Building Codes: 2017 NEC, 2018 NORTH CAROLINA RESIDENTIAL CODE, 2018 NORTH CAROLINA FIRE CODE, 2018 NORTH CAROLINA BUILDING CODE and AHJ Amendments

NOTICE TO CONTRACTOR
All construction must comply with current NC Building Codes and is subject to field inspection and verification.
APPROVED
Limited building only review
Permit holder responsible for full compliance with the code
06/14/2023
Harnett COUNTY NORTH CAROLINA

NANCE, WILLIAM PV SYSTEM
157 BEACON LANE .
CAMERON, NC, 28326
APN: 099565 0036 01
JURISDICTION: HARNETT COUNTY (NC)

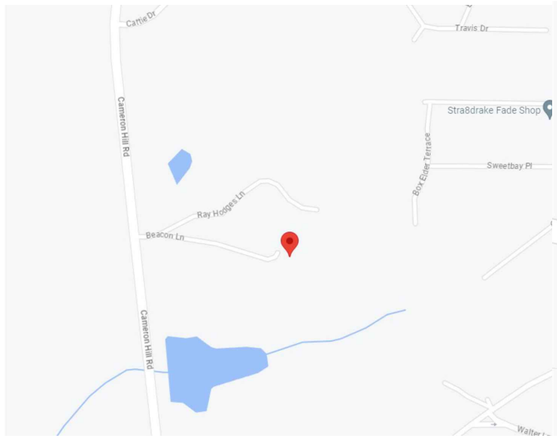
GENERAL INFORMATION

SYSTEM SIZE:	10.000 kW-DC-STC
	7.600 kW-AC
ROOF PITCHED:	25 DEGREES
INVERTER:	(1) SOLAREDGE SE7600H-US W/ S440 OPTIMIZERS
MODULES:	(25) HY-DH108P8-400B
STRINGS:	(1) x 14 (1) x 11 MODULE SERIES STRINGS
ELECTRICAL SERVICE RATING:	200A
PV SYSTEM OVERCURRENT RATING:	40A
PV SYSTEM DISCONNECT SWITCH:	EATON DG222URB (60A / 2P)
ROOF TYPE:	GROUND H
ROOF FRAMING:	ENGINEERED TRUSS
RACKING/RAILING:	XR1000 / XR1000 RAIL CANTILEVER
ATTACHMENT METHOD:	HELICAL PILE PACKAGE - U.S. HELICAL
ROOF ATTACHMENT :	HELICAL PILE PACKAGE - U.S. HELICAL

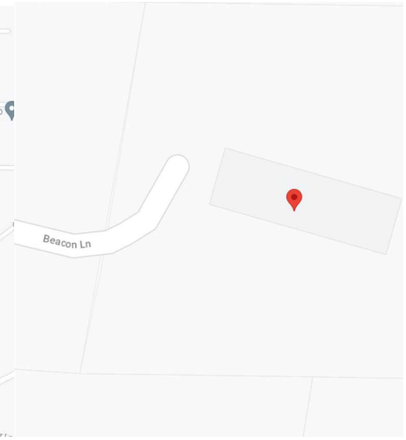
TABLE OF CONTENTS

REQUIRED INFORMATION	SHEET NAME	SHEET NUMBER
SITE INFORMATION	COVER PAGE	PV 1
MODULE AND EQUIPMENT LAYOUT	SITE PLAN	PV 2
LOCATION & QUANTITY OF PACKING & STANDOFFS	PV LAYOUT	PV 3
RACKING LOAD & UPLIFT CALCULATIONS	PV LAYOUT	PV 3
ROOF ATTACHMENT DETAILS	DETAILS	PV 4
ELECTRICAL 1 LINE DIAGRAM	ONE LINE	PV 5
ELECTRICAL 3 LINE DIAGRAM	THREE LINE	PV 6
OCP & WIRE SIZING CALCULATIONS	1 & 3 LINE	PV 5 & 6
ARRAY & INVERTER ELECTRICAL SPECIFICATIONS	1 & 3 LINE	PV 5 & 6
EQUIPMENT SPECIFICATIONS	1 & 3 LINE	PV 5 & 6
LABEL NOTES	LABELS	PV 7
PV EQUIPMENT LABELING DETAIL	LABELS	PV 7
DIRECTORY LABEL	PLACARD	PV 8
JOB SAFETY PLAN	SAFETY PLAN	PV 9
PV EQUIPMENT SPECIFICATIONS	EQUIPMENT SPEC.	PV 10 - 16
DATA SHEETS & ADDITIONAL INFORMATION	SUPPLEMENTAL MATERIAL	

VICINITY MAP
SCALE: NTS



AERIAL MAP
SCALE: NTS



NORTH CAROLINA PROFESSIONAL SEAL 050832 ENGINEER JAMES R. VINCI
5.22.2023
STRUCTURAL ONLY
V&A Structural Engineers
vincise.com

NOTES

EQUIPMENT LOCATION
1. ALL EQUIPMENT SHALL MEET MINIMUM SETBACKS AS REQUIRED BY NEC 110.26.
2. 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).
3. JUNCTION AND PULL BOXES PERMITTED INSTALLED UNDER PV MODULES ACCORDING TO NEC 690.34.
4. ADDITIONAL AC DISCONNECT(S) SHALL BE PROVIDED WHERE THE INVERTER IS NOT WITHIN SIGHT OF THE AC SERVICING DISCONNECT.
5. ALL EQUIPMENT SHALL BE INSTALLED ACCESSIBLE TO QUALIFIED PERSONNEL ACCORDING TO NEC APPLICABLE CODES.
6. ALL COMPONENTS ARE LISTED FOR THEIR PURPOSE AND RATED FOR OUTDOOR USAGE WHEN APPROPRIATE.

WIRING & CONDUIT NOTES
1. 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.
2. CONDUCTORS SIZED ACCORDING TO NEC 690.8, NEC 690.7.
3. DC WIRING LIMITED TO MODULE FOOTPRINT. MICRO INVERTER WIRING SYSTEMS SHALL BE LOCATED AND SECURED UNDER THE ARRAY WITH SUITABLE WIRING CLIPS.
4. 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
1. MODULES ARE LISTED UNDER UL 1703 AND CONFORM TO THE STANDARDS.
2. INVERTERS ARE LISTED UNDER UL 1741 AND CONFORM TO THE STANDARDS.
3. DRAWINGS ARE DIAGRAMMATIC, INDICATING GENERAL ARRANGEMENT OF THE PV SYSTEM AND THE ACTUAL SITE CONDITION MIGHT VARY.
4. WORKING CLEARANCES AROUND THE NEW PV ELECTRICAL EQUIPMENT WILL BE MAINTAINED IN ACCORDANCE WITH NEC 110.26.
5. ALL GROUND WIRING CONNECTED TO THE MAIN SERVICE GROUNDING IN MAIN SERVICE PANEL/SERVICE COMPONENT.
6. ALL CONDUCTORS SHALL BE 600V, 75° C STANDARD COPPER UNLESS OTHERWISE NOTED.
7. WHEN REQUIRED, A LADDER SHALL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH OSHA REGULATIONS.
8. THE SYSTEM WILL NOT BE INTERCONNECTED BY THE CONTRACTOR UNTIL APPROVAL FROM THE LOCAL JURISDICTION AND/OR THE UTILITY.
9. 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.
10. PV ARRAY COMBINER/JUNCTION BOX PROVIDES TRANSITION FROM ARRAY WIRING TO CONDUIT WIRING.

TITAN SOLAR POWER
525 W BASELINE RD., MESA AZ, 85210
CONTRACTOR LIC# U.34445

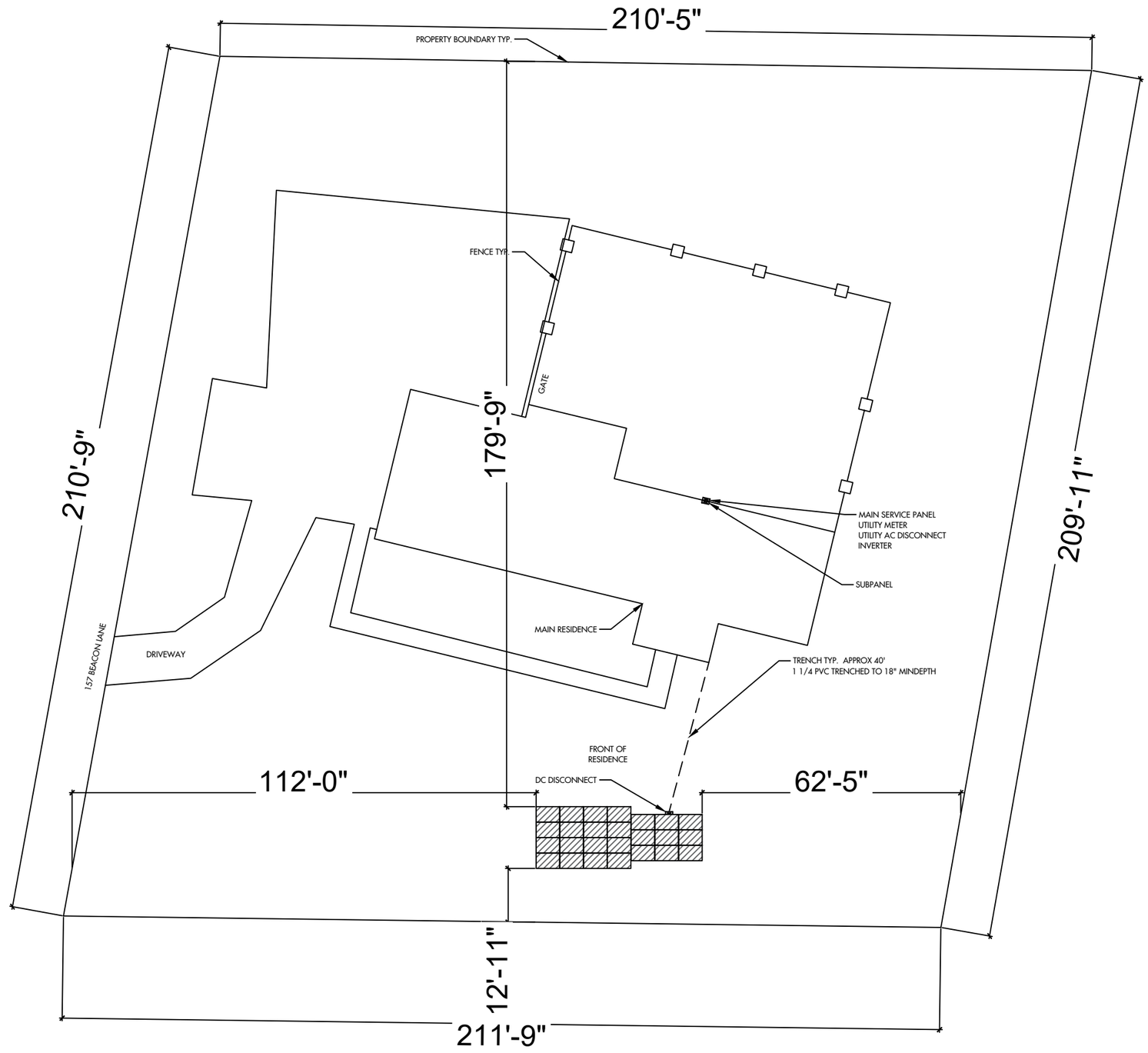
NANCE, WILLIAM RESIDENCE
157 BEACON LANE , CAMERON, NC, 28326
LAT:35.272757, LON:-79.099212
TSP157209

(25) HY-DH108P8-400B
(1) SOLAREDGE SE7600H-US
10.000 kW DC SYSTEM SIZE
7.600 kW AC SYSTEM SIZE

DATE: 5/19/2023
REV:A
DRAWN BY: CA

SEAL:

COVER PAGE
PV 1



1

N

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 CENTRAL ELECTRIC MEMBERSHIP CORPORATION AND NEC REQUIREMENTS.

NORTH CAROLINA PROFESSIONAL SEAL 050832 ENGINEER JAMES R. VINCI

5.22.2023

STRUCTURAL ONLY

V&A Structural Engineers
vincise.com

TITAN SOLAR POWER
525 W BASELINE RD., MESA AZ, 85210
CONTRACTOR LIC# U.34445

NANCE, WILLIAM RESIDENCE
157 BEACON LANE , CAMERON, NC, 28326
LAT:35.272757, LON:-79.099212
TSP157209

(25) HY-DH108P8-400B
(1) SOLAREDGE SE7600H-US
10.000 kW DC SYSTEM SIZE
7.600 kW AC SYSTEM SIZE

SCALE: 9/256" = 1'-0"
DATE: 5/19/2023
REV: A
DRAWN BY: CA

SEAL:

SITE PLAN

PV 2

ARRAY INFORMATION

AR-01

QUANTITY: 25

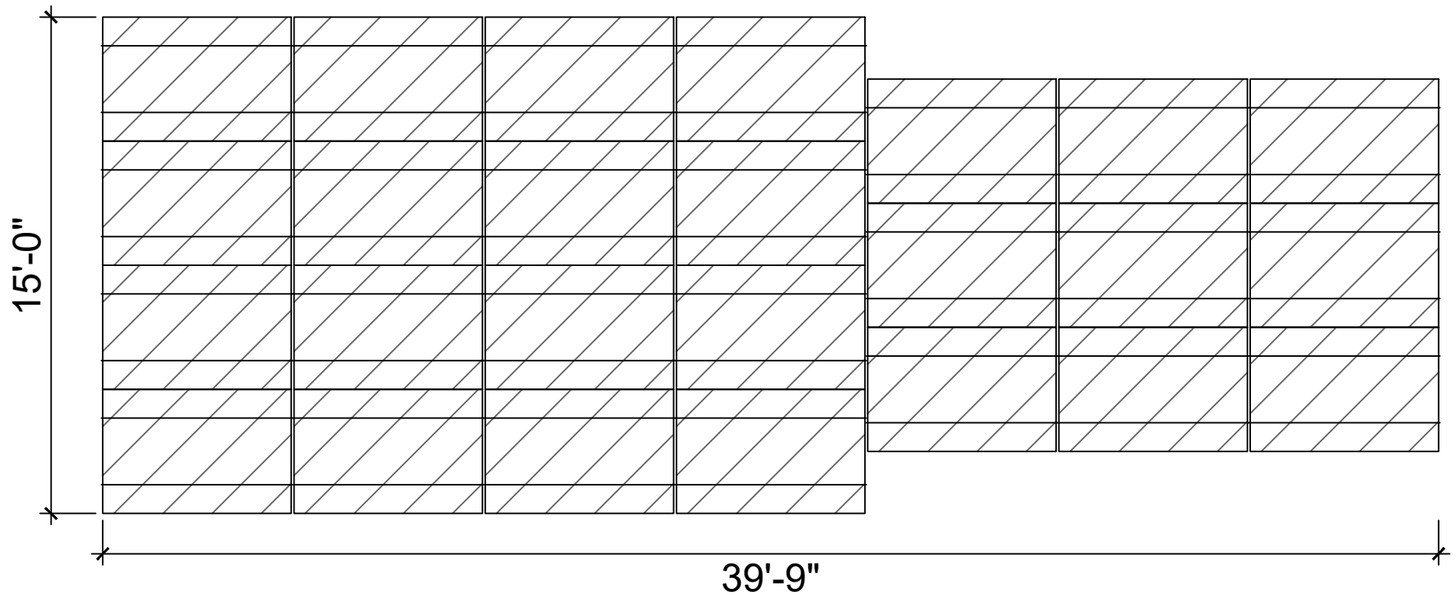
MOUNTING TYPE: FLUSH

ARRAY TILT: 25°

AZIMUTH: 180°

ATTACHMENT SPACING: 4'

ROOF TYPE: GROUND H



NOTES

- ROOF VENTS, SKYLIGHTS, WILL NOT BE COVERED UPON PV INSTALLATION
- TOTAL ROOF AREA = 3741 SQ-FT
- TOTAL ARRAY AREA = 525.57 SQ-FT
- ARRAY COVERAGE = 14.05%
- GROUND TYPE:C
- LOCATION OF SEPTIC TANK IS UNKNOWN

AR-01

NORTH CAROLINA PROFESSIONAL SEAL 050832 ENGINEER JAMES R. VINCI

5.22.2023

STRUCTURAL ONLY

V&A Structural Engineers

vincise.com

TITAN SOLAR POWER

525 W BASELINE RD., MESA AZ, 85210

CONTRACTOR LIC# U.34445

NANCE, WILLIAM RESIDENCE

157 BEACON LANE , CAMERON, NC, 28326

LAT:35.272757, LON:-79.099212

TSP157209

(25) HY-DH108P8-400B

(1) SOLAREDGE SE7600H-US

10.000 kW DC SYSTEM SIZE

7.600 kW AC SYSTEM SIZE

SCALE: 7/32" = 1'-0"

DATE: 5/19/2023

REV:A

DRAWN BY: CA

SEAL:

PV LAYOUT

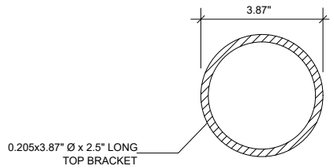
PV 3

MODULE & RACKING INFORMATION
MODULE: HY-DH108P8-400B
MODULE WEIGHT: 49.80 LBS
MODULE DIMENSIONS: 67.8''x 44.65'' x 1.5"
RACKING/RAIL: XR1000 / XR1000 RAIL CANTILEVER
ROOF ATTACHMENT : HELICAL PILE PACKAGE - U.S.

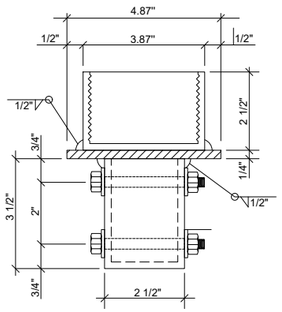
HELICAL
ROOF & FRAMING INFORMATION
MATERIAL: GROUND H
RAFTER/TRUSS SIZE: '' x ''
RAFTER/TRUSS SPACING: 2'

Sub array #1					
Rows	4	Columns	7	# Arrays	1
Area	39' 9" (EW) × 15' 2" (NS)	Rail type	XR1000	Diagonal bracing	no
E/W spacing	12' 10"	Rail cantilever	3' 6"	Pipe cantilever	7"
Piers/array	8	Total south piers	4 (3' 11")	Total north piers	4 (8' 2")
Total cross pipes	2 (39' 9")	Total pipe length	127' 9"	Cut back modules	3
Shear	1,138 lbs	Moment	2,845 ft-lbs	Uplift	-1,382 lbs

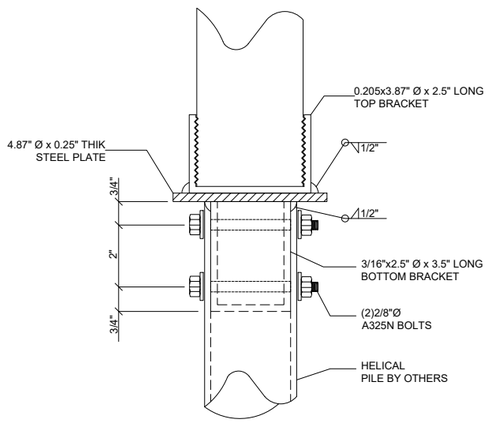
ARRAY 01: 25 MODULES
UPLIFT = 15767.03 LBS.
POINT LOAD = 0.00 LBS. PER MOUNTING POINT
PULLOUT STRENGTH = 0.00 LBS.
DISTRIBUTED LOAD = 2.54 PSF
MODULE & RACKING WEIGHT = 1332.50 LBS

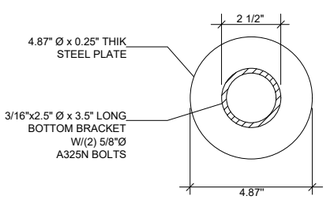


TOP BRACKET PLAN VIEW

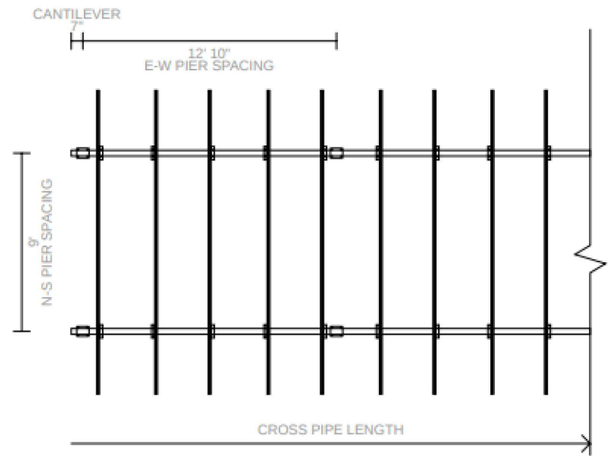


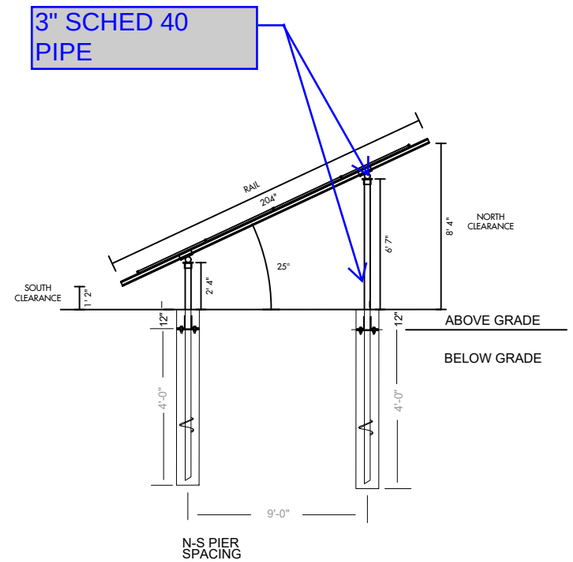
ADAPTER DETAIL





BOTTOM BRACKET PLAN VIEW





NORTH CAROLINA PROFESSIONAL SEAL 050832 ENGINEER JAMES R. VING
5.22.2023
STRUCTURAL ONLY
V&A Structural Engineers
vincise.com

TITAN SOLAR POWER
525 W BASELINE RD., MESA AZ, 85210
CONTRACTOR LIC# U.34445

NANCE, WILLIAM RESIDENCE
157 BEACON LANE , CAMERON, NC, 28326
LAT:35.272757, LON:-79.099212
TSP157209

(25) HY-DH108P8-400B
(1) SOLAREDGE SE7600H-US
10.000 kW DC SYSTEM SIZE
7.600 kW AC SYSTEM SIZE

DATE: 5/19/2023
REV:A
DRAWN BY: CA

SEAL:

DETAILS
PV 4

PV MODULE

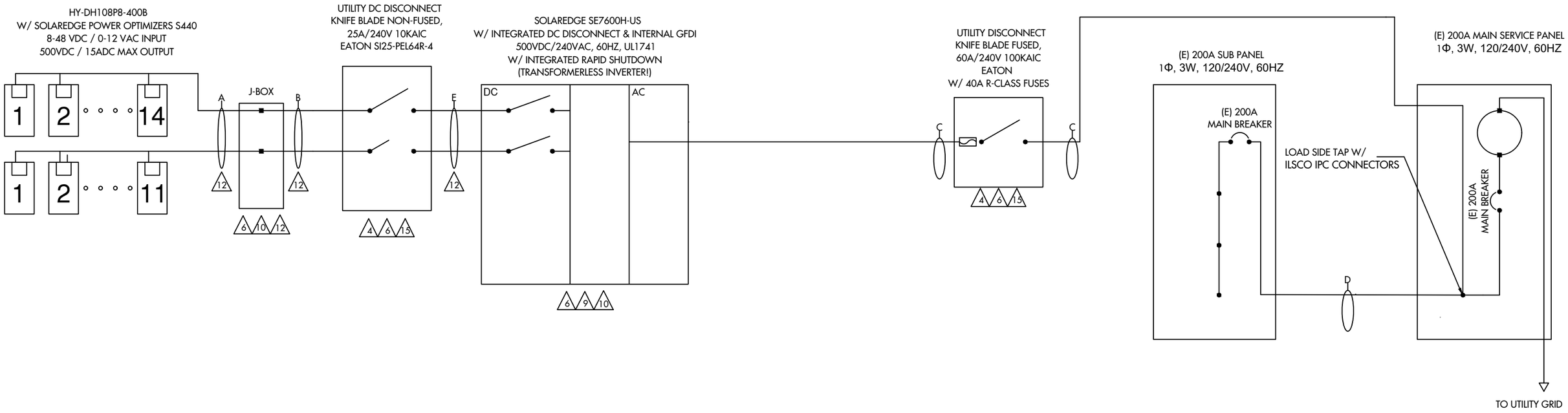
HY-DH108P8-400B

W	=	400 W
ISC	=	13.79 ADC
VOC	=	37.07 VDC
IMP	=	12.90 ADC
VMP	=	31.21 VDC
TVOC	=	-0.304% / °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

D- EXISTING WIRING
E - (4) #10 AWG-CU THWN-2 WIRE (HR)
(1) #10 AWG-CU THWN-2 WIRE (GND)
1 1/4 PVC TRENCHED TO 18" MINDEPTH



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 FREE AIR	=	47.85A (55A X 0.87)
#10 - AWG CU. AMPACITY ROOFTOP CONDUIT	=	27.84A (40A X 0.87 X 0.80)

AC WIRING

CONDUIT FILL FACTOR	=	1 (3) CONDUCTORS
MAX. INVERTER CURRENT	=	32A (PER INVERTER SPECS)
MIN. INVERTER OCP	=	40A (32A X 1.25)
INVERTER OCP	=	40A
#8 - AWG CU AMPACITY	=	47.85A (55A X 1 X 0.87)

TITAN SOLAR POWER
525 W BASELINE RD., MESA AZ, 85210
CONTRACTOR LIC# U.34445

NANCE, WILLIAM RESIDENCE
157 BEACON LANE , CAMERON, NC, 28326
LAT:35.272757, LON:-79.099212
TSP157209

(25) HY-DH108P8-400B
(1) SOLAREDGE SE7600H-US
10.000 kW DC SYSTEM SIZE
7.600 kW AC SYSTEM SIZE

DATE: 5/19/2023
REV:A
DRAWN BY: CA

SEAL:

ONE LINE

PV 5

PV MODULE

HY-DH108P8-400B

W	=	400 W
ISC	=	13.79 ADC
VOC	=	37.07 VDC
IMP	=	12.90 ADC
VMP	=	31.21 VDC
TVOC	=	-0.304% / °C

WIRE SCHEDULE

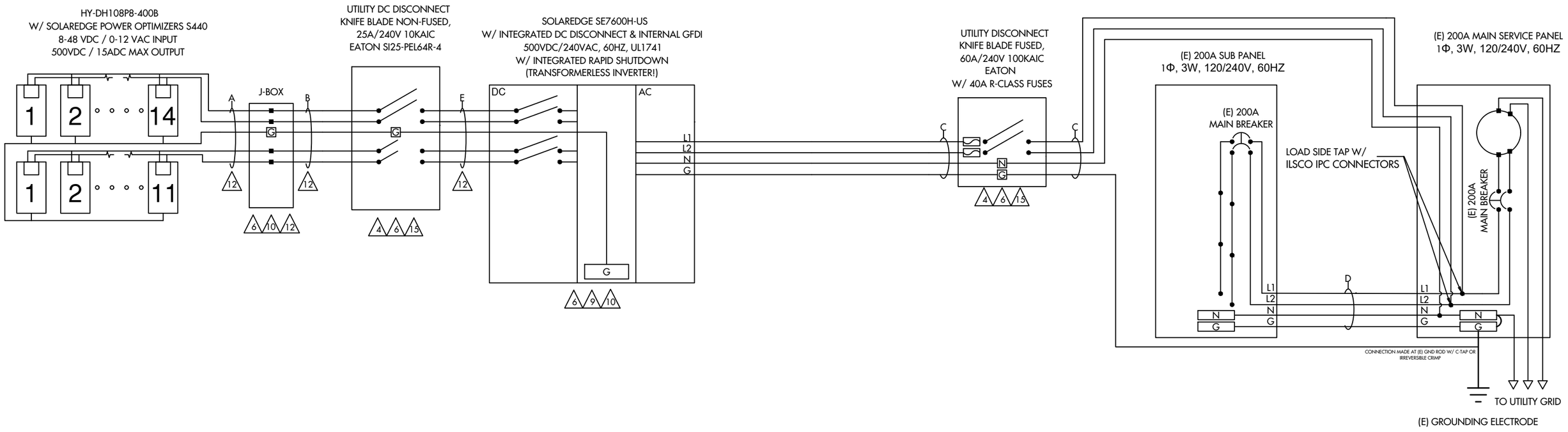
A - (4) #10 AWG-CU PV WIRE (HR)
(1) #10 AWG-CU BARE COPPER WIRE (GND)
IN FREE AIR

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

D- EXISTING WIRING

E - (4) #10 AWG-CU THWN-2 WIRE (HR)
(1) #10 AWG-CU THWN-2 WIRE (GND)
1 1/4 PVC TRENCHED TO 18" MINDEPTH



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 FREE AIR	=	47.85A (55A X 0.87)
#10 - AWG CU. AMPACITY ROOFTOP CONDUIT	=	27.84A (40A X 0.87 X 0.80)

AC WIRING

CONDUIT FILL FACTOR	=	1 (3) CONDUCTORS
MAX. INVERTER CURRENT	=	32A (PER INVERTER SPECS)
MIN. INVERTER OCP	=	40A (32A X 1.25)
INVERTER OCP	=	40A
#8 - AWG CU AMPACITY	=	47.85A (55A X 1 X 0.87)

TITAN SOLAR POWER
525 W BASELINE RD., MESA AZ, 85210
CONTRACTOR LIC# U.34445

NANCE, WILLIAM RESIDENCE
157 BEACON LANE , CAMERON, NC, 28326
LAT:35.272757, LON:-79.099212
TSP157209

(25) HY-DH108P8-400B
(1) SOLAREDGE SE7600H-US
10.000 kW DC SYSTEM SIZE
7.600 kW AC SYSTEM SIZE

DATE: 5/19/2023
REV:A
DRAWN BY: CA

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 SCOURCE 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: 32A 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

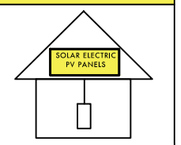
DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT

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)

TITAN SOLAR POWER
525 W BASELINE RD., MESA AZ, 85210
CONTRACTOR LIC# U.34445

NANCE, WILLIAM RESIDENCE
157 BEACON LANE , CAMERON, NC, 28326
LAT:35.272757, LON:-79.099212
TSP157209

(25) HY-DH108P8-400B
(1) SOLAREDGE SE7600H-US
10.000 kW DC SYSTEM SIZE
7.600 kW AC SYSTEM SIZE

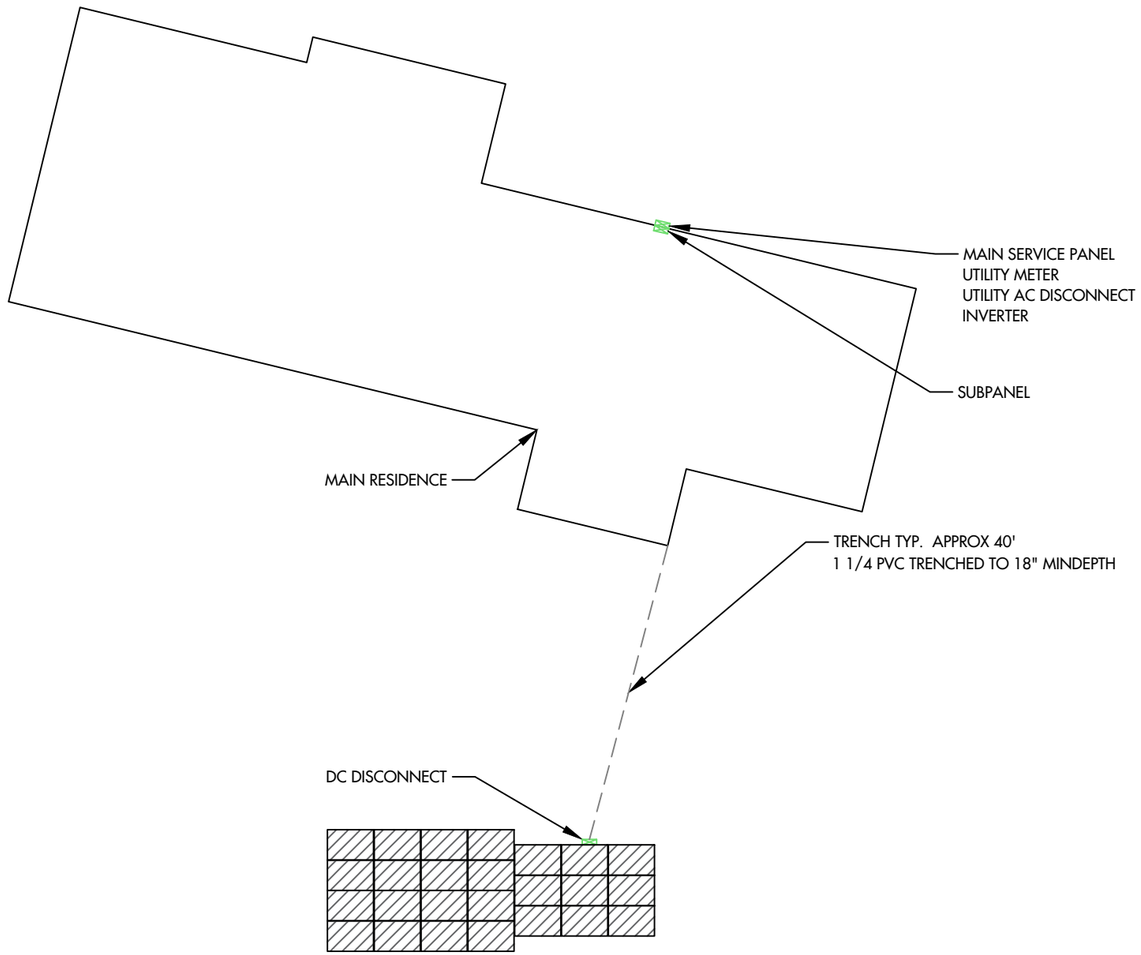
DATE: 5/19/2023
REV: A
DRAWN BY: CA

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.34445

NANCE, WILLIAM RESIDENCE
157 BEACON LANE , CAMERON, NC, 28326
LAT:35.272757, LON:-79.099212
TSP157209

(25) HY-DH108P8-400B
(1) SOLAREDGE SE7600H-US
10.000 kW DC SYSTEM SIZE
7.600 kW AC SYSTEM SIZE

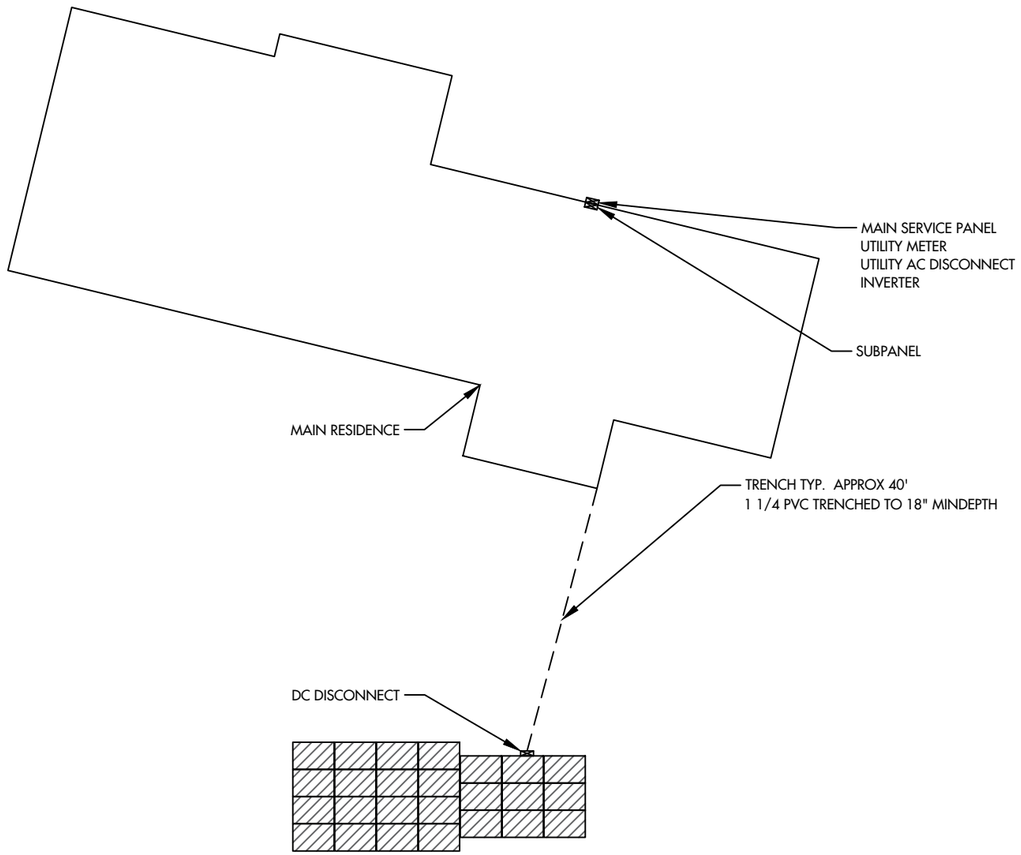
DATE: 5/19/2023
REV: A
DRAWN BY: CA

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

TITAN SOLAR POWER
525 W BASELINE RD., MESA AZ, 85210
CONTRACTOR LIC# U.34445

NANCE, WILLIAM RESIDENCE
157 BEACON LANE , CAMERON, NC, 28326
LAT:35.272757, LON:-79.099212
TSP157209

(25) HY-DH108P8-400B
(1) SOLAREDGE SE7600H-US
10.000 kW DC SYSTEM SIZE
7.600 kW AC SYSTEM SIZE

DATE: 5/19/2023
REV: A
DRAWN BY: CA

SEAL:

SAFETY PLAN
PV 9

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, NEC 2017 and NEC 2020 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

solaredge

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	SEXXXXH-XXXXXBXX4							
OUTPUT								
Rated AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
Maximum AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 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 - 60.5[1]							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							
INPUT								
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				400			Vdc
Maximum Input Current @240V[2]	8.5	10.5	13.5	16.5	20	27	30.5	Adc
Maximum Input Current @208V[2]	-	9	-	13.5	-	-	27	Adc
Max. Input Short Circuit Current	45							Adc
Reverse-Polarity Protection	Yes							
Ground-Fault Isolation Detection	600kΩ Sensitivity							
Maximum Inverter Efficiency	99	99.2						%
CEC Weighted Efficiency	99						99 @ 240V 98.5 @ 208V	%
Nighttime Power Consumption	< 2.5							W

(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

Single Phase Inverter with HD-Wave Technology

for North America

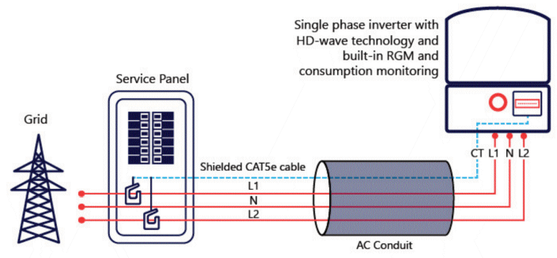
SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US/
SE7600H-US / SE10000H-US / SE11400H-US

MODEL NUMBER	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
ADDITIONAL FEATURES								
Supported Communication Interfaces	RS485, Ethernet, ZigBee (optional), Cellular (optional)							
Revenue Grade Metering, ANSI C12.20	Optional[3]							
Consumption metering								
Inverter Commissioning	With the SetApp mobile application using Built-in Wi-Fi Access Point for Local Connection							
Rapid Shutdown - NEC 2014, NEC 2017 and NEC 2020, 690.12	Automatic Rapid Shutdown upon AC Grid Disconnect							
STANDARD COMPLIANCE								
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 (HI)							
Emissions	FCC Part 15 Class B							
INSTALLATION SPECIFICATIONS								
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		in / mm
Weight with Safety Switch	22 / 10		25.1 / 11.4		26.2 / 11.9	38.8 / 17.6		lb / kg
Noise	< 25					<50		dBA
Cooling	Natural Convection							
Operating Temperature Range	-40 to +140 / -40 to +60[4]							°F / °C
Protection Rating	NEMA 4X (Inverter with Safety Switch)							

(3) Inverter with Revenue Grade Meter P/N: SExxxxH-US000BNC4; Inverter with Revenue Grade Production and Consumption Meter P/N: SExxxxH-US000BNI4 . For consumption metering, current transformers should be ordered separately: SEACT0750-200NA-20 or SEACT0750-400NA-20. 20 units per box
(4) 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



RoHS

TITAN SOLAR POWER
525 W BASELINE RD., MESA AZ, 85210
CONTRACTOR LIC# U.34445

NANCE, WILLIAM RESIDENCE
157 BEACON LANE , CAMERON, NC, 28326
LAT:35.272757, LON:-79.099212
TSP157209

(25) HY-DH108P8-400B
(1) SOLAREDGE SE7600H-US
10.000 kW DC SYSTEM SIZE
7.600 kW AC SYSTEM SIZE

DATE: 5/19/2023
REV: A
DRAWN BY: CA

SEAL:

EQUIPMENT SPECIFICATIONS
PV 10

intertek
Total Quality. Assured.

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
Total Quality. Assured.

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 National Electric Code, 2020, Section 690.12 requirement for rapid shutdown
Verification Issuing Office	3933 US Route 11, Cortland, NY 13045

Signature:

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

intertek
Total Quality. Assured.

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

Date	Engineer / Reviewer	Description
5/17/2021 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" 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"

Power Optimizer

For Residential Installations

S440 / S500 / S500B

POWER OPTIMIZER

Enabling PV power optimization at the module level

- Specifically designed to work with SolarEdge residential inverters
- Detects abnormal PV connector behavior, preventing potential safety issues*
- Module-level voltage shutdown for installer and firefighter safety
- Superior efficiency (99.5%)
- Mitigates all types of module mismatch loss, from manufacturing tolerance to partial shading
- Faster installations with simplified cable management and easy assembly using a single bolt
- Flexible system design for maximum space utilization
- Compatible with bifacial PV modules

* Functionality subject to inverter model and firmware version

solaredge.com

solaredge

Power Optimizer

For Residential Installations

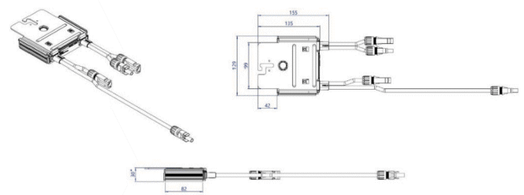
S440 / S500 / S500B

	S440	S500	S500B	UNIT
INPUT				
Rated Input DC Power(1)	440	500		W
Absolute Maximum Input Voltage (Voc)	60		125	Vdc
MPPT Operating Range	8 – 60		12.5 – 105	Vdc
Maximum Short Circuit Current (Isc) of Connected PV Module	14.5	15		Adc
Maximum Efficiency	99.5			%
Weighted Efficiency	98.6			%
Overvoltage Category	II			
OUTPUT DURING OPERTION				
Maximum Output Current	15			Adc
Maximum Output Voltage	60		80	Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM INVERTER OR INVERTER OFF)				
Safety Output Voltage per Power Optimizer	1 ± 0.1			Vdc
STANDARD COMPLIANCE(2)				
EMC	FCC Part 15 Class B, IEC61000-6-2, IEC61000-6-3, CISPR11, EN-55011			
Safety	IEC62109-1 (class II safety), UL1741			
Material	UL94 V-0, UV Resistant			
RoHS	Yes			
Fire Safety	VDE-AR-E 2100-712:2018-12			
INSTALLATION SPECIFICATIONS				
Maximum Allowed System Voltage	1000			Vdc
Dimensions (W x L x H)	129 x 155 x 30		129 x 155 x 45	mm
Weight (including cables)	655			gr
Input Connector	MC4(3)			
Input Wire Length	0.1			m
Output Connector	MC4			
Output Wire Length	(+) 2.3, (-) 0.10			m
Operating Temperature Range(4)	-40 to +85			°C
Protection Rating	IP68			
Relative Humidity	0 – 100			%

(1) Rated power of the module at STC will not exceed the Power Optimizer Rated Input DC Power. Modules with up to +5% power tolerance are allowed.
(2) For details about CE compliance, see Declaration of Conformity – CE
(3) For other connector types please contact SolarEdge.
(4) For ambient temperatures above +70°C power de-rating is applied. Refer to Power Optimizers Temperature De-Rating Technical Note for details.

PV System Design Using a SolarEdge Inverter(5)		SolarEdge Home Wave Inverter Single Phase	SolarEdge Home Short String Inverter Three Phase	Three Phase for 230/400V Grid	Three Phase for 277/480V Grid	
Minimum String Length (Power Optimizers)	S440, S500	8	9	16	18	
	S500B	6	8	14		
Maximum String Length (Power Optimizers)		25	20	50		
Maximum Continuous Power per String		5700	5625	11250	12750	W
Maximum Allowed Connected Power per String (Permitted only when the power difference between strings is less than 2,000W)		See(6)	See(6)	13500	15000	W
Parallel Strings of Different Lengths or Orientations		Yes				

(5) It is not allowed to mix S-series and P-series Power Optimizers in new installations.
(6) If the inverter's rated AC power ≤ maximum nominal power per string, then the maximum power per string will be able to reach up to the inverters maximum input DC power. Refer to Application Note: Single String Design Guidelines.



* 45mm for S500B

CE RoHS

TITAN SOLAR POWER
525 W BASELINE RD., MESA AZ, 85210
CONTRACTOR LIC# U.34445

NANCE, WILLIAM RESIDENCE
157 BEACON LANE , CAMERON, NC, 28326
LAT:35.272757, LON:-79.099212
TSP157209

(25) HY-DH108P8-400B
(1) SOLAREDGE SE7600H-US
10.000 kW DC SYSTEM SIZE
7.600 kW AC SYSTEM SIZE

DATE: 5/19/2023
REV: A
DRAWN BY: CA

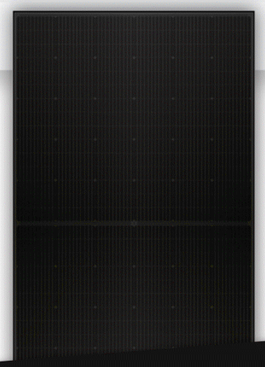
SEAL:

EQUIPMENT SPECIFICATIONS
PV 12

TITAN SOLAR PANEL

MADE IN THAILAND

TITAN SOLAR POWER
525 W BASELINE RD
MESA, AZ 85210
TEL 855 SAY-SOLAR
INFO@TITANSOLARPOWER
TITANSOLARPOWER.COM



390-410W

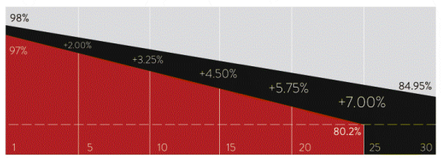
HIGH CONVERSION EFFICIENCY
Module efficiency up to 21.0% through advanced cell technology and manufacturing process

EXCELLENT WEAK LIGHT PERFORMANCE
More power output in weak light condition, such as cloudy days, morning and sunset

EXTENDED MECHANICAL PERFORMANCE
Module certified to withstand extreme wind (2400 Pa) and snow loading (5400 Pa)

QUALITY GUARANTEE
High module quality ensures long-term reliability

HY-DH108P8
108 HALF-CELL BIFACIAL MODULE



■ Conventional Module ■ Hyperion Performance

25 Years warranty for materials and workmanship

30 Years warranty for extra linear power output

IEC61215 / IEC61730 / UL61730
IEC61701 / IEC62716
ISO9001: Quality Management System

INFO@HYPERION-USA.COM
7/559 MOO.6, MAPYANGPHON SUBDISTRICT,
PLUAK DAENG DISTRICT, RAYONG PROVINCE,
21140, THAILAND

12/22

BLACK DH108P8

HY-DH108P8-390/410B

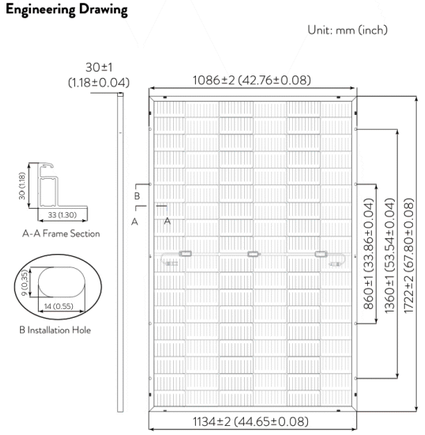
Mechanical Parameters

Solar Cell	Mono PERC 182mm
No. of Cells	108 (6 × 18)
Dimensions	1722 × 1134 × 30mm (67.08 × 44.65 × 1.18in.)
Weight	25.2kg (55.55lbs)
Junction Box	IP68 rated (3 bypass diodes)
Output Cables	4mm² (IEC),12 AWG(UL) (-/+)1200mm (47.24in.) or customized
Connector	EVO2 or customized
Front Cover	2.0mm (0.079in.) semi-tempered AR glass
Back Cover	2.0mm (0.079in.) semi-tempered glass
Container	36 pcs/Pallet, 792 pcs/40' HC

Operating Parameters

Max. System Voltage	DC 1500V (IEC/UL)
Operating Temperature	-40°C ~ +85°C (-40°F ~ +185°F)
Max. Fuse Rating	30A
Frontside Max. Loading	5400Pa (112lb/ft²)
Backside Max. Loading	2400Pa (50lb/ft²)
Bifaciality	70%±10%
Fire Resistance	IEC Class A, UL Type 29

Engineering Drawing



Electrical Characteristics - STC
Irradiance 1000 W/m², ambient temperature 25 °C, AM1.5.

Maximum Power at STC (Pmax/W)	410	405	400	395	390
Power Tolerance (W)	0 ~ +5				
Optimum Operating Voltage (Vmp/V)	31.45	31.21	31.01	30.84	30.64
Optimum Operating Current (Imp/A)	13.04	12.98	12.90	12.81	12.73
Open Circuit Voltage (Voc/V)	37.32	37.23	37.07	36.98	36.85
Short Circuit Current (Isc/A)	13.95	13.87	13.79	13.70	13.61
Module Efficiency	21.0%	20.7%	20.5%	20.2%	20.0%

Electrical Characteristics - NMOT
Irradiance 800 W/m², ambient temperature 20 °C, AM1.5, wind speed 1 m/s.

Maximum Power at NMOT (Pmax/W)	310.2	306.4	302.5	298.8	295.0
Optimum Operating Voltage (Vmp/V)	29.82	29.60	29.41	29.25	29.15
Optimum Operating Current (Imp/A)	10.40	10.35	10.29	10.22	10.15
Open Circuit Voltage (Voc/V)	35.39	35.31	35.15	35.07	34.95
Short Circuit Current (Isc/A)	11.25	11.19	11.13	11.05	10.98

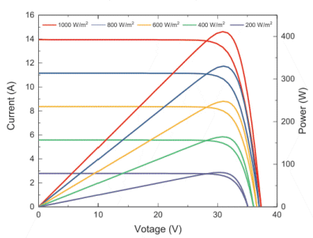
Rearside Power Gain (Reference to 410W Front)

Rearside Power Gain	5%	15%	25%
Maximum Power (Pmax/W)	431.4	472.3	514.8
Optimum Operating Voltage (Vmp/V)	31.57	31.57	31.65
Optimum Operating Current (Imp/A)	13.66	14.96	16.27
Open Circuit Voltage (Voc/V)	37.46	37.46	37.46
Short Circuit Current (Isc/A)	14.57	15.96	17.35
Module Efficiency	22.1%	24.2%	26.4%

Temperature Characteristics

Nominal Module Operating Temperature	42 ± 2 °C
Nominal Cell Operating Temperature	45 ± 2 °C
Temperature Coefficient of Pmax	-0.35%/°C
Temperature Coefficient of Voc	-0.27%/°C
Temperature Coefficient of Isc	0.05%/°C

Current-Voltage & Power-Voltage Curve (410W)



TITAN SOLAR POWER
525 W BASELINE RD., MESA AZ, 85210
CONTRACTOR LIC# U.34445

NANCE, WILLIAM RESIDENCE
157 BEACON LANE , CAMERON, NC, 28326
LAT:35.272757, LON:-79.099212
TSP157209

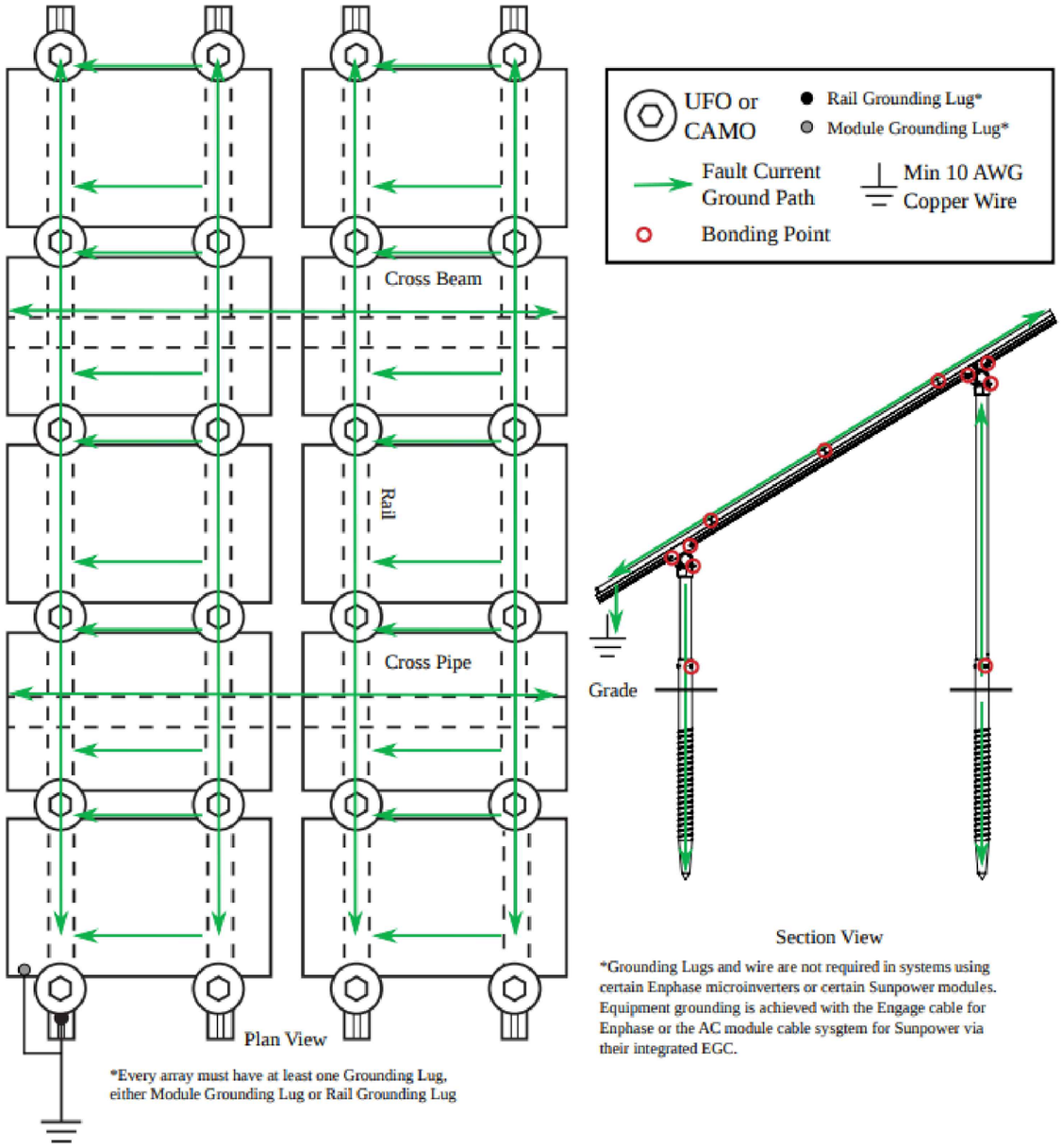
(25) HY-DH108P8-400B
(1) SOLAREDGE SE7600H-US
10.000 kW DC SYSTEM SIZE
7.600 kW AC SYSTEM SIZE

DATE: 5/19/2023
REV: A
DRAWN BY: CA

SEAL:

EQUIPMENT SPECIFICATIONS
PV 13

Grounding Diagram



Bill of Materials

Part	Spares	Total Qty
Rails		
XR-1000-204A XR1000, Rail 204" (17 Feet) Clear	0	14
Clamps & Grounding		
UFO-CL-01-A1 Universal Module Clamp, Clear	0	64
UFO-STP-30MM-M1 Stopper Sleeve, 30MM, Mill	0	28
XR-LUG-03-A1 Grounding Lug, Low Profile	0	1
Substructure		
70-0300-SGA SGA Top Cap at 3"	0	8
GM-BRC3-01-M1 Ground Mount Bonded Rail Connector - 3"	0	28
GM-HSHW-01-M1 Hex Head Set Screw	0	32

TITAN SOLAR POWER
525 W BASELINE RD., MESA AZ, 85210
CONTRACTOR LIC# U.34445

NANCE, WILLIAM RESIDENCE
157 BEACON LANE , CAMERON, NC, 28326
LAT:35.272757, LON:-79.099212
TSP157209

(25) HY-DH108P8-400B
(1) SOLAREDGE SE7600H-US
10.000 kW DC SYSTEM SIZE
7.600 kW AC SYSTEM SIZE

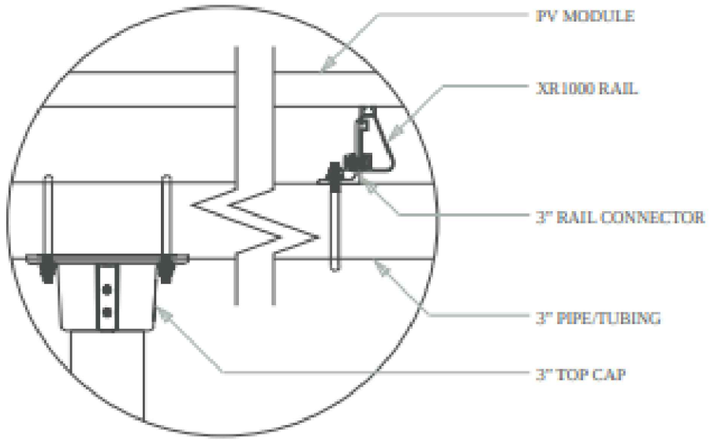
DATE: 5/19/2023
REV: A
DRAWN BY: CA

SEAL:

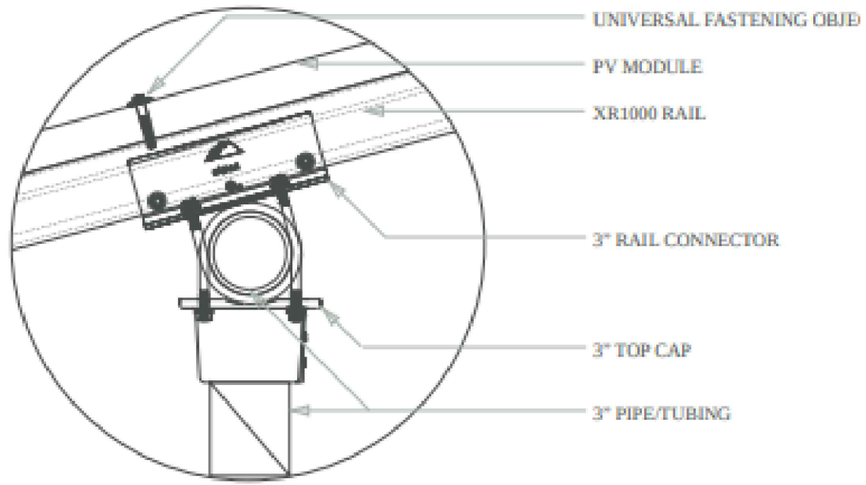
EQUIPMENT SPECIFICATIONS
PV 14

Pipe Fitting Detail

XR1000 Rail

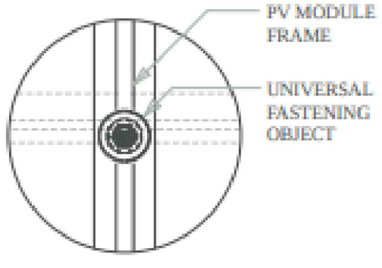


Front View

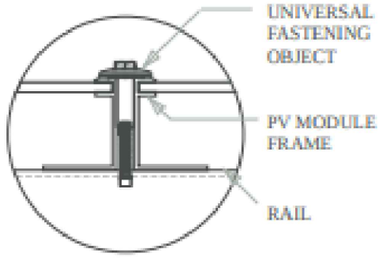


Side View

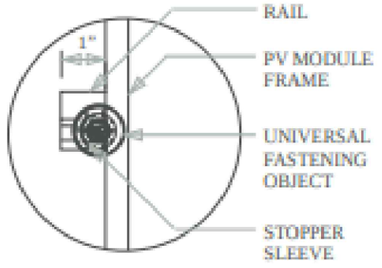
Clamp Detail



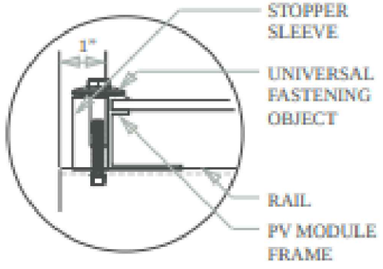
Mid Clamp, Plan



Mid Clamp, Front



End Clamp, Plan



End Clamp, Front

TITAN SOLAR POWER
525 W BASELINE RD., MESA AZ, 85210
CONTRACTOR LIC# U.34445

NANCE, WILLIAM RESIDENCE
157 BEACON LANE , CAMERON, NC, 28326
LAT:35.272757, LON:-79.099212
TSP157209

(25) HY-DH108P8-400B
(1) SOLAREDGE SE7600H-US
10.000 kW DC SYSTEM SIZE
7.600 kW AC SYSTEM SIZE

DATE: 5/19/2023
REV: A
DRAWN BY: CA

SEAL:

EQUIPMENT SPECIFICATIONS
PV 15

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 21 @ 240V	30	50
SE6000H-US	24 @ 208V 25 @ 240V	30 @ 208V 35 @ 240V	50
SE7600H-US	32	40	50
SE10000H-US	42	60	80
SE11400H-US	48.5 @ 208V 47.5 @ 240V	70 @ 208V 60 @ 240V	80

TITAN SOLAR POWER
525 W BASELINE RD., MESA AZ, 85210
CONTRACTOR LIC# U.34445

NANCE, WILLIAM RESIDENCE
157 BEACON LANE , CAMERON, NC, 28326
LAT:35.272757, LON:-79.099212
TSP157209

(25) HY-DH108P8-400B
(1) SOLAREDGE SE7600H-US
10.000 kW DC SYSTEM SIZE
7.600 kW AC SYSTEM SIZE

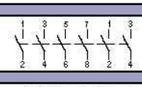
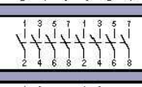
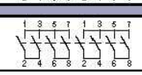
DATE: 5/19/2023
REV: A
DRAWN BY: CA

SEAL:

EQUIPMENT SPECIFICATIONS
PV 16

Rotary Actuator Switch - Lockable Off in Plastic Enclosure

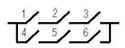
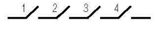
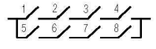
- Rotary Actuator Switch
- Lockable Off - Safe-Lock
- Self-Extinguishing Plastic Enclosure
- M25 Cable Gland Entry Option
- NEMA Type 3R
- IP66

DC21A IEC60947-3 600V	800V	1000V	1500V	UL Ratings UL508I 350V	500V	600V	1000V	Poles in series	No. of Strings	Weight Kg/pcs.	Part Number	Contact Configuration
16A	16A	9A	3A	16A	16A	16A	-	2	1	0.43	SI16 PEL64R2	
25A	20A	11A	4A	20A	20A	20A	-	2	1	0.43	SI25 PEL64R2	
32A	23A	13A	5A	25A	25A	25A	-	2	1	0.43	SI32 PEL64R2	
40A	30A	20A	6A	40A	40A	40A	16A	2	1	1.59	SI40 PEL64R2	
55A	45A	36A*	8A	55A	55A	55A	20A	2	1	1.59	SI55 PEL64R2	
29A	16A	9A	3A	29A	29A	21A	-	2	1	0.49	SI16 PEL64R2H	
45A	20A	11A	4A	45A	38A	23A	-	2	1	0.49	SI25 PEL64R2H	
50A	23A	13A	5A	58A	40A	25A	-	2	1	0.49	SI32 PEL64R2H	
64A	30A	20A	6A	72A	53A	42A	22A	2	1	1.74	SI40 PEL64R2H	
80A	45A	25A	8A	85A	66A	55A	25A	2	1	1.74	SI55 PEL64R2H	
16A	16A	9A	3A	16A	16A	16A	-	2	2	0.46	SI16 PEL64R4	
25A	20A	11A	4A	20A	20A	20A	-	2	2	0.46	SI25 PEL64R4	
32A	23A	13A	5A	25A	25A	25A	-	2	2	0.46	SI32 PEL64R4	
40A	30A	20A	6A	40A	40A	40A	16A	2	2	1.67	SI40 PEL64R4	
55A	45A	36A*	8A	55A	55A	55A	20A	2	2	1.67	SI55 PEL64R4	
16A	16A	16A	16A	16A	16A	16A	-	4	1	0.47	SI16 PEL64R4S	
25A	25A	25A	20A	25A	25A	25A	-	4	1	0.47	SI25 PEL64R4S	
32A	32A	32A	23A	32A	32A	32A	-	4	1	0.47	SI32 PEL64R4S	
40A	40A	40A	30A	40A	40A	40A	40A	4	1	1.70	SI40 PEL64R4S	
55A	55A	55A	40A	55A	55A	55A	55A	4	1	1.70	SI55 PEL64R4S	
16A	16A	9A	3A	16A	16A	16A	-	2	3	1.53	SI16 PEL64R6	
25A	20A	11A	4A	20A	20A	20A	-	2	3	1.53	SI25 PEL64R6	
32A	23A	13A	5A	25A	25A	25A	-	2	3	1.53	SI32 PEL64R6	
16A	16A	9A	3A	16A	16A	16A	-	2	4	1.58	SI16 PEL64R8	
25A	20A	11A	4A	20A	20A	20A	-	2	4	1.58	SI25 PEL64R8	
32A	23A	13A	5A	25A	25A	25A	-	2	4	1.58	SI32 PEL64R8	
29A	29A	29A	16A	29A	29A	29A	-	4	1	1.63	SI16 PEL64R4H	
45A	45A	45A*	20A	45A	45A	45A	-	4	1	1.63	SI25 PEL64R4H	
58A	58A*	58A*	23A	58A	58A	50A	-	4	1	1.63	SI32 PEL64R4H	

4T / 4B configuration also available. For ratings refer to 4S configuration. (See page 17)
* DC21B

Technical Data

Data according to IEC 60947-3, VDE 0660, GB14048.3

Main Contacts			Type	SI16	SI25	SI32	SI40	SI55
Rated thermal current I_{the}			A	16	25	32	40	55
Rated insulation voltage U_i 1)			V	1000	1000	1000	1500	1500
Rated insulation voltage U_i 2)			V	1500	1500	1500	-	-
Distance of contacts (per pole)			mm	8	8	8		
Rated operational current I_e		300V	A	16	23	27	40	55
DC21A & DC21B	1 pole	400V	A	12	14	16	30	40
	1	500V	A	9	11	13	19	25
		600V	A	6	8	10	15	20
L/R = 1ms		700V	A	4.5	6	7.5	10	15
		800V	A	3	4	5	8	10
		900V	A	2.5	3	4	6	8
		1000V	A	1.5	2	2.5	4	6
DC21B	2 poles in series	500V	A	16	25	32	40	55
	2	600V	A	16	25	32	40	55
		700V	A	16	23	27	35	55
		800V	A	16	20	23	30	45
		850V	A	-	-	25	-	-
		900V	A	13	16	20	25	35
		1000V	A	9	11	13	20	36
		1200V	A	6	8	10	10	15
		1500V	A	3	4	5	6	8
	2 poles in series	500V	A	29	45	58	72	85
	+ 2 poles parallel	600V	A	29	45	50	64	80
	2H	700V	A	16	23	27	35	55
		800V	A	16	20	23	30	45
		900V	A	13	16	20	25	35
		1000V	A	9	11	13	20	25
		1200V	A	6	8	10	10	15
		1500V	A	3	4	5	6	8
	3 poles in series	500V	A	29	45	58	-	-
	+ 2 poles parallel	600V	A	29	45	50	-	-
	3H	700V	A	29	38	45	-	-
		800V	A	29	38	45	-	-
		900V	A	29	38	45	-	-
		1000V	A	29	38	45	-	-
		1200V	A	12	14	16	-	-
		1500V	A	9	11	13	-	-
	4 poles in series	500V	A	16	25	32	40	55
	4S	600V	A	16	25	32	40	55
		700V	A	16	25	32	40	55
		800V	A	16	25	32	40	55
		900V	A	16	25	32	40	55
		1000V	A	16	25	32	40	55
		1200V	A	16	25	32	40	55
		1500V	A	16	20	23	30	40
	4 poles in series	500V	A	29	45	58	-	-
	+ 2 poles parallel	600V	A	29	45	58	-	-
	4H	700V	A	29	45	58	-	-
		800V	A	29	45	58	-	-
		900V	A	29	45	58	-	-
		1000V	A	29	45	58	-	-
		1200V	A	29	45	50	-	-
		1500V	A	16	20	23	-	-
Rated operational current I_e								
AC21B	2, 4	U_e max. 440V	A	16	25	32	40	55
	2H	U_e max. 440V	A	29	45	58	72	85

1) Suitable at overvoltage category I to III, pollution degree 3 (standard-industry): Uimp = 8kV.
2) Suitable at overvoltage category I to III, pollution degree 2 (min.IP55): Uimp = 8kV.

Technical Data continued

Data according to IEC 60947-3, VDE 0660, GB14048.3

Main Contacts			Type	SI16	SI25	SI32	SI40	SI55
Rated operational current I_e		500V	A	1	1.25	1.5	x	2.5
DC22B	1 pole	600V	A	0.5	0.75	1	x	2
	1	800V	A	0.3	0.4	0.5	x	1.5
L/R = 2.5ms		1000V	A	0.15	0.2	0.25	x	1
		1200V	A	-	-	-	x	x
		1500V	A	-	-	-	x	x
	2 poles in series	500V	A	7	8	9	x	x
	2	600V	A	5.5	6	6.5	x	x
		800V	A	2	2.5	3	x	x
		1000V	A	1	1.5	2	x	x
		1200V	A	-	-	-	x	x
		1500V	A	-	-	-	x	x
	4 poles in series	500V	A	16	25	32	x	x
	4S	600V	A	16	25	27.5	x	x
		800V	A	11.5	12	12.5	x	x
		1000V	A	8	9	10	x	x
		1200V	A	-	-	-	x	x
		1500V	A	-	-	-	x	x
Rated conditional short-circuit current			kA_{eff}	5	5	5	10	10
Max. fuse size			gl. (gG) A	40	63	80	125	160
Mechanical Life			$x10^3$	10	10	10	10	10
Rated short-time withstand current (1s)	I_{cw}	2, 4, 6, 8	A	800	900	1000	A2, A4: 1200	A2, A4: 1400
		2H, 3H, 4H	A	1300	1500	1700	A2+2: 2000	A2+2:2400
Short circuit making capacity	I_{cw}	2, 4, 6, 8	A	800	900	1000	A2, A4: 1200	A2, A4: 1400
		2H, 3H, 4H	A	1300	1500	1700	A2+2: 2000	A2+2:2400
Maximum cable cross sections		(including jumper LSV-B1)						
solid or stranded			mm^2	4 - 16	4 - 16	4 - 16	2.5 - 25	2.5 - 25
flexible			mm^2	4 - 10	4 - 10	4 - 10	4 - 16	4 - 16
flexible (+ multicore cable end)			mm^2	4 - 10	4 - 10	4 - 10	2.5 - 16	2.5 - 16
Size of terminal screw				M4 Pz2	M4 Pz2	M4 Pz2	M5 Pz2	M5 Pz2
Tightening torque			Nm	1.2 - 1.8	1.2 - 1.8	1.2 - 1.8	2.5 - 2.8	2.5 - 2.8
2 cables per clamp without jumper LSV-B1 / LSV-B2								
	solid or stranded		mm^2	16+(1.5-2.5)/10+(1.5-6)/6+(1.5-10)/4+(1.5-10)			16+(1.5-2.5)/10+(1.5-10)/6+(1.5-10)/4+(1.5-10)	
	flexible & flexible + multicore cable end		mm^2	16+(1.5-2.5)/10+(1.5-4)/6+(1.5-6)			16+(1.5-6)/10+(1.5-10)/6+(1.5-16)/4+(1.5-16)	
	stranded		AWG	8+(16-12)/10+(16-10)/12+(16-8)/14+(16-8)			3+(18-10)/4+(18-10)/6+(18-8)/8+(18-8)	
	solid		AWG	10+(16-12)/12+(16-10)/14+(16-10)			10+(16-10)/12+(16-10)/14+(16-10)/12+(16-10)/14+(16-10)	
Maximum ambient temperature								
Operation	All types except PEL64R		°C	-40 to +65				
	PEL64R type		°C	-40 to +45				
Storage			°C	-50 to +70				
Power loss per switch at $I_{e\,max.}$ DC21B								
2			W	0.8	2	3	4	6
4			W	1.6	4	6	8	12
6			W	2.4	6	9	12	18
8			W	3.2	8	12	16	24
2H			W	0.4	1	1.5	2	3
3H			W	0.6	1.5	2.25	3	4.5
4H			W	0.8	2	3	4	6

x - In Test

TITAN SOLAR POWER
525 W BASELINE RD., MESA AZ, 85210
CONTRACTOR LIC# U.34445

NANCE, WILLIAM RESIDENCE
157 BEACON LANE , CAMERON, NC, 28326
LAT:35.272757, LON:-79.099212
TSP157209

(25) HY-DH108P8-400B
(1) SOLAREDGE SE7600H-US
10.000 kW DC SYSTEM SIZE
7.600 kW AC SYSTEM SIZE

DATE: 5/19/2023
REV: A
DRAWN BY: CA

SEAL:

EQUIPMENT SPECIFICATIONS
PV 17