Installation of EMP Shield on a Power Generator

EMP Shield

The objective of this document is to provide general considerations and instructions for the installation of EMP Shield on the AC lines of backup power electrical generators.

Limitations of these instructions are based on providing general guidance for the correct installation of EMP Shield 120-240/G without addressing the specificity of a particular generator manufacturer or model.

Electrical Generators are used as backup power in case of interrupted electrical power and to provide electrical power at locations that do not have access to the electrical grid. When used as a backup power, the generator is connected to a transfer switch, which could be manual or automatic.

Installation of an EMP Shield at the generator is strongly recommended when the distance of the generator to the transfer switch is about 30 feet or longer. Installation at shorter distances is recommended for locations with more frequent lightning strikes.

Backup Power Generator for residential units usually provides a single split-phase power (120/240VAC) or a single line (120VAC). The installation of surge protection includes the connection of the lead wires of the Shield to the respective output electrical wires of the generator.

EMP Shield follows the National Electrical Code (NEC), and the lead wires are color-coded: L1 is black, L2 is red, Neutral is white, and Ground is green color. The EMP Shield devices are Type 2, which require installation after a circuit breaker. EMP Generator Shields have internal fuses on each split-phase line and could be installed without a circuit breaker. The installation must be at a location as close to the generator as physically possible, following the general electrical safety considerations and local code regulations.

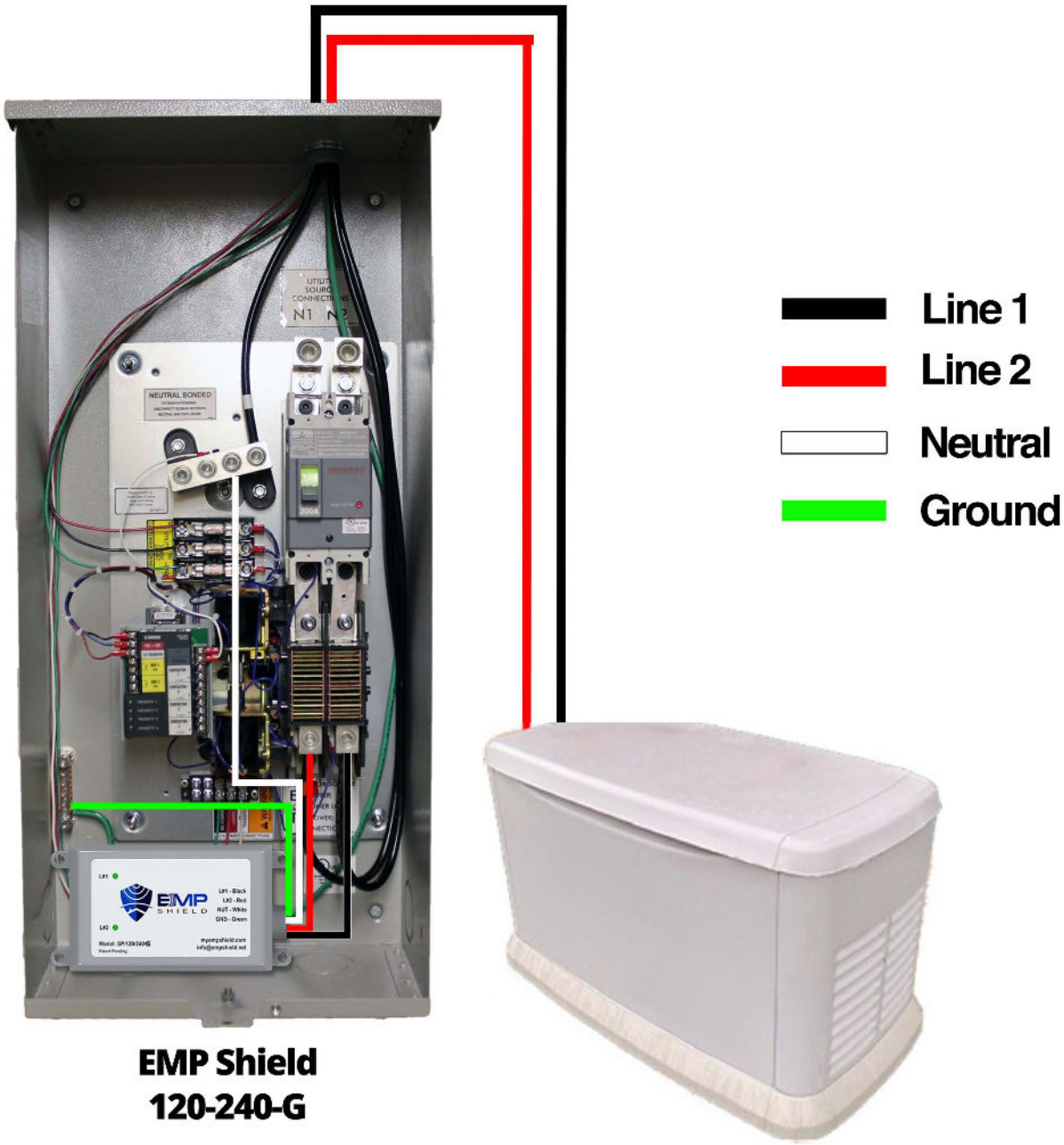
The Generator providing **120/240VAC** must have L1 black color wire, L2 red color wire, Neutral line white color, and a green color Ground wire. The installation steps are:

- Select a mounting location.
- Electrically connect the respective color-coded wires: L1 to L1, L2 to L2, N to N, and Ground to Ground. If the generator's manufacturer uses different color wires, refer to the generator's manual and follow the provided instructions.
- When the generator does not provide a ground wire, refer to the generator installation manual for information.
- The ground wire of the 120-240/G must be connected to good, low-impedance ground at the generator (ground rod, for example) or at the transfer switch using an appropriate low-resistance (impedance) ground cable/bus.

The generator providing **120VAC** has a line (hot) wire (usually black color), a Neutral line (white color), and a green color Ground wire. The installation steps are as listed above. The L1 (black) and L2 (red) wire leads of the 120-240/G may be connected to the line (hot) wire of the generator. This doubles the current rating capacity of the surge protection between Hot and Neutral lines.

Note: For reference uses, Please DO NOT REMOVE any sticker(s) from the unit. Thank you

Generator Installation



EMP Shield
120-240-G

WARNING

TO BE INSTALLED BY A LICENSED ELECTRICIAN AND/OR USED IN ACCORDANCE WITH ELECTRICAL CODES AND REGULATIONS. ELECTRICTY IS DANGEROUS AND MAY CAUSE FIRE, SHOCK, OR DEATH.