








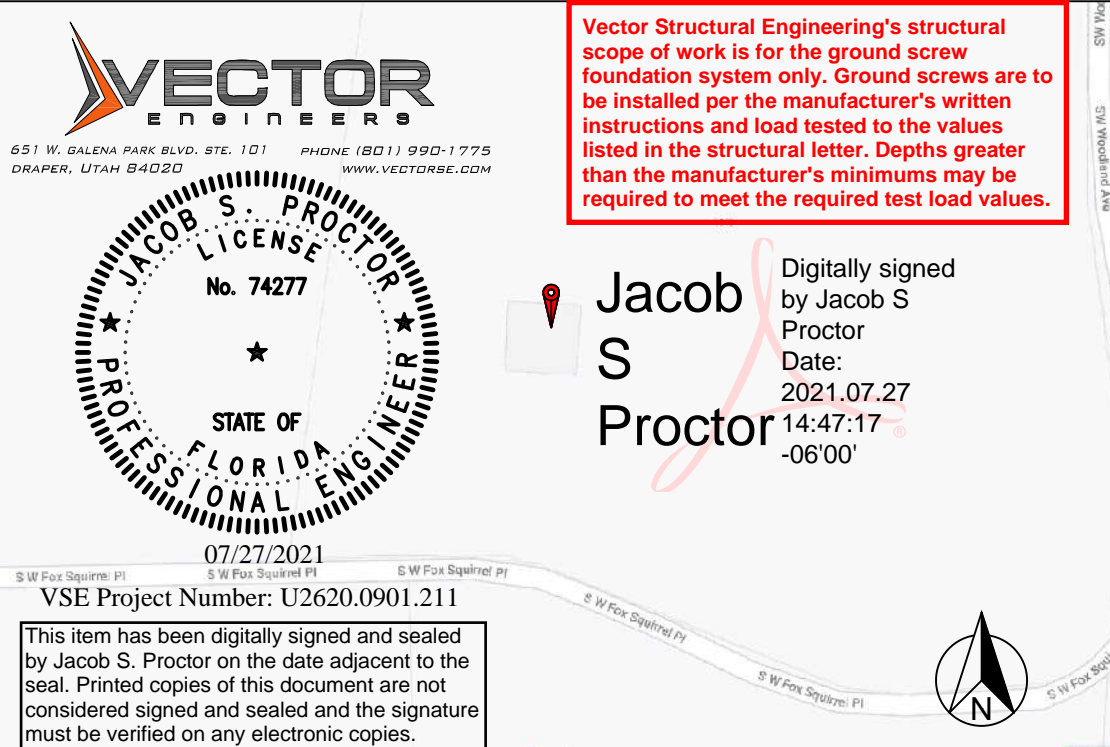



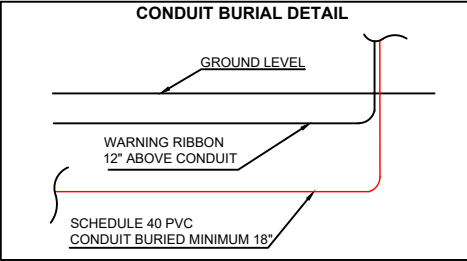
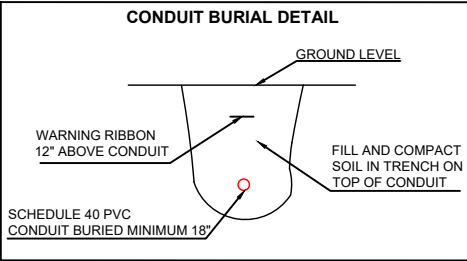

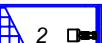

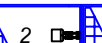













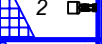







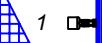








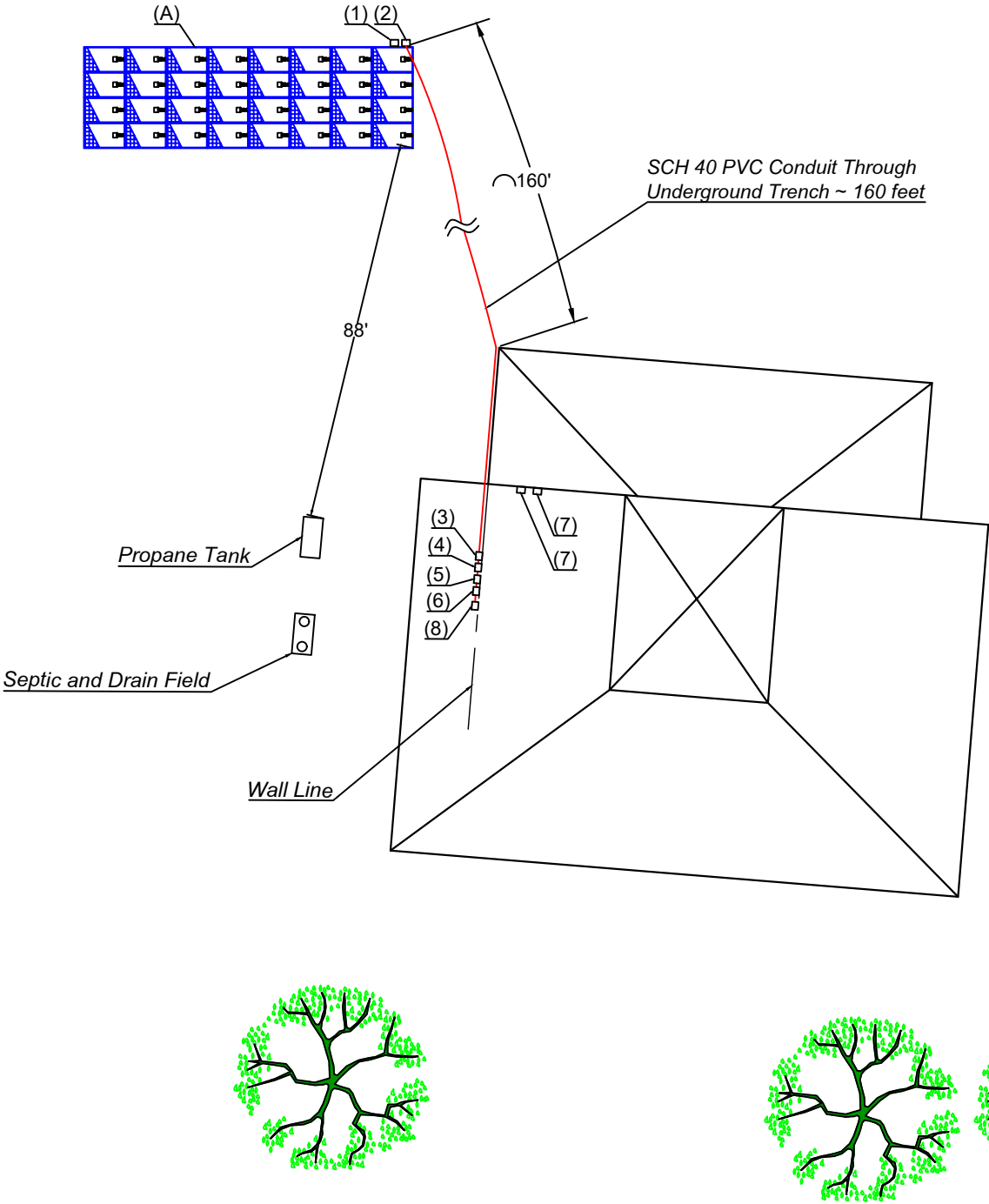
INDEX		GENERAL NOTES:			PROJECT DESCRIPTION:														
MSP	Main Service Panel	<p>ALL ELECTRICAL WORK TO BE INSTALLED BY A QUALIFIED AND LICENSED ELECTRICAL CONTRACTOR.</p> <p>ALL SOLAR MODULES SHALL BE UL LISTED 1703 & CEC APPROVED. ALL INVERTERS SHALL BE UL LISTED 1741 CERTIFIED & CEC APPROVED. ALL ELECTRICAL COMPONENTS AND MATERIALS SHALL BE LISTED FOR ITS PURPOSE AND INSTALLED IN A WORKMAN LIKE MANNER. ALL OUTDOOR EQUIPMENT SHALL MEET APPROPRIATE NEMA STANDARDS.</p> <p>THE ELECTRICAL CONTRACTOR IS ADVISED THAT ALL DRAWINGS AND COMPONENT MANUALS ARE TO BE UNDERSTOOD PRIOR TO INSTALLATION. THE CONTRACTOR IS ADVISED TO HAVE ALL SWITCHES IN THE OFF POSITION AND FUSES REMOVED PRIOR TO INSTALLATION OF FUSE-BEARING COMPONENTS.</p> <p>THIS SYSTEM IS INTENDED TO BE OPERATED IN PARALLEL WITH THE UTILITY SERVICE PROVIDER. ANTI-ISLANDING PROTECTION IS A REQUIREMENT OF UL 1741 AND IS INTENDED TO PREVENT THE OPERATION OF THE PV SYSTEM WHEN THE UTILITY GRID IS NOT OPERATIONAL.</p> <p>PERMISSION TO OPERATE THE SYSTEM IS NOT AUTHORIZED UNTIL FINAL INSPECTIONS AND APPROVALS ARE OBTAINED FROM THE LOCAL AUTHORITY HAVING JURISDICTION AND THE LOCAL UTILITY SERVICE PROVIDER.</p> <p>THE METHOD OF ATTACHMENT CREATES A UNIFIED STRUCTURE TO MEET DEAD LOAD, WIND LOAD, AND SEISMIC REQUIREMENTS. SOLAR MODULES WILL BE SECURED TO THE EXISTING ROOF AS SPECIFIED ON THE STRUCTURAL SHEETS. EXISTING ROOF EQUIPMENT WILL NOT BE EFFECTED BY THE PV SYSTEM. ALL STRUCTURAL DESIGN AND INSTALLATION COMPONENTS ARE THE RESPONSIBILITY OF OTHERS AND OUTSIDE THE SCOPE OF THIS DOCUMENT.</p> <p>ALL FASTENERS SHALL BE CORROSION RESISTANT APPROPRIATE FOR SITE CONDITIONS. CONNECTORS SHALL BE TORQUED PER DEVICE LISTING OR ENGINEERING RECOMMENDATIONS.</p> <p>ALL ROOFING REPAIR MUST MAINTAIN EXISTING CLASS AND TYPE OF ROOF AND ALL WORK SHALL BE IN ACCORDANCE WITH THE ROOF IN MANUFACTURER'S INSTALLATION REQUIREMENTS.</p>			SYSTEM SIZE: DC STC: 10.88 kW AC SIZE: 9.0 kW														
SSP	Service Sub Panel				SOLAR MODULES: (32) LG SOLAR 340W (LG340N1K-V5)														
INV	Solar Inverter				INVERTER: (1) SOLAREEDGE 6.0kW INVERTER (SE6000H-US ENERGY HUB) (1) SOLAREEDGE 3.0kW INVERTER (SE3000H-US)														
VLLD	Visible Lockable Labeled Disconnect				OPTIMIZERS: (32) SOLAR EDGE P340 OPTIMIZERS														
DCD	DC Disconnect				EXISTING MSP BUS: 2x200A														
J.B	Junction Box				EXISTING MAIN BREAKER: 2x200A														
IQB	IQ Combiner Box				PV BREAKER: N/A														
PVLC	PV Load Center				ONE STORY BUILDING														
PM	Performance Meter				ROOF TYPE: COMPOSITION SHINGLE														
	Power Optimizer / Microinverter				MOUNTING SYSTEM: IRONRIDGE GROUND MOUNT RACKING														
	PVC/RMC/EMT Type Conduit				PARCEL NUMBER: 317S1710070108														
	FMT Type Conduit				LOT AREA: 10.06 ACRES														
	Setback Line				LIVING AREA: 3,644 SQFT														
	(N) Solar PV Module				APPLICABLE CODES														
	(E) Satellite				<u>2020 Florida Building Codes 7th Edition</u>														
	(E) Solar PV Module	2020 Florida Building Code - Residential 7th Edition																	
	(E) Chimney	2020 Florida Building Code - Building 7th Edition																	
	(E) AC Unit	2020 Florida Building Code - Energy 7th Edition																	
SHEET INDEX		PROJECT VICINITY MAP			PROJECT SATELLITE VIEW														
T	TITLE PAGE		 <p>Vector Structural Engineering's structural scope of work is for the ground screw foundation system only. Ground screws are to be installed per the manufacturer's written instructions and load tested to the values listed in the structural letter. Depths greater than the manufacturer's minimums may be required to meet the required test load values.</p> <p>Digitally signed by Jacob S Proctor Date: 2021.07.27 14:47:17 -06'00'</p> <p>This item has been digitally signed and sealed by Jacob S. Proctor on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.</p>																
PV1	SITE PLAN																		
PV2	LINE DIAGRAM																		
PV3	CODE REQUIRED SIGNAGE																		
PV4	ATTACHMENT LAYOUT																		
D1	MODULE DATA SHEET																		
D2	OPTIMIZER DATA SHEET																		
D3	INVERTER DATA SHEET																		
D4	RACKING DATA SHEET																		
D5	RACKING DATA SHEET																		
D6	RACKING & MODULE CERTIFICATIONS																		
D7	GROUNDING SPECS																		
D8	GROUND SCREW DATA SHEET																		
D9	ILSCO DATA SHEET																		
Project Name		Address		Project Description		Contractor		Contractor Logo		Signature		Note		Drawn By: Unique Solar Design		General Notes			
Richard Frey		1042 SW Woodland Ave., Fort White, FL 32038		10.88KW DC Ground Mounted PV Electrical System 32-LG 340W PV Modules 1-Solar Edge 6.0kW Inverter 1-Solar Edge 3.0kW Inverter		Green Solar												Date JULY 11, 2021 Scale AS INDICATED Project PV SYSTEM SHEET SIZE 11" X 17" ANSI B SHEET NUMBER T	

EQUIPMENT INFORMATION	
32 (N) LG Solar 340W LG340N1K-V5 Modules (Page D1)1	
32 (N) SolarEdge P340 Optimizers (Page D2)	
1	1 (N) Junction-Box
2	1 (N) 60A Non-Fused DC Disconnect (At the array)
3	1 (N) SolarEdge SE6000H-US Energy Hub (120/240V) (Page D3)
4	1 (N) SolarEdge SE3000H-US (120/240V) (Page D3)
5	1 (N) 100A PV Load Center (120/240V)
6	1 (N) 60A Fused AC Disconnect (120/240V)
7	2 (E) 200A Main Service Panel (120/240V, 1φ, 3W) (Inside the Basement)
8	(E) Utility Meter (120/240V, 1φ, 3W)
A	32 LG Solar 340W / 32 P340 Optimizers Pitch 20° / Az. 180°

NOTE: PVC conduit and fittings directly buried
in earth at a depth not less than 18"

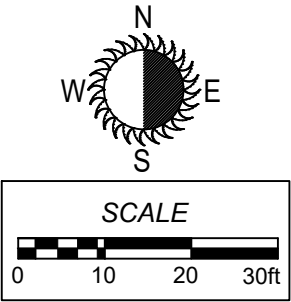


STRINGS CONFIGURATION											
											
											
											
											



SW Woodland Ave.

S W Fox Squirrel Pl.



<u>Project Name</u>	<u>Address</u>	<u>Project Description</u>	<u>Contractor</u>	<u>Contractor Logo</u>	<u>Signature</u>	<u>Note</u>	Drawn By: Unique Solar Design	General Notes	
<u>Richard Frey</u>	<u>1042 SW Woodland Ave., Fort White, FL 32038</u>	10.88KW DC Ground Mounted PV Electrical System 32-LG 340W PV Modules 1-Solar Edge 6.0kW Inverter 1-Solar Edge 3.0kW Inverter	<u>Green Solar</u>					Date	JULY 11, 2021
								Scale	AS INDICATED
								Project	PV SYSTEM
								SHEET SIZE 11" X 17" ANSI B	
								SHEET NUMBER PV1	

EQUIPMENT INFORMATION	
1	32 (N) LG Solar 340W LG340N1K-V5 Modules (Page D1)
2	32 (N) SolarEdge P340 Optimizers (Page D2)
3	1 (N) Junction-Box
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8	1 (N) 60A Fused AC Disconnect (120/240V)
9	2 (E) 200A Main Service Panel (120/240V, 1φ, 3W) (Inside the Basement)
10	(E) Utility Meter (120/240V, 1φ, 3W)

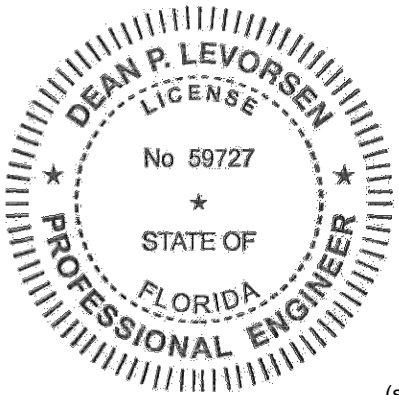
WIRE TAG#	WIRE TYPE/QTY/SIZE COPPER	GRD-SIZE	WIRE AMP	TERMINAL RATING	CONDUIT TYPE	CONDUIT RUN	TEMP. CORRECTION	AMP. ADJ C.C.C	CURRENT
A	PV WIRE (2) #10	#6, BARE CU	40A	90°	OPEN AIR	>3.5 - 12"	0.71	1	28.4 > 18.8A
B	THWN-2 (6) #8 (3) DC + (3) DC -	#8, EGC CU	55A	90°	1" EMT 1" PVC 1" EMT	ABOVE GROUND UNDER GROUND ALONG THE WALL	0.71	0.8 (6 WIRES)	31.2 > 18.8A
C	THWN-2 (3) #8 (L1,L2,N)	#8, EGC CU	55A	90°	3/4" EMT	ALONG THE WALL	0.91	1	50.1 > 31.3A
D	THWN-2 (3) #10 (L1,L2,N)	#8, EGC CU	40A	90°	3/4" EMT	ALONG THE WALL	0.91	1	36.4 > 15.6A
E	THWN-2 (3) #6 (L1,L2,N)	#8, EGC CU	75A	90°	3/4" EMT	ALONG THE WALL	0.91	1	68.3 > 46.9A

PV SYSTEM OUTPUT
CALCULATION

MAX DC OUTPUT:
340W * 32 = 10.88kW
MAX AC OUTPUT: 9.0kW

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ELECTRICAL ONLY



PHONE (801) 990-1775
WWW.VECTORSE.COM

Firm License Number: COA 26626
VSE Project Number: U2620.0901.211

Dean P
Levorsen

Digitally signed by
Dean P Levorsen
Date: 2021.07.27
15:26:19 -06'00'

Line Side tap connection
with ilsco connectors
(see spec sheet page, D9)

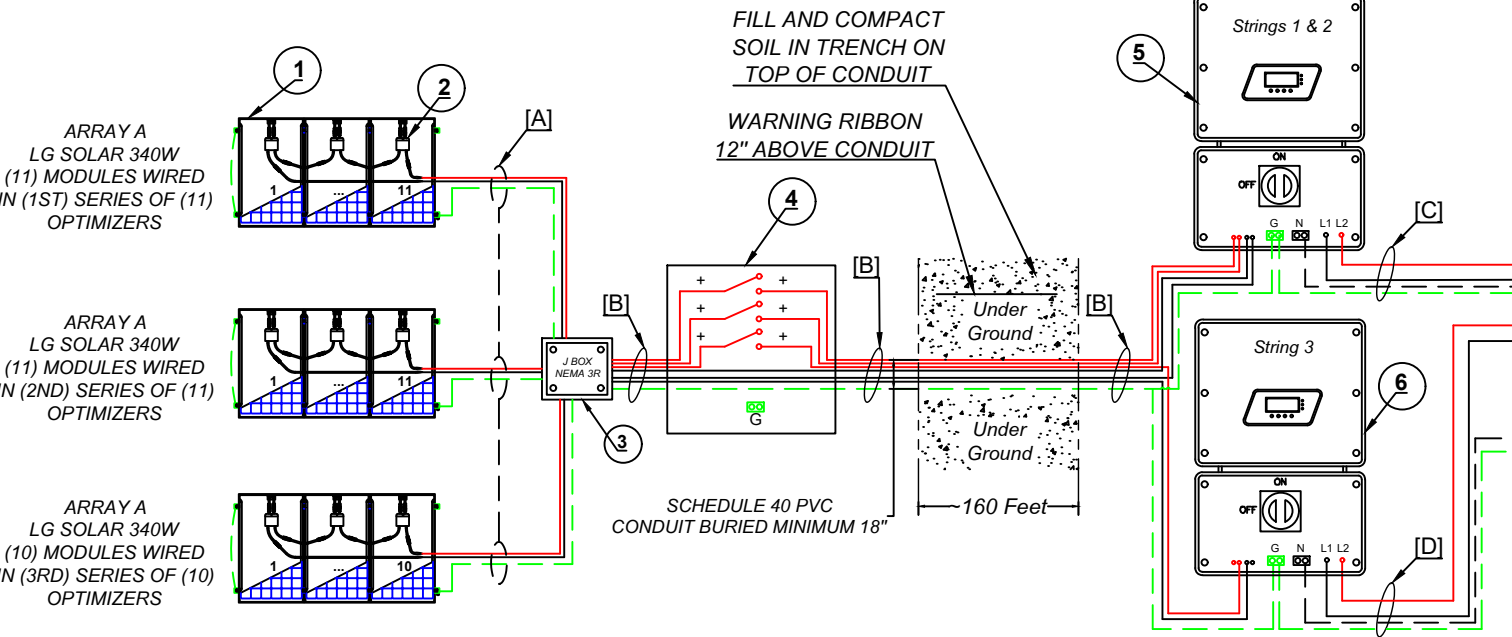
200A END
FEED MAIN
OCPD

TO UTILITY GRID

200A END
FEED MAIN
OCPD

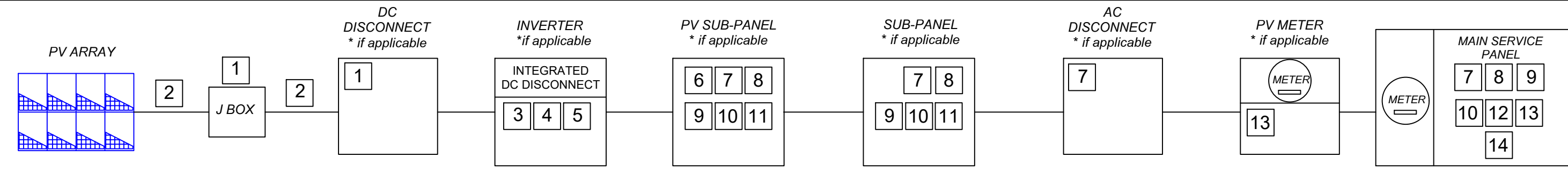
2x60A Fuses

8' Minimum Embedment Rod at 6'
From Equipment Ground Conductor Unless
Existing Ground is UFER.



Photovoltaic system is rapid shut down ready

Project Name	Address	Project Description	Contractor	Contractor Logo	Signature	Note	Drawn By: Unique Solar Design	General Notes	
Richard Frey	1042 SW Woodland Ave., Fort White, FL 32038	10.88KW DC Ground Mounted PV Electrical System 32-LG 340W PV Modules 1-Solar Edge 6.0kW Inverter 1-Solar Edge 3.0kW Inverter	Green Solar	Powered by GreenSolar				Date JULY 11, 2021	SHEET SIZE 11" X 17" ANSI B
								Scale AS INDICATED	SHEET NUMBER
								Project PV SYSTEM	PV2



1

CAUTION
AUTHORIZED SOLAR
PERSONNEL ONLY!

2

WARNING: PHOTOVOLTAIC POWER SOURCE

(STICKER TO BE LOCATED ON
CONDUIT WITH DC CURRENT
EVERY 4' HORIZONTALLY OR
10' VERTICALLY AND 1' FROM
EACH SIDE OF A BEND)

3

WARNING!
ELECTRIC SHOCK HAZARD.
IF GROUND FAULT IS INDICATED,
NORMALLY GROUND
CONDUCTORS MAY BE
UNGROUND AND ENERGIZED.

4

DC DISCONNECT
DC PHOTOVOLTAIC POWER SOURCE
RATED MAX POWER POINT CURRENT- 9.69 AMPS
RATED MAX POWER POINT VOLTAGE- 380 VOLTS
MAXIMUM SYSTEM VOLTAGE- 480 VOLTS
SHORT CIRCUIT CURRENT- 15.0 AMPS

5

WARNING!
ELECTRIC SHOCK HAZARD.
TERMINALS ON BOTH THE LINE AND
LOAD SIDES MAY BE ENERGIZED IN
THE OPEN POSITION.

6

PV SUB-PANEL ONLY

(TO BE LOCATED ON
SUB-PANEL ONLY
WHEN SUB-PANEL IS
DEDICATED FOR PV ONLY)

7

AC DISCONNECT
AC PHOTOVOLTAIC POWER SOURCE
RATED AC OUTPUT CURRENT: 37.5 A MAX
NOMINAL AC OPERATING VOLTAGE: 240 Vac

8

THIS PANEL FED BY
MULTIPLE SOURCES
(UTILITY & SOLAR)

9

SOLAR

(STICKER LOCATED
INSIDE PANEL
NEXT TO SOLAR BREAKER)

10

WARNING
INVERTER OUTPUT CONNECTION. DO NOT
RELOCATE THIS OVERCURRENT DEVICE

(STICKER LOCATED
INSIDE PANEL
BELOW PV BREAKER)

11

PV LOAD CENTER SIZED FOR PV
BREAKERS ONLY OR RENDERED UNABLE
TO ACCEPT ANY ADDITIONAL LOADS.

(STICKER LOCATED
ON THE PV SUB PANEL)

12

PHOTOVOLTAIC SYSTEM
IS EQUIPPED WITH
RAPID SHUT DOWN

13

CAUTION
DUAL POWER SOURCE SECOND
SOURCE IS PHOTOVOLTAIC SYSTEM

705.12 (D)(3)

14

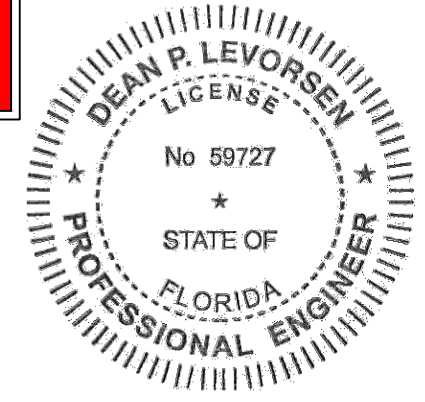
SOLAR PV SYSTEM EQUIPPED
WITH RAPID SHUTDOWN

TURN RAPID SHUTDOWN
SWITCH TO THE "OFF"
POSITION TO SHUT
DOWN PV SYSTEM AND
REDUCE SHOCK
HAZARD IN THE ARRAY

VECTOR
ENGINEERS
651 W. GALENA PARK BLVD. STE. 101 DRAPER, UTAH 84020
PHONE (801) 990-1775 WWW.VECTORSE.COM

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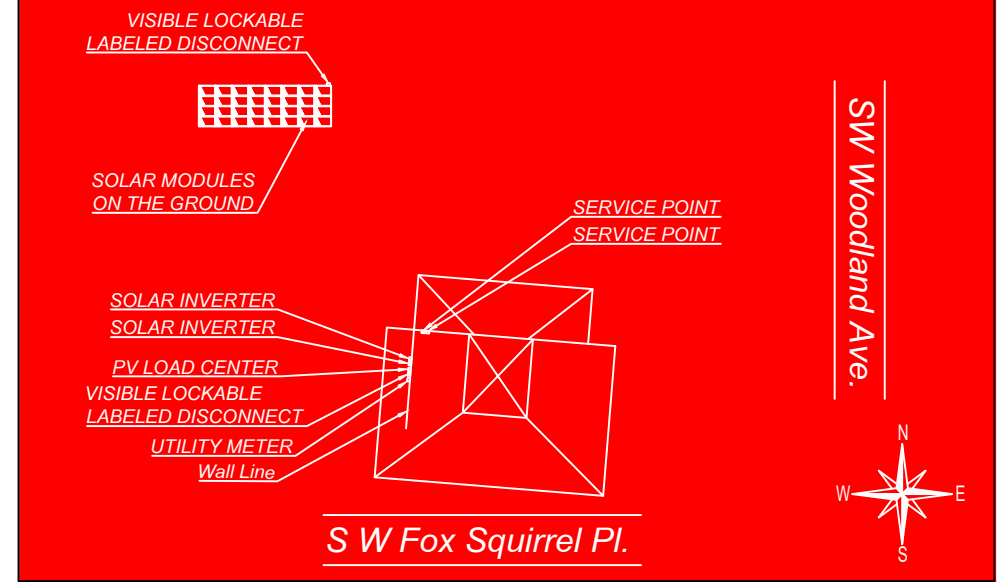
Digitally signed
by Dean P
Levorsen
Date: 2021.07.27
15:26:40 -06'00'

07/27/2021

Firm License Number: COA 26626
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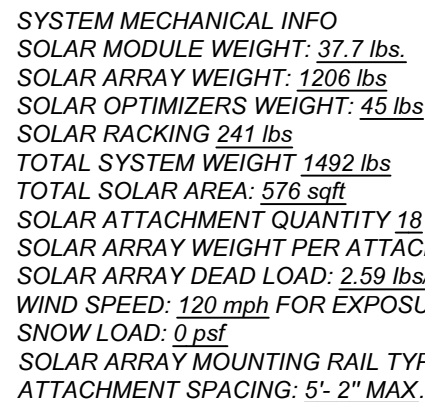
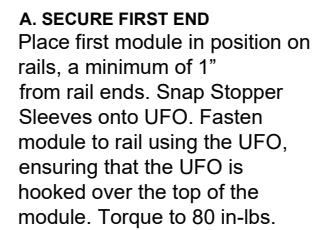
CAUTION

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



ALL SIGNAGE/LABELS SHALL BE IN THE FOLLOWING FORMAT:
1. WHITE LETTERING ON A RED BACKGROUND AND WEATHER RESISTANT
2. MINIMUM 3/8" LETTER HEIGHT
3. ALL LETTERS SHALL BE CAPITALIZED
4. ARIAL OR SIMILAR FONT, NON-BOLD
5. SHALL BE IN ACCORDANCE WITH APPROPRIATE SECTIONS, TABLES AND ARTICLES OF THE NEC, IFC.

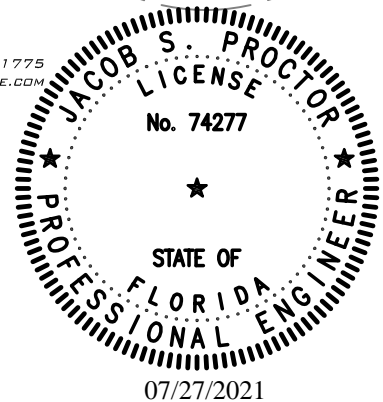
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Richard Frey	1042 SW Woodland Ave., Fort White, FL 32038	10.88KW DC Ground Mounted PV Electrical System 32-LG 340W PV Modules 1-Solar Edge 6.0kW Inverter 1-Solar Edge 3.0kW Inverter	Green Solar	Powered by GreenSolar				Date JULY 11, 2021	SHEET SIZE 11" X 17" ANSI B
								Scale AS INDICATED	SHEET NUMBER
								Project PV SYSTEM	PV3



B. SECURE LAST END
Place last module in position on rails, a minimum of 1" from rail ends. Snap Stopper Sleeves onto UFO. Secure UFO Clamps on rails, ensuring they are hooked over top of module. Torque to 80 in-lbs.

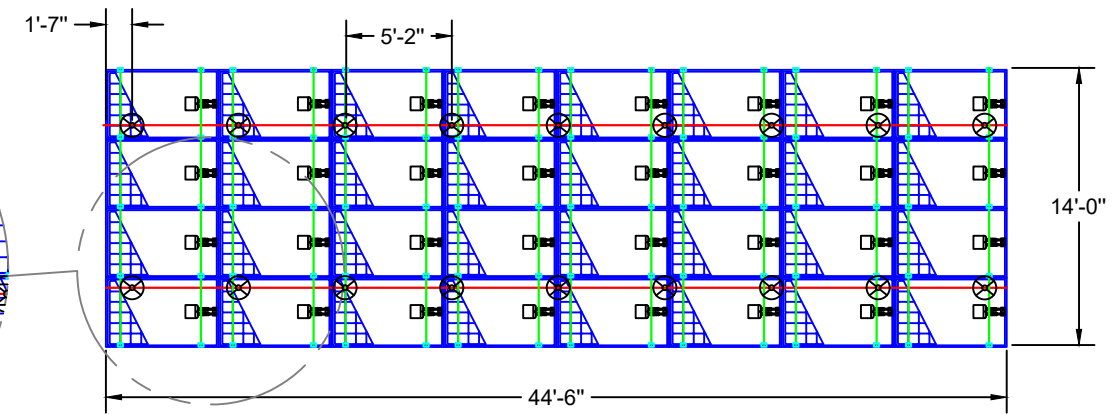


651 W. GALENA PARK BLVD. STE. 101 PHONE (801) 990-1775
DRAPER, UTAH 84020 WWW.VECTORSE.COM



VSE Project Number: U2620.0901.211

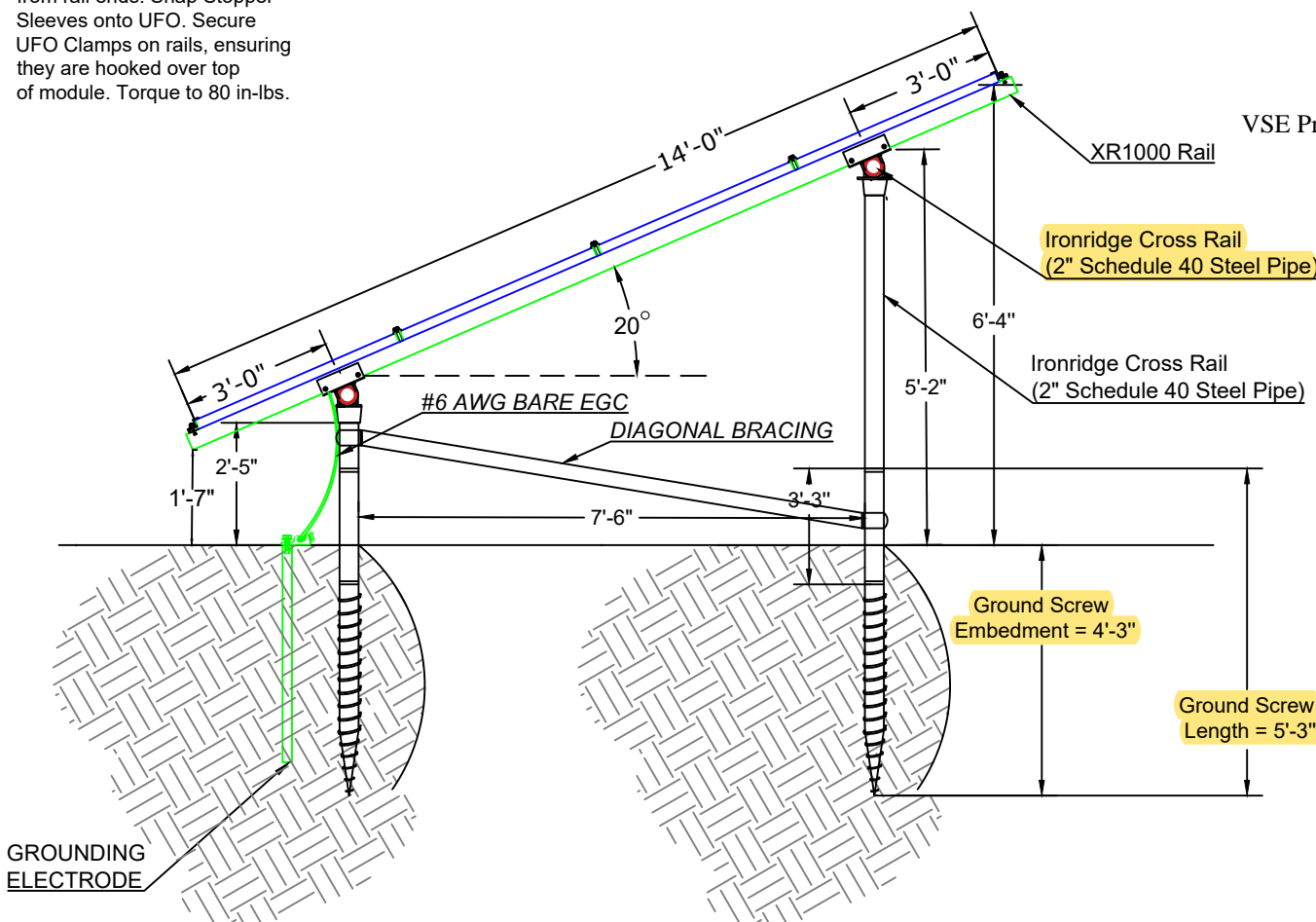
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Jacob
S
Proctor

Digitally signed
by Jacob S
Proctor
Date:
2021.07.27
14:47:29
-06'00'

Vector Structural Engineering's structural scope of work is for the ground screw foundation system only. Ground screws are to be installed per the manufacturer's written instructions and load tested to the values listed in the structural letter. Depths greater than the manufacturer's minimums may be required to meet the required test load values.



XR1000

RAIL CONNECTOR

TOP CAP

FITTINGS ASSEMBLY

CLAMPS

CLAMP END (UFO)

CLAMP MID STD

CLAMP END (CAMO)

PIPE FITTINGS DETAILS

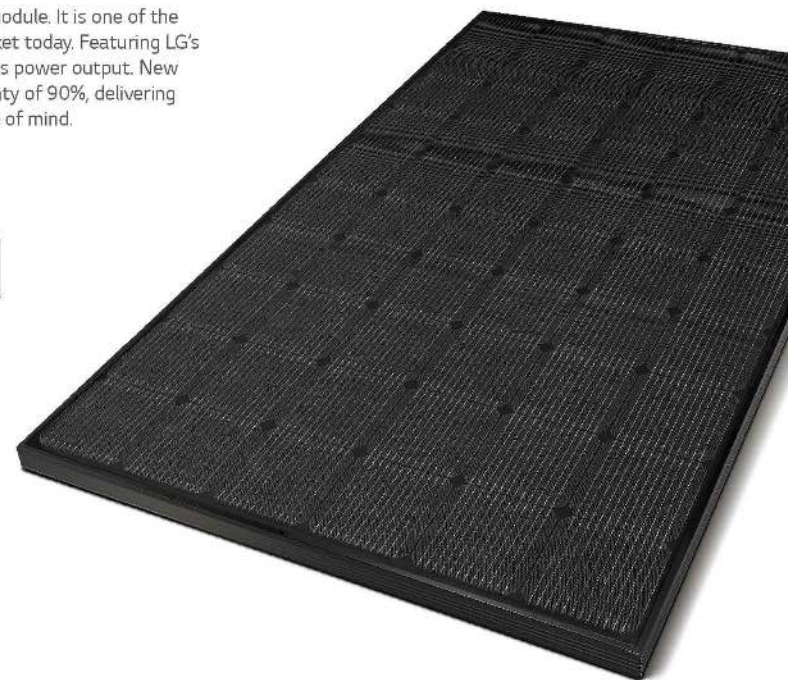
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								Date	
Richard Frey	1042 SW Woodland Ave., Fort White, FL 32038	10.88KW DC Ground Mounted PV Electrical System 32-LG 340W PV Modules 1-Solar Edge 6.0kW Inverter 1-Solar Edge 3.0kW Inverter	Green Solar					Date	JULY 11, 2021
								Scale	AS INDICATED
								Project	PV SYSTEM
								<div> <div>SHEET SIZE 11" X 17" ANSI B</div> <div>SHEET NUMBER</div> <div>PV4</div> </div>	

LG NeON[®] 2 Black

LG340N1K-V5 | LG335N1K-V5 | LG330N1K-V5

340W | 335W | 330W

The LG NeON[®] 2 Black is LG's best selling solar module. It is one of the most powerful and versatile modules on the market today. Featuring LG's Cello Technology, the LG NeON[®] 2 Black optimizes power output. New updates include an extended performance warranty of 90%, delivering customers a greater sense of reliability and peace of mind.



Features



Roof Aesthetics

LG NeON[®] 2 Black has been designed with aesthetics in mind using thinner wires that appear all black at a distance. The LG NeON[®] 2 Black can increase the value of a your home with its modern design.



Better Performance on Sunny Days

LG NeON[®] 2 Black now performs better on sunny days, thanks to its improved temperature coefficient.



Enhanced Product Warranty

LG provides the product warranty of the LG NeON[®] 2 Black to an industry-leading 25 years.



Enhanced Performance Warranty

LG NeON[®] 2 Black has an enhanced performance warranty. After 25 years, LG NeON[®] 2 Black is guaranteed to perform at minimum 90.0% of initial performance.

LG NeON[®] 2 Black

Preliminary

LG340N1K-V5 | LG335N1K-V5 | LG330N1K-V5

General Data

Cell Properties (Material / Type)	Monocrystalline / N-type
Cell Maker	LG
Cell Configuration	60 Cells (6 x 10)
Number of Busbars	12 EA
Module Dimensions (L x W x H)	1,586mm x 1,016mm x 40 mm
Weight	17.1 kg
Glass (Material)	Tempered Glass with AR coating
Backsheet (Color)	Black
Frame (Material)	Anodized Aluminium
Junction Box (Protection Degree)	IP 68 with 3 Bypass Diodes
Cables (Length)	1,000 mm x 2 EA
Connector (Type / Maker)	MC4 / MC

Electrical Properties (STC*)

Model		LG340N1K-V5	LG335N1K-V5	LG330N1K-V5
Maximum Power (Pmax)	[W]	340	335	330
MPP Voltage (Vmpp)	[V]	34.9	34.5	34.1
MPP Current (Impp)	[A]	9.75	9.72	9.69
Open Circuit Voltage (Voc)	[V]	41.2	41.1	41.0
Short Circuit Current (Isc)	[A]	10.35	10.31	10.27
Module Efficiency	[%]	19.8	19.6	19.3
Power Tolerance	[%]	0 ~ +3		

* STC (Standard Test Condition): Irradiance 1000 W/m², Cell temperature 25 °C, AM 1.5, Measure Tolerance : ±3%.

Temperature Characteristics

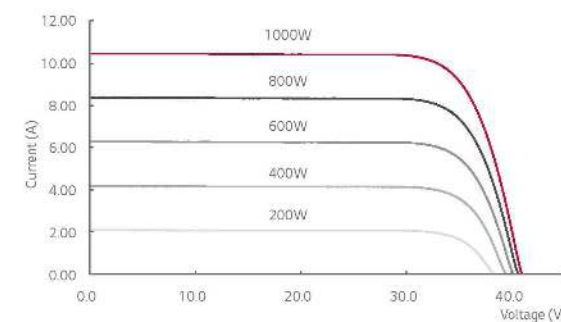
NMOT*	[°C]	42 ± 3
P _{max}	[%/°C]	-0.36
V _{oc}	[%/°C]	-0.27
I _{sc}	[%/°C]	0.03

* NMOT (Nominal Module Operating Temperature): Irradiance 900 W/m², Ambient temperature 20°C, Wind speed 1 m/s, Spectrum AM 1.5

Electrical Properties (NMOT)

Model		LG340N1K-V5	LG335N1K-V5	LG330N1K-V5
Maximum Power (Pmax)	[W]	254	250	247
MPP Voltage (Vmpp)	[V]	32.7	32.3	31.9
MPP Current (Impp)	[A]	7.77	7.75	7.73
Open Circuit Voltage (Voc)	[V]	38.7	38.6	38.5
Short Circuit Current (Isc)	[A]	8.32	8.29	8.26

I-V Curves



Certifications and Warranty

Certifications	IEC 61215-1/-1-1 / 2:2016, IEC 61730-1/2:2016 ISO 9001, ISO 14001, ISO 50001 OHSAS 18001
Salt Mist Corrosion Test	IEC 61701 : 2012 Severity 6
Ammonia Corrosion Test	IEC 62716 : 2013
Fire Rating	Class C (UL 790)
Solar Module Product Warranty	25 Years
Solar Module Output Warranty	Linear Warranty*

* 1) 1st years : 98%, 2) After 1st year : 0.33% annual degradation, 3) 90.08% for 25 years

Operating Conditions

Operating Temperature	[°C]	-40 ~ +90
Maximum System Voltage	[V]	1000 (UL), 1000 (IEC)
Maximum Series Fuse Rating	[A]	20
Mechanical Load* (Front)	[Pa]	5,400 / 113
Mechanical Load* (Rear)	[Pa]	4,000 / 84

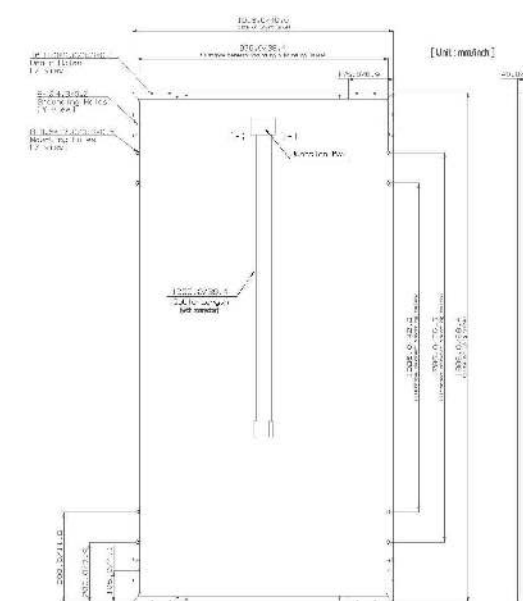
* Manufacturer Declaration according to IEC 61215 : 2005

* Mechanical Test Loads 5,400 Pa / 4,000 Pa based on IEC 61215-2 : 2016
(Test Load = Design Load x Safety Factor(1.5))

Packaging Configuration

Number of Modules per Pallet	[EA]	25
Number of Modules per 40ft HQ Container	[EA]	650
Packaging Box Dimensions (L x W x H)	[mm]	1,750 x 1,120 x 1,221
Packaging Box Gross Weight	[kg]	464

Dimensions (mm / inch)



<u>Project Name</u>	<u>Address</u>	<u>Project Description</u>	<u>Contractor</u>	<u>Contractor Logo</u>	<u>Signature</u>	<u>Note</u>	<u>Drawn By: Unique Solar Design</u>	General Notes	
<u>Richard Frey</u>	<u>1042 SW Woodland Ave., Fort White, FL 32038</u>	10.88KW DC Ground Mounted PV Electrical System 32-LG 340W PV Modules 1-Solar Edge 6.0kW Inverter 1-Solar Edge 3.0kW Inverter	<u>Green Solar</u>					Date	JULY 11, 2021
								Scale	AS INDICATED
								Project	PV SYSTEM
								SHEET SIZE 11" X 17" ANSI B	
								SHEET NUMBER D1	

Power Optimizer

For North America

P320 / P340 / P370 / P400 / P405 / 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 / P405 / 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)	P405 (for thin film modules)	P505 (for higher current modules)	
INPUT							
Rated Input DC Power ¹	320	340	370	400	405	505	W
Absolute Maximum Input Voltage (Voc at lowest temperature)	48	60	60	125 ²	83 ²		Vdc
MPPT Operating Range	8 - 48	8 - 60	8 - 60	12.5 - 105	12.5 - 83		Vdc
Maximum Short Circuit Current (sc)	11			10.1	14		Adc
Maximum DC Input Current	13.75			12.63	17.5		Adc
Maximum Efficiency			99.5				%
Weighted Efficiency		98.8			98.6		%
Overvoltage Category			II				
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREEDGE INVERTER)							
Maximum Output Current			15				Adc
Maximum Output Voltage		60		85			Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREEDGE INVERTER OR SOLAREEDGE INVERTER OFF)							
Safety Output Voltage per Power Optimizer			1 ± 0.1				Vdc
STANDARD COMPLIANCE							
FMC			FCC Part 15 Class B, IFC61000-6-2, IFC61000-6-4				
Safety			IEC62109-1 (class II safety), UL1741				
RoHS			Yes				
INSTALLATION SPECIFICATIONS							
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 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	845 / 1.9	1064 / 2.3		gr / lb
Input Connector			MC4 ³				
Output Wire Type / Connector			Double Insulated, MC4				
Output Wire Length	0.95 / 3.0			1.2 / 3.9			m / ft
Input Wire Length			0.16 / 0.52				m / ft
Operating Temperature Range			-40 - +85 / -40 - +185				°C / °F
Protection Rating			IP68 / NEMA6P				
Relative Humidity			0 - 100				%

¹ Rated STC power of the module. Module of up to +5% power tolerance allowed.

² NEC 2017 requires max input voltage be not more than 800V.

³ For other connector types please contact SolarEdge.

PV System Design Using a SolarEdge Inverter ⁴⁾⁽⁵⁾	Single Phase HD-Wave	Single phase	Three Phase 208V	Three Phase 480V	
Minimum String Length (Power Optimizers)	P320, P340, P370, P400	8	10	18	
	P405 / P505	6	8	14	
Maximum String Length (Power Optimizers)		25	25	50 ⁽⁶⁾	
Maximum Power per String	5700 (6000 with SE7500-US - SE11400-US)	5250	6000 ⁽⁷⁾	12750 ⁽⁸⁾	W
Parallel Strings of Different Lengths or Orientations			Yes		

⁴ For detailed string sizing information refer to: http://www.solaredge.com/sites/default/files/string_sizing_na.pdf

⁵ It is not allowed to mix P405/P505 with P320/P340/P370/P400 in one string.

⁶ A string with more than 50 optimizers does not meet NEC rapid shutdown requirements; safety voltage will be above the 50V requirement.

⁷ For SE11400US/SE13200US: it is allowed to install up to 6,500W per string when 3 strings are connected to the inverter (3 strings per unit for SE13200US) and when the maximum power difference between the strings is up to 1,000W.

⁸ For SE3000US/SE3330US/SE6550US/SE1000US: it is allowed to install up to 15,000W per string when 3 strings are connected to the inverter (3 strings per unit for SE6550US/SE1000US) and when the maximum power difference between the strings is up to 2,000W.

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CE RoHS

<u>Project Name</u>	<u>Address</u>	<u>Project Description</u>	<u>Contractor</u>	<u>Contractor Logo</u>	<u>Signature</u>	<u>Note</u>	Drawn By: Unique Solar Design	General Notes	
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								Scale	AS INDICATED
								Project	PV SYSTEM
								SHEET SIZE 11" X 17" ANSI B	
								SHEET NUMBER D2	

**/ Single Phase Energy Hub Inverter
with Prism Technology
for North America**

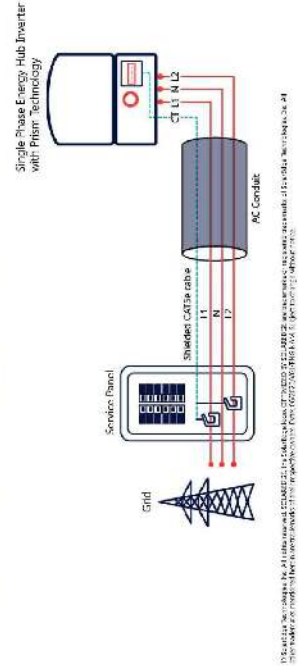
SE3000H-US / SE3800H-US / SE6000H-US / SE7600H-US⁽¹⁾

SE1000H-US	SE3800H-US	SE6000H-US	SE7600H-US	UNITS
OUTPUT - AC ON GRID				
Power AC Total	3000	3600	4320	W
Power AC Power Output	2500	3000	3600	W
AC Output Voltage Range	AC Output Voltage Range			Volt
AC Output Frequency min - max	AC Output Frequency min - max			Hz
Regulator Control Queue Count	16.2	3	25	16
Power Threshold	Power Threshold			W
Total Inverter Current (A) DC	Total Inverter Current (A) DC			A
Power Total	Power Total			W
Charge Battery Power AC (W)	Charge Battery Power AC (W)			W
Charging Station Status (Indicates Charging Station is in a ready state)	Charging Station Status (Indicates Charging Station is in a ready state)			1
Output - AC Backlog	Output - AC Backlog			W
OUTPUT - AC BACKLOG				
Power AC Total	2500	3000	4320	W
Power AC Power Output	2000	2400	3600	W
AC Output Voltage Range	AC Output Voltage Range			Volt
AC Output Frequency min - max	AC Output Frequency min - max			Hz
Regulator Control Queue Count	16.2	3	25	16
Power Threshold	Power Threshold			W
Total Inverter Current (A) DC	Total Inverter Current (A) DC			A
Power Total	Power Total			W
Charge Battery Power AC (W)	Charge Battery Power AC (W)			W
Charging Station Status (Indicates Charging Station is in a ready state)	Charging Station Status (Indicates Charging Station is in a ready state)			1
Output - AC Backlog	Output - AC Backlog			W
INPUT - DC (PV AND BATTERY)				
Power AC Total	3000	3600	4320	W
Power AC Power Output	2500	3000	3600	W
AC Output Voltage Range	AC Output Voltage Range			Volt
AC Output Frequency min - max	AC Output Frequency min - max			Hz
Regulator Control Queue Count	16.2	3	25	16
Power Threshold	Power Threshold			W
Total Inverter Current (A) DC	Total Inverter Current (A) DC			A
Power Total	Power Total			W
Charge Battery Power AC (W)	Charge Battery Power AC (W)			W
Charging Station Status (Indicates Charging Station is in a ready state)	Charging Station Status (Indicates Charging Station is in a ready state)			1
Output - AC Backlog	Output - AC Backlog			W
INPUT - DC (PV AND BATTERY)				
Power AC Total	3000	3600	4320	W
Power AC Power Output	2500	3000	3600	W
AC Output Voltage Range	AC Output Voltage Range			Volt
AC Output Frequency min - max	AC Output Frequency min - max			Hz
Regulator Control Queue Count	16.2	3	25	16
Power Threshold	Power Threshold			W
Total Inverter Current (A) DC	Total Inverter Current (A) DC			A
Power Total	Power Total			W
Charge Battery Power AC (W)	Charge Battery Power AC (W)			W
Charging Station Status (Indicates Charging Station is in a ready state)	Charging Station Status (Indicates Charging Station is in a ready state)			1
Output - AC Backlog	Output - AC Backlog			W
INPUT - DC (BATTERY)				
Power AC Total	3000	3600	4320	W
Power AC Power Output	2500	3000	3600	W
AC Output Voltage Range	AC Output Voltage Range			Volt
AC Output Frequency min - max	AC Output Frequency min - max			Hz
Regulator Control Queue Count	16.2	3	25	16
Power Threshold	Power Threshold			W
Total Inverter Current (A) DC	Total Inverter Current (A) DC			A
Power Total	Power Total			W
Charge Battery Power AC (W)	Charge Battery Power AC (W)			W
Charging Station Status (Indicates Charging Station is in a ready state)	Charging Station Status (Indicates Charging Station is in a ready state)			1
Output - AC Backlog	Output - AC Backlog			W

**/ Single Phase Energy Hub Inverter
with Prism Technology
for North America**

SE3000H-US / SE3800H-US / SE6000H-US / SE7600H-US⁽¹⁾[illegible]

Connecting CTs to the Revenue Grade and Consumption Meter



RoHS

Single Phase Inverter with HD-Wave Technology

for North America

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



with HD-Wave Technology for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US/

SE7600H-US / SE10000H-US / SE11400H-US


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Optimized installation with HD-Wave technology

- Specifically designed to work with power optimizers
- Record-breaking 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 CEC Rule 21 grid compliance
- Extremely small
- Built in module level monitoring
- Outdoor and indoor installation
- Optional: Revenue grade data, ANSI C12.20 Class 0.5 (0.5% accuracy)

scisearch.com



Drawn By: Unique Solar Design		General Notes	
	Date	JULY 11, 2021	SHEET SIZE 11" X 17" ANSI B
	Scale	AS INDICATED	SHEET NUMBER
	Project	PV SYSTEM	<div style="font-size: 48pt; font-weight: bold;">D3</div>



Ground Mount System

Datasheet



Mount on all terrains, in no time.

The IronRidge Ground Mount System combines our XR1000 rails with locally-sourced steel pipes to create a cost-effective structure capable of handling any site or terrain challenge.

Installation is simple with only a few structural components and no drilling, welding, or heavy machinery required. In addition, the system works with a variety of foundation options, including concrete piers and driven piles.



Rugged Construction

Engineered steel and aluminum components ensure durability.



Simple Assembly

Just a few simple components and no heavy equipment.



Flexible Architecture

Multiple foundation and array configuration options.



PE Certified

Pre-stamped engineering letters available in most states.



Design Software

Online tool generates engineering values and bill of materials.



20 Year Warranty

Twice the protection offered by competitors.



360° Product Tour
Visit ironridge.com

Substructure

Top Caps



Connect vertical and horizontal pipes.

Rail Connectors



Attach Rail Assembly to horizontal pipes.

Diagonal Braces



Provide additional support where required.

Schedule 40 Pipes



Locally-sourced pipes serve as primary structure.

Rail Assembly

XR1000 Rails



Curved rails increase spanning capabilities.

Top-Down Clamps



Secure modules to rails and substructure.

Under Clamps



Alternative clamps for pre-attaching modules to rails.

Accessories



Wire Clips and End Caps provide a finished look.

Resources



Design Assistant

Go from rough layout to fully engineered system. For free.
Go to ironridge.com/gm



NABCEP Certified Training

Earn free continuing education credits, while learning more about our systems.
Go to ironridge.com/training

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<u>Project Name</u>	<u>Address</u>	<u>Project Description</u>	<u>Contractor</u>	<u>Contractor Logo</u>	<u>Signature</u>	<u>Note</u>	<u>Drawn By: Unique Solar Design</u>	General Notes	
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								Scale	AS INDICATED
								Project	PV SYSTEM
								SHEET SIZE 11" X 17" ANSI B	
								SHEET NUMBER	
								D4	

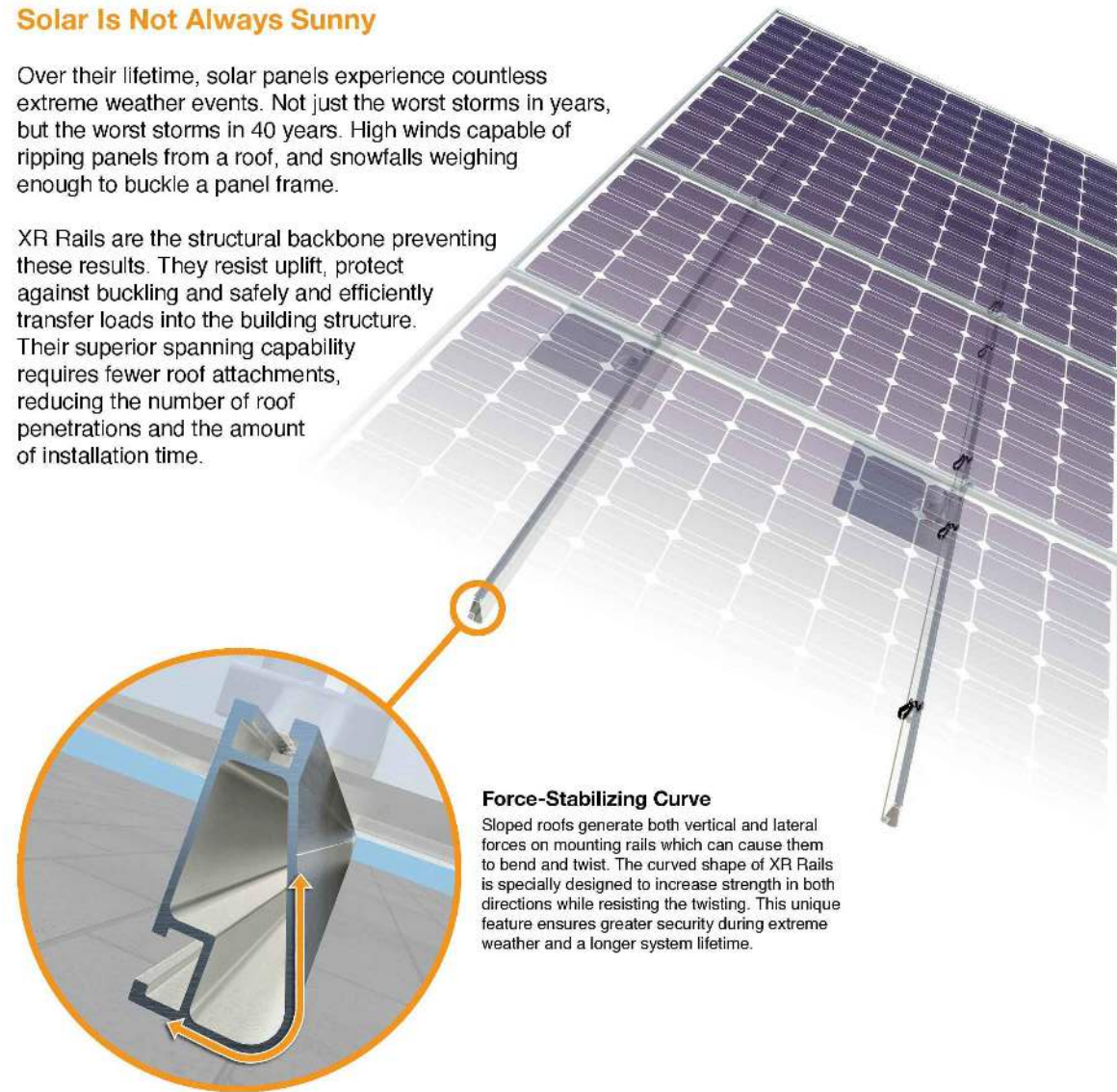


XR Rail Family

Solar Is Not Always Sunny

Over their lifetime, solar panels experience countless extreme weather events. Not just the worst storms in years, but the worst storms in 40 years. High winds capable of ripping panels from a roof, and snowfalls weighing enough to buckle a panel frame.

XR Rails are the structural backbone preventing these results. They resist uplift, protect against buckling and safely and efficiently transfer loads into the building structure. Their superior spanning capability requires fewer roof attachments, reducing the number of roof penetrations and the amount of installation time.



Force-Stabilizing Curve

Sloped roofs generate both vertical and lateral forces on mounting rails which can cause them to bend and twist. The curved shape of XR Rails is specially designed to increase strength in both directions while resisting the twisting. This unique feature ensures greater security during extreme weather and a longer system lifetime.

Compatible with Flat & Pitched Roofs



XR Rails are compatible with FlashFoot and other pitched roof attachments.



IronRidge offers a range of tilt leg options for flat roof mounting applications.

Corrosion-Resistant Materials

All XR Rails are made of marine-grade aluminum alloy, then protected with an anodized finish. Anodizing prevents surface and structural corrosion, while also providing a more attractive appearance.



Tech Brief

XR Rail Family

The XR Rail Family offers the strength of a curved rail in three targeted sizes. Each size supports specific design loads, while minimizing material costs. Depending on your location, there is an XR Rail to match.



XR10

XR10 is a sleek, low-profile mounting rail, designed for regions with light or no snow. It achieves 6 foot spans, while remaining light and economical.

- 6' spanning capability
- Moderate load capability
- Clear anodized finish
- Internal splices available



XR100

XR100 is the ultimate residential mounting rail. It supports a range of wind and snow conditions, while also maximizing spans up to 8 feet.

- 8' spanning capability
- Heavy load capability
- Clear & black anodized finish
- Internal splices available



XR1000

XR1000 is a heavyweight among solar mounting rails. It's built to handle extreme climates and spans 12 feet or more for commercial applications.

- 12' spanning capability
- Extreme load capability
- Clear anodized finish
- Internal splices available

Rail Selection

The following table was prepared in compliance with applicable engineering codes and standards. Values are based on the following criteria: ASCE 7-10, Roof Zone 1, Exposure B, Roof Slope of 7 to 27 degrees and Mean Building Height of 30 ft. Visit IronRidge.com for detailed span tables and certifications.

Load		Rail Span					
Snow (PSF)	Wind (MPH)	4'	5' 4"	6'	8'	10'	12'
None	100	XR10		XR100		XR1000	
	120						
	140						
	160						
10-20	100						
	120						
	140						
	160						
30	100						
	160						
40	100						
	160						
50-70	160						
80-90	160						

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Tech Brief

<u>Project Name</u>	<u>Address</u>	<u>Project Description</u>	<u>Contractor</u>	<u>Contractor Logo</u>	<u>Signature</u>	<u>Note</u>	<u>Drawn By: Unique Solar Design</u>	General Notes	
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								Scale	AS INDICATED
								Project	PV SYSTEM
								SHEET SIZE 11" X 17" ANSI B	
								SHEET NUMBER D5	



8431 Murphy Drive
Middleton, WI 53562 USA
Telephone: 608.836.4400
Facsimile: 608.831.9279
www.intertek.com

Test Verification of Conformity

In the basis of the tests undertaken, the sample(s) of the below product have been found to comply with the requirements of the referenced specifications at the time the tests were carried out.

Applicant Name & Address:	IronRidge, Inc. 1495 Zephyr Ave. Hayward, CA 94544 USA
Product Description:	XR Rails with Integrated Grounding.
Ratings & Principle Characteristics:	<u>Fire Class Resistance Rating:</u> -Tilt Mount (Asymmetrical). Class A Fire Rated for Low Slope applications with Type1, 2 and 3, listed photovoltaic modules. Class A Fire Rated for Steep Slope applications when using Type 1 and 2, listed photovoltaic modules. Angle of tilt allowed by the systems is any greater than or equal to 1° and specified in the installation instructions. A minimum of a 3" anchor and a minimum of a 6" tilt-leg is required. No perimeter guarding is required.
Models:	51-61GD-005, 51-61GD-005B, 51-5000-001 and 51-65-001
Brand Name:	IronRidge Roof Mount
Relevant Standards:	UL 2703 (Section 15.2 and 15.3) Standard for Safety Mounting Systems, Mounting Devices, Clamping/Retention Devices, and Ground Lugs for Use with Flat-Plate Photovoltaic Modules and Panels, First Edition dated Jan. 28, 2015 Referencing UL1703 Third Edition dated Nov. 18, 2014, (Section 31.2) Standard for Safety for Flat-Plate Photovoltaic Modules and Panels.
Verification Issuing Office:	Intertek Testing Services NA, Inc. 8431 Murphy Drive Middleton, WI 53562
Date of Tests:	08/27/2014 to 03/17/2015
Test Report Number(s):	101769343MID-001r1, 101769343MID-001a, 101915978MID-001 & 101999492MID-001ar1-cr1.

This verification is part of the full test report(s) and should be read in conjunction with them. This report does not automatically imply product certification.

Completed by:	Chad Naggs	Reviewed by:	Gregory Allen
Title:	Technician II, Fire Resistance	Title:	Engineering Team Lead, Fire Resistance
Signature:		Signature:	
Date:	03/30/2015	Date:	03/30/2015

This Verification is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek 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 permit copying or distribution of this Verification. Any use of the Intertek 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 Intertek. The observations and test/inspection results referenced in this Verification are relevant only to the sample tested/inspected. This Verification by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

GFT-OP-11a (24-MAR-2014)

CERTIFICATE OF COMPLIANCE

Certificate Number	20180822-E329725
Report Reference	E329725-20180820
Issue Date	2018-AUGUST-22

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Photovoltaic modules,

Series LG30x2W-V5 for using Mono-Crystalline cell (6x12 cells);

LG30P2W-V5, LG35S2W-V5, LG40I2W-V5, LG40S2W-V5

Series LG30x1C-V5 for using Mono-Crystalline cell (6x10 cells);

LG30S1C-V5, LG33N1C-V5, LG33N1C-V5, LG340N1C-V5

Series LG30x1W-V5 for using Mono-Crystalline cell (6x10 cells);

LG32S1W-V5, LG33N1W-V5, LG33S1W-V5, LG340N1W-V5

Series LG30x1K-V5 for using Mono-Crystalline cell (6x10 cells);

LG31S1K-V5, LG32N1K-V5, LG32S1K-V5

Barrett
SHERIFF, WASHINGTON, D.C. 20535 442-1011/1012/1013/1014
ALLIANCE
ALLIANCE

CERTIFICATE OF COMPLIANCE

Certificate Number	20180822-E329725
Report Reference	E329725-20180820
Issue Date	2018-AUGUST-22

LG ELECTRONICS INC
168 Suchul-daero
Gumi-si Gyeongsangbuk-do 39368 KOREA

This is to certify that
representative samples of
PHOTOVOLTAIIC MODULES AND PANELS WITH
SYSTEM VOLTAGE RATINGS OVER 600 VOLTS
See addendum page for models.

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 1703 and UL/CORD-C-703.20'8 - Flat-Plate Photovoltaic Modules and Panels

Additional Information: See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

Look for the UL Certification Mark on the product.

Barling
Barling, Patricia L. Director, North Carolina Program
10112
For a full catalog of documents for sale, see notices on back of this folder. For the subscription form, see the separate, separate form at the bottom of this folder.

<u>Project Name</u>	<u>Address</u>	<u>Project Description</u>	<u>Contractor</u>	<u>Contractor Logo</u>	<u>Signature</u>	<u>Note</u>	Drawn By: Unique Solar Design	General Notes		
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								Scale	AS INDICATED	SHEET NUMBER
								Project	PV SYSTEM	D6

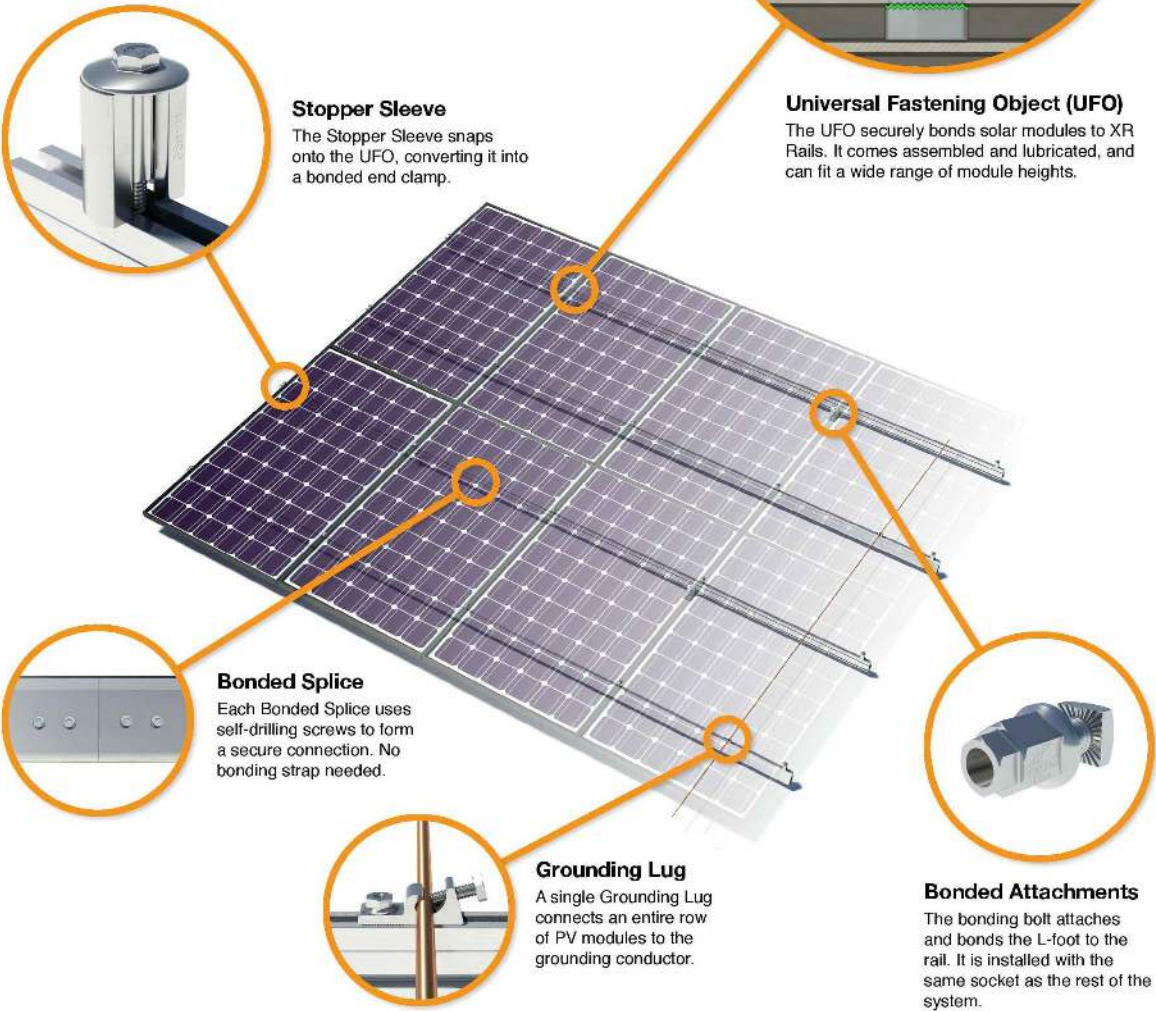


UFO Family of Components

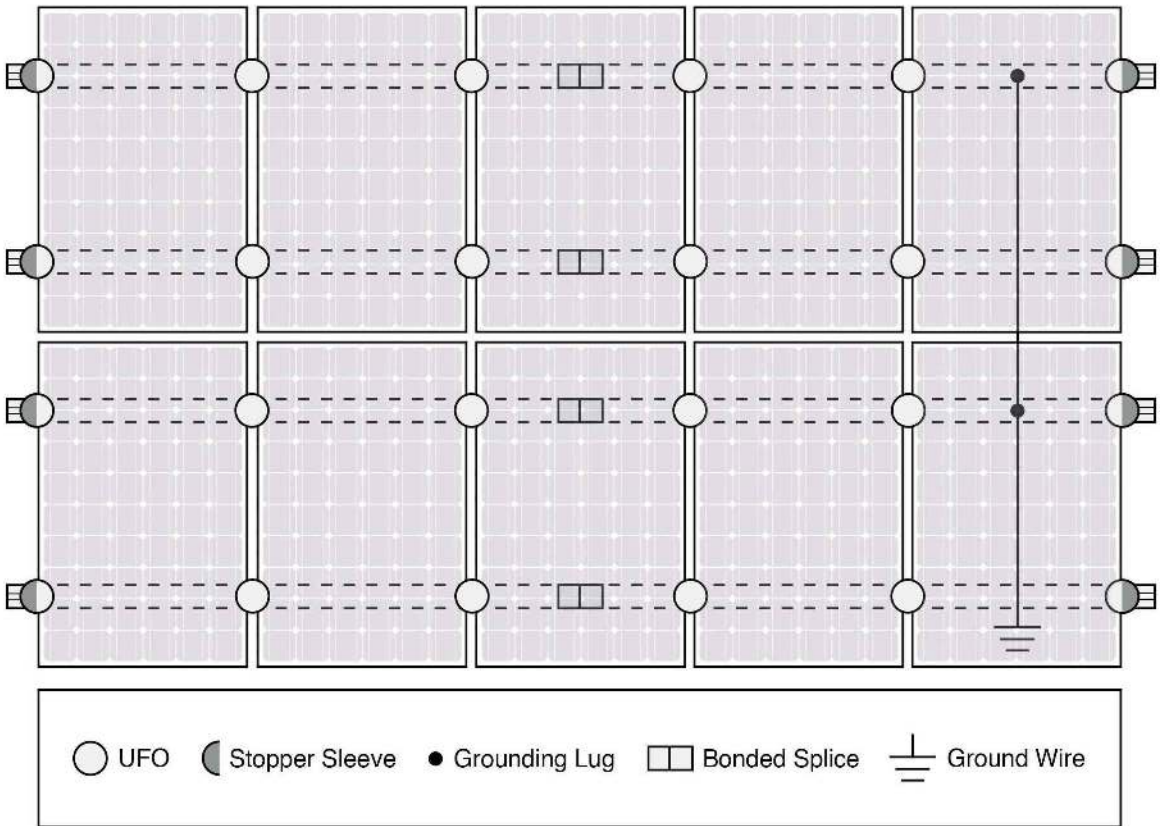
Simplified Grounding for Every Application

The UFO family of components eliminates the need for separate grounding hardware by bonding solar modules directly to IronRidge XR Rails. All system types that feature the UFO family—Flush Mount, Tilt Mount and Ground Mount—are fully listed to the UL 2703 standard.

UFO hardware forms secure electrical bonds with both the module and the rail, resulting in many parallel grounding paths throughout the system. This leads to safer and more reliable installations.



System Diagram



Approved Enphase microinverters can provide equipment grounding of IronRidge systems, eliminating the need for grounding lugs and field installed equipment ground conductors (EGC). A minimum of two microinverters mounted to the same rail and connected to the same Engage cable is required. Refer to installation manuals for additional details.

UL Certification

The IronRidge Flush Mount, Tilt Mount, and Ground Mount Systems have been listed to UL 2703 by Intertek Group plc.

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

Go to [IronRidge.com/UFO](https://www.ironridge.com/UFO)

Cross-System Compatibility			
Feature	Flush Mount	Tilt Mount	Ground Mount
XR Rails	✓	✓	XR1000 Only
UFO/Stopper	✓	✓	✓
Bonded Splice	✓	✓	N/A
Grounding Lugs	1 per Row	1 per Row	1 per Array
Microinverters & Power Optimizers	Enphase - M250-72, M250-60, M215-60, C250-72 Darfon - MIG240, MIG300, G320, G640 SolarEdge - P300, P320, P400, P405, P600, P700, P730		
Fire Rating	Class A	Class A	N/A
Modules	Tested or Evaluated with over 400 Framed Modules Refer to installation manuals for a detailed list.		

Project Name	Address	Project Description	Contractor	Contractor Logo	Signature	Note	Drawn By: Unique Solar Design	General Notes		
Richard Frey	1042 SW Woodland Ave., Fort White, FL 32038	10.88KW DC Ground Mounted PV Electrical System 32-LG 340W PV Modules 1-Solar Edge 6.0kW Inverter 1-Solar Edge 3.0kW Inverter	Green Solar					Date	JULY 11, 2021	SHEET SIZE 11" X 17" ANSI B
								Scale	AS INDICATED	SHEET NUMBER
								Project	PV SYSTEM	D7

Earth Anchor Installation:
Product Specification

BASIC INFORMATION	
Part Number	K10414-XXX
Description	10" Helix Blade Auger
Lengths (-079)	79 inches
Auger Diameter	2.71" [69mm] ID 2.99" [76mm] OD
Attachment Hardware	3X M16 Set Screws (included)
Material	#45 Structural Carbon Steel
Finish	Hot Dip Galvanized
Approximate Weight	23.1 lbs [10,5 kg]

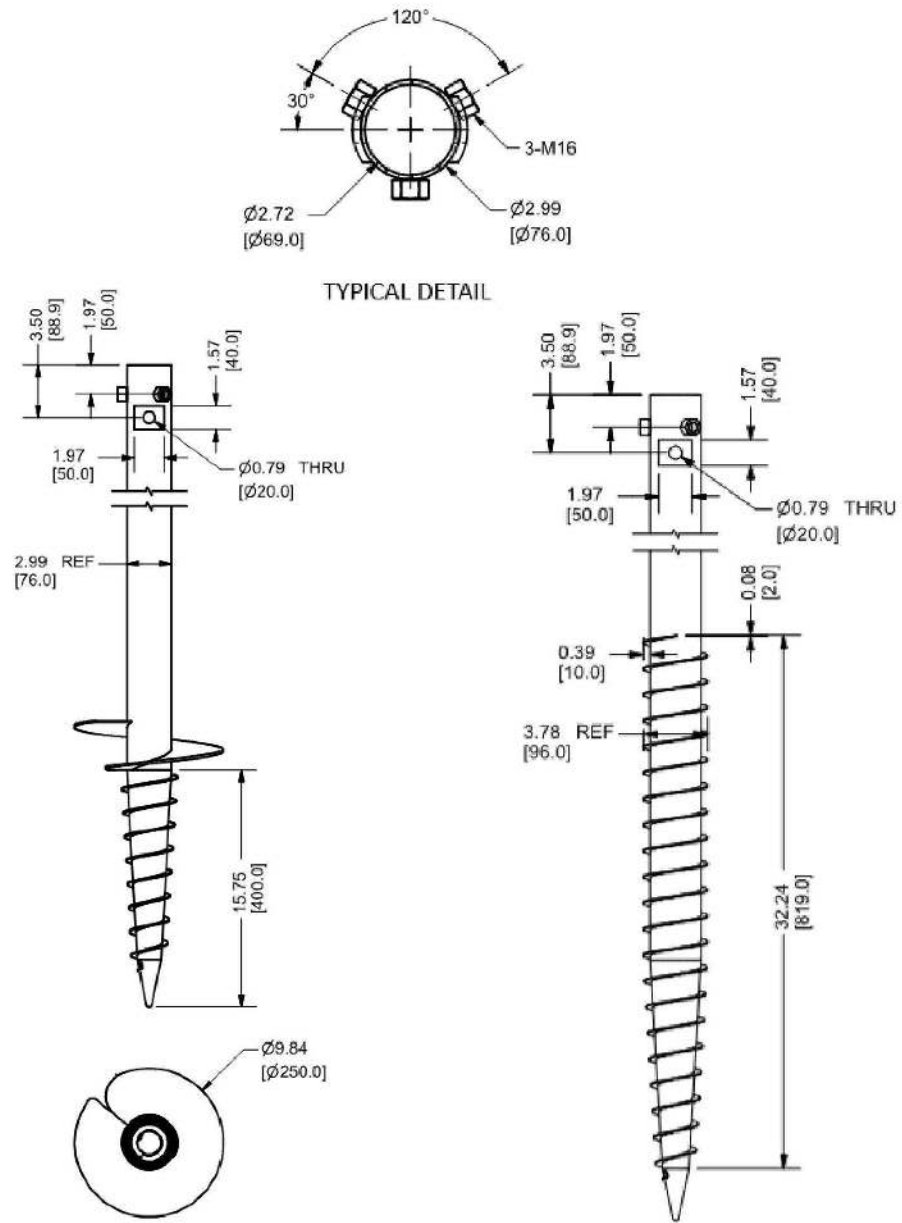
BASIC INFORMATION	
Part Number	K10423-XXX
Description	Screw Anchor
Lengths (-063 -080)	63 inches 80 inches
Auger Diameter	2.71" [69mm] ID 2.99" [76mm] OD
Attachment Hardware	3X M16 Set Screws
Material	#45 Structural Carbon Steel
Finish	Hot Dip Galvanized
Approximate Weight	18.1 lbs [8,2 kg] 23.1 lbs [10,5 kg]

SUNMOD®



3

Earth Anchor Installation:
Product Specification



K10414-XXX

K10423-XXX

SUNMOD®

4

<u>Project Name</u>	<u>Address</u>	<u>Project Description</u>	<u>Contractor</u>	<u>Contractor Logo</u>	<u>Signature</u>	<u>Note</u>	<u>Drawn By: Unique Solar Design</u>	<u>General Notes</u>	
<u>Richard Frey</u>	<u>1042 SW Woodland Ave., Fort White, FL 32038</u>	10.88KW DC Ground Mounted PV Electrical System 32-LG 340W PV Modules 1-Solar Edge 6.0kW Inverter 1-Solar Edge 3.0kW Inverter	<u>Green Solar</u>					<u>Date</u>	JULY 11, 2021
								<u>Scale</u>	AS INDICATED
								<u>Project</u>	PV SYSTEM
								SHEET SIZE 11" X 17" ANSI B	
								SHEET NUMBER D8	

KUP-L-Tap® Insulation Piercing Connectors Dual Rated



TYPE
IPC



Features

- Body is molded from tough, resilient glass-filled nylon
- Compact design
- Tin plated copper contact teeth
- Insulation piercing
- Perforated end tabs
- Pre-filled with silicone lubricant
- Versatile
- Increased safety

- Horizontal line grid
- Temperature rating 90°C

Benefits

- Provides high degree of breakage resistance and long dependable use
- Saves space
- Easily penetrates most types of insulation
- No need to strip the conductor which saves installation time
- Break out easily by hand
- Prevents oxidation and moisture from entering the contact area
- Can be used as a splice or tap connector
- Contains no external energized parts. Can be installed "hot" on energized conductors providing tap conductor is not under load.
- Provides a visual guide for proper installation of conductors

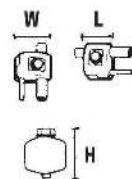


Fig. 1



Fig. 2



Fig. 3



Fig. 4

Catalog Number	Figure Number	Wire Range		Volts	Current Rating		Dimensions			Torque Ft. Lbs.	Bolt Head Size
		Main	Tap		CU	AL	L	W	H		
IPC-1/0-2	3	1/0-8	2-8	300 (480 Grounded Y System)	130	100	1-7/32	1-15/32	2-5/16	16	1/2
IPC-4/0-6	2	4/0-4	6-14	600	75	60	1-27/64	1	1-7/8	13	1/2
IPC-4/0-2/0	3	4/0-2	2/0-6	600	195	150	1-21/32	1-7/8	2-7/8	25	1/2
IPC-250-4/0	2	250kcmil-1	4/0-6	600	260	205	1-7/8	2-11/32	3-11/32	30	5/8
IPC-350-4/0	3	350kcmil-4/0	4/0-10	300 (480 Grounded Y System)	260	205	1-43/64	2-7/16	3-1/8	25	5/8
IPC-350-350	4	350kcmil-4/0	350kcmil-4/0	300 (480 Grounded Y System)	350	280	2-43/64	2-23/32	3-1/4	25	5/8
IPC-500-12	1	500kcmil-250kcmil	10-12	300 (480 Grounded Y System)	40	35	1-43/64	2-7/16	3-1/4	25	5/8
IPC-500-250	1	500kcmil-250kcmil	250kcmil-4	600	290	230	2-27/64	2-23/32	3-3/4	55	5/8-11/16
IPC-500-500	1	500kcmil-300kcmil	500kcmil-250kcmil	600	430	350	3-3/16	3-5/8	5	75	7/8-7/8
IPC-750-500	1	750kcmil-500kcmil	500kcmil-350kcmil	600	430	350	3-3/16	3-5/8	5	75	7/8-7/8

All wire sizes, unless noted otherwise, are American Wire Gauge (AWG)
Tested to UL 486A/B, UL File E6207

B

INFORMATION SHEET

KUP-L-Tap, Insul-Eater Single Use Insulation Piercing Connectors

1) Specifications:

- Conductors - Class B or C Aluminum and or Copper wires
- Temperature rating - 90°C

Item ID	Run	Tap	Torque (in-lbs)	Tools (Socket & Box wrenches)	Voltage
IPC-1/0-2	1/0 - 8 AWG	#2 - #8 AWG	192	1/2"	300 (480 grounded Y system)
IPC-4/0-6	4/0 - #4 AWG	#6 - #14 AWG	156	1/2"	600
IPC-4/0-2/0 *	4/0 - #2 AWG	2/0 - #6 AWG	300	1/2"	600
IPC-250-4/0 * #	250 kcmil-#1 AWG	4/0 - #6 AWG	360	5/8"	600
IPC-350-4/0	350 kcmil-4/0	4/0 - #10 AWG	300	5/8"	300 (480 grounded Y system)
IPC-350-350	350 kcmil-4/0	350 kcmil-4/0	300	5/8"	300 (480 grounded Y system)
IPC-500-12	500-250 kcmil	#10-#12 AWG	300	5/8"	300 (480 grounded Y system)
IPC-500-250	500-250 kcmil	250 - #4 AWG	720	5/8" & 11/16"	600
IPC-500-500 *	500-300 kcmil	500-250 kcmil	900	7/8"	600
IPC-750-500 *	750-500kcmil	500-350kcmil	900	7/8"	600

* Can be used on bare wire or bare & insulated wire combinations

* - When used on bare conductor, break out the tabs and extend wire 1.5 - 2" beyond the connector body.

+ Tap side is limited to .528" OD including the insulation.

Max OD on the main is .730" including insulation

-IPC-250-4/0 & IPC-4/0-2/0- To insure the top and bottom are aligned -There are lines on the side of the connector to help.

2) Installation Instructions For Use as a Run and Tap:

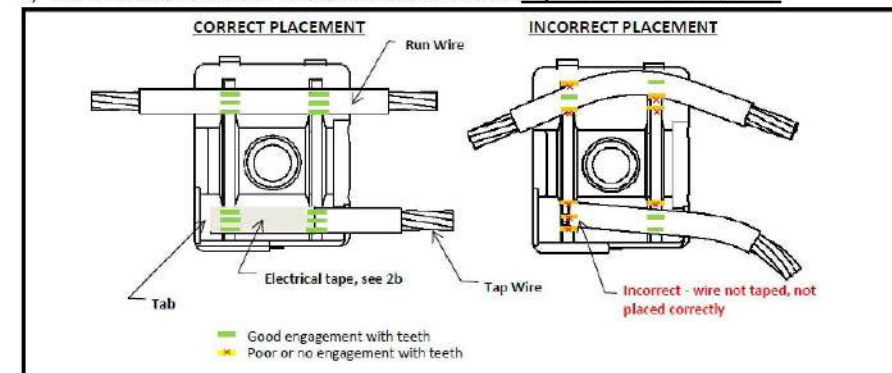
- Remove the tab blocking the **Main** conductor groove with screwdriver or pliers.
- Tap must be broken cleanly to the bottom of the channel.
- Cut insulated cable end **squarely** and apply a crisscrossed layer of UL listed electrical **tape over the exposed end of the wire.**
Tape the exposed wire end with Two pieces of **tape** measuring approximately three inches long.
- Separate** the connector halves by loosening the bolt.
- Slide the connector over the run conductor.
- Insert the **tap** conductor until it **butts** up against the **tab.**
BE SURE THE TAP CONDUCTOR IS ALL THE WAY THROUGH THE CONNECTOR.
- Center both conductors over the piercing teeth, and finger tighten the bolt.
-(Refer to the diagram below for correct placement of conductors)
- Holding the connector firmly in your hand, tighten the bolt to the **torque** in the above table.



[Click For YouTube Video](#)

3) Additional Information

- Connector can be used on **BUILDING CODE (Stranded CLASS B or C)** wire either copper and/or aluminum conductors
- The Insul-Eater is **fully** insulated without an external cover or tape
- The Insul-Eater connector should not be installed when **tap conductor is under load**



4730 Madison Road, Cincinnati OH 45227-1426 | PH: 513.533.6200 | FAX: 513.871.4084 | www.ilsco.com
In Canada: 1050 Lakeshore Road East, Mississauga, Ontario, Canada L5E 1E4 | PH: 905.274.2341 | FAX: 905.274.8763

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Form 73
Revised 6-15-2016

<u>Project Name</u>	<u>Address</u>	<u>Project Description</u>	<u>Contractor</u>	<u>Contractor Logo</u>	<u>Signature</u>	<u>Note</u>	<u>Drawn By: Unique Solar Design</u>	General Notes	
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								Project	PV SYSTEM
								SHEET SIZE 11" X 17" ANSI B	
								SHEET NUMBER	
								D9	