

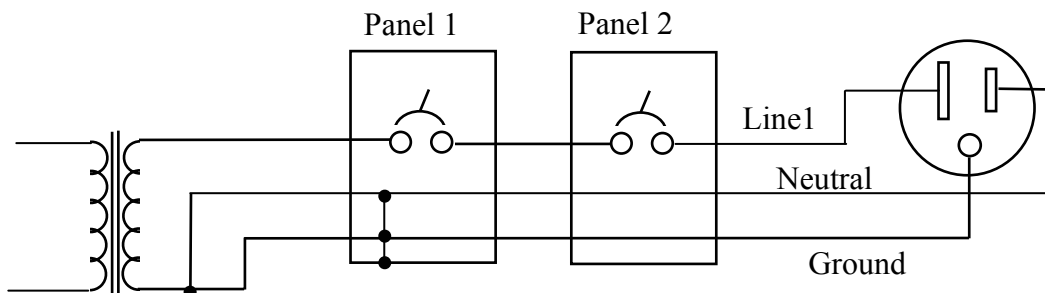
IMPORTANCE OF POWER CONDITIONING

General

All power conditioning begins with a clean, solid ground and is improved upon from there. Without a good ground, even the best TVSS system does not work properly. Data signals, communication signals and information gathered through transducers, all reference a

ground; the same ground that the utilities use to dump faults, overloads, inductive fly-back and lightning strikes. Sensitive electronic equipment must be able to function properly in such a harsh environment. Historically, in their quest to help the customer,

electricians installed dedicated grounds to avoid the cost of additional hardware. A dedicated ground is a ground wire that connected directly to the ground bond of the main power panel that supplies power to the load.



This approach was a great start, but it is not as effective in practice as it is in theory. The electrical wiring may be excessively long, the neutral may be improperly grounded upstream, or the integrity of the ground itself may just be bad all together. The

preferred solution is to guarantee a clean ground exhibiting the integrity needed for critical loads. The only way to assure that grounding issues are resolved and stay resolved is to install an isolation transformer. An isolation transformer,

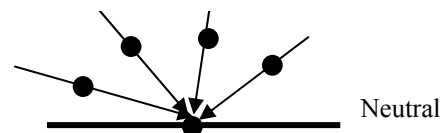
dedicated to the load, provides a common ground-neutral bond as well as a central location for power connections. Centralizing power connections eliminates chained neutrals and chained grounds.

CHAINED NEUTRAL



Each load has an effect on the other

COMMON POINT OF CONNECTION



Limited to no effect on other loads

Beware! Not all isolation transformers are the right kind for electronic loads. Transformers for critical electronic loads need to be computer grade. A transformer must fulfil two major requirements to qualify as computer grade.

(1) Low levels of inner winding capacitance for high attenuation of common mode noise.

(2) Low output impedance for stable voltages under changing load conditions.

Failure to use a computer grade isolation transformer causes your loads to function improperly and contributes to an unclean ground.

Is there a UPS that includes a genuine computer grade isolation transformer?

Yes! Included with the Distribution Module of the UltraUPS, is a genuine, computer grade, isolation transformer which establishes a clean ground for your system. The Distribution Module with isolation transformer assures that your

load is protected from common mode noise and other noise related problems. The Distribution Module also includes a maintenance bypass, auxiliary receptacles, and variable voltage capabilities.

With all the features and benefits of the Distribution Module, why buy a separate transformer? Get the job done right the first time!

Summary

The foremost concern in power conditioning is establishing a clean ground. Sensitive electronic equipment in which information is gathered via transducers, all reference a ground. If a clean ground is not obtained, then equipment malfunction is evident. The assured way to obtain a dedicated ground is the installation of a computer grade, isolation transformer

that is exclusive to the load. This load dedication centralizes the power to one ground. Not all isolation transformers will work for this particular operation. The isolation transformer must be computer grade with the following two properties: Low inner winding capacitance and low output impedance. The Distribution Module of the UltraUPS includes a genuine computer

grade isolation transformer which establishes a clean ground for your system. Included in the Distribution Module are an isolation transformer, maintenance bypass, receptacle patch panels and variable voltage capability. The UltraUPS with the Distribution Module, is the ultimate solution for battery backup and power conditioning.