

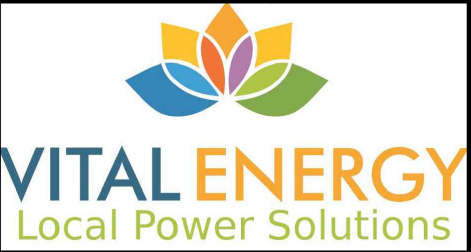
PLOT PLAN: SCALE:- 1/210" = 1'-0"



	PITCH	AZIMUTH	SOLAR AREA (SQFT)	ROOF AREA (SQFT)	ROOF AREA OCCUPIED BY SOLAR (%)	# MODULES
AR-01	12°	271°	354.96	2166.66	16.38	17
AR-02	12°	91°	375.84	2166.66	17.35	18

LEGEND	
M	METER
MSP	MAIN SERVICE PANEL
JB	JUNCTION BOX
ACD	AC DISCONNECT
CB	COMBINER BOX

REVISIONS		
DESCRIPTION	DATE	REV



PROJECT NAME & ADDRESS

MARIE JAEN
1041 MIDDLE TWO ROCK RD
PETALUMA, CA 94952
APN # 021-050-007-000

CONTRACTOR INFORMATION

VITAL ENERGY SOLUTIONS

321 SOUTH MAIN ST. #545
SEBASTOPOL, CA 95472
Phone: (707) 326-7785
Lic.: #1114654 C10 C36
email: permits@vitalenergysolar.com

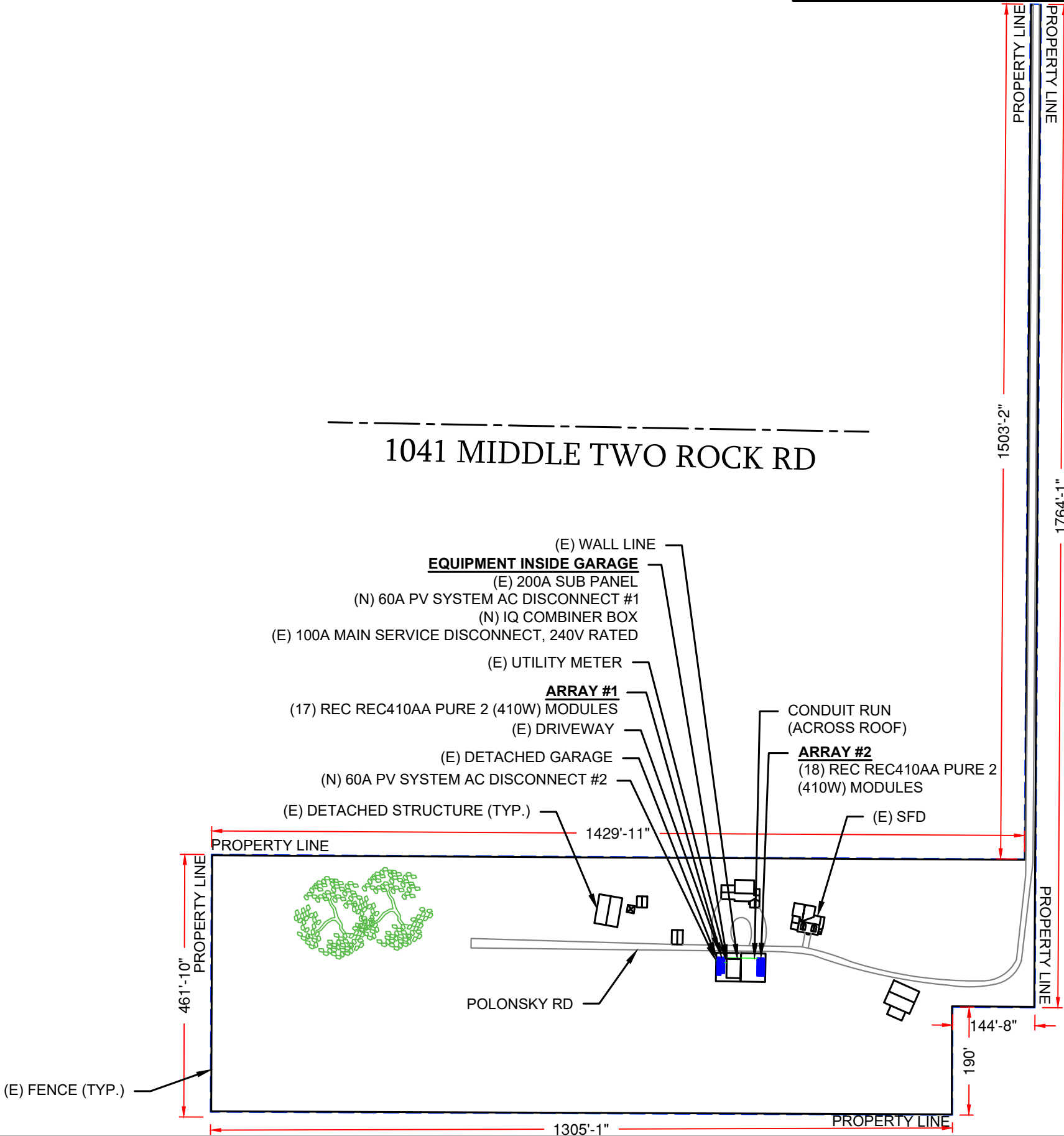
AHJ: CA-COUNTY OF SONOMA

SHEET NAME
PLOT PLAN

DESIGNER/CHECKED NH/AP
AP

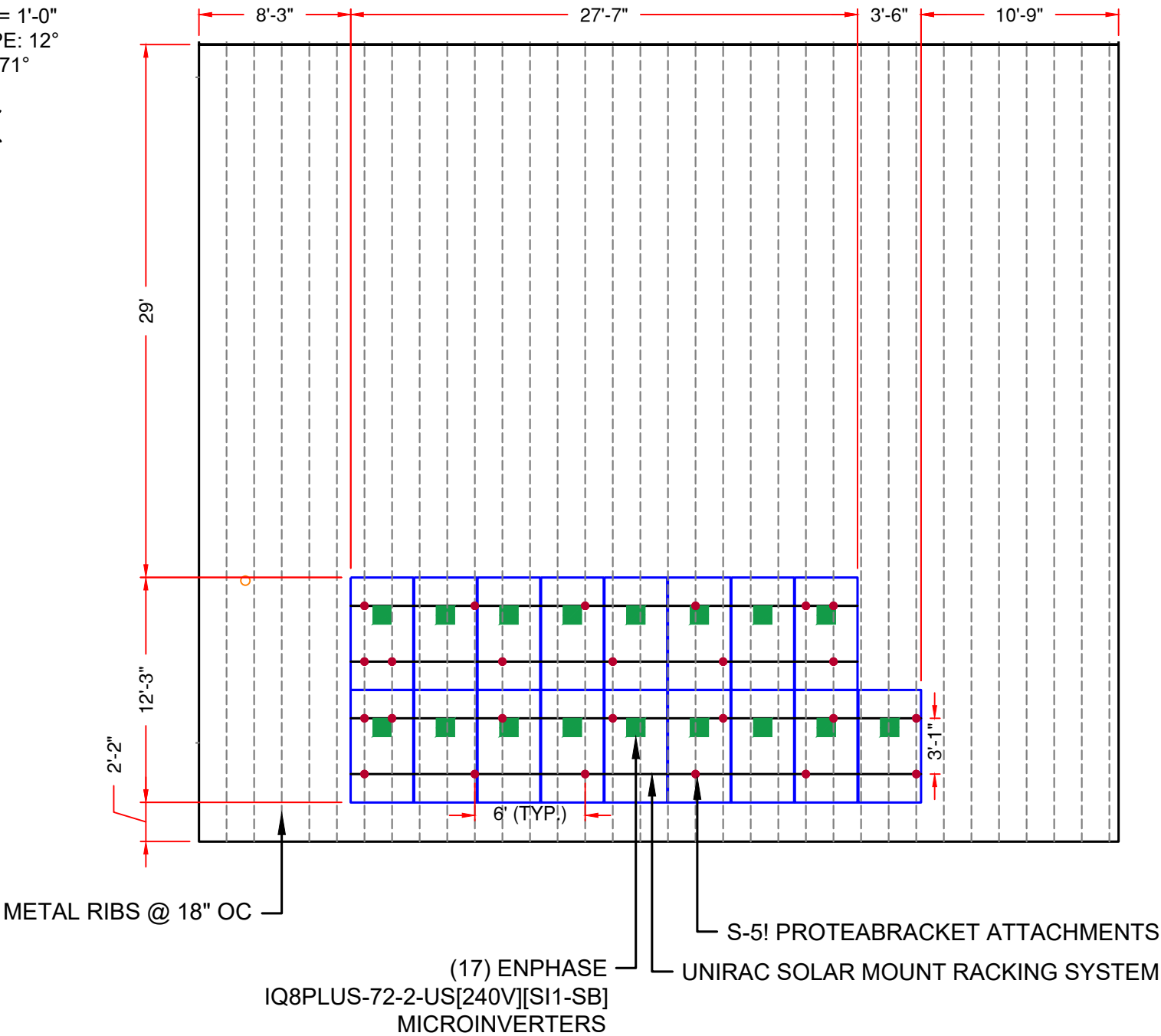
SHEET SIZE
11" X 17"

SHEET NUMBER
S-2



	NO. OF MODULES	ROOF TYPE	ATTACHMENT	ROOF HEIGHT	FRAME MATERIAL	FRAME TYPE	FRAME SIZE	OC SPACING
AR-01	17	METAL TRAPEZOIDAL SHEET	S-5! PROTEABRACKET	ONE STORY	WOOD	RAFTERS	2"x6"	24" O.C.

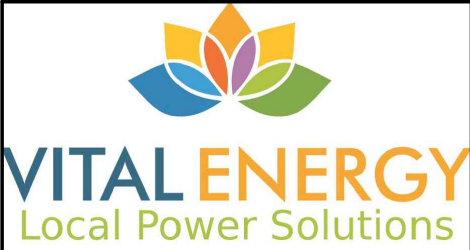
AR-01 -
SCALE:1/8" = 1'-0"
ROOF SLOPE: 12°
AZIMUTH: 271°



DEAD LOAD CALCULATIONS			
ITEM	QUANTITY	WEIGHT (lbs)	TOTAL WEIGHT (lbs)
MODULES	35	47.6	1666.00
RAILS LENGTH (FT)	239.61	0.4	104.5
ATTACHMENTS	51	0.65	33.15
TILT LEGS	0	3.5	0
MICROINVERTERS	35	2.4	84.0
TOTAL WEIGHT OF THE SYSTEM (lbs)			1887.6
TOTAL ARRAY AREA ON THE ROOF (sq.ft)			730.8
WEIGHT PER MOUNT (lbs)			37.0
WEIGHT PER SQ.FT (lbs)			2.6

DESIGN CRITERIA
MODULES:
35
MAX DISTRIBUTED LOAD: 3 PSF
SNOW LOAD: 0 PSF
WIND SPEED:
100 MPH 3-SEC GUST.
LAG SCREWS:
5/16"x 2.5" MIN EMBEDMENT
NOTE:
INSTALLERS TO VERIFY RAFTER SIZE, SPACING AND SLOPED SPANS, AND NOTIFY E.O.R. OF ANY DISCREPANCIES BEFORE PROCEEDING.

REVISIONS		
DESCRIPTION	DATE	REV



PROJECT NAME & ADDRESS

MARIE JAEN

1041 MIDDLE TWO ROCK RD
PETALUMA, CA 94952
APN # 021-050-007-000

CONTRACTOR INFORMATION

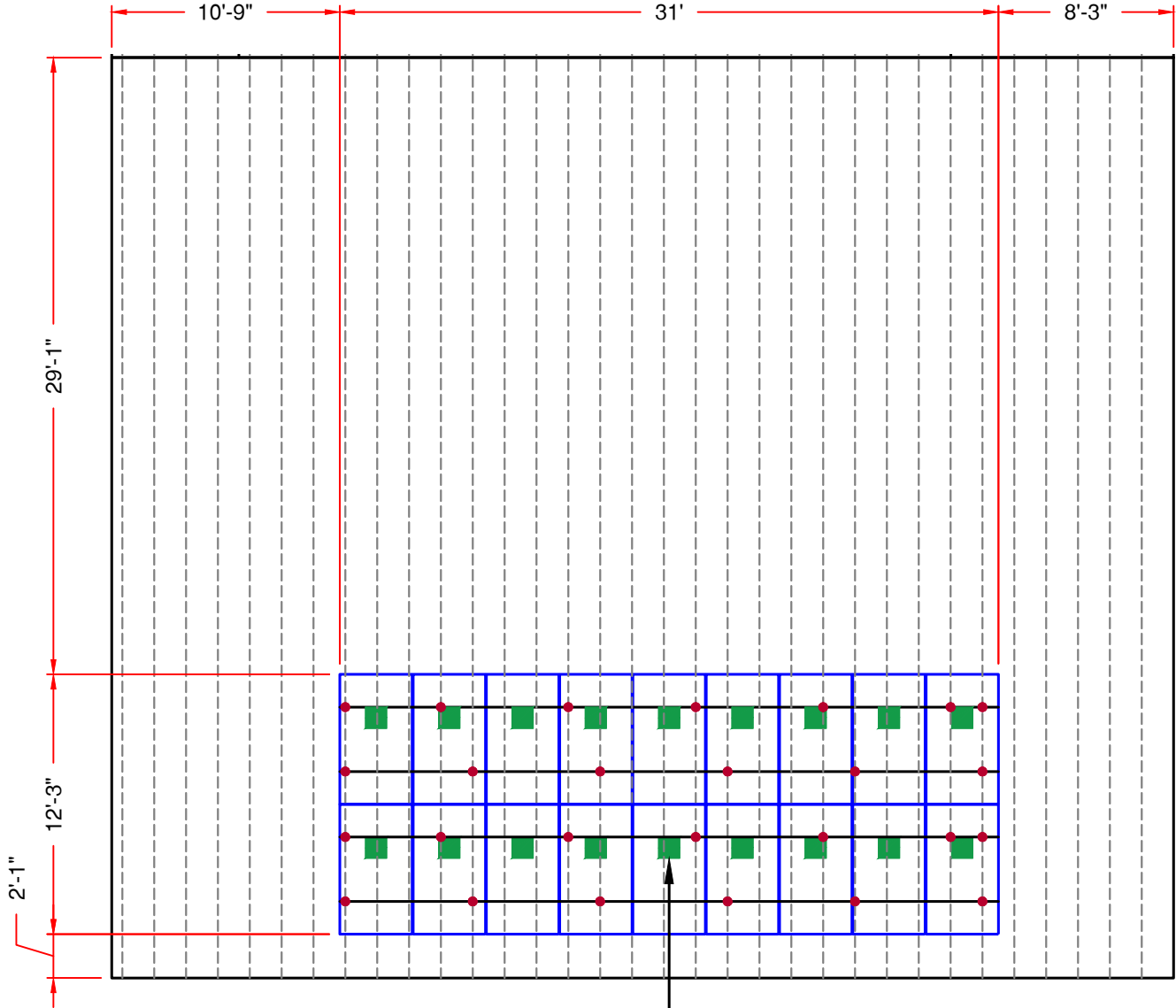
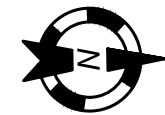
VITAL ENERGY SOLUTIONS

321 SOUTH MAIN ST. #545
SEBASTOPOL, CA 95472
Phone: (707) 326-7785
Lic.: #1114654 C10 C36
email: permits@vitalenergysolar.com

AHJ: CA-COUNTY OF SONOMA	
SHEET NAME	ARRAY LAYOUT
DESIGNER/CHECKED NH/AP	AP
SHEET SIZE	11" X 17"
SHEET NUMBER	S-3

	NO. OF MODULES	ROOF TYPE	ATTACHMENT	ROOF HEIGHT	FRAME MATERIAL	FRAME TYPE	FRAME SIZE	OC SPACING
AR-02	18	METAL TRAPEZOIDAL SHEET	S-5! PROTEABRACKET	ONE STORY	WOOD	RAFTERS	2"x6"	24" O.C.

AR-02 -
SCALE:1/8" = 1'-0"
ROOF SLOPE: 12°
AZIMUTH: 91°

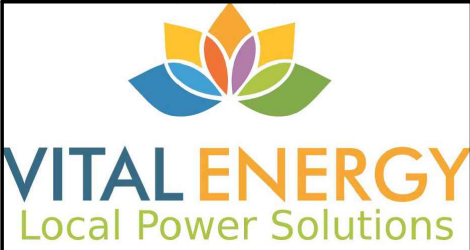


(18) ENPHASE
IQ8PLUS-72-2-US[240V][SI1-SB]
MICROINVERTERS

DESIGN CRITERIA

MODULES:
35
MAX DISTRIBUTED LOAD: 3 PSF
SNOW LOAD: 0 PSF
WIND SPEED:
100 MPH 3-SEC GUST.
LAG SCREWS:
5/16"x 2.5" MIN EMBEDMENT
NOTE:
INSTALLERS TO VERIFY RAFTER SIZE,
SPACING AND SLOPED SPANS, AND
NOTIFY E.O.R. OF ANY DISCREPANCIES
BEFORE PROCEEDING.

REVISIONS		
DESCRIPTION	DATE	REV



PROJECT NAME & ADDRESS

MARIE JAEN

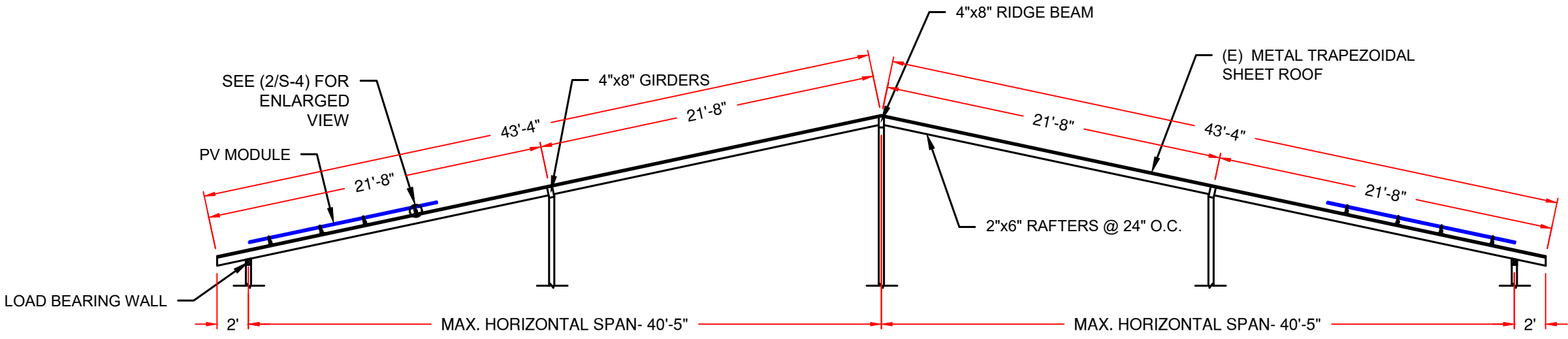
1041 MIDDLE TWO ROCK RD
PETALUMA, CA 94952
APN # 021-050-007-000

CONTRACTOR INFORMATION

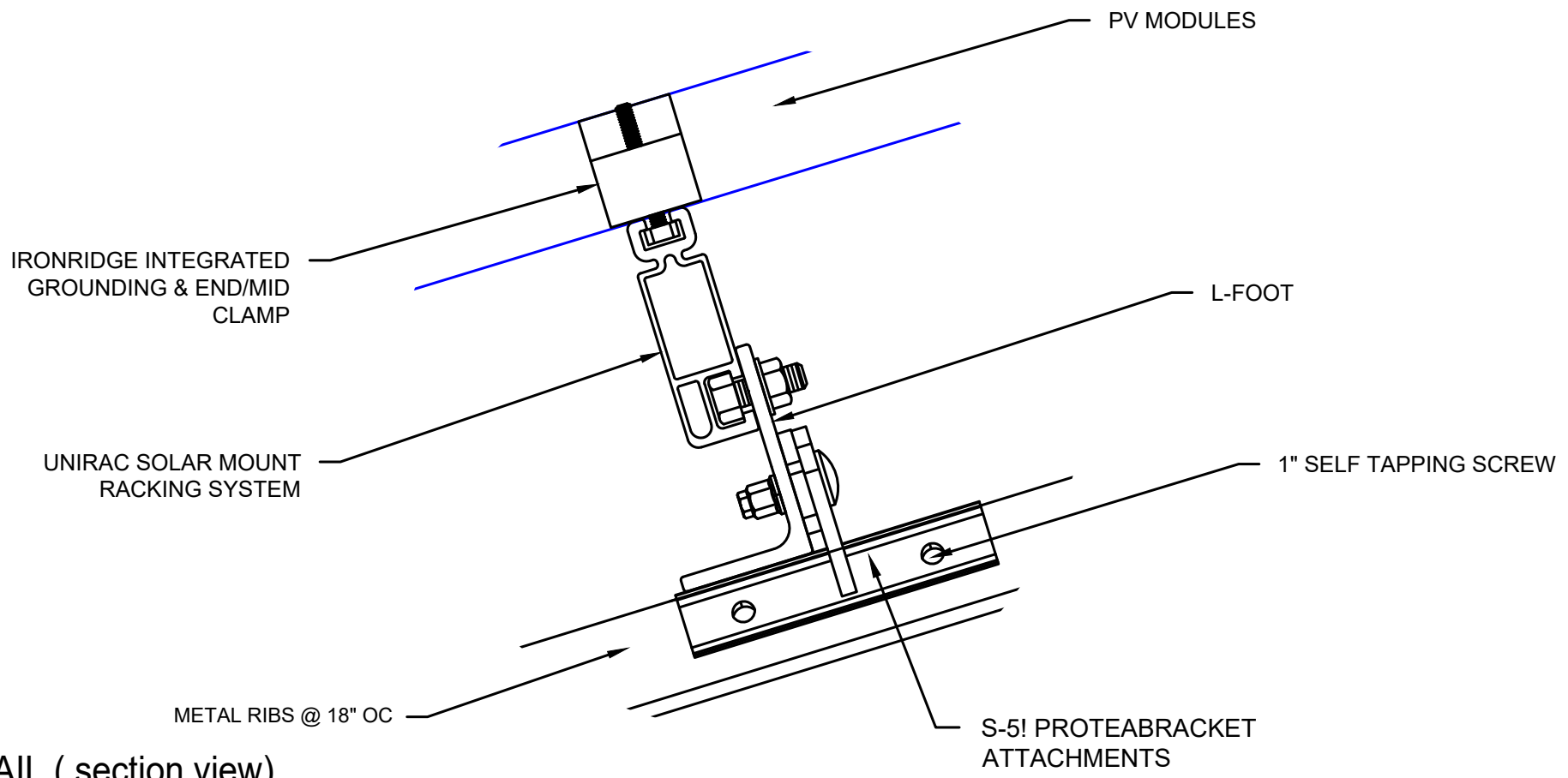
VITAL ENERGY SOLUTIONS

321 SOUTH MAIN ST. #545
SEBASTOPOL, CA 95472
Phone: (707) 326-7785
Lic.: #1114654 C10 C36
email: permits@vitalenergysolar.com

AHJ: CA-COUNTY OF SONOMA	
SHEET NAME	ARRAY LAYOUT
DESIGNER/CHECKED NH/AP	AP
SHEET SIZE	11" X 17"
SHEET NUMBER	S-3.1



1 | ATTACHMENT DETAIL
S-4 | SCALE: 1/8" = 1'-0"



2 | ATTACHMENT DETAIL (section view)
S-4 | SCALE: NTS

REVISIONS		
DESCRIPTION	DATE	REV



VITAL ENERGY
Local Power Solutions

MARIE JAEN

1041 MIDDLE TWO ROCK RD
PETALUMA, CA 94952
APN # 021-050-007-000

CONTRACTOR INFORMATION

VITAL ENERGY SOLUTIONS
321 SOUTH MAIN ST. #545
SEBASTOPOL, CA 95472
Phone: (707) 326-7785
Lic.: #1114654 C10 C36
email: permits@vitalenergysolar.com

AHJ: CA-COUNTY OF SONOMA	
SHEET NAME	MOUNTING DETAIL
DESIGNER/CHECKED NH/AP	AP
SHEET SIZE	11" X 17"
SHEET NUMBER	S-4

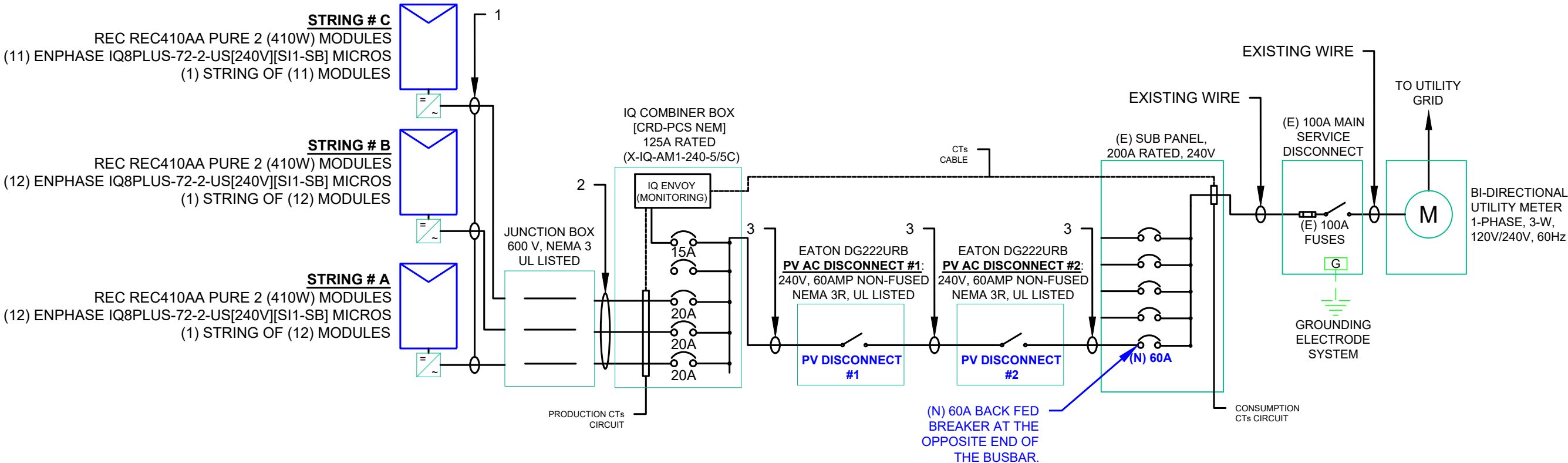
INVERTERS RATINGS	
MAKE	ENPHASE
MODEL	IQ8PLUS-72-2-US[240V][SI1-SB]
MAX POWER (AC)	290W
NOM. AC VOLTAGE	240V
MAX AC CURRENT	1.21A
CEC EFFICIENCY	97%

MODULE SPECS	
MAKE	REC
MODEL	REC410AA PURE 2
Pmax @ STC	410W
Imp	9.86A
Vmp	41.6V
Isc	10.67A
Voc	48.8V

STRING SPECIFICATION (TOTAL 35 MODULES)							
STRING	NO. OF MODULES	STRING LOCATION	Imp	Vmp	Isc	Voc	Pmax
A	12	ARRAY-01	14.52A	240V	14.52A	240V	4920W
B	12	ARRAY-01 & 02	14.52A	240V	14.52A	240V	4920W
C	11	ARRAY-02	13.31A	240V	13.31A	240V	4510W

NOTE:
EACH MICRO INVERTER IS RAPID SHUTDOWN COMPLIANT

SYSTEM SIZE: 14.35 kW DC, 10.15 kW AC



CONDUIT SCHEDULE				
TAG ID	CONDUIT	CONDUCTOR	NEUTRAL	GROUND
1	NONE	ENPHASE Q CABLE		(1) 6 AWG BARE CU
2	3/4" EMT OR EQUIV	(6) 10 AWG THHN/THWN-2	NONE	(1) 10 AWG THHN/THWN-2
3	3/4" EMT OR EQUIV	(2) 6 AWG THHN/THWN-2	(1) 6 AWG THHN/THWN-2	(1) 10 AWG THHN/THWN-2

WIRE SIZE CALCULATIONS									
WIRE RUN	CIRCUIT AMPS (Isc)	I _{max} (required ampacity) Per CEC690.8(A&B) =1.25 X Isc	CONDUCTOR	WIRE AMPACITY (AMPS) @ 90°C	NO. OF CURRENT CONDUCTORS	EXPECTED WIRE TEMPERATURE	TERMINAL TEMP RATING	AMPACITY @ TERMINAL TEMP RATING	DERATED AMPACITY = TEMP. CORRECTION PER TABLE (310.15(B)(2)(a)(TYP.))X CONDUIT FILL CORRECTION PER CEC 310.15(B)(3)(a) X CIRCUIT CONDUCTOR AMPACITY @ 90°C
PV STRING A-B TO IQ COMBINER BOX	14.52A	14.52 X 1.25 = 18.15A	#10 AWG THWN-2	40A	4-6	34°	75°C	35A	0.96 X 0.8 X 40A = 30.72A > I _{max}
PV STRING C TO IQ COMBINER BOX	13.31A	13.31 X 1.25 = 16.64A	#10 AWG THWN-2	40A	4-6	34°	75°C	35A	0.96 X 0.8 X 40A = 30.72A > I _{max}
IQ COMBINER BOX TO POI	42.35A	42.35 X 1.25 = 52.94A	#6 AWG THWN-2	75A	1-3	34°	75°C	65A	0.96 X 1.0 X 75A = 72A > I _{max}

ELECTRICAL NOTES:

- 1.) CONDUCTORS EXPOSED TO SUNLIGHT SHALL BE LISTED AS SUNLIGHT RESISTANT PER CEC 310.0(D).
- 2.) CONDUCTORS EXPOSED TO WET LOCATIONS SHALL BE SUITABLE FOR USE IN WET LOCATIONS PER CEC 310.8(C).
- 3.) MAXIMUM DC/AC VOLTAGE DROP SHALL BE NO MORE THAN 2%.
- 4.) ALL CONDUCTORS SHALL BE IN CONDUIT UNLESS OTHERWISE NOTED.
- 5.) BREAKER/FUSE SIZES CONFORMS TO CEC 240.6 CODE SECTION.
- 6.) AC GROUNDING ELECTRODE CONDUCTOR SIZED PER CEC 250.66.
- 7.) AMBIENT TEMPERATURE CORRECTION, FACTOR IS BASED ON CEC 690.31(C).
- 8.) MAX. SYSTEM VOLTAGE CORRECTION IS PER CEC 690.7.
- 9.) CONDUCTORS ARE SIZED PER WIRE AMPACITY TABLE CEC 310.16.

REVISIONS		
DESCRIPTION	DATE	REV



PROJECT NAME & ADDRESS	
MARIE JAEN	1041 MIDDLE TWO ROCK RD PETALUMA, CA 94952 APN # 021-050-007-000

CONTRACTOR INFORMATION	
VITAL ENERGY SOLUTIONS	
321 SOUTH MAIN ST. #545 SEBASTOPOL, CA 95472 Phone: (707) 326-7785 Lic.: #1114654 C10 C36 email: permits@vitalenergysolar.com	

AHJ: CA-COUNTY OF SONOMA	
SHEET NAME	ELECTRICAL
DESIGNER/CHECKED NH/AP	AP
SHEET SIZE	11" X 17"
SHEET NUMBER	S-5

INSTALL ON THE UTILITY METER

WARNING

THIS SERVICE METER
IS ALSO SERVED BY A
PHOTOVOLTAIC SYSTEM

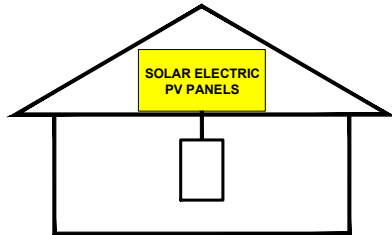
INSTALL ON THE MAIN BREAKER PANEL

CAUTION: SOLAR ELECTRIC
SYSTEM CONNECTED

WARNING

TURN OFF PHOTOVOLTAIC
AC DISCONNECT PRIOR TO
WORKING INSIDE PANEL

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.

 **WARNING** DUAL POWER SOURCE
SECOND SOURCE IS PHOTOVOLTAIC SYSTEM

MAIN PANEL UPGRADE AVOIDNCE
WITH BUSBAR OVERLOAD CONTROL
PCS (POWER CONTROL SYSTEM)

PCS CONTROLLED CURRENT: 160Amps

INSTALL ON THE AC DISCONNECT

PHOTOVOLTAIC SYSTEM
AC DISCONNECT

OPERATING VOLTAGE 240 VOLTS
OPERATING CURRENT 42.35 AMPS

PV SYSTEM DISCONNECT FOR
UTILITY OPERATION

WARNING

ELECTRIC SHOCK HAZARD

DO NOT TOUCH TERMINALS
TERMINALS ON BOTH THE LINE AND
LOAD SIDES MAY BE ENERGIZED
IN THE OPEN POSITION

INSTALL NEXT TO PV BREAKER

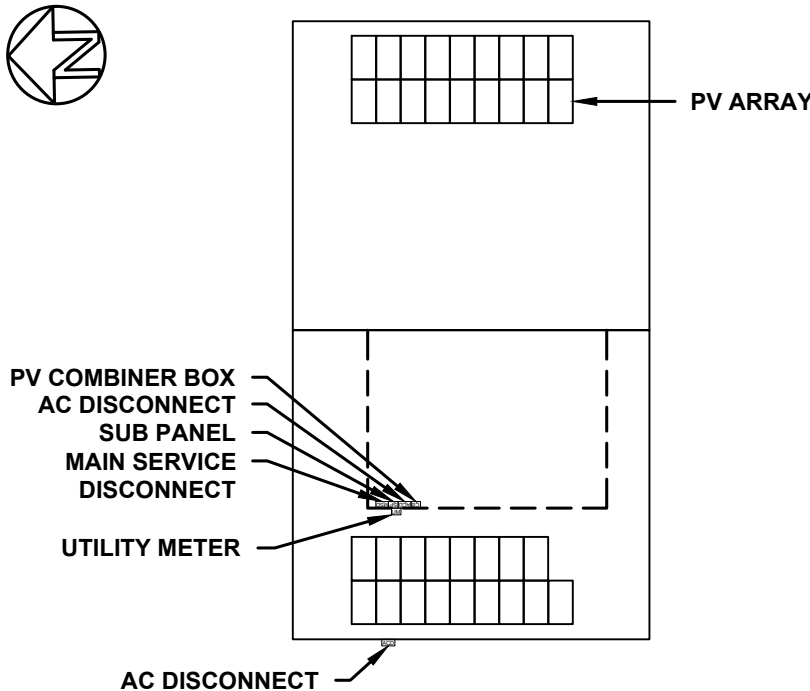
WARNING
POWER SOURCE OUTPUT CONNECTION DO
NOT RELOCATE THIS OVERCURRENT
DEVICE

INSTALL ON THE PV COMBINER PANEL

NOTICE
PV SYSTEM COMBINER PANEL
DO NOT ADD LOADS TO THIS PANEL

CAUTION

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



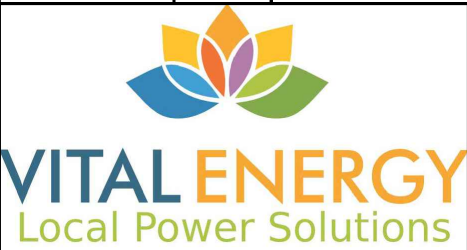
1041 MIDDLE TWO ROCK RD, PETALUMA, CA 94952

LABEL LOCATION:
POINT OF INTERCONNECTION
[PER CODE: CEC705.10]

- ADHESIVE FASTENED SIGNS:
- THE LABEL SHALL BE SUITABLE FOR THE ENVIRONMENT WHERE IT IS INSTALLED.
 - WHERE REQUIRED ELSEWHERE IN THIS CODE, ALL FIELD APPLIED LABELS, WARNINGS, AND MARKINGS SHOULD COMPLY WITH ANSI Z535.4 [CEC 110.21(B) FIELD MARKING].
 - ADHESIVE FASTENED SIGNS MAY BE ACCEPTABLE IF PROPERLY ADHERED. VINYL SIGNS SHALL BE WEATHER RESISTANT [CFC 605.11.1.3]

SIGNAGE FORMAT: ALL LETTERS SHALL BE CAPITALIZED, 3/8" WHITE LETTERING ON RED BACKGROUND, ARIAL OR SIMILAR FONT, NON-BOLD; REFLECTIVE, ON WEATHER-RESISTANT MATERIAL SUITABLE FOR THE ENVIRONMENT (USE UL-969 AS STANDARD FOR WEATHER RATING) WILL BE USED; DURABLE ADHESIVE MATERIALS MEET THIS REQUIREMENT.

REVISIONS		
DESCRIPTION	DATE	REV



PROJECT NAME & ADDRESS		
MARIE JAEN	1041 MIDDLE TWO ROCK RD	APN # 021-050-007-000
	PETALUMA, CA 94952	

CONTRACTOR INFORMATION	
VITAL ENERGY SOLUTIONS	
321 SOUTH MAIN ST. #545 SEBASTOPOL, CA 95472 Phone: (707) 326-7785 Lic.: #1114654 C10 C36 email: permits@vitalenergysolar.com	

AHJ: CA-COUNTY OF SONOMA	
SHEET NAME	PLACARDS
DESIGNER/CHECKED NH/AP	AP
SHEET SIZE	11" X 17"
SHEET NUMBER	S-6

REC ALPHA[®]
PURE 2 SERIES
PRODUCT SPECIFICATIONS

SOLAR'S MOST TRUSTED



COMPACT PANEL SIZE

420 WP
20.1 $\frac{W}{ft^2}$
21.7% EFFICIENCY

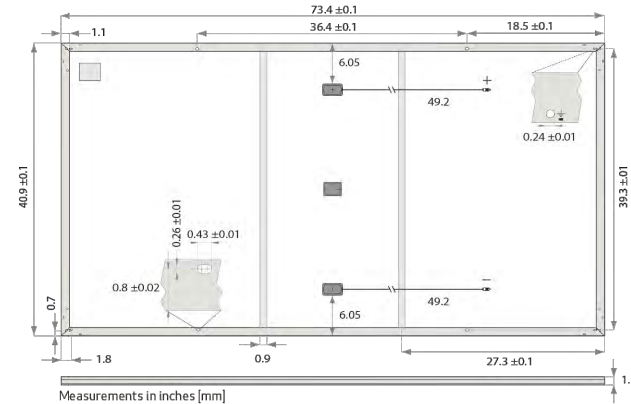


REC ALPHA PURE 2 SERIES
PRODUCT SPECIFICATIONS



GENERAL DATA

Cell type:	132 half-cut REC heterojunction cells with lead-free, gapless technology, 6 strings of 22 cells in series
Glass:	0.12 in solar glass with anti-reflective surface treatment in accordance with EN 12150
Backsheet:	Highly resistant polymer (black)
Frame:	Anodized aluminum (black)
Junction box:	3-part, 3 bypass diodes, lead-free IP68 rated, in accordance with IEC 62790
Connectors:	Stäubli MC4 PV-KBT4/KST4 (12 AWG) in accordance with IEC 62852, IP68 only when connected
Cable:	12 AWG solar cable, 49.2 + 49.2 in in accordance with EN 50618
Dimensions:	73.4 x 40.9 x 1.2 in (20.88 sq-ft)
Weight:	47.6 lbs (21.6 kg)
Origin:	Made in Singapore



ELECTRICAL DATA

Product Code*: RECxxxAA PURE 2

	400	410	420	430
Power Output - P_{MAX} (Wp)	400	410	420	430
Watt Class Sorting - (W)	0/+10	0/+10	0/+10	0/+10
Nominal Power Voltage - V_{MPP} (V)	41.1	41.6	42.2	42.8
Nominal Power Current - I_{MPP} (A)	9.74	9.86	9.96	10.05
Open Circuit Voltage - V_{OC} (V)	48.5	48.8	49.1	49.3
Short Circuit Current - I_{SC} (A)	10.60	10.67	10.74	10.81
Power Density (W/ft^2)	19.2	19.6	20.1	20.6
Panel Efficiency (%)	20.6	21.1	21.7	22.2
Power Output - P_{MAX} (Wp)	304	312	320	327
Nominal Power Voltage - V_{MPP} (V)	38.7	39.2	39.8	40.3
Nominal Power Current - I_{MPP} (A)	7.86	7.96	8.05	8.12
Open Circuit Voltage - V_{OC} (V)	45.7	45.8	46.0	46.2
Short Circuit Current - I_{SC} (A)	8.50	8.62	8.68	8.73

Values at standard test conditions (STC: air mass AM1.5, irradiance 1075 W/sq ft (1000 W/m²), temperature 77°F (25°C), based on a production spread with a tolerance of P_{MAX} , V_{OC} & I_{SC} +3% within one watt class. Nominal module operating temperature (NMOT: air mass AM1.5, irradiance 800 W/m², temperature 68°F (20°C), windspeed 3.3 ft/s (1 m/s). *Where xxx indicates the nominal power class (P_{NOM}) at STC above.

MAXIMUM RATINGS

Operational temperature:	-40...+85°C
System voltage:	1000 V
Test load (front):	+7000 Pa (146 lbs/ft ²)
Test load (rear):	-4000 Pa (83.5 lbs/ft ²)
Series fuse rating:	25 A
Reverse current:	25 A

*See installation manual for mounting instructions.
Design load = Test load / 1.5 (safety factor)

WARRANTY

	Standard	REC ProTrust
Installed by an REC Certified Solar Professional	No	Yes
System Size	All	<25 kW 25-500 kW
Product Warranty (yrs)	20	25
Power Warranty (yrs)	25	25
Labor Warranty (yrs)	0	25
Power in Year 1	98%	98%
Annual Degradation	0.25%	0.25%
Power in Year 25	92%	92%

See warranty documents for details. Conditions apply

Available from:

Founded in 1996, REC Group is an international pioneering solar energy company dedicated to empowering consumers with clean, affordable solar power. As Solar's Most Trusted, REC is committed to high quality, innovation, and a low carbon footprint in the solar materials and solar panels it manufactures. Headquartered in Norway with operational headquarters in Singapore, REC also has regional hubs in North America, Europe, and Asia-Pacific.

CERTIFICATIONS

IEC 61215:2016, IEC 61730:2016, UL 61730
IEC 62804 PID
IEC 61701 Salt Mist
IEC 62716 Ammonia Resistance
UL 61730 Fire Type 2
IEC 62782 Dynamic Mechanical Load
IEC 61215-2:2016 Hailstone (35mm)
IEC 62321 Lead-free acc. to RoHS EU 863/2015
ISO 14001, ISO 9001, IEC 45001, IEC 62941



TEMPERATURE RATINGS*

Nominal Module Operating Temperature:	44°C (±2°C)
Temperature coefficient of P_{MAX} :	-0.24 %/°C
Temperature coefficient of V_{OC} :	-0.24 %/°C
Temperature coefficient of I_{SC} :	0.04 %/°C

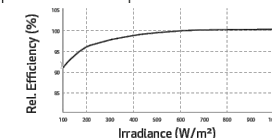
*The temperature coefficients stated are linear values

DELIVERY INFORMATION

Panels per pallet:	33
Panels per 40 ft GP/high cube container:	792 (24 pallets)
Panels per 53 ft truck:	858 (26 pallets)

LOW LIGHT BEHAVIOUR

Typical low irradiance performance of module at STC:



Ref: PD-DS-AAPR Rev1.4 06.23 Specifications subject to change without notice.

REC Solar PTE. LTD.
20 Tuas South Ave. 14
Singapore 637312
post@recgroup.com
www.recgroup.com



REVISIONS

DESCRIPTION	DATE	REV



VITAL ENERGY
Local Power Solutions

PROJECT NAME & ADDRESS

MARIE JAEN

1041 MIDDLE TWO ROCK RD
PETALUMA, CA 94952

APN # 021-050-007-000

CONTRACTOR INFORMATION

VITAL ENERGY SOLUTIONS

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SEBASTOPOL, CA 95472
Phone: (707) 326-7785
Lic.: #1114654 C10 C36
email: permits@vitalenergysolar.com

AHJ: CA-COUNTY OF SONOMA

SHEET NAME

SPECS SHEET

DESIGNER/CHECKED NH/AP

SHEET SIZE

11" X 17"

SHEET NUMBER

S-7



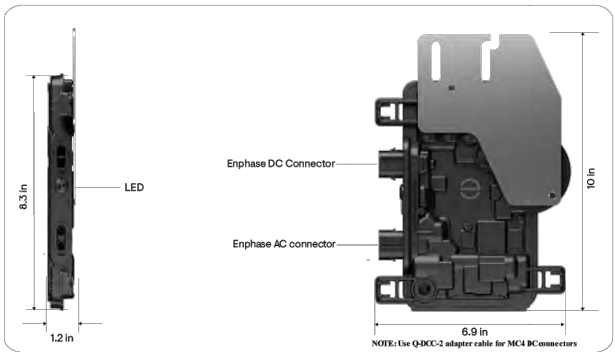
NORTH AMERICA DATA SHEET

IQ8 and IQ8+ Microinverters

Our newest IQ8 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	IQ8-60-2-US	IQ8PLUS-72-2-US
Peak output power	245 VA	300 VA
Nominal grid voltage (L-L)	240 V, split-phase (L-L), 180°	
Nominal frequency	60 Hz	60 Hz
CEC weighted efficiency	97%	97%
Maximum input DC voltage	50 V	60 V
MPPT voltage range	27-37 V	27-45 V
Maximum module I _{sc}	20 A	20 A
Ambient temperature range	-40°C to 60°C (-40°F to 140°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/10T 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.
⁵ IQ8 and IQ8+ support split-phase, 240 V installations only.



Simple

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



Reliable

- Produce 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 high-powered PV modules



Microgrid-forming

- Compliant with the latest advanced grid support⁵
- 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.)

Input data (DC)	Units	IQ8-60-2-US	IQ8PLUS-72-2-US
Commonly used module pairings ⁶	W	235-350	235-440
Module compatibility	—	To meet compatibility, PV modules must be within maximum input DC voltage and maximum module I _{sc} . Module compatibility can be checked at https://enphase.com/installers/microinverters/calculator .	
MPPT voltage range	V	27-37	27-45
Operating range	V	16-48	16-58
Minimum/Maximum start voltage	V	22/48	22/58
Maximum input DC voltage	V	50	60
Maximum continuous input DC current	A	10	12
Maximum input DC short-circuit current	A	25	
Maximum module I _{sc}	A	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 20 A per branch circuit.

Output data (AC)	Units	IQ8-60-2-US	IQ8PLUS-72-2-US
Peak output power	VA	245	300
Maximum continuous output power	VA	240	290
Nominal grid voltage (L-L)	V	240, split-phase (L-L), 180°	
Minimum and Maximum grid voltage ⁷	V	211-264	
Maximum continuous output current	A	1.0	1.21
Nominal frequency	Hz	60	
Extended frequency range	Hz	47-68	
AC short-circuit fault current over three cycles	Arms	2	
Maximum units per 20 A (L-L) branch circuit ⁸	—	16	13
Total harmonic distortion	%	<5	
Overvoltage class AC port	—	III	
AC port backfeed current	mA	30	
Power factor setting	—	1.0	
Grid-tied power factor (adjustable)	—	0.85 leading ... 0.85 lagging	
Peak efficiency	%	97.7	
CEC weighted efficiency	%	97	
Nighttime power consumption	mW	23	25

Mechanical data	IQ8-60-2-US	IQ8PLUS-72-2-US
Ambient temperature range	-40°C to 60°C (-40°F to 140°F)	

⁶ No enforced DC/AC ratio.
⁷ Nominal voltage range can be extended beyond nominal if required by the utility.
⁸ Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.



VITAL ENERGY
Local Power Solutions

PROJECT NAME & ADDRESS

MARIE JAEN

1041 MIDDLE TWO ROCK RD
PETALUMA, CA 94952
APN # 021-050-007-000

CONTRACTOR INFORMATION

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Lic.: #1114654 C10 C36
email: permits@vitalenergysolar.com

AHJ: CA-COUNTY OF SONOMA

SHEET NAME

SPECS SHEET

DESIGNER/CHECKED NH/AP

SHEET SIZE

11" X 17"

SHEET NUMBER

S-8

Mechanical data	IQ8-60-2-US	IQ8PLUS-72-2-US
Relative humidity range	4% to 100% (condensing)	
DC connector type	MC4	
Dimensions (H × W × D)	212 mm (8.3 in) × 175 mm (6.9 in) × 30.2 mm (1.2 in)	
Weight	1.08 kg (2.38 lb)	
Cooling	Natural convection–no fans	
Approved for wet locations	Yes	
Pollution degree	PD3	
Enclosure	Class II double-insulated, corrosion-resistant polymeric enclosure	
Environmental category/UV exposure rating	NEMA Type 6/Outdoor	
Compliance	IQ8-60-2-US	IQ8PLUS-72-2-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.	

DSH-00207-4.0-EN-2024-12-10

Components of the Enphase Energy System



IQ Battery

All-in-one AC-coupled storage solution that integrates seamlessly with your solar energy system, providing reliable backup power and intelligent energy management for maximum performance and energy savings.



IQ System Controller

The IQ System Controller connects the home to the grid power, IQ Batteries, generator and solar PV with microinverters.



IQ Combiner/IQ Gateway

The IQ Combiner/IQ Gateway is a device that performs energy management, provides internet connectivity, and integrates with the IQ Series Microinverters to provide complete control and insights into the Enphase Energy System.



IQ Cable

The IQ Cable is a continuous-length 12-AWG cable with pre-installed connectors for IQ Microinverters that support faster, simpler, and more reliable installations. The cable is handled like standard outdoor-rated electrical wire, allowing it to be cut, spliced, and extended as needed.

DSH-00207-4.0-EN-2024-12-10



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SHEET SIZE

11" X 17"

SHEET NUMBER

S-9



DATA SHEET



X-IQ-AM1-240-5-HDK
X-IQ-AM1-240-5C-HDK
X-IQ-AM1-240-5
X-IQ-AM1-240-5C

IQ Combiner 5/5C

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 3/3G and IQ Battery 5P.

The IQ Combiner 5/5C, IQ Series Microinverters, IQ System Controller 3/3G, and IQ Battery 5P provide a complete grid-agnostic Enphase Energy System.



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



IQ Battery 5P
Fully integrated AC battery system. Includes six field-replaceable IQ8D-BAT Microinverters.



IQ System Controller 3/3G
Provides microgrid interconnection device (MID) functionality by automatically detecting grid failures and seamlessly transitioning the home energy system from grid power to backup power.



IQ Load Controller
Helps prioritize essential appliances during a grid outage to optimize energy consumption and prolong battery life.



5-year limited warranty



*For country-specific warranty information, see the <https://enphase.com/installers/resources/warranty> page.

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IQC-5-5C-DSH-00007-6.0-EN-US-2024-09-30

IQ Combiner 5/5C

MODEL NUMBER	
IQ Combiner 5 (X-IQ-AM1-240-5/ X-IQ-AM1-240-5-HDK)	IQ Combiner 5 with IQ Gateway printed circuit board for integrated revenue-grade PV production metering (ANSI C12.20 ±0.5%), consumption monitoring (±2.5%), and IQ Battery monitoring (±2.5%). Includes a silver solar shield to deflect heat. IQ-AM1-240-5-HDK includes a factory installed hold-down kit compatible with all the circuit breakers mentioned in the Accessories and Replacement Parts section.
IQ Combiner 5C (X-IQ-AM1-240-5C / X-IQ-AM1-240-5C-HDK)	IQ Combiner 5C with IQ Gateway printed circuit board for integrated revenue-grade PV production metering (ANSI C12.20 ±0.5%), consumption monitoring (±2.5%), and IQ Battery monitoring (±2.5%). Includes Enphase Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05) ¹ . Includes a silver solar shield to deflect heat. IQ-AM1-240-5C-HDK includes a factory installed hold-down kit compatible with all the circuit breakers mentioned in the Accessories and Replacement Parts section.
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 Energy System
Busbar	80 A busbar with support for one IQ Gateway breaker and four 20 A breakers for installing IQ Series Microinverters and IQ Battery 5P
IQ Gateway breaker	Circuit breaker, 2-pole, 10 A/15 A
Production CT	Pre-wired revenue-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 3/3G and the IQ Battery 5P
Enphase Mobile Connect (only with IQ Combiner 5C)	4G-based LTE-M1 cellular modem (CELLMODEM-M1-06-SP-05) with a 5-year T-Mobile data plan
Accessories kit	Spare control headers for the COMMS-KIT-2 board
ACCESSORIES AND REPLACEMENT PARTS (NOT INCLUDED, ORDER SEPARATELY)	
CELLMODEM-M1-06-SP-05	4G-based LTE-M1 cellular modem with a 5-year T-Mobile data plan
CELLMODEM-M1-06-AT-05	4G-based LTE-M1 cellular modem with a 5-year AT&T data plan
Circuit breakers (off-the-shelf)	Supports Eaton BR2XX, Siemens Q2XX, and GE/ABB THQL21XX Series circuit breakers (XX represents 10, 15, 20, 30, 40, 50, or 60). Also supports Eaton BR220B, BR230B, and BR240B circuit breakers compatible with the 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 the “Accessories” section)
XA-SOLARSHIELD-ES	Replacement solar shield for IQ Combiner 5/5C
XA-ENV2-PCBA-5	IQ Gateway replacement printed circuit board (PCB) for IQ Combiner 5/5C
X-IQ-NA-HD-125A	Hold-down kit compatible with Eaton BR-B Series circuit breakers (with screws). Not required for X-IQ-AM1-240-5-HDK/X-IQ-AM1-240-5C-HDK.
XA-COMMS2-PCBA-5	Replacement COMMS-KIT-2 printed circuit board (PCB) for IQ Combiner 5/5C
ELECTRICAL SPECIFICATIONS	
Rating	80 A
System voltage and frequency	120/240 VAC or 120/208 VAC, 60 Hz
Busbar rating	125 A
Fault current rating	10 kAIC
Maximum continuous current rating (input from PV/storage)	64 A
Branch circuits (solar and/or storage)	Up to four 2-pole Eaton BR, Siemens Q, or GE/ABB THQL Series distributed generation (DG) breakers only (not included)
Maximum total branch circuit breaker rating (input)	80 A of distributed generation/95 A with 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

¹ A plug-and-play industrial-grade cell modem for systems of up to 60 microinverters. Available in the United States, Canada, Mexico, Puerto Rico, and the US Virgin Islands, where there is adequate cellular service in the installation area.

IQC-5-5C-DSH-00007-6.0-EN-US-2024-09-30



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AHJ: CA-COUNTY OF SONOMA

SHEET NAME

SPECS SHEET

DESIGNER/CHECKED NH/AP

SHEET SIZE

11" X 17"

SHEET NUMBER

S-10

ACCESSORIES AND REPLACEMENT PARTS (NOT INCLUDED, ORDER SEPARATELY)

Consumption monitoring CT (CT-200-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

MECHANICAL DATA

Dimensions (W × H × D)	37.5 cm × 49.5 cm × 16.8 cm (14.75" × 19.5" × 6.63"). Height is 53.5 cm (21.06") with mounting brackets.
Weight	7.5 kg (16.5 lb)
Ambient temperature range	-40°C to 46°C (-40°F to 115°F)
Cooling	Natural convection, plus heat shield
Enclosure environmental rating	Outdoor, NRTL-certified, NEMA type 3R, 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-premise connectivity)	Built-in CTRL board for wired communication with the IQ Battery 5P and the IQ System Controller 3/3G. Integrated power line communication for IQ Series Microinverters.
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Altitude	Up to 2,600 meters (8,530 feet)
----------	---------------------------------

COMMUNICATION INTERFACES

Integrated Wi-Fi	802.11b/g/n (dual band 2.4 GHz/5 GHz) for connecting the Enphase Cloud through the internet.
Wi-Fi range (recommended)	10 m (32.8 feet)
Bluetooth	BLE4.2, 10 m range to configure Wi-Fi SSID
Ethernet	Optional, 802.3, Cat5E (or Cat 6) UTP Ethernet cable (not included) for connecting to the Enphase Cloud through the internet.
Cellular/Mobile Connect	CELLMODEM-M1-06-SP-05 or CELLMODEM-M1-06-AT-05 (included with the IQ Combiner 5C)
Digital I/O	Digital input/output for grid operator control
USB 2.0	Mobile Connect, COMMS-KIT-01 for IQ Battery 3/3T/10/10T, COMMS-KIT-02 for IQ Battery 5P
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	90–110 kHz
Web API	See https://developer-v4.enphase.com
Local API	See Guide for local API

COMPLIANCE

IQ Combiner with IQ Gateway	UL 1741, CAN/CSA C22.2 No. 107.1, Title 47 CFR, Part 15, Class B, ICES 003, NOM-208-SCFI-2016, UL 61010-1, CAN/CSA 22.2 No. 61010-1, IEEE 1547: 2018 (UL 1741-SB, 3rd Ed.), IEEE 2030.5/CSIP Compliant, Production metering: ANSI C12.20 accuracy class 0.5 (PV production)
-----------------------------	---

COMPATIBILITY

PV	Microinverters	IQ6, IQ7, and IQ8 Series Microinverters
COMMS-KIT-01 ²	IQ System Controller	EP200G101-M240US00
	IQ System Controller 2	EP200G101-M240US01
	IQ Battery	ENCHARGE-3-1P-NA, ENCHARGE-10-1P-NA, ENCHARGE-3T-1P-NA, ENCHARGE-10T-1P-NA
COMMS-KIT-02 ³	IQ System Controller 3	SC200D111C240US01, SC200G111C240US01
	IQ Battery	IQBATTERY-5P-1P-NA

² For information about IQ Combiner 5/5C compatibility with the 2nd-generation batteries, refer to the [compatibility matrix](#).

³ IQ Combiner 5/5C comes pre-equipped with COMMS-KIT-02.

Accessories

Mobile Connect



4G-based LTE-M1 cellular modem with a 5-year data plan (CELLMODEM-M1-06-SP-05 for T-Mobile and CELLMODEM-M1-06-AT-05 for AT&T)

Circuit breakers



BRK-10A-2-240V Circuit breaker, 2-pole, 10 A, Eaton BR210
BRK-15A-2-240V Circuit breaker, 2-pole, 15 A, Eaton BR215
BRK-20A-2P-240V Circuit breaker, 2-pole, 20 A, Eaton BR220
BRK-15A-2P-240V-B Circuit breaker, 2-pole, 15 A, Eaton BR215B with hold-down kit support
BRK-20A-2P-240V-B Circuit breaker, 2-pole, 20 A, Eaton BR220B with hold-down kit support

CT-200-SOLID



200 A revenue-grade solid-core Production CT with <0.5% error rate (replacement SKU)



CT-200-CLAMP

200 A clamp-style consumption and battery metering CT with <2.5% error rate (replacement SKU)



VITAL ENERGY
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AHJ: CA-COUNTY OF SONOMA

SHEET NAME

SPECS SHEET

DESIGNER/CHECKED NH/AP

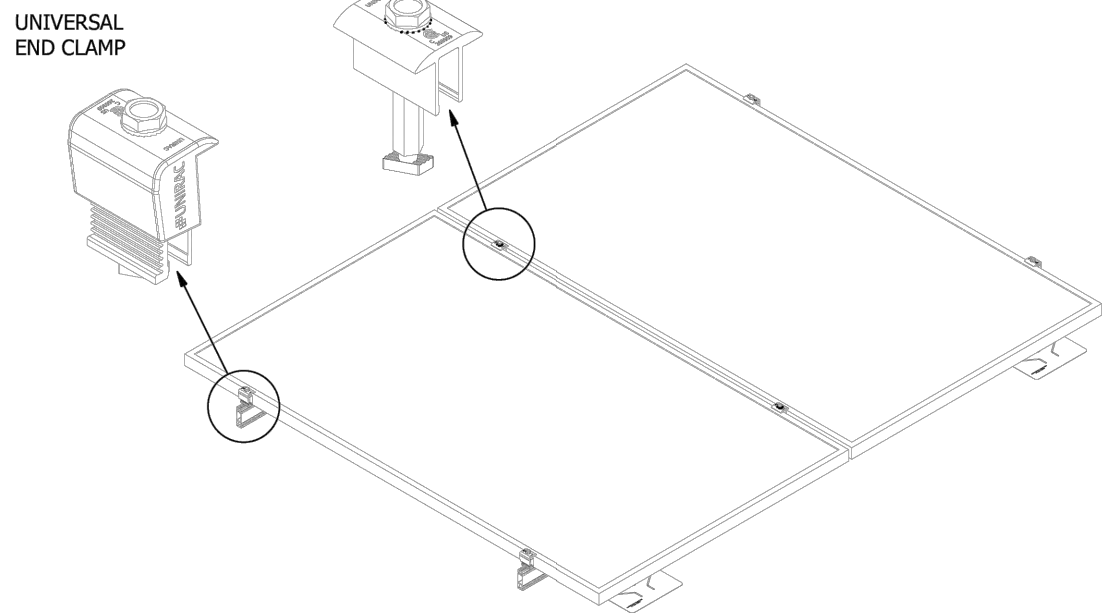
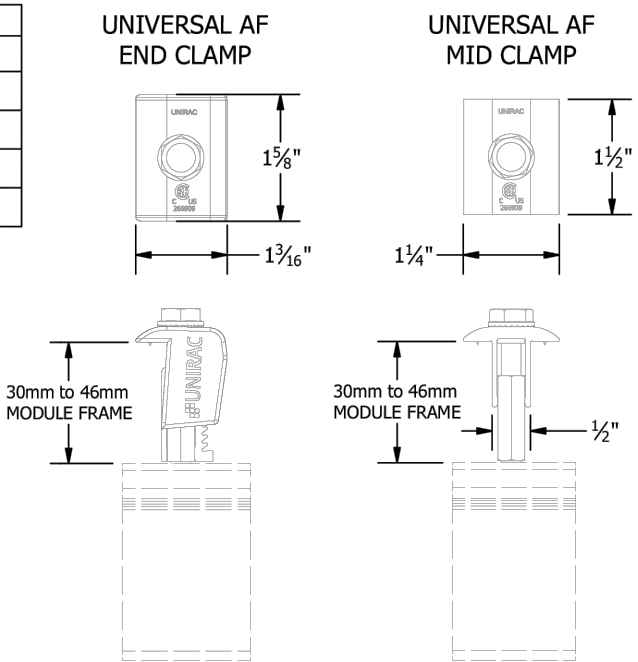
SHEET SIZE

11" X 17"

SHEET NUMBER

S-11

PART # TABLE	
P/N	DESCRIPTION
302045M	UNIVERSAL AF MID CLAMP - MILL
302045D	UNIVERSAL AF MID CLAMP - DRK
302050M	UNIVERSAL AF END CLAMP - MILL
302050D	UNIVERSAL AF END CLAMP - DRK

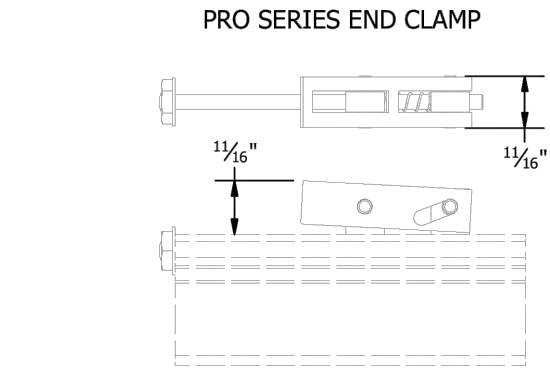


1411 BROADWAY BLVD. NE
ALBUQUERQUE, NM 87102 USA
PHONE: 505.242.6411
WWW.UNIRAC.COM

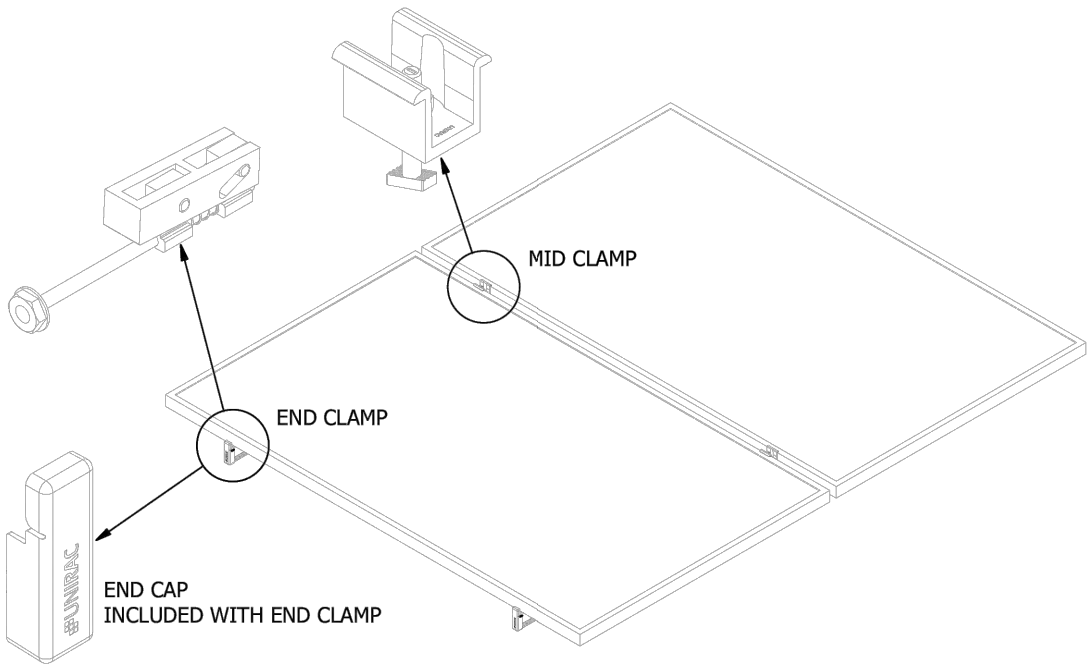
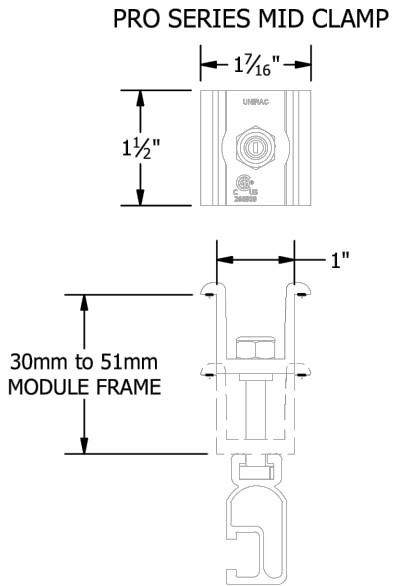
PRODUCT LINE:	SOLARMOUNT
DRAWING TYPE:	PART & ASSEMBLY
DESCRIPTION:	UNIVERSAL AF CLAMPS
REVISION DATE:	9/28/2020

DRAWING NOT TO SCALE ALL DIMENSIONS ARE NOMINAL
PRODUCT PROTECTED BY ONE OR MORE US PATENTS
LEGAL NOTICE

SM-A01B
SHEET



PART # TABLE	
P/N	DESCRIPTION
302035M	ENDCLAMP PRO
302030M	MIDCLAMP PRO - MILL
302030D	MIDCLAMP PRO - DRK



1411 BROADWAY BLVD. NE
ALBUQUERQUE, NM 87102 USA
PHONE: 505.242.6411
WWW.UNIRAC.COM

PRODUCT LINE:	SOLARMOUNT
DRAWING TYPE:	PART & ASSEMBLY
DESCRIPTION:	PRO SERIES BONDING CLAMPS
REVISION DATE:	10/26/2017

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SM-A01
SHEET

VITAL ENERGY
Local Power Solutions

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PROJECT NAME & ADDRESS

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AHJ: CA-COUNTY OF SONOMA

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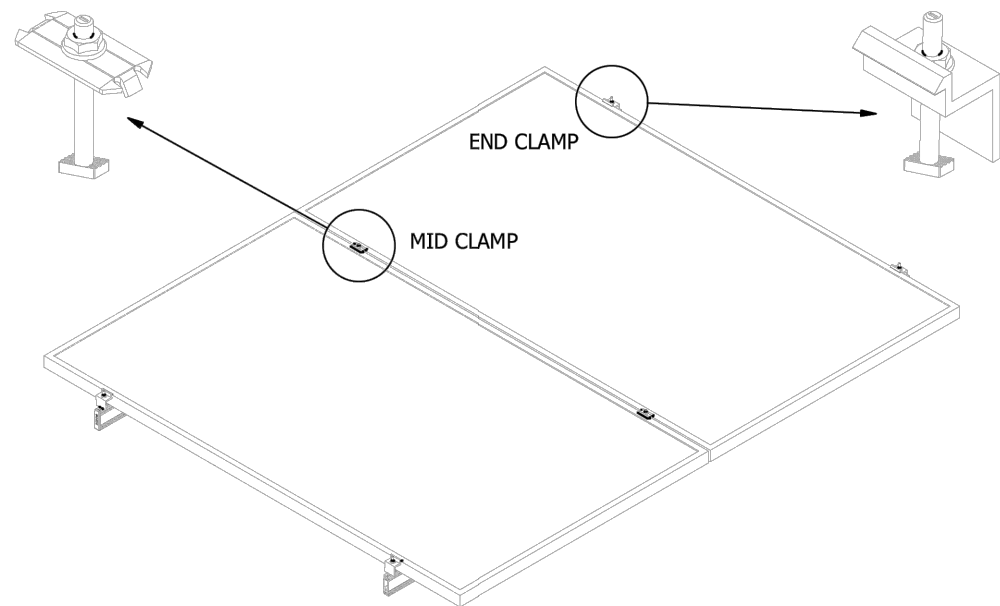
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SHEET SIZE

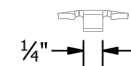
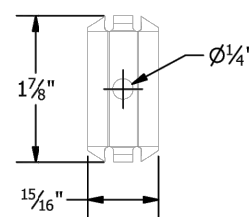
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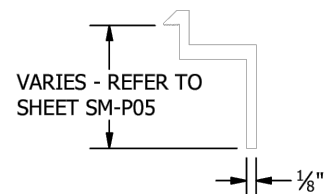
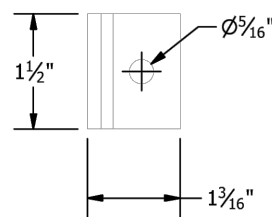
S-12



PART # TABLE	
P/N	DESCRIPTION
302027C	SM BND MIDCLAMP BC SS
302027D	SM BND MIDCLAMP BC DRK SS
302028C	SM BND MIDCLAMP EF SS
302028D	SM BND MIDCLAMP EF DRK SS
302029C	SM BND MIDCLAMP DK SS
302029D	SM BND MIDCLAMP DK DRK SS
FOR BONDING END CLAMP REFER TO SHEET SM-P05	



BONDING SM MID CLAMP



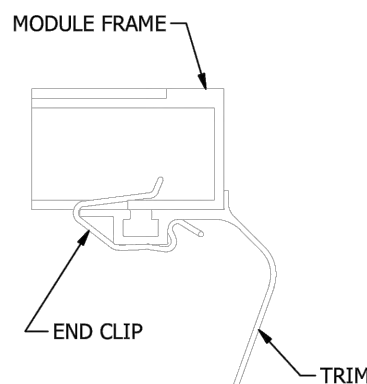
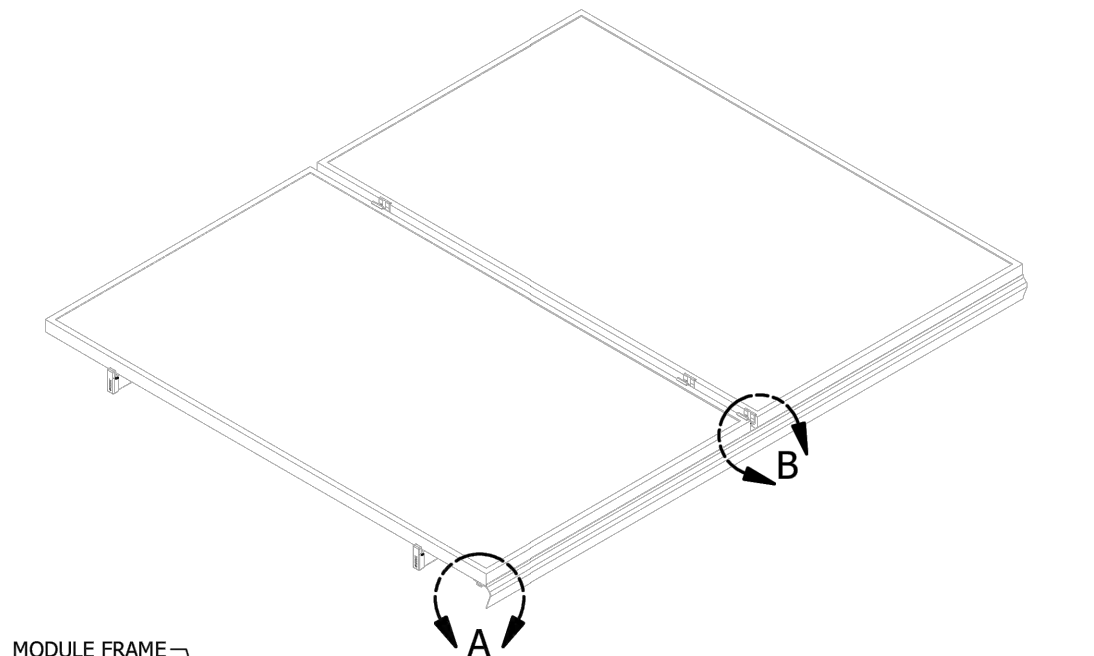
BONDING SM END CLAMP

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1411 BROADWAY BLVD. NE
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PHONE: 505.242.6411
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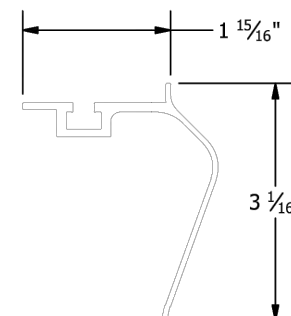
PRODUCT LINE:	SOLARMOUNT
DRAWING TYPE:	PART & ASSEMBLY
DESCRIPTION:	BONDING TOP CLAMPS
REVISION DATE:	10/26/2017

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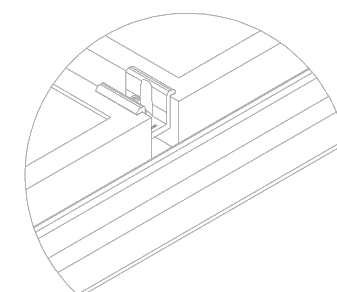
SM-A01A
SHEET



DETAIL A
TRIM END CLIP



TRIM



DETAIL B
MID CLAMP TRIM CONNECTION

PART # TABLE		
P/N	DESCRIPTION	LENGTH
206072D-B	SM TRIM DRK	168"
008025S	SM TRIM END CLIP	-

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1411 BROADWAY BLVD. NE
ALBUQUERQUE, NM 87102 USA
PHONE: 505.242.6411
WWW.UNIRAC.COM

PRODUCT LINE:	SOLARMOUNT
DRAWING TYPE:	PART & ASSEMBLY
DESCRIPTION:	SM TRIM END CLIP
REVISION DATE:	9/27/2017

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SM-A02
SHEET



PROJECT NAME & ADDRESS

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SPECS SHEET

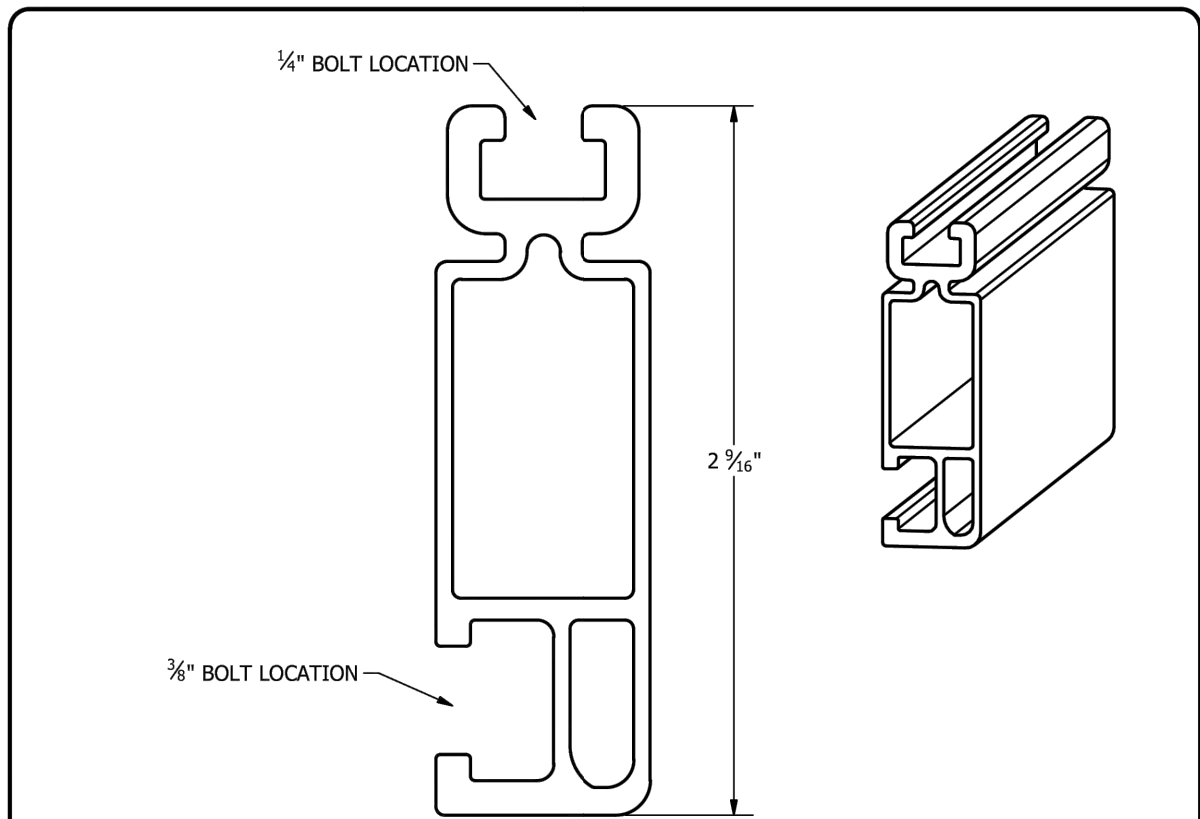
DESIGNER/CHECKED NH/AP

SHEET SIZE

11" X 17"

SHEET NUMBER

S-13



PART # TABLE		
P/N	DESCRIPTION	LENGTH
320132M	SM RAIL 132" MILL	132"
310132C	SM RAIL 132" CLR	132"
320168M	SM RAIL 168" MILL	168"
310168C	SM RAIL 168" CLR	168"
320168D	SM RAIL 168" DRK	168"
320208M	SM RAIL 208" MILL	208"
310208C	SM RAIL 208" CLR	208"
320240M	SM RAIL 240" MILL	240"
310240C	SM RAIL 240" CLR	240"
310240D	SM RAIL 240" DRK	240"



1411 BROADWAY BLVD. NE
ALBUQUERQUE, NM 87102 USA
PHONE: 505.242.6411
WWW.UNIRAC.COM

PRODUCT LINE:	SOLARMOUNT
DRAWING TYPE:	PART DETAIL
DESCRIPTION:	STANDARD RAIL
REVISION DATE:	9/11/2017

DRAWING NOT TO SCALE
ALL DIMENSIONS ARE
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PRODUCT PROTECTED BY
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SM-P01

SHEET

The right way to attach solar PV to trapezoidal roof profiles!

S-5![®]

The Right Way

ProteaBracket[™]

A versatile bracket for mounting solar PV to trapezoidal roof profiles

Still the most versatile trapezoidal metal roof attachment solution on the market, the S-5! ProteaBracket just got better!

The bracket features an adjustable attachment base and module attachment options to accommodate different roof profile dimensions and mounting options.

Our pre-applied EPDM gasket with peel and stick adhesive makes installation a snap, ensuring accurate and secure placement the first time.

With no messy sealants, faster installation, and a weather-proof fit, ProteaBracket offers you the most versatile solar attachment solution available.

ProteaBracket[®] can be used for rail mounting or "direct-attach" with S-5! PVKIT[®]

*When ProteaBracket is used in conjunction with the S-5! PVKIT, an additional nut is required during installation.



ProteaBracket[™]

Features and Benefits

- 34% lighter - saves on shipping
- Stronger L-Foot[™]
- Load-tested for engineered application
- Corrosion-resistant materials
- Adjustable - Fits rib profiles up to 3"
- Peel-and-Stick prevents accidental shifting during installation
- Fully pre-assembled



888-825-3432 | www.S-5.com

REVISIONS		
DESCRIPTION	DATE	REV



VITAL ENERGY
Local Power Solutions

PROJECT NAME & ADDRESS

MARIE JAEN

1041 MIDDLE TWO ROCK RD
PETALUMA, CA 94952
APN # 021-050-007-000

CONTRACTOR INFORMATION

VITAL ENERGY SOLUTIONS

321 SOUTH MAIN ST. #545
SEBASTOPOL, CA 95472
Phone: (707) 326-7785
Lic.: #1114654 C10 C36
email: permits@vitalenergysolar.com

AHJ: CA-COUNTY OF SONOMA
SHEET NAME SPECS SHEET
DESIGNER/CHECKED NH/AP
SHEET SIZE 11" X 17"
SHEET NUMBER S-14



ProteaBracket™ is the perfect solar attachment solution for most trapezoidal rib, exposed-fastened metal roof profiles!

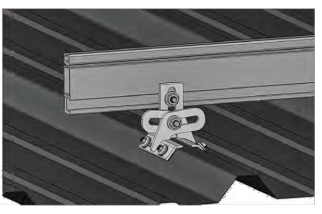
ProteaBracket™ is compatible with common metal roofing materials and comes with a pre-applied EPDM gasket on the base.

Note: All four pre-punched holes must be used to achieve tested strength. Fasteners are provided.

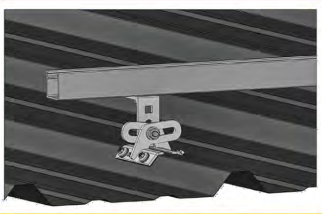
For design assistance, ask your distributor, or visit www.S-5.com for the independent lab test data that can be used for load-critical designs and applications. Also, please visit our website for more information including metallurgical compatibilities and specifications.

S-5!® holding strength is unmatched in the industry.

Multiple Attachment Options:



Side Mount Rail

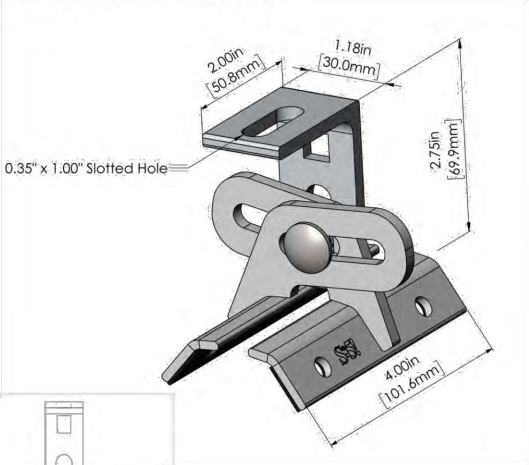


Bottom Mount Rail



w/ S-5! PVKIT® (rail-less)

ProteaBracket™



ProteaBracket fits profiles up to 3 inches

INSTALLATION:

- No surface preparation needed. (1) Wipe away excess oil and debris. (2) Peel off adhesive release paper. (3) Align and mount bracket directly onto crown of panel. (4) Secure ProteaBracket through pre-punched holes, using piercing-point S-5! screws.



Shown: S-5! PVKIT® mounted on the ProteaBracket™ for rail-less solar mounting on metal roofing.

S-5!® Warning! Please use this product responsibly!

Products are protected by multiple U.S. and foreign patents. For published data regarding holding strength, bolt torque, patents, and trademarks, visit the S-5! website at www.S-5.com.

Copyright 2024, Metal Roof Innovations, Ltd. S-5! products are patent protected. S-5! aggressively protects its patents, trademarks, and copyrights. Version 102424

Distributed by



Business Stream Products
Renewable and Solar Technology

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

Email: MWitt@us.tuv.com
December 19, 2014

UL SU 2703 Fire Testing Completed

Type of Equipment: PV Mounting System
Model Designation: Unirac Roof Mount
Test Requirement: UL Subject 2703, Issue 2

TÜV Rheinland File Number: L1-URC140731-RM
TÜV Rheinland Project Number: URC140731

Dear Mr. Nagyvary,

This letter is confirmation that the **Unirac Roof Mount (RM) 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 Roof Mount (RM) 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

Complete test results, including any necessary mitigation measures for the fire rating, can be found in report R1-URC140731-RM.

This correspondence may be used as a Letter of Compliance (LOC) indicating the **Unirac Roof Mount (RM) PV Mounting System** has met the relevant system fire requirements.

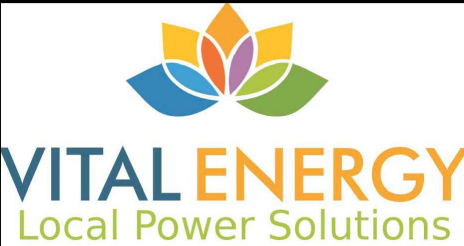
Sincerely,

Mark Witt
Engineering Manager
TÜV Rheinland PTL, LLC

TÜV Rheinland
Photovoltaic Testing Laboratory
2210 South Roosevelt Street
Tempe, Arizona 85282
Main Phone: 480-966-1700
Main Fax: 775-314-6458
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Member of
TÜV Rheinland Group



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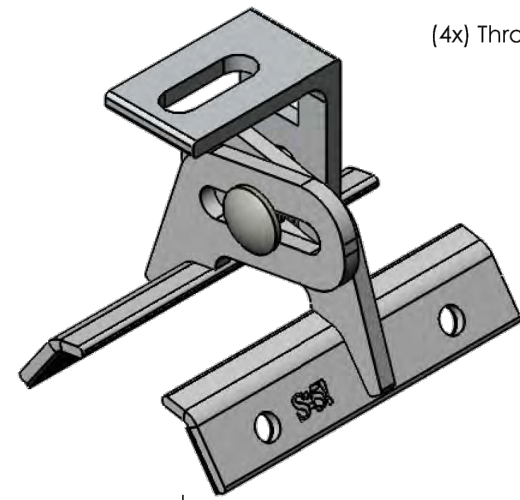
AHJ: CA-COUNTY OF SONOMA

SHEET NAME
SPECS SHEET

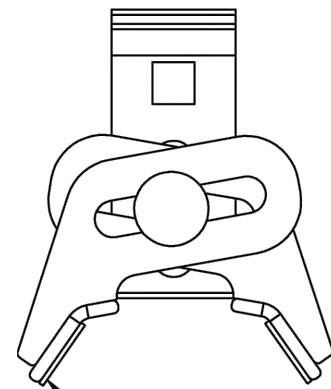
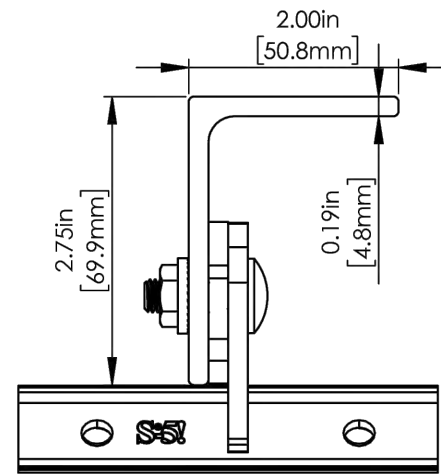
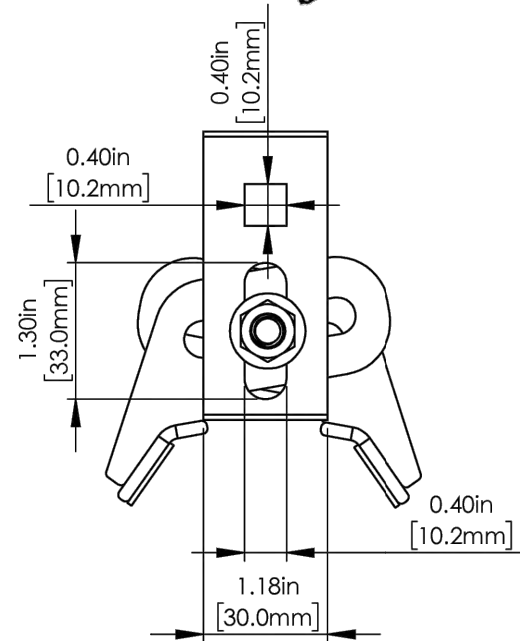
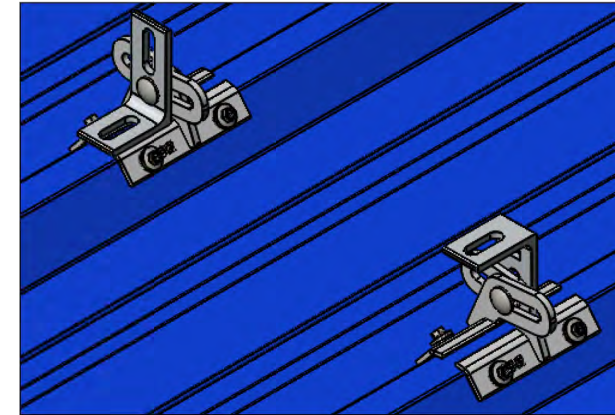
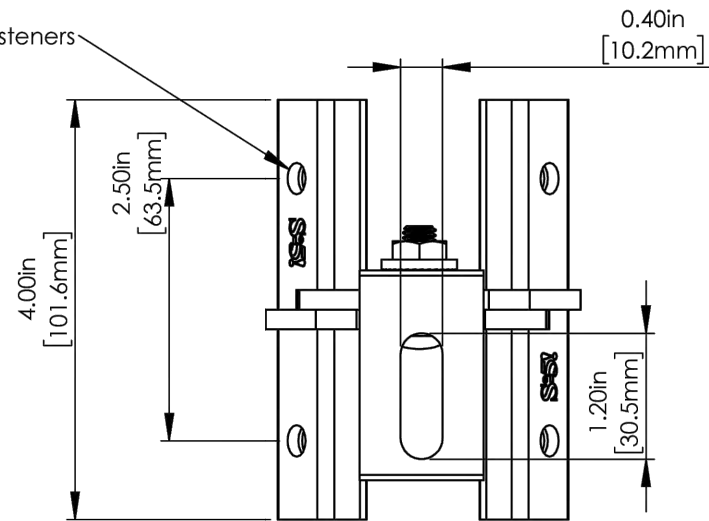
DESIGNER/CHECKED NH/AP

SHEET SIZE
11" X 17"

SHEET NUMBER
S-15

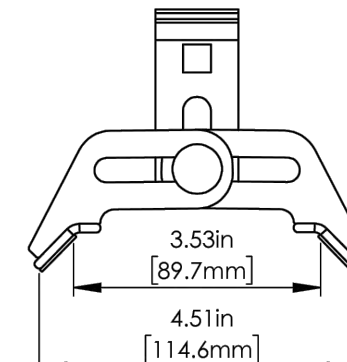
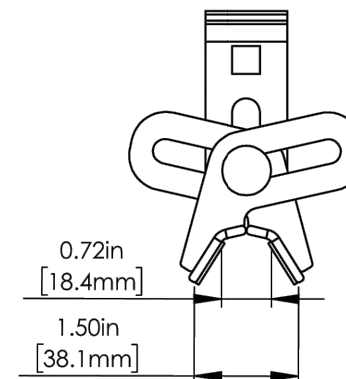


(4x) Through hole for fasteners

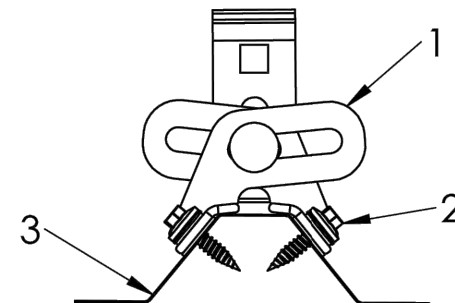


(2x) Factory applied EPDM with sticky adhesive

MIN and MAX Range



- General Notes:
1. ProteaBracket
 2. 1" Self Tapping Screw
 3. Example Rib Roof



FOR STANDING SEAM SPECIFIC MECHANICAL LOAD TEST INFORMATION AND CLAMP INSTALLATION INFORMATION PLEASE VISIT: WWW.S-5.COM

MATERIAL: 6061 T6 AL	 METAL ROOF INNOVATIONS, LTD. 8750 WALKER RD COLORADO SPRINGS, CO 80908 719-495-0518 719-495-0045(FAX)		
EST ASSEMBLY WEIGHT 179.2 g	TITLE ProteaBracket [CCD]		
SUPPLIED HARDWARE: (4x) 1" Self Tapping Screw	DRAWING NO. PB6-A-0-A_BLF10-A-0-A	DRAWN BY JW	DATE 5/20/2019
SCALE: 1:2	WEIGHTS: S-5!® PRODUCTS ARE PROTECTED BY MULTIPLE U.S. PATENTS INCLUDING 5,228,248, 5,983,588 AND 6,164,033 (OTHERS ISSUED AND PENDING). EUROPEAN PATENTS ARE ALSO APPLIED FOR AND PENDING UNDER THE PATENT COOPERATION TREATY WITH DIVISIONAL FILING RIGHTS RETAINED. METAL ROOF INNOVATIONS, LTD. (LICENSOR OF S-5!® TECHNOLOGY) AGGRESSIVELY PROSECUTES PATENT INFRINGEMENT.		

REVISIONS

DESCRIPTION	DATE	REV



VITAL ENERGY
Local Power Solutions

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S-16