Illumience Smart Off-Grid™

Manage, control and service off-grid systems remotely, over the Internet

Yay! Welcome to Illumience!

170,920	111,141	445,498	1,822
KWH GENERATED	KWH USED	LBS OF CARBON OFFSET	TREES SAVED

Illumience Smart Off-Grid provides real-time, 24x7, remote control, management, and proactive servicing of off-grid systems. With Illumience, streetlights, security systems, telecom systems, mobile power, and Internet of Things devices can achieve unprecedented levels of reliability and performance while installation and maintenance costs are drastically reduced.

Real Time Intelligence over the Internet

- Configuration, lighting profile changes and power optimization are all done remotely.
- Motion detection can be enabled remotely in all 4 adjustable light profile stages. Real-time event settings combined with motion detection ensures the required light at the right time, while optimizing system availability and the life of the system.
- Customized system alarms and automatic alerts, weather data history and forecasting and multi-level reporting provide unmatched intelligence.
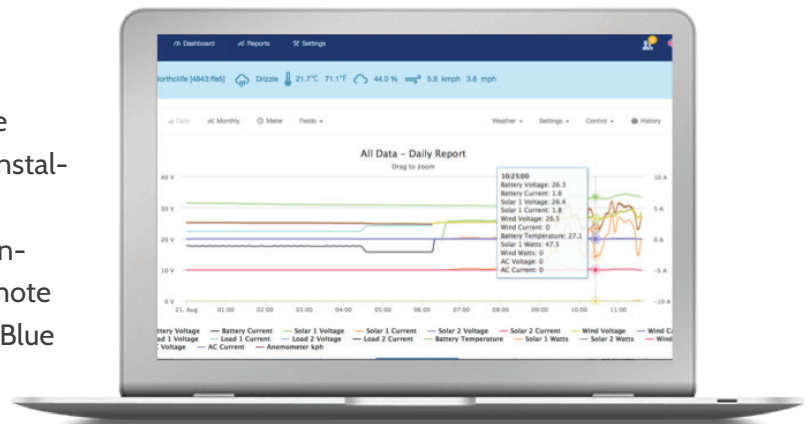
Remote and Proactive Maintainability

- Full remote control and monitoring of all system components. Functions include the ability to change lighting profiles, check solar panels, perform a short circuit test, adjust a battery level, reboot a system, and much more.
- Proactive versus reactive maintenance means your personnel can determine when batteries or solar panels need to be replaced.
- Remote troubleshooting and control slashes your maintenance time and cost.

High Reliability and Optimized Performance

- Individual systems are managed to deliver 100% up time with site specific solar and wind performance.
- Maximum battery life is ensured through optimized charge profiles and life cycle management.
- Short circuit protection.

Clear Blue's Expert Management Service

- Our experts provide ongoing support and service
- Installation and commissioning support ensure installations are done correctly
- Automated monthly reports, system uptime management, battery lifecycle management and remote maintenance and repairs, all done by your Clear Blue team

Clear Blue Smart Off-Grid Makes the Difference

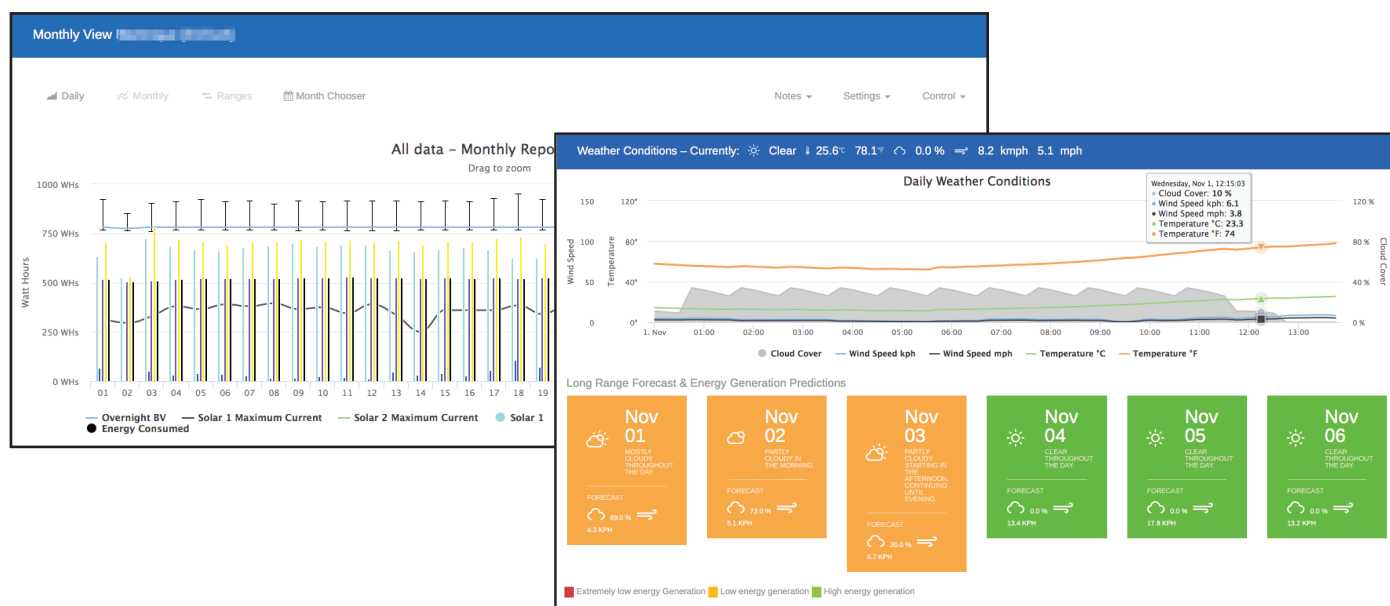| Issue	Without Smart Off-Grid	With Smart Off-Grid
Installed properly?	Complex wiring. Experienced personnel needed. Primitive testing tools, if any.	14 simultaneous meter measurements using smartphone. Plug and play pre-packaged cable harnesses, color coded connectors.
Light working properly?	Wait for someone to notice and call.	24x7 monitoring. Automatic alerts and alarms via SMS, email.
Power systems management, battery life	Minimal if any.	Proactive maintenance. Remote battery lifecycle optimization ensures long life. Perform equalize charge remotely if needed.
Lighting profiles	Limited and fixed. No time of day option. Make changes at the pole only.	Set up and change over the Internet. Unlimited profiles including time of day / day of week. Weather forecasting, load management to optimize lighting profiles. Dimming, motion detection.
Troubleshooting	Multiple trips to the pole, with costly truck and personnel. No data available to find root cause, results in swapping of expensive components.	Real time data on all components plus data history. Troubleshoot remotely from the office. Bring the right part to the pole if needed.

Sample Reports and Data

Reports

- Dashboard: network view, system view, weather alerts
- Daily, weekly, monthly, and detail charts
- >20 different customizable reports

Data

- Solar 1 and 2 current and voltage
- Load 1 and 2 current and voltage
- Wind current and voltage, frequency, power and speed
- Battery current, voltage and temperature
- Integrated weather data, forecasts and alerts

Illumience Features and Benefits

Feature	Benefits
System Monitoring & Status	Data is continuously streamed from Clear Blue's Smart Off-grid controller to Illumience's cloud service. Data captured includes voltage and current readings for two independent solar panels, two independent load ports, battery as well as battery temperature. For systems configured with wind support, voltage and current is captured for AC and DC inputs as well as turbine frequency. An optional anemometer can be added to the system to capture wind speed at the installation site. Over 24 other indicators are also sent to the cloud to monitor services maintained by the controller. This data is stored in the Cloud to enable ongoing support, maintenance, and troubleshooting.
Alarms and Alerting	Each user can optionally create alerts for their systems individually or as a whole. Notifications can be delivered over SMS, E-mail, or online via Illumience only. All statuses, and ports can have customized alerts based upon rules defined by the user. Notification frequency can also be controlled. As trouble tickets are cleared, notification alerts are also sent out stating that the alert is no longer active.
Lighting / Load Profiles	Illumience makes it simple to set up and change lighting profiles that automatically adjust based on time of day, day of week, and whether or not motion has been sensed (motion sensor option must be included.) Illumience can manage two independent lighting profiles. System templates and modifications to lighting profiles and other attributes can be easily applied across multiple systems. Profiles can be activated during the day for providing power to other devices which may or may not be a light.
Predictive Weather Analysis	This powerful capability will estimate energy generation for the following six days based upon current load and local forecasts and in the near future will proactively make recommendations to conserve battery life. Users are presented with potential weather issues for their site(s) upon logging into Illumience.
Proactive Maintenance	Illumience alerts can be designed to notify you of a potential issue before it happens, allowing users to avert an issue before it occurs. An example of this would be an alert monitoring users of low battery voltage before the system hits low voltage disconnect, which would disable loads to preserve the health of the system. If such an alert were received, the user could pro-actively adjust the load profile remotely by increasing dimming, or disabling lights during the early hours of the morning entirely whilst enabling motion sensing with lighting control. The system would maintain the battery voltage, and supply lighting when motion sensors were activated. A second alert could be created in the system to notify the user when the battery reached an upper threshold allowing them to revert the changes they had already made to the lighting profile. This type of pro-active maintenance can all be done remotely averting any costly trips by service personnel to provide on-site support.
Installation & Provisioning Services	During an installation, administrators can push remote control features to an administrators smartphone over SMS or email, allowing the installer to use their smartphone as a testing tool for the installation.
Flexible reporting	Over 20 different customizable reports of dashboards and reports are available including daily, weekly, monthly, and detail charts. Reports can be printed and downloaded and users can set customized reporting periods.

Illumience is the industry's most advanced remote control and management system for off-grid devices

MANAGE   CONTROL   SERVICE

Clear Blue also supports your team with expert service from our own control center, where all of your systems are monitored and managed.