



# Argus Technologies

## Ground Fault Detect (GFD)

### Purpose

#### **Ground Fault Detect (GFD)**

The GFD is a precision detector measuring load and rectifier ground currents within balanced power system; these currents can result in damage to equipment and reduced personnel safety. It will generate an alarm if the ground current exceeds the user-programmed threshold, reporting via SNMP, Email, Local Display and/or discreet contact change as programmed by the user. The Alarm Trip resolution is  $\pm 1.0\text{mA}$  from  $\pm 1.0\text{mA}$  to  $\pm 10.0\text{mA}$ , the default is  $\pm 5\text{mA}$  which is programmable within [Alarms>Configure Alarms>Miscellaneous Alarms>GFD](#).

### Alarm Algorithm

#### **Touch Screen Programming**

This example will generate a GFD alarm that indicates a positive current drain from ground.

- Log in
- Go to [Alarms>Configure Alarms](#) and select [Custom Alarms](#) from the drop down menu
- Choose [Custom 1](#) and then [Configure](#)
- Assign a specific relay to this alarm, if required
- Choose an alarm priority major, minor or message as required
- Allow alarm to be cutoff and enable it
- Set if for Email or SNMP notification if required
- Tap on [Customization](#)
- Tap on [Op] and select [Miscellaneous Alarms](#) from pull down menu
- Click on [Ground Fault Detected](#) (this will auto fill in the equation)
- Click on "&" and "(" (This will auto fill in the equation)
- Tap on [Op] and select [Analog Input](#) from pull down menu
- Click on GFD (this will auto fill)
- Click on ">,"0" and ")" to complete the equation
- Final equation must read **[Ground Fault Detected]&([GFD]>0)**
- Tap on the check marks (lower right bottom) until they run out
- Tap on [Option](#) and the [Save](#).

This example will generate a GFD alarm that indicates a negative current drain to ground.

- Log in
- Go to [Alarms>Configure Alarms](#) and select [Custom Alarms](#) from the drop down menu
- Choose [Custom 2](#) and repeat the above procedure but change the equation to read **[Ground Fault Detected]&([GFD]<0)**
- Tap on the check marks (lower right bottom) until they run out
- Tap on [Option](#) and the [Save](#).

## **Computer Programming**

Follow the above procedure as above but with a computer, using a computer will allow for the names of the alarms to be customized as well

- Go to [Logs and Files>Manage Editable Text File>Alarm Labels](#)
- Change as below or similar:
  - From “Custom 1” to: “**Positive ground fault detected**”
  - From “Custom 2” to: “**Negative ground fault detected**”
- Then [Submit Alarm Text Changes](#) to save text changes

## **Alarm Testing**

The 018-596-20 GFA Test Switch is specifically designed by Argus to test ground fault alarms.

Alternatively leakage currents can be emulated by placing an external current path from the positive or negative bus to ground.

- For the 220V a momentary connection of 800 $\Omega$  (2 only 1K6 $\Omega$  1W in parallel) 2W resistor from ground to the negative or positive bus will cause the ground current to rise above the threshold of  $\pm 1$ ma.
- For the 125V a momentary connection of 5K $\Omega$  (2 only 10K $\Omega$  1W in parallel) 2W resistor from ground to the negative or positive bus will cause the ground current to rise above the threshold of  $\pm 1$ ma.

**Thank you for choosing Argus Technologies**