



2021 Aug 01

GFR-3 GROUND FAULT PROTECTION RELAY

INSTRUCTION MANUAL

INTRODUCTION

The Ground fault protection features GFR-3 Ground Fault Protection Relay and a Zero Sequence Current Transformer (SENSOR). It is suitable for resistance grounded or solidly grounded distribution systems.

OPERATION

The GFR-3 is factory calibrated to operate with the SENSOR identified on the nameplate. The front panel controls include Ground Fault trip setting and Time delay setting. Test push button allows GFR-3 functional testing without tripping the power breaker.

When the phase to ground fault develops, the SENSOR creates signal to operate GFR-3 relay. DPDT output contacts are provided to operate breaker trip coil. After the fault has been cleared, the GFR-3 will reset automatically (in non-latching configuration). Electrically latched option and Magnetically latched option are also available. Please note that the mechanically latched option has been discontinued. See ordering information for details. GFR-3 features definite time-current characteristics.

INSTALLATION

The SENSOR shall be installed to allow all phase conductors (and a neutral conductor) to be wired through the SENSOR window. *The twisted pair wiring from the Sensor to GFR-3 relay shall be 600V AWG 14 or as required by Electrical Code. Extra care shall be taken to keep these conductors at least 10 cm from the power conductors or from other control wiring. If the distance from the Sensor to GFR-3 exceeds 1.5 meters, the twisted pair should be shielded and grounded at the GFR-3 end.*

The GFR-3 installation should provide easy access to the terminals and to the controls. The mounting dimensions are shown below.

CONNECTION

Typical connection diagram is shown below.

TESTING

The GFR-3 features build-in test function. The self-test is initiated by depressing the TEST push button. This will trip both the relay and the interrupter (breaker).

To test the Ground Fault Relay only, (i.e. without tripping the breaker), press and hold the NO-TRIP push button. Next, press the TEST push button and wait for the relay to trip. After the trip, first release the TEST button, then push the RESET button, and finally, release the NO-TRIP push button.

NOTE

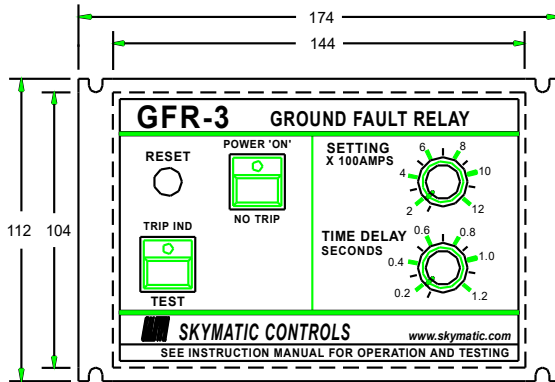
This Instruction Manual shall be kept at the switchboard where the Ground Fault Relay is installed.

WARNING

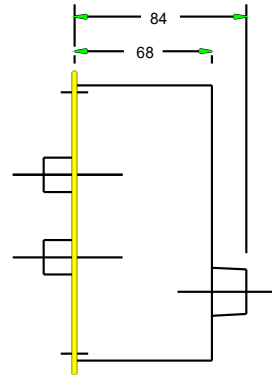
MORE THAN ONE LIVE CIRCUIT MAY BE PRESENT AT THE TERMINALS. DISCONNECT ALL POWER SOURCES BEFORE SERVICING THE RELAY.



SKYMATIC CONTROLS INC.

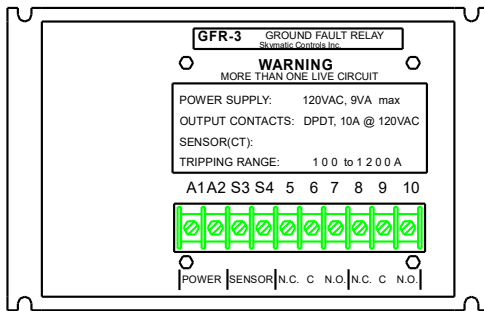


FRONT VIEW

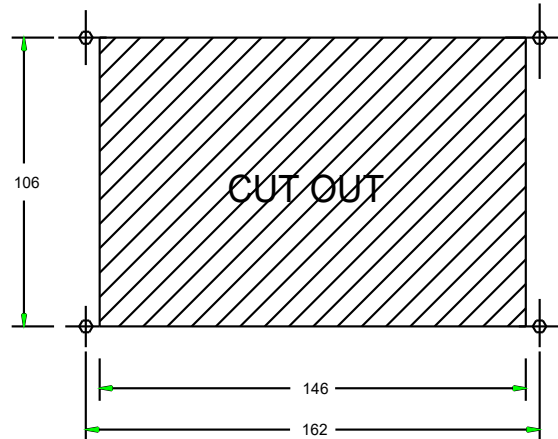


SIDE VIEW

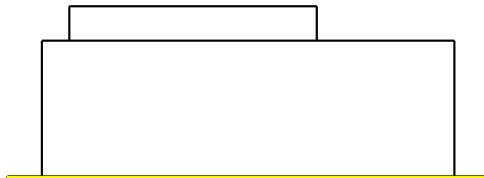
DIMENSIONS IN mm



REAR VIEW

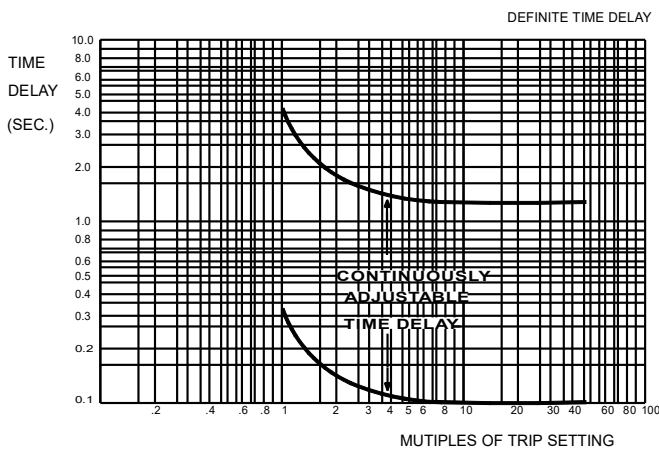


MOUNTING DETAILS



TOP VIEW

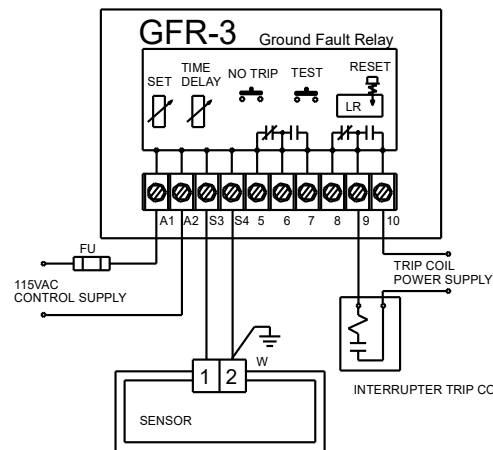
GFR3MLOO



Note: Definite time settings 0.1 ~ 1.2 seconds at 5 x PU

GFR3TDOO

GFR-3 GROUND FAULT RELAY
TIME-CURRENT CHARACTERISTICS



GFR3CDOO

GFR-3 GROUND FAULT RELAY
TYPICAL CONNECTION DIAGRAM

NOTES

1. OUTPUT CONTACTS SPDT, 10A @ 115VAC
2. SENSOR: FP TYPE RZ, OR EQUAL APPROVED BY SKYMATIC CONTROLS
3. FOR 250VDC TRIP CIRCUITS WIRE TWO N.O. CONTACTS IN SERIES (MAX CURRENT: 1A DC)