



*Grid-Tied PV Inverters*

**PVI 10KW PVI 13KW PVI 15KW**  
*a breakthrough in price and quality*



Best-in-class PVI 10KW, PVI 13KW and PVI 15KW inverters:  
exceptional quality and efficiency at an extraordinary price.



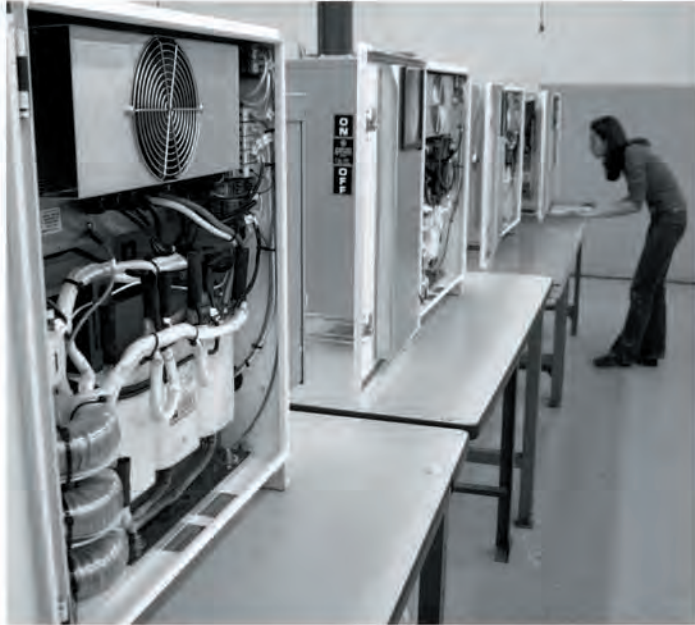
**Product Information**

# PVI 13KW

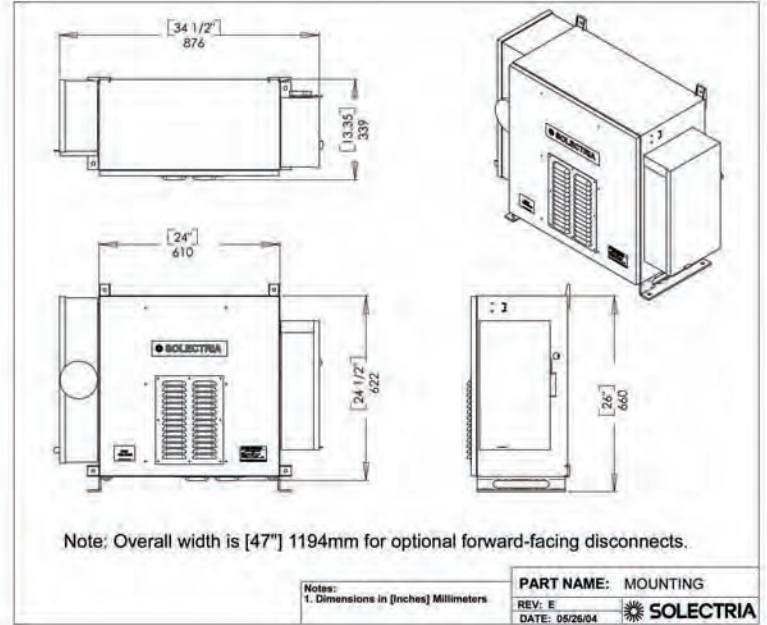
Grid-Tied PV Inverters

# PVI 15KW

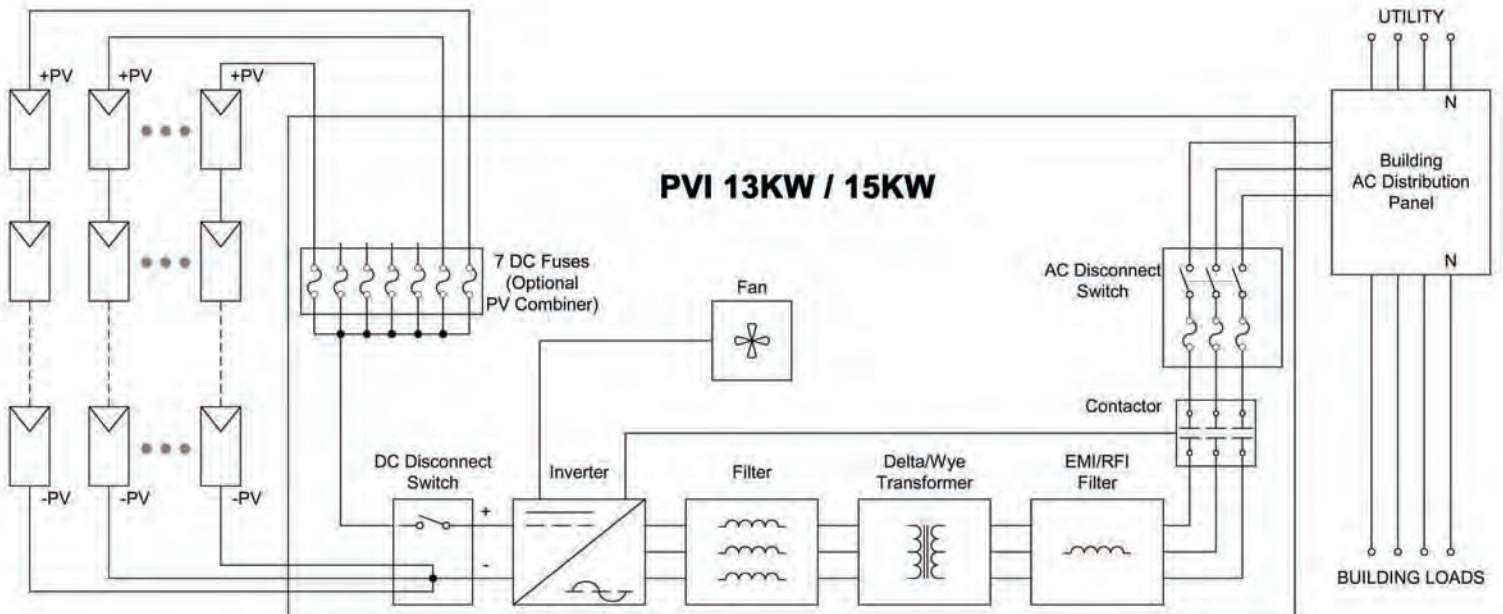
## PRE-TEST INSPECTION



## DIMENSIONS



## SYSTEM BLOCK DIAGRAM



Note: Ground Fault Detection/Interrupt not shown in this diagram.



## OVERVIEW: INTEGRATED PV INVERTER

The Solectria Renewables PVI 10 KW, 13KW and PVI 15KW are rugged, DSP-controlled PV inverters for grid-connected commercial, industrial and utility 3-phase PV systems. The core of the inverter, Solectria Renewables' proven DMGI 245 distributed generation inverter, uses state of the art control techniques and devices including space vector PWM, a precision MPT algorithm, and low-loss trench-gate IGBTs. With inverter power electronics efficiency up to 97% (95.8% including the transformer) and fully integrated packaging, the PVI 10 KW, 13KW and PVI 15KW set a new industry standard for efficiency, ease of installation, and reliability.

## APPLICATIONS

- 10-15kW, 60Hz, 208, 240 or 480VAC, 3-phase, grid-tied commercial PV systems (up to 15-19kW DC-STC).
- Multiple inverters can be used together for 20-30kW, 30-45kW, 40-60kW (AC) or larger PV systems. Ideal for 20-35kW, 36-54kW, 48-72kW DC STC arrays.
- Designed for mounting as desired, indoor/outdoor, driving rain and drifting snow: rooftop/ground/wall.
- Versions for other renewable and distributed generation, battery, and smart-grid applications available.

## FEATURES & OPTIONS

- Fully integrated design includes transformer, filters, AC & DC disconnects, DC combiner-fuses.
- Smart user-navigable LCD display.
- Premium overall efficiency.
- Simple set-up and connections (connect DC from PV strings and 3-phase AC connections).
- Precision DSP-controlled Maximum Power Tracking Algorithm.
- High-reliability design, based on 20 years of power electronics products, includes sealed power and signal control electronics, high-efficiency magnetics.
- Near zero night-time standby losses.
- Optional 5-7 fuse PV combiner in DC disconnect.
- Optional "Blizzard-Proof", gasketed disconnects (10-13KW), recommended for rooftop or other severe locations.
- Optional forward facing disconnects.
- Optional positive grounding version.

## CONNECTIVITY

- RS232 port and software for diagnostics and data capture with PC.
- RS485 port and MODBUS RTU for data monitoring.
- Ethernet port for direct connection to the internet with optional Solrenview web-based monitoring or various third party services.

## SAFETY FEATURES

- Electronic temperature protection, intelligent cooling.
- DC ground-fault detection and interrupt.
- Current and voltage limit protections.
- Standards-compliance: Listed to UL 1741 (IEEE Std 1547), CSA 22.2#107.1, FCC Part 15, class A and tested to NY SIR Surge Test Requirements (IEEE 62.41). Listed on CEC's eligible equipment list (13 & 15KW, 208 & 480VAC versions).



## SPECIFICATIONS

|   | PVI 10KW   | PVI 13KW                     | PVI 15KW                     |
|---|--|------------------------------|------------------------------|
| <b>Output</b>   |  |                              |                              |
| Maximum Cont. Power (AC)  | 10 kW  | 13.2 kW                      | 15 kW                        |
| Power Factor  | Unity  |                              |                              |
| Voltage (L-L), -12%, +10%   | 208/240/480/600 VAC, 3-Ph  |                              |                              |
| Maximum Cont. Current (AC)  | 28/24/12/9.6 A   | 37/32/16/12.8 A              | 42/36/18/14.4 A              |
| Current Distortion  | < 5% THD, Nom Power  |                              |                              |
| Frequency, ±1%  | 60 Hz  |                              |                              |
| Inverter peak Efficiency <sup>1</sup>   | 95.6%  | 95.8%                        | 95.8%                        |
| Audible Noise Level (1m)  | 60dBa  | 61dBa                        | 62dBa                        |
| Certification: UL1741, IEEE1547, IEEE C62.41.2, CSA22.2 #107, FCC Part 15, Class A                                    |  |                              |                              |
| <b>Input</b>  |  |                              |                              |
| Array Configuration: Monopole, negative grounded (pos gnd opt)  |  |                              |                              |
| Max V <sub>oc</sub> <sup>2</sup>  | 475 VDC  |                              |                              |
| Maximum DC Current  | 49 A   | 64 A                         | 74 A                         |
| Operating Voltage Range   | 205-430 VDC  |                              |                              |
| MPT Voltage Range   | 205-380 VDC  |                              |                              |
| CEC Full Power Voltage Range  | 235-380 VDC  |                              |                              |
| <b>Protection</b> <sup>3</sup>  |  |                              |                              |
| AC Grid-Connection (Standards Compliance: See "Safety Features")  | Over/Under Voltage<br>Over Current<br>Over/Under Freq.                           |                              |                              |
| AC Disconnect (Integral)  | NEMA 3R, w/fuses   |                              |                              |
| DC Combiner-Fuse Enclosure (Optional <sup>4</sup> )   | 8,10,12,15A fuses available, 5-7 pole, NEMA 3R, TVSS                             |                              |                              |
| DC Disconnect (Integral)  | Break load rated, NEMA 3R  |                              |                              |
| <b>Environmental</b>  |  |                              |                              |
| Ambient Temperature   | -25 to 50 deg C  |                              |                              |
| Cooling   | Forced Convection  |                              |                              |
| Enclosure   | NEMA 3R  |                              |                              |
| Enclosure-electronics   | Sealed, IP-62  |                              |                              |
| <b>General</b>  |  |                              |                              |
| Weight  | 364 lb <sup>1</sup> (165 kg)   | 376 lb <sup>1</sup> (171 kg) | 398 lb <sup>1</sup> (181 kg) |
| Dimensions <sup>5</sup> (inches [mm])   | 34.5[876] · 26[660] · 13.6[345]  |                              |                              |
| Warranty  | 5 years (optional 10, 15 & 20 year extended warranties)                          |                              |                              |
| Communications, Optional Data Acquisition   | LCD, RS232/RS485, MODBUS RTU, Ethernet. Optional Solrenview web-based monitoring |                              |                              |
| <sup>1</sup> Fully Integrated Package: Includes transformer, filters, fan, AC & DC disconnects, and combiner-fuse box |  |                              |                              |
| <sup>2</sup> Max Open circuit voltage (V <sub>oc</sub> ) of PV array = 1.25 x V <sub>oc-rated</sub> (per NEC 690-7)   |  |                              |                              |
| <sup>3</sup> Complies with grid connection and safety standards ("Safety Features")                                   |  |                              |                              |
| <sup>4</sup> Integrated into inverter package if selected   |  |                              |                              |
| <sup>5</sup> Forward-facing disconnect option width is 47" (1194 mm)  |  |                              |                              |

# proven history, sustainable future

Solectria Renewables designs and manufactures power electronics for renewable power generation systems. Feature-packed and highly integrated, the products lead the industry in installation ease and total value. At the heart of Solectria's products are its reliable and efficient core inverters, which have been proven over the past 20 years in the extremely harsh environment of truck, bus and military transportation applications. Solectria Renewables is run by the renowned MIT engineers who founded the Solectria brand in 1989. With a customer-focused team, high quality suppliers and a best practices manufacturing process, Solectria is committed to your success.



Lawrence, Massachusetts  
USA

Ph: 978.683.9700 (MA)

Ph: 562.608.8913 (CA)

Fax: 978.683.9702

[inverters@solren.com](mailto:inverters@solren.com)

[www.solren.com](http://www.solren.com)



Background & Left: 13.8 kW system at Evergreen Solar's mfg. facility    Center: 35 kW NexAmp installation at Ebsco Publishing  
Right: 120 kW system (4 of 8 inverters) by Chico Elec/Solar Design Assoc, AT&T Park, Giant's baseball stadium, San Fran, CA