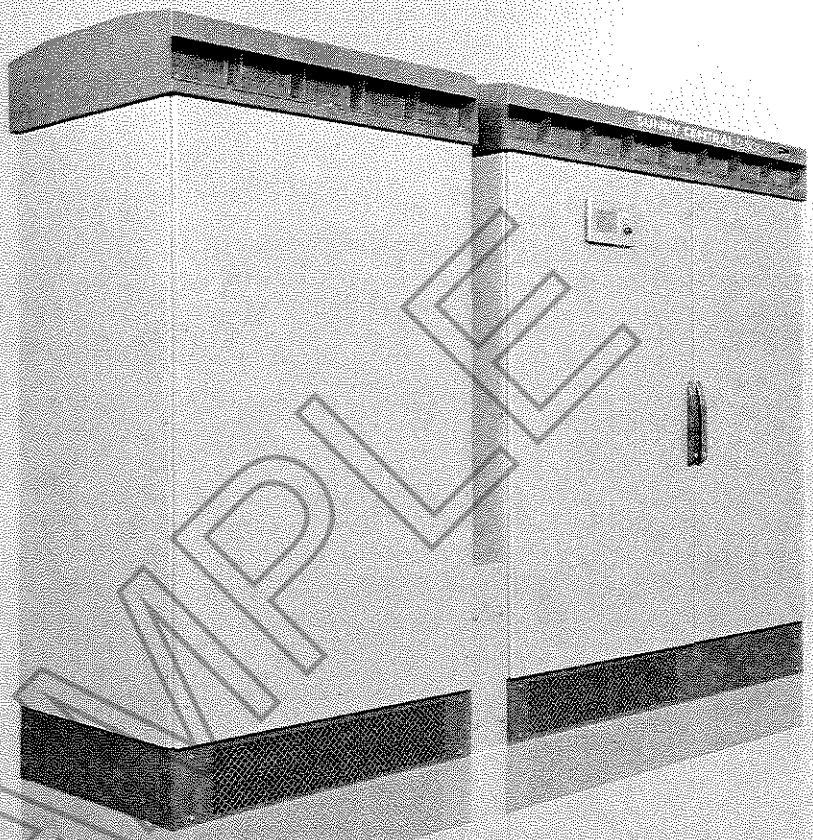
Sample Document
Manufacturer's Data Sheet for Equipment

SUNNY CENTRAL 250U / 500U

- > 97% CEC weighted efficiency
- > Integrated isolation transformer
- > Graphical LCD interface
- > Sunny WebBox compatible
- > Optional combiner boxes
- > Install indoors or out
- > UL 1741 / IEEE-1547 compliant



SUNNY CENTRAL 250U / 500U

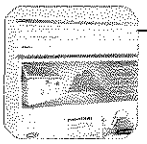
The ideal inverters for large scale PV power systems

The new Sunny Centrals have integrated isolation transformers and deliver the highest efficiencies available for large PV inverters. A completely updated user interface features a large LCD that provides a graphical view of the daily plant production as well as the status of the inverter and the utility grid. With the optional Sunny WebBox, users can now choose from either RS485 or Ethernet based communications. Designed for easy installation, operation and performance monitoring, the new Sunny Central is the ideal choice for your large scale PV project.

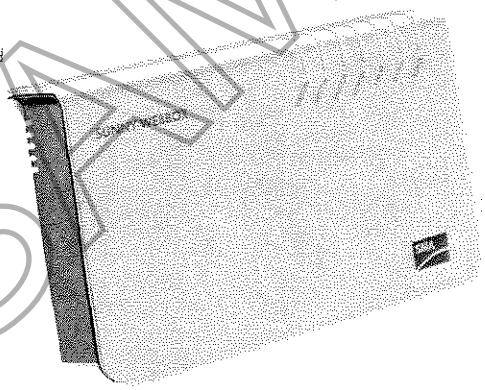
Technical Data
SUNNY CENTRAL 250U / 500U

	SC 250U	SC 500U
Inverter Technology	True sine wave, high frequency PWM with galvanic isolation	True sine wave, high frequency PWM with galvanic isolation
AC Power Output (Nominal)	250 kW	500 kW
AC Voltage (Nominal)	480 V_{AC} WYE	480 V_{AC} WYE / Δ
AC Frequency (Nominal)	60 Hz	60 Hz
Current THD	< 5%	< 5%
Power Factor (Nominal)	> 0.99	> 0.99
AC Output Current Limit	300 A_{AC} @ 480 V_{AC}	600 A_{AC} (@ 480 V_{AC})
DC Input Voltage Range	300 - 600 V_{DC}	300 - 600 V_{DC}
MPP Tracking	300 - 600 V_{DC}	300 - 600 V_{DC}
PV Start Voltage (Configurable from 300 - 600 V_{DC})	400 V_{DC}	400 V_{DC}
Maximum DC Current	800 A_{DC}	1600 A_{DC}
Peak Efficiency	97.5%	97.5% (estimated)
CEC Weighted Efficiency	97%	97% (estimated)
Power Consumption	69 W Standby, <1000 W with fans	69 W Standby, <1500 W with fans
Ambient Operating Temperature	-13 to 113 °F at full power output up to 122 °F at reduced power	-13 to 113 °F at full power output up to 122 °F at reduced power
Cooling	Variable-speed forced air	Variable-speed forced air
Enclosure	NEMA 3R	NEMA 3R
Dimensions: W x H x D in inches	110 x 80 x 33	142 x 80 x 37
Weight	4200 lbs	6725 lbs
Compliance	UL 1741, IEEE-1547	UL 1741, IEEE-1547 (pending)

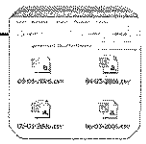
Optional
Sunny WebBox



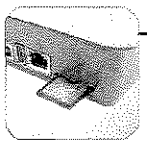
View daily and archived performance data graphically on **Sunny Portal**



Integrated web server for **remote online access** to all current data from any PC



Integrated FTP server for data storage and dowload to a PC



Memory expansion and data transmission to a PC using a removable SD card

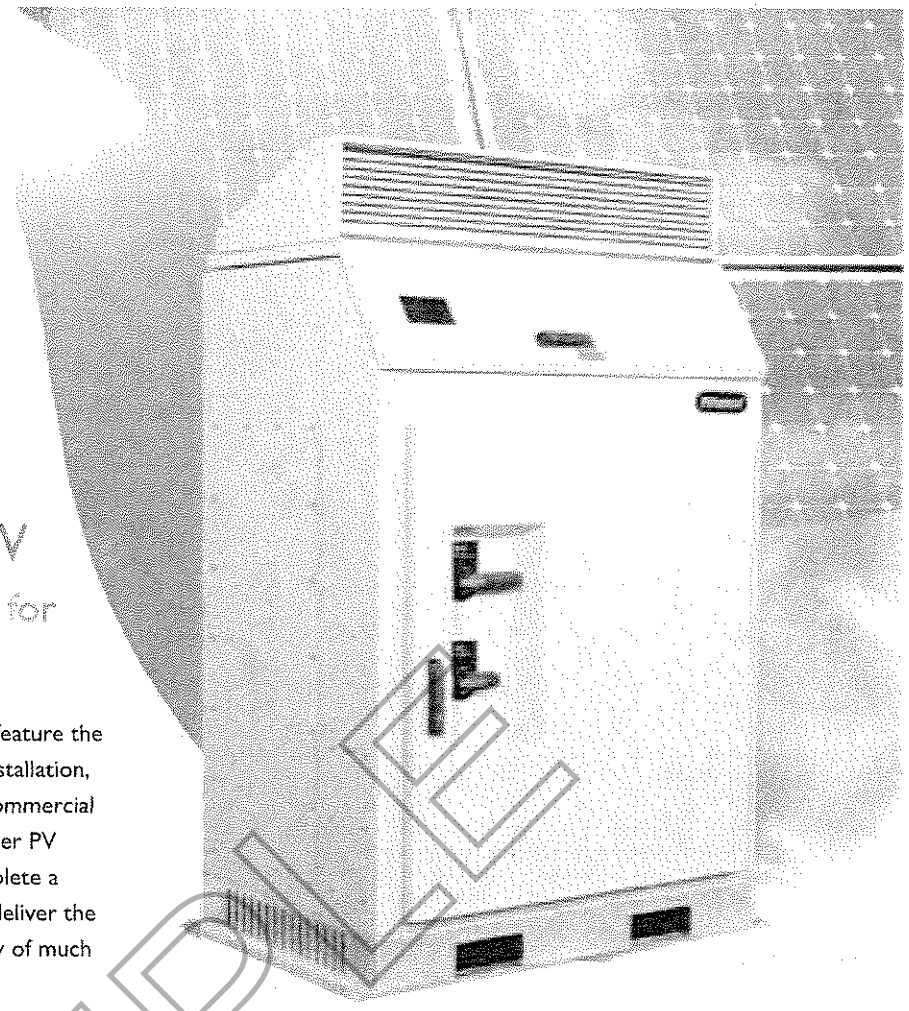
Easily view data *in analysis programs*

www.SMA-America.com
Phone 916 625 0870
Toll Free 888 4 SMA USA

SMA America, Inc.

ADVANCED ENERGY®

PV Powered™ solAron® siteguArd®



PVP35kW and PVP50kW

Three-Phase inverter solutions for small commercial projects

The all new 35kW and 50kW commercial inverters feature the same industry leading reliability, efficiency, ease of installation, and lifetime maintainability of PV Powered's larger commercial inverters. These two models are sized to serve smaller PV system designs, or to provide the perfect fit to complete a larger PV system. In addition, the 35kW and 50kW deliver the highest efficiency in their class and rival the efficiency of much larger inverters.

High reliability is enabled by a ground-up design for 20+ year operating life that features busbar power connections, card cage circuit board design, and the widest temperature rating of any inverter in its class. The highly integrated system saves installers time and money by including load-rated AC & DC service disconnects, neutral-free installation, oversized busbar landings and generous cable bending area. The 35kW and 50kW have a 295VDC minimum MPPT voltage that enables the stringing flexibility that is critical for smaller rooftop projects.

Advanced Energy backs all its commercial inverters with an industry-leading 10-year nationwide warranty and an optional 20-year warranty; plus the most responsive service and support team in the business.

Superior Reliability

- Designed for 20+ year operating life
- Smart Air Management™
- Low parts count reduces potential failure points
- Card cage circuit board system minimizes electronic interconnections

Exceptional Installability

- Bottom and side cable entry with generous bending area and oversized busbar landings
- Customizable subcombiner fusing options
- Full power output at 295 VDC enables more PV array design options
- Exterior mounting flanges for fast and easy anchoring with no pre-drilling

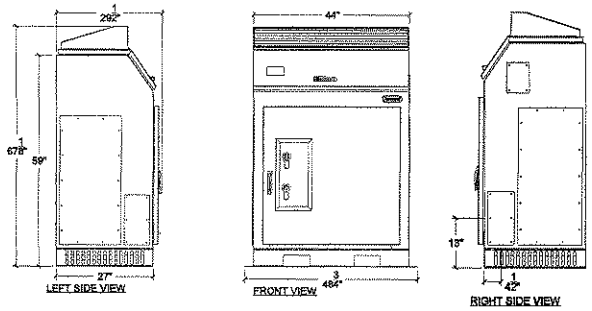
Easy to Maintain

- All maintenance and service via front access
- Fast change circuit board system shortens service time
- Load-rated AC and DC service disconnects
- Dedicated monitoring section separate from AC and DC modules

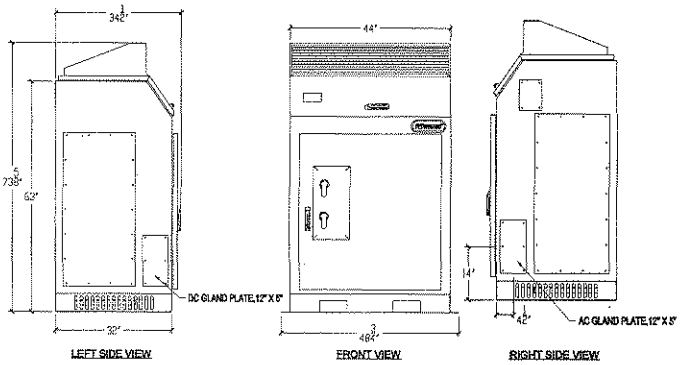
ONTARIO FEED IN TARIFF
DOMESTIC CONTENT COMPLIANT

Dimensions

PVP 35kW



PVP 50kW



Electrical Specifications

Model	PVP 35kW	PVP 50kW
Continuous Output Power (kW)	35	50
Peak Efficiency (%)	97.0	97.2%
Weighted CEC Efficiency (%)	208: 95.5% 480: 96.0% 600: 95.5%	208: 96.0% 480: 96.0% 600: 96.0%
Maximum DC Input Voltage (VDC)	600	600
DC Peak Power Tracking Range (VDC)	295 - 595	295 - 595
DC Inp Nominal Current (A)	125	178
AC Nominal Voltage (V)	208Y, 480Y, 600Y	208Y, 480Y, 600Y
AC Operating Range (V)	208: 183 - 228 480: 422 - 528 600: 528-660	208: 183 - 228 480: 422 - 528 600: 528-660
AC Frequency Range (Hz)	59.3 - 60.5	59.3 - 60.5
AC Maximum Continuous Current (A)	208: 100 480: 43 600: 35	208: 141 480: 61 600: 49
Standby Losses (W)	33	33
Harmonic Distortion (%THD)	<3	<3
Power Factor	>.99	>.99

Mechanical Specifications

Model	PVP 35kW	PVP 50kW
Enclosure	NEMA 4	NEMA 4
Construction	Powder Coated Steel	Powder Coated Steel Optional Stainless Steel
Mounting	Pad Mount	Pad Mount
Weight (lbs)	1200	1500
Cooling	Forced Convection	Forced Convection
Operating Temperature Range (°C)	-30 to 50	-30 to 50
Standby/Storage Ambient Temperature Range (°C)	-40 to 60	-40 to 60
Isolation Transformer	Yes	Yes
Acoustic Emissions (maximum noise emission values in accordance with ISO 4871 dBA)*	Full load at 6 ft=54 dBA Full load at 50ft=44 dBA	Full load at 6 ft=54 dBA Full load at 50ft=44 dBA

* dBA=decibles measured according to A-weighted time average sound pressure level. The uncertainty value (K) = 3 dBA.

Options

- Subcombiner fusing
- Integrated data monitoring solutions
- Integrated revenue grade meter
- Stainless Steel (PVP50kW only)
- Positive ground
- Preventative maitenance program
- 20-year extended warranty

Agency Approvals

UL 1741, IEEE519, IEEE929, IEEE1547, CSA 107.1-1, FCC Class A

Specifications are subject to change without notice.

ADVANCED ENERGY

Advanced Energy Industries, Inc. • 20720 Brinson Blvd. PO Box 7348 • Bend, 97708 OR U.S.A.
T: 877.312.3832 • sales.support@aei.com • www.advanced-energy.com/renewables
Please see www.advanced-energy.com for worldwide contact information.

55-600100-67DO 0M 6/11