Smart Wireless Solar Monitoring Solutions

A Complete Offering of Smart Wireless Solutions to Ensure Safety and Maximize Efficiency
Operational Efficiency With Smart Wireless Solutions

The rapidly evolving need to remotely monitor and control utility-scale solar power generating assets is driving demand for advanced solar monitoring solutions. Cooper Bussmann, a global leader in circuit protection, offers an advanced wireless solution comprised of an industrial grade mesh network, smart wireless combiner box and comprehensive supervisory control and data acquisition system. Our full suite of products are optimized to meet the demanding requirements of utility-scale deployments, and can be combined with site-specific services to deliver a best-in-class solar monitoring solution.

New Smart Wireless Combiner Box and System Software

The Smart Wireless Combiner Box provides a complete solution, integrating world-class electrical products with robust and reliable industrial wireless mesh networking. The Smart Wireless Combiner box interfaces to an industrial-grade monitoring and control system, purpose-built for solar applications and engineered to maximize solar efficiency in grid-tie applications.

The solution monitors individual string currents, busbar voltage and temperature, and has the capability to interface to a weather station to provide ambient temperature, wind speed, humidity and solar irradiance. Minimal power is required, and is derived directly from the busbar voltage through a 600Vdc/1000Vdc to 24Vdc converter. The additional battery backup ensures continuous operation, even during the night.

For more information: www.cooperbussmann.com/Wireless-Solar

A Complete Wireless Solution that Delivers a New Benchmark in Performance Monitoring and Solution Scalability

Cooper Bussmann offers best-in-class electrical products, industry-leading wireless and a purpose-built operator interface.

Smart Solar Monitoring Solutions

The Supervisory Control and Data Acquisition (SCADA) system enables a complete solar monitoring solution for optimized safety and efficiency.

The solution provides real-time access to system-wide parameters, powerful user-friendly reporting and alarming and a dedicated historian capable of storing decades of crucial performance information. Critical parameters are analyzed to enable rapid determination of system faults or simply allows the operator to uncover gradual degradation in solar panel performance.

Optional capabilities include remote DC disconnect and remote alarming via email, cellular or pager networks.

Industrial Wireless Networking

The Cooper Bussmann ELPRO brand of wireless solutions provide unmatched reliability as an alternative for signal and data wiring. The wireless technology includes best-in-class mesh networking so signals get through the challenging environment of a solar field, as well as enabling systems to easily scale by simply adding more communication nodes.

Manufactured to ISO 9001:2008 quality levels and UL Certified for safety critical applications, significant cost savings are also achieved through the elimination of cable and materials, equipment and labor of installation, and costly ongoing maintenance.

Smart Wireless Solution Features

Monitoring of Critical Parameters
- Individual string currents
- Busbar voltage and temperature
- Internal cabinet temperature
- Cabinet door switch for intrusion detection
- External sensors for solar array temperature
- Available inputs for weather station integration
- Optional internal smoke alarm

Industrial Wireless
- -40C (-40°F) to +60C (140°F) temperature range
- Environmentally hardened and robust radio performance
- Proven long-range wireless mesh, with true peer-to-peer ability
- Secure 128-bit AES Encryption
- Internal Modbus gateway functionality
- RTU or TCP connections

Smart Combiner Electrical Ratings
- External or integral disconnects available in 200A and 245A
- Constructed in accordance to UL 1741 Standards
- Rated for 600Vdc or 1000Vdc ~ continuous duty
- Finger-safe fuse holders and power distribution blocks
- 90°C (194°F) output terminals
- Fiberglass or steel NEMA 3, 3R, 4 or 4X enclosures with seamless gasket

Power Supply
- Busbar voltage-powered electronics
- 12V gel cell battery for 24-hour monitoring

Ensure Safety and Maximize Operational Efficiency With Smart Wireless Solutions

Ensures Safety
- Monitors critical components for safe operation
- Takes action remotely (e.g., DC disconnect)
- Meets NERC security encryption requirements

Improves Operational Efficiency
- Ease of monitoring and fault isolation
- Reduces risk of complete system shutdown due to ground faults
- Wireless string-level monitoring granularity identifies costly underproducing panels

Reduces the Cost of Connections
- Cuts the cost of connecting sensors to the control system by 90% or more

Provides Reliable and Scalable Communications
- Unmatched wireless scalability as site grows
- Increased network reliability via meshed nodes

Delivers Compatibility with Legacy Equipment
- Ease of integration with third-party products and legacy equipment for upgrades of existing systems

Smart Wireless Solution Benefits Comprehensive, Innovative, Reliable and Cost-Effective

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For more information:
Please visit our website for further details or contact your local representative.

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For more than 30 years, the Cooper Bussmann ELPRO brand of products have provided complete wireless monitoring and control solutions to the industrial market. Offering a comprehensive range of industrial wireless products, global technical support and over 100 technically qualified partners worldwide, Cooper Bussmann is a market leader in industrial wireless technology today. With numerous solutions deployed worldwide in process, instrumentation and automation applications, ELPRO has a solution for your application need.

www.cooperbussmann.com/wireless

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