TMEIC
We drive industry

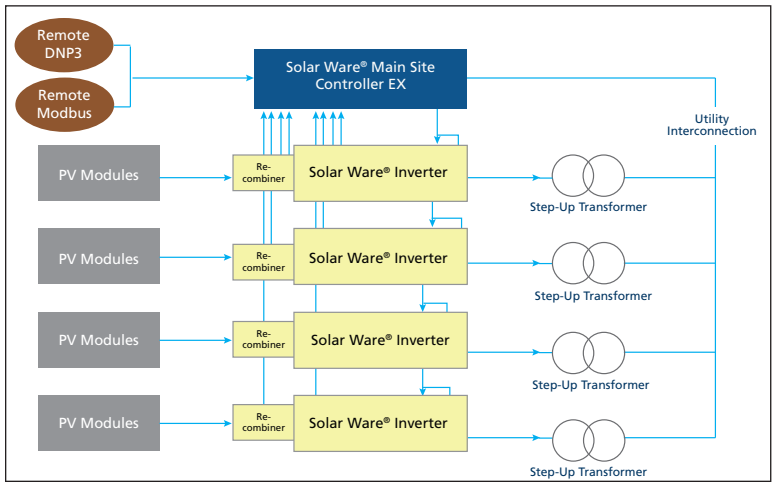
SOLAR WARE®
Main Site Controller EX

Centralized management of the entire PV plant system

NEW Capabilities:

- Controls up to 255 inverters per site
- Faster user interface performance
- Sortable Inverter performance within the HMI
- Faster control performance

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.



Data Historian

- 100GB available for Data Historian storage
- Data to be split into 3 groups
  - Weekly at high resolution (1 sec.), all transmitted/received signals recorded
  - Monthly at medium resolution (30 sec.), all signals available through User Interface, DC Box Temperature
  - Yearly at low resolution (10 min), Inverter real power, Skid DC Current

Key Features

- Remote control of MSC via Modbus/DNP3
- Robust Data Historian
- Live trending available for any transmitted signal

		MSC	MSC EX
Controller Performance			
DUI access speed		Moderate	Fast
Total # of controls		99 – no DC Box, Meter	255 + 255 DC Box, Meter, remote connection
Control cycle speed		4 seconds	<1 second
Data Historian		Limited trending function – 4 points fixed: Limited time – <5 min No storage	Access all live inverter data & through historian at: 1 sec. resolution – 1 week (all points) 30 sec. resolution – 1 month (10-12 points) 10 min resolution – 1 year (5 or fewer points)
Third party control access		None	MODBUS/DNP3
Control accuracy		Good	Excellent
Performance snapshot		None	Included
Controller Capability			
Slew Rate Control		1-100% / second	1-100% / second
Real Power Control		In ACkW	In ACkW
Reactive Power Control	Voltage Control	90-110%	90-110%
	Power Factor Control	+85% - 85% (within limits of inverter)	+85% - 85% (within limits of inverter)
	Linear Reactive Power Compensation (LRPC)	Maximum setting ±0.85	Maximum setting ±0.85
Sequential start-up / shut-down		Included	Included
System start-up / shut-down		Included	Included

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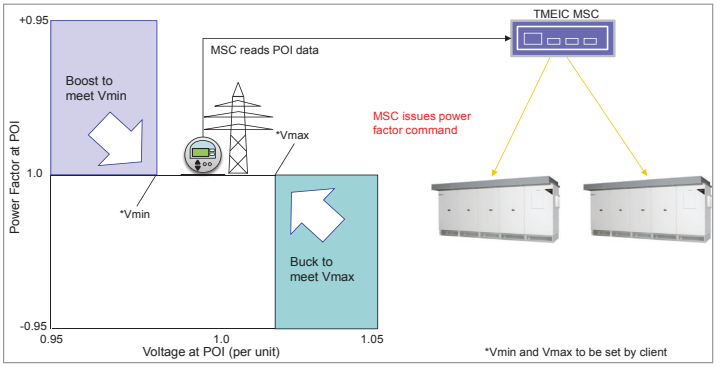
Voltage Control - How it Works



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.
Operating System	
Conformal Coat	None
Chassis and Mounting	3U Horizontal Rack Mount
Processor	Intel i7-3555LE Dual Core 2.5GHz Temperature Range: -40° to +75°C
Expansion Slots	5 Slots: 1 PCI, 2 PCIe-x1, 2 PCIe-x4
Power Supply A	SEL-9331 160W HV Power Supply, Euro Terminal Block 125/250 Vdc or 120/240 Vac SEL-9331 160W HV Power Supply, Euro Terminal Block 125/250 Vdc or 120/240 Vac
Power Supply A	Line cord; 120 Vac North American Plug 8 Ft*
Power Supply B	None
RAM Slot 1	4GB DDR3 1333MHz ECC MiniDIMM
RAM Slot 2	None
SSD Slot 1	250GB Industrial Grade SLC SSD*
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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Contents subject to change without notice

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