



MI-GRID GROW INTO MI-GRID

What can Mi-Grid Power?

Mi-Grid powers regular 120/240VAC electrical circuits. Mi-Grid Essentials limits high power circuits to utility and generator.

How does it work.

Mi-Grid at its heart is an energy management system. It controls all available AC and DC sources, including Solar, Battery/Inverter, Utility & Generator, routing power based on what is available, reliable and least expensive.

Phased installation

All Mi-Grids can be installed starting with the backup generator, then adding the battery, inverter and solar systems, spreading cost over time.



Generator

A Mi-Grid system can begin with a standard backup generator. A transfer switch is installed to safely connect the electrical

panel to a generator and utility power. It disconnects the utility when the generator is operating. This provides immediate backup power, for the lowest cost.



Adding battery and inverter

Next phase adds a programmable inverter/charger system with internal transfer switches. It has the smarts to control AC power from the utility and the generator, as well as store power in the batteries. This battery system stores energy for use later. Even without solar, the inverter/charger system can reduce generator run time by up to 50%.

Solar installation

The final piece in a Mi-Grid system is solar. Normally, solar is connected on the DC side, to

provide DC power to the inverter and to recharge the batteries. Excess power is stored in the batteries or, if full, exported to the utility network.

Retrofit

Mi-Grid can be retrofit onto an existing Grid-Tied solar energy system.

A backup generator with transfer switch is installed. Next the battery and inverter system is installed with a special "AC coupled" section. This allows a grid tied inverter to be controlled by the Mi-Grid.

Additional solar can be added using standard DC charge controllers.

Upgrading

Mi-Grids can be upgraded. All parts, solar panels, battery banks and inverter sections can be upgraded/extended.

When replacing batteries, consider long life, high capacity Nano-Carbon batteries.



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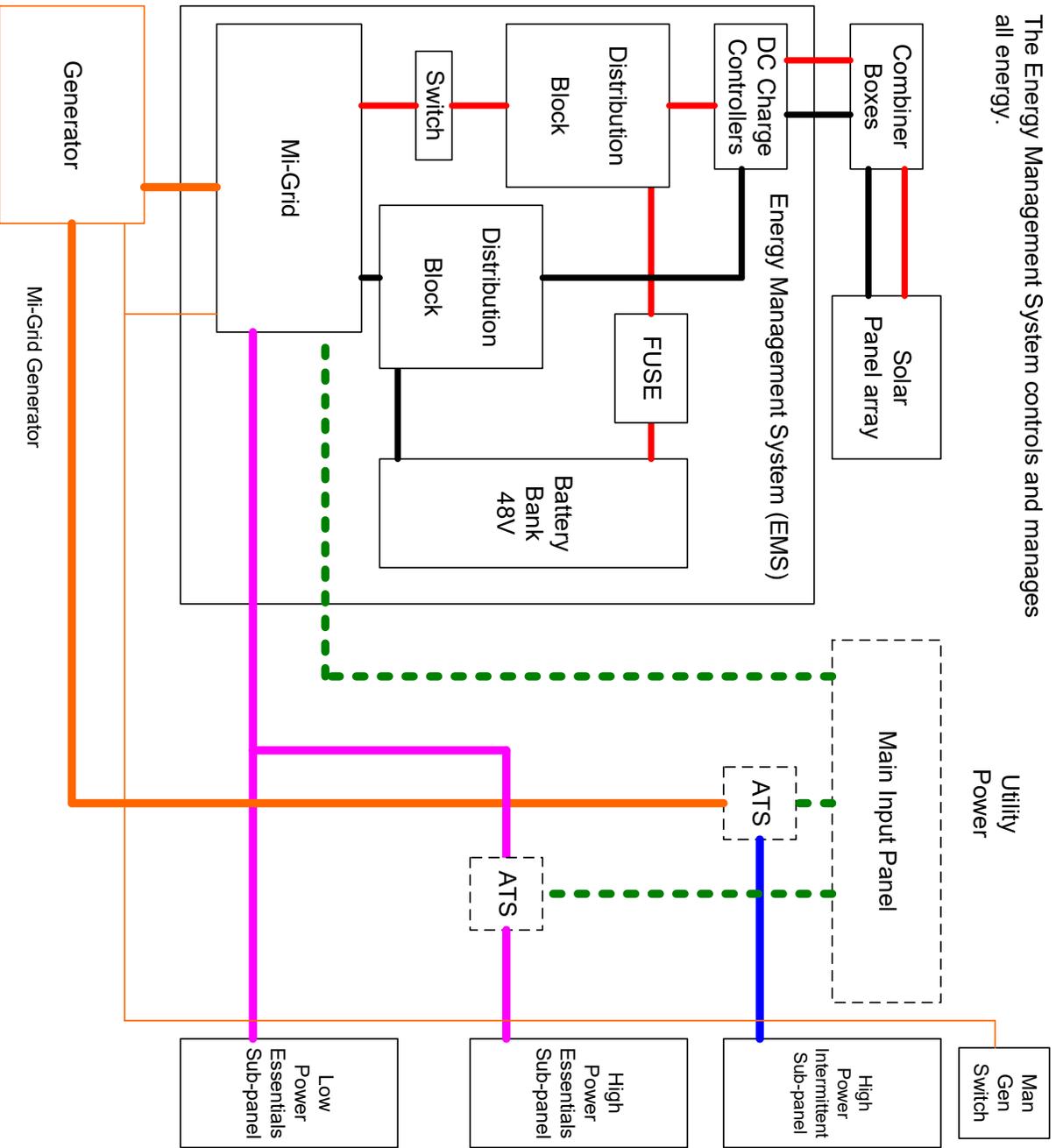
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Tetra West

Mi-Grid System

The Energy Management System controls and manages all energy.



The Generator supplies supplemental power. It automatically recharges the batteries in times when the solar is insufficient. It also supplies power to intermittent, non-essential systems

Man Gen Switch

Utility Power
Main Input Panel

High Power Intermittent Sub-panel

High Power Essentials Sub-panel

Low Power Essentials Sub-panel



Intermittent items
Only run when the generator is running.



These would include very high power items, agricultural water pumps, non-essential water heating, non-essential appliances



Essential 240VAC
These items include all high power AC systems which need to run when utility power is out



These are powered directly by the utility and switched with a transfer switch to Mi-Grid



Essential 120VAC
These items include all AC outlets, lights and any other circuits powered by 120VAC



These are powered directly by the Mi-Grid system at all times and will never lose power.

