

VENTO Series

The World's First Smart Off-Grid Hybrid Solar and Wind Lighting Solution

Get utility-grade lighting systems with the brightest luminaires and maximum uptime. Our new, sleek new design utilizes cost-effective lithium-ion batteries to illuminate parking lots, data centers, campuses, pathways or areas prone to flooding and theft plus provides unparalleled:

- **Energy Forecasting & Management**
- **Remote Troubleshooting & Remediation**

VENTO is a configurable lighting solution built to scale across different site types and requirements. It supports flexible fixture/pole configurations and can be outfitted with sail arms for branding/signage plus smart-site add-ons (security, connectivity, sensors). Clear Blue's commissioning and support services simplify deployment and ongoing operations for systems needing:



Maximum Uptime

Our predictive analytics, weather forecasting and individual load control enables management for maximum uptime.



Long Life

Our Dynamic Charging algorithm uniquely focus' on battery charging with the unpredictable nature of off-grid solar energy.



Maintenance & Easy Installation

More than 80% of all issues are managed and eliminated through our remote management service. Installers and customers get peace of mind through our commissioning & provisioning services to ensure you get it right the first time, every time.

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Technical Data

System Components Overview	
Solar Panels	345 Watt and Higher Panels
Batteries	Lithium-Ion Batteries
Pole	Steel, aluminum, and concrete poles available from 18'. Direct bury, breakaway poles, and anchor bolts available.
Light	Dimmable LED light
Wind Turbine	DS-300 Vertical Axis Wind Turbine
Controller	Clear Blue's Smart Off-Grid Controller
Energy-as-a-Service (EaaS)	3 years of service included in purchase (includes Clear Blue's extended warranty)
Communications	Included in EaaS - Illumient includes 3 years of communications, cellular for single units and mesh/Ethernet or mesh/cellular for multi-pole projects

Options	
Solar Panels	Single or Dual 345 Watt and Higher Panels
Battery Options	Single or dual lithium-ion batteries, 105Ah configurations
IoT Technology Option	<ul style="list-style-type: none"> • Motion sensing (integrated with controller) • Security/CCTV cameras • Pedestrian traffic counters • Smart traffic management • Air quality/pollution & chemical monitoring • Smart parking systems • Wifi hotspots • Sustainable energy/carbon credits • Energy reduction & optimization
Communications	Cellular for small quantity installations or, Mesh/Ethernet or Mesh/Cellular for large quantity projects
Pole	<ul style="list-style-type: none"> • Galvanized & painted steel poles • Concrete poles • Aluminum poles
Communications	Built in WiFi or Cellular

Clear Blue Smart Off-Grid Controller Certifications	
Health & Safety	IEC/UL/CSA601010-1, CSA C22.2 No.107.1 and UL50E, TUV certified.
EMC (EUDirective 2014/30/EU)	ETSI EN301 489-1 V2.1.1 , ETSI EN 301 489-17 V3.1.1 (2017-02) & ETSI EN 301 489-52 V1.1.0

Other components adhere to their individual manufacturer's certifications. Please consult your sales representative if you have questions about the certifications of other components such as batteries, lights, poles or solar panels.

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Features	
Battery Heating & Insulation	With an expertly engineered battery cabinet that can include insulation and heating (depending on need and application location), the system can allow Lithium-ion batteries usage in areas where lighting is needed below freezing temperatures, protecting battery integrity and extending battery life.
Smart Battery Charge Profile	Includes patented multi-stage charging and remote software configurable charge profile designed specifically for solar charging and adjustable using Clear Blue's dynamic charging complete with fully customizable temperature compensation.
Lithium-Ion Batteries	High-Performance long life Lithium Iron Phosphate battery cells with Clear Blue BMS. Smaller and lighter than lead acid batteries, lithium-ion batteries allow for more versatile designs, allowing the batteries to be installed at the top of the pole for a cleaner aesthetic.
Smaller Size & Physical Footprint	Without a base battery cabinet and smaller batteries, the poles can be shorter and battery cabinet hidden under the solar panels, thus the overall physical footprint of the system is smaller, making the CAMMI solution a good fit for a more subtle aesthetic on sidewalks or other applications.
Elevated Battery Cabinet	By utilizing lighting Lithium-ion batteries, the design eliminates flooding and vandalism concerns by having the battery and system electronics cabinet installed at the top of the pole, out of reach from rising waters or unauthorized persons.
Remote Software Update	New features delivered to all devices via remote software download on an ongoing basis as part of Clear Blue's management service, three years of which is included in upfront price.
EaaS	Service provided by Clear Blue to manage issues & protect power system components. This service combines Clear Blue's extended warranty expert power management along and smart forecasting, to ensure the most efficient power systems available.
Wind Turbine	Compact 300 W vertical-axis wind turbine with a direct-drive, weather-sealed generator and low cut-in wind speed, providing reliable supplemental power in variable wind conditions for hybrid solar systems.

Cloud Management & Service	
Illumience Management (Cloud Based)	Illumience Smart Off-Grid provides real-time, 24x7, remote control, management, and proactive servicing of off-grid systems. With Illumience, streetlights, security systems and Internet of Things devices can achieve unprecedented levels of reliability and performance while installation and maintenance costs are drastically reduced.
Management Benefits	Clear Blue's predictive analytics, weather forecasting and individual load control enables management for maximum uptime. The Dynamic Charging algorithm uniquely focuses on battery charging with the unpredictable nature of off-grid solar energy.
Service Support	Clear Blue's Illumience cloud-based software includes 24/7 monitoring, proactive maintenance, diagnostic testing and fault determination.
Security	For full details on Clear Blue's cloud security technology, please visit www.illumient.com or contact sales.

Warranty	
Warranty	Extended (3 year) warranty on power components is included as part of the EaaS service contract.