



The Smart Off-Grid™ Company

**CLEARBLUE**  
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## The Clear Blue Smart Off-Grid System

Clear Blue's Smart Off-Grid Controller provides excellent energy generation and control with high reliability, easy installation and full remote management and control over the Internet of solar powered systems. The Clear Blue system includes the Smart Off-Grid controller, the built-in communications network and the Illumience Cloud monitoring, control and alarm system. For wind/solar systems, the Controller works with the Clear Blue Wind Module.

### Smart Off-Grid Controller



### Wind Module



### Illumience Cloud Software



### Highly Reliable

- Systems are managed to deliver 100% up time with site-specific solar and wind performance
- Maximum battery life through optimized charge profiles, life cycle management, short circuit and overload protection
- Independent load controls and power sources

### Full Control, Monitoring and Proactive Servicing over the Internet

- Configure and change lighting profiles, dimming, check solar panels, perform short circuit test, adjust battery level, reboot system remotely and much more all done remotely via PC or smartphone
- Easy to support and troubleshoot remotely
- Customizable system alarms, online reports and 7x24 access
- Data history stored with 100% data integrity

### Lower Cost

- 80% reduction in maintenance costs
- No training or tools required for installs
- Easy to install, plug and play connectors



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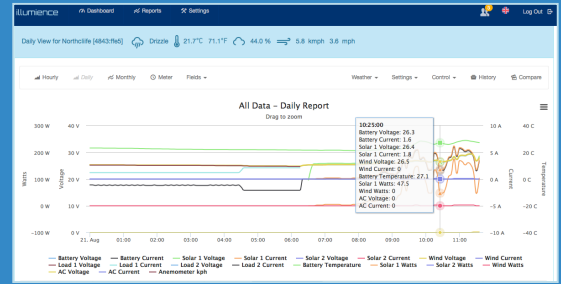
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## Smart Off-Grid: The Clear Blue Competitive Advantage

Only Clear Blue has Smart Off-Grid software, enabling off-grid systems to be *controlled, managed and proactively maintained via the Internet*. This is the key to providing unmatched reliability, long lasting system performance, the highest degree of customer satisfaction and significantly lower maintenance and support costs.



The Brightest Light	Can support higher wattage light due to sophisticated power management and highly flexible lighting profiles.
Validated Installation	Smartphone app validates proper installation with 14 simultaneous meter measurements. Plug and play system eliminates commissioning errors by installers.
24x7 Automated Monitoring	Data streamed continuously to cloud software. Automatic alerts and alarms sent via text and email. Proactive maintenance ensures high performance and reliability.
Most Flexible Lighting Profiles	Set up and changed easily over the Internet. Weather forecasting, load management to optimize lighting profiles. Dimming and motion detection optimize power usage.
Less Costly, More Efficient Batteries	Flexible lighting control and proactive maintenance enable use of smaller, less costly batteries, with longer battery life,
Longer Battery Life	Average replacement cycle without Smart Grid is 6 - 18 months.. Average replacement cycle with Smart Grid 36 - 60.
Troubleshoot from Office	Real time data on all components plus data history makes it easy to troubleshoot issues. . Troubleshooting occurs remotely, over the Internet. Eliminates costly trips to the pole, ensures right part is brought if needed.

## How Smart Off-Grid Works

**Off-Grid System**

During the day sunlight on the solar panel is stored as energy in the batteries.

High Lumen White LED lamps are driven to maximize efficiency, maintaining low energy consumption.

The Controller manages the charging process to most efficiently manage the panel's voltage production to the battery pack.

After dark the Controller draws electricity stored in the batteries to power the street lights, using the user-defined profiles and preferences of light levels and protection modes.

AGM batteries store energy, providing both energy for immediate needs and back up for days with low/no sun.

Status information about all of the system components is sent every few minutes to the Illuminco cloud using built-in communications. This enables 7x24 monitoring and control.

