### **Business Value**

- Remotely view real-time and historical PV performance data to monitor solar power generation and stay on top of solar performance.
- Identify equipment performance issues to make sound decisions about maintenance visits.
- Minimize downtime with alarms and alert notification of equipment failures or when performance reaches a threshold.

Trimark T1-S Vantage shows how a site is performing and provides trending information.

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### **Commercial and Industrial PV Monitoring**

# An Economical Solution to Maximize Solar Performance

Trimark's T1-S Axiom is a cost-effective system that monitors the performance of small solar sites in commercial and industrial settings, such as rooftops on commercial buildings or carports. T1-S Axiom measures and collects performance data that enables site owners to optimize power generation and efficiently manage solar equipment.

T1-S Axiom hardware is installed in a weatherproof cabinet. Optional hardware can be included to support additional measurements and secure communication requirements.

T1-S Axiom is a factory-configured and tested system that is ready-to-install. The concise installation guide with easy-to-follow steps ensures quick and hassle-free installation. Trimark will confirm the proper installation and commissioning once installation has been completed.

### **T1-S Vantage™ Data Presentation**

Trimark's T1-S Vantage is the performance monitoring platform used to access all of the monitored devices and collected data from T1-S Axiom. T1-S Vantage software resides in the cloud and provides monitoring and reporting through a simple, easy-to-use browser interface.

T1-S Vantage presents graphical views of real-time power production data and equipment status, with six user interface screens.

- Portfolio
- System Overview
- · Historical Trend
- Alarm History
- Reporting
- Management

In addition, four standard reports are provided.

- Activity Summary
- Alarm Activity
- Daily Energy
- Hourly Energy

Optional software services can be added for advanced operational management and data analytics.

# Trimark – #1 Utility-Scale PV Monitoring Provider

T1-S Axiom provides best-in-class performance based on Trimark's 18 years of experience in developing and providing measurement, SCADA, and communications systems. Trimark's seasoned engineering team, comprehensive product line, and customer care services offer a single-source solution to help you optimize power generation and maximize revenue.



## **Trimark T1-S Axiom:** Specifications

Trimark T1-S Axiom is available in two configurations: 1) standard model T1-S Axiom or 2) T1-S AxiomX. T1-S AxiomX provides extended temperature range operation. Inverter control is available as an option with either model.

### Communication

- Internet-ready for wired connectivity
- RS-485 Modbus protocol
- Optional Trimark Enterprise Node (TENode) for wireless monitoring and communication

### **Cabinet Details**

- Dimensions: 16"x16"x8"
- Enclosure Rating: NEMA 4 weatherproof cabinet resistant to rain, ice, and snow
- Weight: 30 poundsTemperature Range:
  - T1-S Axiom: 90°F/32°CT1-S AxiomX: 158°F/70°C



### **Optional Meter**

Precise power production values can be captured by adding an optional meter. A meter records power production values to assess operations and profitability.

- Elkor Technologies WattsOn-Mark II Precision Energy Meter
- Solid Core or Split Core CTs: Standard 5 amp CTs or mA CTs
- Test switch

### **Optional Services**

T1-S Axiom has the processing power to provide the following.

- Regulatory compliance
- Settlement
- Billing
- Forecasting
- · Validation, editing, and estimating (VEE)

### **Optional Meteorological Sensors**

T1-S Axiom can monitor a wide range of MET sensors to enable informed decisions about energy efficiency, solar performance, and maintenance.

- Irradiance sensor
- Back of panel temperature sensor
- Integrated MET station with:
  - Air temperature
  - Relative humidity
  - Air pressure
  - Wind speed
  - Wind direction
- First class pyranometer

### **Optional Battery Backup**

- Uninterruptable Power Supply (UPS) and battery backup
- Separate enclosure

Note: T1-S Axiom must be installed by a licensed electrician.

T1-S Axiom enables secure data telemetry, capturing data from intelligent devices to track and measure solar energy production.



### **#1** Utility-Scale PV Monitoring Provider

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