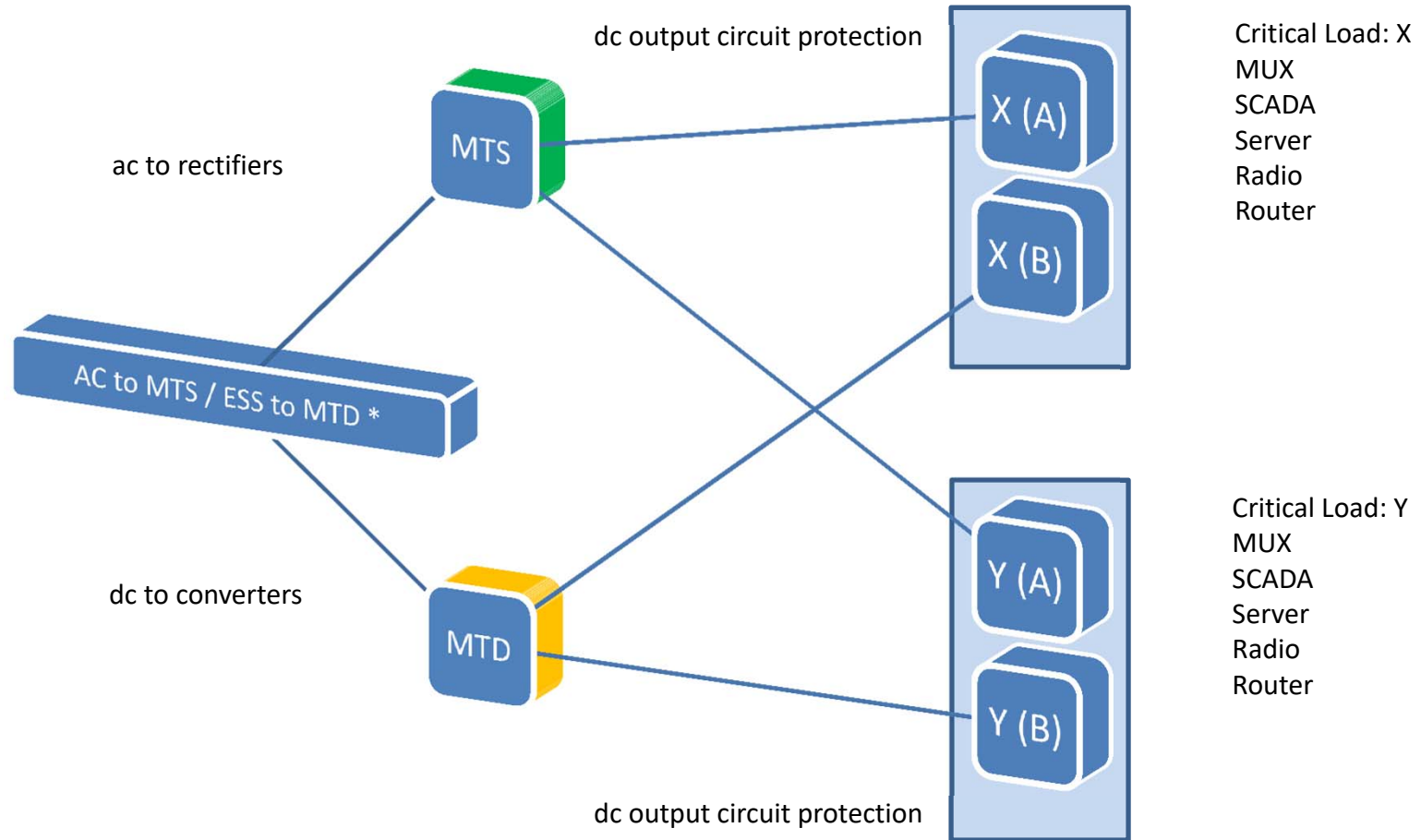




A/B Diversity Arrays

Product Configuration Series:
Using Multiple Power Systems

Fault-Tolerant Architecture Hybrid Power Systems



* On site storage system includes charger electronics and energy storage system (ESS); not in the scope of this presentation.

Connections ³

- Mains AC Entry Panel
 - Individual circuits to power systems or power modules
 - Majortel design includes: input cords from house power source to rectifiers (120/240)
 - Location Energy Storage Sys (ESS) and Charging Setup
- Majortel **MTS** Power System (rectifier)
 - Utility ac input
 - 48V dc output connections to Load Input: X^A and Y^A
- Majortel **MTD** Power System (converter)
 - ESS dc input
 - 48V dc output connections to Load Input: X^B and Y^B

Engineering Considerations (Hybrid)

- Power modules (rectifiers and converters) are designed with the 48V integrated blocking diode in the output dc circuit.
- The converter power modules will not charge the battery or back feed 130V to any energy storage system.
- Isolated converter design: Front to back isolation maintains flexibility in the “floating” systems application design.
- Common 48V bus supply to critical loads utilizing the rectifiers or converter sources. Seamless transitions during ride through test and fault periods or dark start routines.
- Minimal 130V energy storage system profile changes. Primary load support provided by rectifier voltage set to 54.3V dc when source “house power” is available. Secondary bus voltage will be 48.5V when supported by converter from the stationary battery bank.