



CONERGY

Reference Project | Off-Grid Hybrid

Repeater Base Station, India

Conergy successfully installed this 3.5kW PV hybrid system with the primary function of providing uninterrupted power to charge a 300Ah battery that powers the micro-wave repeater station. Regular charging of the battery is done through the installed PV system. A control logic was designed to automatically trigger grid supply should the battery drop below a specified voltage. In the event where grid supply is unavailable, a diesel genset provides the necessary power requirements.



Challenges

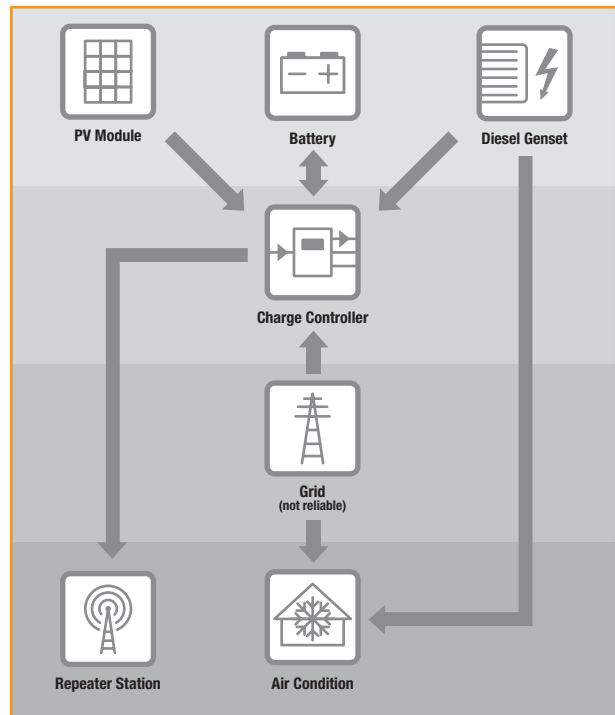
- | Needed a reliable power source to provide uninterrupted charge for battery
- | Wanted to reduce operation time of diesel genset to reduce fossil fuel cost and pollution
- | Needed a smart system that would monitor battery charge and room temperature and could switch on/off grid connection and diesel genset

Our Solution

- | Smaller PV system (3.5 kWp) would provide uninterrupted optimal charging during daylight hours
- | Smart control logic automatically triggers grid supply, then diesel genset if there is no grid power, when battery charge drops below critical level
- | Control logic also monitors room temperature and can switch on air-conditioner if temperature rises (powered by grid or diesel genset)

Benefits

- | Minimises diesel genset operation and grid consumption while providing reliable power to the telecommunications loads



Data

Date	March 2007
Location	Alanhalli, 150 km from Bangalore, India
Type of System	PV/Diesel hybrid for telecom stations
Installed Capacity	3.5 kWp (125 Wp x 28)
Type of Module	Conergy C125PI
Construction	Local designed hot dip galvanised structure for 105 km/h wind
Load	500 W 24 hours/day
Diesel Genset	2.5 kVA
Battery Bank	300Ah, C10, 48 V present with customer site
Autonomy	1 day
Special Voltage Requirements	48 V

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OFF GRID HYBRID