

PROJECT INFORMATION

PROPERTY OWNER

NAME: J. RIVERA

PHONE: (213) 555-0142

CONTRACTOR

NAME: YOUR COMPANY NAME

OCCUPANCY: R-3

CONSTRUCTION TYPE: SINGLE FAMILY RESIDENCE

ZONING: RESIDENTIAL

GROUND SNOW LOAD: 6 PSF

WIND EXPOSURE: B

WIND SPEED: 95 MPH

APPLICABLE CODES & STANDARDS

2025 CALIFORNIA ADMINISTRATIVE CODE (CAC)

2025 CALIFORNIA RESIDENTIAL CODE (CRC)

2025 CALIFORNIA BUILDING CODE (CBC)

2025 CALIFORNIA MECHANICAL CODE (CMC)

2025 CALIFORNIA ELECTRICAL CODE (CEC)

2025 CALIFORNIA PLUMBING CODE (CPC)

2025 CALIFORNIA ENERGY CODE (ENERGY)

2025 CALIFORNIA GREEN BUILDING CODE (CALGREEN)

2025 CALIFORNIA HISTORICAL BUILDING CODE (CHBC)

2025 CALIFORNIA FIRE CODE (CFC)

2023 NATIONAL ELECTRICAL CODE (NEC)

2023 LOS ANGELES COUNTY FIRE CODE

2025 LOS ANGELES COUNTY ELECTRICAL CODE

TYPE OF INTERCONNECTION:

BACKFEED BREAKER IN THE MMC

SCOPE OF WORK

SYSTEM SIZE: STC: 22 X 450W = 9.900 kW

PTC: 22 X 427W = 9.394 kW

(22) CERTAINTED SOLAR CTTC450HC12-08 (450W) SOLAR MODULES

(22) ENPHASE IQ7HS-66-M-US [240V] MICROINVERTERS

(1) 125A ENPHASE IQ COMBINER 5/5C BOX (X-IQ-AM1-240-5/5C) [240V]

MSP UPGRADE: NO

MAIN BREAKER DERATE: YES, TO 175A

RACKING & MOUNTING

PV ATTACHMENT TYPE: UNIRAC SOLARMOUNT DOMESTIC STRONGHOLD BUTYL FOR COMP SHINGLE ROOF

RACKING TYPE: UNIRAC NXT UMOUNT DOMESTIC RAIL 185" -MILL-ROOF MOUNT RACKING HARDWARE

JORDAN RIVERA RESIDENCE

NEW PHOTOVOLTAIC SYSTEM

PROJECT - 9.900 kW DC / 8.448 kW AC & 9.159 kW-CEC AC

SHEET #

SHEET NAME

T-1

COVER SHEET

T-2

PLAN NOTES

PV-1

SITE PLAN LAYOUT

PV-2

ATTACHMENT DETAILS

PV-3

MOUNTING DETAILS

E-1,1.1

ELECTRICAL DIAGRAM

E-2

WARNING LABELS

S-1 TO 5

SPEC SHEET

S-6

BOM

YOUR LOGO HERE

CONTRACTOR

YOUR COMPANY NAME

YOUR BUSINESS ADDRESS

LICENSE #: YOUR LICENSE

DESIGNER: YOUR DESIGNER

NO SIGNATURE - FICTIONAL

JORDAN RIVERA RESIDENCE

1234 EXAMPLE AVENUE

LOS ANGELES, CA 90000

APN: 0000-000-000

DATE: 09/03/2026

SHEET T-1

MEASURED ROOF FACETS | VECTOR RECONSTRUCTION | FIELD VERIFY

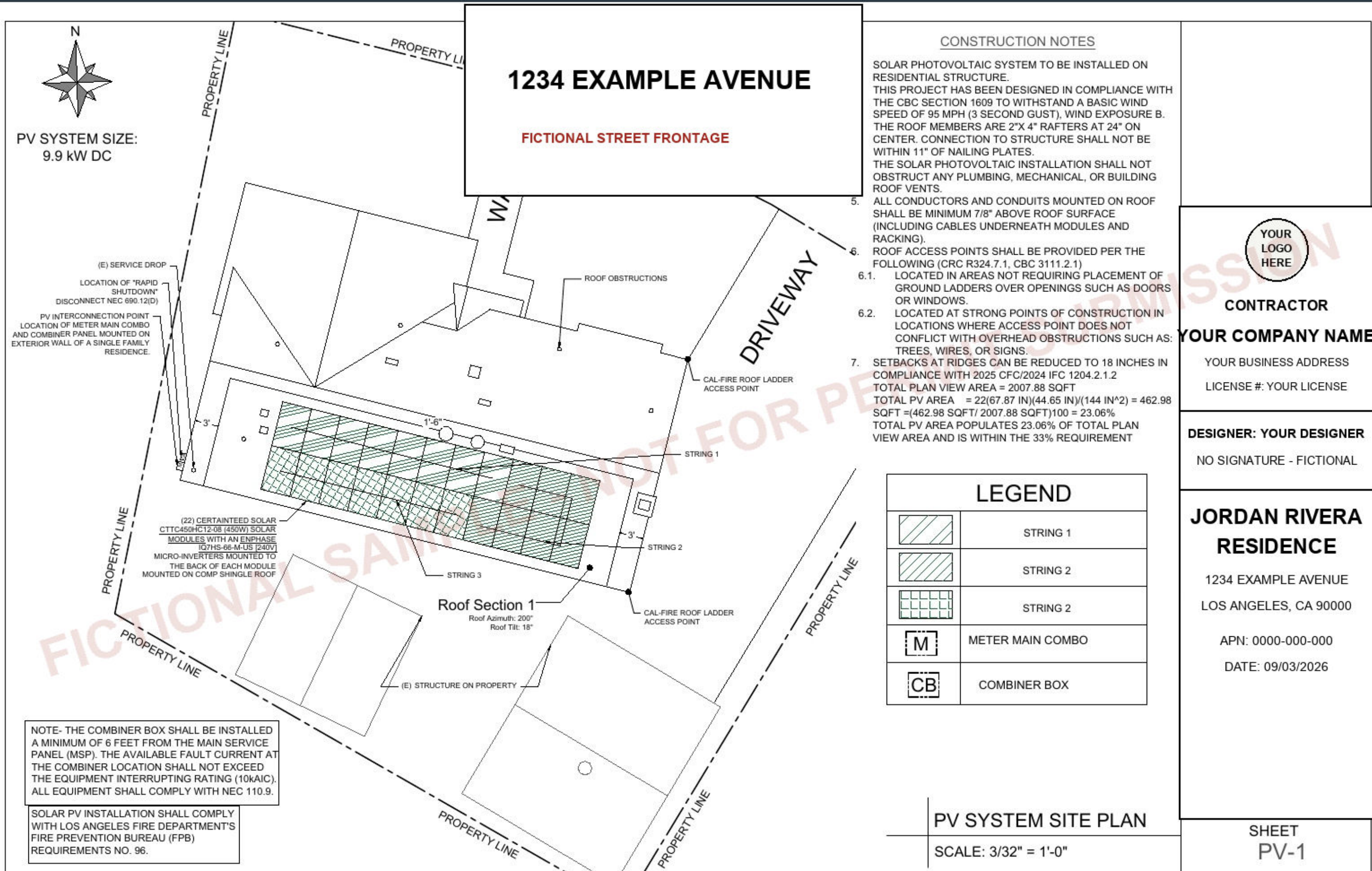
05 FT10 FT

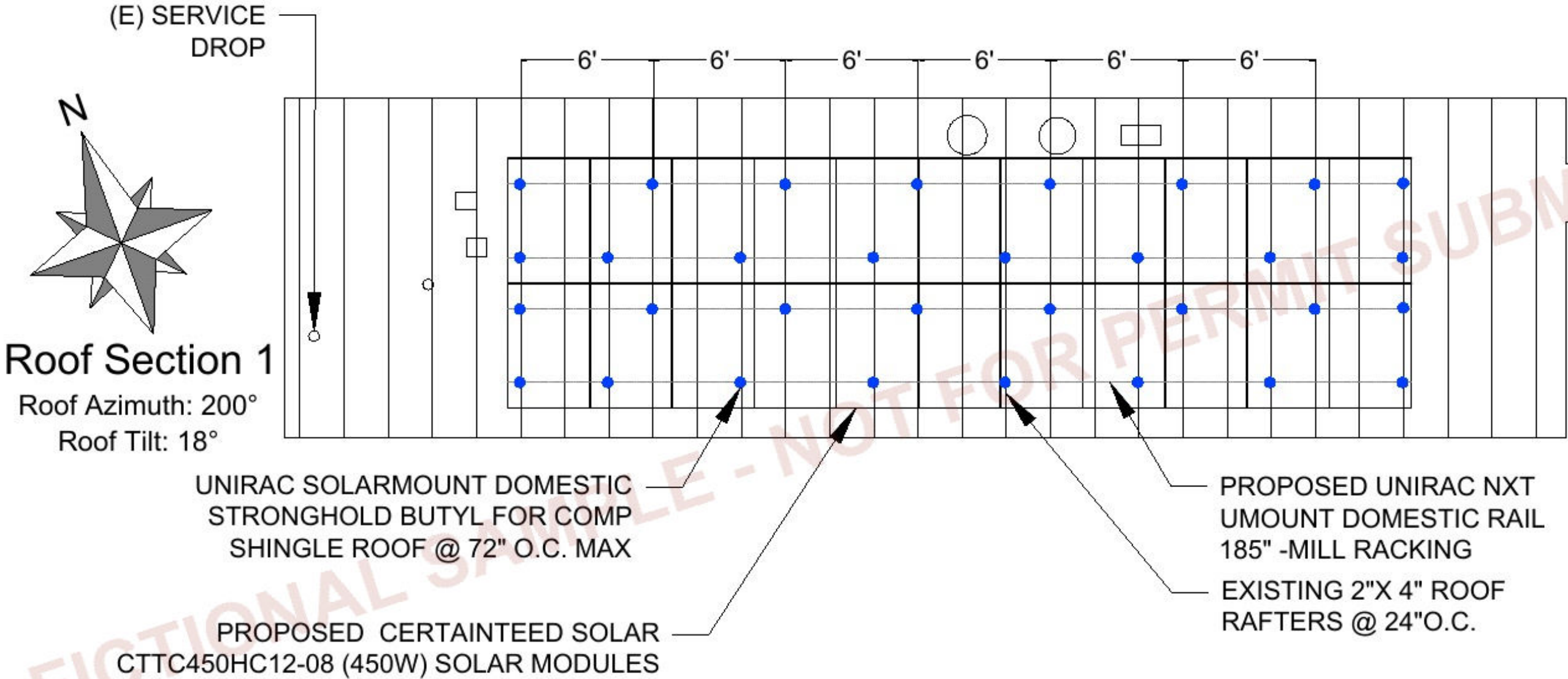
N

2925 SQ FT - 12 CLOSED FACETS - VECTOR AREA QA 0.2%

MEASUREMENT-REPORT VECTORS | FIELD CONTROL REQUIRED FOR AS-BUILT TOLERANCE

1.1. PROJECT NOTES: 1.2. THIS PHOTOVOLTAIC (PV) SYSTEM SHALL COMPLY WITH THE CALIFORNIA ELECTRICAL CODE (CEC) ARTICLE 690, ALL MANUFACTURERS'S LISTING AND INSTALLATION INSTRUCTIONS, AND THE RELEVANT CODES AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION'S (AHJ) APPLICABLE CODES. 1.3. THE UTILITY INTERCONNECTION APPLICATION MUST BE APPROVED AND PV SYSTEM INSPECTED PRIOR TO PARALLEL OPERATION 1.4. FOR SYSTEMS USING MICROINVERTER, GROUND FAULT DETECTION AND INTERRUPTION (GFDI) DEVICE IS INTEGRATED WITH THE MICROINVERTER IN ACCORDANCE WITH 2025 CEC 690.41(B) FOR SYSTEMS USING TESLA INVERTERS THE REQUIREMENTS IN 690.41 ARE MET THROUGH THE UL1741 LISTING. SEE SECTION 34 OF UL1741. 1.5. ALL PV SYSTEM COMPONENTS; MODULES, UTILITY-INTERACTIVE INVERTERS, AND SOURCE CIRCUIT COMBINER BOXES ARE IDENTIFIED AND LISTED FOR USE IN PHOTOVOLTAIC SYSTEMS AS REQUIRED BY NEC 690.4 & NEC 690.60: PV MODULES: UL1703, IEC61730, AND IEC61215, AND NFPA 70 CLASS C FIRE INVERTERS: UL 1741 CERTIFIED, IEEE 1547, 929, 519 COMBINER BOX(ES): UL 1703 OR UL 1741 ACCESSORY 1.6. MAX DC VOLTAGE CALCULATED USING MANUFACTURER PROVIDED TEMP COEFFICIENT FOR VOC. IF UNAVAILABLE, MAX DC VOLTAGE CALCULATED ACCORDING TO 2025 CEC 690.7. 1.7. ALL INVERTERS, PHOTOVOLTAIC MODULES, PHOTOVOLTAIC PANELS, AND SOURCE CIRCUIT COMBINERS INTENDED FOR USE IN A PHOTOVOLTAIC POWER SYSTEM WILL BE IDENTIFIED AND LISTED FOR THE APPLICATION PER 690.4 (D). SHALL BE INSTALLED ACCORDING TO ANY INSTRUCTIONS FROM LISTING OR LABELING [2025 CEC 110.3]. 1.8. ALL SIGNAGE TO BE PLACED IN ACCORDANCE WITH LOCAL BUILDING CODE. IF EXPOSED TO SUNLIGHT, IT SHALL BE UV RESISTANT. ALL PLAQUES AND SIGNAGE WILL BE INSTALLED AS REQUIRED BY THE NEC AND AHJ. 1.9. SCOPE OF WORK: 1.10. PRIME CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND SPECIFICATIONS OF THE GRID-TIED PHOTOVOLTAIC SYSTEM RETROFIT. PRIME CONTRACTOR WILL BE RESPONSIBLE FOR COLLECTING EXISTING ONSITE REQUIREMENTS TO DESIGN, SPECIFY, AND INSTALL THE EXTERIOR ROOF-MOUNTED PORTION OF THE PHOTOVOLTAIC SYSTEMS DETAILED IN THIS DOCUMENT. 1.11. WORK INCLUDES: 1.12. PV ROOF ATTACHMENTS - UNIRAC SOLARMOUNT DOMESTIC STRONGHOLD BUTYL FOR COMP SHINGLE ROOF. 1.13. PV RACKING SYSTEM INSTALLATION - UNIRAC NXT UMount DOMESTIC RAIL 185" -MILL ROOF MOUNT RACKING HARDWARE 1.14. PV MODULE AND INVERTER INSTALLATION - CERTAINTED SOLAR CTTC450HC12-08 (450W) SOLAR MODULES / ENPHASE IQ7HS-66-M-US [240V] MICROINVERTERS 1.15. PV EQUIPMENT GROUNDING 1.16. PV SYSTEM WIRING TO A ROOF-MOUNTED JUNCTION BOX 1.17. PV LOAD CENTERS (IF INCLUDED) 1.18. PV METERING/MONITORING (IF INCLUDED) 1.19. PV DISCONNECTS 1.20. PV GROUNDING ELECTRODE & BONDING TO (E) GEC 1.21. PV FINAL COMMISSIONING 1.22. (E) ELECTRICAL EQUIPMENT RETROFIT FOR PV 1.23. SIGNAGE PLACED IN ACCORDANCE WITH LOCAL BUILDING CODE 1.24. SITE NOTES: 1.25. A LADDER WILL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH OSHA REGULATIONS. 1.26. THE PV MODULES ARE CONSIDERED NON-COMBUSTIBLE AND THIS SYSTEM IS A UTILITY INTERACTIVE SYSTEM WITHOUT STORAGE BATTERIES. 1.27. THE SOLAR PV INSTALLATION WILL NOT OBSTRUCT ANY PLUMBING, MECHANICAL, OR BUILDING ROOF VENTS. 1.28. PROPER ACCESS AND WORKING CLEARANCE AROUND EXISTING AND PROPOSED ELECTRICAL EQUIPMENT WILL BE PROVIDED AS PER SECTION NEC 110.26. 1.29. ROOF COVERINGS SHALL BE DESIGNED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THIS CODE AND THE APPROVED MANUFACTURER'S INSTRUCTIONS SUCH THAT THE ROOF COVERING SERVES TO PROTECT THE BUILDING OR STRUCTURE. 1.30. EQUIPMENT LOCATIONS: 1.31. ALL EQUIPMENT SHALL MEET MINIMUM SETBACKS AS REQUIRED BY 2025 CEC 110.26. 1.32. WIRING SYSTEMS INSTALLED IN DIRECT SUNLIGHT MUST BE RATED FOR EXPECTED OPERATING TEMPERATURE AS SPECIFIED BY 2025 CEC 690.31 (A),(C) AND CEC TABLES 310.15 (B)(2)(A) AND 310.15 (B)(3)(C) 1.33. JUNCTION AND PULL BOXES PERMITTED INSTALLED UNDER PV MODULES ACCORDING TO 2025 CEC 690.34. 1.34. ADDITIONAL AC DISCONNECT(S) SHALL BE PROVIDED WHERE THE INVERTER IS NOT WITHIN SIGHT OF THE AC SERVICING DISCONNECT . 1.35. ALL EQUIPMENT SHALL BE INSTALLED ACCESSIBLE TO QUALIFIED PERSONNEL ACCORDING TO 2025 CEC APPLICABLE CODES. 1.36. ALL COMPONENTS ARE LISTED FOR THEIR PURPOSE AND RATED FOR OUTDOOR USAGE WHEN APPROPRIATE. 1.37. STRUCTURAL NOTES: 1.38. RACKING SYSTEM 1.39. PV ARRAY WILL BE INSTALLED ACCORDING TO CODE-COMPLIANT INSTALLATION MANUAL. TOP CLAMPS REQUIRE A DESIGNATED SPACE BETWEEN MODULES, AND RAILS MUST ALSO EXTEND 1.40. A MINIMUM DISTANCE BEYOND EITHER EDGE OF THE ARRAY/SUBARRAY, ACCORDING TO RAIL MANUFACTURER'S INSTRUCTIONS. 1.41. JUNCTION BOX WILL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. IF ROOF-PENETRATING TYPE, IT SHALL BE FLASHED SEALED PER LOCAL REQUIREMENTS. 1.42. ROOFTOP PENETRATIONS FOR PV RACEWAY WILL BE COMPLETED AND SEALED WITH APPROVED CHEMICAL SEALANT PER CODE BY A LICENSED CONTRACTOR. 1.43. ALL PV RELATED ROOF ATTACHMENTS TO BE SPACED NO GREATER THAN THE SPAN DISTANCE SPECIFIED BY THE RACKING MANUFACTURER. 1.44. WHEN POSSIBLE, ALL PV RELATED RACKING ATTACHMENTS WILL BE STAGGERED AMONGST THE ROOF FRAMING MEMBERS. 1.45. WIRING & CONDUIT NOTES: 1.46. ALL CONDUIT AND WIRE WILL BE LISTED AND APPROVED FOR THEIR PURPOSE. CONDUIT AND WIRE SPECIFICATIONS ARE BASED ON MINIMUM CODE REQUIREMENTS AND ARE NOT MEANT TO LIMIT UP-SIZING. 1.47. CONDUCTORS SIZED ACCORDING TO 2025 CEC 690.8, 2025 CEC 690.7. 1.48. VOLTAGE DROP LIMITED TO 2%. 1.49. DC WIRING LIMITED TO MODULE FOOTPRINT. MCI WIRING SYSTEMS SHALL BE LOCATED AND SECURED UNDER THE ARRAY WITH SUITABLE WIRING CLIPS. 1.50. AC CONDUCTORS COLORED OR MARKED AS FOLLOWS: PHASE A OR L1- BLACK PHASE B OR L2- RED, OR OTHER CONVENTION IF THREE PHASE PHASE C OR L3- BLUE, YELLOW, ORANGE**, OR OTHER CONVENTION NEUTRAL- WHITE OR GREY IN 4-WIRE DELTA CONNECTED SYSTEMS THE PHASE WITH HIGHER VOLTAGE TO BE MARKED ORANGE [2025 CEC 110.15 1.51. GROUNDING NOTES: 1.52. GROUNDING SYSTEM COMPONENTS SHALL BE LISTED FOR THEIR PURPOSE, AND GROUNDING DEVICES EXPOSED TO THE ELEMENTS SHALL BE RATED FOR SUCH USE. 1.53. PV EQUIPMENT SHALL BE GROUNDED ACCORDING TO 2025 CEC 690.43 AND MINIMUM 2025 CEC TABLE 250.122. 1.54. METAL PARTS OF MODULE FRAMES, MODULE RACKING, AND ENCLOSURES CONSIDERED GROUNDED IN ACCORDING WITH 2025 CEC 250.134 AND 2025 250.136(A). 1.55. EQUIPMENT GROUNDING CONDUCTORS SHALL BE SIZED ACCORDING TO CEC 690.45 AND INVERTER MANUFACTURER'S INSTRUCTIONS. 1.56. EACH MODULE WILL BE GROUNDED USING WEEB GROUNDING CLIPS AS SHOWN IN MANUFACTURER DOCUMENTATION AND APPROVED BY THE AHJ. IF WEEBS ARE NOT USED, MODULE GROUNDING LUGS MUST BE INSTALLED AT THE SPECIFIED GROUNDING LUG HOLES PER THE MANUFACTURERS' INSTALLATION REQUIREMENTS. 1.57. THE GROUNDING CONNECTION TO A MODULE SHALL BE ARRANGED SUCH THAT THE REMOVAL OF A MODULE DOES NOT INTERRUPT A GROUNDING CONDUCTOR TO ANOTHER MODULE. 1.58. GROUNDING AND BONDING CONDUCTORS, IF INSULATED, SHALL BE COLORED GREEN OR MARKED GREEN IF #4 AWG OR LARGER [2025 CEC 250.119] 1.59. THE GROUNDING ELECTRODE SYSTEM COMPLIES WITH CEC 690.47 AND CEC 250.50 THROUGH 250.106. IF EXISTING SYSTEM IS INACCESSIBLE, OR INADEQUATE, A GROUNDING ELECTRODE SYSTEM PROVIDED ACCORDING TO CEC 250, CEC 690.47 AND AHJ. 1.60. GROUND-FAULT DETECTION SHALL COMPLY WITH CEC 690.41 IN GENERAL AND CEC 690.41 (A)(1) SPECIFICALLY. 1.61. DISCONNECTION AND OVER-CURRENT PROTECTION NOTES: 1.62. DISCONNECTING SWITCHES SHALL BE WIRED SUCH THAT WHEN THE SWITCH IS OPENED THE CONDUCTORS REMAINING ENERGIZED ARE CONNECTED TO THE TERMINALS MARKED "LINE SIDE" (TYPICALLY THE UPPER TERMINALS). 1.63. DISCONNECTS TO BE ACCESSIBLE TO QUALIFIED UTILITY PERSONNEL, BE LOCKABLE, AND BE A VISIBLE-BREAK SWITCH 1.64. RAPID SHUTDOWN OF ENERGIZED CONDUCTORS BEYOND 1 FT OF PV ARRAY OR 5 FT INSIDE A BUILDING WITHIN 10 SECONDS. CONTROLLED CONDUCTORS ≤30V AND ≤240VA [CEC 690.12(B)]. LOCATION OF LABEL ACCORDING TO AHJ 1.65. ALL OCPD RATINGS AND TYPES SPECIFIED ACCORDING TO CEC 690.8, 690.9, AND 240. 1.66. EQUIPMENT THAT IS LISTED, LABELED, OR BOTH SHALL BE INSTALLED AND USED IN ACCORDANCE WITH ANY INSTRUCTIONS INCLUDED IN THE LISTING OR LABELING. CEC 110.3(B). 1.67. IF REQUIRED BY AHJ, SYSTEM WILL INCLUDE ARC-FAULT CIRCUIT PROTECTION ACCORDING TO CEC 690.11 AND UL1699B. 1.68. ELECTRICAL INTERCONNECTION NOTES: 1.69. THE SUM OF THE UTILITY OCPD AND INVERTER CONTINUOUS OUTPUT MAY NOT EXCEED 120% OF THE BUSBAR RATING. 1.70. WHEN THE SUM OF THE PV SOURCES EQUALS >100% OF THE BUSBAR RATING, PV DEDICATED BACKFEED BREAKERS MUST BE LOCATED OPPOSITE END OF THE BUS FROM THE UTILITY SOURCE OCPD. 1.71. AT MULTIPLE PV OUTPUT COMBINER PANEL, THE TOTAL RATING OF ALL OVERCURRENT DEVICES SHALL NOT EXCEED THE AMPACITY OF THE BUSBAR. HOWEVER, THE COMBINED OVERCURRENT DEVICE MAY BE EXCLUDED. 1.72. SUPPLY-SIDE TAP INTERCONNECTION SHOULD BE WITH SERVICE ENTRANCE CONDUCTORS. 1.73. BACKFEEDING BREAKER FOR UTILITY-INTERACTIVE INVERTER OUTPUT IS EXEMPT FROM ADDITIONAL FASTENING. 1.74. ELECTRICAL EQUIPMENT SHALL BE LISTED BY A CITY OF LOS ANGELES RECOGNIZED ELECTRICAL TESTING LABORATORY OR APPROVED BY THE DEPARTMENT.	
YOUR LOGO HERE CONTRACTOR YOUR COMPANY NAME YOUR BUSINESS ADDRESS LICENSE #: YOUR LICENSE	
DESIGNER: YOUR DESIGNER NO SIGNATURE - FICTIONAL	
JORDAN RIVERA RESIDENCE 1234 EXAMPLE AVENUE LOS ANGELES, CA 90000 APN: 0000-000-000 DATE: 09/03/2026	
SHEET T-2	





YOUR LOGO HERE

CONTRACTOR

YOUR COMPANY NAME

YOUR BUSINESS ADDRESS

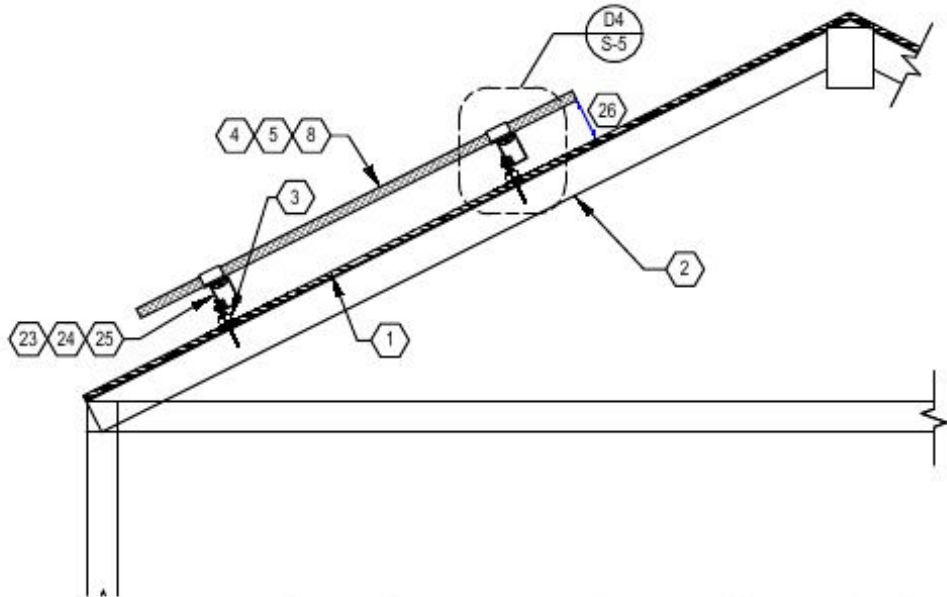
LICENSE #: YOUR LICENSE

DESIGNER: YOUR DESIGNER
NO SIGNATURE - FICTIONAL

JORDAN RIVERA
RESIDENCE
1234 EXAMPLE AVENUE
LOS ANGELES, CA 90000
APN: 0000-000-000
DATE: 09/03/2026

PV SYSTEM MOUNTING DETAILS
SCALE: 3/16" = 1'-0"

SHEET
PV-2

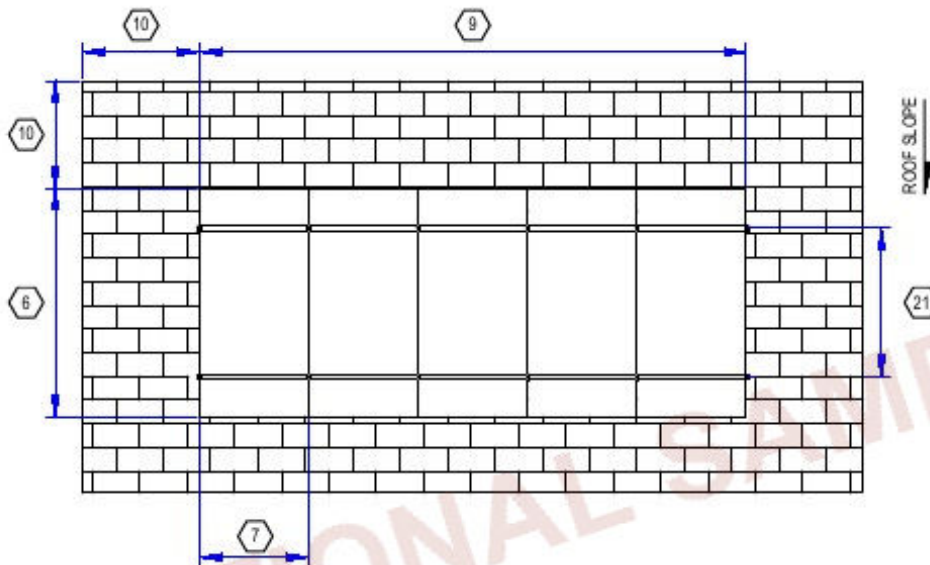


D1

RACKING DETAIL (TRANSVERSE)

NOT TO SCALE

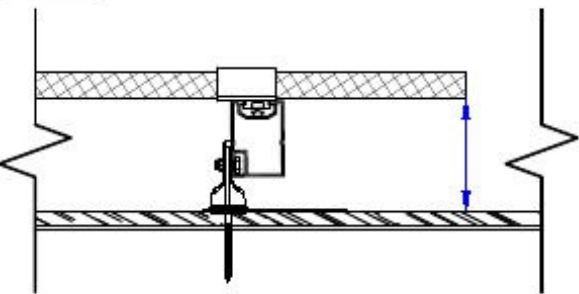
COMP SHINGLE



D3

RACKING DETAIL (TOP)

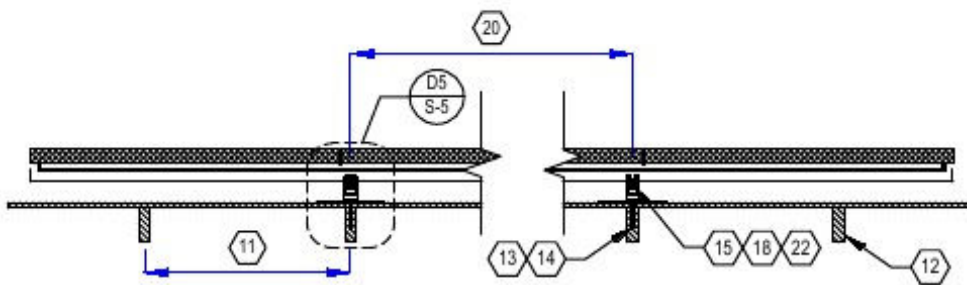
NOT TO SCALE



D4

DETAIL (TRANSVERSE)

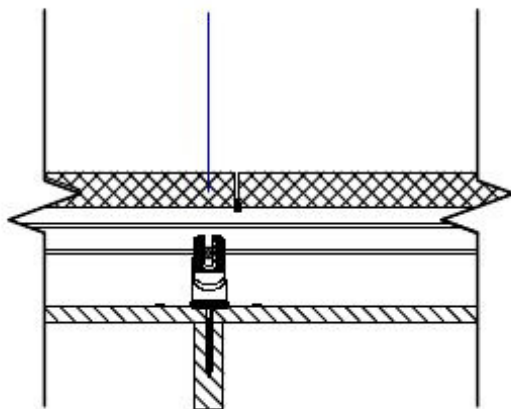
NOT TO SCALE



D2

RACKING DETAIL (LONGITUDINAL)

NOT TO SCALE



D5

DETAIL (LONGITUDINAL)

NOT TO SCALE

1. ROOF MATERIAL: COMP SHINGLE
2. ROOF STRUCTURE: RAFTERS
3. ATTACHMENT TYPE: UNIRAC SOLARMOUNT DOMESTIC STRONGHOLD BUTYL
4. MODULE MANUFACTURER: CERTAINTEED SOLAR
5. MODULE MODEL: CTTC450HC12-08 (450W) SOLAR MODULES
6. MODULE LENGTH: 67.87"
7. MODULE WIDTH: 44.65"
8. MODULE WEIGHT: 46 LBS.
9. SEE SHEET PV-2 FOR DIMENSION(S)
10. RAFTERS SPACING: 24" O.C.
11. RAFTERS SIZE: 2"X 4" NOMINAL
12. LAG BOLT DIAMETER: 5/16" IN.
13. LAG BOLT EMBEDMENT: 2.5 IN.
14. TOTAL # OF ATTACHMENTS: 32
15. TOTAL AREA: 462.98 SQ. FT.
16. TOTAL WEIGHT: 1012.00 LBS.
17. WEIGHT PER ATTACHMENT: 31.63 LBS.
18. DISTRIBUTED LOAD: 2.19 PSF
19. MAX. HORIZONTAL STANDOFF: 72 IN.
20. MAX. VERTICAL STANDOFF:
21. LANDSCAPE: 27 IN., PORTRAIT: 44 IN.
22. STANDOFF STAGGERING: YES
23. RAIL MANUFACTURER AND MODEL (OR EQUIV.): UNIRAC NXT UMount DOMESTIC RAIL 185" -MILL
24. RAIL WEIGHT: 0.436 PLF.
25. MAX. RAFTERS SPAN: 12 FT.
26. MODULE CLEARANCE: 3 IN. MIN., 6 IN. MAX.

YOUR
LOGO
HERE

CONTRACTOR

YOUR COMPANY NAME

YOUR BUSINESS ADDRESS

LICENSE #: YOUR LICENSE

DESIGNER: YOUR DESIGNER

NO SIGNATURE - FICTIONAL

JORDAN RIVERA
RESIDENCE

1234 EXAMPLE AVENUE

LOS ANGELES, CA 90000

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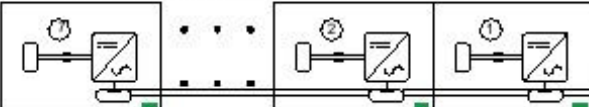
SHEET
PV-3

NOTE- THE COMBINER BOX SHALL BE INSTALLED A MINIMUM OF 6 FEET FROM THE MAIN SERVICE PANEL (MSP). THE AVAILABLE FAULT CURRENT AT THE COMBINER LOCATION SHALL NOT EXCEED THE EQUIPMENT INTERRUPTING RATING (10KAIC). ALL EQUIPMENT SHALL COMPLY WITH NEC 110.9.

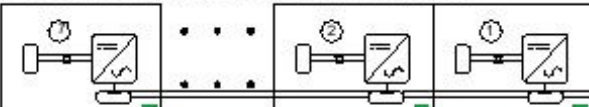
NOTE : THE PV BREAKER SHALL BE LOCATED AT THE OPPOSITE END OF THE MAIN BREAKER OR INPUT FEEDER

(N) 22 CERTAINTED SOLAR CTTC450HC12-08 (450W) SOLAR MODULES WITH AN ENPHASE IQ7HS-66-M-US [240V] MICRO-INVERTER ATTACHED TO THE BACK OF EVERY MODULE.

PV CIRCUIT 3: 7 MODULES/PARALLEL



PV CIRCUIT 2: 7 MODULES/PARALLEL



PV CIRCUIT 1: 8 MODULES/PARALLEL

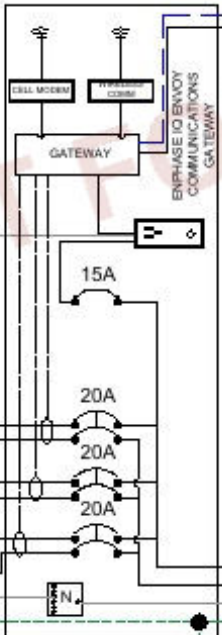


NOTE: IN BETWEEN EACH ARRAY THE EMT IS USED AS THE GROUNDING / BONDING, GROUND CLAMPS ARE AT EACH END OF THE EMT CONDUIT WITH THE WIRE THEN FREE AIR'D TO THE GROUND CLAMP ON THE RACKING RAIL

GROUND LEVEL -
HOUSE EXTERIOR -
ROOF TOP

(N) JUNCTION BOX
WITH IRREVERSIBLE
GROUND SPLICE

(N)125A/240V AC COMBINER
BOX 5/5C (X-IQ-AM1-240-5/5C)
WITH ENPHASE IQ ENVOY
COMM. GATEWAY



EXISTING SERVICE
240/120 V, 1-PH, 3-W
MAIN BUS: 200 A
METER #SAMPLE-0001

POINT OF
DELIVERY AND
INTERCONNECTION

(N) MAIN BREAKER
DERATED TO 175A

EXISTING
240V/200A
MAIN SERVICE PANEL
SINGLE PHASE

(E) GROUNDING
ELECTRODE OR
(UFER)

YOUR
LOGO
HERE

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LOS ANGELES, CA 90000

APN: 0000-000-000

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SHEET
E-1

PV Module Ratings @ STC	
MANUFACTURER	CERTAINTED SOLAR
MODEL	CTTC450HC12-08 (450W) SOLAR MODULES
Max Power-Point Current (Imp)	13.44A
Max Power-Point Voltage (Vmp)	33.51V
Open-Circuit Voltage (Voc)	34.84V
Short-Circuit Current (Isc)	14.47A
Max Series Fuse (OCPD)	25A
Nominal Maximum Power at STC (Pmax)	450W
Maximum System Voltage	1500V
Voc Temperature Coefficient	-0.25%/°C

SYSTEM SUMMARY			
	BRANCH #1	BRANCH #2	BRANCH #3
INVERTERS PER BRANCH	8	7	7
MAX AC CURRENT	12.8A	11.2A	11.2A
MAX AC OUTPUT POWER	3072W	2688W	2688W
ARRAY STC POWER	9900W		
ARRAY PTC POWER	9394W		
MAX AC CURRENT	35.20A		
MAX AC POWER	8448W		
DERATED (CEC) AC POWER	9112W		

Inverter Ratings	
MANUFACTURER	ENPHASE
Model	IQ7HS-66-M-US [240V]
Max DC Volt Rating	60V
Max con output Power	384W
Max Nominal Voltage	240V
Max AC Current	1.60A
Max OCPD Rating	60A

DESIGN TEMPERATURES	
ASHRAE EXTREME LOW	-2°C
ASHRAE 2% HIGH	29°C

Conduit and Conductor Schedule					
Tag	Description	Wire Gauge	# of Conductors	Conduit Type	Conduit Size
1	Enphase Q cable - THWN-2	12 AWG	2	N/A - Free Air	N/A - Free Air
1	Bare Copper Ground (EGC/GEC)	6 AWG	1	N/A - Free Air	N/A - Free Air
2	THWN-2	10 AWG	6	EMT	3/4"
2	THWN-2 - Ground	10 AWG	1	EMT	3/4"
3	THWN-2	8 AWG	3	EMT	3/4"
3	THWN-2 - Ground	10 AWG	1	EMT	3/4"

YOUR LOGO HERE

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SHEET E-1.1

**WARNING**

ELECTRICAL SHOCK HAZARD

TERMINALS ON LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

LABEL LOCATION:
INVERTER(S), AC DISCONNECT(S), AC COMBINER PANEL (IF APPLICABLE).
PER CODE(S): CEC 2025: 705.20(7)

**WARNING**

PHOTOVOLTAIC SYSTEM COMBINER PANEL

DO NOT ADD LOADS

LABEL LOCATION:
PHOTOVOLTAIC AC COMBINER (IF APPLICABLE).
PER CODE(S): CEC 2025: 705.12(B)(3)(3)

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

LABEL LOCATION:
UTILITY SERVICE ENTRANCE/METER, INVERTER/DC DISCONNECT IF REQUIRED BY LOCAL AHJ, OR OTHER LOCATIONS AS REQUIRED BY LOCAL AHJ.
PER CODE(S): CEC 2025:690.56(D)(2).

**WARNING**

THIS EQUIPMENT FED BY MULTIPLE SOURCES. TOTAL RATING OF ALL OVERCURRENT DEVICES, EXCLUDING MAIN SUPPLY OVERCURRENT DEVICE, SHALL NOT EXCEED AMPACITY OF BUSBAR.

**WARNING**

POWER SOURCE OUTPUT CONNECTION

DO NOT RELOCATE THIS OVERCURRENT DEVICE

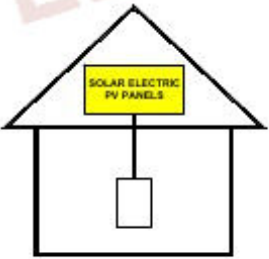
LABEL LOCATION:
ADJACENT TO PV BREAKER (IF APPLICABLE).
PER CODE(S): CEC 2025: 705.12(B)(2)

PHOTOVOLTAIC AC DISCONNECT
MAXIMUM AC OPERATING CURRENT: 35.20 AMPS
NOMINAL OPERATING AC VOLTAGE: 240.0 VAC

LABEL LOCATION:
AC DISCONNECT(S), PHOTOVOLTAIC SYSTEM POINT OF INTERCONNECTION.
PER CODE(S): CEC 2025: 690.54

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.



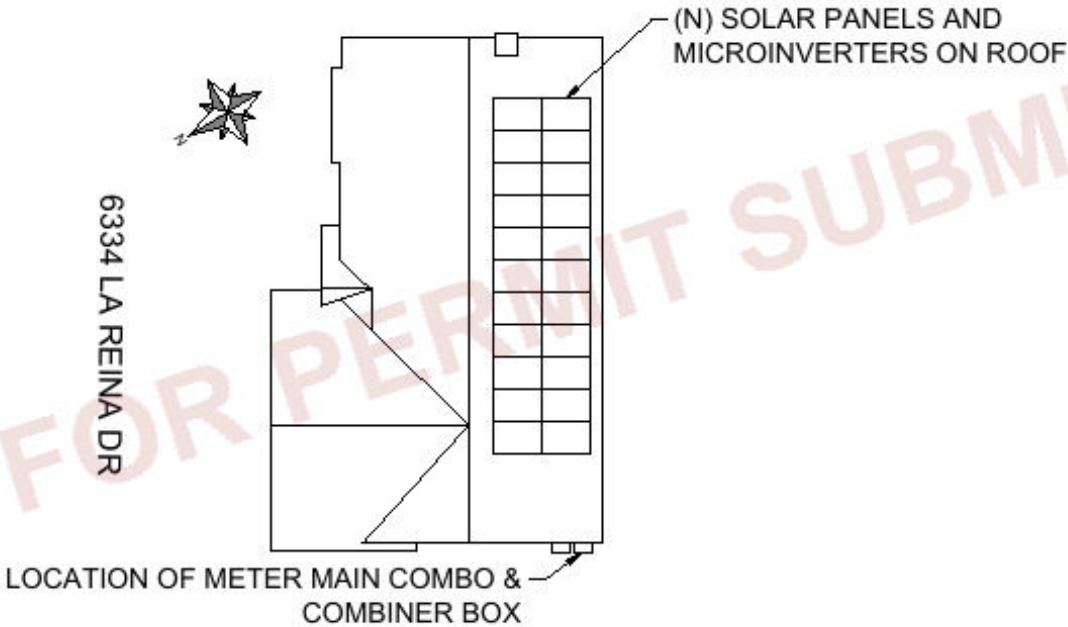
LABEL LOCATION:
ON OR NO MORE THAT 3 M (10 FT) FROM THE SERVICE DISCONNECTING MEANS TO WHICH THE PV SYSTEMS ARE CONNECTED.

**CAUTION**

PHOTOVOLTAIC SYSTEM CIRCUIT IS BACKFEED

LABEL LOCATION:
AC DISCONNECT(S), PHOTOVOLTAIC SYSTEM POINT OF INTERCONNECTION.
PER CODE(S): CEC 2025: 705.30(D)

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



PERMANENT SIGNAGE NOTES:

- NOT ALL PLACARDS SHOWN MAY BE REQUIRED BY LOCAL AHJ. CONTRACTOR TO VERIFY PLACARD REQUIREMENTS WITH LOCAL AHJ BEFORE INSTALLATION.
- ALL PLAQUES AND SIGNAGE REQUIRED BY THE LATEST EDITION OF THE CALIFORNIA ELECTRICAL CODE
- ALTERNATE POWER SOURCE PLACARD SHALL BE METALLIC OR PLASTIC, ENGRAVED OR MACHINE PRINTED LETTERS IN A CONTRASTING COLOR TO THE PLAQUE. THIS PLAQUE WILL BE ATTACHED BY POP RIVETS OR SCREWS OR OTHER APPROVED METHOD.
- DIRECTORY PLACARD MARKING CONTENT AND FORMAT: RED BACKGROUND, WHITE LETTERING, MINIMUM 3/8" LETTER HIEGHT, ALL CAPITAL LETTERS, ARIAL OR SIMILAR FONT, NON BOLD, REFLECTIVE WEATHER RESISTANT MATERIAL SUITABLE FOR THE ENVIRONMENT.

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RESIDENCE
1234 EXAMPLE AVENUE
LOS ANGELES, CA 90000

APN: 0000-000-000
DATE: 09/03/2026

SHEET
E-2

Solstice® Panel

HALF-CELL 450W

SOLAR MODULE

High performance, half-cell N-Type mono-crystalline TOPCon 16BB 450W bifacial all-black modules produced using state of the art automated production lines and made using the highest quality materials and quality control standards.

HALF-CELL MONOCRYSTALLINE TYPE

• CTC450HC12-08

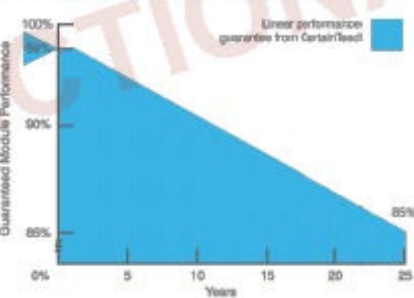
FEATURES AND BENEFITS

- High Quality / High Power
- 450W bifacial with transparent backsheet
 - UL listed (61730-1, UL 61730-2)
 - Positive power output tolerance

Limited Warranty*

- 25-year linear power output warranty
- *See CertainTeed's limited warranty for details

POWER OUTPUT WARRANTY



OPERATING CONDITIONS

Dimensions	1724 x 1134 x 30 mm
Nominal Operating Cell Temperature	45 +/- 2° C
Operating Temperature	-40 to 85° C
Maximum System Voltage	1,500V
Fire Performance	Class C / Type 1
Maximum Wind Load	112 lbs/ft² (5400 Pa)
Maximum Snow Load	112 lbs/ft² (5400 Pa)

ELECTRICAL CHARACTERISTICS

Nominal Output (Pmpp)	W	450
Voltage at Pmax (Vmp)	V	33.51
Current at Pmax (Impp)	A	12.41
Open Circuit Voltage (Voc)	V	38.84
Short Circuit Current (Isc)	A	14.47
Output Tolerance	W	0-+3%
No. of Cells & Connections		108 half-cells with 3 bypass diodes
Maximum Series Fuse Rating		30A
Cell Type		N-Type Monocrystalline TOPCon
Module Efficiency	%	23.02
Temperature Coefficient of Pmpp	%/°C	-0.29
Temperature Coefficient of Voc	%/°C	-0.25
Temperature Coefficient of Isc	%/°C	+0.046
Bifaciality Ratio	%	80 +/- 5

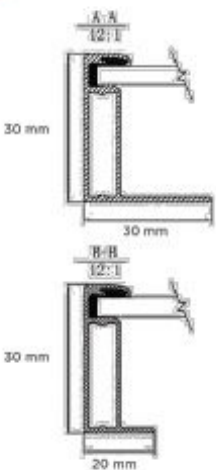
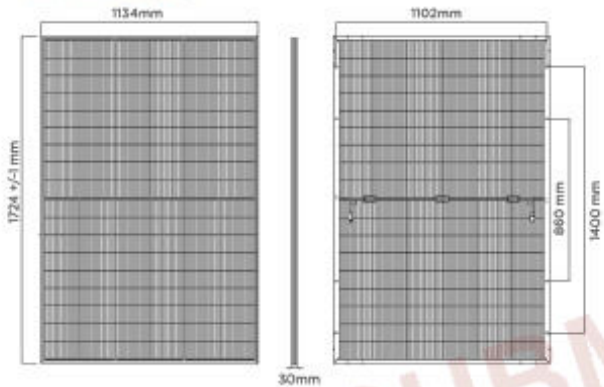
MECHANICAL CHARACTERISTICS

Glass	Glass: 3.2 high transmission, tempered, anti-reflective
Frame	Anodized aluminum (Black)
Junction Box	IP68
Output Cables	4 mm2 (12AWG) PV Wire, Length 1.2m (47.2")
Connectors	Staubli MC4
Weight	46 +/- 2lbs (21 +/- 1 kg)

PACKAGING

Panels Per Pallet	37
Panels Per Container	962

DIMENSIONS



CertainTeed

CEILINGS • GYPSUM • INSULATION • ROOFING • SIDING • TRIM

20 Moores Road, Malvern, PA 19355 800-233-6990 certainteed.com

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SHEET
S-1



DATA SHEET



IQ7HS Microinverter

The high-powered, smart grid-ready IQ7HS Microinverter with integrated MC4 connectors dramatically simplifies installation while achieving the highest system efficiency.



Part of the Enphase Energy System, the IQ7HS Microinverters integrate with the IQ Gateway, IQ Battery, and the Enphase Installer App monitoring and analysis software.



Connect PV modules quickly and easily to the IQ7HS Microinverters that have integrated MC4 connectors.



IQ7HS Microinverters extend the reliability standards set forth by previous generations and undergo over a million hours of power-on testing, enabling Enphase to provide an industry-leading warranty of up to 25 years.



IQ7HS Microinverters are UL Listed as PV rapid shutdown equipment and conform with various regulations when installed according to the manufacturer's instructions.

Easy to install

- Lightweight and simple
- Faster installation with improved, lighter two-wire cabling
- Built-in rapid shutdown compliant (NEC 2014, 2017, 2020, and 2023)

Productive and reliable

- Optimized for high-powered 60-cell/120-half-cut-cell, 66-cell/132-half-cut-cell, and 72-cell/144-half-cut-cell PV modules
- More than a million hours of testing
- Class II double-insulated enclosure
- UL Listed

Smart grid-ready

- Complies with advanced grid support, voltage, and frequency ride-through requirements
- Remotely updates to respond to changing grid requirements
- Configurable for varying grid profiles
- Meets CA Rule 21 (UL 1741-SA) and IEEE 1547-2018 (UL 1741-SB, 3rd Ed.) for single-phase systems

IQ7HS Microinverter

INPUT DATA (DC)		UNITS	IQ7HS-66-M-35
Commonly used module pairings ¹	W		320-460
Module compatibility	—		60-cell/120-half-cut-cell, 66-cell/132-half-cut-cell, and 72-cell/144-half-cut-cell PV modules
Maximum input DC voltage	V		50
Peak power tracking voltage	V		38-43
Operating range	V		20-59
Minimum/Maximum start voltage	V		30/59
Maximum input DC short-circuit current	A		25
Maximum module I _{sc}	A		20
Overvoltage class DC port	—		II
DC port back-feed current	A		0
PV array configuration	—		1+1 ungrounded array; no additional DC side protection required; AC side protection requires max. 20 A per branch circuit
OUTPUT DATA (AC)			
Peak output power	VA		364 @ 240 VAC, 369 @ 208 VAC
Maximum continuous output power	VA		364 @ 240 VAC, 369 @ 208 VAC
Nominal (L-L) voltage/Range ²	V		210/210-264, 208/183-229
Maximum continuous output current	—		1.60 A (240 V), 1.77 A (208 V)
Nominal frequency	Hz		60
Extended frequency range	Hz		47-68
AC short-circuit fault current over three cycles	A rms		4.62
Maximum units per 20 A (L-L) branch circuit ³	—		10 (240 VAC), 9 (208 VAC)
Overvoltage class AC port	—		II
AC port back-feed current	mA		18
Power factor setting	—		1.0
Power factor (adjustable)	—		0.85 leading ... 0.85 lagging
EFFICIENCY			
CEC weighted efficiency	%		97.0 @ 240 V, 96.5 @ 208 V
MECHANICAL DATA			
Ambient temperature range	°C (°F)		-40 to 60 (-40 to 140)
Relative humidity range	%		4 to 100 (condensing)
DC connector type	—		Standard MC4
Dimensions (H x W x D)	mm (in)		252 (8.3) x 75 (8.9) x 30.2 (1.2) without bracket
Weight	kg (lb)		1.1 (2.4)
Cooling	—		Natural convection—no fans
Approved for wet locations	—		Yes
Pollution degree	—		PD3

¹ Pairing PV modules with wattage above the limit may result in additional clipping losses. See the compatibility calculator at enphase.com/installer/microinverters/calculator.

² Nominal voltage range can be extended beyond nominal if required by the utility.

³ Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

MECHANICAL DATA	
Enclosure	Class II double-insulated, corrosion-resistant polymeric enclosure
Environmental category/UV exposure rating	NEMA type 6/Outdoor
FEATURES	
Communication	Power line communication (PLC)
Monitoring	Enphase Installer App and monitoring options Compatible with IQ Gateway
Disconnecting means	The AC and DC connectors have been evaluated and approved by UL for use as the load-break disconnect means required by NEC 690 and C22.1-2018 Rule 64-220. CA Rule 21 (UL 1741-SA), IEEE 1547-2018 (UL 1741-SB 3rd Ed.) for single-phase systems UL 62099-1, FOC Part 15 Class B, ICES-0003 Class B CAN/CSA-C22.2 NO. 1071-01 This product is UL Listed as PV rapid shutdown equipment and conforms with NEC 2014, NEC 2017, and NEC 2020 section 690.12 and C22.1-2018 Rule 64-218 rapid shutdown of PV systems for AC and DC conductors, when installed according to manufacturer's instructions.
Compliance	

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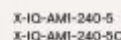
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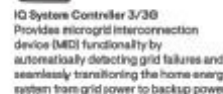
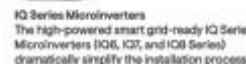
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SHEET
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The IQ Combiner 5/5C consolidates interconnection equipment into a single enclosure and streamlines IQ Series Microinverters and IQ Gateway installation by providing a consistent, pre-wired solution for residential applications. IQ Combiner 5/5C uses wired control communication and is compatible with IQ System Controller 5/3C and IQ Battery 5P.

The IQ Combiner 5/50, along with IQ Series Microinverters, IQ System Controller 3/30, and IQ Battery 5P provides you with a complete grid-agnostic Enphase Energy System.



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DOI: 10.1002/for

MODEL NUMBER	
IQ Combiner 5A (1-IG-AM1-240-S)	IQ Combiner 5 with IQ Gateway printed circuit board for integrated reverse-grade PV production metering (AMCIG-2.20 $\pm 0.5\%$), consumption monitoring ($\pm 2.5\%$) and IQ Battery monitoring ($\pm 2.5\%$). Includes a silver solar shield to deflect heat.
IQ Combiner 5C (1-IG-AM1-240-SC)	IQ Combiner 5C with IQ Gateway printed circuit board for integrated reverse-grade PV production metering (AMCIG-2.20 $\pm 0.5\%$), consumption monitoring ($\pm 2.5\%$) and IQ Battery monitoring ($\pm 2.5\%$). Includes Enphase Mobile Connect cellular modem (CELLMODM-M1-M6-SP-05). Includes a silver solar shield to deflect heat.
WHAT'S IN THE BOX	
IQ Gateway printed circuit board	IQ Gateway is the platform for total energy management for comprehensive, remote maintenance and management of the Enphase IQ System.
Busbar	USA busbar with support for 1 x IQ Gateway breaker and 4 x 30A breaker for installing IQ Series Microinverters and IQ Battery SP.
IQ Gateway breaker	Circuit breaker, 2-pole, 10 A/15 A
Production CT	Prewired reverse-grade solid-core CT, accurate up to 0.5%
Consumption CT	Two consumption metering clamp CTs, shipped with the box, accurate up to 2.5%
IQ Battery CT	One battery metering clamp CT, shipped with the box, accurate up to 2.5%
CTRL board	Control board for wired communication with IQ System Controller 3/30 and the IQ Battery SP
Enphase Mobile Connect (only with IQ Combiner 5C)	4G-based LTE-M cellular modem (CELLMODM-M1-M6-SP-05) with a 5-year T-Mobile data plan.
Accessories kit	Spare control headers for CTRL board
ACCESSORIES AND REPLACEMENT PARTS (NOT INCLUDED, ORDER SEPARATELY)	
CELLMODM-M1-SP-05	4G-based LTE-M cellular modem with a 5-year T-Mobile data plan
CELLMODM-M1-09-AT-05	4G-based LTE-M cellular modem with a 5-year AT&T data plan
IQ Gateway (left-the-shelf)	Supports Eaton BR210, BR215, BR220, BR230, BR240, BR250, and BR260 circuit breakers. Supports Eaton BR220B, BR230B, and BR240B circuit breakers compatible with hold-down kit.
Circuit breakers (provided by Enphase)	BRK-10A-2-240V, BRK-15A-2-240V, BRK-20A-2P-240V, BRK-15A-2P-240V-B, and BRK-20A-2P-240V-B (More details in "Accessories" section)
KA-SOLARSHIELD-ES	Replacement solar shield for IQ Combiner 5/5C
KA-EM2-PCBA-S	IQ Gateway replacement printed circuit board (PCB) for Combiner 5/5C
X-IG-NA-HD-125A	Hold-down kit compatible with Eaton BR-B series circuit breakers (with screws)
ELECTRICAL SPECIFICATIONS	
Rating	80 A
System voltage	120/240 VAC, 60 Hz
Breaker rating	125 A
Fault current rating	10 kAIC
Maximum continuous current rating (dependent on P/N/storage)	64 A
Branch circuit (w/ and w/o storage)	Up to four 2-pole Eaton BR series distributed generation (DG) breakers (w/o) or (w) included
Maximum total branch circuit breaker rating (w/o)	60 A of distributed generation/95 A of IQ Gateway breaker included
IQ Gateway breaker	10 A or 15 A rating GE/Siemens/Eaton included
Production metering CT	200 A solid-core pre-installed and wired to IQ Gateway
Consumption metering CT (CT-300-CLAMP)	A pair of 200-A clamp-style current transformers is included with the box
IQ Battery metering CT	200 A clamp-style current transformer for IQ Battery metering, included with the box

[†] A plug-and-play industrial-grade cell modem for systems up to 30 microinwriters. (Available in the US, Canada, Mexico, Puerto Rico, and the US Virgin Islands, where there is adequate cellular service in the installation area.)

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MECHANICAL DATA

Dimensions (WxHxD)	375 cm x 48.5 cm x 18.8 cm (14.75" x 6.03" x 6.63"). Height is 25.06" (530 cm) with mounting brackets
Weight	7.5 kg (16.5 lbs)
Ambient temperature range	-40°C to 40°C (-40°F to 104°F)
Cooling	Natural convection, plus heat shield
Enclosure environmental rating	Outdoor, NRTL-certified, NEMA type 3B, polycarbonate construction
Wire sizes	• 20 A to 50 A breaker inputs: 14 to 4 AWG copper conductors • 60 A breaker branch input: 4 to 1/0 AWG copper conductors • Main lug combined output: 10 to 2/0 AWG copper conductors • Neutral and ground: 14 to 1/0 copper conductors • Always follow local code requirements for conductor sizing
Communication (in-panels) connectivity	Built-in CTIR board for wired communication with IQ Battery SP and IQ System Controller 3/3G Integrated Power Line Communication for IQ Series Microinverters
Altitude	Up to 2,000 meters (6,530 feet)
COMMUNICATION INTERFACES	
Integrated Wi-Fi	802.11b/g/n (dual band 2.4 GHz/5 GHz), for connecting the Enphase cloud via the internet
Wi-Fi range (recommended)	30 m
Ethernet	Optional, 802.3, Cat5e for Cat 6 UTP Ethernet cable (not included), for connecting to the Enphase Cloud via the internet
Mobile Connect	CELLMODEM-M1-09-SP-09 or CELLMODEM-M1-09-AI-09 (Included with IQ Combiner 5C)
Digital I/O	Digital input/output for grid operator control
USB 2.0	For Mobile Connect
Access point (AP) mode	For connection between the IQ Gateway and a mobile device running the Enphase Installer App
Metering ports	Up to two Consumption CTs, one IQ Battery CT, and one Production CT
Power line communication	9C-RD LNB
Web API	Refer to https://developer.solarbms.com
Local API	Refer to guide for local API
COMPLIANCE	
IQ Combiner	UL TRL CAN/CSA C22.2 No. 307.1, Title 47 CFR, Part 15, Class B, ICES 003
IQ Gateway	UL 80601-1/CAN/CSA 22.2 No. 60601-1, IEEE 1547: 2018 IUL 1547-66, 3-Phase IEEE 2030.5/CSIP Compliant Production metering: ANSI C12.20 accuracy class 0.5 (99 production)
COMPATIBILITY	
IQ System Controller 3/3G	5C200D/1C240U5D1, 5C200D/1C240U5D1
IQ Battery SP	IQBATTERY-6P-6P-NA
Microinverter	IQ6, IQ7, and IQ8 Series Microinverters

100-5-50-284-00002-10-26-18-2023-08-2

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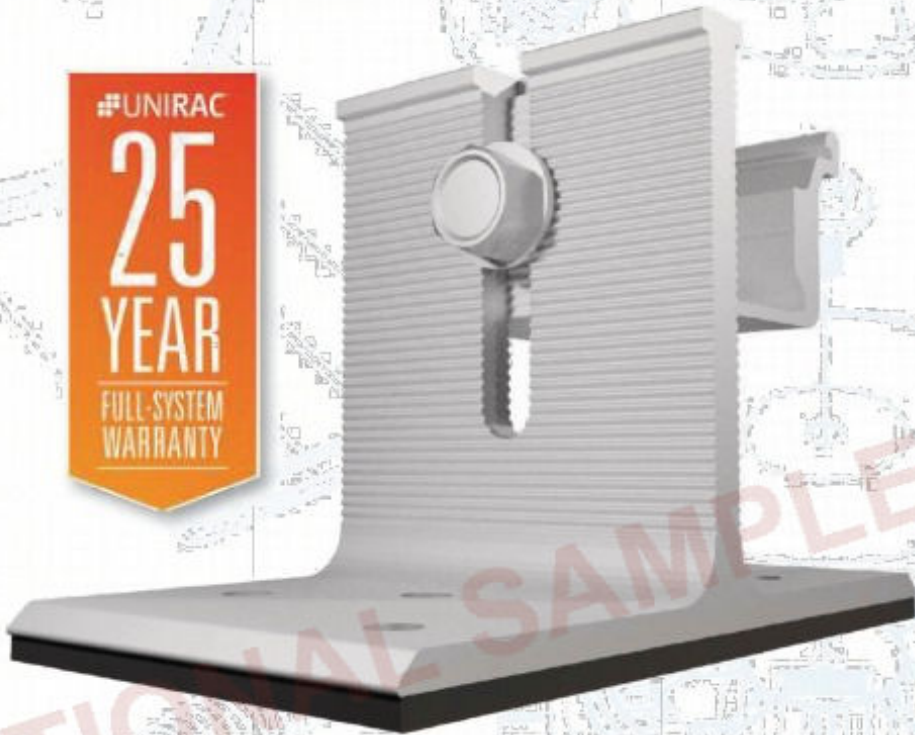
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STRONGHOLD™ | BUTYL



Unirac's STRONGHOLD™ Butyl is efficient, dependable, and optimized for UNIRAC's NXT UMOUNT™ system.

The pre-applied butyl pad removes the need for additional flashing. Just peel the liner, place the attachment, and fasten it to the roof. In addition, the butyl, used throughout the roofing and solar industries for its reliability, conforms to the screws and roof for a robust, dependable seal with no extra work! Couple this with the NXT UMOUNT™ system, and you have a highly reliable, easy-to-install system with integrated wire management.



KITTED WITH

- ONE (1) STRONGHOLD™ Butyl direct-to-deck attachment with pre-applied butyl patch. (Extra patches for shimming available.)
- TWO (2) screws for rafter installation. (Additional screws for direct-to-deck applications available.)
- ONE (1) NXT Rail Clamp

FOR QUESTIONS OR CUSTOMER SERVICE CONTACT: 505-242-6411 | SALES@UNIRAC.COM | WWW.UNIRAC.COM

STRONGHOLD™ | BUTYL



SIMPLIFIED FLASHLESS SOLUTION

- One-step Butyl application
- Reliable waterproofing without messy sealant
- Eliminate roof disturbance
- Minimize labor

OPTIMIZED FOR NXT UMOUNT, UNIRAC'S OPEN CHANNEL RAIL SYSTEM

- Open slot design for ease of rail connectivity with included STRONGHOLD™ NXT rail clamp
- STRONGHOLD™ Butyl combined with the NXT UMOUNT system make installation and wire management a breeze
- UL Certified with NXT UMOUNT

DUAL MOUNTING OPTIONS

- Pre-attached butyl pad: Simply peel, stick, and fasten with the two (2) included screws for rafter mount.
- For direct-to-deck applications, additional decking screws are available.

ADDITIONAL BENEFITS

- Mill and Dark Finishes
- Option for extra cross-course butyl patches
- Competitively priced with standard rafter attachments

UNIRAC CUSTOMER SERVICE MEANS THE HIGHEST LEVEL OF PRODUCT SUPPORT



UNMATCHED EXPERIENCE



CERTIFIED QUALITY



ENGINEERING EXCELLENCE



BANKABLE WARRANTY



DESIGN TOOLS



PERMIT DOCUMENTATION

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, stamped letters and technical data sheets greatly simplifies your permitting and project planning process.

CERTIFIED QUALITY PROVIDER

UNIRAC is the only PV mounting vendor with ISO certifications for 9001:2015, 14001:2015 and OHSAS 18001:2007, which means we deliver the highest standards for 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 and reduce your risk. Have peace of mind knowing you are receiving products of exceptional quality. STRONGHOLD™ products are covered by a twenty-five (25) year limited product warranty.

PROTECT YOUR REPUTATION WITH QUALITY RACKING SOLUTIONS BACKED BY ENGINEERING EXCELLENCE AND A SUPERIOR SUPPLY CHAIN

PUR2023MARCH-12

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SHEET
S-5

BOM			
CUSTOMER NAME: MATTHEW AVANESIAN			
CUSTOMER ADDRESS:6334 LA REINA DR, LOS ANGELES, CA 91402, USA			
DC SYSTEM SIZE: 9.900KW			
Group	Part number	Description	Quantity(Nos.)
SOLAR PANELS	CTTC450HC12-08 (450W)	CERTAINTED SOLAR	22
INVERTER	ENPHASE IQ7HS-66-M-US [240V] INVERTER	ENPHASE IQ7HS-66-M-US [240V] INVERTER	22
COMBINER PANEL	IQ COMBINER 5/5C BOX (X-IQ-AM1-240-5/5C)	ENPHASE COMBINER	1
RAILS	UNIRC 185RLM1-US	DOMESTIC NXT UNMOUNT RAIL 185"-MILL	11
SPLICES	UNIRC SHCLMPD2	STRONGHOLD RAIL CLAMP DRK	8
MID-CLAMPS	UNIRC CCLAMPD1	NXT HORIZON COMBO CLAMP - DARK	40
END-CLAMPS	UNIRC NUHECLMP1	NXT HIDDEN END CLAMP W/CAP	8
ATTACHMENTS	UNIRC SHBUTYLM2	STRONGHOLD BUTYL ATT KIT MILL	32
JUNCTION BOX	JUNCTION BOX	JUNCTION BOX	1
MLPE	UNIRC NULGMLP1	NXT MLPE &GROUND LUG CLAMP	22

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