

## Operating Instructions for GFD-1A

### Installation and Operation

Mount the GFD-1A to a suitable mounting surface. Connect the + and - terminals of the GFD-1A to a floating 10 to 32VDC battery plant observing proper polarity and connect the Ground terminal of the GFD to the earth grounding point of the battery plant. Optionally, the output relay contacts may be connected to a recorder or other fault signaling device.

Immediately upon applying power to the GFD-1A the Green Power LED will illuminate and an automatic self diagnostic test will be performed. Upon successful completion of the diagnostic test the GFD-1A will automatically begin making measurements and calculate the potential leakage current magnitude between each battery terminal and ground.

If the GFD-1A calculates a potential leakage current which exceeds the programmed trip value the appropriate Fault LED will illuminate and the output relay contacts will transfer. Even if this calculated potential leakage current drops below the trip value the Fault LED will remain illuminated until the Reset button is pressed. The output relay, however, will automatically reset to the no-fault condition when the calculated potential leakage current drops at least 5% below the set point value unless programmed for the Manual Reset Mode (see below).

### Diagnostics

During self diagnostics the + and - Fault LEDs & output relay are simultaneously cycled On and Off three times to allow visual verification of their proper operation. In addition an internal memory checksum test, an A/D converter operating test and an open fuse test are performed by the CPU. Should any of these tests fail, the + and - Fault LEDs will blink continuously and the GFD-1A will remain inoperative.


The diagnostics test may be initiated at any time by pressing and holding the Reset button for 10 seconds.

NOTE: Initiating the diagnostics test will clear any ground fault indication that exists at the time of the test.

### Setting Trip Current

Trip current is set using binary coded DIP switches accessed by removing GFD cover. Switches are weighted as shown in table below. The trip current is the sum of the values of the switches which are turned ON.

Example: Trip current with switches #1 and #3 in ON position is 1.0ma ( $0.2 + 0.8 = 1.0$ ).

Value when ON	0.2ma	0.4ma	0.8ma	1.6ma	3.2ma
	#1	#2	#3	#4	#5

### Setting Output Relay in Auto or Manual Reset Mode

The operating mode of the output relay can be toggled between Auto and Manual by holding the Reset Button while applying power to the GFD. If the -LED flashes the relay is programmed for the Manual Reset (latching) mode. If the +LED flashes the relay is programmed for the Auto Reset (non-latching) mode.

### Calibration

Calibration is done at the factory and should not have to be done again. If it is felt that calibration is required the GFD should be returned to the factory.