

CERTIFICATE NO: _____

DATE ISSUED: _____

Application to the HISTORIC DISTRICT COMMISSION, Nantucket, Massachusetts, for a

CERTIFICATE OF APPROPRIATENESS for structural work.

NOTE: It is strongly recommended that the applicant be familiar with the HDC guidelines, *Building with Nantucket in Mind*, prior to submittal of application. Please see other side for submittal requirements. Incomplete applications will not be reviewed by the HDC.

This is a contractual agreement and must be filled out in ink. An application is hereby made for issuance of a Certificate of Appropriateness under Chapter 395 of the Acts and Resolves of Mass., 1970, for proposed work as described herein and on plans, drawings and photographs accompanying this application and made a part hereof by reference.

The certificate is valid for three years from date of issuance. No structure may differ from the approved application. Violation may impede issuance of Certificate of Occupancy.

PROPERTY DESCRIPTION

TAX MAP N^o: _____ PARCEL N^o: _____

Street & Number of Proposed Work: 47 Devon Street, Nantucket, MA 02554, US

Owner of record: Leonard Rappaport

Mailing Address: 47 Devon Street, Nantucket, MA 02554, US

Contact Phone #: 617-717-8641 E-mail: leonard.rappaport@childrens.harvard.edu

AGENT INFORMATION (if applicable)

Name: Usman Wajid, Sungevity Solar

Mailing Address: 1100 Main Suite 400

Kansas City, MO 64105

Contact Phone #: 816-492-3028 E-mail: uwajid@sungevity.com

FOR OFFICE USE ONLY

Date application received: _____ Fee Paid: \$ _____

Must be acted on by: _____

Extended to: _____

Approved: _____ Disapproved: _____

Chairman: _____

Member: _____

Member: _____

Member: _____

Member: _____

Notes - Comments - Restrictions - Conditions

DESCRIPTION OF WORK TO BE PERFORMED

See reverse for required documentation.

- New Dwelling
- Addition
- Garage
- Driveway/Apron
- Commercial
- Historical Renovation
- Deck/Patio
- Steps
- Shed
- Color Change
- Fence
- Gate
- Hardscaping
- Move Building
- Demolition
- Revisions to previous Cert. No. _____
- Pool (Zoning District _____)
- Roof
- Other Roof top PV Electric Solar System (see attached planset)

Size of Structure or Addition: Length: 14'1" Sq. Footage 1st floor: _____ Decks/Patio: Size: _____ 1st floor 2nd floor
 Width: 26'2" Sq. Footage 2nd floor: 299.4 Size: _____ 1st floor 2nd floor
 Sq. Footage 3rd floor: _____

Difference between existing grade and proposed finish grade: North _____ South _____ East _____ West _____
 Height of ridge above final finish grade: North _____ South _____ East _____ West _____

Additional Remarks

Historic Name: _____ REVISIONS* 1. East Elevation
 Original Date: _____ (describe) 2. South Elevation
 Original Builder: _____ 3. West Elevation
 4. North Elevation

Is there an HDC survey form for this building attached? Yes N/A

*Cloud on drawings and submit photographs of existing elevations.

DETAIL OF WORK TO BE PERFORMED

Foundation: Height Exposed _____ Block Block Parged Brick (type) _____ Poured Concrete Piers

Masonry Chimney: Block Parged Brick (type) _____ Other _____

Roof Pitch: Main Mass _____/12 Secondary Mass _____/12 Dormer _____/12 Other _____

Roofing material: Asphalt: 3-Tab Architectural
 Wood (Type: Red Cedar, White Cedar, Shakes, etc.) _____

Fence: Height: _____
Type: _____
Length: _____

Skylights (flat only): Manufacturer _____ Rough Opening _____ Size _____ Location _____
Manufacturer _____ Rough Opening _____ Size _____ Location _____

Gutters: Wood Aluminum Copper Leaders (material) _____

Leaders (material and size): _____

Sidewall: White cedar shingles _____ Clapboard (exposure: _____ inches) Front Side
 Other _____

Trim: A. Wood Pine Redwood Cedar Other _____

B. Treatment Paint Natural to weather Other _____

C. Dimensions: Fascia _____ Rake _____ Soffit (Overhang) _____ Corner boards _____ Frieze _____

Window Casing _____ Door Frame _____ Columns/Posts: Round _____ Square _____

Windows*: Double Hung Casement All Wood Other _____

True Divided Lights (muntins), single pane SDL's (Simulated Divided Lights) Manufacturer _____

Doors* (type and material): TDL SDL Front _____ Rear _____ Side _____

Garage Door(s): Type _____ Material _____

Hardscape materials: Driveways _____ Walkways _____ Walls _____

* Note: Complete door and window schedules are required.

COLORS

Sidewall _____ Clapboard (if applicable) _____ Roof _____

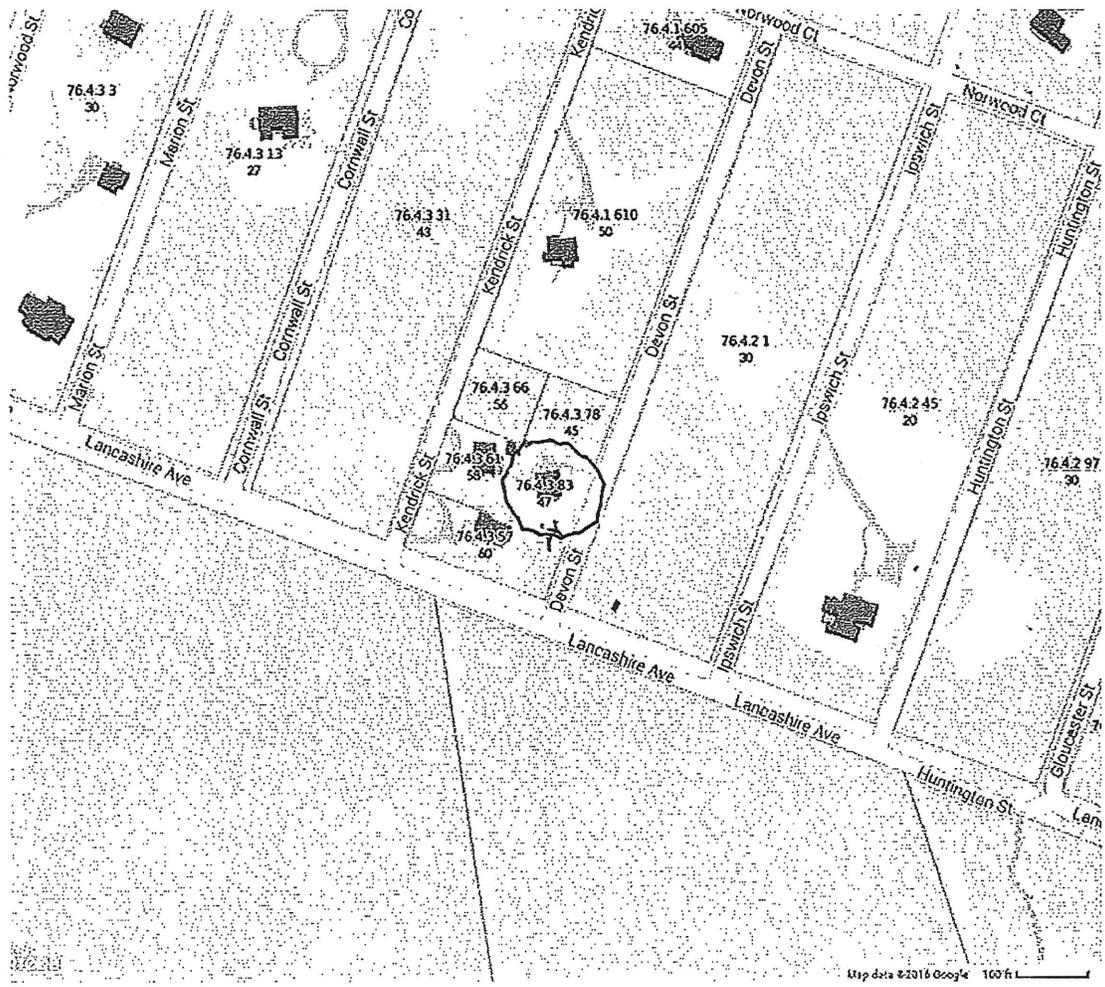
Trim _____ Sash _____ Doors _____

Deck _____ Foundation _____ Fence _____ Shutters _____

* Attach manufacturer's color samples if color is not from HDC approval list.

I hereby authorize the agent named above to act on my behalf to make changes in the specifications or the plans contained in this application in order to bring the application into compliance with the HDC guidelines. I hereby agree to abide by and comply with the terms and conditions of this application. I hereby agree that the submission of any revisions to this application will initiate a new sixty-day review period.

Date _____ Signature of owner of record _____ Signed under penalties of perjury



LOCUS
MAP

PHOTOVOLTAIC SYSTEM

SYSTEM SIZE:

AC / DC KW STC: 3.865kW \ 4.335kW

EQUIPMENT:

PV MODULES: (17) Trina Solar TSM-255 PD05.05

INVERTER(S): (1) SolarEdge SE3800A-US

SCOPE OF WORK:

INSTALLATION OF A SAFE AND CODE-COMPLIANT GRID-TIED SOLAR PV SYSTEM ON AN EXISTING RESIDENTIAL ROOF TOP.

SHEET INDEX

PV0.0	COVER AND SITE PLAN
PV1.0	GENERAL NOTES
PV2.0	ARRAY LAYOUT
PV2.1	ELEVATIONS
PV3.0	LINE DIAGRAM
PV4.0	LABELS

KEY:	
---	PROPERTY LINE
---	CONDUIT RUN
---	DRIVEWAY
---	FENCE
---	FIRE CLEARANCE
---	STRUCTURAL UPGRADES
☐	SOLAR MODULE
☐	MAIN SERVICE PANEL
☐	UTILITY METER
☐	PV METER
☐	INVERTER
☐	SUBPANEL
☐	DC DISCONNECT
☐	AC DISCONNECT
☐	JUNCTION BOX
☐	MONITORING UNIT
☐	COMBINER BOX
☐	ROOF OBSTRUCTION

APPLICABLE CODES:

2014 NEC
2009 INTERNATIONAL CODES WITH MA AMENDMENTS

CONTRACTOR INFORMATION:

SKYLINE SOLAR WEST BRIDGEWATER
124 TURNPIKE ST.
WEST BRIDGEWATER, MA 02379

JURISDICTIONAL INFORMATION:

NANTUCKET, TOWN OF
2 FAIRGROUNDS ROAD
NANTUCKET, MA 02554

NOTES TO INSTALLER:

FOR INSTALLER USE ONLY

POST INSTALL SUNEYES REQUIRED? NO

I CERTIFY THAT NO CHANGES HAVE BEEN MADE TO THE ARRAY LAYOUT:

CUSTOMER INFORMATION:

LEONARD RAPPAPORT
47 DEVON STREET
NANTUCKET, MA 02554
(617) 717-8641 / #1984594

DESIGNED BY:	REV #:	DATE:	PV- 0.0
AJINKYA.C	1	2/18/16	

1 | 2 | 3 | 4 | 5

A

B

C

A

B

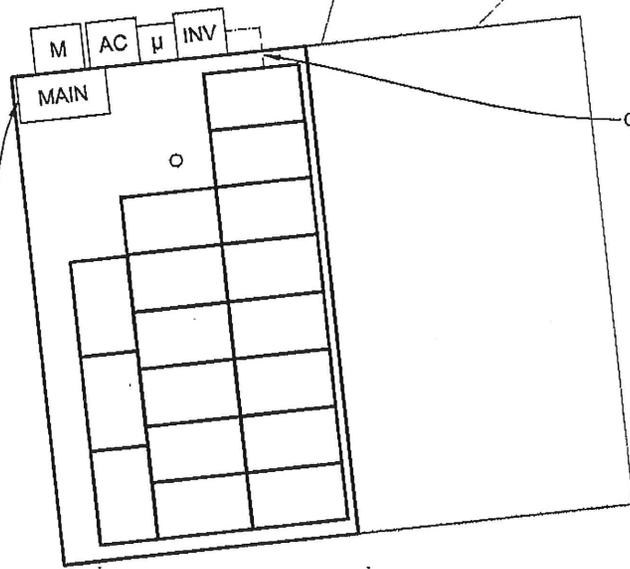
C

(E) MSP INSIDE BASEMENT

CONDUIT RUN ON ROOF

DRIVEWAY

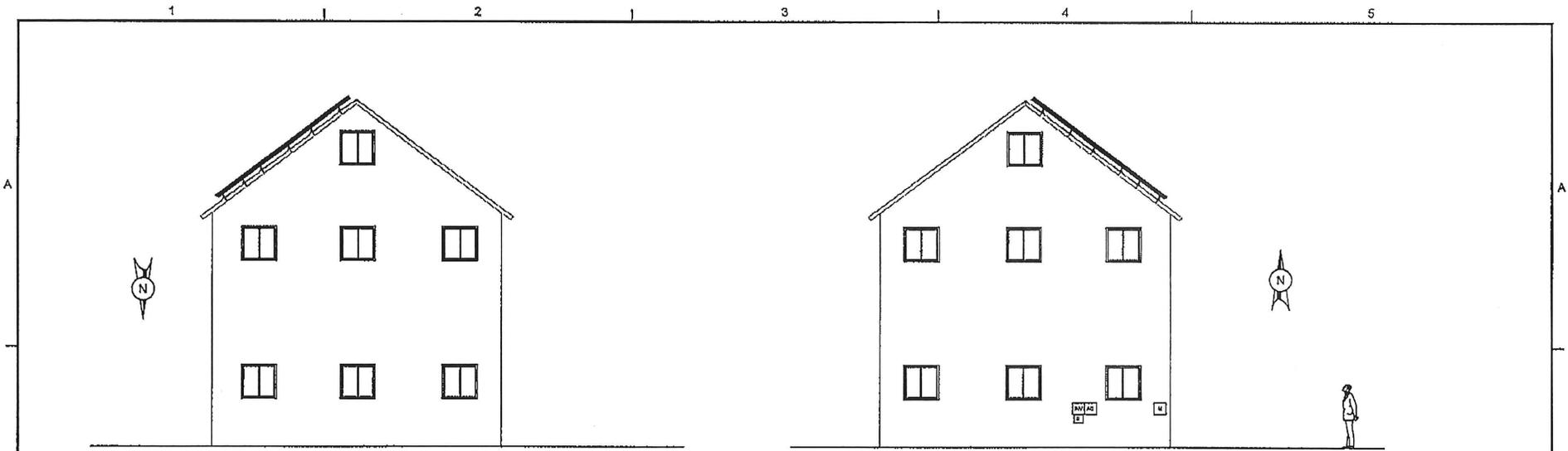
DEVON ST



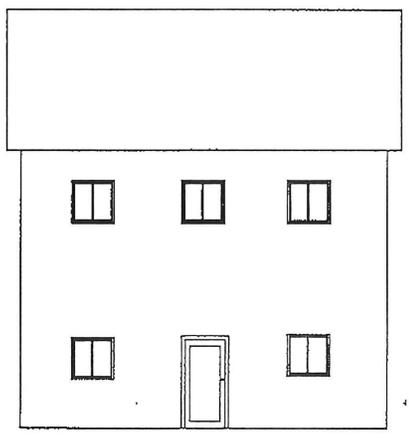
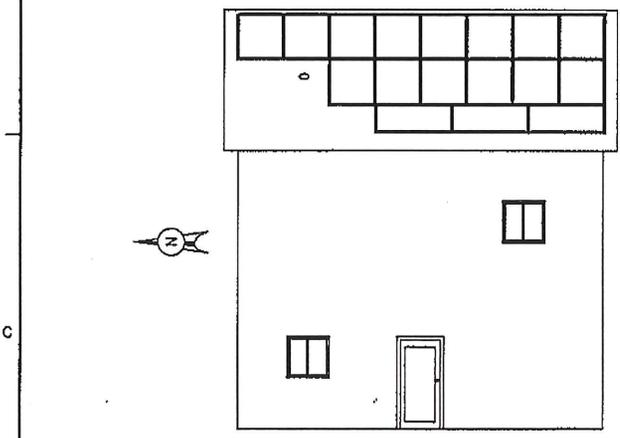
SITE PLAN

SCALE: N.T.S.





ELEVATIONS
SCALE: 1/8" = 1'



Janyce Ajiko Spencer

CUSTOMER INFORMATION:			
LEONARD RAPPAPORT 47 DEVON STREET NANTUCKET, MA 02554 (617) 717-8641 / #1984594			
DESIGNED BY:	REV #:	DATE:	PV-2.1
AJINKYA.C	1	2/18/16	



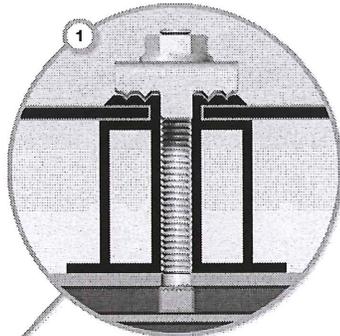
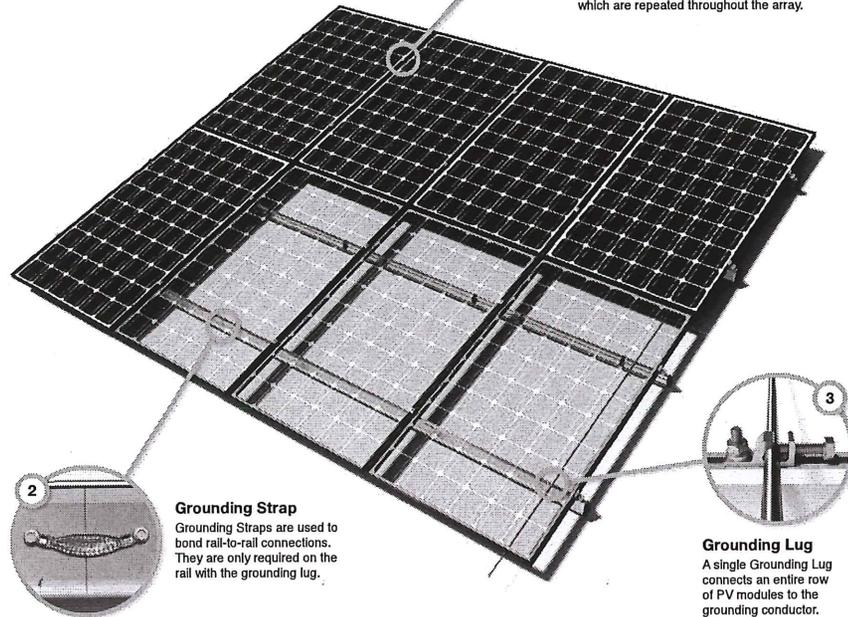
Integrated Grounding System

Simplified Grounding

For Greater Safety & Lower Cost

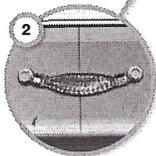
Traditionally, solar modules are grounded by attaching lugs, bolts or clips to the module frame, then connecting these to a copper conductor that runs throughout the array. This process adds time and cost to the installation, and often results in improper grounding, creating significant long-term safety risks.

The IronRidge Integrated Grounding System solves these challenges by bonding modules directly to the mounting rails. This approach eliminates separate module grounding hardware, and it creates many parallel grounding paths throughout the array, providing greater safety for system owners.



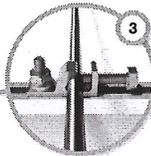
Grounding Mid Clamp

Each Grounding Mid Clamp pierces through the anodized coatings of both the module frame and the mounting rail to form secure electrical bonds, which are repeated throughout the array.



Grounding Strap

Grounding Straps are used to bond rail-to-rail connections. They are only required on the rail with the grounding lug.



Grounding Lug

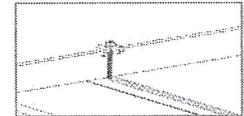
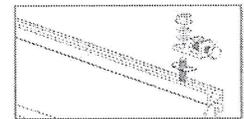
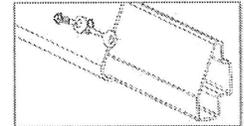
A single Grounding Lug connects an entire row of PV modules to the grounding conductor.

Tech Brief

Tech Brief

Installation Overview

- 1 Install Roof Attachments**
 - Install appropriate roof flashing and/or standoff for roof type.
 - Attach L-Feet to flashing or standoff.
- 2 Prepare Rail Connections**
 - Insert splice into first rail, then secure with Grounding Strap and self-drilling screw.
 - Slide second rail over splice, then secure with opposite end of Grounding Strap and self-drilling screw.
- 3 Mount & Ground Rails**
 - Attach rails to L-Feet and level rails.
 - Install one Grounding Lug per row of modules.
 - Connect Grounding Lug to grounding conductor.
- 4 Install Modules & Clamps**
 - Install first module using End Clamps and Grounding Mid Clamps.
 - Install additional modules using Grounding Mid Clamps.
 - Finish row with a second pair of End Clamps.



Testing & Certification

The IronRidge Integrated Grounding System has been tested and certified to UL 2703 by Intertek Group plc.

UL 2703 is a proposed UL standard for evaluating solar module mounting and clamping devices. It ensures these devices will maintain strong electrical and mechanical connections over an extended period of time in extreme outdoor environments.

The testing process closely mirrors that of UL 1703, the solar module testing standard, including temperature and humidity cycling, electrical and mechanical load testing, and manufacturing quality reviews.

Module Frame Compatibility

Dimension	Range
A	31.0mm - 51.0mm
B	5.08mm (minimum)

Any module frames whose parameters are not listed in the provided table have not been tested for compatibility.

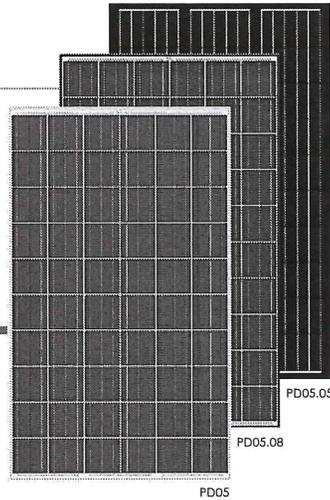
The Grounding Clamp has proven robust in grounding 60-cell and 72-cell solar module frames with box construction and a range of anodization thicknesses.

All solar modules listed to UL 1703 and with frame construction within the parameters stated above are compatible with the IronRidge Integrated Grounding System.

Go to ironridge.com/ig

Mono Multi Solutions

THE Universal MODULE



60 CELL
MULTICRYSTALLINE MODULE

245-265W
POWER OUTPUT RANGE

16.2%
MAXIMUM EFFICIENCY

0~+3%
POSITIVE POWER TOLERANCE



Our most versatile product

- Compatible with all major BOS components and system designs
- IEC/UL/1000V IEC certified



One of the industry's most trusted modules

- Field proven performance



Highly reliable due to stringent quality control

- Over 30 in-house tests (IV, TC, HF, and many more)
- In-house testing goes well beyond certification requirements
- PID resistant



Certified to withstand challenging environmental conditions

- 2400 Pa wind load
- 5400 Pa snow load

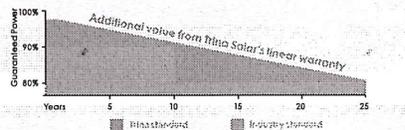
As a leading global manufacturer of next generation photovoltaic products, we believe close cooperation with our partners is critical to success. With local presence around the globe, Trina is able to provide exceptional service to each customer in each market and implement our innovative, reliable products with the backing of Trina as a strong, bankable partner. We are committed to building strategic, mutually beneficial collaboration with installers, developers, distributors and other partners as the backbone of our shared economic driving Smart Energy Together.

Trina Solar Limited
www.trinasolar.com



LINEAR PERFORMANCE WARRANTY

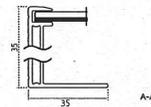
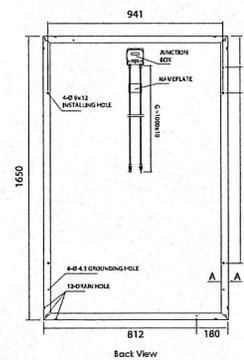
10 Year Product Warranty • 25 Year Linear Power Warranty



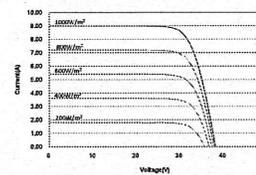
THE Universal MODULE

PRODUCTS	POWER RANGE
TSM-PD05	250-265W
TSM-PD05.08	250-265W
TSM-PD05.05	245-260W

DIMENSIONS OF PV MODULE (mm)



I-V CURVES OF PV MODULE (240W)



CERTIFICATION



ELECTRICAL DATA (STC)

	245	250	255	260	265
Peak Power P_{max} (Wp)					
Power Output Tolerance- P_{max} (%)	0~+3				
Maximum Power Voltage- V_{mp} (V)	29.9	30.3	30.5	30.6	30.8
Maximum Power Current- I_{mp} (A)	8.20	8.27	8.37	8.50	8.61
Open Circuit Voltage- V_{oc} (V)	37.8	38.0	38.1	38.2	38.3
Short Circuit Current- I_{sc} (A)	8.75	8.79	8.88	9.00	9.10
Module Efficiency η_m (%)	15.0	15.3	15.6	15.9	16.2

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM1.5, Typical efficiency reduction of 4.5% at 200 W/m² according to EN 60904-1.

ELECTRICAL DATA (NOCT)

	182	186	190	193	197
Maximum Power- P_{max} (Wp)					
Maximum Power Voltage- V_{mp} (V)	27.6	28.0	28.1	28.3	28.4
Maximum Power Current- I_{mp} (A)	6.59	6.65	6.74	6.84	6.93
Open Circuit Voltage- V_{oc} (V)	35.1	35.2	35.3	35.4	35.5
Short Circuit Current- I_{sc} (A)	7.07	7.10	7.17	7.27	7.35

NOCT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.

MECHANICAL DATA

Solar cells	Multicrystalline 156 × 156 mm (6 inches)
Cell orientation	60 cells (6 × 10)
Module dimensions	1650 × 992 × 35 mm (64.95 × 39.05 × 1.37 inches)
Weight	18.6 kg (41lb)
Glass	3.2 mm (0.13 inches), High Transmission, AR Coated Tempered Glass
Backsheet	White (PD05&PD05.08); Black (PD05.05)
Frame	Silver Anodized Aluminum Alloy (PD05); Black (PD05.08&PD05.05)
J-Box	IP 65 or IP 67 rated
Cables	Photovoltaic Technology cable 4.0mm ² (0.006 inches ²), 1000mm (39.37 inches)
Connector	MC4 Compatible

TEMPERATURE RATINGS

Nominal Operating Cell Temperature (NOCT)	44°C (±2°C)
Temperature Coefficient of P_{max}	-0.41%/°C
Temperature Coefficient of V_{oc}	-0.32%/°C
Temperature Coefficient of I_{sc}	0.05%/°C

MAXIMUM RATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1000V DC (IEC) 1000V DC (UL)
Max Series Fuse Rating	15A

WARRANTY

10 year Product Workmanship Warranty
25 year Linear Power Warranty
(Please refer to product warranty for details)

PACKAGING CONFIGURATION

Modules per box: 30 pieces
Modules per 40' container: 840 pieces

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.
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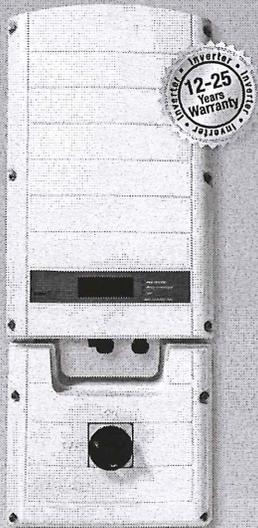


TSM-EP-Mon-2015_A



SolarEdge Single Phase Inverters For North America

SE3000A-US / SE3800A-US / SE5000A-US / SE6000A-US /
SE7600A-US / SE10000A-US / SE11400A-US



INVERTERS

The best choice for SolarEdge enabled systems

- Integrated arc fault protection (Type 1) for NEC 2011 690.11 compliance
- Superior efficiency (98%)
- Small, lightweight and easy to install on provided bracket
- Built-in module-level monitoring
- Internet connection through Ethernet or Wireless
- Outdoor and indoor installation
- Fixed voltage inverter, DC/AC conversion only
- Pre-assembled Safety Switch for faster installation
- Optional – revenue grade data, ANSI C12.1

USA - GERMANY - ITALY - FRANCE - JAPAN - CHINA - AUSTRALIA - THE NETHERLANDS - ISRAEL

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Single Phase Inverters for North America

SE3000A-US / SE3800A-US / SE5000A-US / SE6000A-US /
SE7600A-US / SE10000A-US / SE11400A-US

	SE3000A-US	SE3800A-US	SE5000A-US	SE6000A-US	SE7600A-US	SE10000A-US	SE11400A-US	
OUTPUT								
Nominal AC Power Output	3000	3800	5000	6000	7600	9980 @ 208V 10900 @ 240V	11400	VA
Max. AC Power Output	3300	4150	5400 @ 208V 5450 @ 240V	6000	8350	10800 @ 208V 10950 @ 240V	12000	VA
AC Output Voltage Min.-Nom.-Max. ⁽¹⁾	-	-	✓	-	-	✓	-	
183 - 208 - 229 Vac								
AC Output Voltage Min.-Nom.-Max. ⁽²⁾	✓	✓	✓	✓	✓	✓	✓	
211 - 240 - 264 Vac								
AC Frequency Min.-Nom.-Max. ⁽³⁾	59.3 - 60 - 60.5 (with HI country setting 57 - 60 - 60.5)							Hz
Max. Continuous Output Current	12.5	16	24 @ 208V 21 @ 240V	25	32	48 @ 208V 42 @ 240V	47.5	A
GFDI Threshold	1							A
Utility Monitoring, islanding Protection, Country Configurable Thresholds	Yes							Yes
INPUT								
Maximum DC Power (STC)	4050	5100	6750	8100	10250	13500	15350	W
Transformer-less, Ungrounded	Yes							
Max. Input Voltage	500							Vdc
Nom. DC Input Voltage	325 @ 208V / 350 @ 240V							Vdc
Max. Input Current ⁽⁴⁾	9.5	13	16.5 @ 208V 15.5 @ 240V	18	23	33 @ 208V 30.5 @ 240V	34.5	Adc
Max. Input Short Circuit Current	45							Adc
Reverse-Polarity Protection	Yes							
Ground-Fault Isolation Detection	600ka Sensitivity							
Maximum Inverter Efficiency	97.7	98.2	98.3	98.3	98	98	98	%
CEC Weighted Efficiency	97.5	98	97.5 @ 208V 96 @ 240V	97.5	97.5	97 @ 208V 97.5 @ 240V	97.5	%
Nighttime Power Consumption	< 2.5						< 4	W
ADDITIONAL FEATURES								
Supported Communication Interfaces	RS485, RS232, Ethernet, ZigBee (optional)							
Revenue Grade Data, ANSI C12.1	Optional ⁽⁵⁾							
Rapid Shutdown – NEC 2014 690.12	Functionality enabled when SolarEdge rapid shutdown kit is installed ⁽⁶⁾							
STANDARD COMPLIANCE								
Safety	UL1741, UL1699B, UL1996, CSA 22.2							
Grid Connection Standards	IEEE1547							
Emissions	FCC part15 class B							
INSTALLATION SPECIFICATIONS								
AC output conduit size / AWG range	3/4" minimum / 16-6 AWG					3/4" minimum / 8-3 AWG		
DC input conduit size / # of strings / AWG range	3/4" minimum / 1-2 strings / 16-6 AWG					3/4" minimum / 1-2 strings / 14-6 AWG		
Dimensions with Safety Switch (HxWxD)	30.5 x 12.5 x 7.2 / 775 x 315 x 184					30.5 x 12.5 x 10.5 / 775 x 315 x 260		
Weight with Safety Switch	51.2 / 23.2		54.7 / 24.7		88.4 / 40.1		in / mm / lb / kg	
Cooling	Natural Convection					Natural convection and internal fan (user replaceable)		
Noise	< 25						< 50	dBA
Min.-Max. Operating Temperature	-13 to +140 / -25 to +60 (-40 to +60 version available ⁽⁷⁾)							°F / °C
Protection Rating	NEMA 3R							

⁽¹⁾ For other regional settings please contact SolarEdge support.
⁽²⁾ A higher current source may be used; the inverter will limit its input current to the values stated.
⁽³⁾ Revenue grade inverter only: SE3000A-US/5000A-US for 7600W inverters; SE7600A-US/10000A-US.
⁽⁴⁾ Rapid shutdown kit 97W: SE1000-RSD-S1.
⁽⁵⁾ 40 version 97W: SE3000-US/5000A-US (for 7600W inverter); SE7600A-US/10000A-US.
⁽⁶⁾ Rapid shutdown kit 97W: SE1000-RSD-S1.



RoHS

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