

Renewable power generation

Application: off-grid buildings

Supply a small group of remote, off-grid buildings with electricity

“ We would like to provide electricity to a remote village in Africa. We are looking for the optimz technical solution at the best price. ”

Install **solar panels** to provide the buildings with their own independent energy supply

The system includes:

- Solar panels with a total capacity of a few kWc
- 1 Xantrex XW solar charge controller
- A set of batteries to store several days' worth of electricity
- 1 Xantrex Trace TR1524 inverter
- Circuit breakers to protect the solar installation and for each building
- 1 GSM-equipped iRio unit for remote management of network operating schedule and monitoring of consumption, batteries, the charger, the solar panels, and the inverter
- Surge protection devices for PC photovoltaic generators and for the AC part of the installation.

Solution

Benefits

For the user

> **Totally independent electricity supply**

> **Local, independent management of the installation**

For professionals

+ A single interface for centralized management and monitoring

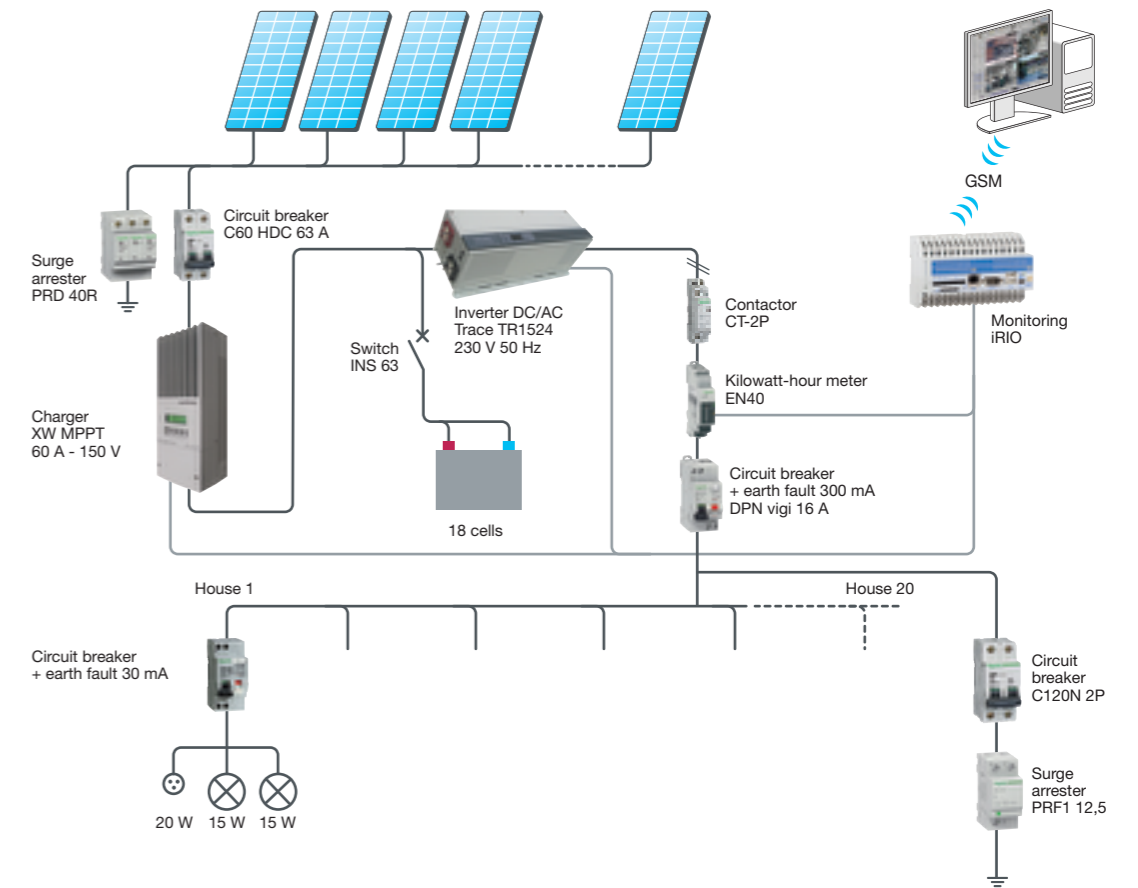
+ Local people receive maintenance and operation training from **Schneider Electric**

Projects

Madagascar village gets solar energy
In early 2009, solar panels were installed in a mountain village in Madagascar. The village, which counts about 20 houses, was too remote to be connected up to the main grid. The goal was to provide 50 W for each household three hours per day—a total of 1,000 W for the village or 3 kWh per day.

According to a survey conducted after the project was completed, the local population, which helped with the work, was satisfied with the results. A team of two local electricians received training from Schneider Electric Madagascar. They did the wiring in all of the houses and now handle maintenance and repairs.

- Measure
- Reduce energy consumption
- Reduce energy costs



Xantrex Trace TR1524 inverter

- Thermal performance allows full output power to 50°C (122°F) without de-rating
- Sophisticated, energy-saving multi-stage battery charging algorithm
- Charger turns off once batteries are fully charged, reducing energy bills



- Battery life is prolonged because batteries are not continually held at float voltage
- Power factor corrected (PFC) charging
- Electrical draw is reduced by up to 30% less AC input current, while delivering the same DC charging current
- Better value and increased savings with maximum available AC power for loads
- Reduced electrical noise and interference with TVs and radios
- Trace Series inverter-chargers are FCC Class B compliant with necessary EMI filtering components

Xantrex XW solar charge controller

- Photovoltaic (PV) charge controller that tracks the electrical maximum power point of a PV array to deliver the maximum available current for charging batteries



PRD 40R - 600 DC 2P

- Surge arrester 600 DC: 2 poles, I_{max} = 40A, I_n = 15A

