

LAND USE PERMIT
San Juan County, Colorado

Applicant: Steel City Solar for Kenneth Adams	Permit No.
Address: 147 Meadowview Drive	
City and State: Durango, CO	Telephone: 719-569-5166

Description of Use: Roof Mounted PV System
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Dates and Times of Use: Date of installation is yet to be determined pending approval of application.
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Location of Use: Proposed array on South roof face of residence.
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Areas of Concern: Applicant should provide attachments for each relevant area
Land Use Administrator will initial approval if appropriate

Property Ownership _____	Permission of Property Owner	X _____
Vicinity Map _____	Plans and Drawings	X _____
Natural Hazards _____	Zoning Compatibility	_____
Sanitation _____	Environmental Impacts	_____
Building Permit _____	Federal and /or State Permits	_____
Security _____	Emergency Services	_____
Parking _____	Insurance Coverage	_____
Clean Up _____	County Road Impact	_____
Other _____	Other	_____

Date Application Submitted: 07/29/2021	By (signature): <i>Jerika Shrontz</i>
Date Permit Issued:	By (signature):
Conditions	
Acceptance of Conditions:	By (signature):

Lisa Adair

From: mackie@gobrainstorm.net
Sent: Wednesday, August 11, 2021 8:05 PM
To: Lisa Adair
Subject: Fwd: Steel City Solar

----- Forwarded message from treasurer@sanjuancolorado.us -----
Date: Tue, 10 Aug 2021 13:30:50 -0600
From: Deanna Jaramillo <treasurer@sanjuancolorado.us>
Subject: Steel City Solar
To: mackie@gobrainstorm.net

Lisa,
I received a \$300.00 check from Steel City Solar/Kenneth Adams today.

--

Deanna M. Jaramillo

San Juan County Treasurer/Public Trustee

P.O. Box 368

Silverton, CO 81433

treasurer@sanjuancolorado.us <treasurer@sanjuancountycolorado.us>

P: 970-387-5488

F: 970-387-5326

----- End forwarded message -----

INDEX

MSP	Main Service Panel
SSP	Service Sub Panel
INV	Solar Inverter
VLLD	Visible Labelable Labelled Disconnect
DCD	DC Disconnect
J-B	Junction Box
IQB	IQ Combiner Box
PVLC	PV Load Center
PM	Performance Meter
<input type="checkbox"/>	Power Optimizer / Microinverter
<input type="checkbox"/>	FMI/IR/CI/EMT Type Conduit
<input type="checkbox"/>	PVC Type Conduit
<input type="checkbox"/>	Setback Line
<input type="checkbox"/>	(N) Solar PV Module
<input type="checkbox"/>	(E) Satellite
<input type="checkbox"/>	(E) Solar PV Module
<input type="checkbox"/>	(E) Chimney
<input type="checkbox"/>	(E) AC Unit

GENERAL NOTES:

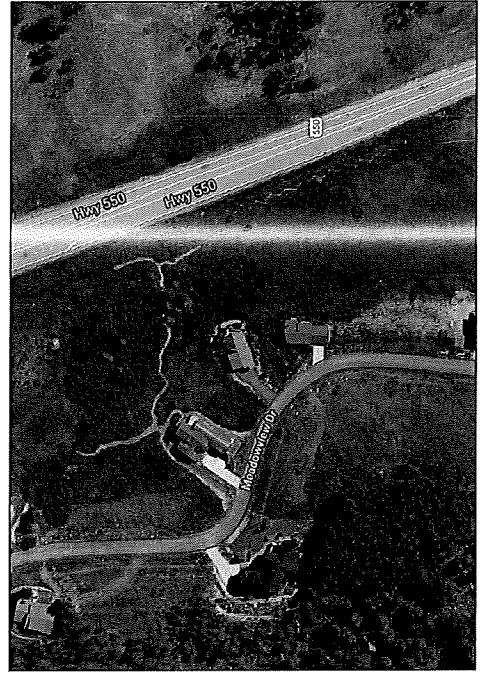
ALL ELECTRICAL WORK TO BE INSTALLED BY A QUALIFIED AND LICENSED ELECTRICAL CONTRACTOR.
 ALL SOLAR LOADS SHALL BE UL LISTED 1703 & CEC APPROVED. ALL INVERTERS SHALL BE UL LISTED 1747 CERTIFIED & CEC APPROVED. ALL ELECTRICAL COMPONENTS AND MATERIALS SHALL BE LISTED FOR ITS PURPOSE AND INSTALLED IN A WORKMAN LIKE MANNER. ALL OUTDOOR EQUIPMENT SHALL MEET APPROPRIATE NEMA STANDARDS.
 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.
 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.
 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.
 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.
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 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.

PROJECT DESCRIPTION:

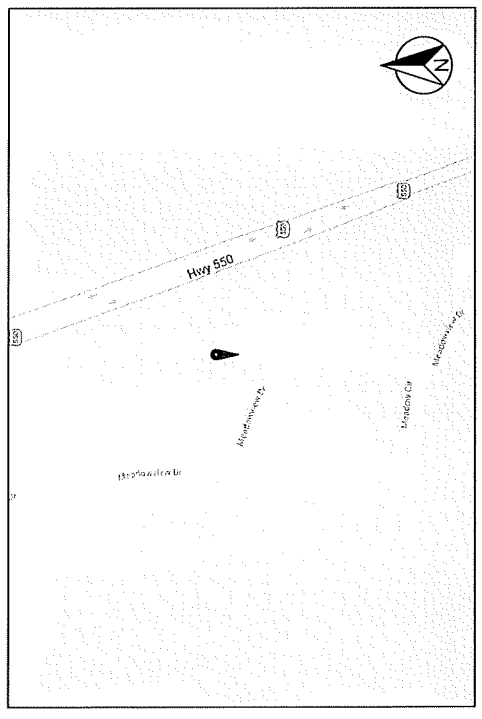
SYSTEM SIZE: DC STC: 11.00 KW
 AC SIZE: 7.60 KW
 SOLAR MODULES: (31) LG SOLAR 355W (LG355N1K-A6)
 INVERTER: (1) SOLAREEDGE 7.6KW INVERTER (SE7600H-US ENERGY HUB)
 OPTIMIZERS: (31) SOLAR EDGE P370 OPTIMIZERS
 EXISTING MSP BUS: 200A
 EXISTING BREAKER: 200A
 PV BREAKER: 40A
 ONE STORY BUILDING
 ROOF TYPE: COMPOSITION SHINGLE
 ROOF STRUCTURE: 2"x4" TRUSSES 24" O/C
 MOUNTING SYSTEM: UNIPAC RACKING
 PARCEL NUMBER: 50891320081006
 LOT AREA: 0.49 ACRES
 LIVING AREA: 1,806 SQFT

APPLICABLE CODES
 2015 (IBC) INTERNATIONAL BUILDING CODE
 2015 (IMC) INTERNATIONAL MECHANICAL CODE
 2015 (IPC) INTERNATIONAL PLUMBING CODE
 2015 (IFC) INTERNATIONAL FIRE CODE
 2015 (IRC) INTERNATIONAL RESIDENTIAL CODE
 2014 (NEC) NATIONAL ELECTRIC CODE

PROJECT SATTELLITE VIEW



PROJECT VICINITY MAP



SHEET INDEX

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PV3	CODE REQUIRED SIGNAGE
PV4	ATTACHMENT LAYOUT
D1	MODULE DATA SHEET
D2	OPTIMIZER DATA SHEET
D3	INVERTER DATA SHEET
D4	RACKING DATA SHEET
D5	GROUNDING SPECS
D6	ATTACHMENT DATA SHEET
D7	MODULE & RACKING CERTIFICATIONS

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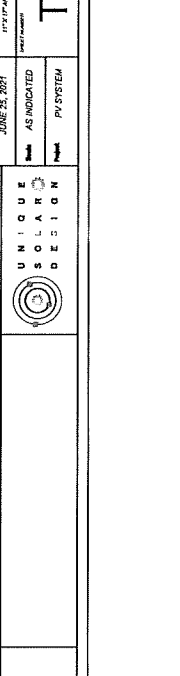
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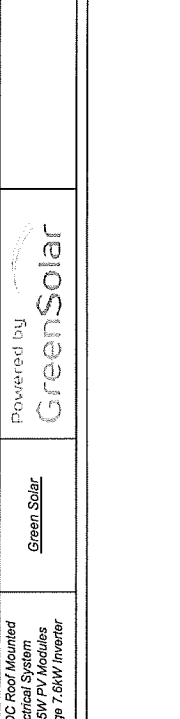
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PROJECT VICINITY MAP

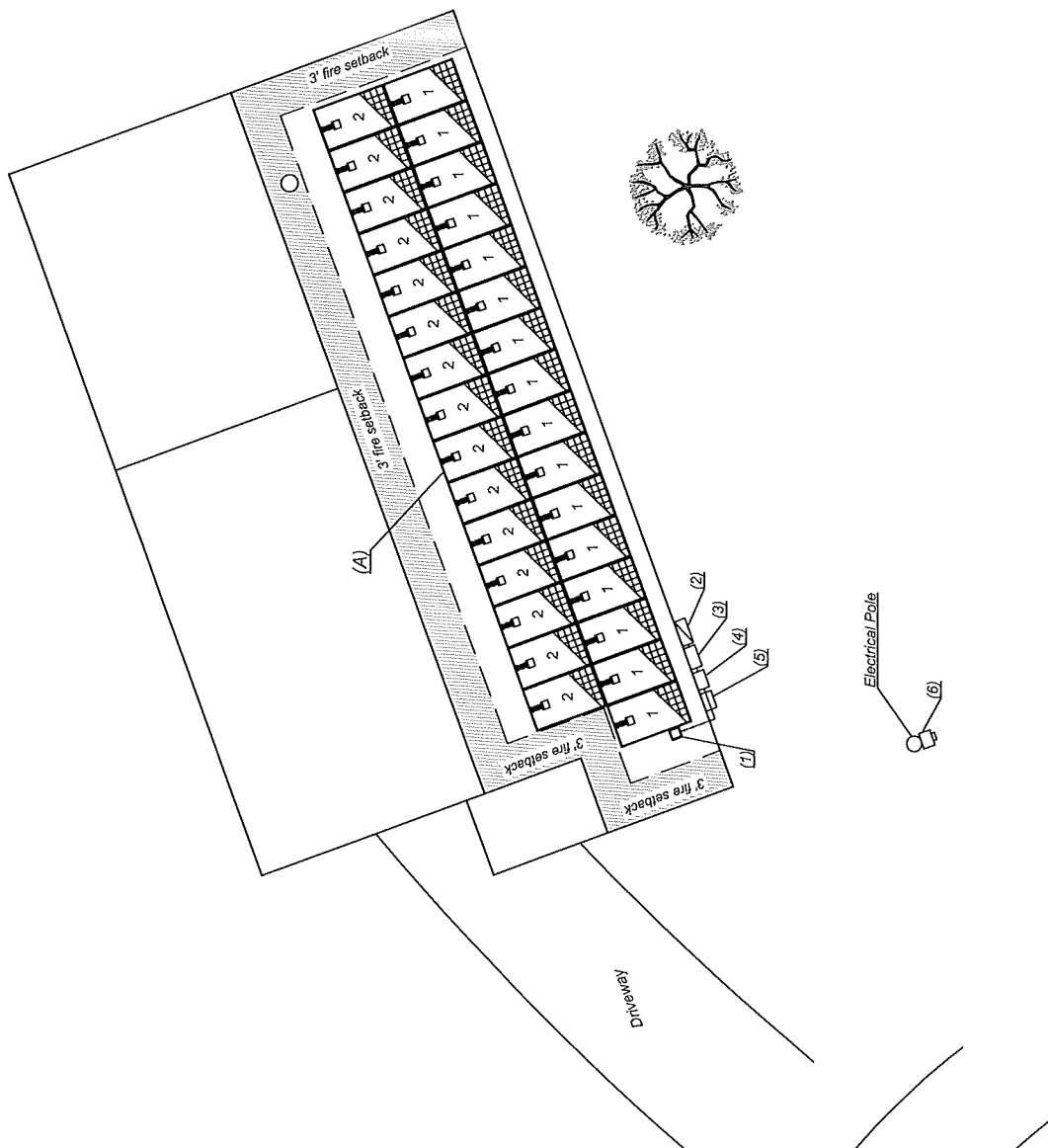


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D7	MODULE & RACKING CERTIFICATIONS

Project Name	Address	Project Description	Contractor	Contractor Logo	Signature	Note	Drawn By: Unique Solar Design	DATE	DATE	DATE	DATE
Kenneth Adams	147 Meadowview Dr Durango, CO 81301	11.00KW DC Roof Mounted PV Electrical System 31-LG 355W PV Modules 1-Solar Edge 7.6KW Inverter	Green Solar	Powered by GreenSolar			UNIQUE SOLAR DESIGN	JUNE 23, 2021	AS INDICATED	PV SYSTEM	T

EQUIPMENT INFORMATION	
31 (N)	LG Solar 355W LG355N1K-A6 Modules (Page D1)
31 (N)	SolarEdge P370 Optimizers (Page D2)
1	(N) Junction-Box
2	(N) SolarEdge SE760H-US Energy Hub (120/240V) (Page D3)
3	(N) 60A Non Fused AC Disconnect (120/240V)
4	(N) Performance Meter (120/240V)
5	(E) 200A Main Service Panel (120/240V, 1 ϕ , 3W)
6	(E) Utility Meter (120/240V, 1 ϕ , 3W)
A	31 LG Solar 355W / 31 P370 Optimizers Pitch 20° / Az. 160°



Project Name	Address	Project Description	Contractor	Contractor Logo	Signature	Note	General Note
Kenneth Adams	147 Meadowview Dr Durango, CO 81301	11,00kW DC Roof Mounted PV Electrical System 31-LG 355W PV Modules 1-Solar Edge 7.6kW Inverter	Green Solar	Powered by GreenSolar			Drawn By: Unique Solar Design Date: JUNE 23, 2021 Scale: AS INDICATED Project: PV SYSTEM PV1

EQUIPMENT INFORMATION	
1	31 (N) LG Solar 355W LG355N1K-A6 Modules (Page D1)
2	31 (N) SolarEdge P370 Optimizers (Page D2)
3	1 (N) Junction-Box
4	1 (N) SolarEdge SE7600H-US Energy Hub (120/240V) (Page D3)
5	1 (N) 60A Non Fused AC Disconnect (120/240V)
6	1 (N) Performance Meter (120/240V)
7	(E) 200A Main Service Panel (120/240V, 1φ, 3W)
8	(E) Utility Meter (120/240V, 1φ, 3W)

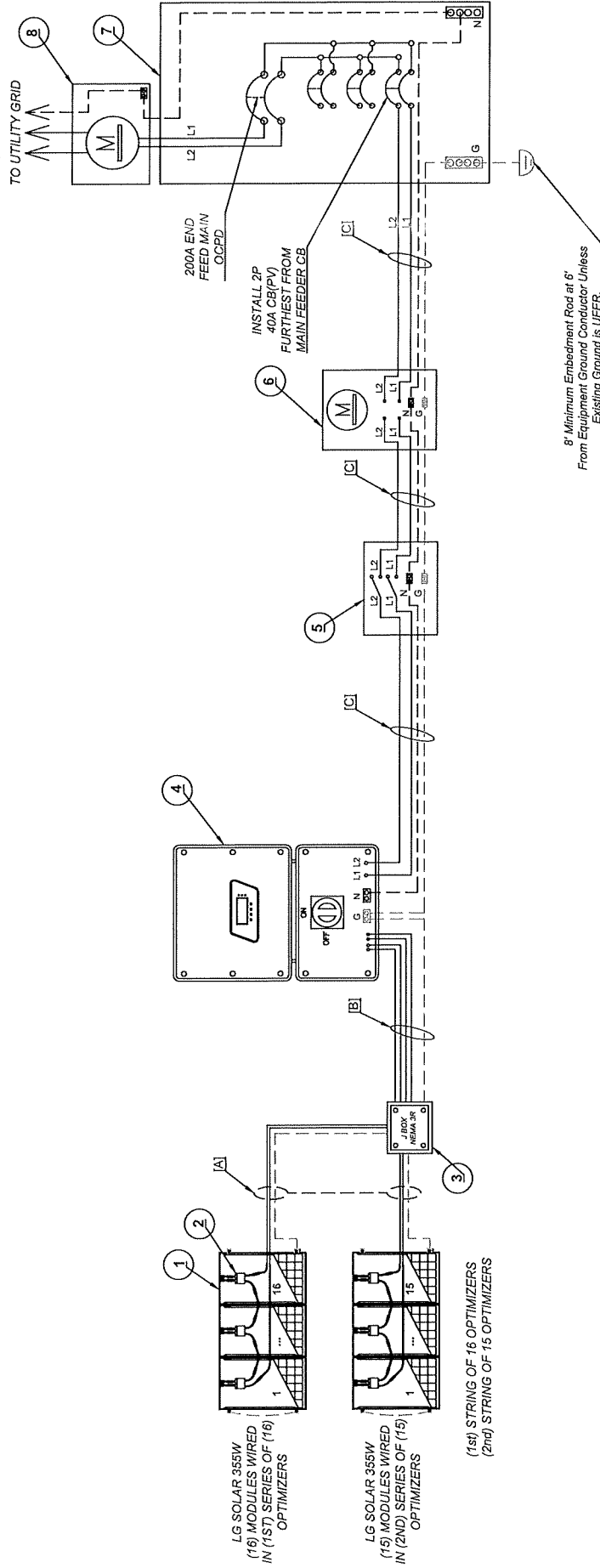
WIRE TAG#	WIRE TYPE(QTY)/SIZE COPPER	GRD-SIZE	WIRE AMP	TERMINAL RATING	CONDUIT TYPE	ABOVE ROOF / Through Attic	TEMP. CORRECTION	AMP. ADJ. C.C.C.	CURRENT
A	PV WIRE (2) #10	#6, BARE CU	40A	90°	OPEN AIR	>3.5 - 12"	0.71	1	28.4 > 18.8A
B	THWN-2 (4) #10 (2)DC+ (2)DC-	#8, EGC CU	40A	90°	3/4" EMT	>3.5 - 12"	0.71	0.8 (4 WIRES)	22.7 > 18.8A
C	THWN-2 (3) #6 (L1,L2,N)	#6, EGC CU	75A	90°	3/4" EMT	ALONG THE WALL	0.91	1	68.3 > 40.0A

PV SYSTEM OUTPUT CALCULATION

MAX DC OUTPUT: 355W * 31 = 11,000 kW
 MAX AC OUTPUT: 7.60 kW

MAIN SERVICE PANEL CALCULATION

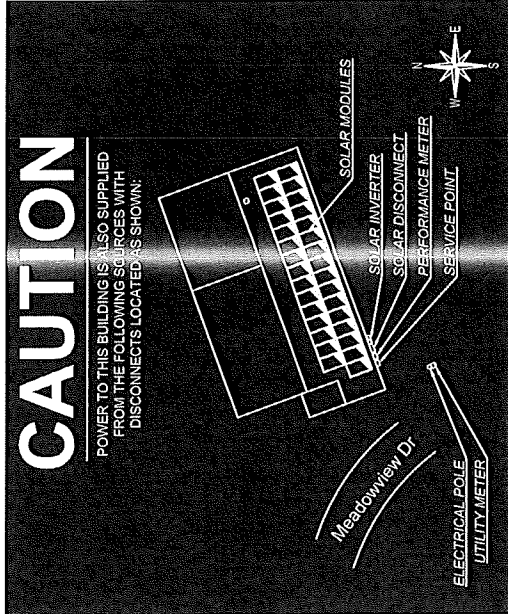
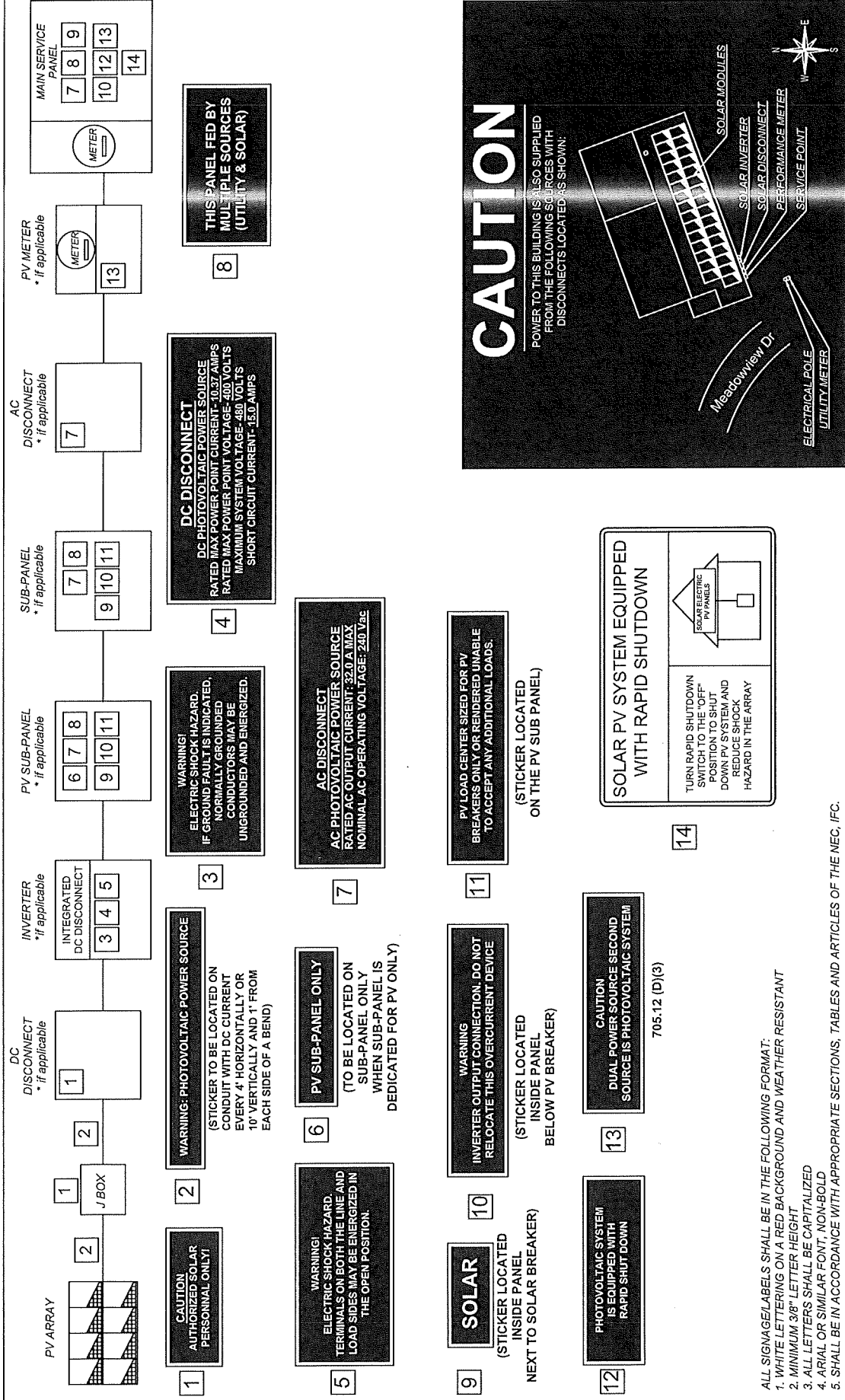
120/240V, 1φ, 3W
 BUS RATING: 200A
 MAIN BREAKER SIZE: 200A
 (200A X 1.2) = 200A MAIN BREAKER
 = 40A >= 40A (N) SOLAR BREAKER



Photovoltaic system is rapid shut down ready

Project Name	Address	Project Description	Contractor	Contractor Logo	Signature	Note
Kenneth Adams	147 Meadowview Dr Durango, CO 81301	11,000W DC Roof Mounted PV Electrical System 31-LG 355W PV Modules 1-Solar Edge 7.6kW Inverter	Green Solar	Powered by GreenSolar		Drawn By: Unique Solar Design UNIQUE SOLAR DESIGN PV SYSTEM

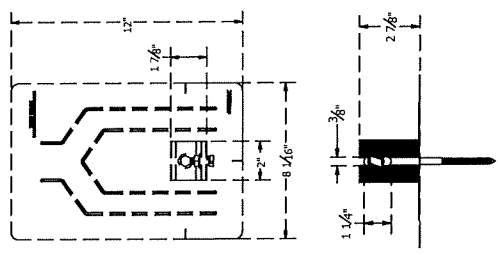
General Notes
DATE: JUNE 23, 2021 DRAWN BY: AS INDICATED PROJECT: PV2 SHEET: PV2



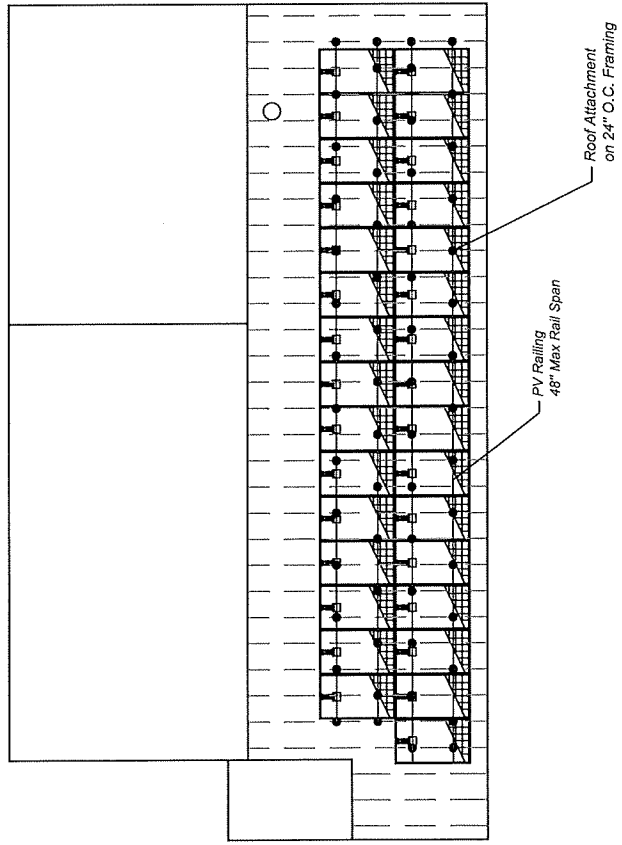
- ALL SIGNAGE LABELS SHALL BE IN THE FOLLOWING FORMAT:
1. WHITE LETTERING ON A RED BACKGROUND AND WEATHER RESISTANT
 2. MINIMUM 3/8" LETTER HEIGHT
 3. ALL LETTERS SHALL BE CAPITALIZED
 4. ARIAL OR SIMILAR FONT; NON-BOLD
 5. SHALL BE IN ACCORDANCE WITH APPROPRIATE SECTIONS, TABLES AND ARTICLES OF THE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

Project Name	Address	Project Description	Contractor	Contractor Logo	Signature	Note	General Notes
Kenneth Adams	147 Meadowview Dr Durango, CO 81301	11,00kW DC Roof Mounted PV Electrical System 31-LG 555W PV Modules 1-Solar Edge 7.6kW Inverter	Green Solar	Powered by GreenSolar			Drawn By: Unique Solar Design Date: JUNE 25, 2021 Scale: AS INDICATED Project: PV SYSTEM PV3

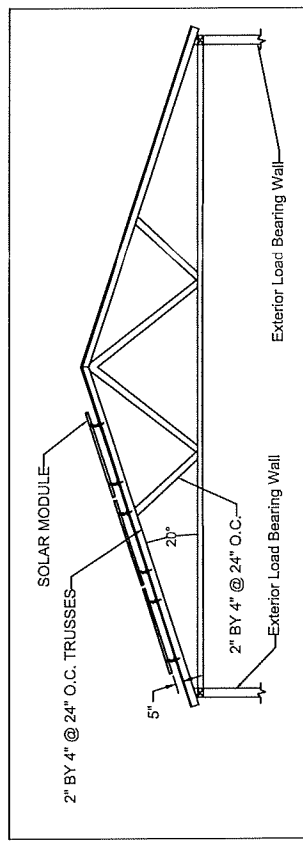
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN SPECIFICATIONS AND INSTALLATION INSTRUCTIONS.
2. PACKAGING: KITS OF 10



P/N	DESCRIPTION
00-0055M	FLASHKIT PRO MILL
00-0055D	FLASHKIT PRO DRK



SYSTEM MECHANICAL INFO
 SOLAR MODULE WEIGHT: 41.0 lbs.
 SOLAR ARRAY WEIGHT: 1271 lbs
 SOLAR OPTIMIZERS WEIGHT: 43 lbs
 SOLAR RACKING 254 lbs
 TOTAL SYSTEM WEIGHT 1568 lbs
 SOLAR ATTACHMENT QUANTITY 59
 SOLAR ARRAY WEIGHT PER ATTACHMENT: 26.6 lbs
 SOLAR ARRAY DEAD LOAD: 2.53 lbs/sqft
 TOTAL SOLAR AREA: 620 sqft
 TOTAL ROOF AREA: 2250 sqft
 % OF COVERED AREA: 27.5%
 WIND SPEED: 115 mph FOR EXPOSURE C
 SNOW LOAD: 20 psf
 SOLAR ARRAY MOUNTING RAIL TYPE: UNIRAC RACKING
 SOLAR ARRAY ATTACHMENT TYPES: UNIRAC FLASHKIT PRO
 ATTACHMENT SPACING: 48" MAX, STAGGERED
 FRAMING: TRUSSES 2' x 4' @ 24" O.C.
 FINISHED ROOF SURFACE IS ONE LAYER OF COMPOSITION SHINGLE.



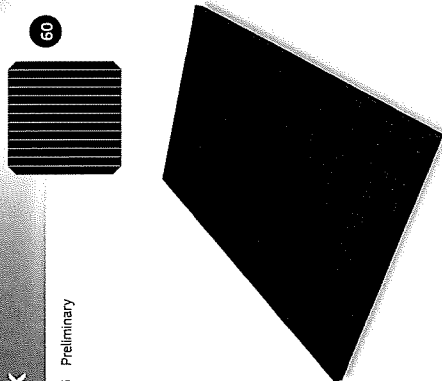
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Kenneth Adams	147 Meadowview Dr Durango, CO 81301	11,000W DC Roof Mounted PV Electrical System 31-LG 555W PV Modules 1-Solar Edge 7.6kW Inverter	Green Solar	Powered by GreenSolar			UNIQUE SOLAR DESIGN	AS INDICATED	PV SYSTEM	Date: JUNE 25, 2021 Drawn By: PV SYSTEM Checked: AS INDICATED Approved: PV SYSTEM PV4

LG NeON[®] 2 Black

LG355N1K-A6 | LG360N1K-A6 | LG365N1K-A6 Preliminary

355W | 360W | 365W

The LG NeON[®] 2 is LG's best selling solar module and one of the most powerful and versatile modules on the market today. The cells are designed to appear all-black at a distance, and the performance warranty guarantees 90.6% of labeled power output at 25 years.



Features



Enhanced Performance Warranty
 LG NeON[®] 2 Black has an enhanced performance warranty. After 25 years, LG NeON[®] 2 Black is guaranteed at least 90.6% of initial performance.



Solid Performance on Hot Days
 LG NeON[®] 2 Black performs well on hot days due to its low temperature coefficient.



Roof Aesthetics
 LG NeON[®] 2 Black has been designed with aesthetics in mind using thinner wires that appear all black at a distance.



25-Year Limited Product Warranty
 The NeON[®] 2 Black is covered by a 25-year limited product warranty. In addition, up to \$450 of labor costs will be covered in the rare case that a module needs to be repaired or replaced.

When you go solar, ask for the brand you can trust: LG Solar

About LG Electronics USA, Inc.
 LG Electronics is a global leader in consumer products and is committed to offering clear, fair prices and superb customer service. The company has ranked as a solar energy partner in the 2019-2020 Solar Power Industry Awards. LG Energy Solutions is a leading provider of energy storage solutions. LG Energy Solutions is a leading provider of energy storage solutions. LG Energy Solutions is a leading provider of energy storage solutions.



LG NeON[®] 2 Black

LG355N1K-A6 | LG360N1K-A6 | LG365N1K-A6

General Data	Cell Properties (Manufacturer)	Module Characteristics
Cell Model	LG	Maximum Power (P _{max})
Cell Configuration	60 Cells (6x10)	Maximum Power (P _{max})
Number of Elements	12x6	MPP Voltage (V _{mp})
Module Dimensions (L x W x H)	1730mm x 1052mm x 40mm	MPP Current (I _{mp})
Weight	18.8kg	Open Circuit Voltage (V _{oc})
Glass (Material)	Tempered Glass with AR coating	Short Circuit Current (I _{sc})
Backsheet (Color)	Black	Power Tolerance
Frame (Material)	Aluminum	Maximum System Voltage
Carrier (Material)	Aluminum	Maximum System Voltage
Carrier (Length)	1730mm x 1052mm	Maximum System Voltage
Carrier (Type/Model)	SLC-MAC	Maximum System Voltage

Certifications and Warranty

Certification*	UL 6173, UL 6174, UL 6175, UL 6176, UL 6177, UL 6178, UL 6179, UL 6180, UL 6181, UL 6182, UL 6183, UL 6184, UL 6185, UL 6186, UL 6187, UL 6188, UL 6189, UL 6190, UL 6191, UL 6192, UL 6193, UL 6194, UL 6195, UL 6196, UL 6197, UL 6198, UL 6199, UL 6200, UL 6201, UL 6202, UL 6203, UL 6204, UL 6205, UL 6206, UL 6207, UL 6208, UL 6209, UL 6210, UL 6211, UL 6212, UL 6213, UL 6214, UL 6215, UL 6216, UL 6217, UL 6218, UL 6219, UL 6220, UL 6221, UL 6222, UL 6223, UL 6224, UL 6225, UL 6226, UL 6227, UL 6228, UL 6229, UL 6230, UL 6231, UL 6232, UL 6233, UL 6234, UL 6235, UL 6236, UL 6237, UL 6238, UL 6239, UL 6240, UL 6241, UL 6242, UL 6243, UL 6244, UL 6245, UL 6246, UL 6247, UL 6248, UL 6249, UL 6250, UL 6251, UL 6252, UL 6253, UL 6254, UL 6255, UL 6256, UL 6257, UL 6258, UL 6259, UL 6260, UL 6261, UL 6262, UL 6263, UL 6264, UL 6265, UL 6266, UL 6267, UL 6268, UL 6269, UL 6270, UL 6271, UL 6272, UL 6273, UL 6274, UL 6275, UL 6276, UL 6277, UL 6278, UL 6279, UL 6280, UL 6281, UL 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Single Phase Energy Hub Inverter with Prism Technology for North America

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

	SE3000H-US	SE3800H-US	SE6000H-US	SE7600H-US	UNITS
Rated AC Power	3000	3800	6000	7600	W
Maximum AC Power Output	3000	3800	6000	7600	W
AC Output Voltage Range	201-264				Vac
AC Frequency Range (nom - max)	59.3 - 60.5				Hz
Maximum Continuous Output Current	16	20	25	32	A
IGBT Thermal	-3				°C
Total Harmonic Distortion (THD)	1				%
Power Factor	1, adjustable -0.95 to 0.95				
Battery Monitoring, Insulation Protection, Country Configurable Thresholds	Yes				
Charge Battery from AC (if allowed)	Yes				
Typical High-Temperature Power Consumption	<2.5				W

OUTPUT - AC ON GRID	
Rated AC Power in Backup Operation	2400
Peak AC Power (s to sec) in Backup Operation	2700
AC L-L Output Voltage Range in Backup	211-264
AC L-N Output Voltage Range in Backup	105-132
AC Frequency Range in Backup (nom - max)	55 - 60.5
Maximum Continuous Output Current in Backup Operation	12.7
Peak AC Current (s to sec) in Backup Operation	14.2
THD	1
	<5

OUTPUT - AC BACKUP	
Rated AC Power in Backup Operation	2400
Peak AC Power (s to sec) in Backup Operation	2700
AC L-L Output Voltage Range in Backup	211-264
AC L-N Output Voltage Range in Backup	105-132
AC Frequency Range in Backup (nom - max)	55 - 60.5
Maximum Continuous Output Current in Backup Operation	12.7
Peak AC Current (s to sec) in Backup Operation	14.2
THD	1
	<5

OUTPUT - SMART EV CHARGER AC	
Rated AC Power	7600
AC Output Voltage Range	211-264
AC Frequency Range (nom - max)	59.3-60.5
Maximum Continuous Output Current (0.250' input, PV and battery)	40

INPUT - DC (PV AND BATTERY)	
Max Input Voltage	Yes
Reverse Polarity Protection	Yes
Ground Fault Isolation Detection	Yes
Ground Fault Isolation Detection	6000Q Sensitivity

INPUT - DC (PV)	
Maximum DC Power	6000
Maximum Input Current ²	85
Max. Input Short Circuit Current	45
Maximum Inverter Efficiency	99.2
CEC Weighted Efficiency	99
2-Week Disconnect	Yes

INPUT - DC (BATTERY)	
Supported Battery Types	LG Chem RES300H 1 to 2 ³
Number of Batteries per Inverter	19.6
Maximum Battery Capacity per Inverter	5600
Continuous Power per Inverter	6000
Peak Power	8
Max. Heat Current (0.250')	8
2-Week Disconnect	Yes

CONNECTIONS	
AC Output	3/4" maximum / 14.8 AWG
AC Input	3/4" maximum / 14.8 AWG
DC Input (PV) Conductor Size / AWG Range	3/4" maximum / 14.8 AWG
DC Input (Battery) Conductor Size / AWG Range	3/4" maximum / 14.8 AWG
DC Input (Battery) Conductor Size (AWG)	17.7 to 14.6 / 6.6 / 4.0 / 3.0 X 1/4"
Dimensions with Connection Unit	25" / 18"
Weight	25 / 25
Mounting	Natural Convection
Operating Temperature Range	-40 to +140 / -40 to +140 ²
Protection Class	IP65

INSTALLATION SPECIFICATIONS	
AC Output Conductor Size / AWG Range	3/4" maximum / 14.8 AWG
AC Input Conductor Size / AWG Range	3/4" maximum / 14.8 AWG
DC Input (PV) Conductor Size / AWG Range	3/4" maximum / 14.8 AWG
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GENERAL INFORMATION	
Grid Connection Standard	UL1741, UL1741 SA, UL1998, UL1998A, UL1998A CSA 22.2
Grid Connection Standard	IEEE 519, IEEE 519.2, IEEE 519.21, IEEE 519.22
Emission	FCC part 15 class B
AC Output Conductor Size / AWG Range	3/4" maximum / 14.8 AWG
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AC Input Conductor Size / AWG Range	3/4" maximum / 14.8 AWG
DC Input (PV) Conductor Size / AWG Range	3/4" maximum / 14.8 AWG
DC Input (Battery) Conductor Size / AWG Range	3/4" maximum / 14.8 AWG
DC Input (Battery) Conductor Size (AWG)	17.7 to 14.6 / 6.6 / 4.0 / 3.0 X 1/4"
Dimensions with Connection Unit	25" / 18"
Weight	25 / 25
Mounting	Natural Convection
Operating Temperature Range	-40 to +140 / -40 to +140 ²
Protection Class	IP65

GENERAL INFORMATION	
Grid Connection Standard	UL1741, UL1741 SA, UL1998, UL1998A, UL1998A CSA 22.2
Grid Connection Standard	IEEE 519, IEEE 519.2, IEEE 519.21, IEEE 519.22
Emission	FCC part 15 class B
AC Output Conductor Size / AWG Range	3/4" maximum / 14.8 AWG
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Single Phase Energy Hub Inverter with Prism Technology for North America

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

SMART ENERGY CAPABILITIES	
Consumption Monitoring	Built-in ²
Battery Storage	Direct connection to Smart TV charger
EV Charging	With Backup Interface for size up to 20kW, up to 3 inverters, 16kW backup power, and 60/30A Backup capacity.

ADDITIONAL FEATURES	
Supported Communication Protocols	RS485, Ethernet, Wi-Fi (optional), Cellular
Remote Grade Monitoring	Yes
Integrated AC, DC, and Communication Connection Port	Yes
Inverter Configuration	with the Settings mobile application using Button Wi-Fi Access Point (UL1741) / operation DC Voltage Input Shutdown (PV and Battery)

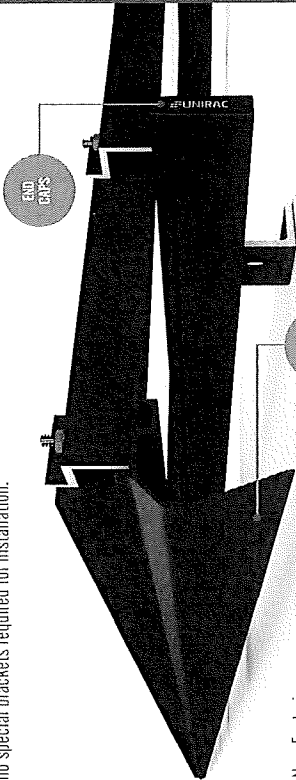
STANDARD COMPLIANCE	
Grid Connection Standard	UL1741, UL1741 SA, UL1998, UL1998A, UL1998A CSA 22.2
Grid Connection Standard	IEEE 519, IEEE 519.2, IEEE 519.21, IEEE 519.22
Emission	FCC part 15 class B

INSTALLATION SPECIFICATIONS	
AC Output Conductor Size / AWG Range	3/4" maximum / 14.8 AWG
AC Input	

SOLARMOUNT



SOLARMOUNT defined the standard in solar racking. Features are designed to get installers off the roof faster. Our grounding & bonding process eliminates copper wire and grounding straps to reduce costs. Systems can be configured with standard or light rail to meet your design requirements at the lowest cost possible. The superior aesthetics package provides a streamlined clean edge for enhanced curb appeal, with no special brackets required for installation.



Now Featuring:
THE NEW FACE OF SOLAR RACKING
Superior Aesthetics Package



LOSE ALL OF THE COPPER & LUGS
Solves grounding through freese measures and trunk cables

SMALL IS THE NEXT NEW BIG THING
Light rail is fully compatible with all SM Components

ENHANCED DESIGN & LAYOUT TOOLS
Featuring Google Map Capabilities within U-Builder

FAST INSTALLATION. SUPERIOR AESTHETICS
OPTIMIZED COMPONENTS • VERSATILITY • DESIGN TOOLS • QUALITY PROVIDER

SOLARMOUNT



OPTIMIZED COMPONENTS

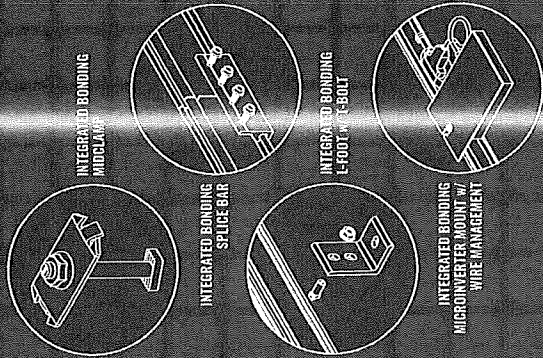
Components are pre-assembled and optimized in order to reduce installation steps and save labor time. Our new bonding & wiring process eliminates copper wire and grounding straps or bonding supports in racking posts. Unlike the industry to train with a wire management clip for an easier installation.

VERSATILITY

ONE PRODUCT - MANY APPLICATIONS
Works on flat, pitched, and curved roofs. Can be used in a wide range of applications. Installation is simple and fast. The racking system is designed to be installed on a wide range of roof types. Available in a wide range of colors and finishes to match your project's architectural and aesthetic requirements.

AUTOMATED DESIGN TOOL

DESIGN PLATFORM AT YOUR SERVICE
Get the full design capabilities of our design platform at your service. The platform is designed to be used by installers, designers, and architects. The platform is designed to be used by installers, designers, and architects. The platform is designed to be used by installers, designers, and architects.



UNIRAC CUSTOMER SERVICE MEANS THE HIGHEST LEVEL OF PRODUCT SUPPORT



TECHNICAL SUPPORT
Unirac's technical support team is dedicated to answering questions & addressing issues in real time. An online library of documents including engineering reports, sample photos, and technical data sheets, greatly simplifies your permitting and project planning process.

CERTIFIED QUALITY PROVIDER
Unirac is the only PV racking provider with ISO certifications for ISO 9001:2015, ISO 14001:2015, and OHSAS 18001:2007 which means we deliver the highest standards in fit, form, and function. These certifications demonstrate our excellence and commitment to first class business practices.

BANKABLE WARRANTY
Don't leave your project to chance. Unirac has the financial strength to back our products for decades past. We pass all steel finishing, pre and post-curing products, all electrical quality, SUPPLEMENT to the code by a twenty five (25) year limited product warranty and the best limited term warranty.

PROTECT YOUR REPUTATION WITH QUALITY RACKING SOLUTIONS BACKED BY ENGINEERING EXCELLENCE AND A SUPERIOR SUPPLY CHAIN
UNIRAC.COM/2018

Project Name Kenneth Adams	Address 147 Meadowview Dr Durango, CO 81301	Project Description 11.00KW DC Roof Mounted PV Electrical System 31-46 330W PV Modules 1-Solar Edge 7.6KW Inverter	Contractor Green Solar	Contractor Logo Powered by GreenSolar	Signature	Note	Drawn By: Unique Solar Design 	General Note DATE: JUNE 25, 2021 SCALE: AS INDICATED PROJECT: PV SYSTEM
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D4

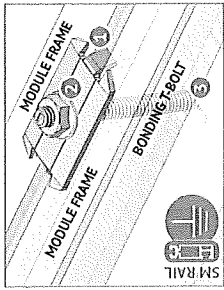


BONDING CONNECTION GROUND PATHS

INSTALLATION GUIDE

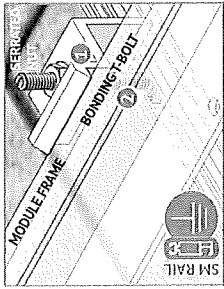
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PAGE



BONDING MIDCLAMP ASSEMBLY

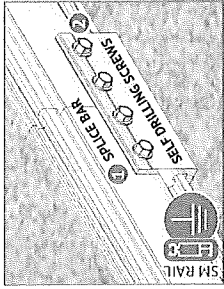
- 1 Stainless steel midclamp points, 2 per module, pierce module frame anodization to bond module to module through clamp.
- 2 Serrated flange nut bonds stainless steel clamp to stainless steel T-bolt.
- 3 Serrated T-bolt head penetrates rail anodization to bond T-bolt, nut, clamp, and modules to grounded SM rail.



ENDCLAMP ASSEMBLY

- 1 Serrated flange nut bonds aluminum Endclamp to stainless steel T-bolt.
- 2 Serrated T-bolt head penetrates rail anodization to bond T-bolt, nut, and Endclamp to grounded SM rail.

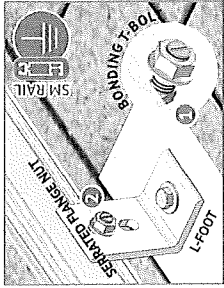
Refer to the wiring above section for module terminations.



BONDING RAIL SPLICE BAR

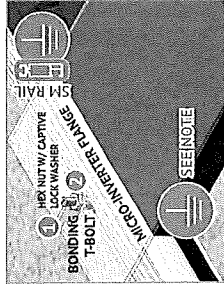
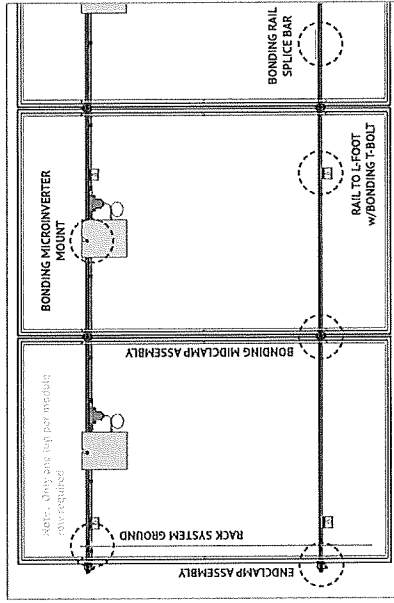
- 1 Stainless steel self-drilling screws drill and tap into splice bar and rail creating bond between splice bar and main rail section.
- 2 Aluminum splice bar spans across rail gap to create rail to rail bond. Rail on at least one side of splice will be grounded.

NOTE: Splice bar and screws installation are non-structural. The splice bar must be installed in-between rails.



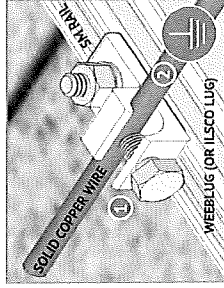
RAIL TO L-FOOT w/BONDING T-BOLT

- 1 Serrated flange nut removes L-foot anodization to bond L-foot to stainless steel T-bolt.
- 2 Serrated T-bolt head penetrates rail anodization to bond T-bolt, nut, and L-foot to grounded SM rail.



BONDING MICROINVERTER MOUNT

- 1 Hex nut with captive lock washer bonds metal microinverter flange to stainless steel T-bolt.
- 2 Serrated T-bolt head penetrates rail anodization to bond T-bolt, nut, and microinverter to grounded SM rail. Microinverter must be grounded to the rail that will be grounded with integrated grounding in appropriate microinverter assembly. See page 1 for details.



RACK SYSTEM GROUND

- 1 WEB washer, dimples, pierce, anodized rail to create bond between rail and lug.
- 2 Solid copper wire connected to lug is routed to provide final system ground connection.

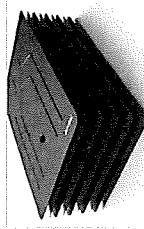
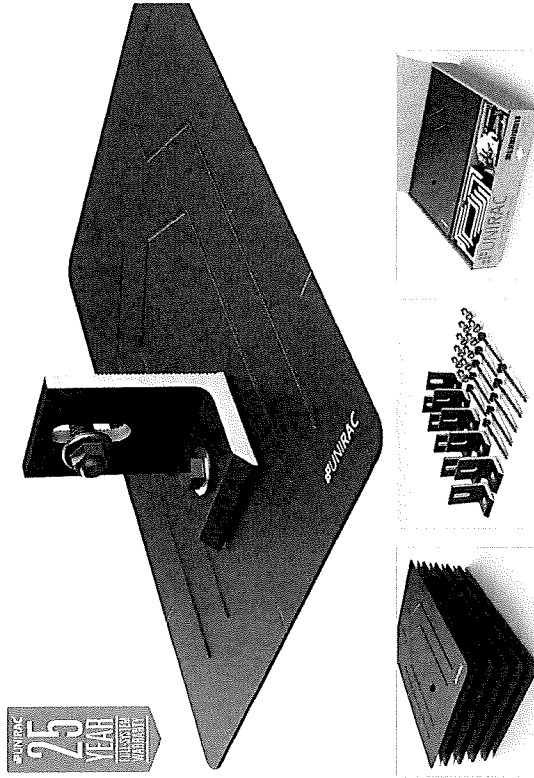
NOTE: Bare lug wire will be used when required to the side of the rail. See page 1 for details.

Project Name Kenneth Adams	Address 147 Meadowview Dr Durango, CO 81301	Project Description 11,00kW DC Roof Mounted PV Electrical System 31-LG 355W PV Modules 1-Solar Edge 7.6kW Inverter	Contractor Green Solar	Contractor Logo 	Signature	Note	Drawn By: Unique Solar Design 	Revision DATE: JUNE 25, 2011 BY: PVP/MS/P REASON: AS INDICATED PV SYSTEM	Sheet Number D5
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FLASHKIT PRO



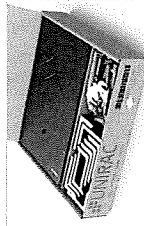
FLASHKIT PRO is the complete attachment solution for composition shingle roofs. Featuring Unirac's patented SHED & SEAL technology, a weather proof system which provides the ultimate protection against roof leaks. Kitted in 10 packs for maximum convenience, flashings and hardware are available in Mill or Dark finishes. With FLASHKIT pro, you have everything you need for a quick, professional installation.



TRUSTED WATER SEAL FLASHINGS
FEATURING SHED & SEAL TECHNOLOGY



YOUR COMPLETE SOLUTION
Flashings, lags, continuous L-foot and hardware



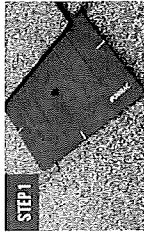
CONVENIENT TO PACKS
Packaged for speed and ease of handling

FLASHKIT PRO



INSTALLATION GUIDE

FLASHKIT PRO IS THE COMPLETE FLASHING AND ATTACHMENT SOLUTION FOR COMPOSITION ROOFS.



INSTALL FLASHKIT PRO FLASHING

INSTALL L-FOOT

ATTACH L-FOOT TO RAIL

PRE-INSTALL

- Locate roof rafters and snap chalk lines to mark the installation point for each roof attachment.
- Drill a 7/32" pilot hole at each roof attachment. Fill each pilot hole with sealant.

TIP:

- Use caution to avoid over-tightening the lag bolt if using an impact driver.
- Repeat Steps 1 and 2 at each roof attachment point.

STEP 1 INSTALL FLASHKIT PRO FLASHING

- Slide U-shaped head of roof sealant to the underside of the flashing with the open side of the U pointing down the roof slope. Slide the aluminum flashing underneath the row of shingles directly up slope from the pilot hole as shown. Align the indicator marks on the lower end of the flashing with the chalk lines on the roof to center the raised hole in the flashing over the pilot hole in the roof. When installed correctly, the flashing will extend under the two courses of shingles above the pilot hole.

STEP 2 INSTALL L-FOOT

- Fasten L-foot and Flashing into place by passing the included lag bolt and pre-installed stainless steel-backed EPDM washer through the L-foot EPDM gasket, and the raised hole in the flashing, into the pilot hole in the roof rafter.

STEP 3 ATTACH L-FOOT TO RAIL

- Insert the included 3/8" x 16 T-bolts into the lower slot on the Rail (sold separately), spacing the bolts to match the spacing between the roof attachments.
- Position the Rail against the L-foot and insert the threaded end of the T-Bolt through the continuous slot in the L-Foot. Apply nut and washer to both threads to prevent galling of the T-bolt and included 3/8" serrated flange nut. Place the 3/8" flange nut on the T-bolt and finger tighten. Repeat STEP 3 until all L-Feet are secured to the Rail with a T-bolt. Adjust the level and height of the Rail and torque each bolt to 30ft-lbs.

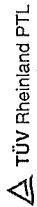
THE COMPLETE ROOF ATTACHMENT SOLUTION

FOR QUESTIONS OR CUSTOMER SERVICE VISIT UNIRAC.COM OR CALL (505) 248-2702

FASTER INSTALLATION. 25-YEAR WARRANTY.

FOR QUESTIONS OR CUSTOMER SERVICE VISIT UNIRAC.COM OR CALL (505) 248-2702

Project Name Kenneth Adams	Address 147 Meadowview Dr Durango, CO 81301	Project Description 11,00kW DC Roof Mounted PV Electrical System 31-LG 355W PV Modules 1-Solar Edge 7.6kW Inverter	Contractor Green Solar	Contractor Logo Powered by GreenSolar	Signature	Note	Drawn By: Unique Solar Design 	Sheet No. JUNE 25, 2021 AS INDICATED PV SYSTEM	Project Size 17,777 SQR FT D6
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Business Stream Products
Renewable and Solar Technology

Attn: John Nagyvay
Unirac Inc.
1411 Broadway Blvd
Albuquerque, NM 87102
Phone: +505 242 6411
Email: john.nagyvay@unirac.com

Email: MWitt@us.tlv.com
December 1, 2014

UL SU 2703 Fire Testing Completed

Type of Equipment: PV Mounting System
Model Designation: Unirac Solar Mount
TUV Rheinland File Number: LI-URC14731
Test Requirement: UL Subject 2703, Issue 2
TUV Rheinland Project Number: URC140731

Dear Mr. Nagyvay,

This letter is confirmation that the Unirac Solar Mount (SM) PV Mounting System has successfully completed fire testing according to the UL Subject 2703 with references from UL1703 rev. May 2014 standard.

Congratulations on this achievement.

The Unirac Solar Mount (SM) PV Mounting System has demonstrated compliance with a Class A Fire Rating when installed with the following Fire Types:

- Type 1
- Type 2
- Type 3
- Type 10

Complete test results can be found in report R1-URC140731-SM.

This correspondence may be used as an interim Letter of Compliance (LOC) indicating the Unirac Solar Mount (SM) PV Mounting System has met the relevant system fire requirements until the publication of the pending final certificate on the TUV Rheinland Certipedia website.

Sincerely,

Mark Witt
Engineering Manager
TUV Rheinland PTL, LLC

TUV Rheinland PTL
Photovoltaic Testing Laboratory
2210 South Hoover Road, Suite
Tempe, Arizona 85282
Main Phone: 480-990-1700
Main Fax: 775-514-6456
Email: info@ptl.com

TUV Rheinland
North America Holding, Inc.
1 Federal Street
Boston, MA 02110
Main Phone: 617-426-8888
Main Fax: 617-426-8888
Member of
TUV Rheinland Group

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 the certificate were tested according to the current UL requirements.

Productive models:
Series L6000T-C-V5 for using Mono-Crystalline cell (610 cells);
L6300Z-W-V5, L6300Z-W-V5, L6300Z-W-V5, L6300Z-W-V5
Series L6000T-C-V5 for using Mono-Crystalline cell (610 cells);
L6300Z-W-V5, L6300Z-W-V5, L6300Z-W-V5, L6300Z-W-V5
Series L6000T-C-V5 for using Mono-Crystalline cell (610 cells);
L6300Z-W-V5, L6300Z-W-V5, L6300Z-W-V5, L6300Z-W-V5
Series L6000T-C-V5 for using Mono-Crystalline cell (610 cells);
L6300Z-W-V5, L6300Z-W-V5, L6300Z-W-V5, L6300Z-W-V5
Series L6000T-C-V5 for using Mono-Crystalline cell (610 cells);
L6300Z-W-V5, L6300Z-W-V5, L6300Z-W-V5, L6300Z-W-V5
Series L6000T-C-V5 for using Mono-Crystalline cell (610 cells);
L6300Z-W-V5, L6300Z-W-V5, L6300Z-W-V5, L6300Z-W-V5

Standards (s) for safety:
UL 1703 and UL CORD-C-1703 2018 - Flat-Plate
Photovoltaic Modules and Panels
See the UL Online Certifications Directory at
www.ul.com/directory 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.

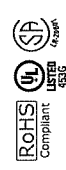
Page 1 of 2



Project Name Kenneth Adams	Address 147 Meadowview Dr Durango, CO 81301	Project Description 11,000kW DC Roof Mounted PV Electrical System 31-LG 550W PV Modules 1-Solar Edge 7.6kW Inverter	Contractor Green Solar	Contractor Logo Powered by 	Signature	Note	Drawn By: Unique Solar Design 	General Note JUNE 25, 2021 AS INDICATED PV SYSTEM D7
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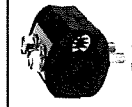
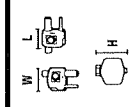
KUP-L-Tap® Insulation Piercing Connectors Dual Rated



TYPE IPC

- Features**
- Body is molded from tough, resilient glass-filled nylon
 - Compact design
 - Fits over most types of conductor
 - Insulation piercing
 - Performance and tabs
 - Pre-filled with silicone lubricant
 - Versatile
 - Increased safety
 - Horizontal fine grid
 - Temperature rating 90°C

- Benefits**
- Provides high degree of breakage resistance and long dependable use
 - Saves space
 - Eliminates 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 expensive energized parts. Can be installed "hot" on energized conductors
 - Provides a visual guide for proper installation of conductors



Catalog Number	Figure Number	Wire Range		Current Rating	Dimensions			Torque		Bolt Head Size
		Main	Tap		L	W	H	Rx Lbs.	H	
IPC-10-2	3	10-8	2-8	100	1.722	1.622	2.516	16	12	12
IPC-40-6	2	40-4	6-14	75	1.2764	1.788	2.78	25	12	12
IPC-40-20	3	40-2	20-6	150	1.2102	1.78	2.78	25	12	12
IPC-250-4	2	250kcmil-1	4-6	205	1.78	2.1102	3.162	30	58	58
IPC-350-4	3	350kcmil-40	40-10	205	1.4384	2.715	3.16	25	58	58
IPC-350-350	4	350kcmil-40	350kcmil-40	200	2.4364	2.2332	3.144	25	58	58
IPC-500-12	1	500kcmil-250kcmil	10-12	40	1.4384	2.715	3.14	25	58	58
IPC-500-250	1	500kcmil-250kcmil	250kcmil-4	200	2.2784	2.292	3.34	55	58	58
IPC-500-500	1	500kcmil-500kcmil	500kcmil-250kcmil	400	3.916	3.58	5	75	78	78
IPC-750-500	1	750kcmil-500kcmil	500kcmil-300kcmil	420	3.316	3.58	5	75	78	78

All wire sizes, unless noted otherwise, are American Wire Gauge (AWG) based to UL 6848B, UL 155 (IEEE)

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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-10-2	10 - 8 AWG	#2 - #8 AWG	182	1/2"	300 (480 grounded Y system)
IPC-40-6	40 - #4 AWG	#6 - #14 AWG	188	1/2"	600
IPC-40-20	40 - #2 AWG	#10 - #8 AWG	300	1/2"	600
IPC-250-4	250 kcmil-40	40 - #8 AWG	360	5/8"	600
IPC-350-40	350 kcmil-40	40 - #10 AWG	300	5/8"	300 (480 grounded Y system)
IPC-350-350	350 kcmil-40	350 kcmil-40	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" x 1 1/16"	600
IPC-500-500	500-500 kcmil	500-250 kcmil	900	7/8"	600
IPC-750-500	750-500 kcmil	500-300 kcmil	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 size is limited to .525" OD including the insulation.
- * Max OD on the main is .750" including insulation

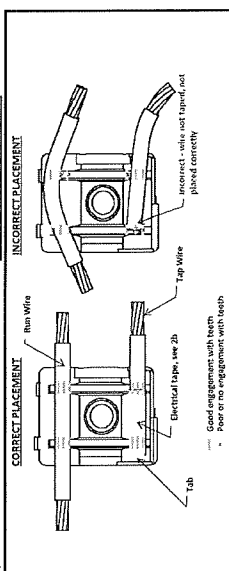
IPC-250-40 & IPC-40-20- To insure the top and bottom are aligned - There are lines on the side of the connector to help.

- 2) Installation Instructions For Use as a Run and Tap:
- Remove the tap blocking the main conductor groove with screwdriver or pliers.
 - Tap must be broken cleanly at the bottom of the channel.
 - Cut the main conductor with side cutters and apply a crosshatched layer of UL listed electrical tape over the exposed end of the wire.
 - Tap into the conductor with the square end of the tap. Measure approximately three inches long.
 - Slide the connector over the tap.
 - 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



Project Name	Address	Project Description	Contractor	Contractor Logo	Signature	Note	Drawn By: Unique Solar Design	General Note
Kenneth Adams	147 Meadowview Dr Durango, CO 81301	11,00kW DC Roof Mounted PV Electrical System 31-LG 355W PV Modules 1-Solar Edge 7.6kW Inverter	Green Solar	Powered by GreenSolar				Date: JUNE 23, 2021 Scale: AS INDICATED Sheet Number: PV SYSTEM Project Number: D8

Approval Needed External

Inbox x

Ram Sethi <pm35@greensoftech.com>
to Kenneth

Hi Kenneth,

We need your approval to submit for the permit, can you please review the attached permit application and reply "approve" that we are submitting on your behalf?

Thanks!

Ram Sethi
Project Manager

Mobile: 424-341-5423
E: pm35@greensoftech.com



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Form with fields for Name, Address, City, State, Zip, and Phone.

county land use pe...

Kenneth Adams DO FAOCO
to me

approve
Kenneth P Adams DO FAOCO
3801 Eubank Boulevard NE
Albuquerque, NM 87111
Office (505)242-3330



1:22 PM (2 hours ago) ☆

KEN ADAMS
SOLAR
PANEL

4:15 PM (0 minutes ago) ☆