



Stand Alone Inverters vs. Systems With Static Transfer Switches

Stand Alone Inverters

Exeltech Inverters are designed with reliability in mind when configured in an N+1 configuration. The modular nature of the system allows for the failure of any one Power Module or Control Card without losing system output. These modules are “hot-swappable” which allows for the removal and replacement of failed modules without interrupting the system AC output. The exception to this is the MX Alarm Card which is not hot-swappable. However, the failure of an MX Alarm Card is very rare and will not interrupt system output. This allows the user to schedule a maintenance window for replacement and to plan ahead for a brief outage while module replacement is performed.

In this configuration the load is well protected from outages. However, there are some events that could still cause loss of load. For example, if the DC source fails the Inverter will lose the ability to create an AC output. If this is a concern we would recommend the addition of the AB Buss Option. This would allow for two separate DC source inputs to the Inverter. This enables the user to service or replace one of the battery sources without load interruption. There are a variety of additional options and configurations that can be tailored to the application to achieve the greatest degree of AC output reliability.

Systems With Static Transfer Switches

Systems equipped with Static Transfer Switches gain the ability to switch between two available AC sources, typically the Inverter and the commercial Utility. The user may set which source is the preferred source and which is the backup source.

This flexibility can be useful in the right application. For example, a Transfer Switch might be desirable in an application in which the charger capability is limited and cannot supply enough power to the battery for the Inverter to run the loads continuously. In this case the user may opt to use the Utility as the primary source and the Inverter as the backup source.

From a reliability standpoint there are several drawbacks to the use of a Transfer Switch. All of the power to load must be routed through the switch. The switch itself then represents a single point of potential failure. The loss of a Transfer Switch power supply will result in an outage. The loss of a Transfer Switch fan will force the switch to turn off the output to protect itself. The introduction of Utility to the system leads to greater system exposure to transient spikes and other behaviors of the Utility source. In short the inclusion of a Transfer Switch can add flexibility in the choice of AC source options but does so at the expense of greater risk of load interruptions.

Selecting The Right System For Your Application

To find the best solution it is recommended that we have an open discussion about the specific needs for a given application. It is usually best to start by understanding the load equipment, the power options available in the installation, and the level of importance of avoiding load interruptions. Generally, by starting with the load requirements and working backwards we can guide you toward building the best Inverter system to fit your needs.