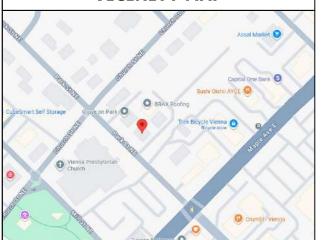
VICINITY MAP



AERIAL MAP

ENGINEERING SCOPE OF WORK

- ILLUMINE INTERNATIONAL INC. HAS ONLY PROVIDED DRAFTING SERVICES FOR THE PERMIT DRAWINGS. NO ACTUAL ENGINEERING WORK, ENGINEERING REVIEW OR ENGINEERING APPROVAL HAS BEEN CONDUCTED BY ILLUMINE INTERNATIONAL INC. UNLESS NOTED OTHERWISE.
- WHEN A PROFESSIONAL ENGINEER APPROVES AND SEALS THE DESIGN FOR COMPONENTS OF THEIR RESPECTIVE DISCIPLINE (STRUCTURAL/ELECTRICAL) SHOWN ON THESE PERMIT DRAWINGS, THE PROFESSIONAL ENGINEER
 - a. TAKES FULL DIRECT CONTROL OF THE ENGINEERED DESIGN
 - b. IS GIVEN ACCESS TO PERSONALLY SUPERVISE AND RECTIFY ANY ASPECT OF THE ENGINEERED DESIGN
 - c. HAS FULLY ACCEPTED RESPONSIBILITY FOR THE ENGINEERED DESIGN

GENERAL NOTES

- MODULES ARE LISTED UNDER UL 1703 / 61730 AND CONFORM TO THE STANDARDS.
- 2. INVERTERS ARE LISTED UNDER UL 1741 AND CONFORM TO THE STANDARDS.
- 3. DRAWINGS ARE DIAGRAMMATIC, INDICATING GENERAL ARRANGEMENT OF THE PV SYSTEM AND THE ACTUAL SITE CONDITION MIGHT VARY.
- . WORKING CLEARANCES AROUND THE NEW PV ELECTRICAL EQUIPMENT WILL BE MAINTAINED IN ACCORDANCE WITH NEC 110.26.
- 5. ALL GROUND WIRING CONNECTED TO THE MAIN SERVICE GROUNDING IN MAIN SERVICE PANEL/ SERVICE EQUIPMENT.
- 6. ALL CONDUCTORS SHALL BE 600V, 90°C STANDARD COPPER UNLESS OTHERWISE NOTED.
- 7. WHEN REQUIRED, A LADDER SHALL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH OSHA REGULATIONS.
- 8. THE SYSTEM WILL NOT BE INTERCONNECTED BY THE CONTRACTOR UNTIL APPROVAL FROM THE LOCAL JURISDICTION AND/OR THE UTILITY.
-). ROOF ACCESS POINT SHALL BE LOCATED IN AREAS THAT DO NOT REQUIRE THE PLACEMENT OF GROUND LADDERS OVER OPENINGS SUCH AS WINDOWS OR DOORS, AND LOCATED AT STRONG POINTS OF BUILDING CONSTRUCTION WHERE THE ACCESS POINT DOES NOT CONFLICT WITH OVERHEAD OBSTRUCTIONS SUCH AS TREES, WIRES OR SIGNS.
- 10. PV ARRAY COMBINER/JUNCTION BOX PROVIDES TRANSITION FROM ARRAY WIRING TO CONDUIT WIRING.

SHEET CATALOG			
SHEET	REVISION	DESCRIPTION	
CS-01	В	COVER SHEET	
CS-02	В	GENERAL NOTES	
E-01	В	SITE PLAN	
E-01.1	В	SATELLITE VIEW	
S-01	В	MOUNTING DETAILS	
S-02	В	STRUCTURAL DETAILS	
E-02	В	SINGLE LINE DIAGRAM	
E-03	В	ELECTRICAL CALCULATIONS	
PL-01	В	PLACARDS	
SS	В	SPEC SHEET(S)	

Wyssling Consulting, PLLC

76 N. Meadowbrook Drive, Alpine UT

Virginia COA # 407008373

Signed 10/16/2025

ROOF AREA CALCULATION

TOTAL ARRAY AREA = 503.98 sq.ftTOTAL ROOF AREA = 2178 sq.ft% ARRAY AREA IN ROOF = 23.14 %

DESIGN CRITERIA

BASIC WIND SPEED = 130 MPH @ 3-SEC GUST GROUND SNOW LOAD = 35 PSF RISK CATEGORY- II

PROJECT WINDSPEED DETERMINED USING THE ASCE 7 STANDARD UNLESS DIRECTED OTHERWISE BY LOCAL JURISDICTION AMENDMENTS

SCOPE OF WORK

SYSTEM SIZE:

10560W DC, 8376W AC

MODULE:

(24)SILFAB SIL-440 QD (440W)

INVERTER:

(24)ENPHASE IQ8AC-72-M-US (240V)

BRANCH DETAILS:

1X8, 1X8, 1X8 ENPHASE BRANCHES



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APPLICABLE CODES

• ELECTRIC CODE: NEC 2020

- VIRGINIA STATEWIDE FIRE PREVENTION CODE: VSFPC 2021
- VIRGINIA CONSTRUCTION CODE: VCC 2021
- VIRGINIA RESIDENTIAL CODE: VRC 2021 WITH LOCAL AMENDMENTS

CUSTOMER INFORMATION | CONTRACTOR INFORMATION

NAME: PAUL LEVIT

ADDRESS: 127A PARK STREET NORTHEAST, VIENNA, VA 22180

38.904273. -77.263505 APN: 0382710012

UTILITY: DOMINION ENERGY

Benefits Beyond the Bottom Line

AHJ: VA - FAIRFAX COUNTY

DRAWING INFORMATION



INSTALLATION NOTES:

- 1. STRUCTURAL ROOF MEMBER LOCATIONS ARE ESTIMATED AND SHOULD BE LOCATED AND VERIFIED BY THE CONTRACTOR WHEN LAG BOLT PENETRATION OR MECHANICAL ATTACHMENT TO THE STRUCTURE IS REQUIRED.
- 2. ROOFTOP PENETRATIONS FOR SOLAR RACKING WILL BE COMPLETED AND SEALED WITH APPROVED SEALANT PER CODE BY A LICENSED CONTRACTOR.
- 3. LAGS MUST HAVE A MINIMUM 2.5" THREAD EMBEDMENT INTO THE STRUCTURAL MEMBER
- 4. ALL PV RACKING ATTACHMENTS SHALL BE STAGGERED BY ROW BETWEEN THE ROOF FRAMING MEMBERS AS NECESSARY.
- 5. ROOF MOUNTED STANDARD RAIL REOUIRES ONE THERMAL EXPANSION GAP FOR EVERY RUN OF RAIL GREATER THAN 40'.
- 6. ALL CONDUCTORS AND CONDUITS ON THE ROOF SHALL BE MINIMUM 7/8" ABOVE THE ROOF SURFACE (INCLUDING CABLES UNDERNEATH MODULES AND RACKING).
- 7. ALL SOLAR PANEL ARRAY COMPONENTS SHALL BE INSTALLED PER THE MANUFACTURER'S APPROVED INSTALLATION SPECIFICATIONS.
- 8. THE EXISTING BUILDINGS STRUCTURE SHALL BE VERIFIED AS PROPERLY CONSTRUCTED AND MAINTAINED IN GOOD CONDITION. NO ALLOWANCE HAS BEEN MADE IN THESE DRAWINGS FOR ANY EXISTING DEFICIENCY IN DESIGN, MATERIAL, CONSTRUCTION, OR LACK OF MAINTENANCE FOR THE EXISTING STRUCTURE OR PROPOSED EQUIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING EXISTING CONDITIONS, PROPER FIT, AND CLEARANCES IN THE FIELD.
- 9. WATERPROOFING AROUND THE ROOF PENETRATIONS IS THE RESPONSIBILITY OF CONTRACTOR/INSTALLER.
- 10. MISCELLANEOUS ITEMS NOT EXPLICITLY LISTED OR IDENTIFIED IN THESE DRAWINGS HAVE NOT BEEN DESIGNED. IT IS RECOMMENDED THAT MATERIAL OF SUITABLE SIZE STRENGTH TO BE OBTAINED FROM A REPUTABLE MANUFACTURER FOR MISCELLANEOUS ITEMS.
- 11. IF PROJECT IS STAMPED AND SEALED BY AN ILLUMINE-I STRUCTURAL ENGINEER, SEE ASSOCIATED ILLUMINE-I STRUCTURAL REPORT FOR FULL COMPREHENSIVE SCOPE OF STRUCTURAL ENGINEERING INVESTIGATION AND APPROVAL.
- 12. IF ANY CONDITION THROUGHOUT THE ASSOCIATED REPORT OR PERMIT DRAWINGS IS NOT ALSO REPRESENTED ON-SITE, CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD OF ANY DISCREPANCIES AND RECEIVE WRITTEN APPROVAL FROM THE ENGINEER OF RECORD BEFORE PROCEEDING WITH INSTALLATION.
- 13. CONTRACTOR TO PROVIDE MINIMUM 1/4" GAP BETWEEN ALL SOLAR PANELS.

ROOF ACCESS PATHWAYS AND SETBACKS:

1205.2.1 SOLAR PHOTOVOLTAIC SYSTEMS FOR GROUP R-3 BUILDINGS:

SOLAR PHOTOVOLTAIC SYSTEMS FOR GROUP R-3 BUILDINGS SHALL COMPLY WITH SECTIONS 1205.2.1.1 THROUGH 1205.2.1.3.

EXCEPTIONS:

- 1. THESE REQUIREMENTS SHALL NOT APPLY TO STRUCTURES DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE INTERNATIONAL RESIDENTIAL CODE.
- 2. THESE REQUIREMENTS SHALL NOT APPLY TO ROOFS WITH SLOPES OF 2 UNITS VERTICAL IN 12 UNITS HORIZONTAL (16.7-PERCENT) OR LESS.

1205.2.1.1 PATHWAYS TO RIDGE:

NOT FEWER THAN TWO 36-INCH-WIDE (914 MM) PATHWAYS ON SEPARATE ROOF PLANES, FROM LOWEST ROOF EDGE TO RIDGE, SHALL BE PROVIDED ON ALL BUILDINGS. NOT FEWER THAN ONE PATHWAY SHALL BE PROVIDED ON THE STREET OR DRIVEWAY SIDE OF THE ROOF. FOR EACH ROOF PLANE WITH A PHOTOVOLTAIC ARRAY, NOT FEWER THAN ONE 36-INCH-WIDE (914 MM) PATHWAY FROM LOWEST ROOF EDGE TO RIDGE SHALL BE PROVIDED ON THE SAME ROOF PLANE AS THE PHOTOVOLTAIC ARRAY, ON AN ADJACENT ROOF PLANE OR STRADDLING THE SAME AND ADJACENT ROOF PLANES

1205.2.1.2 SETBACKS AT RIDGE:

FOR PHOTOVOLTAIC ARRAYS OCCUPYING 33 PERCENT OR LESS OF THE PLAN VIEW TOTAL ROOF AREA,

A SETBACK OF NOT LESS THAN 18 INCHES (457 MM)WIDE IS REQUIRED ON BOTH SIDES OF A HORIZONTAL RIDGE. FOR PHOTOVOLTAIC ARRAYS OCCUPYING MORE THAN 33 PERCENT OF THE PLAN VIEW TOTAL ROOF AREA, A SETBACK OF NOT LESS THAN 36 INCHES (457 MM) WIDE IS REQUIRED ON BOTH SIDES OF A HORIZONTAL RIDGE.

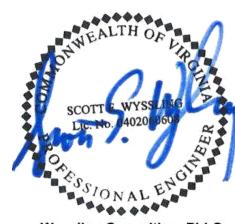
1205.2.1.3 ALTERNATIVE SETBACKS AT RIDGE:

- WHERE AN AUTOMATIC SPRINKLER SYSTEM IS INSTALLED WITHIN THE DWELLING IN ACCORDANCE WITH SECTION 903.3.1.3, SETBACKS AT THE RIDGE SHALL CONFORM TO ONE OF THE FOLLOWING:
- 1. FOR PHOTOVOLTAIC ARRAYS OCCUPYING 66 PERCENT OR LESS OF THE PLAN VIEW TOTAL ROOF AREA, A SETBACK OF NOT LESS THAN 18 INCHES (457 MM) WIDE IS REQUIRED ON BOTH SIDES OF A HORIZONTAL RIDGE. 2. FOR PHOTOVOLTAIC ARRAYS OCCUPYING MORE THAN 66 PERCENT OF THE PLAN VIEW TOTAL ROOF AREA, A SETBACK OF NOT LESS THAN 36 INCHES (914 MM) WIDE IS REQUIRED ON BOTH SIDES OF A HORIZONTAL RIDGE.

1205.2.2 EMERGENCY ESCAPE AND RESCUE OPENINGS. PANELS AND MODULES INSTALLED ON GROUP R-3 BUILDINGS SHALL NOT BE PLACED ON THE PORTION OF A ROOF THAT IS BELOW AN EMERGENCY ESCAPE AND RESCUE OPENING. A PATHWAY OF NOT LESS THAN 36 INCHES (914 MM) WIDE SHALL BE PROVIDED TO THE EMERGENCY ESCAPE AND RESCUE OPENING.



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Wyssling Consulting, PLLC 76 N. Meadowbrook Drive, Alpine UT Virginia COA # 407008373 Signed 10/16/2025

CUSTOMER INFORMATION | **CONTRACTOR INFORMATION**

NAME: PAUL LEVIT

ADDRESS: 127A PARK STREET NORTHEAST, VIENNA, VA 22180

38.904273, -77.263505 APN: 0382710012 UTILITY: DOMINION ENERGY

AHJ: VA - FAIRFAX COUNTY

PAPER SIZE: 17"X11"

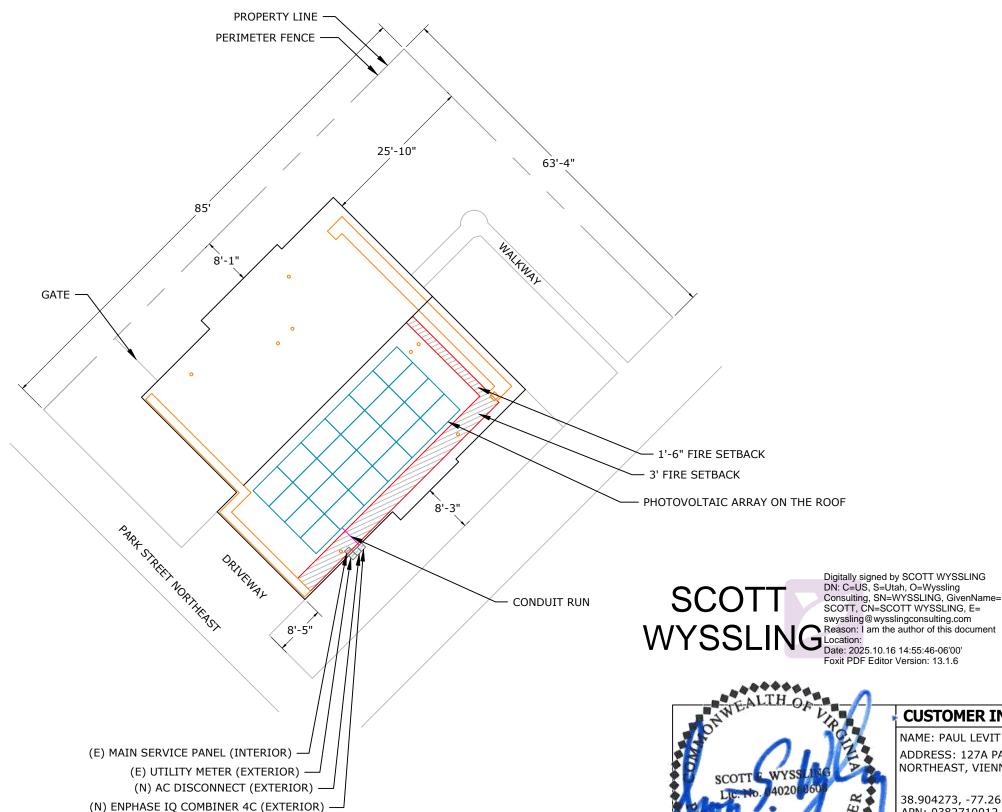


DRAWING INFORMATION

PRN NUMBER: COS-1017702 REV: B DRAFTED BY: M.SRINI QC'ED BY: KARTHI SCALE: AS NOTED



PAUL LEVIT - 10.560kW DC, 8.376kW AC





Wyssling Consulting, PLLC 6 N. Meadowbrook Drive, Alpine UT Virginia COA # 407008373 PAPER SIZE: 17"X11"

Signed 10/16/2025

= 503.98 sq.ft = 2178 sq.ft TOTAL ARRAY AREA

TOTAL ROOF AREA

% ARRAY AREA IN ROOF = 23.14 %

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ROOF AREA CALCULATION

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SCALE: 1/16" = 1'-0"

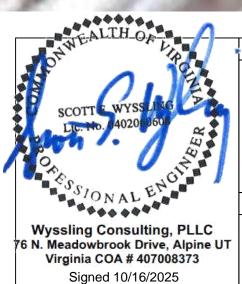
SHEET: E-01





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swyssling@wysslingconsulting.com
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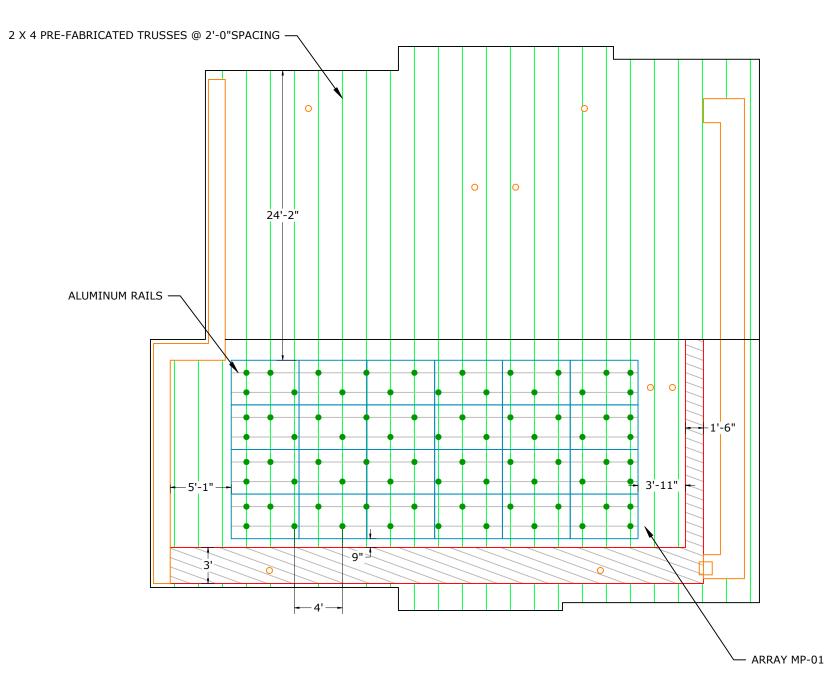
AHJ: VA - FAIRFAX COUNTY

CONVERT SOLAR Benefits Beyond the Bottom Line

DRAWING INFORMATION



NOTE: PENETRATIONS ARE STAGGERED



WYSSLING Season: I am the author of this document Location:
Date: 2025.10.16 14:56:12-06'00'

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ROOF AREA CALCULATION



SCALE:1/8" = 1'-0"

SITE INFORMATION ARRAY AREA FRAME FRAME MAX RAIL OVER NO. OF AZIMUTH **ROOF TYPE** FRAME TYPE S.NO PITCH ATTACHMENT MODULES (SQ. FT.) **EXPOSURE** SIZE SPACING SPAN HANG QUICKMOUNT HALO MP-01 314° EPDM MEMBRANE PRE-FABRICATED TRUSSES 1° 24 503.98 ATTIC 2 X 4 2'-0" 4'-0" ULTRAGRIP (FRAMING MOUNT)

Wyssling Consulting, PLLC

6 N. Meadowbrook Drive, Alpine UT Virginia COA # 407008373

Signed 10/16/2025

TOTAL ARRAY AREA = 503.98 sq.ft

TOTAL ROOF AREA % ARRAY AREA IN ROOF = 23.14 %

= 2178 sq.ft

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DRAWING INFORMATION



DEAD LOAD CALCULATIONS TOTAL WEIGHT QUANTITY LBS/UNIT **BOM** (LBS) MODULES 24 46.3 1111.2 40 0.05 2 MID-CLAMP 0.8 END-CLAMP 16 0.05 RAIL LENGTH 275 0.43 118.25 SPLICE BAR 5.76 16 0.36 QUICKMOUNT HALO ULTRAGRIP (FRAMING 76 0.57 43.32 MOUNT) **MICROINVERTERS** 24 2.43 58.32 TOTAL WEIGHT OF THE SYSTEM (LBS) 1339.65 TOTAL ARRAY AREA ON THE ROOF (SQ. FT.) 503.98 **WEIGHT PER SQ. FT.(LBS)** 2.66 **WEIGHT PER PENETRATION (LBS)** 17.63

IRONRIDGE XR10 RAIL (E) COMPOSITION SHINGLE ROOF (E) ROOF DECKING MODULE IRONRIDGE QUICKMOUNT HALO ULTRAGRIP (FRAMING MOUNT) 6" MAX (E) FRAMING SEE SHEET S-01 (2) #14 X 3" RD STRUCTURAL WOOD SCREWS W/ EPDM SEALING WASHER. 2" MIN EMBEDMENT TO RAFTER / TRUSS TOP CHORD

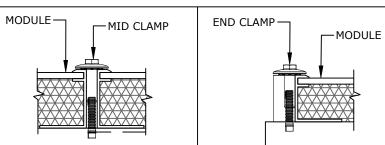
ATTACHMENT DETAIL- IRONRIDGE QUICKMOUNT HALO ULTRAGRIP (FRAMING MOUNT)

MODULE DATA

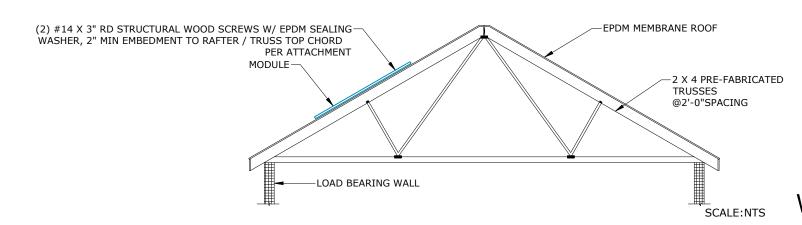
SILFAB SIL-440 QD (440W)

MODULE DIM	67.8"x44.6"x1.37"
WOOD SCREW	(2) #14 X 3" RD STRUCTURAL WOOD SCREWS W/ EPDM SEALING WASHER, 2" MIN EMBEDMENT TO RAFTER / TRUSS TOP CHORD

MID-CLAMP AND END-CLAMP ASSEMBLY



ROOF FRAMING DETAILS



CUSTOMER INFORMATION | CONTRACTOR INFORMATION

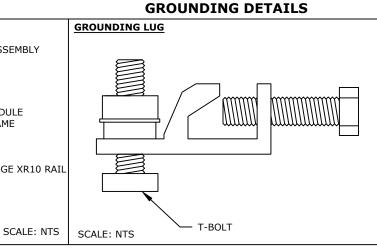
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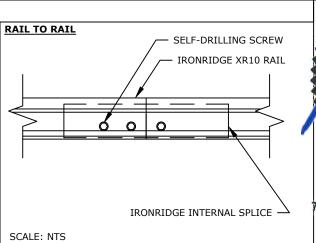
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MODULE TO MODULE & MODULE TO RAIL MID CLAMP ASSEMBLY MODULE FRAME IRONRIDGE XR10 RAIL

GROUNDING MID-CLAMP





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Virginia COA # 407008373 Signed 10/16/2025

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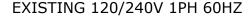
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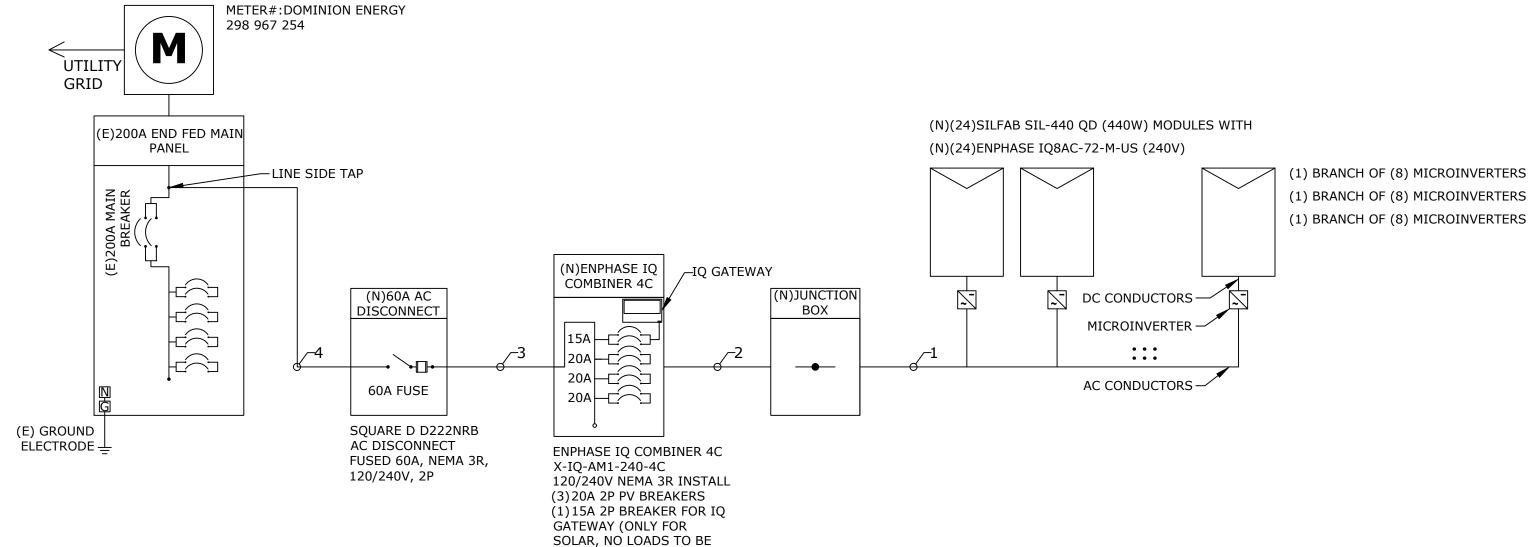


DC SYSTEM SIZE- 10560W, AC SYSTEM SIZE - 8376W

NOTE:

EACH MICROINVERTER IS RAPID SHUTDOWN COMPLIANT





	CONDUCTOR AND CONDUIT SCHEDULE					
TAG ID	CONDUIT SIZE	CONDUCTOR	CONDUCTOR NEUTRAL			
1	NONE	(2) 12 AWG ENPHASE Q CABLE PER BRANCH CIRCUIT	NONE	(1) 6 AWG BARE COPPER		
2	METALLIC CONDUIT	(6) 10 AWG THHN/THWN-2	NONE	(1) 8 AWG THHN/THWN-2		
3	CONDUIT	(2) 6 AWG THHN/THWN-2	(1) 6 AWG THHN/THWN-2	(1) 8 AWG THHN/THWN-2		
4	CONDUIT	(2) 6 AWG THHN/THWN-2	(1) 6 AWG THHN/THWN-2	(1) 6 AWG THHN/THWN-2		

ADDED)

CUSTOMER INFORMATION | CONTRACTOR INFORMATION

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CONVERT SOLAR Benefits Beyond the Bottom Line

DRAWING INFORMATION



DC SYSTEM SIZE- 10560W, AC SYSTEM SIZE - 8376W

MODULE SPECIFICATION				
MODEL	SILFAB SIL-440 QD (440W)			
MODULE POWER @ STC	440 W			
OPEN CIRCUIT VOLTAGE:Voc	38.97 V			
MAX POWER VOLTAGE:Vmp	33.41 V			
SHORT CIRCUIT CURRENT: Isc	14.22 A			
MAX POWER CURRENT: Imp	13.17 A			
MICROINVERTER SPECIFICATIONS				
MODEL	ENPHASE IQ8AC-72-M-US (240V)			
POWER RATING	349W			
MAX. CONTINUOUS OUTPUT CURRENT	1.45A			
CEC WEIGHTED EFFICIENCY	97%			
MAX NO OF MICROINVERTERS / BRANCH	11			
MAX DC VOLTAGE	60V			

WIRE SIZE CALCULATI	ONS	
TAG 1: (AC)		
REQUIRED CONDUCTOR AMPACITY (1.45 * 8 * 1.25)	= 14.5 A	
CORRECTED AMPACITY CALCULATION (0.96 * 1 * 30) 14.5A < 28.8A	= 28.8 A	
TAG 2: (AC)		
REQUIRED CONDUCTOR AMPACITY (1.45 * 8 * 1.25)	= 14.5 A	
CORRECTED AMPACITY CALCULATION (0.96 * 0.8 * 40) 14.5A < 30.72A	= 30.72 A	
TAG 3: (AC)		
REQUIRED CONDUCTOR AMPACITY (1.45 * 24 * 1.25)	= 43.5 A	
CORRECTED AMPACITY CALCULATION (0.96 * 1 * 75) 43.5A < 72A	= 72 A	
TAG 4: (AC)		
REQUIRED CONDUCTOR AMPACITY (1.45 * 24 * 1.25)	= 43.5 A	
CORRECTED AMPACITY CALCULATION (0.96 * 1 * 75) 43.5A < 72A	= 72 A	

AC WIRE SIZING CALCULATIONS BASED ON FOLLOWING EQUATIONS

REQUIRED CONDUCTOR AMPACITY:

INVERTER OUTPUT CURRENT * #OF INVERTERS = MAX CURRENT PER 690.8(A)(1)(e) * 125% = MAX CURRENT PER 690.8(B)(1)

CORRECTED AMPACITY CALCULATIONS:

DERATED CONDUCTOR AMPACITY PER 690.8(B)(2) = AMPACITY * TEMPERATURE DERATE FACTOR * CONDUIT FILL DERATE

DERATED CONDUCTOR AMPACITY CHECK: MAX CURRENT PER 690.8(B)(1) < DERATED CONDUCTOR AMPACITY

ELECTRICAL NOTES

- 1. CONDUCTORS EXPOSED TO WET LOCATIONS SHALL BE SUITABLE FOR USE IN WET LOCATIONS PER NEC 310.10(C).
- 2. CONDUCTORS EXPOSED TO SUNLIGHT SHALL BE LISTED AS SUNLIGHT RESISTANT PER NEC 310.10(D).
- 3. MAXIMUM DC/AC VOLTAGE DROP SHALL BE NO MORE THAN 2%. 4. ALL CONDUCTORS SHALL BE IN CONDUIT UNLESS OTHERWISE
- 5. BREAKER/FUSES SIZED ACCORDING PER NEC ARTICLE 240.
- 6. AC GROUNDING ELECTRODE CONDUCTOR (GEC) SIZED PER NEC 250.66.
- 7. EQUIPMENT GROUNDING CONDUCTOR (EGC) SIZED PER NEC 250.122.
- AMBIENT TEMPERATURE ADJUSTMENT FACTOR IS BASED ON TABLE NEC 310.15(B)(1).
- CURRENT CARRYING CONDUCTOR ADJUSTMENT FACTOR IS BASED ON NEC 310.15(C)(1).
- 10. MAX. SYSTEM VOLTAGE CORRECTION IS PER NEC 690.7.
 11. CONDUCTORS ARE SIZED PER NEC 310.16.

ALLOWABLE BACKFEED:

MAIN PANEL RATING = 200 A
MAIN BREAKER RATING = 200 A
LINE SIDE TAP 100% OF ALLOWABLE BACKFEED = 200 A

INVERTER OVERCURRENT PROTECTION:

INVERTER OVERCURRENT PROTECTION = (MICROINVERTER O/P CURRENT * # OF MICROINVERTERS

OCPD CALCULATION

* CONTINUOUS LOAD(1.25))

= (1.45 * 24 *1.25)

= 43.5 A

PV BREAKER SIZE / FUSE SIZE = $60 \text{ A} \ge 43.5 \text{ A}$

TOTAL REQUIRED PV BREAKER SIZE / FUSE SIZE = 60 A PV BREAKER / FUSE SIZE

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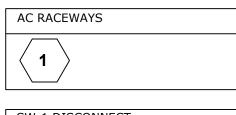
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DRAWING INFORMATION





SW-1 DISCONNECT (SQUARE D D222NRB)

1 3

MSP - MAIN SERVICE PANEL

1
2

UTILITY METER

2

(1)

WARNING: PHOTOVOLTAIC POWER SOURCE

2

A CAUTION

SOLAR ELECTRIC SYSTEM CONNECTED

3

SOLAR AC DISCONNECT

CUSTOMER INFORMATION | CONTRACTOR INFORMATION

LABELING NOTES

ALL PLAQUES AND SIGNAGE REQUIRED BY 2020 NEC AND 2021 VSFPC WILL BE INSTALLED AS REQUIRED

LABELS, WARNING(S) AND MARKING SHALL COMPLY WITH ANSI Z535.4, WHICH REQUIRES THAT DANGER WARNING, AND CAUTION SIGNS USED THE STANDARD HEADER COLORS, HEADER

TEXT AND SAFETY ALERT SYMBOL ON EACH LABEL. THE ANSI STANDARD REQUIRES A HEADING THAT IS AT LEAST 50% TALLER

THAN THE BODY TEXT, IN ACCORDANCE WITH NEC 110.21(B).

A PERMANENT PLAQUE OR DIRECTORY SHALL BE INSTALLED

PROVIDING THE LOCATION OF THE SERVICE DISCONNECTING MEANS AND THE PHOTOVOLTAIC SYSTEM DISCONNECTING MEANS IF NOT IN THE SAME LOCATION IN ACCORDANCE WITH NEC

LABEL(S) WITH MARKING, "WARNING PHOTOVOLTAIC POWER SOURCE, "SHALL BE LOCATED AT EVERY 10 FEET OF EACH DC RACEWAY AND WITH IN ONE FOOT OF EVERY TURN OR BEND AND WITH IN ONE FOOT OF EVERY TURN OR BEND AND WITH IN ONE FOOT ABOVE AND BELOW ALL PENETRATIONS OF ROOF/CEILING ASSEMBLIES, WALLS AND BARRIERS. THE LABEL SHALL HAVE 3/8" TALL LETTERS AND BE REFLECTIVE WITH WHITE TEXT ON A RED

690.56(B).

BACKGROUND

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38.904273, -77.263505 APN: 0382710012 UTILITY: DOMINION ENERGY



AHJ: VA - FAIRFAX COUNTY

DRAWING INFORMATION



MODULE SPEC SHEET



ELECTRICAL SPECIFICATIONS		4	40
Test Conditions		STC	NOCT
Module Power (Pmax)	Wp	440	328.0
Maximum power voltage (Vpmax)	V	33.41	31.17
Maximum power current (Ipmax)	A	13.17	10.52
Open circuit voltage (Voc)	٧	38.97	36.64
Short circuit current (Isc)	A	14.22	11.44
Module efficiency	96	22.6%	
Maximum system voltage (VDC)	V	1	000
Series fuse rating	A	25	
Power Tolerance	Wp	0 t	to +10

Measurement conditions: STC 1000 W/m 2 + AM 1.5 • Temperature 25 °C • NOCT 800 W/m 2 • AM 1.5 • Measurement uncertainty $\le 3\%$ Sun simulator calibration reference modules from Fraunhofer Institute. Electrical characteristics may vary by $\pm 5\%$ and power by 0 to ± 10 W.

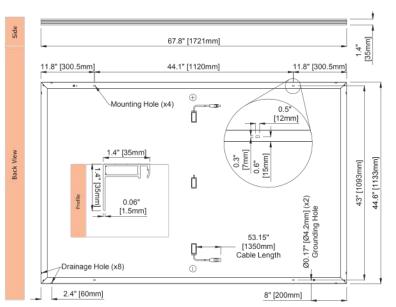
MECHANICAL PROPERTIES / COMPONENTS	METRIC IMPERIAL		
Module weight	21 kg ± 0.2 kg 46.3 lbs ± 0.4 lbs		
Dimensions (H x L x D)	1721 mm x 1133 mm x 35 mm	67.8 in x 44.6 in x 1.37 in	
Maximum surface load (wind/snow)*	4000 Pa rear load / 5400 Pa front load	83.5 lb/ft² rear load / 112.8 lb/ft² front load	
Hail impact resistance	ø 25 mm at 83 km/h	ø 1 in at 51.6 mph	
Cells	108 Half cells - N-Type Silicon solar cell 182 mm x 91 mm 108 Half cells - N-Type Silicon solar cell 7.16 in x 3.58 in		
Glass	3.2 mm high transmittance, tempered, antireflective coating antireflective coating		
Cables and connectors (refer to installation manual)	1350 mm, ø 5.7 mm, MC4 from Staubli 53.1 in, ø 0.22 in (12 AWG), MC4 from Staubli		
Backsheet	High durability, superior hydrolysis and UV resistance, multi-layer dielectric film, fluorine-free PV backsheet		
Frame	Anodized aluminum (Black)		
Junction Box	UL 3730 Certified, IEC 62790 Certified, IP68 rated, 3 diodes		

TEMPERATURE RATINGS		WARRANTIES	
Temperature Coefficient Isc	0.04 %/°C	Module product workmanship warranty	25 years**
Temperature Coefficient Voc	-0.24 %/°C	Linear power performance guarantee	30 years
Temperature Coefficient Pmax	-0.29 %/°C		≥ 98% end 1st yr
NOCT (± 2 °C)	45 °C		≥ 94.7% end 12th yr ≥ 90.8% end 25th yr
Operating temperature	-40/+85 °C		≥ 89.3% end 30th yr

Operating temperature	-40/+85 °C	≥89.3%	end 30th yr
CERTIFICATIONS		SHIPPING SPECS	
Product	UL 61215, UL 61730, CSA C22.2#61730, IEC 61215, IE Corrosion), IEC 62716 (Ammonia Corrosion), CEC Lis	Modules Per Pallet:	26 or 26 (California)
Product		Pallets Per Truck	32 or 30 (California)
Factory	ISO9001:2015	Modules Per Truck	832 or 780 (California)

▲ Warning. Read the Safety and Installation Manual for mounting specifications and before handling, installing and operating modules.

** 12 year extendable to 25 years subject to registration and conditions outlined under "Warranty" at silfabsolar.com PAN files generated from 3rd party performance data are available for download at: silfabsolar.com/downloads



SILFAB SOLAR INC.

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Silfab - SIL-440-QD-20240829

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INVERTER SPEC SHEET

ENPHASE.

NORTH AMERICA DATA SHEET

IQ8AC Microinverter

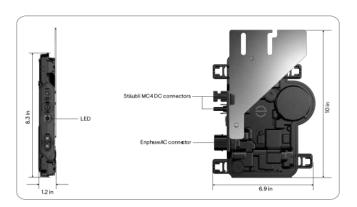
Our newest IQ8 Series Microinverters^{1, 2, 3} are the industry's first microgrid-forming⁴, software-defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently.







Key specifications	IQ8AC-72-M-US @240 VAC	IQ8AC-72-M-US @208 VAC	
Peak output power	366 VA	350 VA	
Nominal grid voltage (L-L)	240 V split-phase (L-L), 180°	208 V single-phase (L-L), 120°	
Nominal frequency	60 Hz	60 Hz	
CEC weighted efficiency	97.0%	96.5%	
Maximum input DC voltage	60 V	60 V	
MPPT voltage range	28-45 V	28-45 V	
Maximum module I _{sc}	20 A	20 A	
Ambient temperature range	-40°C to 65°C (-40°F to 149°F)		



- ¹ IQ8 Series Microinverters can be added to existing IQ7 systems on the same IQ Gateway only in the following grid-tied configurations: Solar Only or Solar + Battery (IQ Battery 3T/IQT and IQ Battery 5P) without backup.

 ² IQ7 Series Microinverters cannot be added to a site with existing IQ8 Series Microinverters on the same gateway. Mixed system of IQ7 and IQ8 will not support IQ8-specific PCS features and grid-forming capabilities.

 ³ IQ Microinverters ship with default settings that meet North America's IEEE 1547 interconnection standard requirements. Region-specific adjustments may be requested by an Authority Having Jurisdiction (AHJ) or utility representative, according to the IEEE 1547 interconnection standard. Use an IQ Gateway to make these changes during installation.

 ⁴ Meets UL 1741 only when installed with IQ System Controller 2 or 3.

Simple

- · Lightweight and compact with plug-and-play connectors
- Power line communication (PLC) between components
- · Faster installation with simple twowire cabling

- · Produces power even when the grid is down4
- · More than one million cumulative hours of testing
- · Industry-leading limited warranty of up to 25 years
- · Class II double-insulated enclosure
- · Optimized for the latest highpowered PV modules

Microgrid-forming

- · Complies with the latest advanced grid support
- · Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) and IEEE 1547:2018 (UL 1741-SB 3rd Ed.)

DSH-00046-5.0-EN-2024-12-10

Input data (DC)	Units	-DA8DI	72-M-US
Commonly used module pairings ⁵	W	295-500	
Module compatibility	_	To meet compatibility, PV modules must be within the following maximum input DC voltage and maximum module I _{sc} . Modu compatibility can be checked at https://enphase.com/installemicroinverters/calculator .	
MPPT voltage range	٧	28	-45
Operating range	V	18-	-58
Minimum/Maximum start voltage	V	22	/58
Maximum input DC voltage	V	60	
Maximum continuous input DC current	А	14	
Maximum input DC short-circuit current	А	25	
Maximum module I _{sc}	Α	20	
Overvoltage class DC port	-		II
DC port backfeed current	mA		0
PV array configuration	-	Ungrounded array; no additional DC side protection required; AC side protection requires a maximum of 20 A per branch circuit	
Output data (AC)	Units	IQ8AC-72-M-US @240 VAC	IQ8AC-72-M-US @208 VAC
Peak output power	VA	366	350
Maximum continuous output power	VA	349	345
Nominal grid voltage (L-L)	٧	240, split-phase (L-L), 180°	208,single-phase (L-L), 120°

Output data (AC)	Units	IQ8AC-72-M-US @240 VAC	IQ8AC-72-M-US @208 VAC
Peak output power	VA	366	350
Maximum continuous output power	VA	349	345
Nominal grid voltage (L-L)	٧	240, split-phase (L-L), 180°	208,single-phase (L-L), 120°
Minimum and maximum grid voltage ⁶	٧	211-264	183-229
Maximum continuous output current	Α	1.45	1.66
Nominal frequency	Hz	6	60
Extended frequency range	Hz	47-	-68
AC short-circuit fault current over three cycles	A _{rms}	2.	70
Maximum units per 20 A (L-L) branch circuit ⁷	-	11	9
Total harmonic distortion	%	<5	
Overvoltage class AC port	7-	III,	
AC port backfeed current	mA	18	
Power factor setting		1.	.0
Grid-tied power factor (adjustable)	_	0.85 leading 0.85 lagging	
Peak efficiency	%	97.3	97.2
CEC weighted efficiency	%	97.0	96.5
Nighttime power consumption	mW	30	22

Mechanical data	IQ8AC-72-M-US
Ambient temperature range	-40°C to 65°C (-40°F to 149°F)
Relative humidity range	4% to 100% (condensing)
DC connector type	Stäubli MC4

<sup>Nominal voltage range can be extended beyond nominal if required by the utility.
Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.</sup>

INVERTER SPEC SHEET

Mechanical data	IQ8AC-72-M-US
Dimensions (H × W × D); Weight	212 mm (8.3") × 175 mm (6.9") × 30.2 mm (1.2"); 1.1 kg (2.43 lb)
Cooling	Natural convection - no fans
Approved for wet locations; pollution degree	Yes; PD3
Enclosure	Class II double-insulated, corrosion-resistant polymeric enclosure
Environmental category; UV exposure rating	NEMA Type 6; Outdoor
Compliance	IQ8AC-72-M-US
Certifications	CA Rule 21 (UL 1741-SA), UL 62109-1, IEEE 1547:2018 (UL 1741-SB 3 rd Ed.), FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 107.1-01. This product is UL Listed as PV rapid shutdown equipment and conforms with NEC 2014, NEC 2017, NEC 2020 and NEC 2023 section 690.12 and C22.1-2018 Rule 64-218 rapid shutdown of PV systems for AC and DC conductors when installed according to the manufacturer's instructions.

COMBINER SPEC SHEET







IQ System Controller 2

IQ Load Controller

and prolong battery life.

Provides microgrid interconnection device

(MID) functionality by automatically detecting grid failures and seamlessly transitioning the

Helps prioritize essential appliances during a

grid outage to optimize energy consumption

home energy system from grid power to backup

X-IQ-AM1-240-4 X2-IQ-AM1-240-4 (IEEE 1547:2018) X-IQ-AM1-240-4C X2-IQ-AM1-240-4C (IEEE 1547:2018)

IQ Combiner 4/4C

The Enphase IQ Combiner 4/4C with IQ Gateway and integrated LTE-M1 cell modem (included only with IQ Combiner 4C) consolidates interconnection equipment into a single enclosure and streamlines IQ Microinverters and storage installations by providing a consistent, pre-wired solution for residential applications. It offers up to four 2-pole input circuits and an Eaton BR series busbar assembly.



IQ Series Microinverters

The high-powered smart grid-ready IQ Series Microinverters (IQ6, IQ7, and IQ8 Series) dramatically simplify the installation process.



IQ Battery

All-in-one AC coupled storage system that is reliable, smart, simple, and safe. It provides backup capability, and installers can quickly design the right system size to meet the needs of both new and retrofit solar customers.





Smart

- and control
- modem (CELLMODEM-M1-06-SP-05), included only with IQ Combiner 4C
- aesthetics and deflect heat
- · Optional AC receptacle available for PLC bridge
- · Provides production metering and consumption monitoring

- Centered mounting brackets support single stud mounting
- · Supports bottom, back and side conduit
- · Up to four 2-pole branch circuits for
- 240 VAC plug-in breakers (not included)
- · 80 A total PV or storage branch circuits

Reliable

- Durable NRTL-certified NEMA type 3R enclosure
- · Five-year limited warranty
- · Two-years labor reimbursement program coverage included for both the IQ Combiner
- · UL Listed

 $\hbox{'Refer to the} \, \underline{\hbox{https://enphase.com/installers/resources/warranty}} \, page \, for \, country-specific \, warranty \, information.$

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- · Includes IQ Gateway for communication
- · Includes Enphase Mobile Connect cellular
- · Includes solar shield to match IQ Battery
- · Flexible networking supports Wi-Fi, Ethernet, or cellular

- X2-IQ-AM1-240-4 and X2-IQ-AM1-240-4C comply with IEEE 1547:2018 (UL 1741-SB, 3rd

IQ Combiner 4/4C

UNITS	DESCRIPTION
	IQ Combiner 4 with an IQ Gateway printed circuit board for integrated revenue-grade PV production metering (ANSI C12.20 \pm 0.5%) and consumption monitoring (\pm 2.5%). Includes a silver solar shield to match the IQ Battery and IQ System Controller 2 and to deflect heat.
-	IQ Combiner 4C with an IQ Gateway printed circuit board for integrated revenue-grade PV production metering (ANSI C12.20 ±0.5%) and consumption monitoring (±2.5%). Includes Enphase Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05), a plug-and-play industrial-grade cell modem for systems up to 60 microinverters. (Available in the US, Canada, Mexico, Puerto Rico, and the US Virgin Islands, where there is adequate cellular service in the installation area). Includes a silver solar shield to match the IQ Battery and IQ System Controller 2 and to deflect heat.
UNITS	
-	IQ Gateway is the platform for total energy management for comprehensive, remote maintenance, and management of the Enphase Energy System.
-	80 A busbar with support for one IQ Gateway breaker and four 20 A breakers for installing IQ Series Microinverters and IQ Battery
Α	Circuit breaker, 2-pole, 10/15
7 <u>78.</u> 7	Pre-wired revenue-grade solid-core CT, accurate up to ±0.5%
_	Two consumption metering split core or clamp-type CTs, shipped with the box, accurate up to $\pm 2.5\%$
7 <u>888</u> 7	4G-based LTE-M1 cellular modem (CELLMODEM-M1-06-SP-05) with a five-year T-Mobile data plan
UNITS	
	IQ6, IQ7, and IQ8. Do not mix IQ6/IQ7 Microinverters with IQ8
_	- Includes COMMS-KIT-01 and CELLMODEM-M1-06-SP-05 with a 5-year T-Mobile data plan for Enphase sites - 4G-based LTE-M1 cellular modem with a five-year T-Mobile data plan - 4G-based LTE-M1 cellular modem with a five-year AT&T data plan
:-	Supports Eaton BR2xx, Siemens Q2xx and GE/ABB THQL21xx Series breakers (xx may be 10, 15, 20, 30, 40, 50, or 60). Supports Eaton BR220B, BR230B, and BR240B circuit breakers compatible with hold-down kit.
-	BRK-10A-2-240V, BRK-15A-2-240V, BRK-20A-2P-240V, BRK-15A-2P-240V-B, and BRK-20A-2P-240V-B
12	Replacement solar shield for IQ Combiner 4/4C
_	IQ Gateway replacement printed circuit board (PCB) for IQ Combiner 4/4C
1-	Accessory receptacle for power line carrier in IQ Combiner 4/4C (required for EPLC-01)
-	Hold-down kit for Eaton circuit breaker with screws
UNITS	
Α	80
_	120/240 VAC, 120/208 VAC, 60 Hz
Α	125
kAIC	10
Α	64
А	90
. 	Up to four 2-pole Eaton BR, Siemens Q, or GE/ABB THQL Series distributed generation (DG) breakers only (not included)
	UNITS A UNITS UNITS UNITS A A KAIC A

IOC-4-4C-DSH-00217-3.0-EN-US-2024-08-16

ATTACHMENT SPEC SHEET

Tech Brief

// IRONRIDGE

QuickMount® (HUG)



The Respect Your Roof Deserves

When integrating with a home, solar attachments must be dependable for the lifetime of the rooftop. Due to recent innovations, many asphalt shingles have bonded courses. A mount that protects without the need to pry shingles can really speed things up.

Halo UltraGrip[™] (HUG[™]) is here to respect the roof. Its Halo is a cast-aluminum barrier that encases the UltraGrip, our industrial-grade, foam-and-mastic seal. This allows HUG to accelerate the installation process and provide the utmost in waterproofing protection. Give your roof a HUG.™



components to provide revolutionary waterproofing protection. The Halo castaluminum, raised-perimeter foundation surrounds the UltraGrip base - a foambacked mastic seal combination that prevents water intrusion by adhering and sealing with the shingle surface.

Multi-Tiered Waterproofing HUG utilizes a multi-tiered stack of

> Halo UltraGrip™ is part of the QuickMount® product line.

entirely new flashing system that conforms and adheres to every nook and cranny of composition shingles, filling gaps and shingle step-downs (up to 1/8" in height).

Triple Rated & Certified

to Respect the Roof™

UL 2703, 441 (27)

TAS 100(A)-95

Intertek



Rafter & Deck Mounting Options

Mount HUG to the roof rafters, the roof deck. or both with our custom-engineered RD (rafter-or-deck) Structural Screw. The RD Structural Screw anchors HUG to the roof with an EPDM sealing washer, completing the stack of waterproofing barriers. See backside for more installation information

Tech Brief

Adaptive, Rafter-Friendly Installation







Miss the rafter? Try it again. Place another screw to the left or right. If rafter is found, install 3rd and final screw.



Still no luck? Install the rest. If more than 3 screws miss the rafter, secure six screws to deck mount it.

Trusted Strength & Less Hassle



Structural capacities of HUG™ were reviewed in many load directions, with racking rail running cross-slope or up-slope in relation to roof pitch.

For further details, see the HUG certification letters for attaching to rafters and decking.

IronRidge designed the HUG, in combination with the RD Structural Screw to streamline installs, which means the following:

- No prying shingles
- · No roof nail interference
- · No pilot holes necessary
- · No sealant (in most cases)
- · No butyl shims needed

Attachment Loading



Ħ

The rafter-mounted HUG has been tested and rated to support 1004 (lbs) of uplift and 368 (lbs) of lateral load.

Structural Design

Parts are designed and certified for compliance with the International **Building Code &** ASCE/SEI-7.

Water Seal Ratings



HUG passed both the UL 441 Section 27 "Rain Test" and TAS 100(A)-95 "Wind Driven Rain Test" by Intertek.

UL 2703 System



Systems conform to UL 2703 mechanical and bonding requirements. See Flush Mount Manual for more info.





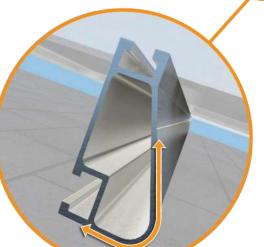


XR Rail® Family

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 6000-series aluminum alloy, then protected with an anodized finish. Anodizing prevents surface and structural corrosion, while also providing a more attractive appearance.



rief

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 spans up to 6 feet, while remaining light and economical.

- · 6' spanning capability
- · Moderate load capability
- · Clear & black 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 10 feet.

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



Tech Brief

XR1000

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

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

Rail Selection

The table below was prepared in compliance with applicable engineering codes and standards.* Values are based on the following criteria: ASCE 7-16, Gable Roof Flush Mount, Roof Zones 1 & 2e, Exposure B, Roof Slope of 8 to 20 degrees and Mean Building Height of 30 ft. Visit IronRidge.com for detailed certification letters.

Load		Rail Span					
Snow (PSF)	Wind (MPH)	4'	5' 4"	6'	8'	10'	12'
	90						
None	120						
None	140	XR10		XR100		XR1000	
	160						
	90						
00	120						
20	140						
	160						
20	90						
30	160						
40	90						
40	160						
80	160						
120	160						

*Table is meant to be a simplified span chart for conveying general rail capabilities. Use approved certification letters for actual design guidance.





76 North Meadowbrook Drive Alpine, UT 84004 office (201) 874-3483 swyssling@wysslingconsulting.com

October 16, 2025

Illumine International Inc 1320 Arrow Point Drive Suite 501 #163 Cedar Park, TX 78613



Re: Engineering Services Levit Residence 127A Park Street Northeast, Vienna, VA 15.560 kW System

To Whom It May Concern:

We have received information regarding solar panel installation on the roof of the above referenced structure. Our evaluation of the structure is to verify the existing capacity of the roof system and its ability to support the additional loads imposed by the proposed solar system.

A. Site Assessment Information

- 1. Site visit documentation identifying attic information including size and spacing of framing for the existing roof structure.
- 2. Design drawings of the proposed system including a site plan, roof plan and connection details for the solar panels. This information will be utilized for approval and construction of the proposed system.

B. Description of Structure:

Roof Framing: Prefabricated wood trusses at 24" on center. All truss members are

constructed of 2x4 dimensional lumber.

Roof Material: **EPDM Membrane**

Roof Slopes: 1 degrees Attic Access: Accessible Foundation: Permanent

C. Loading Criteria Used

Dead Load

- Existing Roofing and framing = 7 psf
- New Solar Panels and Racking = 3 psf
- TOTAL = 10 PSF
- **Live Load** = 20 psf (reducible) -0 psf at locations of solar panels
- Ground Snow Load = 35 psf
- Wind Load based on ASCE 7-22
 - Ultimate Wind Speed = 130 mph (based on Risk Category II)
 - Exposure Category C

Analysis performed of the existing roof structure utilizing the above loading criteria is in accordance with the 2021 Virginia Residential Code. This analysis indicates that the existing framing will support the additional panel loading without damage, if installed correctly.

D. Solar Panel Anchorage

- 1. The solar panels shall be mounted in accordance with the most recent Ironridge installation manual. If during solar panel installation, the roof framing members appear unstable or deflect non-uniformly, our office should be notified before proceeding with the installation.
- 2. The maximum allowable withdrawal force for a #14 screw is 194 lbs per inch of penetration as identified in the National Design Standards (NDS) of timber construction specifications. Based on a minimum penetration depth of 2", the allowable capacity per connection is greater than the design withdrawal force (demand). Considering the variable factors for the existing roof framing and installation tolerances, the connection using two #14 screws with a minimum of 2" embedment will be adequate and will include a sufficient factor of safety.
- 3. Considering the wind speed, roof slopes, size and spacing of framing members, and condition of the roof, the panel supports shall be placed no greater than 48" on center.

Based on the above evaluation, this office certifies that with the racking and mounting specified, the existing roof system will adequately support the additional loading imposed by the solar system. This evaluation is in conformance with the Virginia Residential Code, current industry standards and practice, and is based on information supplied to us at the time of this report.

Should you have any questions regarding the above or if you require further information do not hesitate to contact me.

Sent P. h.

Scott E. Wyssling, PE Virginia License No. 462,660608 Virginia COA # 407008373 SCOTT

SCOTT

SWYSSLING

Reason: I

Location:

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SCOTTE WYSSLING PORTON AUGUSTON AL ENGINE

Wyssling Consulting, PLLC 76 N. Meadowbrook Drive, Alpine UT Virginia COA # 407008373 Signed 10/16/2025



Gravity Loads

(201) 874-3483 swyssling@wysslingconsulting.com

Existing

		Levit Residence
Roof Dead Load		127A Park Street Northeast
2.0 psf	Membrane	Vienna, VA

P	111111111111111111111111111111111111111
1.6 psf	1/2" Plywood Sheathing
0.8 psf	2x4 Trusses @ 24 in. o.c.
1.0 psf	Ceiling, Mechanical, Electrical
1.6 psf	Miscellaneous
7.0 nsf	TOTAL

SCOTT WYSSLIN G

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Second Floor Dead Load

0 psf	Floor Finishes
0 psf	1 1/8" Subfloor Sheathing
0 psf	Joists @ 16' o.c.
0 psf	Partitions
0 psf	Ceiling, Mechanical, Electrical
0 psf	Miscellaneous
0 psf	TOTAL

Roof Live Load

20 psf

Floor Live Load

0 psf

Roof Snow Load

Ground Snow Load= 35 psf

pf = 0.7 Ce Ct pg = $25 \text{ psf } C_e = 1$, $C_t = 1.1$ Flat Roof Snow Load (ASCE 7-22 Eq. 7.3-1) Multiplied by 0.7 A $C_s = 1.00$ Ct=1.2 ASCE 7-22 Figure 7.4-1

Additional

Roof Dead Load - New Solar Panels

3 psf

Roof Live Load at Solar Panels

0 psf

Roof Snow Load at Solar Panels

25 psf Sloped Roof Snow Load (ASCE 7-22 Eq. 7.4-1)

Total

Total Existing Roof Load = $(DL_{ROOF} + Max(LL_{ROOF} \text{ or } S))$ Area_{ROOF} **68607 lbs**

Total New Roof Load = $(DL_{ROOF} + DL_{ADD} + Max(LL_{ROOF} \text{ or } S))$ Area_{ROOF} 69870 lbs

Wyssling Consulting, PLLC
76 N. Meadowbrook Drive, Alpine UT
Virginia COA # 407008373

Signed 10/16/2025

Change in Demand = (Total New Roof Load - Existing Roof Load) / Existing Roof Load

1.84%

Total New Gravity Loads increase by less than 5%. OK

Existing structural elements supporting any additional gravity loads as a result of the alterations, including the effects of snow drift, comply with the International Building Code.