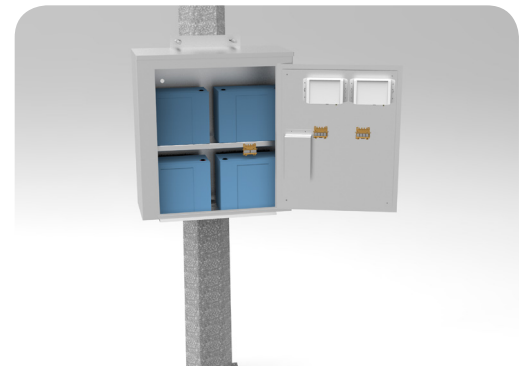


# Smart Off-Grid Power Pack for Mission Critical Systems

Clear Blue's Smart Off-Grid Power Pack solution delivers a highly reliable source of power using solar and hybrid solar, with built-in communications, and the ability to remotely monitor, control, and proactively manage mission critical systems over the Internet. The solution is delivered in pre-configured, pre-wired Power Packs consisting of Smart Off Grid control, operations and management; solar (hybrid wind, diesel, or grid, if applicable); batteries; power cabinet; and all power wiring, terminations and connectors. This makes installation and upgrades easy for local installers. Clear Blue's expert service team also provides the ongoing management service to deliver high reliability, long-life and peace of mind.

## Product Features

- Designed to support continuous loads in excess of up to 1000Wh continuous load (3.8kW peak power) and typically replaces generators up to 10kW**
  - Individual management and control of multiple solar panel sources
  - Supports multiple batteries, using lead acid, lithium ion, or NiMH batteries
- Multiple power sources can be managed independently**
  - Solar only
  - Hybrid Solar/Wind, Solar/Grid and or Solar/Diesel available
- Loads can be managed independently, with ability to:**
  - Do power and control restarts of individual loads remotely
  - Manage energy consumption and load prioritization
  - Set alarms to allow workaround for any unmet load requirement
  - Emergency ride through
- Easy to upgrade, allowing you to upgrade as usage and power needs grow**
  - Modular upgrade path minimizes initial capital investment
  - Clear Blue service provides visibility well in advance of any required upgrade by monitoring / correlating traffic with power consumption, allowing site efficiency and effectiveness to be measured



**Illumience Cloud software remotely monitors, controls and manages the off-grid systems**



**Clear Blue experts provide an ongoing support and management service.**

**Powerful Control. In the Cloud & Off the Grid.**

# Why Smart Off-Grid Matters

Illumience Cloud software provides remote monitoring, control and proactive service, ensuring high reliability and lower maintenance costs.

- **Remote monitoring and reporting**
  - Monthly, daily and hourly real-time monitoring and reports
  - Global performance, data analytics
  - Dashboard map with location
  - Forward-looking system performance based on integrated weather forecasting
  - User-defined and configured alarms
- **Remote troubleshooting tools including**
  - Solar panel test, cabling and connectivity integrity, remote short circuit reset
- **Easy installation and validation**
  - Installer smartphone provisioning tool, customer and installer provisioning report
  - No network or software installation and configuration – plug it in and it works with our Illumience Cloud management service, anywhere in the world!
- **Industry leading platform security and encryption**
- **Long battery life**
  - Lifecycle forecaster
  - Remote battery maintenance and revitalizer
  - Patented dynamic charging

Issue	Without Smart Off-Grid	With Smart Off-Grid
Smaller Batteries	30-50% larger batteries are required, the lack of real time alerts and dynamic control means that system outages can occur anytime.	Smaller, less costly battery configurations can be used as seasonal and extreme weather events are handled by Smart Off-Grid. When outages are required, then they can be scheduled for off traffic hours. This allows service providers to minimize cost by buying smaller systems and maximize revenue by scheduling service outages in the middle of the night.
Longer Battery Life	Lack of sophisticated power management and proactive maintenance reduces battery life. More frequent replacement means higher costs	Power and lifecycle optimization and proactive maintenance ensure longer life. Includes ability to detect and perform equalize charge remotely.
Higher Uptime & Reliability	No way to understand the power the load is drawing, no ability to do proactive maintenance.	24x7 automated monitoring. Automatic alerts and alarms sent via text and email. Proactive maintenance ensures high performance and reliability.
Lower Installation Cost	Complex wiring. Experienced personnel needed. Primitive testing tools, if any.	Preconfigured and prewired for simplified install. Clear Blue support and commissioning reports ensures a successful install.
Lower Ongoing Maintenance Costs	With no data to diagnose a root cause, multiple trips to the pole occur, with high truck and personnel cost. Trial and error troubleshooting results in a lot of expensive components.	Real time data on all components plus data history. Troubleshooting occurs remotely, in advance, from an office. If a part is required, that part accompanies the first service call. More than 70% of issues are managed remotely.
Remote Control	Restarting/rebooting of loads requires a visit to the site.	Customer can restart and re-initialize systems remotely with no visits to the site required.
Upgrade as your revenue grows		As traffic and systems grow, our forward forecasting of actual usage allows you to upgrade modules as you wish to maximize profitability.

**Powerful Control. In the Cloud & Off the Grid.**