

A partner you can trust.

Bankability. Reliability. Serviceability.

TMEIC, a multi-billion \$ joint venture between Toshiba & Mitsubishi-Electric, is a global leader for PV inverter technology innovation.

Bankability

The financial strength you need in an inverter partner. TMEIC is a diversified industrial systems company, serving steel, oil & gas, mining, container crane and a wide variety of power electronics applications.

- #1 market share leader in the Japanese market and #1 worldwide for inverters >99kW
- More than 13 GW of PV Inverters installed world-wide
- Over 35 years of PV inverter manufacturing and R&D experience

Reliability

A level above the competition. TMEIC was the first company to implement advanced 3-level NPS topology and an advanced hybrid cooling system for PV central inverters.

- First central inverter to achieve 99% maximum efficiency
- Heatpipe-based cooling minimizes particle entrance, increasing uptime & reducing O&M cost
- With over 10 GW installed, TMEIC has only had two IGBT field failures.

Serviceability

We're there when you need us! TMEIC's well proven technology is further enhanced with the industry's leading service structure.

- 24/7 US based phone support
- Comprehensive customer training system
- Extended warranty of up to 20 years
- Optional performance guarantee

Global Locations



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2060 Cook Dr., Salem, VA 24153 • +1 (540) 283-2000
Email: SolarPV@tmeic.com • www.tmeic.com

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The Samurai Series name is used by TMEIC exclusively in North America.
Cover photo courtesy of Signal Energy

TMEIC

P-1307-Z
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SOLAR WARE Samurai Series

Utility-Scale Photovoltaic Inverters
Up to 3360kW, 1500V

TMEIC



Multiple Power Classes

- 2500kW to 3360 kW (1500 V)

1500Vdc Series

- UL 1741 Certified
- Reduces cable mass to minimize cost & enhance flexible plant design
- Reduces combiner box and number of inverters

Award Winning Central Inverters

- Advanced multilevel inverter - 56% of switching loss reduction
- Maximized and optimized efficiency at high load
- Wide MPPT range allowing for best in class DC/AC Ratios
- Flexible DC-input configuration to meet complex array configuration

Maximize Revenue & Improve ROI

- High-yield power generation – Maximum efficiency of 99%
- High-efficiency in any weather
- Realize large capacity with fewer inverters
- Reduce site work and BOS investment

Grid Connection Features

TMEIC developed the grid connection features working with Japanese power companies. All of TMEIC's utility scale inverters include the latest interconnection technology. These features include:

- Power factor control
- Reactive/Active power control
- TMEIC's proprietary anti-islanding technique utilizes a slip mode frequency shift method
- Advanced Fault Ride Through Features

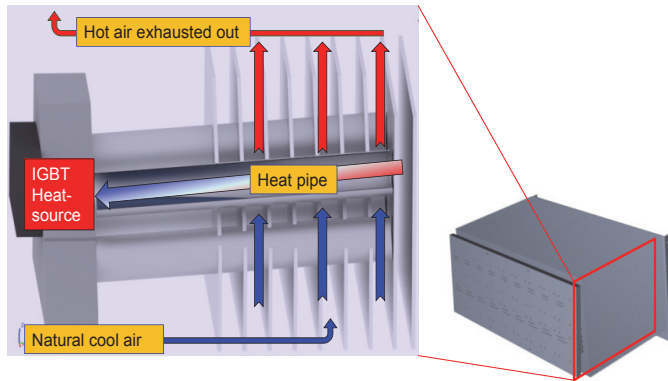
Advanced Hybrid Cooling System

The first heat pipe air-cooled PV inverter

Utilizing TMEIC heat pipe technology, the inverter runs without fan operation up to 50% load. Heat-pipe cooling significantly simplifies thermal management, because it uses fewer parts and only a slow-speed fan with a heat pipe heat sink. TMEIC's advanced hybrid cooling solution:

- Simple & Robust
- High Reliability
- Significantly reduces O&M costs
- Small Footprint

The Fan-less mode runs when the inverter is below 50% load @ 50°C. Natural convection provides necessary cooling. Cool air enters from the bottom, flows through the heat pipe, and hot air is exhausted from the top.



SPECIFICATIONS

Type		PVH-L2500GR	PVH-L2700GR	PVH-L3200GR	PVH-L3360GR
Output side (AC)	Rated Power	2500 kW / 2500 kVA	2700 kW / 2700 kVA	3200 kW / 3200 kVA	3360 kW / 3360 kVA
	Rated Voltage (3-phase)	550V +10%*1	600V +10%*1	600V +10%*1	630V +10%*1
	Rated Frequency	60/50 Hz	60/50 Hz (+0.5Hz, -0.7Hz)	60/50 Hz (+0.5Hz, -0.7Hz)	60/50 Hz (+0.5Hz, -0.7Hz)
	Rated Power Factor	Over 0.99	Over 0.99	Over .99	Over .99
	Reactive Capability	+/-980 kVAR *4	+/-1020 kVAR*4	1394 kVAR	1464 kVAR*5
	Rated Current	2624 Arms	2598 Arms	3079 Arms	3079 Arms
	Maximum Current	2624 Arms	2598 Arms	3079 Arms	3079 Arms
	Maximum Efficiency	98.8%	98.8%	98.8%	98.9%*5
	CEC Efficiency	98.5%	98.5%	98.5%	98.5%*5
Input side (DC)	Maximum Voltage	1500 Vdc	1500 Vdc	1500 Vdc	1500 Vdc
	MPPT Operation Range	800 Vdc ~ 1300 Vdc	875 Vdc ~ 1300 Vdc	875 Vdc ~ 1300 Vdc	915 Vdc ~ 1300 Vdc
Environ. Conditions	Ingress Protection Ratings	NEMA3R			
	Installation	Outdoor			
	Ambient Temperature Range	-20°~40°C (-4°~104°F)*3		-25°~40°C (-13°~104°F)*3	
	Maximum Altitude	2000 m (contact TMEIC for ratings above 2000 m)			
Protective Functions	Input (DC) Side	Ground Fault, DC Reverse Current, Over Voltage, Over Current			
	Grid (AC) Side	Anti-islanding, Over/Under Voltage, Over/Under Frequency, Over Current			
	Grid Assistance	Reactive/Active Power Control, Power Factor Control, Fault Ride Through (optional)			
User Interface	User Interface	LCD (3.8 inch, QVGA) with Touch-Screen			
	Communication	Modbus/TCP			
Fault Analysis		Fault Event Log, Waveform Acquisition via memory card			
Compliance		UL1741/IEEE1547; UL1741 Supplement SA; NEC standard		UL1741/CSA C22.1 107.1/IEEE1547; UL1741 Supplement SA; NEC standard	
Cooling Method		Advanced Hybrid Cooling			
Number of Inputs		Up to 32			
Standard Control Power Supply		Control Power Supply from Inverter output and Capacitor backup circuit (3 sec. compensation)			
Weight		13,228 lbs (6000 kg)			13,228 lbs. (6,000 kg)*5
Dimensions (H x W x D)		92 x 197 x 46 inch (2286x5000x1150 mm)			
Floor Space		8,914 sq. in. (5.75 m²)			
Color		Cabinet: Sand White #Dic583, Roof: Gray #Munsel N4.5			

Notes:

- ^{*1} Full power available at and above nominal voltage. Derate will apply below nominal voltage.
- ^{*2} Transition from constant DC voltage mode to MPPT mode occurs between 595V and 605V.
- ^{*3} Contact a TMEIC Sales Manager for detailed temperature derates and operational ranges.
- ^{*4} Available reactive capability with reduction in active power.
- ^{*5} Preliminary testing.