



Trimark Vantage

Business Value

- View and trend real-time and historical performance for a device, generation resource, or portfolio
- Define, generate and deliver automatic reports
- Manage site or inverter curtailment, connect to/ disconnect from the grid and manage reactive power levels
- Receive notification of real-time alerts and alarms based on criticality and defined thresholds, to support system operation and maintenance
- Asset tracking for O&M support and performance optimization

Trimark Vantage is the premier monitoring and control interface for PV generation, wind generation, and battery energy storage systems management.

Performance Monitoring, Reporting, and Control

Trimark Vantage presents up-to-the minute data and provides a powerful interface for site-wide control. Summary dashboards display key performance data. From there, users can filter specific details on revenue meters, MET stations, turbine controllers, PV inverters, and trackers. Users can also acknowledge alarms and produce reports.

Hosted or On-site System

Trimark Vantage can be deployed on servers at your site or hosted in Trimark's data center. Hosted solutions implement best practices for resiliency, security, and business continuity.

Configured Your Way

Trimark configures Vantage to meet your requirements for monitoring, alarms, reporting, and control. Trimark also establishes user authorities for content and control.

The screenshot shows the 'System Overview' section of the Trimark Vantage interface. It includes:

- System Status:** ACTIVE, 2355 Ivan Pinto Road, Folsom, CA 95823, 38.644707, -121.129194
- Production Values by the Hour:** A bar chart showing production values over a 24-hour period, with a significant peak around 10 AM.
- Metering Summary:** Shows current air temp (26.48 °C), global insolation (150.24 W/m²), POA insolation (163.72 W/m²), and wind speed (0.98 mph).
- Inverters Summary:** Displays power output (0.21 MW), bus voltage (12.64 kV), VAR (0.00 MVAR), and AC size (71.14, 96.17, 72.97, 95.74, 74.91, 95.70).

Site overviews display historical and real-time information, with the ability to filter for additional details.

The screenshot shows the 'Portfolio List for All Sites' section of the Trimark Vantage interface. It includes:

- Portfolio KPI Summary:** Size (MW) 64 (AC), 80 (DC), Generation (MWh) 45 (Today), Performance 53.11 (Power MW), Alarms (count) 0.
- Portfolio Sites:** A table listing sites categorized by status (Active, Inactive, Standby, Unknown). Key data columns include Power (MW), Gen Today (MWh), AC Size (kW), DC Size (kW), PI, Active Alarms, and Inactive Alarms.

Trimark Vantage presents an overview of sites with Key Performance Indicators (KPIs) and alarm summaries, providing portfolio- and site-level information at a glance.

Trimark Vantage Features

Dashboard and Portfolio Views

- Displays real-time details about inverters/equipment, on-site resource, and portfolio
- Compares performance of multiple resources
- Organizes portfolio logically (e.g. geography, size)
- Interactive site diagram shows status and alarms

Control User Interface

- Submits inverter commands to connect/disconnect; set max power; and set VARs
- Controls energy storage to manage charge/discharge, peak load shifting, etc.
- Simultaneously controls inverters from different manufacturers
- Sets ramp rate and duration
- Schedules commands

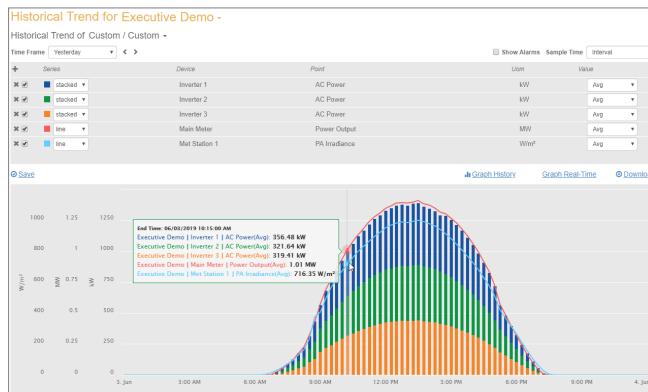
- Command feedback window
- Activity log
- Local or remote authority
- Automatically regulates power output at point of delivery

Reports and Alarms

- Query, report and trend current/ historical data and alarms over any time period
- Export reports to Excel®, CSV, PDF, and word
- View, sort and acknowledge alarms based on severity, user and time

Asset Management

- Assess resource efficiency
- Document condition
- Schedule maintenance
- Document maintenance actions and parts inventory



Trending enables users to visualize historical or real-time data on the fly. Users can easily create and save custom reports based on any points, and control the timeframe, data interval time, and type of graph. Data can be exported in several common formats for analysis in other software.

The screenshot shows the Site Master Controls interface for an Executive Demo site. It includes sections for Site Master Controls (Mode of Operation: Local, Controlling Entity: Ops Center, Unit Authority: Selected), Site Controls (Group: Power Regulation, Control Function: - Select Function -), Control Summary (Max Power Limit: 1.65 MW, Total Inverters: 3 (3 Online), Power Output: 0.51 MW, Bus Voltage: 12.62 kV, Breaker 520: CLOSED, Breaker 52M: CLOSED), Device Controls (Inverter: Inverter 1, Control Function: - Select Function -), and Control Requests (Set Site Vmax: Queued, VantageHSL, 06/30/19 11:30:40 AM, Set Site Vmax of Site to 20 MV: Triman Associates, Inc.).

Controls can be configured for individual devices, device groups, sites, and even resource groups containing multiple sites. Depending on configuration, control functions can be delegated to remote entities or performed locally.



©2019 Trimark Associates, Inc. Trimark, Trimark SCADA, and Vantage are trademarks of Trimark Associates, Inc.

Trimark Associates, Inc.

2365 Iron Point Road, Suite 100, Folsom, CA 95630
2500 Almeda Avenue, Suite 117, Norfolk, VA 23513
www.TrimarkAssoc.com | info@TrimarkAssoc.com | 916.357.5970

SCADA | Metering | Energy Storage | Technical Support