

## Centralized management of the entire PV plant system

The Solar Ware® Main Site Controller (MSC) provides overall coordination and control of multiple Solar Ware® inverters for utility-scale photovoltaic energy production installations.

### Features

Single point access to the status of all inverters

### Power

Power Limit Reference Control

Slew Rate Control

Power Factor Compensation

Reactive Power Reference

### Human Machine Interface (HMI)

Site Status Panel

Systems Setting Panel

Site Trend Panel

### Details

- A convenient access point for operators to control and monitor site operations

- Can enable or disable site-wide power limit function
- Allows entry of desired site power limit reference in kW
- Display shows status of the power limit function, current power limit reference, and site power production
- Controls inverters to match site power output with the set power limit

- Controls the rate at which power output from the system changes
- Smooths out spikes in power output caused by events related to start-up and shut-down, power limit changes, etc.

- Using power generation feedback from the Power Optimization network, the MSC calculates a reactive current reference for each inverter so that total power factor does not change with load

- Operates the site to provide a fixed amount of leading or lagging VARs to the grid

- Monitors and controls the operational status of all the inverters

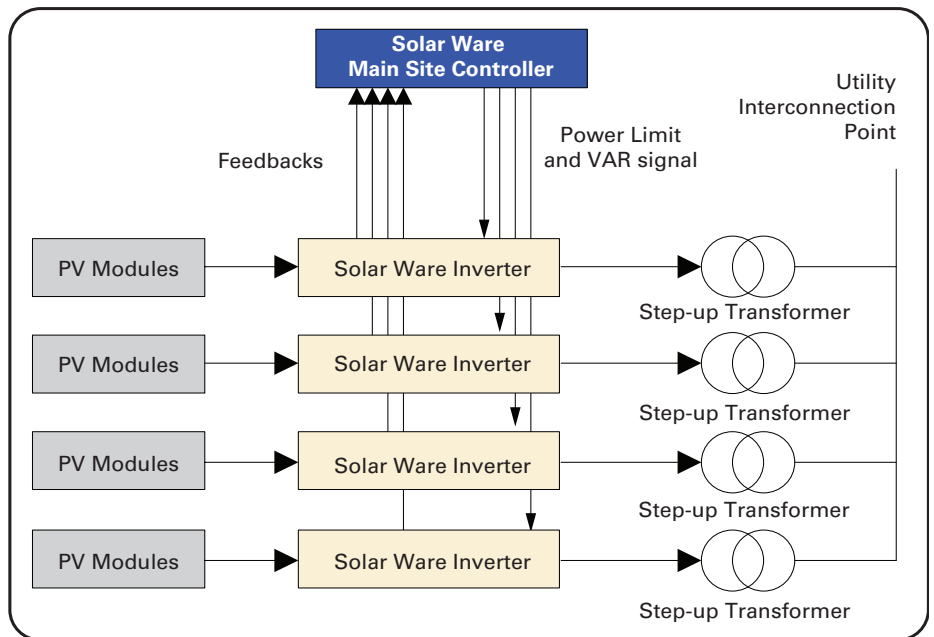
- Allows configuration of the site rated power, and the X/R ratio for power factor compensation

- Shows basic overview of the MSC operation over the last 10 minutes
- Trend screens display site power output, VAR output, average inverter voltage and site power limit

# SOLAR WARE® Main Site Controller

A typical Solar Ware® installation consists of multiple Solar Ware® stations, each station is configured with multiple power channels. Each power channel contains a Power Optimization inverter and a DC box.

The MSC continually monitors all the solar inverters at the site and adjusts commands to accomplish site-wide power quality goals.



*MSC Functional Data Flow*

## SPECIFICATIONS

Communications	
Ethernet Ports	2 rear, 10 or 100 Mbps TCP/IP
USB Ports	1 front
Encrypted Communications	SSL /TLS, SSH, HTTPS
Protocols	DNP3, Modbus TCP / IP
User Interface	Front panel displays
Security	Internet Protocol security (IPsec) virtual private network (VPN)
Data	
Update Rate / Band Width	1 sec per inverter; 100 kbps per inverter (approx.)
Physical Characteristics	
Dimensions/Weight	8.74" x 8.5" 1.72"; 5 lbs.
Mounting	Horizontal rack mount
Enclosure	Treated for chemically harsh / humid environments
Operating Temperature	-40°F to +185°F; (-40°C to +85°C)
Altitude	2,000 m max.
Power Supply	
Power Supply	120 / 240 VAC
Power Consumption	AC < 30 VA; DC < 30 W
Input Voltage Range	85 - 300 Vdc / 88-132 Vac; 85 - 264 Vdc / 88 - 132 Vac; 18 - 60 Vdc polarity dependent
Rated Supply Voltage	125 - 250 Vdc / 110 - 230 Vac; 48 - 125 Vdc, 110 Vac; 24 - 48 Vdc
Standards	
Enclosure Protection	IEC60529:2001 + CRGD: 2003
Vibration/Heat	IEEE 1613-2009 + A1-2011 Vibration and Shock
Dry Heat	IEEE 1613-2009 + A1-2011 Service Conditions
Certifications	NRAQ, NRAQ7 per UL 508, C22.2 No. 14, ISO 9001, IEC 60255-5, EN 61000-6-2

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