



Repower

Inverter replacements
with integration support.

1000V and 1500V repower options.

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REPOWER SOLUTIONS



Solar Ware Ninja™

The Ninja is a global product, performing the duties of both generation and energy storage. The modular system introduces multiple layers of flexibility to allow designers an almost unlimited number of options for every project. The advanced controls system is packed with features to meet not only today's smart inverter requirements, but also new requirements as they are introduced.



Repower Solutions

Breathing new life into your PV array

PV system owners are leaving money on the table due to challenges from aging and out of warranty power electronics. Furthermore, string-inverter or transformer-less style solutions can introduce unwanted degradation and loss of production.

This is a cost-effective way to enhance the performance and efficiency of an already established system, which can result in a higher revenue generation capability for businesses. TMEIC's repower solutions will extend the life of your plant with minimal costs while meeting the stricter and evolving grid standards of today such as NERC, PRC 024-03, NOGRR245, and others. Our repower products are based on our modular Ninja platform, which offers excellent flexibility with a wide range of output voltages to meet the needs of legacy installations while not introducing any PID or TCO issues. These products are specifically designed to reuse much of the equipment already in place including the base and inverter step up transformer while meeting the needs of an aging array. The repower platform offer options for inverter-only or full skidded designs to meet specific site requirements with the best possible economics, production, and reliability.



Fault ride through + grid management

- NERC/PRC
- IEEE 2800
- NOGRR245
- Designed to meet IEEE 1547 SA/SB* and 1741
- Meets updated ISO requirements
- Eliminate momentary cessation
- Expand voltage and frequency ride through capabilities



Blind spot detection

- Ground fault monitoring



Warranty + Support

- TMEIC's standard 5-year warranty and technical support



Q at night option

- VAR support available



ISU + Base Retention

- Save cost
- Integrate skids on site
- Avoid supply chain and lead time issues
- Inverters are paralleled and have no need for isolation



"Stockable"

- Type to be selected on-site for multiple deployment
- Other voltages may be available please contact TMEIC for more information



Ground reference PID solution

- Advantage over string inverters
- The DC array is referenced to ground to eliminate PID issues



Reduced fault current

- Thermal + coordination studies
- No impact to wires, protections, nor upgrades

1000 VDC Repower Market

The listed power settings are adjustable to conform to any existing PPAs for 1000 V repower options.

Sample Manufacturer Replacements		PVU-L08XXGR-2 Retrofit Options for 1000 VDC-			
		Santerno / Bonfig / Eaton	Kaco / Schneider	PE FS1250-HEC UL	AE 500 Single Array Options
Output side (AC)	Rated Power @25°C	480 kW	500 kW	520 kW	533 kW, 560 kW
	Rated Power @50°C	438 kW	455 kW	473 kW	363 kW, 381 kW
	Rated Voltage	360 V +10%, -12%	375 V +10%, -12%	390 V +10%, -12%	400 V and 420 V +10%, -12%
	Rated Frequency	50 Hz / 60 Hz (+0.5 Hz, -0.7 Hz)			
	Rated Power Factor	>0.99			
	Reactive Capability	±253 kVAR	±263 kVAR	±274 kVAR	±281 kVAR, ±295 kVAR
	Rated Current	702 Arms @50 °C			
	Maximum Current	770 Arms @25 °C			
	Maximum Efficiency	98.72%*			
	CEC Efficiency	98.5%*			
Input side (DC)	Maximum Voltage	1500 VDC			
	MPPT Operation Range	525-1000 VDC	554-1000 VDC	570-1000 VDC	583-1000 VDC, 612-1000 VDC
Environ. Conditions	Ingress Protection Ratings	NEMA 3R			
	Installation	Outdoor			
	Ambient Temperature Range	-25° to 50°C			
	Altitude	Full Power ≤ 2000 m; Power Derate 2000 m to 4000 m; Maximum Altitude 4000 m			
Protective Functions	Input (DC) Side	DC Protection: Input Fuses (see below for available sizes), Ground Fault Detection, DC Reverse Current, Over Voltage, Over Current			
	Input Fuses	Up to 500 Amps			
	Grid (AC) Side	AC protection and isolation: Fuse and Contactor, Anti-islanding, Over/Under Voltage, Over/Under Frequency, Over Current			
	Grid Assistance	Reactive/Active Power Control, Power Factor Control, Fault Ride Through (optional)			

1500 VDC Repower Market

The listed power settings are adjustable to conform to any existing PPAs for 1500 V repower options.

		PVU-L08XXGR-2 Retrofit Options for 1500 VDC			
Sample Manufacturer Replacements		GE LV5 SLR Series GE LV5+ SLR Series	PVU-L0800GR-2	PVU-L0840GR-2	PVU-L0880GR-2
Output side (AC)	Rated Power @25°C	725 kW - 4 MW 3.12 MW - 3.59 MW	800 kW	840 kW	880 kW
	Rated Power @50°C	661 kW - 3.65 MW 2.85 MW - 3.33 MW	730 kW	765 kW	800 kW
	Rated Voltage	550 V - 660 V +10%, -12%	600 V +10%, -12%	630 V +10%, -12%	660 V +10%, -12%
	Rated Frequency	50 Hz / 60 Hz (+0.5 Hz, -0.7 Hz)			
	Rated Power Factor	>0.99			
	Reactive Capability	±386 kVAR - 464 kVAR	±421 kVAR	±442 kVAR	±464 kVAR
	Rated Current	702 Arms @50 °C			
	Maximum Current	770 Arms @25 °C			
	Maximum Efficiency	98.72%*			
	CEC Efficiency	98.5%*			
Input side (DC)	Maximum Voltage	1500 VDC			
	MPPT Operation Range	835-1300 VDC	875-1300 VDC	915-1300 VDC	960-1300 VDC
Environ. Conditions	Ingress Protection Ratings	NEMA 3R			
	Installation	Outdoor			
	Ambient Temperature Range	-25° to 50°C			
	Altitude	Full Power ≤ 2000 m; Power Derate 2000 m to 4000 m; Maximum Altitude 4000 m			
Protective Functions	Input (DC) Side	DC Protection: Input Fuses (see below for available sizes), Ground Fault Detection, DC Reverse Current, Over Voltage, Over Current			
	Input Fuses	Up to 500 Amps			
	Grid (AC) Side	AC protection and isolation: Fuse and Contactor, Anti-islanding, Over/Under Voltage, Over/Under Frequency, Over Current			
	Grid Assistance	Reactive/Active Power Control, Power Factor Control, Fault Ride Through (optional)			

Note: Based on test results for the base Ninja models. Intention to stay within 2.5% for tap changer flexibility, custom voltage settings are available; contact TMEIC for detailed information.

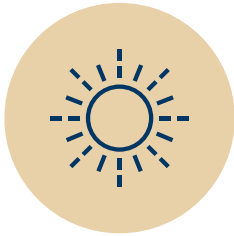
*Based on PVU-L840GR-2 certified versions

** Stating that site specific compliance for standards is outside TMEIC scope

PVU-L08XXGR-2 Retrofit Options for 1000 VDC / 1500 VDC

Harmonic Distortion of AC Current	≤ 3% THD (at rated power)
Communication	Modbus/TCP
Fault Analysis	Fault Event Log, Waveform Acquisition via memory card
Cooling Method	Heat Pipes and Forced Air Cooling
Number of Inputs	Up to 6 inputs per inverter
Standard Control Power Supply	Control Power Supply from Inverter output and Capacitor backup circuit (3 sec. compensation)
Short Circuit Withstand Current	AC side : 70 kA; DC side : 30 kA
Weight	<1000 kgs
Dimensions (H x W x D)	1991 X 1100 X 1100 mm (H x W x D)
Floor Space	1875.5 sq. in. (1.21 m ²)
Color	Cabinet: Munsell N7.0, Roof: Munsell N4.5





Over 43GW Installed Globally

With decades of experience in power electronics across various industries, TMEIC drives industry forward by offering new and repower solutions. TMEIC is a reliable supplier and manufacturer of power electronics, motors, and fully integrated controls, boasting high reliability and credibility. Having installed over 43GW of PV and ESS inverters worldwide, TMEIC can improve the efficiency and reliability of your renewable energy systems.





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