Fault Relay Specifications**

<b>Power Supply</b>	24 VDC (20–26 V)
<b>Power Consumption</b>	<4VA
<b>Output</b>	Electromechanical relay 1 A @ 120 VAC, 2 A @ 30V DC Max.
<b>Output Operation</b>	Normally energized Normally de-energized Latching
<b>Output Range</b>	5–50 mA
<b>Response Time</b>	55 ms maximum
<b>Input Range</b>	Up to 1500 VDC (monitored circuit)
<b>Isolation Voltage</b>	tested to 5000 V
<b>Frequency Range</b>	DC
<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>	Designed to meet UL/cUL and CE

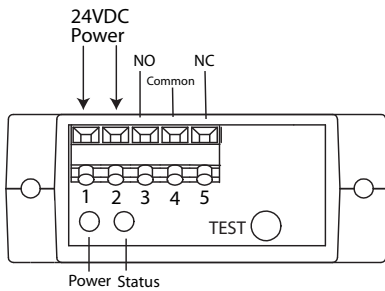
**Ground Fault Relay Ordering Information**

Sample Model Number: DG1-SDT-24D-ENE-010  
DC ground fault relay, output 5–50 mA SPDT relay output, 24 VDC powered, normally energized, 010 factory set trip point.

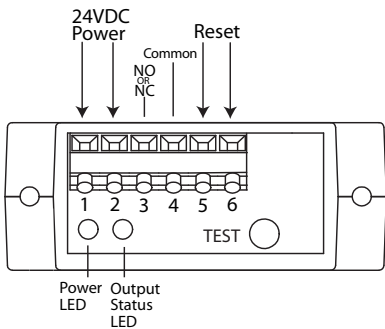


**Ground Fault Relay Connections**

**Auto Reset Connection**



**Latching Connection**



(1) Range

1	5–50 mA
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(2) Output Type

SDT	Single pole, double throw relay (Auto Reset Only)
NCR	Normally Closed, latching model only
NOR	Normally Open, latching model only

(3) Power Supply

24D	24 VDC
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(4) Contact Action

DEN	Normally de-energized output
ENE	Normally energized output
LA	Latching output

(5) Trip Point

005–050	Factory set trip point
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