



North Shore Safety, Ltd.
Safety Through Innovation



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INSTALLATION AND TESTING PROCEDURE

IMPORTANT!

THIS DEVICE MUST BE INSTALLED BY A QUALIFIED PERSON WHO UNDERSTANDS ELECTRICAL CIRCUITS.

Please read all the information on this sheet.

WARNING

Ground Fault Circuit Interrupter (GFCI) is a safety device under normal use and it is not intended to promote activity of elevated risk. Use only within the specified operating parameters (Failure to do so may result in bodily injury). Consult a licensed electrician for assistance on installation and repairs. Do not use this GFCI if it fails to function as instructed. Never attempt to tamper with this device. This GFCI should never be used as a main switch to connect or disconnect power. (Power should be disconnected at main power feed or by secondary switch located at the primary feed of GFCI). This GFCI does not provide protection against shocks caused by holding both circuit conductors. This GFCI does not provide protection against electrical shocks generated by the conductors supplying power to the device. **Note: primary feed to GFCI is live even when GFCI is tripped. (Unit should be powered down before servicing load side of GFCI.)**

- Do not use this device to feed power to life support apparatus.
- To minimize nuisance tripping:
 - Do not use on swimming pool equipment installed before 1965 NEC code.
 - Limit load cable to 100 feet.
- Installation must comply with local and national electrical codes (NEC).

What is a GFCI?

A GFCI is a device designed to interrupt power when a ground fault (a current that takes a path to ground) exceeds a predetermined value. The interruption of this power is fast in order to prevent serious injuries.

Why do we need a GFCI?

The human body is conductive to electricity. However, we were not meant to do so. Electric shocks can be fatal. Any electrical tool or appliance is a potential shock hazard especially when used near wet locations. That's where a GFCI is needed the most and can save your life. This is why most electrical codes require GFCI protection in kitchens, bathrooms, garages, outdoor outlets, laundry rooms, workshops, and portable power in wet location or confined space, etc..

North Shore Safety's GFCI Module with integrated breaker will offer such protection. Its safety scope surpasses its peers to include fault indication, and power status.

How does a GFCI operate?

The GFCI constantly monitors the current balance of the conductors supplying power to the load. When a ground fault occurs, by a leakage or by shock, the imbalance of current is sensed and the GFCI trips when the ground fault exceeds 0.006 Amp. The tripping action must be within a fraction of a second to prevent serious injuries.

What a GFCI cannot do:

- Will not protect line side.
- Will not protect you when touching two current carrying conductors of opposite polarity (GFCI sees this as a load).
- Will not protect you when touching a line of another circuit.

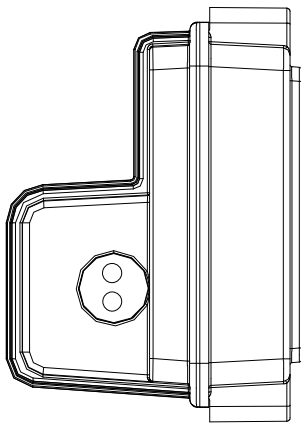
NORTH SHORE SAFETY'S TWO-YEAR LIMITED MANUFACTURERS WARRANTY

North shore safety warrants to the consumer its Line-Gard Ground Fault Circuit Interrupter (GFCI) Sensing Module to be free from defects in materials and workmanship under normal use and service for a period of two years from date of manufacture. North Shore Safety, at its option, will repair or replace the defective GFCI without charge within a two year period from date of manufacture provided that the defect occurred during normal use. Defective unit must be returned prepaid, with a description of the problem, to Quality Assurance Dept., North Shore Safety, Ltd. 7335 Production Drive, Mentor, OH 44060. Please include \$10.00 for shipping and handling cost.

North Shore Safety will not be liable, directly or indirectly, for installation or removal of this device, or for any personal injury, or property damages, or incidental, indirect, or consequential damages of any kind, as a result of a defective device. The exclusive remedy under this warranty is the repair or replacement of the defective device. In no case shall North Shore Safety's liability exceed the purchase price. This warranty is void if this device is not properly installed, tampered with, not used according to label instructions and ratings, opened, or abused.

INSTALLATION PROCEDURE:

DANGER: HAZARD OF ELECTRICAL SHOCK, BURN, OR EXPLOSION. Disconnect power at main power feed before you start the installation. **Failure to do so may cause severe shock, personal injury or death.**

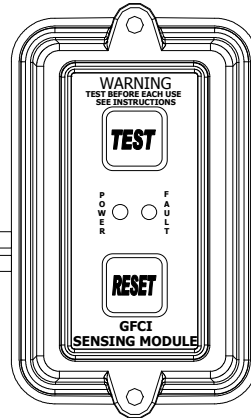


120 VAC APPLICATIONS: (H,N,G)

LOAD CARRYING POWER CONDUCTORS FOR A 3-WIRE (120VAC) CIRCUIT MUST BE TWISTED AS THEY GO THROUGH THE SENSING MODULE

LINE: FROM POWER SUPPLY (SOURCE)

NEUTRAL (WHITE)
HOT (BLACK)



MODULE CONTROL CONDUCTORS

SHUNT (YELLOW) TO BREAKER AUXILIARY SWITCH NORMALLY OPEN TERMINAL
NEUTRAL (WHITE) TO BREAKER LINE SIDE NEUTRAL
HOT (BLACK) TO BREAKER LINE SIDE HOT

NEUTRAL (WHITE)
HOT (BLACK)

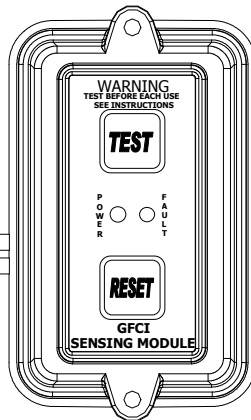
TO BREAKER LINE INPUT

240 VAC APPLICATIONS: (L1,L2,G)

LOAD CARRYING POWER CONDUCTORS FOR A 3-WIRE (SINGLE PHASE 240VAC) CIRCUIT MUST BE TWISTED AS THEY GO THROUGH THE SENSING MODULE

LINE: FROM POWER SUPPLY (SOURCE)

L1 (BLACK)
L2 (RED)



MODULE CONTROL CONDUCTORS

SHUNT (YELLOW) TO BREAKER AUXILIARY SWITCH NORMALLY OPEN TERMINAL
L2 (RED) TO BREAKER LINE SIDE L2
L1 (BLACK) TO BREAKER LINE SIDE L1

L1 (BLACK)
L2 (RED)

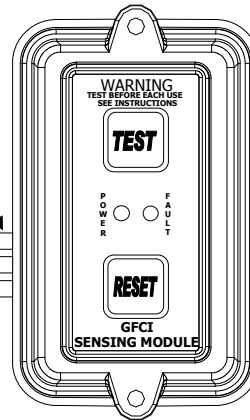
TO BREAKER LINE INPUT

120/240 VAC APPLICATIONS: (L1,L2,N,G)

LOAD CARRYING POWER CONDUCTORS FOR A 4-WIRE (SPLIT PHASE 120/240VAC L1,L2,N,GRND) CIRCUIT MUST BE TWISTED AS THEY GO THROUGH THE SENSING MODULE

LINE: FROM POWER SUPPLY (SOURCE)

L1 (BLACK)
L2 (RED)
NEUTRAL



MODULE CONTROL CONDUCTORS

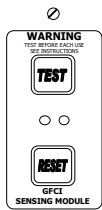
SHUNT (YELLOW) TO BREAKER AUXILIARY SWITCH NORMALLY OPEN TERMINAL
NEUTRAL (WHITE) TO BREAKER LINE SIDE NEUTRAL
L1 (BLACK) TO BREAKER LINE SIDE L1

L1 (BLACK)
L2 (RED)

TO BREAKER LINE INPUT
SYSTEM NEUTRAL- MAY OR MAY NOT REQUIRE A BREAKER CONTACT: CONSULT FACTORY FOR DETERMINATION)

NOTE: GROUND WIRE IS CONNECTED EXTERNALLY. GROUND WIRE DOES NOT ENTER OR EXIT THE GFCI SENSING MODULE. ALTHOUGH GFCI DOES NOT REQUIRE GROUND TO OPERATE, GROUND CONNECTION IS RECOMMENDED AND SHOULD BE MADE AT JUNCTION BOX.

1. READ ALL THE INSTRUCTIONS IN THIS LEAFLET AND ON THE DEVICE LABEL.
2. IDENTIFY ALL THE FEATURES AND WIRES (SEE DRAWING)
3. IDENTIFY LINE WIRES AND LOAD WIRES.
4. VERIFY THAT THE RATINGS ON THE DEVICE INCLUDING BREAKER MATCH YOUR FIELD LINE RATINGS.
5. STRIP WIRES TO 5/8", OR AS RECOMMENDED FOR YOUR CONNECTIONS: (MODULE MAY INCLUDE FIELD TERMINATIONS).
6. CHOOSE THE RIGHT WIRING APPLICATION (120VAC, 240VAC, OR SPLIT PHASE 120/240VAC) AND CONNECT WIRES ACCORDING TO THE DRAWING.
7. PLACE SUPPLIED TEST INSTRUCTION LABEL IN CLOSE PROXIMITY TO THE GROUND FAULT SENSING MODULE MOUNTING AS SHOWN BELOW:



TEST INSTRUCTIONS
GFCI SENSING MODULE
TEST BEFORE EACH USE

NORMAL OPERATING STATE - SENSING DEVICE GREEN LED IS "ON" AND CIRCUIT BREAKER IS AT "ON" POSITION.

STEP 1: PRESS "TEST" BUTTON: GREEN LED SHOULD GO "OUT" AND RED LED SHOULD COME "ON" AND CIRCUIT BREAKER SHOULD TRIP TO "OFF" POSITION.

STEP 2: IF SENSING DEVICE LED OR BREAKER DOES NOT TRIP OR CHANGE STATE: "DO NOT USE" CONSULT AN ELECTRICIAN FOR ASSISTANCE.

STEP 3: PRESS "RESET" BUTTON: RED LED SHOULD TURN "OFF" AND GREEN LED SHOULD TURN "ON".

STEP 4: MANUALLY RESET (SWITCH) CIRCUIT BREAKER TO "ON" POSITION TO RESTORE CIRCUIT POWER.

WARNING:
IF ABOVE TESTS FAILS, DO NOT USE THIS GFCI. CONSULT A QUALIFIED ELECTRICIAN FOR REPAIR OR REPLACEMENT.

TESTING AND TROUBLESHOOTING

NORMAL OPERATING STATE - SENSING DEVICE GREEN LED IS "ON" AND CIRCUIT BREAKER IS AT "ON" POSITION

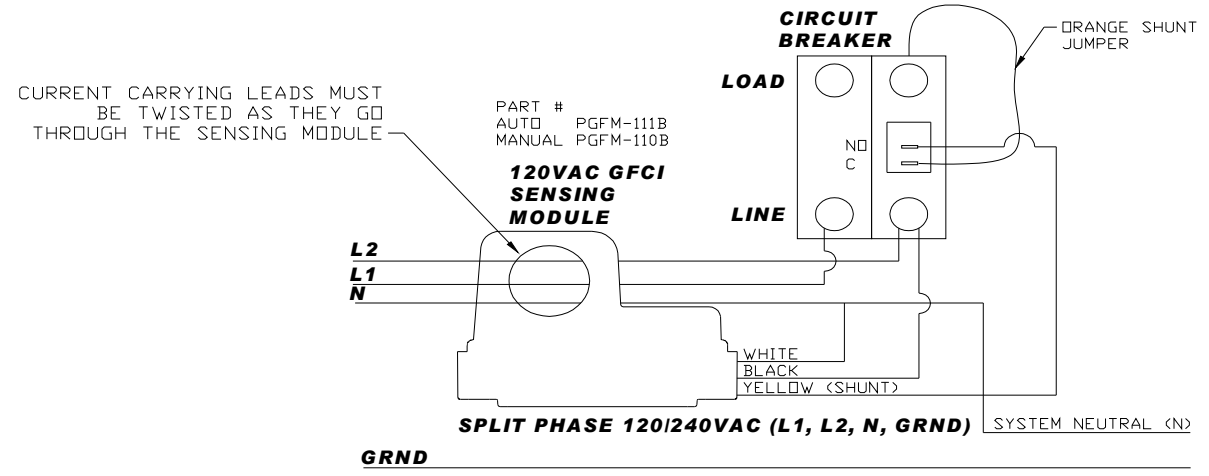
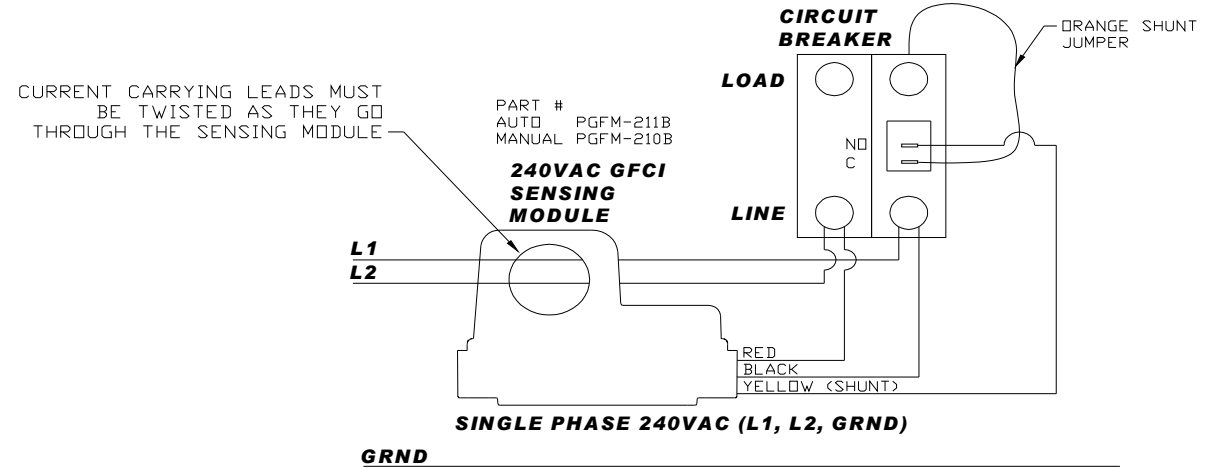
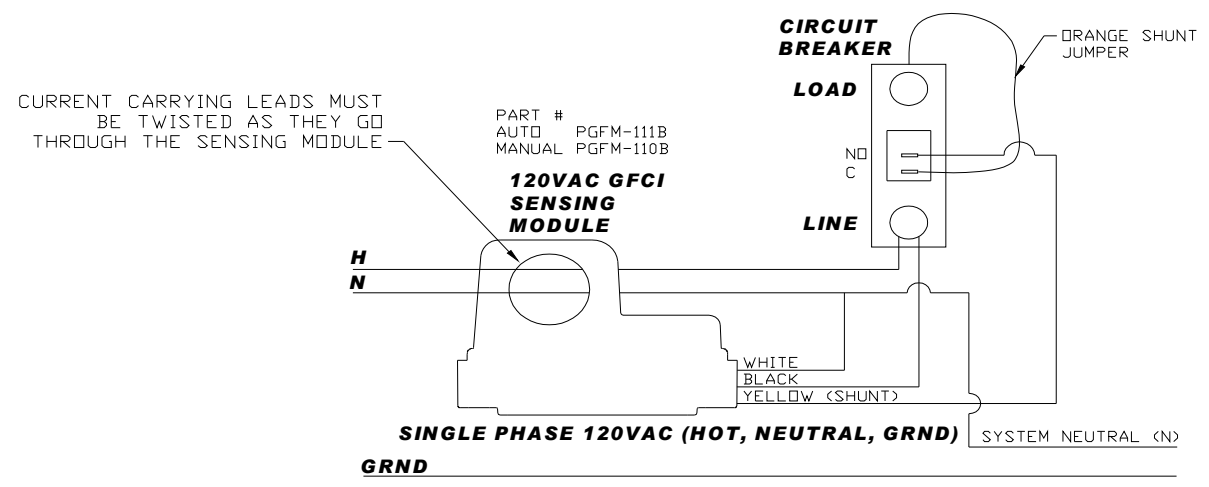
- STEP 1: PRESS "TEST" BUTTON: GREEN LED SHOULD GO "OUT" AND RED LED SHOULD COME "ON" AND CIRCUIT BREAKER SHOULD TRIGGER TO "OFF" POSITION
- STEP 2: IF SENSING DEVICE LED OR BREAKER DOES NOT TRIP OR CHANGE STATE: "DO NOT USE" CONSULT AN ELECTRICIAN FOR ASSISTANCE
- STEP 3: PRESS "RESET" BUTTON: RED LED SHOULD TURN "OFF" AND GREEN LED SHOULD TURN "ON".
- STEP 4: MANUALLY RESET (SWITCH) CIRCUIT BREAKER TO "ON" POSITION TO RESTORE CIRCUIT POWER

WARNING:

IF ABOVE TESTS FAILS, DO NOT USE THIS GFCI. CONSULT A QUALIFIED ELECTRICIAN FOR REPAIR OR REPLACEMENT.

SENSING MODULE MUST BE WIRED WITH AN AIRPAX LEL SERIES BREAKER UP TO 50 AMPS WITH THE SHUNT COIL, AUXILIARY SWITCH AND HANDLE IN THE SAME POLE IN ORDER TO BE A U.L. RECOGNIZED ASSEMBLY. (IE: A CONTROL POLE)

WIRING SCHEMATICS



***SOME APPLICATIONS MAY REQUIRE THE NEUTRAL TO BE INTERRUPTED UPON GROUND FAULT DETECTION: CONSULT FACTORY FOR DETERMINATION