

# GROUND FAULT MONITOR

## GROUND FAULT CURRENT DETECTOR

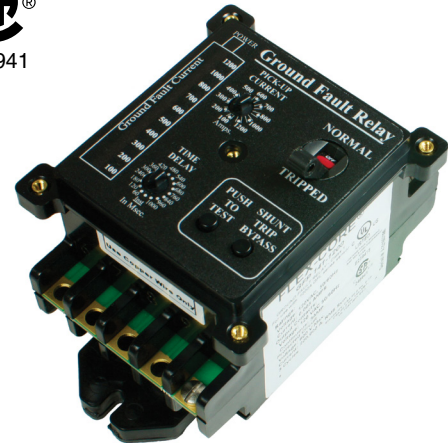
MODEL GFP

### Ground Fault Current Detection with Inverse Time Capability

GROUND FAULT MONITOR

#### FEATURES

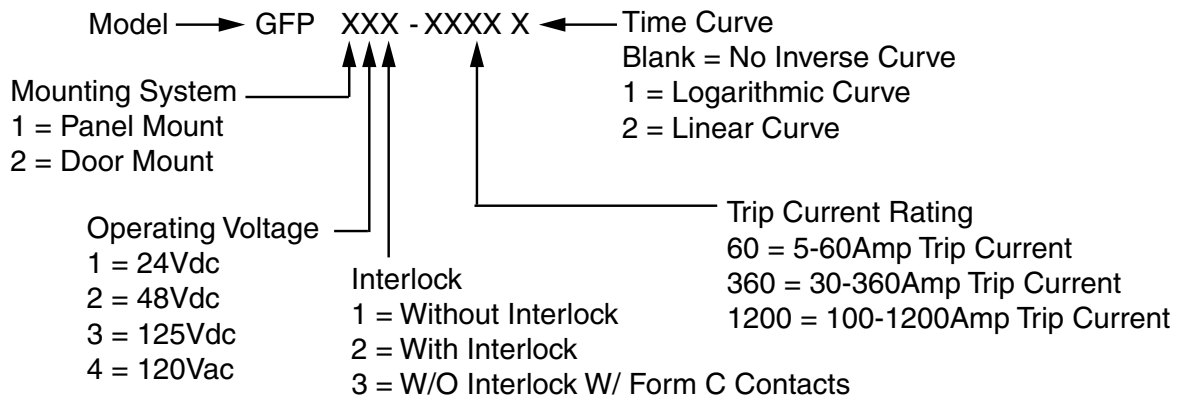
- Optional zone interlocking
- Integral test panel with "Push to Test" and "Shunt Trip Bypass"
- Power on indication (LED)
- Real time fault current level indicator
- Positive visual trip indicator
- Adjustable time delay
- Discrete current threshold adjustment
- Panel or door mounted
- Clear plastic cover
- Electro-mechanical relay output
- Optional "Form C" relay contacts
- Meets NEC Service Entrance Equipment Standards



#### APPLICATIONS

These class 1 ground fault relays and sensors are used together to provide a system for detecting ground fault current in a grounded AC power system. When the system detects a ground fault that reaches a pre-selected current level and time delay, the relay initiates a trip signal to a shunt trip disconnect device that will open and clear the fault.

#### HOW TO ORDER



#### SPECIFICATIONS

Operation Range ..... Trip Currents 5-60, 30-360, and 100-1200A

Time Delay ..... Instantaneous to 1 second

Input Power ..... 2VA plus shunt coil requirements

Input Withstand ..... 200kA RMS for 3 cycles, 50/60Hz

Nominal Input Voltage .... 120Vac, 125Vdc, 48Vdc, or 24Vdc

Ambient Temperature Range ..... -30°C to +60°C

Weight ..... 3 Lbs.

#### CONTACT RATING

DEVICE INPUT POWER	INRUSH	CONTINUOUS
120Vac	10A	3A
125Vdc	1A	1A
48Vdc	4A	4A
24Vdc	8A	8A

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# GROUND FAULT MONITOR

## GROUND FAULT CURRENT SENSOR

MODEL GFL

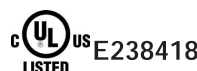
### FEATURES

- UL Listed
- Window I.D. - Available up to 4.0" X 36.0"
- For use with GFP ground fault current detection system

### 600V CLASS



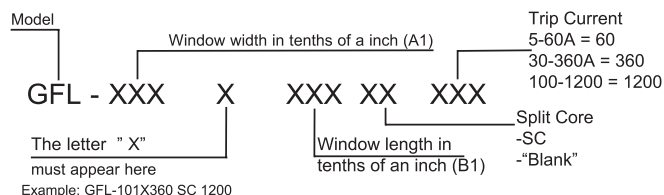
MADE IN U.S.A.



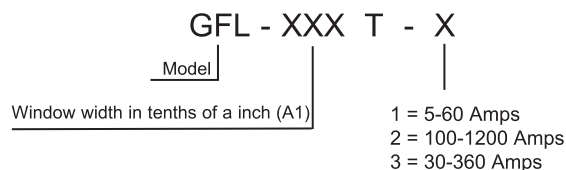
### SPECIFICATIONS

Frequency..... 50-60Hz  
 Insulation Class .....0.6kV, 10kV BIL Full Wave  
 Terminals ..... Brass Studs No. 8-32 UNC  
 with one flat washer, lock washer and regular nut.  
 Weight ..... Approximately 8-18 lbs.  
 \*Rectangular sensors are also available with take apart option allowing installation without disassembly of the primary bus or cables.

#### HOW TO ORDER RECTANGULAR C.T.'S



#### HOW TO ORDER TOROIDAL C.T.'S



#### RECTANGULAR STANDARD SENSOR SIZES

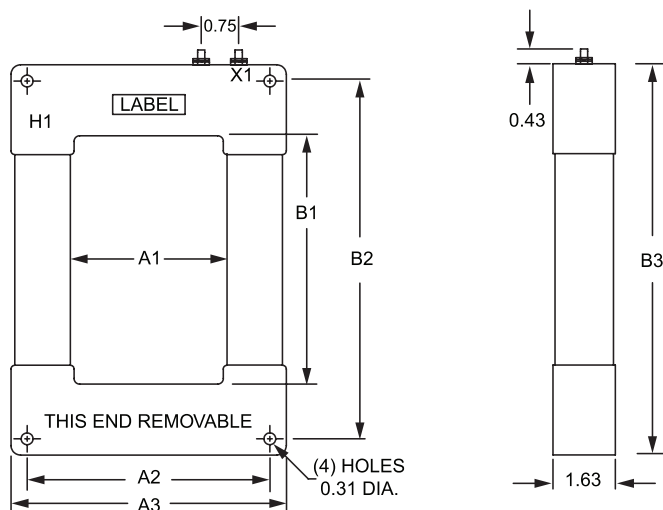
A1	A2	A3	B1	B2	B3
4.1	6.4	7.3	7.1	10.0	10.9
5.1	7.2	8.3	11.7	14.5	15.4
5.8	7.0	9.0	14.1	17.0	17.9
8.0	9.5	11.1	18.1	21.0	21.9
10.1	11.6	13.2	24.0	27.0	27.9
-	-	-	30.1	33.0	33.9
-	-	-	36.0	39.0	39.8

#### TOROIDAL STANDARD SENSOR SIZES

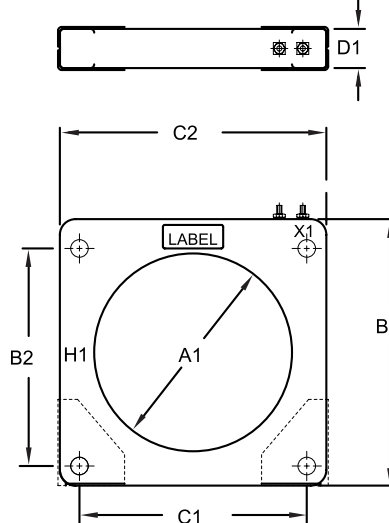
MODEL NUMBER	A1	B1	B2	C1	C2	D1
GFL325T-X	3.25	5.73	4.70	4.70	5.73	1.15
GFL425T-X	4.25	6.17	N/A	4.86	5.92	1.15
GFL631T-X	6.31	8.50	6.75	6.75	8.50	1.28
GFL825T-X	8.25	10.48	8.50	8.50	10.48	1.53

### DIMENSIONS

Rectangular Standard Sensor



Toroidal Standard Sensor



All Dimensions In Inches

**CAUTION:** All appropriate safety precautions must be followed for the installation of these devices including de-energizing the incoming power prior to installation. It is recommended the sensor be installed by a trained electrician. This sensor must have its secondary terminals shorted, or have the relay connected prior to energizing the primary conductors.

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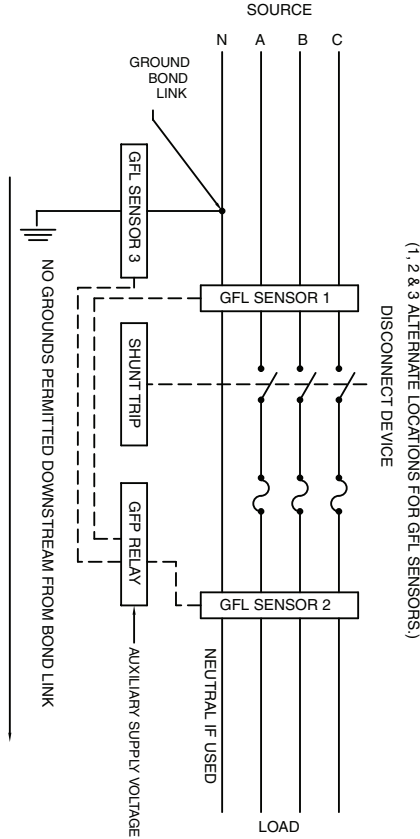
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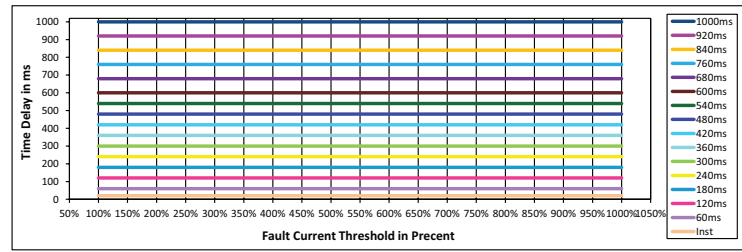
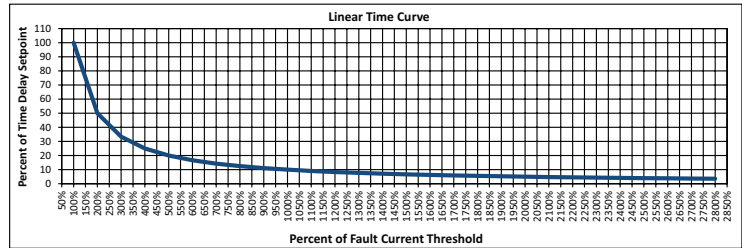
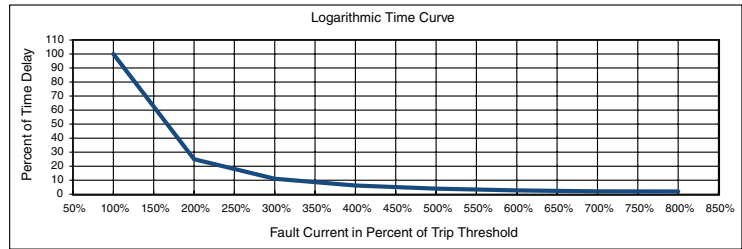
MODEL GFP/GFL

### Typical GFP Relay and Sensor Installation



### Typical Response Curves (Model GFP) with Inverse Time Function

The time delay adjustment is a 16 position switch with increments ranging from instantaneous to 1000ms



### GFP Test Procedures

1) To determine if the neutral is grounded in only one place, at the service entrance, in accordance with the "National Electric Code":

- De-energize Equipment (Disconnect Power)
- Remove ground bond link
- Using a megger, measure resistance of each phase and the neutral to ground. (In accordance with NEC requirements, the resistance should be 1 mega ohm).
- Reconnect bond link
- Reconnect power and check power indication (LED)

2) To test the entire system

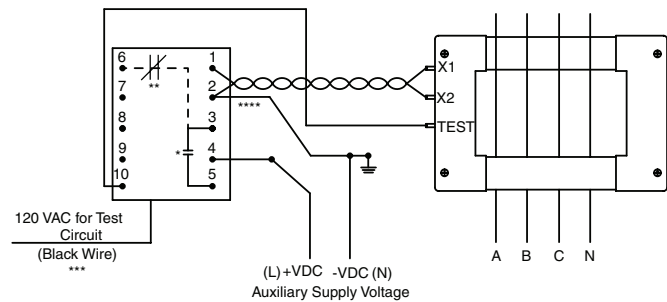
(including the disconnect device):

- Verify control power LED indicator is illuminated
- Press the "Push to Test" pushbutton on the GFP box. (The trip indicator will go to the tripped position and the disconnect device will open)
- Reset the relay and disconnect device

3) To test the GFP Ground Fault Sensor and Relay only:

- Verify control power LED indicator is illuminated
- Press and hold the "Shunt to Bypass" pushbutton on the GFP box
- Press the "Push to Test" pushbutton. (The Ground Fault Relay will trip)
- Reset the relay, then release the "Shunt to Bypass" pushbutton

### Typical Wiring Diagram



Notes:

\* Standard Internal Relay Contacts (NO).

\*\* Optional Form C contacts normally closed contact is between terminal 3 and 6.

\*\*\* The test circuit requires 120Vac be applied to the black wire with the 120V neutral on terminal 2 of the relay. Black wire is only present if GFP operating voltage is not already 120Vac.

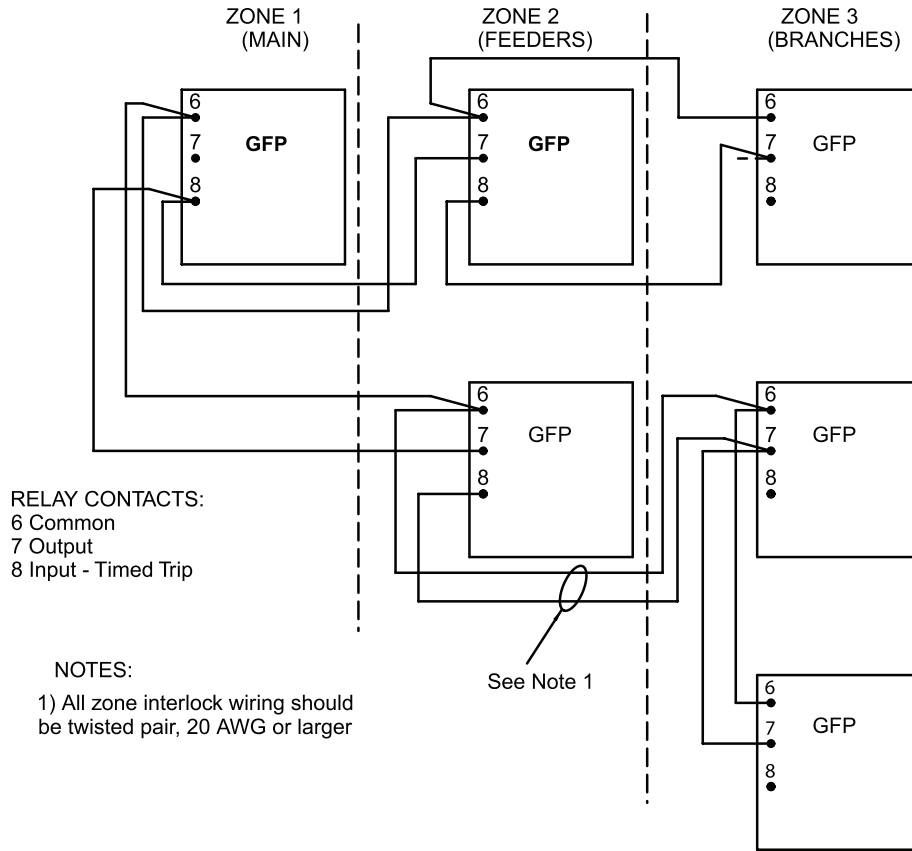
\*\*\*\* For relays with DC input voltage connect 120Vac for test circuit to black lead and terminal 2.

# GROUND FAULT MONITOR

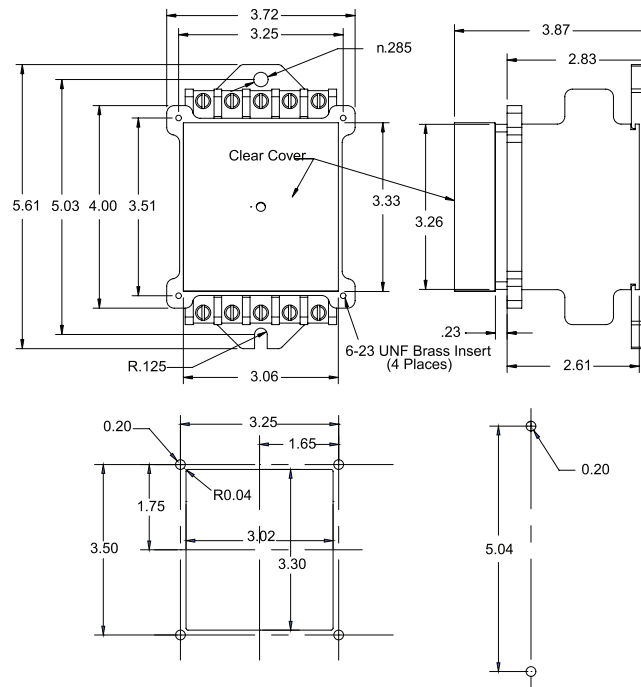
## GROUND FAULT CURRENT DETECTION

MODEL GFP

### TYPICAL WIRING DIAGRAM FOR ZONE INTERLOCK SYSTEM



### DIMENSIONS



All Dimensions In Inches

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