MAXIMUM RELIABILITY IN THE OPERATION OF PHOTOVOLTAIC POWER PLANTS

Photovoltaic Plant Control – a SICAM application

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Highest reliability
Maximum flexibility
Unlimited scalability

Benefits at a glance:

• Maximum yield through fully redundant architecture, tracking of key performance indicators, and early warnings
• Full and future proof grid code compliance through fine-grained, customizable, and future adaptable control scheme settings
• Easy integration of battery storage systems, capacitors banks, and even wind farms
• Rapid deployment through pre-built, tested, and integration-ready solutions
• Maximum protection against hacker attacks due to highest security standards
A power plant control solution you can rely on

Active power control
• Ramp control (MPP mode)
• Active power control
• Frequency-dependent active power control

Reactive power control
• Advanced reactive power control functions (Q limitation, Q-V-characteristic in over- and undervoltage range, Q-P-characteristic)
• Power Factor control (PF control, cos phi)
• Grid voltage & Zone control

Grid stability support functions
• Reactive power at night / STATCOM operation
• Dynamical power reserve for frequency stabilization
• Coordinated plant startup after grid fault

Battery control
• Grid stabilizing mode
• Smoothing mode

Available plant startup modes
• Plant startup initiated by inverters
• Automatic startup and shutdown sequence initiated by photovoltaic plant control

Communication
• Standard communication protocols like IEC 61850, IEC 60870-5-104, IEC 60870-5-101, Modbus TCP

SCADA features
• Real time plant data
• Full archive and reporting functionality
• Alarm and event monitoring
• Plant overview with optimized inverter output view
• Plant overview with geographical display for detection of inverter location
• Interface for weather data from external provider

Hardware options
• Redundant controller (2 separate controllers with separate power supply)
• Redundant SCADA server (2 separate servers)

Security
• End-to-end security through IPSec
• Compliance with latest cybersecurity standards (NERC CIP, ISO/IEC 27001, IEC 62443, IEC 62351)

Zone control
• Individual control settings for up to four real or virtual sub-plants (e.g. PV power plants, battery storage systems or wind farms with different remuneration models)
Why a SICAM application?

Siemens product family provides:

- Flexible communication through a wide range of protocols and common transmission media
- Scalable base product for seamless continuity
- Intuitive operation utilizing the integrated web browser user interface SICAM WEB
- High level of protection through comprehensive security protocols
A solution to fit all your needs

Photovoltaic Plant Control – a SICAM application:

Seamless integration or smart migration

Intelligent power management in a compact format. Seamless integration through pre-engineered, pre-tested, and ready to integrate systems delivery. Secure communication between all levels i.e. local control system and remote operation center. Perform maintenance through intuitive plug-and-play functionality.

Software-hardware combinations

Choose from one of two software-hardware combinations:

1. Benefit from our cost-effective pre-configured control cabinets. They are small and their robust design makes them suitable for even the toughest environmental conditions.

2. Gain more flexibility with an individualized configuration of our standardized hardware and software options.

Gain the reliability you need and the security you can count on. Discover Photovoltaic Plant Control – a SICAM application.

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CONTACT
Reach out to us.
It would be our pleasure to tell you more in a personal talk – either face to face or digitally. Please get in touch with us to arrange an appointment.

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