

Building Codes: 2017 NEC W/NC AMENDMENTS, 2018 NORTH CAROLINA RESIDENTIAL CODE, AND 2018 NORTH CAROLINA FIRE CODE and AHJ Amendments

**HOMEGARDNER, JAMES PV SYSTEM**  
**145 BARCLAY DRIVE .**  
**ANGIER, NC, 27501**

**APN:**  
**JURISDICTION: HARNETT COUNTY (NC)**

**GENERAL INFORMATION**

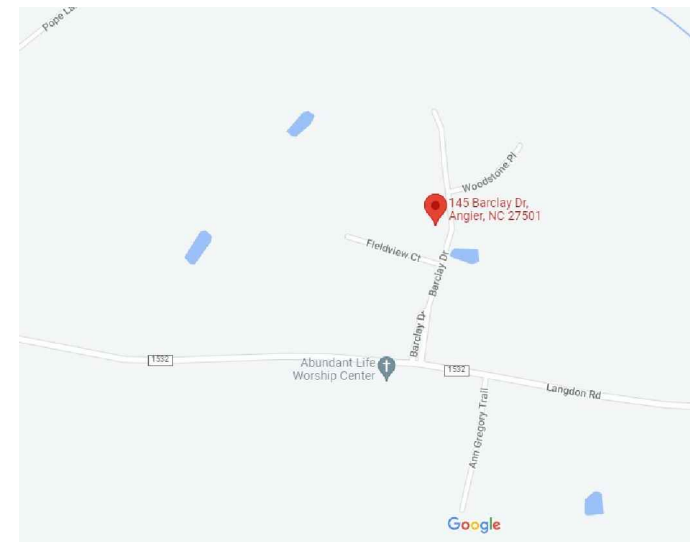
|                               |                                              |
|-------------------------------|----------------------------------------------|
| SYSTEM SIZE:                  | 6.800 kW-DC-STC                              |
|                               | 6.000 kW-AC                                  |
| ROOF PITCHED:                 | 30 DEGREES                                   |
| INVERTER:                     | (1) SOLAREEDGE SE6000H-US W/ P401 OPTIMIZERS |
| MODULES:                      | (17) Q PEAK DUO BLK ML G10+ 400W             |
| STRINGS:                      | (1) x 8 (1) x 9 MODULE SERIES STRINGS        |
| ELECTRICAL SERVICE RATING:    | 125A                                         |
| PV SYSTEM OVERCURRENT RATING: | 35A                                          |
| PV SYSTEM DISCONNECT SWITCH:  | EATON DG222URB (60A / 2P)                    |
| ROOF TYPE:                    | COMP SHINGLE                                 |
| ROOF FRAMING:                 | MANUFACTURED/ENGINEERED TRUSS                |
| RACKING:                      | K2 SYSTEMS                                   |
| ATTACHMENT METHOD:            | MIN. 5/16" x 3 1/2 LAG SCREWS EA. STANDOFF   |

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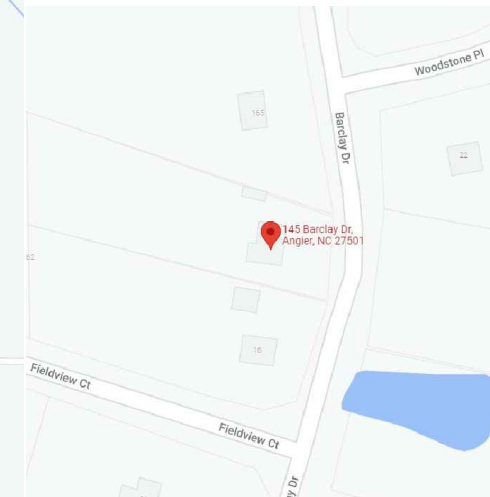
**VICINITY MAP**

SCALE: NTS



**AERIAL MAP**

SCALE: NTS



**NOTES**

**EQUIPMENT LOCATION**

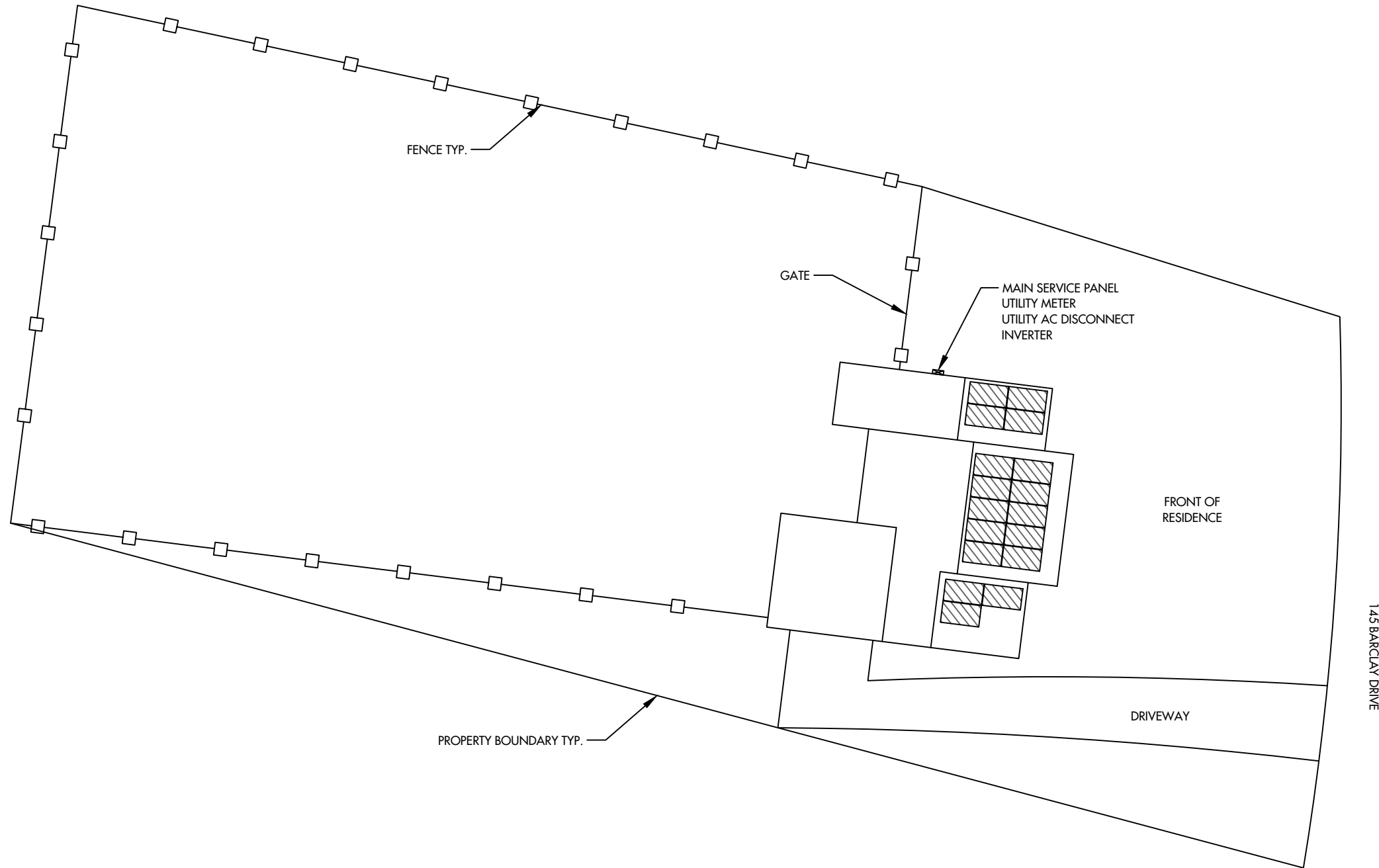
- ALL EQUIPMENT SHALL MEET MINIMUM SETBACKS AS REQUIRED BY NEC 110.26.
- WIRING SYSTEMS INSTALLED IN DIRECT SUNLIGHT MUST BE RATED FOR EXPECTED OPERATING TEMPERATURE AS SPECIFIED BY NEC690.31(A),(C) AND NEC TABLES 310.15(B)(2)(A) AND 310.15(B)(3)(C).
- JUNCTION AND PULL BOXES PERMITTED INSTALLED UNDER PV MODULES ACCORDING TO NEC 690.34.
- ADDITIONAL AC DISCONNECT(S) SHALL BE PROVIDED WHERE THE INVERTER IS NOT WITHIN SIGHT OF THE AC SERVICING DISCONNECT.
- ALL EQUIPMENT SHALL BE INSTALLED ACCESSIBLE TO QUALIFIED PERSONNEL ACCORDING TO NEC APPLICABLE CODES.
- ALL COMPONENTS ARE LISTED FOR THEIR PURPOSE AND RATED FOR OUTDOOR USAGE WHEN APPROPRIATE.

**WIRING & CONDUIT NOTES**

- ALL CONDUITS AND WIRE WILL BE LISTED AND APPROVED FOR THEIR PURPOSE. CONDUIT AND WIRE SPECIFICATIONS ARE BASED ON MINIMUM CODE REQUIREMENTS AND ARE NOT MEANT TO LIMIT UP-SIZING.
- CONDUCTORS SIZED ACCORDING TO NEC 690.8, NEC 690.7.
- DC WIRING LIMITED TO MODULE FOOTPRINT. MICRO INVERTER WIRING SYSTEMS SHALL BE LOCATED AND SECURED UNDER THE ARRAY WITH SUITABLE WIRING CLIPS.
- AC CONDUCTORS COLORED OR MARKED AS FOLLOWS: PHASE A OR L1- BLACK, PHASE B OR L-2 RED, OR OTHER CONVENTION IF THREE PHASE, PHASE C OR L3-BLUE, YELLOW, ORANGE, OR OTHER CONVENTION NEUTRAL- WHITE OR GREY IN 4-WIRE DELTA CONNECTED SYSTEMS THE PHASE WITH THE HIGHER VOLTAGE TO BE MARKED ORANGE NEC 110.15.

**GENERAL NOTES**

- MODULES ARE LISTED UNDER UL 1703 AND CONFORM TO THE STANDARDS.
- INVERTERS ARE LISTED UNDER UL 1741 AND CONFORM TO THE STANDARDS.
- DRAWINGS ARE DIAGRAMMATIC, INDICATING GENERAL ARRANGEMENT OF THE PV SYSTEM AND THE ACTUAL SITE CONDITION MIGHT VARY.
- WORKING CLEARANCES AROUND THE NEW PV ELECTRICAL EQUIPMENT WILL BE MAINTAINED IN ACCORDANCE WITH NEC 110.26.
- ALL GROUND WIRING CONNECTED TO THE MAIN SERVICE GROUNDING IN MAIN SERVICE PANEL/SERVICE COMPONENT.
- ALL CONDUCTORS SHALL BE 600V, 75° C STANDARD COPPER UNLESS OTHERWISE NOTED.
- WHEN REQUIRED, A LADDER SHALL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH OSHA REGULATIONS.
- THE SYSTEM WILL NOT BE INTERCONNECTED BY THE CONTRACTOR UNTIL APPROVAL FROM THE LOCAL JURISDICTION AND/OR THE UTILITY.
- ROOF ACCESS POINT SHALL BE LOCATED IN AREAS THAT DO NOT REQUIRE THE PLACEMENT OF GROUND LADDERS OVER OPENINGS SUCH AS WINDOWS WHERE THE ACCESS POINT DOES NOT CONFLICT WITH OVERHEAD OBSTRUCTIONS SUCH AS TREES, WIRES OR SIGNS.
- PV ARRAY COMBINER/JUNCTION BOX PROVIDES TRANSITION FROM ARRAY WIRING TO CONDUIT WIRING.



**PROJECT NOTES**

1. UTILITY SHALL HAVE 24HR UNRESTRICTED ACCESS TO ALL PHOTOVOLTAIC COMPONENTS LOCATED AT SES EQUIPMENT
2. NO LOCKED GATES, DOGS, ETC SHALL IMPEDE ACCESS TO SES EQUIPMENT
3. WORKSPACE IN FRONT OF AC ELECTRICAL SYSTEM COMPONENTS SHALL BE IN ACCORDANCE WITH DUKE ENERGY PROGRESS (NC) AND NEC REQUIREMENTS.



ARRAY INFORMATION

AR-01

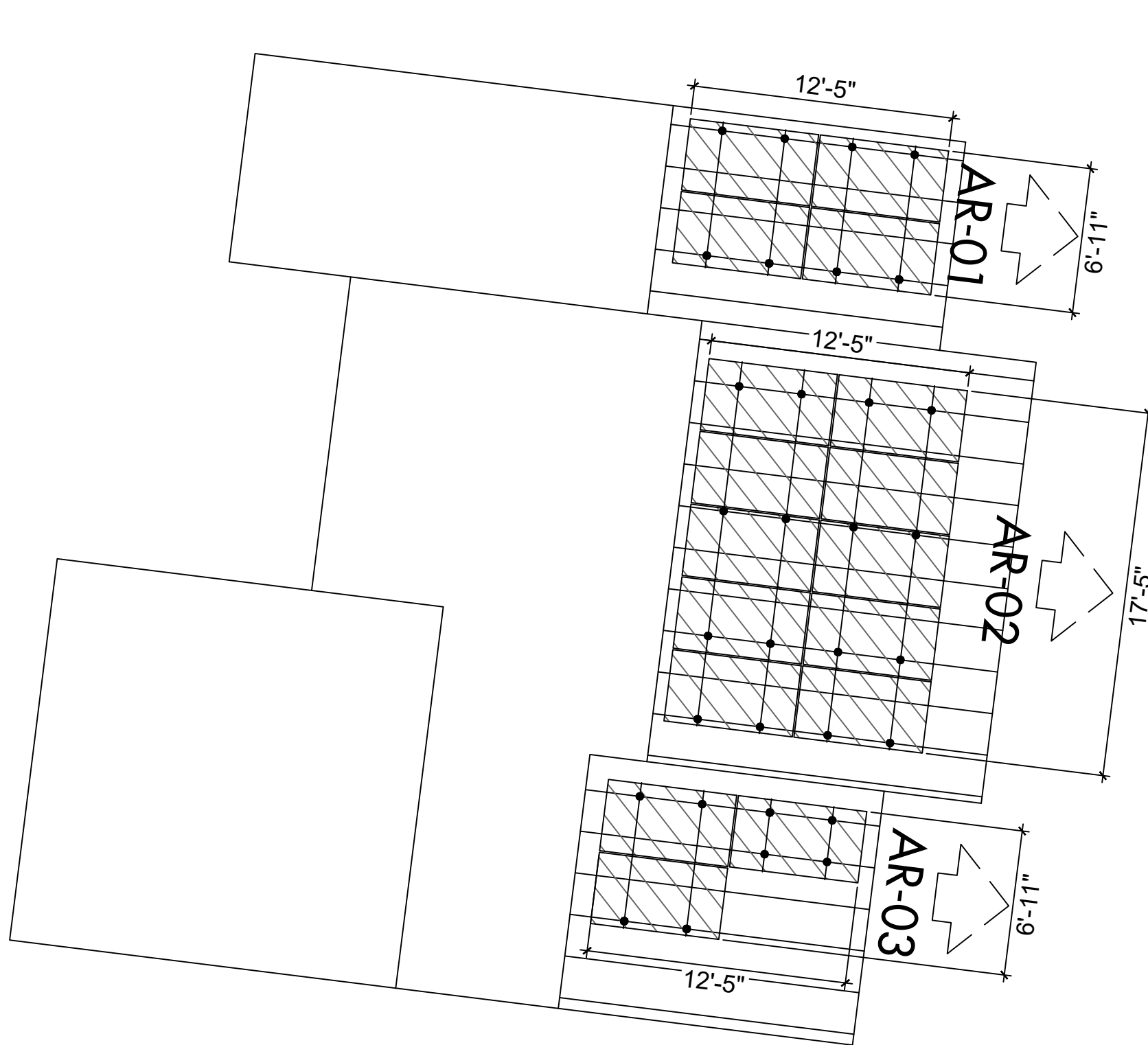
QUANTITY: 4  
MOUNTING TYPE: FLUSH  
ARRAY TILT: 30°  
AZIMUTH: 96°  
ATTACHMENT SPACING: 6'  
ROOF TYPE: COMP SHINGLE

AR-02

QUANTITY: 10  
MOUNTING TYPE: FLUSH  
ARRAY TILT: 30°  
AZIMUTH: 96°  
ATTACHMENT SPACING: 6'  
ROOF TYPE: COMP SHINGLE

AR-03

QUANTITY: 3  
MOUNTING TYPE: FLUSH  
ARRAY TILT: 30°  
AZIMUTH: 96°  
ATTACHMENT SPACING: 6'  
ROOF TYPE: COMP SHINGLE



NOTES

- ROOF VENTS, SKYLIGHTS, WILL NOT BE COVERED UPON PV INSTALLATION
- TOTAL ROOF AREA = 1611 SQ-FT
- TOTAL ARRAY AREA = 359.05 SQ-FT
- ARRAY COVERAGE = 22.29%



HOMEGARDNER, JAMES RESIDENCE  
 145 BARCLAY DRIVE , ANGIER, NC, 27501  
 LAT:35.468939, LON:-78.681378  
 TSP120476

(17) Q PEAK DUO BLK ML G10+ 400W  
 (1) SOLAREEDGE SE6000H-US  
 6.800 kW DC SYSTEM SIZE  
 6.000 kW AC SYSTEM SIZE

SCALE: 41/256" = 1'-0"  
 DATE: 4/12/2022  
 REV:A  
 DRAWN BY: JS

SEAL:

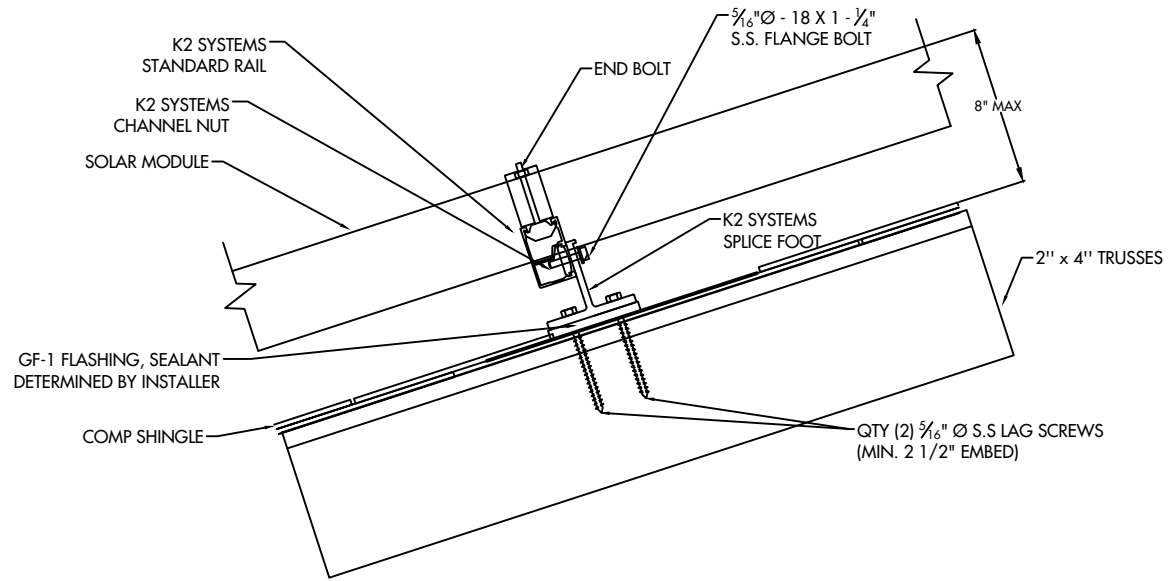
PV LAYOUT  
PV 3

MODULE & RACKING INFORMATION

MODULE: Q PEAK DUO BLK ML G10+ 400W  
MODULE WEIGHT: 48.50 LBS  
MODULE DIMENSIONS: 74"x 41.1" x 1.5"  
RACKING/RAIL: K2 SYSTEMS / K2 SYSTEMS

ROOF & FRAMING INFORMATION

MATERIAL: COMP SHINGLE  
RAFTER/TRUSS SIZE: 2" x 4"  
RAFTER/TRUSS SPACING: 2'



ARRAY 01: 4 MODULES

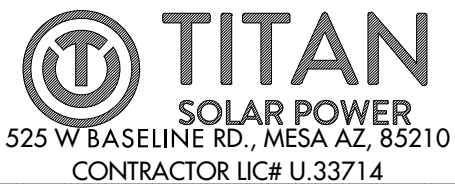
UPLIFT = 2534.50 LBS.  
POINT LOAD = 26.00 LBS. PER MOUNTING POINT  
PULLOUT STRENGTH = 4200.00 LBS.  
DISTRIBUTED LOAD = 2.46 PSF  
MODULE & RACKING WEIGHT = 208.00 LBS

ARRAY 02: 10 MODULES

UPLIFT = 6336.25 LBS.  
POINT LOAD = 32.50 LBS. PER MOUNTING POINT  
PULLOUT STRENGTH = 8400.00 LBS.  
DISTRIBUTED LOAD = 2.46 PSF  
MODULE & RACKING WEIGHT = 520.00 LBS

ARRAY 03: 3 MODULES

UPLIFT = 1900.88 LBS.  
POINT LOAD = 19.50 LBS. PER MOUNTING POINT  
PULLOUT STRENGTH = 4200.00 LBS.  
DISTRIBUTED LOAD = 2.46 PSF  
MODULE & RACKING WEIGHT = 156.00 LBS



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(1) SOLAREGE SE6000H-US  
6.800 kW DC SYSTEM SIZE  
6.000 kW AC SYSTEM SIZE

DATE: 4/12/2022  
REV:A  
DRAWN BY: JS

SEAL:

DETAILS  
PV 4

**PV MODULE**

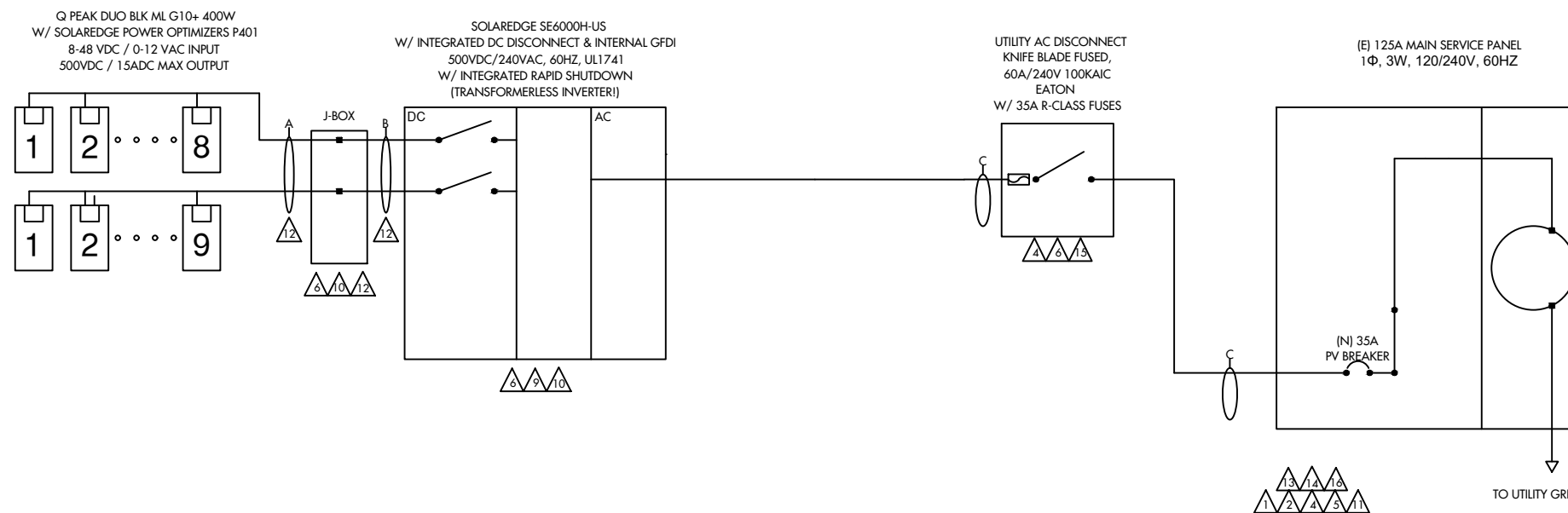
Q PEAK DUO BLK ML G10+ 400W  
 W = 400 W  
 ISC = 11.14 ADC  
 VOC = 45.30 VDC  
 IMP = 10.77 ADC  
 VMP = 37.13 VDC  
 TVOC = -0.270% / °C

**WIRE SCHEDULE**

A - (4) #10 AWG-CU PV WIRE (HR)  
 (1) #10 AWG-CU BARE COPPER WIRE (GND)  
 IN FREE AIR  
 B - (4) #10 AWG-CU THWN-2 WIRE (HR)  
 (1) #10 AWG-CU THWN-2 WIRE (GND)  
 3/4" EMT

C - (3) #8 AWG-CU THWN-2 WIRE (HR)  
 (1) #8 AWG-CU THWN-2 WIRE (GND)  
 3/4" EMT

**NOTE:**  
 SUPPLY/LINE SIDE CONNECTION  
 NO MAIN BREAKER  
 NO 120% RULE  
 6 HANDLE RULE



**WIRE SIZE CALCULATIONS**

TEMP CORRECTION FACTOR: 0.87 (43° AMBIENT)  
 ROOFTOP TEMP CORRECTION FACTOR: 1.00 (43° ADJUSTED)  
 (2" ABOVE ROOFTOP / 0° TEMP ADDERS - AS OCCURS)  
 (TEMP DATA TAKEN FROM ASHRAE 2% AVG HIGH TEMP)

**DC WIRING**  
 CONDUIT FILL FACTOR = 0.80  
 OPTIMIZER MAX. CURRENT = 18.75A DC (15.00A X 1 X 1.25)  
 #10- AWG CU. AMPACITY = 47.85A (55A X 0.87)  
 FREE AIR  
 #10 - AWG CU. AMPACITY = 27.84A (40A X 0.87 X 0.80)  
 ROOFTOP CONDUIT

**AC WIRING**  
 CONDUIT FILL FACTOR = 1 (3) CONDUCTORS  
 MAX. INVERTER CURRENT = 25A (PER INVERTER SPECS)  
 MIN. INVERTER OCP = 31.25A (25A X 1.25)  
 INVERTER OCP = 40A  
 #8 - AWG CU AMPACITY = 47.85A (55A X 1 X 0.87)



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 (1) SOLAREEDGE SE6000H-US  
 6.800 kW DC SYSTEM SIZE  
 6.000 kW AC SYSTEM SIZE

DATE: 4/12/2022  
 REV:A  
 DRAWN BY: JS

SEAL:

ONE LINE  
**PV 5**

**PV MODULE**

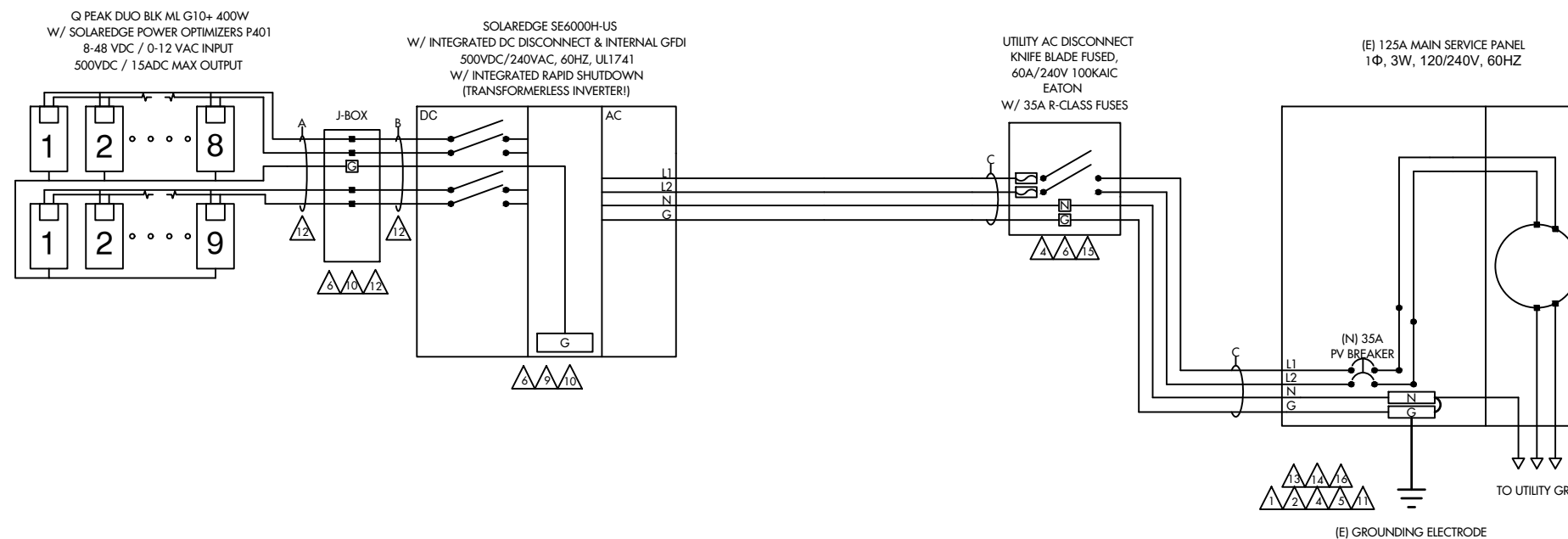
Q PEAK DUO BLK ML G10+ 400W  
 W = 400 W  
 ISC = 11.14 ADC  
 VOC = 45.30 VDC  
 IMP = 10.77 ADC  
 VMP = 37.13 VDC  
 TVOC = -0.270% / °C

**WIRE SCHEDULE**

A - (4) #10 AWG-CU PV WIRE (HR)  
 (1) #10 AWG-CU BARE COPPER WIRE (GND)  
 IN FREE AIR  
 B - (4) #10 AWG-CU THWN-2 WIRE (HR)  
 (1) #10 AWG-CU THWN-2 WIRE (GND)  
 3/4" EMT

C - (3) #8 AWG-CU THWN-2 WIRE (HR)  
 (1) #8 AWG-CU THWN-2 WIRE (GND)  
 3/4" EMT

**NOTE:**  
 SUPPLY/LINE SIDE CONNECTION  
 NO MAIN BREAKER  
 NO 120% RULE  
 6 HANDLE RULE

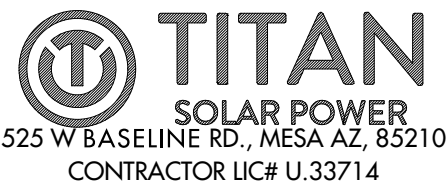


**WIRE SIZE CALCULATIONS**

TEMP CORRECTION FACTOR: 0.87 (43° AMBIENT)  
 ROOFTOP TEMP CORRECTION FACTOR: 1.00 (43° ADJUSTED)  
 (2" ABOVE ROOFTOP / 0° TEMP ADDERS - AS OCCURS)  
 (TEMP DATA TAKEN FROM ASHRAE 2% AVG HIGH TEMP)

**DC WIRING**  
 CONDUIT FILL FACTOR = 0.80  
 OPTIMIZER MAX. CURRENT = 18.75A DC (15.00A X 1 X 1.25)  
 #10- AWG CU. AMPACITY = 47.85A (55A X 0.87)  
 FREE AIR  
 #10 - AWG CU. AMPACITY = 27.84A (40A X 0.87 X 0.80)  
 ROOFTOP CONDUIT

**AC WIRING**  
 CONDUIT FILL FACTOR = 1 (3) CONDUCTORS  
 MAX. INVERTER CURRENT = 25A (PER INVERTER SPECS)  
 MIN. INVERTER OCP = 31.25A (25A X 1.25)  
 INVERTER OCP = 40A  
 #8 - AWG CU AMPACITY = 47.85A (55A X 1 X 0.87)



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(17) Q PEAK DUO BLK ML G10+ 400W  
 (1) SOLAREEDGE SE6000H-US  
 6.800 kW DC SYSTEM SIZE  
 6.000 kW AC SYSTEM SIZE

DATE: 4/12/2022  
 REV:A  
 DRAWN BY: JS

SEAL:

THREE LINE  
**PV 6**

1 **CAUTION**  
PHOTOVOLTAIC SYSTEM CIRCUIT IS BACKFED  
LOCATION: BACKFED BREAKER  
CODE REF: NEC 705.12(4)

2 **WARNING**  
INVERTER OUTPUT CONNECTION:  
DO NOT RELOCATE THIS  
OVERCURRENT DEVICE  
LOCATION: BACKFED BREAKER  
CODE REF: 2017 NEC 705.12(2)(3)(b)

3 **WARNING**  
A GENERATION SOURCE IS CONNECTED TO THE SUPPLY  
(UTILITY) SIDE OF THE MAIN SERVICE DISCONNECT. FOLLOW  
THE PROPER LOCK-OUT/TAG-OUT PROCEDURES TO ENSURE  
THE PHOTOVOLTAIC SYSTEM UTILITY DISCONNECT SWITCH IS  
OPENED PRIOR TO PERFORMING WORK ON THIS DEVICE  
LOCATION: (IF APPLICABLE)  
SUPPLY SIDE TAP  
LOAD PANEL  
CODE REF: UTILITY

4 **PHOTOVOLTAIC AC DISCONNECT**  
RATED AC OPERATING CURRENT: 25A AC  
NOMINAL OPERATING AC VOLTAGE: 240VAC  
LOCATION: MAIN PANEL  
AC DISCONNECT(S)  
CODE REF: NEC 690.54

5 **RAPID SHUTDOWN  
SWITCH FOR  
SOLAR PV SYSTEM**  
LOCATION: MAIN PANEL (EXTERIOR)  
PV BREAKER (INTERIOR)  
CODE REF: NEC 690.56(C)(3)

6 **WARNING**  
ELECTRICAL SHOCK HAZARD  
TERMINALS ON BOTH LINE AND  
LOAD SIDES MAY BE ENERGIZED  
IN THE OPEN POSITION  
LOCATION: COMBINER PANEL  
AC DISCONNECT  
JUNCTION BOX  
INVERTER(S)  
CODE REF: NEC 690.13(B)

7 **PHOTOVOLTAIC  
SYSTEM METER**  
LOCATION: DEDICATED KWH METER  
CODE REF: NEC 690.4(B) UTILITY

8 **WARNING**  
PHOTOVOLTAIC SYSTEM  
COMBINER PANEL  
DO NOT ADD LOADS  
LOCATION: AC COMBINER PANEL  
CODE REF: NEC 690.13(B)

9 **PHOTOVOLTAIC SYSTEM DC DISCONNECT**  
MAXIMUM VOLTAGE: 480VDC  
MAXIMUM CIRCUIT CURRENT: 15.0ADC  
MAX. RATED OUTPUT CURRENT OF  
THE CHARGE CONTROLLER OR DC-  
TO-DC- CONVERTER (IF INSTALLED) 15.0ADC  
LOCATION: DC DISCONNECT  
INVERTER  
CODE REF: UTILITY

10 **WARNING**  
ELECTRICAL SHOCK HAZARD  
TERMINALS ON BOTH LINE AND  
LOAD SIDES MAY BE ENERGIZED  
IN THE OPEN POSITION  
DC VOLTAGE IS ALWAYS PRESENT  
WHEN SOLAR MODULES ARE  
EXPOSED TO SUNLIGHT  
LOCATION: DC DISCONNECT, COMBINE BOX  
CODE REF: NEC 690.13(B)

11 **SOLAR PV SYSTEM EQUIPPED  
WITH RAPID SHUTDOWN**  
TURN RAPID SHUTDOWN  
SWITCH TO THE "OFF"  
POSITION TO SHUT DOWN  
PV SYSTEM AND REDUCE  
SHOCK HAZARD IN THE  
ARRAY.  
LOCATION: MAIN SERVICE (OUTSIDE COVER)  
CODE REF: NEC 690.12  
NEC 690.56(C)(1)(a)  
YELLOW STICKER

12 **WARNING PHOTOVOLTAIC POWER SOURCE**  
LOCATION: DC CONDUIT  
JUNCTION BOX  
NO MORE THAN 10FT  
CODE REF: NEC 690.31(G)(3)  
NEC 690.31(G)(4)  
REFLECTIVE AND WEATHER RESISTANT

LABEL REQUIRES CAPITALIZED LETTERS WITH A MINIMUM HEIGHT OF 3/8 INCH, WHITE LETTERS ON RED BACKGROUND  
LABELS SHALL BE PLACED ON INTERIOR AND EXTERIOR DC CONDUIT, RACEWAYS, ENCLOSURES, AND CABLE ASSEMBLIES  
EVERY 10 FEET, WITHIN 1 FOOT OF TURNS OR BENDS AND WITHIN 1 FOOT ABOVE AND BELOW PENETRATIONS OF  
ROOF/CEILING ASSEMBLIES, WALLS OR BARRIERS.

13 **CAUTION**  
DUAL POWER SOURCE  
SECOND SOURCE IS  
PHOTOVOLTAIC  
LOCATION: SERVICE METER  
MAIN PANEL

14 **WARNING**  
INVERTER OUTPUT CONNECTION  
DO NOT RELOCATE THIS  
OVERCURRENT DEVICE  
LOCATION: (IF APPLICABLE)  
SERVICE PANEL  
CODE REF: NEC 705.12(7)

15 **PHOTOVOLTAIC SYSTEM  
UTILITY DISCONNECT SYSTEM**  
LOCATION: AC DISCONNECT  
CODE REF: UTILITY

16 **PV SOLAR BREAKER**  
DO NOT RELOCATE THIS  
OVERCURRENT DEVICE  
LOCATION: MAIN PANEL (EXTERIOR)  
PV BREAKER (INTERIOR)  
CODE REF: NEC 705.12(B)(2)(3)(B)



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(1) SOLAREEDGE SE6000H-US  
6.800 kW DC SYSTEM SIZE  
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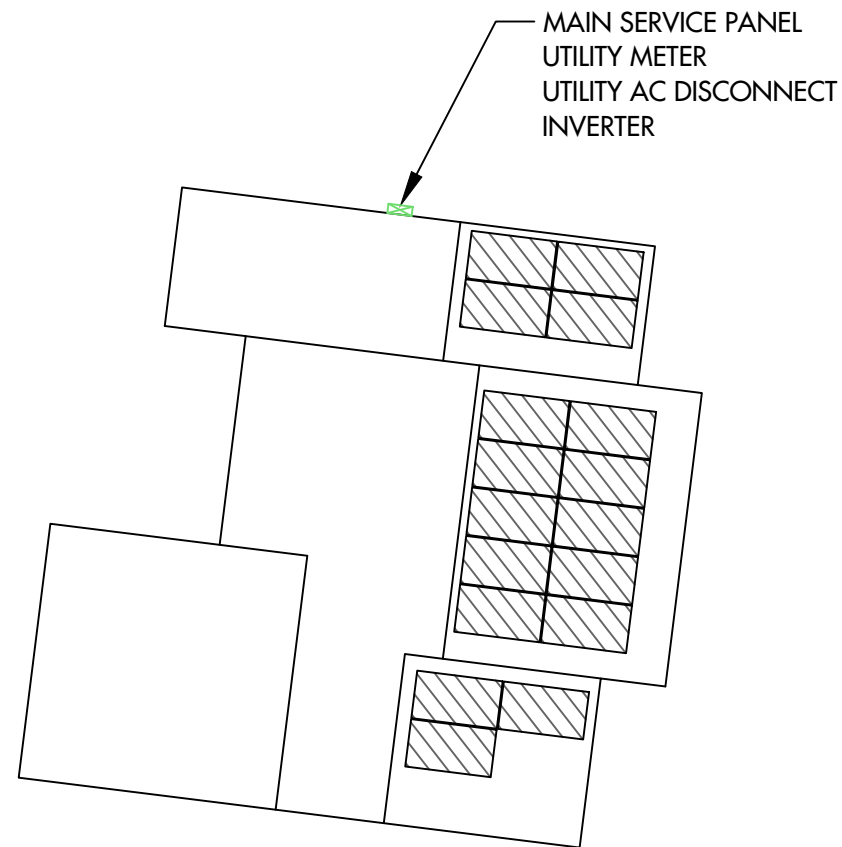
DATE: 4/12/2022  
REV: A  
DRAWN BY: JS

SEAL:

LABELS  
PV 7


# CAUTION

POWER TO THIS BUILDING IS  
SUPPLIED FROM THE FOLLOWING  
SOURCES WITH DISCONNECTS AS  
SHOWN:



DIRECTORY PLAQUE IN  
ACCORDANCE WITH  
NEC690.56(A)(B), 705.10



 **TITAN**  
SOLAR POWER  
525 W BASELINE RD., MESA AZ, 85210  
CONTRACTOR LIC# U.33714

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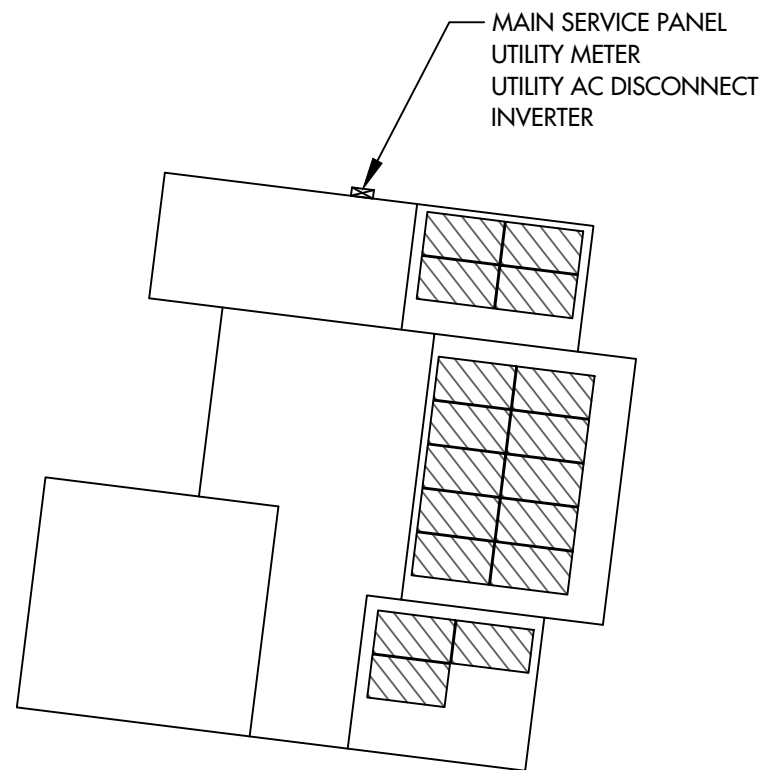
DATE: 4/12/2022  
REV: A  
DRAWN BY: JS

SEAL:

PLACARD  
**PV 8**



# JOB SAFETY PLAN



LOCATION OF NEAREST URGENT CARE FACILITY

NAME:

ADDRESS:

PHONE NUMBER:

NOTES:

- INSTALLER SHALL DRAW IN DESIGNATED SAFETY AREA AROUND HOME
- INSTALLER SHALL UPDATE NAME, ADDRESS, AND PHONE NUMBER OF NEAREST URGENT CARE FACILITY RELATIVE TO THE JOB SITE BEFORE STARTING WORK.

| PRINT NAME | INITIAL | YES | NO |
|------------|---------|-----|----|
|            |         |     |    |
|            |         |     |    |
|            |         |     |    |
|            |         |     |    |
|            |         |     |    |
|            |         |     |    |
|            |         |     |    |
|            |         |     |    |
|            |         |     |    |
|            |         |     |    |

# Single Phase Inverter with HD-Wave Technology

for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US / SE7600H-US / SE10000H-US / SE11400H-US

INVERTERS

12-25  
YEAR  
WARRANTY



## Optimized installation with HD-Wave technology

- Specifically designed to work with power optimizers
- Record-breaking 99% weighted efficiency
- Quick and easy inverter commissioning directly from a smartphone using the SolarEdge SetApp
- Fixed voltage inverter for longer strings
- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- UL1741 SA certified, for CPUC Rule 21 grid compliance
- Small, lightweight, and easy to install both outdoors or indoors
- Built-in module-level monitoring
- Optional: Faster installations with built-in consumption metering (1% accuracy) and production revenue grade metering (0.5% accuracy, ANSI C12.20)

solaredge.com



## Single Phase Inverter with HD-Wave Technology for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US / SE7600H-US / SE10000H-US / SE11400H-US

| MODEL NUMBER                                                              | SE3000H-US                   | SE3800H-US                 | SE5000H-US | SE6000H-US                 | SE7600H-US | SE10000H-US | SE11400H-US                  |     |
|---------------------------------------------------------------------------|------------------------------|----------------------------|------------|----------------------------|------------|-------------|------------------------------|-----|
| APPLICABLE TO INVERTERS WITH PART NUMBER                                  | SEXXXH-XXXXBXX4              |                            |            |                            |            |             |                              |     |
| <b>OUTPUT</b>                                                             |                              |                            |            |                            |            |             |                              |     |
| Rated AC Power Output                                                     | 3000                         | 3800 @ 240V<br>3300 @ 208V | 5000       | 6000 @ 240V<br>5000 @ 208V | 7600       | 10000       | 11400 @ 240V<br>10000 @ 208V | VA  |
| Maximum AC Power Output                                                   | 3000                         | 3800 @ 240V<br>3300 @ 208V | 5000       | 6000 @ 240V<br>5000 @ 208V | 7600       | 10000       | 11400 @ 240V<br>10000 @ 208V | VA  |
| AC Output Voltage Min.-Nom.-Max. (211 - 240 - 264)                        | ✓                            | ✓                          | ✓          | ✓                          | ✓          | ✓           | ✓                            | Vac |
| AC Output Voltage Min.-Nom.-Max. (183 - 208 - 229)                        | -                            | ✓                          | -          | ✓                          | -          | -           | ✓                            | Vac |
| AC Frequency (Nominal)                                                    | 59.3 - 60.5 <sup>1)</sup>    |                            |            |                            |            |             |                              | Hz  |
| Maximum Continuous Output Current @240V                                   | 12.5                         | 16                         | 21         | 25                         | 32         | 42          | 47.5                         | A   |
| Maximum Continuous Output Current @208V                                   | -                            | 16                         | -          | 24                         | -          | -           | 48.5                         | A   |
| Power Factor                                                              | 1, Adjustable - 0.85 to 0.85 |                            |            |                            |            |             |                              |     |
| GFDI Threshold                                                            | 1                            |                            |            |                            |            |             |                              | A   |
| Utility Monitoring, Islanding Protection, Country Configurable Thresholds | Yes                          |                            |            |                            |            |             |                              |     |
| <b>INPUT</b>                                                              |                              |                            |            |                            |            |             |                              |     |
| Maximum DC Power @240V                                                    | 4650                         | 5900                       | 7750       | 9300                       | 11800      | 15500       | 17650                        | W   |
| Maximum DC Power @208V                                                    | -                            | 5100                       | -          | 7750                       | -          | -           | 15500                        | W   |
| Transformer-less, Ungrounded                                              | Yes                          |                            |            |                            |            |             |                              |     |
| Maximum Input Voltage                                                     | 480                          |                            |            |                            |            |             |                              | Vdc |
| Nominal DC Input Voltage                                                  | 380                          |                            |            |                            |            |             |                              | Vdc |
| Maximum Input Current @240V <sup>2)</sup>                                 | 8.5                          | 10.5                       | 13.5       | 16.5                       | 20         | 27          | 30.5                         | Adc |
| Maximum Input Current @208V <sup>2)</sup>                                 | -                            | 9                          | -          | 13.5                       | -          | -           | 27                           | Adc |
| Max. Input Short Circuit Current                                          | 45                           |                            |            |                            |            |             |                              | Adc |
| Reverse-Polarity Protection                                               | Yes                          |                            |            |                            |            |             |                              |     |
| Ground-Fault Isolation Detection                                          | 600ka Sensitivity            |                            |            |                            |            |             |                              |     |
| Maximum Inverter Efficiency                                               | 99                           |                            |            | 99.2                       |            |             |                              | %   |
| CEC Weighted Efficiency                                                   |                              |                            | 99         |                            |            |             | 99 @ 240V<br>98.5 @ 208V     | %   |
| Nighttime Power Consumption                                               | < 2.5                        |                            |            |                            |            |             |                              | W   |

<sup>1)</sup> For other regional settings please contact SolarEdge support  
<sup>2)</sup> A higher current source may be used, the inverter will limit its input current to the values stated

## Single Phase Inverter with HD-Wave Technology for North America

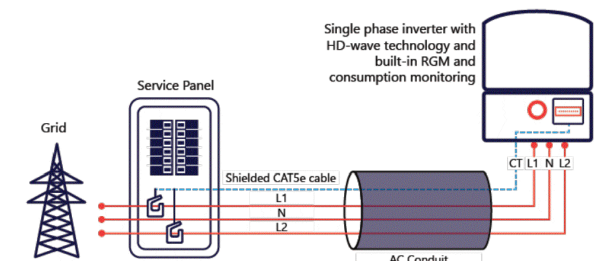
SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US / SE7600H-US / SE10000H-US / SE11400H-US

| MODEL NUMBER                                     | SE3000H-US                                                                                | SE3800H-US  | SE5000H-US  | SE6000H-US  | SE7600H-US                          | SE10000H-US | SE11400H-US |         |
|--------------------------------------------------|-------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------------------------------|-------------|-------------|---------|
| <b>ADDITIONAL FEATURES</b>                       |                                                                                           |             |             |             |                                     |             |             |         |
| Supported Communication Interfaces               | RS485, Ethernet, ZigBee (optional), Cellular (optional)                                   |             |             |             |                                     |             |             |         |
| Revenue Grade Metering, ANSI C12.20              | Optional <sup>1)</sup>                                                                    |             |             |             |                                     |             |             |         |
| Consumption metering                             | With the SetApp mobile application using Built-in Wi-Fi Access Point for Local Connection |             |             |             |                                     |             |             |         |
| Inverter Commissioning                           | Automatic Rapid Shutdown upon AC Grid Disconnect                                          |             |             |             |                                     |             |             |         |
| Rapid Shutdown - NEC 2014 and 2017 690.12        | Automatic Rapid Shutdown upon AC Grid Disconnect                                          |             |             |             |                                     |             |             |         |
| <b>STANDARD COMPLIANCE</b>                       |                                                                                           |             |             |             |                                     |             |             |         |
| Safety                                           | UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCI according to T.I.L. M-07             |             |             |             |                                     |             |             |         |
| Grid Connection Standards                        | IEEE1547, Rule 21, Rule 14 (H)                                                            |             |             |             |                                     |             |             |         |
| Emissions                                        | FCC Part 15 Class B                                                                       |             |             |             |                                     |             |             |         |
| <b>INSTALLATION SPECIFICATIONS</b>               |                                                                                           |             |             |             |                                     |             |             |         |
| AC Output Conduit Size / AWG Range               | 1" Maximum / 14-6 AWG                                                                     |             |             |             | 1" Maximum / 14-4 AWG               |             |             |         |
| DC Input Conduit Size / # of Strings / AWG Range | 1" Maximum / 1-2 strings / 14-6 AWG                                                       |             |             |             | 1" Maximum / 1-3 strings / 14-6 AWG |             |             |         |
| Dimensions with Safety Switch (HxWxD)            | 17.7 x 14.6 x 6.8 / 450 x 370 x 174                                                       |             |             |             | 21.3 x 14.6 x 7.3 / 540 x 370 x 185 |             |             |         |
| Weight with Safety Switch                        | 22 / 10                                                                                   | 25.1 / 11.4 | 26.2 / 11.9 | 38.8 / 17.6 |                                     |             |             |         |
| Noise                                            | < 25                                                                                      |             |             |             |                                     |             |             | < 50    |
| Cooling                                          | Natural Convection                                                                        |             |             |             |                                     |             |             |         |
| Operating Temperature Range                      | -40 to +140 / -40 to +60 <sup>1)</sup>                                                    |             |             |             |                                     |             |             | °F / °C |
| Protection Rating                                | NEMA 4X (Inverter with Safety Switch)                                                     |             |             |             |                                     |             |             |         |

<sup>1)</sup> Inverter with Revenue Grade Meter P/N: SExxxH-US000BNC4. Inverter with Revenue Grade Production and Consumption Meter P/N: SExxxH-US000BN4. For consumption metering, current transformers should be ordered separately. SEACT0750-200NA-20 or SEACT0750-400NA-20. 20 units per box  
<sup>2)</sup> Full power up to at least 50°C / 122°F; for power de-rating information refer to: <https://www.solaredge.com/sites/default/files/se-temperature-derating-note-na.pdf>

## How to Enable Consumption Monitoring

By simply wiring current transformers through the inverter's existing AC conduits and connecting them to the service panel, homeowners will gain full insight into their household energy usage helping them to avoid high electricity bills



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**TITAN**  
SOLAR POWER  
525 W BASELINE RD., MESA AZ, 85210  
CONTRACTOR LIC# U.33714

HOMEGARDNER, JAMES RESIDENCE  
145 BARCLAY DRIVE, ANGIER, NC, 27501  
LAT:35.468939, LON:-78.681378  
TSP120476

(17) Q PEAK DUO BLK ML G10+ 400W  
(1) SOLAREEDGE SE6000H-US  
6.800 kW DC SYSTEM SIZE  
6.000 kW AC SYSTEM SIZE

DATE: 4/12/2022  
REV: A  
DRAWN BY: JS

SEAL:

EQUIPMENT  
SPECIFICATIONS  
**PV 10**



Intertek  
3933 US Route 11  
Cortland, NY 13045  
Telephone: 607-753-7311  
www.intertek.com

Subject: ETL Evaluation of SolarEdge Products to Rapid Shutdown Requirements

To, whom it may concern

This letter represents the testing results of the below listed products to the requirements contained in the following standards:

The evaluation was done on the PV Rapid Shutdown System (PVRSS), and covers installations consisting of optimizers and inverters with part numbers listed below.

The testing done has verified that controlled conductors are limited to:

- Not more than 30 volts and 240 voltamperes within 30 seconds of rapid shutdown initiation outside the array.
- Not more than 80 volts and 240 voltamperes within 30 seconds of rapid shutdown initiation inside the array.

The rapid shutdown initiation is performed by either disconnecting the AC feed to the inverter, or – if the inverter DC Safety switch is readily accessible – by turning off the DC Safety switch.

**Applicable products:**

- (1) Power optimizers:  
PB followed by 001 to 350; followed by -AOB or -TFI.  
OP followed by 001 to 500; followed by -LV, -MV, -IV or -EV.  
P followed by 001 to 1100.  
SP followed by 001 to 350.  
When optimizers are connected to 2 or more modules in series, the max input voltage may exceed 80V. Following the implementation of the NEC 2017 rapid shutdown value of 80V max inside of the array at the beginning of 2019, modules exceeding this combined input max voltage will be required to use optimizers with parallel inputs. Also meeting NEC 2020 rapid shutdown requirement.
- (2) 1 -PH Inverters  
SE3000A-US / SE3800A-US / SE5000A-US / SE6000A-US / SE7600A-US / SE10000A-US / SE11400A-US / SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US / SE7600H-US / SE10000H-US / SE11400H-US when the following label is labeled on the side of the inverter:

Inverter part number may be followed by a suffix.

- (3) 3 -PH Inverters



Intertek  
3933 US Route 11  
Cortland, NY 13045  
Telephone: 607-753-7311  
www.intertek.com

SE9KUS / SE10KUS / SE14.4KUS / SE16.7kUS / SE17.3KUS / SE20KUS / SE24KUS / SE30KUS / SE33.3KUS / SE40KUS / SE43.2KUS / SE50KUS / SE66.6KUS / SE80KUS / SE85KUS / SE100KUS / SE120KUS; when the following label is labeled on the side of the inverter:

Please note, this Letter Report does not represent authorization for the use of any Intertek certification marks.

**Brand Name(s)** SolarEdge  
**Relevant Standard(s)** UL 1741, UL 1741 CRD for rapid shutdown  
**Verification Issuing Office** National Electric Code, 2020, Section 690.12 requirement for rapid shutdown  
3933 US Route 11, Cortland, NY 13045

NRTL Disclaimer, Different for each NRTL – Example: "This Verification is for the exclusive use of NRTL's Client and is provided pursuant to the agreement between NRTL and its Client. NRTL's responsibility and liability are limited to the terms and conditions of the agreement. NRTL assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Verification. Only the Client is authorized to copy or distribute this Verification. Any use of the NRTL name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by NRTL. The observations and test results referenced from this Verification are relevant only to the sample tested. This Verification by itself does not imply that the material, product, or service is or has ever been under an NRTL certification program."

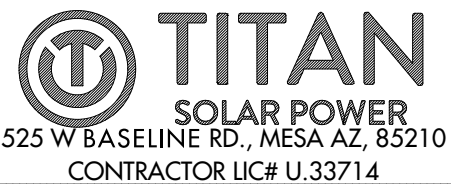
Signature:

Name: Mukund Rana  
Position: Staff Engineer  
Date: 5/17/2021



Intertek  
3933 US Route 11  
Cortland, NY 13045  
Telephone: 607-753-7311  
www.intertek.com

| Date                       | Engineer / Reviewer | Description                                                                                                                                                                                                                                                                             |
|----------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5/17/2021<br>G104683664CRT | Dishant Patel       | Added New 3-PH Inverter model SE50KUS, SE80KUS, SE85KUS and SE120KUS.                                                                                                                                                                                                                   |
|                            | Mukund Rana         | Updated Power optimizers from "P followed by 001 to 960" to "P followed by 001 to 1100"<br><br>Updated NEC standard from "National Electric Code, 2017, Section 690.12 requirement for rapid shutdown" To "National Electric Code, 2020, Section 690.12 requirement for rapid shutdown" |



HOMEGARDNER, JAMES RESIDENCE  
145 BARCLAY DRIVE , ANGIER, NC, 27501  
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TSP120476

(17) Q PEAK DUO BLK ML G10+ 400W  
(1) SOLAREEDGE SE6000H-US  
6.800 kW DC SYSTEM SIZE  
6.000 kW AC SYSTEM SIZE

DATE: 4/12/2022  
REV: A  
DRAWN BY: JS

SEAL:

EQUIPMENT SPECIFICATIONS  
**PV 11**

# Power Optimizer

For North America

P320 / P340 / P370 / P400 / P401 / P405 / P485 / P505



POWER OPTIMIZER

## PV power optimization at the module-level

- Specifically designed to work with SolarEdge inverters
- Up to 25% more energy
- Superior efficiency (99.5%)
- Mitigates all types of module mismatch losses, from manufacturing tolerance to partial shading
- Flexible system design for maximum space utilization
- Fast installation with a single bolt
- Next generation maintenance with module-level monitoring
- Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)
- Module-level voltage shutdown for installer and firefighter safety

solaredge.com



## Power Optimizer For North America

P320 / P340 / P370 / P400 / P401 / P405 / P485 / P505

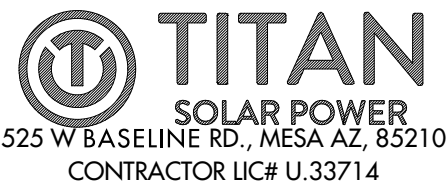
| Optimizer model (typical module compatibility)                                                                  | P320 (for 60-cell modules)       | P340 (for high-power 60-cell modules) | P370 (for higher-power 60 and 72-cell modules) | P400 (for 72 & 96-cell modules)    | P401 (for high-power 60 and 72 cell modules) | P405 (for high-voltage modules) | P485 (for high-voltage modules) | P505 (for higher current modules) |                                                      |                                                           |
|-----------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------------------------|------------------------------------------------|------------------------------------|----------------------------------------------|---------------------------------|---------------------------------|-----------------------------------|------------------------------------------------------|-----------------------------------------------------------|
| <b>INPUT</b>                                                                                                    |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   |                                                      |                                                           |
| Rated Input DC Power <sup>(1)</sup>                                                                             | 320                              | 340                                   | 370                                            | 400                                | 405                                          | 485                             | 505                             |                                   | W                                                    |                                                           |
| Absolute Maximum Input Voltage (Voc at lowest temperature)                                                      | 48                               |                                       | 60                                             | 80                                 | 60                                           | 125 <sup>(2)</sup>              | 83 <sup>(3)</sup>               |                                   | Vdc                                                  |                                                           |
| MPPT Operating Range                                                                                            | 8 - 48                           |                                       | 8 - 60                                         | 8 - 80                             | 8-60                                         | 12.5 - 105                      | 12.5 - 83                       |                                   | Vdc                                                  |                                                           |
| Maximum Short-Circuit Current (IsC)                                                                             |                                  | 11                                    |                                                | 10.1                               | 11.75                                        | 11                              | 14                              |                                   | Adc                                                  |                                                           |
| Maximum Efficiency                                                                                              |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   | 99.5                                                 | %                                                         |
| Weighted Efficiency                                                                                             |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   | 98.8                                                 | %                                                         |
| Overvoltage Category                                                                                            |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   | I                                                    |                                                           |
| <b>OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREEDGE INVERTER)</b>                     |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   |                                                      |                                                           |
| Maximum Output Current                                                                                          |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   | 15                                                   | Adc                                                       |
| Maximum Output Voltage                                                                                          |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   | 60                                                   | Vdc                                                       |
| <b>OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREEDGE INVERTER OR SOLAREEDGE INVERTER OFF)</b> |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   |                                                      |                                                           |
| Safety Output Voltage per Power Optimizer                                                                       |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   | 1 ± 0.1                                              | Vdc                                                       |
| <b>STANDARD COMPLIANCE</b>                                                                                      |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   |                                                      |                                                           |
| EMC                                                                                                             |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   | FCC Part15 Class 3, IEC61000-5-2, IEC61000-6-3       |                                                           |
| Safety                                                                                                          |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   | IEC62109-1 (class I safety), U_1741                  |                                                           |
| Material                                                                                                        |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   | UL94 V-0, UV Resistant                               |                                                           |
| RoHS                                                                                                            |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   | Yes                                                  |                                                           |
| <b>INSTALLATION SPECIFICATIONS</b>                                                                              |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   |                                                      |                                                           |
| Maximum Allowed System Voltage                                                                                  |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   | 1000                                                 | Vdc                                                       |
| Compatible Inverters                                                                                            |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   | All SolarEdge Single Phase and Three Phase Inverters |                                                           |
| Dimensions (W x L x H)                                                                                          | 129 x 153 x 27.5 / 5.1 x 6 x 1.1 | 129 x 153 x 33.5 / 5.1 x 6 x 1.3      | 129 x 153 x 29.5 / 5.1 x 6 x 1.16              | 129 x 159 x 49.5 / 5.1 x 6.3 x 1.9 | 129 x 162 x 59 / 5.1 x 6.4 x 2.3             |                                 |                                 |                                   |                                                      | mm / in                                                   |
| Weight (including cables)                                                                                       | 630 / 1.4                        | 750 / 1.7                             | 655 / 1.5                                      | 845 / 1.9                          | 1064 / 2.3                                   |                                 |                                 |                                   |                                                      | gr / lb                                                   |
| Input Connector                                                                                                 |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   | MC4 <sup>(3)</sup>                                   | Single or dual MC4 <sup>(3)(4)</sup> / MC4 <sup>(3)</sup> |
| Input Wire Length                                                                                               |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   | 0.16 / 0.52                                          | m / ft                                                    |
| Output Wire Type / Connector                                                                                    |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   | Double Insulated / MC4                               |                                                           |
| Output Wire Length                                                                                              | 0.9 / 2.95                       |                                       |                                                |                                    |                                              |                                 |                                 |                                   | 1.2 / 3.9                                            | m / ft                                                    |
| Operating Temperature Range <sup>(5)</sup>                                                                      |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   | -40 - +85 / -40 - +185                               | °C / °F                                                   |
| Protection Rating                                                                                               |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   | IP68 / NEMA6P                                        |                                                           |
| Relative Humidity                                                                                               |                                  |                                       |                                                |                                    |                                              |                                 |                                 |                                   | C - 100                                              | %                                                         |

(1) Rated power of the module at STC will not exceed the optimizer "Rated Input DC Power". Modules with up to +5% power tolerance are allowed.  
 (2) NEC 2017 requires max input voltage be not more than 80V.  
 (3) For other connector types please contact SolarEdge.  
 (4) For dual version for parallel connection of two modules use P485-4NMDMM. In the case of an odd number of PV modules in one string, installing one P485 dual version power optimizer connected to one PV module. When connecting a single module seal the unused input connectors with the supplied pair of seals.  
 (5) For ambient temperature above +85°C / +185°F power derating is applied. Refer to Power Optimizers Temperature Derating Technical Note for more details.

| PV System Design Using a SolarEdge Inverter <sup>(6)(7)</sup> | Single Phase HD-Wave                    | Single phase | Three Phase for 208V grid | Three Phase for 277/480V grid |     |
|---------------------------------------------------------------|-----------------------------------------|--------------|---------------------------|-------------------------------|-----|
| Minimum String Length (Power Optimizers)                      | P320, P340, P370, P400, P401            | 8            | 10                        | 18                            |     |
|                                                               | P405, P485, P505                        | 6            | 8                         | 14                            |     |
| Maximum String Length (Power Optimizers)                      |                                         | 25           | 25                        | 50 <sup>(8)</sup>             |     |
| Maximum Power per String                                      | 5700 (6000 with SE7600-US - SE11400-US) | 5250         | 6000 <sup>(9)</sup>       | 12750 <sup>(10)</sup>         | W   |
| Parallel Strings of Different Lengths or Orientations         |                                         |              |                           |                               | Yes |

(6) For detailed string sizing information refer to: [http://www.solaredge.com/sites/default/files/string\\_sizing\\_na.pdf](http://www.solaredge.com/sites/default/files/string_sizing_na.pdf)  
 (7) It is not allowed to mix P405/P485/P505 with P320/P340/P370/P400/P401 in one string.  
 (8) A string with more than 30 optimizers does not meet NEC rapid shutdown requirements; safety voltage will be above the 30V requirement.  
 (9) For 208V grid, it is allowed to install up to 7,200W per string when the maximum power difference between each string is 1,000W.  
 (10) For 277/480V grid, it is allowed to install up to 15,000W per string when the maximum power difference between each string is 2,000W.

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(17) Q PEAK DUO BLK ML G10+ 400W  
 (1) SOLAREEDGE SE6000H-US  
 6.800 kW DC SYSTEM SIZE  
 6.000 kW AC SYSTEM SIZE

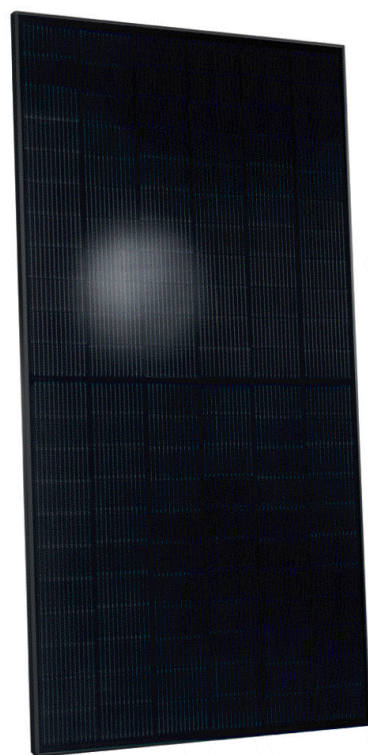
DATE: 4/12/2022  
 REV: A  
 DRAWN BY: JS

SEAL:

EQUIPMENT SPECIFICATIONS  
**PV 12**



# TITAN SOLAR PANEL



Q CELLS

**BREAKING THE 20% EFFICIENCY BARRIER**  
Q-ANTUM DUO Z Technology with zero gap cell layout boosts module efficiency up to 20.9%.

**INDUSTRY'S MOST THOROUGH TESTING**  
Q CELLS is the first solar module manufacturer to pass the most comprehensive quality programme in the industry:  
The new "Quality Controlled PV" of the independent certification institute TÜV Rheinland.

**ENDURING HIGH PERFORMANCE**  
Long-term yield security with Anti LID Technology, Anti PID Technology<sup>1</sup>, Hot-Spot Protect and Traceable Quality Tra.Q™.

**EXTREME WEATHER RATING**  
High-tech aluminum alloy frame, certified for high snow (5400 Pa) and wind loads (4000 Pa).

**A RELIABLE INVESTMENT**  
Inclusive 25-year product warranty and 25-year linear performance warranty<sup>2</sup>.

**INNOVATIVE ALL-WEATHER TECHNOLOGY**  
Optimal yields, whatever the weather with excellent low-light and temperature behavior.

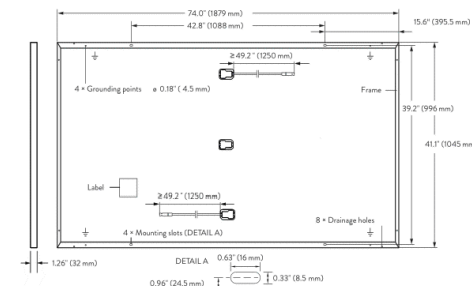
<sup>1</sup> APT test conditions according to IEC / TS 62804-1:2015, method A (-1500 V, 96 h)  
<sup>2</sup> See data sheet on rear for further information.

**Q PEAK DUO BLK ML-G10+**  
395-400 **ENDURING HIGH PERFORMANCE**

THE IDEAL SOLUTION FOR:  
Rooftop arrays on residential buildings

## MECHANICAL SPECIFICATION

|              |                                                                                                           |
|--------------|-----------------------------------------------------------------------------------------------------------|
| FORMAT       | 74.0 in × 41.1 in × 1.26 in (including frame)<br>(1879 mm × 1045 mm × 32 mm)                              |
| WEIGHT       | 48.5 lbs (22.0 kg)                                                                                        |
| FRONT COVER  | 0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology                             |
| BACK COVER   | Composite film                                                                                            |
| FRAME        | Black anodized aluminum                                                                                   |
| CELL         | 6 × 22 monocrystalline Q-ANTUM solar half cells                                                           |
| JUNCTION BOX | 2.09-3.98 in × 1.26-2.36 in × 0.59-0.71 in<br>(53-101 mm × 32-60 mm × 15-18 mm), IP67, with bypass diodes |
| CABLE        | 4mm <sup>2</sup> Solar cable; (+) ≥ 49.2 in (1250 mm), (-) ≥ 49.2 in (1250 mm)                            |
| CONNECTOR    | Stäubli MC4; IP68                                                                                         |

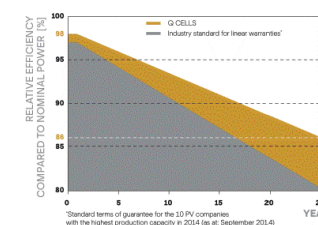


## ELECTRICAL CHARACTERISTICS

| POWER CLASS                                                                                            |                      | 385   | 390   | 395   | 400   | 405   |
|--------------------------------------------------------------------------------------------------------|----------------------|-------|-------|-------|-------|-------|
| <b>MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC</b> <sup>1</sup> (POWER TOLERANCE +5 W / -0 W) |                      |       |       |       |       |       |
| POWER AT MPP                                                                                           | P <sub>MPP</sub> [W] | 385   | 390   | 395   | 400   | 405   |
| SHORT CIRCUIT CURRENT                                                                                  | I <sub>SC</sub> [A]  | 11.04 | 11.07 | 11.10 | 11.14 | 11.17 |
| OPEN CIRCUIT VOLTAGE                                                                                   | V <sub>OC</sub> [V]  | 45.19 | 45.23 | 45.27 | 45.30 | 45.34 |
| CURRENT AT MPP                                                                                         | I <sub>MPP</sub> [A] | 10.59 | 10.65 | 10.71 | 10.77 | 10.83 |
| VOLTAGE AT MPP                                                                                         | V <sub>MPP</sub> [V] | 36.36 | 36.62 | 36.88 | 37.13 | 37.39 |
| <b>EFFICIENCY</b>                                                                                      | η [%]                | ≥19.6 | ≥19.9 | ≥20.1 | ≥20.4 | ≥20.6 |
| <b>MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT</b> <sup>2</sup>                           |                      |       |       |       |       |       |
| POWER AT MPP                                                                                           | P <sub>MPP</sub> [W] | 288.8 | 292.6 | 296.3 | 300.1 | 303.8 |
| SHORT CIRCUIT CURRENT                                                                                  | I <sub>SC</sub> [A]  | 8.90  | 8.92  | 8.95  | 8.97  | 9.00  |
| OPEN CIRCUIT VOLTAGE                                                                                   | V <sub>OC</sub> [V]  | 42.62 | 42.65 | 42.69 | 42.72 | 42.76 |
| CURRENT AT MPP                                                                                         | I <sub>MPP</sub> [A] | 8.35  | 8.41  | 8.46  | 8.51  | 8.57  |
| VOLTAGE AT MPP                                                                                         | V <sub>MPP</sub> [V] | 34.59 | 34.81 | 35.03 | 35.25 | 35.46 |

<sup>1</sup> Measurement tolerances P<sub>MPP</sub> ±3%; I<sub>SC</sub>, V<sub>OC</sub> ±5% at STC: 1000 W/m<sup>2</sup>, 25 ±2 °C, AM 1.5 according to IEC 60904-3 • 7800 W/m<sup>2</sup>, NMOT, spectrum AM 1.5

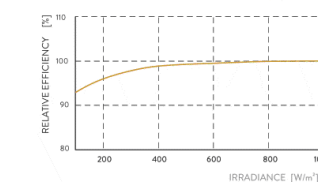
## Q CELLS PERFORMANCE WARRANTY



At least 98 % of nominal power during first year. Thereafter max. 0.5% degradation per year. At least 93.5% of nominal power up to 10 years. At least 86 % of nominal power up to 25 years.

All data within measurement tolerances Full warranties in accordance with the warranty terms of the Q CELLS sales organisation of your respective country.

## PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m<sup>2</sup>)

## TEMPERATURE COEFFICIENTS

|                                             |         |       |                                            |           |                       |
|---------------------------------------------|---------|-------|--------------------------------------------|-----------|-----------------------|
| TEMPERATURE COEFFICIENT OF I <sub>SC</sub>  | α [%/K] | +0.04 | TEMPERATURE COEFFICIENT OF V <sub>OC</sub> | β [%/K]   | -0.27                 |
| TEMPERATURE COEFFICIENT OF P <sub>MPP</sub> | γ [%/K] | -0.34 | NOMINAL MODULE OPERATING TEMPERATURE       | NMOT [°F] | 109 ± 5.4 (43 ± 3 °C) |

## PROPERTIES FOR SYSTEM DESIGN

|                                                                   |                              |                                                 |                                            |
|-------------------------------------------------------------------|------------------------------|-------------------------------------------------|--------------------------------------------|
| Maximum System Voltage V <sub>sys</sub> [V]                       | 1000 (IEC) / 1000 (UL)       | PV module classification                        | Class II                                   |
| Maximum Series Fuse Rating [A DC]                                 | 20                           | Fire Rating based on ANSI / UL 61730            | TYPE 2                                     |
| Max. Design Load, Push / Pull <sup>3</sup> [lbs/ft <sup>2</sup> ] | 75 (3600 Pa) / 55 (2660 Pa)  | Permitted Module Temperature on Continuous Duty | -40 °F up to +185 °F (-40 °C up to +85 °C) |
| Max. Test Load, Push / Pull <sup>3</sup> [lbs/ft <sup>2</sup> ]   | 113 (5400 Pa) / 84 (4000 Pa) |                                                 |                                            |

<sup>3</sup> See Installation Manual

## QUALIFICATIONS AND CERTIFICATES

UL 61730, CE-compliant, Quality Controlled PV - TÜV Rheinland, IEC 61215:2016, IEC 61730:2016, U.S. Patent No. 9,893,215 (solar cells), QCPV Certification ongoing.



## PACKAGING INFORMATION

|                      |                    |                    |                    |                    |            |            |            |
|----------------------|--------------------|--------------------|--------------------|--------------------|------------|------------|------------|
| Horizontal packaging | 76.4 in<br>1940 mm | 43.3 in<br>1100 mm | 48.0 in<br>1220 mm | 1656 lbs<br>751 kg | 24 pallets | 24 pallets | 32 modules |
|----------------------|--------------------|--------------------|--------------------|--------------------|------------|------------|------------|

Note: Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product.



400 Spectrum Center Drive, Suite 1400, Irvine, CA 92618, USA  
TEL: +1 949 748 5996  
EMAIL: sales@q-cells.com



525 W Baseline Rd., Mesa, AZ, 85210  
TEL: 855.SAY.SOLAR  
EMAIL: info@titansolarpower.com



**TITAN SOLAR POWER**  
525 W BASELINE RD., MESA AZ, 85210  
CONTRACTOR LIC# U.33714

HOMEGARDNER, JAMES RESIDENCE  
145 BARCLAY DRIVE, ANGIER, NC, 27501  
LAT:35.468939, LON:-78.681378  
TSP120476

(17) Q PEAK DUO BLK ML G10+ 400W  
(1) SOLAREEDGE SE6000H-US  
6.800 kW DC SYSTEM SIZE  
6.000 kW AC SYSTEM SIZE

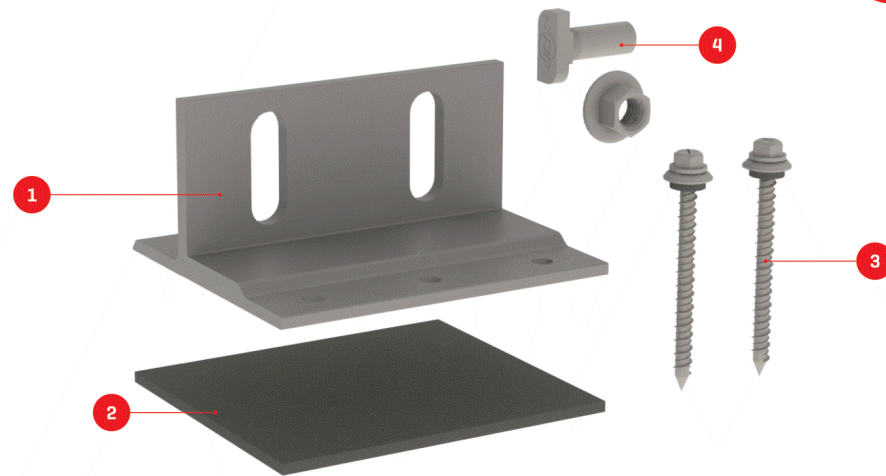
DATE: 4/12/2022  
REV: A  
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SEAL:

EQUIPMENT SPECIFICATIONS  
**PV 13**

Specifications subject to technical change © Q CELLS Q PEAK DUO BLK ML-G10+-395-405-2021-05\_Rev01\_NA

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Formerly Everest Solar Systems



# Splice Foot X

Patent Pending

## TECHNICAL SHEET

| Item Number | Description          | Part Number                       |
|-------------|----------------------|-----------------------------------|
| 1           | Splice Foot X        | 4000113   Splice Foot X Kit, Mill |
| 2           | K2 FlexFlash Butyl   |                                   |
| 3           | M5 x 60 lag screws   |                                   |
| 4           | T-Bolt & Hex Nut Set |                                   |

### Technical Data

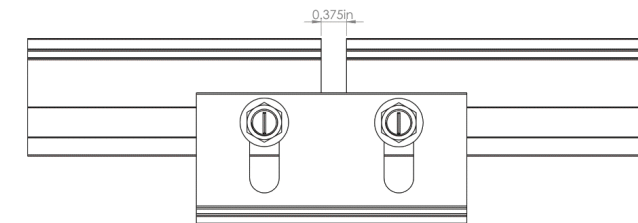
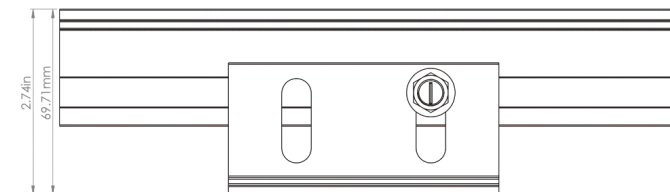
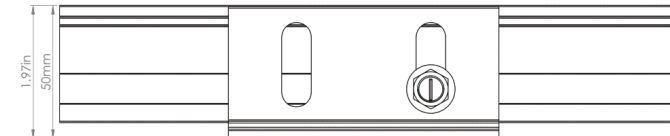
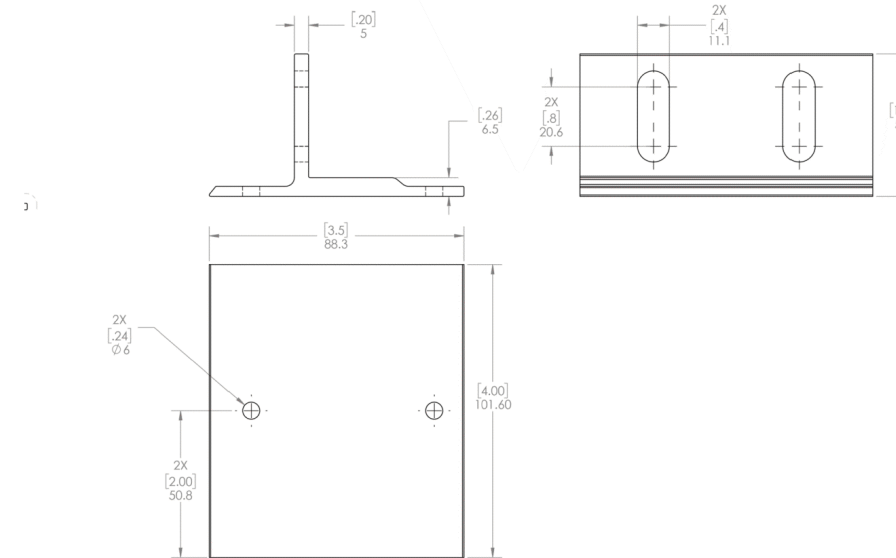
| Splice Foot X   |                                        |
|-----------------|----------------------------------------|
| Roof Type       | Composition shingle                    |
| Material        | Aluminum with stainless steel hardware |
| Finish          | Mill                                   |
| Roof Connection | M5 x 60 lag screws                     |
| Code Compliance | UL 2703                                |
| Compatibility   | CrossRail 44-X, 48-X, 48-XL, 80        |

k2-systems.com

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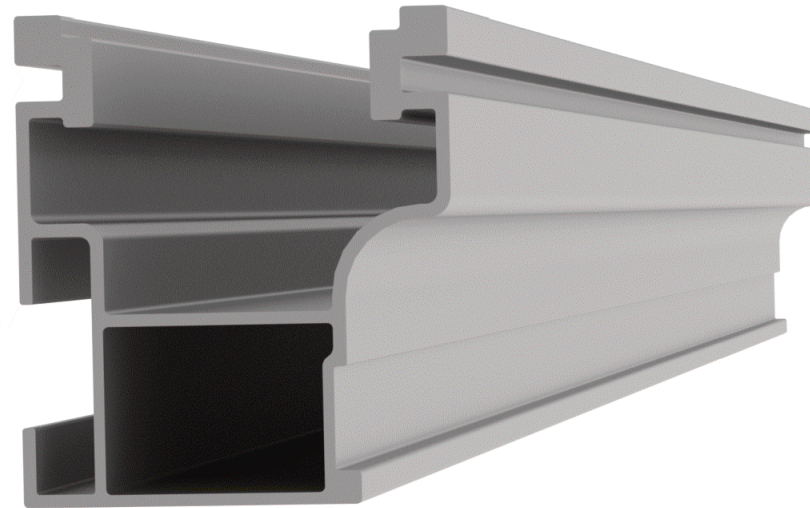
Units: [in] mm



k2-systems.com



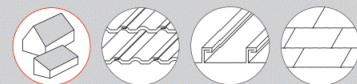
**NEW!**



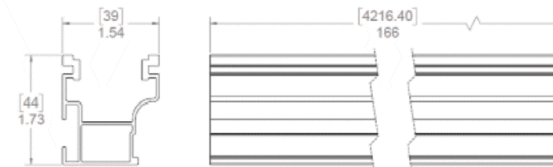
**NEW PRODUCT**

**CrossRail 44-X**

- ▶ Optimized rail profile
- ▶ One rail for all markets
- ▶ Built-in wire management
- ▶ Maintains same structural integrity as 48-X
- ▶ Tested up to 200 mph winds
- ▶ Tested up to 100 PSF snow loads



| Part Number | Description                 |
|-------------|-----------------------------|
| 4000019     | CrossRail 44-X 166", Mill   |
| 4000020     | CrossRail 44-X 166", Dark   |
| 4000021     | CrossRail 44-X 180", Mill   |
| 4000022     | CrossRail 44-X 180", Dark   |
| 4000051     | RailConn Set, CR 44-X, Mill |
| 4000052     | RailConn Set, CR 44-X, Dark |
| 4000067     | End Cap, Black, CR 44-X     |



[www.everest-solarsystems.com](http://www.everest-solarsystems.com)  
 CrossRail 44-X Product Sheet US01 | 0520 · Subject to change · Product illustrations are exemplary and may differ from the original.

## Recommended OCPD Size per Grid

| Inverter    | Maximum Output Current (A) | Minimum Fuse Rating (A) | Maximum Fuse Rating (A) |
|-------------|----------------------------|-------------------------|-------------------------|
| SE3000H-US  | 12.5                       | 20                      | 50                      |
| SE3800H-US  | 16                         | 20                      | 50                      |
| SE5000H-US  | 24 @ 208V<br>21 @ 240V     | 30                      | 50                      |
| SE6000H-US  | 24 @ 208V<br>25 @ 240V     | 30 @ 208V<br>35 @ 240V  | 50                      |
| SE7600H-US  | 32                         | 40                      | 50                      |
| SE10000H-US | 42                         | 60                      | 80                      |
| SE11400H-US | 48.5 @ 208V<br>47.5 @ 240V | 70 @ 208V<br>60 @ 240V  | 80                      |

*SolarEdge Single Phase Inverter with HD-Wave Technology Installation MAN-01-00541-1.1*