PHOTOVOLTAIC ROOF MOUNT SYSTEM

CODE AND STANDARDS

THE INSTALLATION OF SOLAR ARRAYS AND PHOTOVOLTAIC POWER SYSTEMS SHALL COMPLY WITH THE FOLLOWING CODES:

- 2020 NATIONAL ELECTRICAL CODE
- 2018 NORTH CAROLINA RESIDENTIAL CODE
- 2018 NORTH CAROLINA BUILDING CODE
- ALL OTHER ORDINANCE ADOPTED BY THE LOCAL GOVERNING AGENCIES

SITE NOTES / OSHA REGULATION

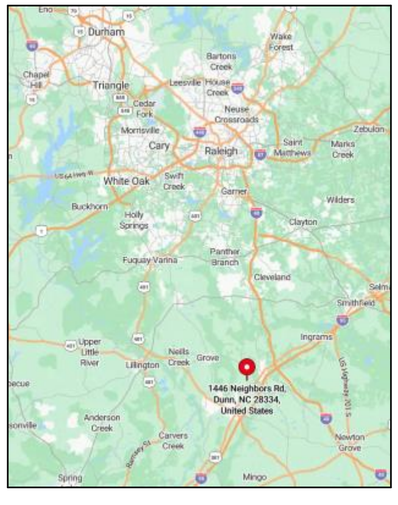
1. A LADDER SHALL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH OSHA REGULATIONS.
2. THE SOLAR PV INSTALLATION SHALL NOT OBSTRUCT ANY PLUMBING, MECHANICAL, OR BUILDING ROOF VENTS.
3. ROOFTOP MOUNTED PHOTOVOLTAIC PANELS AND MODULES SHALL BE TESTED, LISTED AND IDENTIFIED BY RECOGNIZED ELECTRICAL TESTING LABORATORY.
4. MODULES AND SUPPORT STRUCTURES SHALL BE GROUNDED
5. SOLAR INVERTER SHALL BE LISTED TO UL1741
6. ALL CONDUCTORS SHALL BE COPPER AND SHOULD BE 75 AND 90 DEG RATED
7. REMOVAL OF AN INTERACTIVE INVERTER OR OTHER EQUIPMENT SHALL NOT DISCONNECT THE BONDING CONNECTION BETWEEN THE GROUNDING ELECTRODE CONDUCTOR, THE PHOTOVOLTAIC SOURCE AND OUTPUT CIRCUIT GROUNDED CONDUCTORS.
8. LIVE PARTS OF PV SOURCE CIRCUITS AND PV OUTPUT CIRCUITS OVER 150V TO GROUND SHALL NOT BE ACCESSIBLE TO OTHER THAN QUALIFIED PERSONS WHILE ENERGIZED.
9. ALL PV MODULES AND ASSOCIATED EQUIPMENT AND WIRING SHALL BE PROTECTED FROM PHYSICAL DAMAGE.

SOLAR CONTRACTOR

1. MODULE CERTIFICATIONS INCLUDE UL1703, IEC61646, IEC61370.
2. IF APPLICABLE, MODULE GROUNDING LUGS MUST BE INSTALLED AT THE MARKED GROUNDING LUG HOLES PER THE MANUFACTURERS INSTALLATION REQUIREMENTS.
3. AS INDICATED BY DESIGN, OTHER NRTL LISTED MODULE GROUNDING DEVICES MAY BE USED IN PLACE OF STANDARD GROUNDING LUGS AS SHOWN IN MANUFACTURER DOCUMENTATION AND APPROVED BY THE AHJ.
4. ALL MICROINVERTERS, PHOTOVOLTAIC MODULES, AC COMBINERS, DC-AC CONVERTERS AND SOURCE CIRCUIT COMBINERS INTENDED FOR USE IN A PHOTOVOLTAIC POWER SYSTEM WILL BE IDENTIFIED AND LISTED FOR THE APPLICATION PER NEC690.4(B).
5. ALL SIGNAGE TO BE INSTALLED IN ACCORDANCE WITH LOCAL BUILDING CODE.
6. TERMINALS AND LUGS WILL BE TIGHTENED TO MANUFACTURER TORQUE SPECIFICATIONS (WHEN PROVIDED) IN ACCORDANCE WITH NEC CODE 110.14(D) ON ALL ELECTRICAL CONNECTIONS.
7. MAX DC VOLTAGE CALCULATED USING MANUFACTURER PROVIDED TEMP COEFFICIENT FOR VOC UNLESS NOT AVAILABLE.

SR.#	PROJECT INFORMATION	
1	PV MODULES	61 x REC 405AA PURE
2	INVERTER	61 x IQ8PLUS-72-2-US
3	ROOF TYPE	ASPHALT SHINGLES
4	RACKING	PSR-B84 RAILS (BLACK)
5	MOUNTING TYPE	COMP MOUNT FLASHING (BLACK)
6	DC SIZE	24.705 KW
7	AC SIZE	17.69 KVA

SR.#	PROJECT INFORMATION	
1	PV1	DRAWING INDEX
2	PV2	SITE LAYOUT
3	PV3	STRING MAPPING
4	PV4	ELECTRICAL ONE LINE DIAGRAM
5	PV5	DETAILED ELECTRICAL WIRING SCHEMATIC
6	PV6	PV LABELS
7	PV7	BILL OF MATERIALS
8	PV8	ATTACHMENT DETAILS



VICINITY MAP

TOP VIEW OF THE BUILDING

DESIGN CRITERIA
WIND SPEED: 130 MPH
GROUND SNOW LOAD: 10 PSF
WIND EXPOSURE FACTOR: B

UTILITY COMPANY:
DUKE ENERGY

PERMIT ISSUER (AHJ):
HARNETT COUNTY

SCOPE OF WORK
INSTALLATION OF UTILITY INTERACTIVE PHOTOVOLTAIC SOLAR SYSTEM.

8MSOLAR
ADVANCING ENERGY INDEPENDENCE

5112 Departure Drive,
Raleigh NC 27616
O: 919.948.6474
E: info@8msolar.com

Customer Information:

Bonita K Richie

1446 Neighbors Rd
Dunn NC 28334

Customer Signature:

Sheet Name:

Drawing Index

JOB NUMBER:

23-572-GR

Date:

11/15/2023

Revision:

A

Sheet Size:

ANSI C
17" X 22"

Sheet Number:

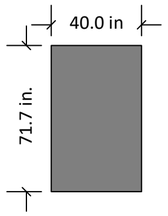
PV1

NABCEP CERTIFIED
PV Installation Professional
Ali Buttar
PVIP #031310-32

ROOF DESCRIPTION			
ROOF	PITCH	AZIMUTH	NO. OF MODULES
A	33°	89°	30
B	45°	179°	31

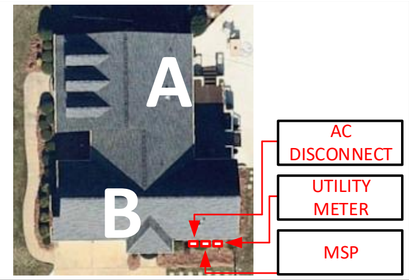
Vent	■	• No vents will be covered by PV modules during the installation

MODULE DIMENSIONS



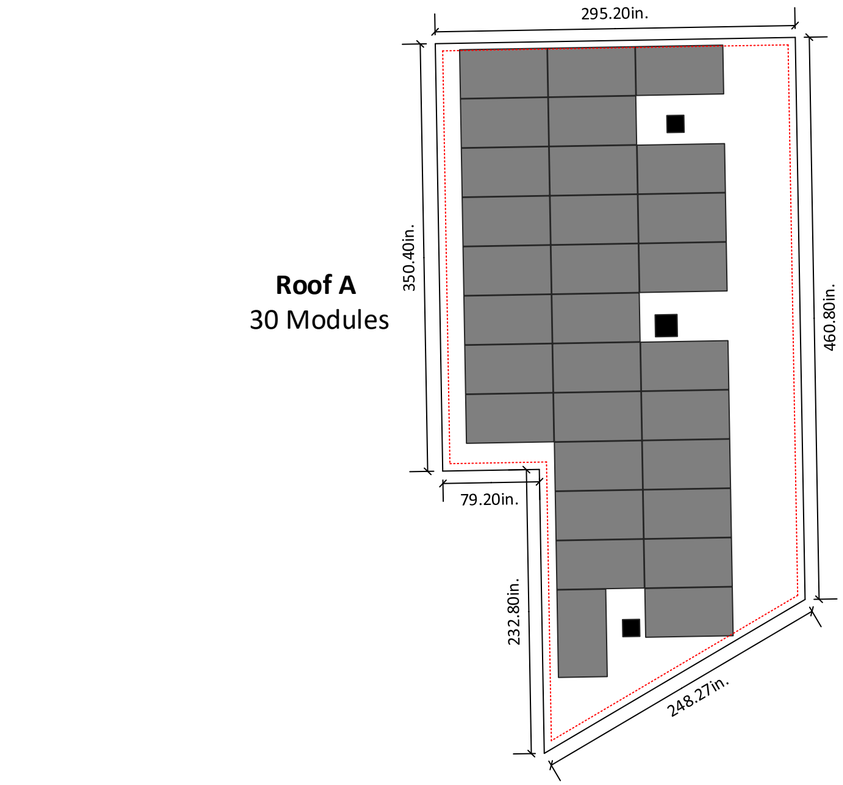
PV System Dead Load
(Panel + Racking weight) / PV System Area
(No. of panels x Weight of panel(lbs.) +Length of racking(ft.) x 1.15 lb.ft) /
(No. of panels x Height x Width) = Total psf

ROOF	A	B	
DEAD LOAD (PSF)	2.66	2.71	

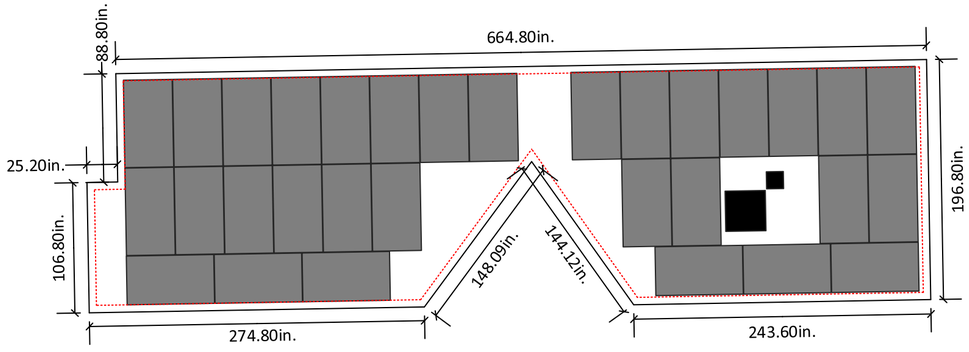


SYSTEM DETAILS

NUMBER OF PANELS : 61
PANELS MODEL : REC 405AA PURE
DC SIZE : 24.705 kW
AC SIZE : 17.69 kVA



Roof A
30 Modules



Roof B
31 Modules

6in setback from sides of the roof

SITE LAYOUT
SCALE: 1/8" - 1'

N

8MSOLAR
ADVANCING ENERGY INDEPENDENCE

5112 Departure Drive,
Raleigh NC 27616
O: 919.948.6474
E: info@8msolar.com

Customer Information:

Bonita K Richie

1446 Neighbors Rd
Dunn NC 28334

Customer Signature:

Sheet Name:

Site Layout

JOB NUMBER:

23-572-GR

Date:	Revision:
11/15/2023	A
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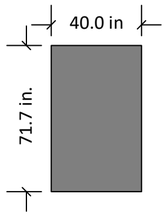
PV Installation Professional
Ali Buttar
PVIP #031310-32

ROOF DESCRIPTION			
ROOF	PITCH	AZIMUTH	NO. OF MODULES
A	33°	89°	30
B	45°	179°	31

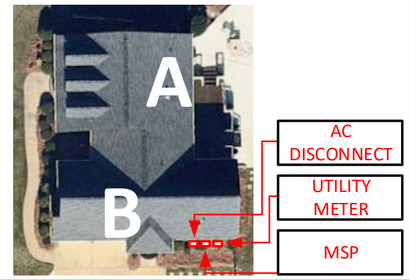
MODULE DIMENSIONS



STRING LAYOUT

LOAD CENTER 125A

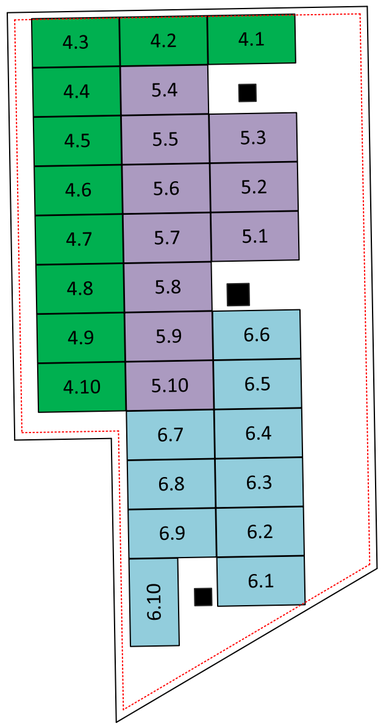
Strings #	No. of Modules	Color	Strings #	No. of Modules	Color
String 1	11		**String 4**	10	
String 2	10		**String 5**	10	
String 3	10		**String 6**	10	

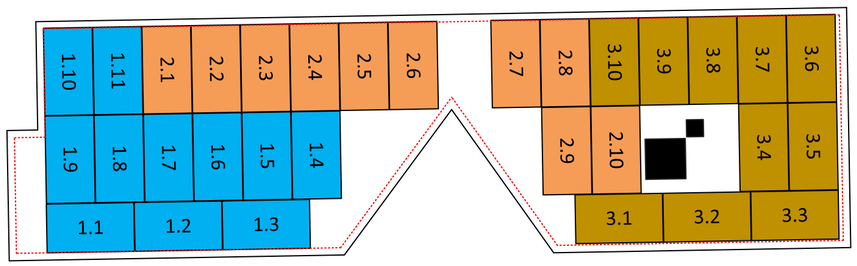


SYSTEM DETAILS

NUMBER OF PANELS : 61
PANELS MODEL : REC 405AA PURE
DC SIZE : 24.705 kW
AC SIZE : 17.69 kVA

Roof A
30 Modules

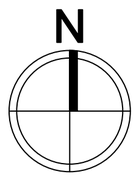




Roof B
31 Modules

6in setback from sides of the roof

STRING MAPPING
SCALE: 1/8" - 1'



8MSOLAR
ADVANCING ENERGY INDEPENDENCE

5112 Departure Drive,
Raleigh NC 27616
O: 919.948.6474
E: info@8msolar.com

Customer Information:

Bonita K Richie

1446 Neighbors Rd
Dunn NC 28334

Customer Signature:

Sheet Name:

String Mapping

JOB NUMBER:

23-572-GR

Date:	Revision:
11/15/2023	A
Sheet Size: ANSI C 17" X 22"	**Sheet Number:** PV3

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PV Installation Professional
Ali Buttar
PVIP #031310-32

STRING CALCULATION

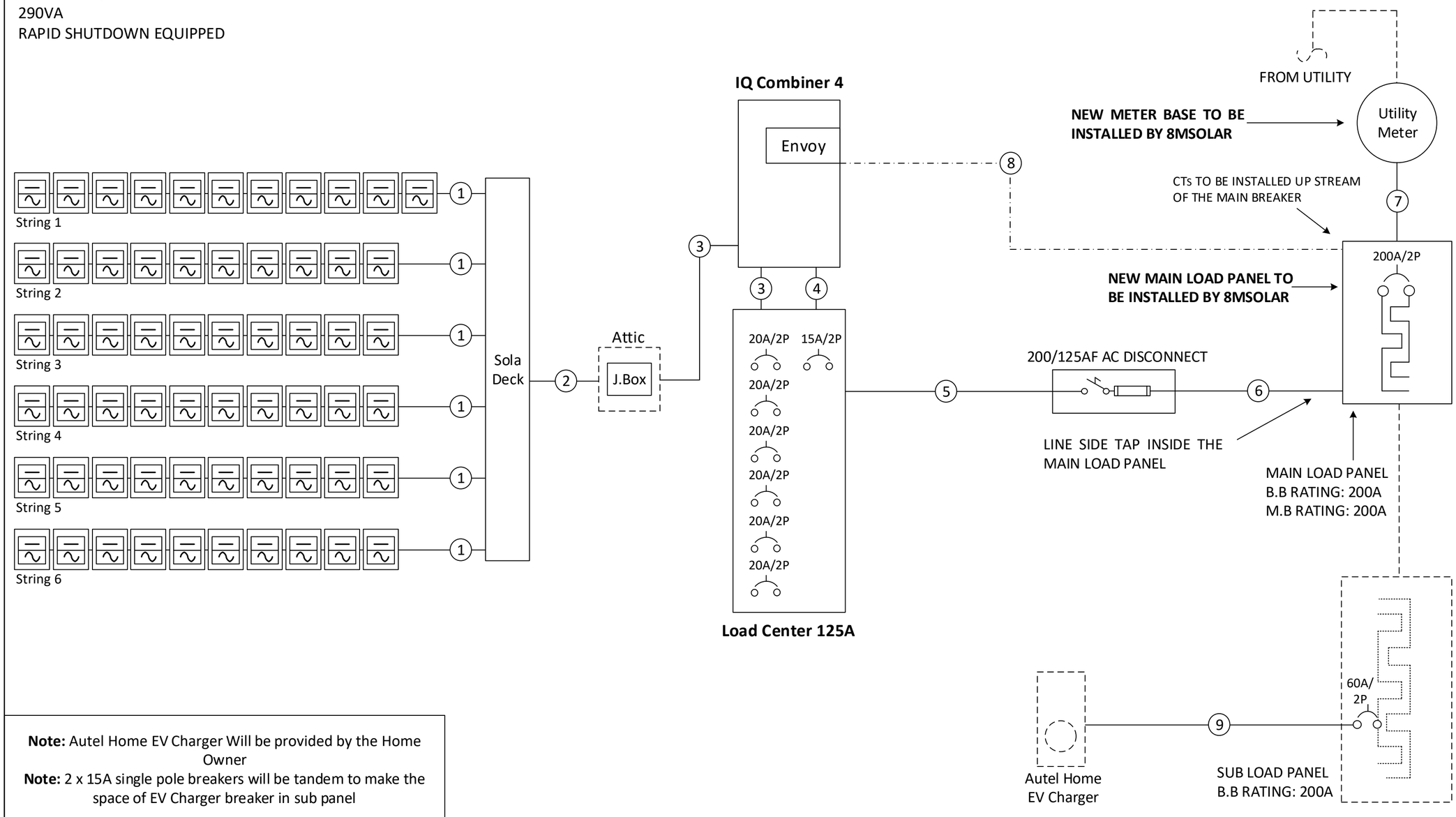
String #	No of Modules	Estimated Power	Imax	Voc	Vmpp	Vrise (<= 2%)
1	11	4,455 W	16.63 AC	<30	240V AC	1.06+0.42 = **1.48**
2	10	4,050 W	15.12 AC	<30	240V AC	1.10+0.42 = **1.52**
3	10	4,050 W	15.12 AC	<30	240V AC	1.10+0.42 = **1.52**
4	10	4,050 W	15.12 AC	<30	240V AC	1.06+0.42 = **1.48**
5	10	4,050 W	15.12 AC	<30	240V AC	1.20+0.40 = **1.60**
6	10	4,050 W	15.12 AC	<30	240V AC	1.15+0.55 = **1.70**

NEC Code (2020) and UL Standard Refrences

Rapid Shut Down	NEC 690.12 (A-D), UL1741	Grounding	NEC Article 250.30(A)
Disconnecting Means	NEC 690.13	Conduit Fill	NEC Table C.9, 310.15(B)(3)(a)
Feeder Sizing	NEC Table 310, 15(B)(16, 17)	Interconnection	NEC 705.12
Over current Protection	NEC 690.9		

Note: Service Side Work: Power Drop Required

61 X REC 405AA PURE
405W
ENPHASE IQ8PLUS-72-2-US MICROINVERTERS
290VA
RAPID SHUTDOWN EQUIPPED



Note: Autel Home EV Charger Will be provided by the Home Owner
Note: 2 x 15A single pole breakers will be tandem to make the space of EV Charger breaker in sub panel

- System Size: 24,705W DC
- (61) REC 405AA PURE
- (61) ENPHASE IQ8PLUS-72-2-US MICROINVERTERS
- Inverter Output: 1.21A max @ 240 VAC (each microinverter)
- 290 VA AC output max (each micro inverter)
- 17.69 kVA AC output max

- Grounding will be done via Pegasus grounding lugs and mid-clamps to ensure the rail and panels are continuously grounded.
- Rapid Shutdown is included in the Micro Inverters, refer to Micro Inverter attached datasheets.
- The load center / disconnect will be visible, lockable accessible to utility linesmen and will be properly labelled as per NEC requirements. It will be located on the exterior wall of the building, next to the utility meter.

Sr.No	#Wire	Conduit Size	Ground Wire	Amperage
1	1 x #12 Q Cable		#10 Bare Cu	20
2	6 x #10 MC Cable			20
3	12 x #10 THHN Cu	1” EMT	#10 Green Cu	20
4	3 x #10 THHN Cu	3/4” EMT	#10 Green Cu	15
5	3 x #1 THHN Cu	1.5” EMT	#6 Green Cu	120
6	3 x #1 THHN Cu	1.5” EMT		120
7	3 x #3/0 THHN Cu	2” PVC		200
8	Lead Wire 18AWG, PVC Extruded			
9	2 x #6 THHN Cu	3/4” EMT	#8 Green Cu	60

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Raleigh NC 27616
O: 919.948.6474
E: info@8msolar.com

Customer Information:

Bonita K Richie

1446 Neighbors Rd
Dunn NC 28334

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Sheet Name:

Electrical One Line Diagram

JOB NUMBER:

23-572-GR

Date:

11/15/2023

Revision:

A

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17" X 22"

Sheet Number:

PV4

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PV Installation Professional
Ali Buttar
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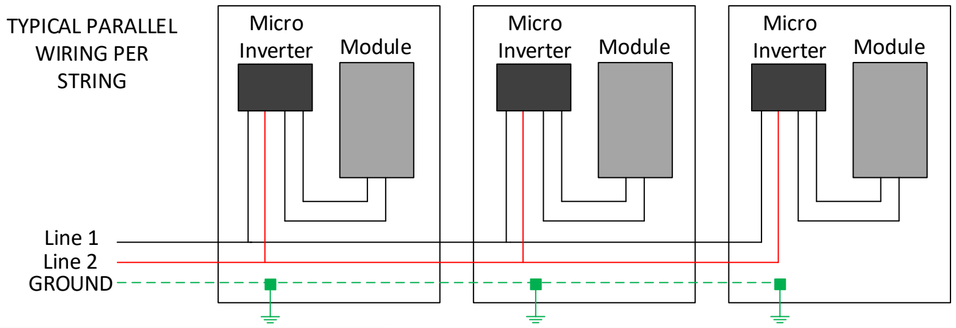

Line 1	
Line 2	
Neutral	
Ground	
CT Wire	

Note: Line 1 from all strings will be passed from the Production CT.

Note: The arrow on Production and Consumption CTs must point towards the loads and away from the source.

Note: Connect both grounding rods in a series connections with a bare copper keeping the minimum distance of 6ft between them.

Note: Autel Home EV Charger Will be provided by the Homer Owner

8MSOLAR
ADVANCING ENERGY INDEPENDENCE

5112 Departure Drive,
Raleigh NC 27616
O: 919.948.6474
E: info@8msolar.com

Customer Information:

Bonita K Richie

1446 Neighbors Rd
Dunn NC 28334

Customer Signature:

Sheet Name:

Detailed Electrical Diagram

JOB NUMBER:

23-572-GR

Date:	Revision:
11/15/2023	A

Sheet Size:	Sheet Number:
ANSI C 17" X 22"	PV5

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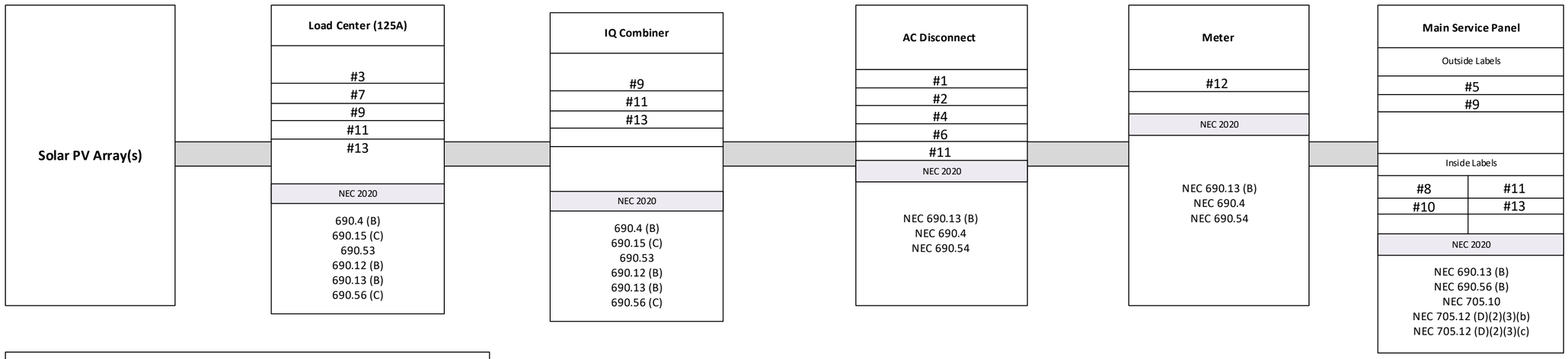
PV Installation Professional
Ali Buttar
PVIP #031310-32



LABELING AND WARNING SIGNS: NEC 2020

A. PURPOSE
PROVIDE EMERGENCY RESPONDERS WITH APPROPRIATE WARNING AND GUIDANCE WITH RESPECT TO ISOLATING THE SOLAR ELECTRIC SYSTEM. THIS CAN FACILITATE IDENTIFYING ENERGIZED ELECTRICAL LINES THAT CONNECT THE SOLAR PANELS TO THE INVERTER, AS SHOULD NOT BE CUT WHEN VENTING FOR SMOKE REMOVAL.

B. MAIN SERVICE DISCONNECT:

1. RESIDENTIAL BUILDINGS- THE MARKING MAY BE PLACED WITHIN THE MAIN SERVICE DISCONNECT. THE MARKING SHALL BE PLACED ON THE OUTSIDE COVER IF THE MAIN SERVICE DISCONNECT IS OPERABLE WITH THE SERVICE PANEL CLOSED.

2. COMMERCIAL BUILDINGS- THE MARKINGS SHALL BE PLACED ADJACENT TO THE MAIN SERVICE DISCONNECTCLEARLY VISIBLE FROM THE LOCATION WHERE THE LEVER IS OPERATED

3. MARKINGS, VERBIAGE, FORMAT AND TYPE OF MATERIAL

a. VERBIAGE: CAUTION; SOLAR ELECTRIC SYSTEM CONNECTED
b. FORMAT:

(1) WHITE LETTERING ON A RED BACKGROUND
(2) MINIMUM 3/8 INCH LETTER HEIGHT
(3) ALL LETTERS SHALL BE CAPITALIZED
(4) ARIAL OR SIMILAR FONT, NON-BOLD

c. MATERIAL:

(1) REFLECTIVE, WEATHER RESISTANT MATERIAL SUITABLE FOR THE ENVIRONMENT (USE UL-969) AS STANDARD FOR WEATHER RATING): DURABLE ADHESIVE MATERIALS MEET THIS REQUIREMENT.

C. MARKING REQUIREMENTS ON CONDUIT, RACEWAYS, ENCLOSURES, CABLE ASSEMBLIES, COMBINERS AND JUNCTION BOXES;

1. MARKING: PLACEMENT, VERBIAGE, FORMAT AND TYPE OF MATERIAL.

a. PLACEMENT: MARKINGS SHALL BE PLACED EVERY 10 (TEN) FEET ON ALL INTERIOR AND EXTERIOR DC CONDUITS, RACEWAYS, ENCLOSURES AND CABLE ASSEMBLIES, AT TURNS ABOVE AND/OR BELOW PENETRATIONS, ALL COMBINERS AND JUNCTION BOXES.
b. VERBIAGE: CAUTION SOLAR CIRCUIT
c. THE FORMAT AND TYPE OF MATERIAL SHALL ADHERE TO SECTION B-3.B & C ABOVE

D. INVERTERS ARE NOT REQUIRED TO HAVE CAUTION MARKINGS

#1
PHOTOVOLATIC
AC DISCONNECT

#2
RAPID SHUTDOWN
SWITCH FOR
SOLAR PV SYSTEM

#3
PHOTOVOLTIVC POWER SOURCE
OPERATING AC VOLTAGE 240 V
MAXIMUN OPERATING AC OUTPUT CURRENT 92.26 A

#4
AC DISCONNECT
PHOTOVOLTAIC SYSTEM POWER SOURCE
RATED AC OUTPUT CURRENT 92.26 AMPS
NOMINAL OPERATING AC VOLTAGE 240 VOLTS

#5
SOLAR AC DISCONNECT LOCATED AT SOUTH SIDE WALL OF THE HOUSE BESIDE THE UTILITY METER

#6
SERVICE DISCONNECT LOCATED INSIDE THE MAIN LOAD PANEL

#7
PHOTOVOLTAIC SYSTEM
COMBINER PANEL
DO NOT ADD LOADS

#8
WARNING
THIS EQUIPMENT FED BY MULTIPLE SOURCES.TOTAL RATING OF ALL OVERCURRENT DEVICES,EXCLUDING MAIN SUPPLY OVERCURRENT DEVICE,SHALL NOT EXCEED AMPACITY OF BUSBAR

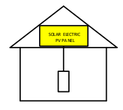
#9
WARNING
DUAL POWER SUPPLY
SOURCES: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM

#10
WARNING
TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKIN INSIDRE PANEL

#11
WARNING
ELECTRIC SHOCK HAZARD
TERMINAL OM THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

#12
WARNING
THIS SERVICE METER IS ALSO SERVED BY A PHOTOVOLTAIC SYSTEM

#13
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



8MSOLAR
ADVANCING ENERGY INDEPENDENCE

5112 Departure Drive,
Raleigh NC 27616
O: 919.948.6474
E: info@8msolar.com

Customer Information:

Bonita K Richie

1446 Neighbors Rd
Dunn NC 28334

Customer Signature:

Sheet Name:

PV Labels

JOB NUMBER:

23-572-GR

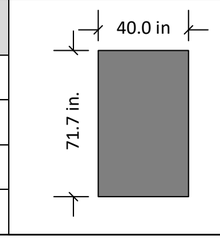
Date:	Revision:
11/15/2023	A

Sheet Size:	Sheet Number:
ANSI C 17" X 22"	PV6

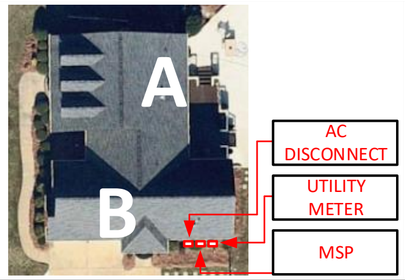
NABCEP CERTIFIED
PV Installation Professional
Ali Buttar
PVIP #031310-32

ROOF DESCRIPTION			
ROOF	PITCH	AZIMUTH	NO. OF MODULES
A	33°	89°	30
B	45°	179°	31

MODULE DIMENSIONS



Rails and Splices : PSR-B84 (BLACK)	Roof Attachment : Pegasus Comp Mount
Rafter Spacing : 24 in	There is one layer of shingles Roofing material is asphalt shingles
Attachment Span: 4ft	The roof is located in 130mph wind zone

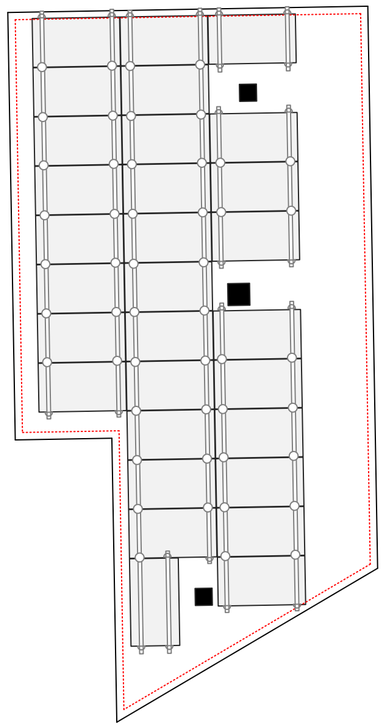


PV LABELS		
Sr No	Code	Qty
01	03-302	01
02	02-316	01
03	03-390	01
04	03-306	01
05	8M-001	01
06	8M-002	01
07	03-355	01
08	05-108	01
09	05-211	03
10	05-372	01
11	05-215	04
12	07-359	01
13	07-111	03

RAILS AND MOUNTING SYSTEM

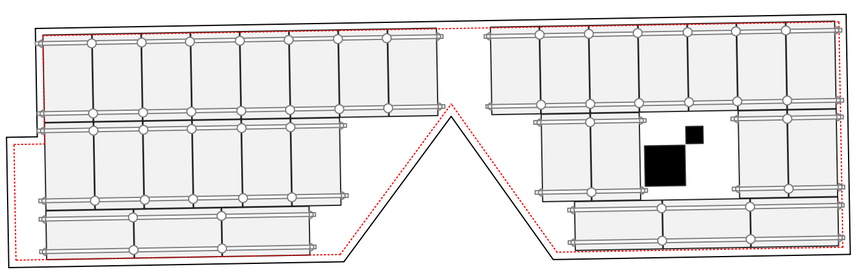
- 72 x PSR-B84: Pegasus Rail, Black, 84" (7 Feet)
- 47 x PSR-SPL: Pegasus - Bonded, Structural Splice
- 97 x PSR-MCB: Pegasus - Multiclamp, Mid/End, 30 to 40 mm, Black
- 52 x PSR-HEC: Pegasus - Hidden End Clamp
- 61 x PSR-MLP: Pegasus - MLPE Mount
- 15 x PSR-LUG: Pegasus - Grounding Lug
- 95 x PSR-WMC: Pegasus - Wire Management Clip
- 11 x PSR-CBG: Pegasus - Cable Grip
- 52 x PSR-CAP: Pegasus - End Cap
- 130 x PSCR-UBBDT: Pegasus Comp Mount - Open Slot, Black L Foot, Black Flashing, Dovetail 3/8" T-Bolt
- 122 x Heyco Wire Clips

- 04 x RT Mini II Mounts
- 16 x Screw 5.0 x 60
- 04 x RT2-04-FBN25SL 5/16"
- 04 x LFT-03-M1: Slotted L-Foot Mill



Roof A
30 Modules

Roof B
31 Modules



6in setback from sides of the roof

SOLAR MODULES

- 61 x REC 405AA PURE

INVERTER & SUPPORTING ITEMS

- 61 x Enphase IQ8PLUS-72-2-US micro inverter
- 01 x X-IQ-AM1-240-4: IQ Combiner 4

ENPHASE CABLES AND ACCESSORIES

- 64 x Q-12-10-240: Q Cable
- 07 x Q-12-20-200: Q Cable
- 01 x Q-12-RAW-300:Q Cable, 12 AWG (120ft)
- 18 x Q-CONN-10M Male Field-wireable connector
- 18 x Q-CONN-10F Female Field-wireable connector
- 06 x Q-TERM-10: Terminator Cap
- 09 x Q-SEAL-10: Female Sealing Cap
- 01 x Q-CLIP-100: Q Cable rail mount cable management clip (Pack of 100)
- 01 x Q-DISC-10: Disconnect tool

ELECTRICAL ITEMS

- 01 x UAT417-XGF: 200A Meter Base
- 01 x BR816B200RF: Outdoor Sub Panel (Eaton) 200A MCB/8 space min (NEMA 3R), Feed through lugs
- 01 x BR230: Eaton BR 30/2
- 01 x BR260: Eaton BR 60/2
- 01 x BR290: Eaton BR 90/2
- 01 x HOM2040L125PRB: Load center, Homeline, 1 phase, 20 spaces, 40 circuits, 125A convertible main lugs, NEMA 3R
- 06 x HOM220: SQ D HOM 20/2
- 01 x HOM215: SQ D HOM 15/2
- 01 x QO1515: SQ D QO 15A tandem breaker
- 01 x QO260: SQ D QO 60/2
- 02 x IPCS 2540: Line/Load Side Hot Taps (#250 main - #4/0-6 tap) Large types
- 01 x D224NRB: 250volt/200amp/2pole fusible disconnect (NEMA 3R)
- 02 x SQUARE D FRNR125: 250volt/125amp fuses
- 03 x EZSLR JB-1.2: SolaDeck

BILL OF MATERIAL
SCALE: 1/8" - 1'

N

8MSOLAR
ADVANCING ENERGY INDEPENDENCE

5112 Departure Drive,
Raleigh NC 27616
O: 919.948.6474
E: info@8msolar.com

Customer Information:

Bonita K Richie

1446 Neighbors Rd
Dunn NC 28334

Customer Signature:

Sheet Name:

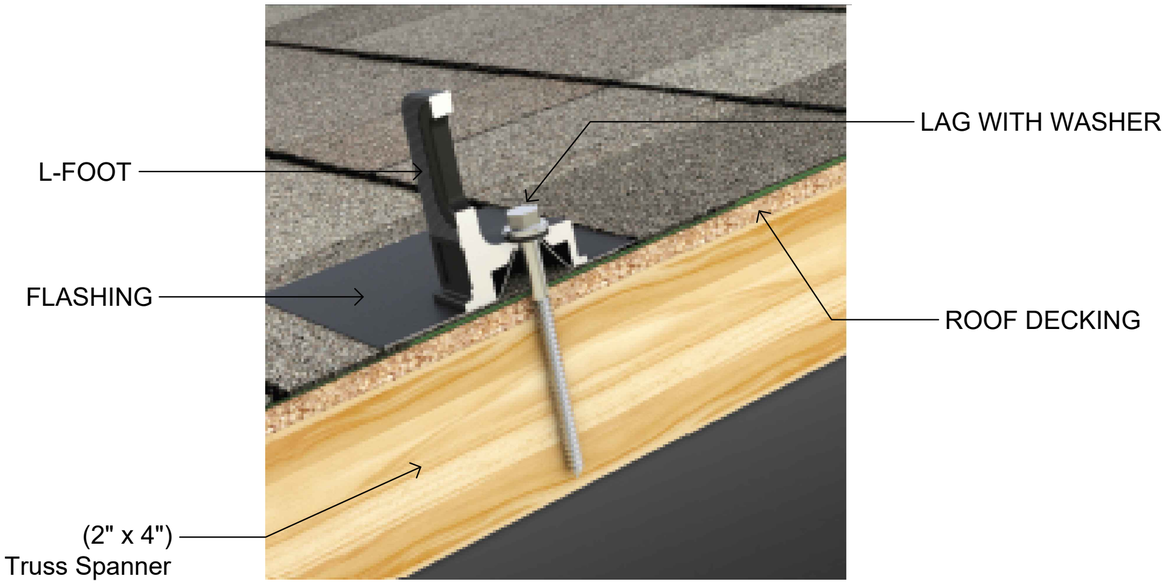
Bill of Material

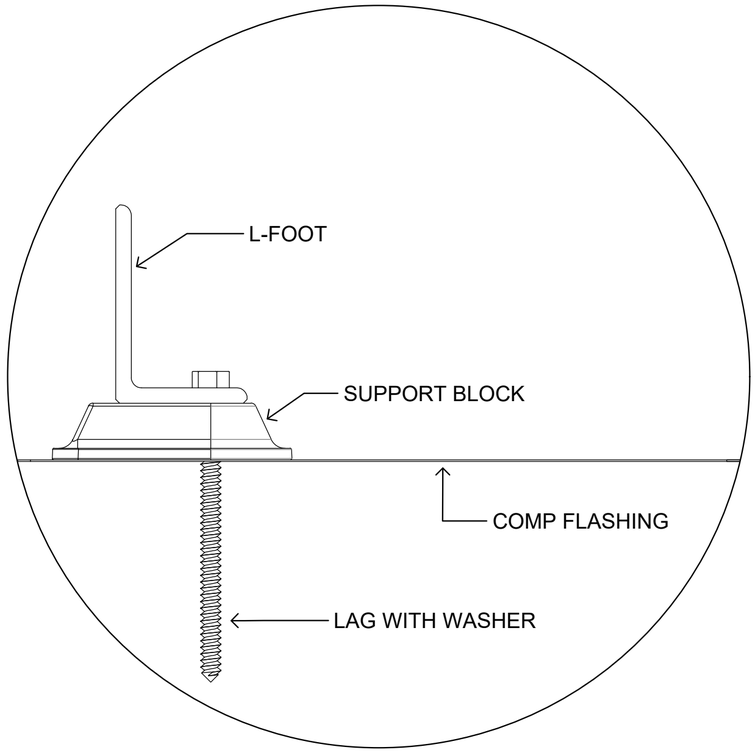
JOB NUMBER:

23-572-GR

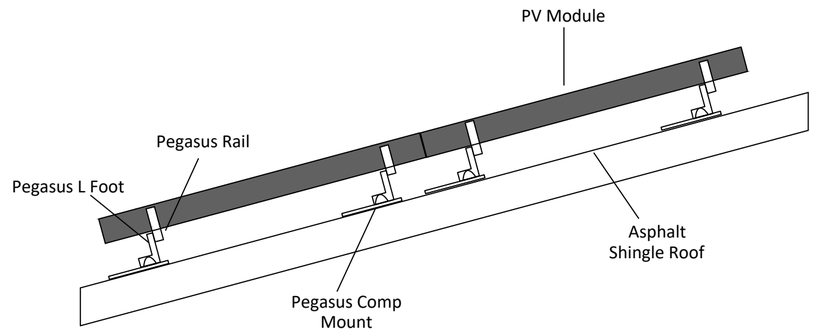
Date:	Revision:
11/15/2023	A
Sheet Size: ANSI C 17" X 22"	**Sheet Number:** PV7

NABCEP CERTIFIED
PV Installation Professional
Ali Buttar
PVIP #031310-32





					
Multi-Clamp	Hidden End Clamp	MLPE Mount	Dovetail T-Bolt	Ground Lug	Cable Grip
Torque Value 100 in-lbs.	Torque Value 135 in-lbs.	Torque Value 135 in-lbs.	Torque Value 300 in-lbs.	Torque Value 135 in-lbs.	Torque Value 135 in-lbs.



SIDE VIEW

PV Dead Load	
Roof A	**PV System Dead Load** **(Panel + Racking weight) / PV System Area** (30 panels x 45 lbs./panel + 207 ft. of racking x 1.17 lb.ft) / (30 panels x 5.975' x 3.33') = 2.66 psf
Roof B	**PV System Dead Load** **(Panel + Racking weight) / PV System Area** (31 panels x 45 lbs./panel + 241 ft. of racking x 1.17 lb.ft) / (31 panels x 5.975' x 3.33') = 2.71 psf

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Customer Information:

Bonita K Richie

1446 Neighbors Rd
Dunn NC 28334

Customer Signature:

Sheet Name:

Attachment Details

JOB NUMBER:

23-572-GR

Date:	**Revision:**
11/15/2023	A
Sheet Size: ANSI C 17" X 22"	**Sheet Number:** PV8

NABCEP CERTIFIED
PV Installation Professional
Ali Buttar
PVIP #031310-32

SOLAR'S MOST TRUSTED

REC

inter solar award 2022 WINNER

REC ALPHA® PURE SERIES

PRODUCT SPECIFICATIONS

COMPACT PANEL SIZE

410 WP

222 W/M²

PRODUCT REC 25 YEAR ProTrust WARRANTY PERFORMANCE LABOR

ELIGIBLE

LEAD-FREE

ROHS COMPLIANT

EXPERIENCE

α

PERFORMANCE

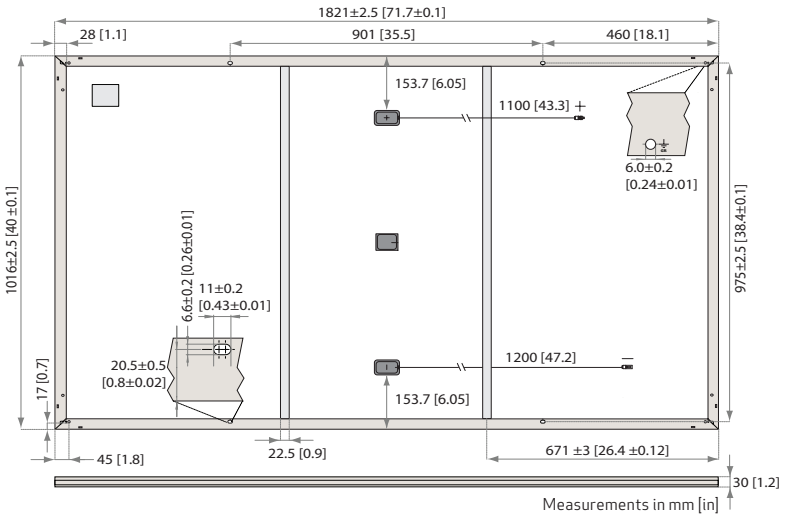
REC ALPHA PURE SERIES

PRODUCT SPECIFICATIONS

REC
SOLAR'S MOST TRUSTED

GENERAL DATA

Cell type:	132 half-cut REC heterojunction cells with lead-free, gapless technology, 6 strings of 22 cells in series
Glass:	3.2 mm 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 (4 mm²) in accordance with IEC 62852, IP68 only when connected
Cable:	4 mm² solar cable, 1.1 m + 1.2 m in accordance with EN 50618
Dimensions:	1821 x 1016 x 30 mm (1.85 m²)
Weight:	20.5 kg
Origin:	Made in Singapore



ELECTRICAL DATA — Product Code*: RECxxxAA Pure

STC						
Power Output - P_{MAX} (Wp)	385	390	395	400	405	410
Watt Class Sorting - (W)	0/+5	0/+5	0/+5	0/+5	0/+5	0/+5
Nominal Power Voltage - V_{MPP} (V)	41.2	41.5	41.8	42.1	42.4	42.7
Nominal Power Current - I_{MPP} (A)	9.35	9.40	9.45	9.51	9.56	9.61
Open Circuit Voltage - V_{OC} (V)	48.5	48.6	48.7	48.8	48.9	49.0
Short Circuit Current - I_{SC} (A)	10.18	10.22	10.25	10.28	10.30	10.35
Power Density (W/m²)	208	211	214	216	219	222
Panel Efficiency (%)	20.8	21.1	21.4	21.6	21.9	22.2
NMOT						
Power Output - P_{MAX} (Wp)	293	297	301	305	309	312
Nominal Power Voltage - V_{MPP} (V)	38.8	39.1	39.4	39.7	40.0	40.2
Nominal Power Current - I_{MPP} (A)	7.55	7.59	7.63	7.68	7.72	7.76
Open Circuit Voltage - V_{OC} (V)	45.7	45.8	45.9	46.0	46.1	46.2
Short Circuit Current - I_{SC} (A)	8.16	8.20	8.24	8.28	8.32	8.36

Values at standard test conditions (STC: air mass AM 1.5, irradiance 1000 W/m², temperature 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 AM 1.5, irradiance 800 W/m², temperature 20°C, windspeed 1 m/s). * Where xxx indicates the nominal power class (P_{MAX}) at STC above.

CERTIFICATIONS

IEC 61215:2016, IEC 61730:2016, UL 61730	
IEC 62804	PID
IEC 61701	Salt Mist
IEC 62716	Ammonia Resistance
ISO 11925-2	Ignitability (Class E)
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	

Intertek Lead-Free take-e-way WEEE-compliant recycling scheme

TEMPERATURE RATINGS*

Nominal Module Operating Temperature:	44°C (±2°C)
Temperature coefficient of P_{MAX}:	-0.26 %/°C
Temperature coefficient of V_{OC}:	-0.24 %/°C
Temperature coefficient of I_{SC}:	0.04 %/°C

*The temperature coefficients stated are linear values

MAXIMUM RATINGS

Operational temperature:	-40 ... +85°C
Maximum system voltage:	1000 V
Maximum test load (front):	+7000 Pa (713 kg/m²)*
Maximum test load (rear):	-4000 Pa (407 kg/m²)*
Max series fuse rating:	25 A
Max 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	Yes
System Size	All	≤25 kW	25-500 kW
Product Warranty (yrs)	20	25	25
Power Warranty (yrs)	25	25	25
Labor Warranty (yrs)	0	25	10
Power in Year 1	98%	98%	98%
Annual Degradation	0.25%	0.25%	0.25%
Power in Year 25	92%	92%	92%

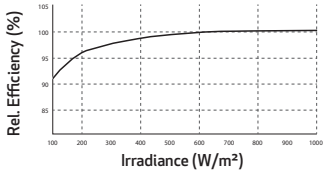
See warranty documents for details. Conditions apply

DELIVERY INFORMATION

Panels per pallet:	33
Panels per 40 ft GP/high cube container:	792 (24 pallets)
Panels per 13.6 m truck:	924 (28 pallets)
Panels per 53 ft truck:	891 (27 pallets)

LOW LIGHT BEHAVIOUR

Typical low irradiance performance of module at STC:



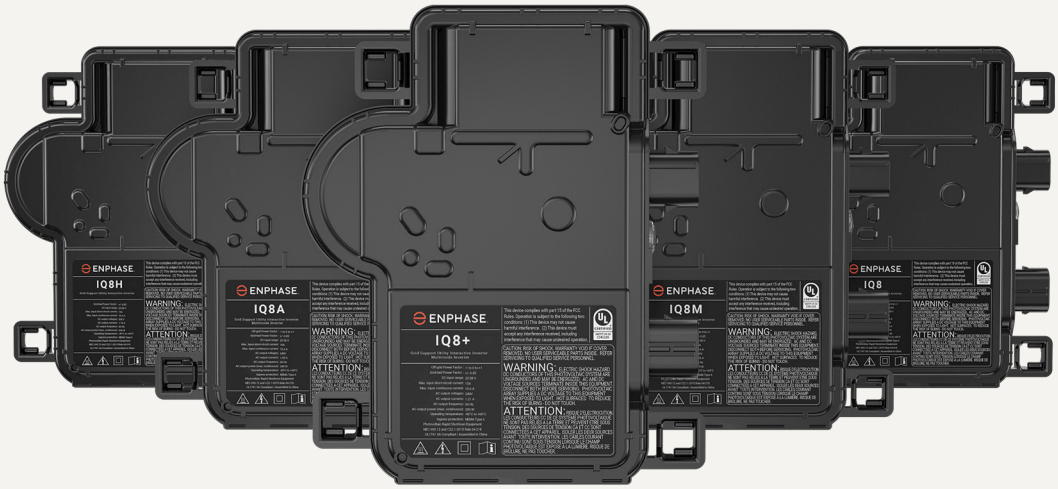
Founded in 1996, REC Group is an international pioneering solar energy company dedicated to empowering consumers with clean, affordable solar power. As Solar's Most Trusted, REC is committed to high quality, innovation, and a low carbon footprint in the solar materials and solar panels it manufactures.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

www.recgroup.com

Ref: PM-DS-12-06-Rev-G 04.22

ENPHASE

DATA SHEET



IQ8 Series Microinverters

Our newest IQ8 Microinverters are the industry's first microgrid-forming, software-defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently. The brain of the semiconductor-based microinverter is our proprietary application-specific integrated circuit (ASIC) which enables the microinverter to operate in grid-tied or off-grid modes. This chip is built in advanced 55nm technology with high speed digital logic and has super-fast response times to changing loads and grid events, alleviating constraints on battery sizing for home energy systems.

Part of the Enphase Energy System, IQ8 Series Microinverters integrate with the Enphase IQ Battery, Enphase IQ Gateway, and the Enphase App monitoring and analysis software.

Enphase 25 year limited warranty

IQ8 Series Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 25 years.

Connect PV modules quickly and easily to IQ8 Series Microinverters using the included Q-DCC-2 adapter cable with plug-n-play MC4 connectors.

UL CERTIFIED SAFETY

IQ8 Series Microinverters are UL Listed as PV Rapid Shut Down Equipment and conform with various regulations, when installed according to manufacturer's instructions.

Easy to install

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

High productivity and reliability

- Produce power even when the grid is down*
- More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest high-powered 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) requirements

IQ8SE-DS-0001-01-EN-US-2022-03-17

* Only when installed with IQ System Controller 2, meets UL 1741. IQ8H-208V operates only in grid-tied mode.

** IQ8 Series Microinverters supports split phase, 240V. IQ8H-208 supports split phase, 208V only.

IQ8 Series Microinverters

INPUT DATA (DC)		IQ8-60-2-US	IQ8PLUS-72-2-US	IQ8M-72-2-US	IQ8A-72-2-US	IQ8H-240-72-2-US	IQ8H-208-72-2-US[1]
Commonly used module pairings[2]	W	235 – 350	235 – 440	260 – 460	295 – 500	320 – 540+	295 – 500+
Module compatibility		60-cell/120 half-cell	60-cell/120 half-cell, 66-cell/132 half-cell and 72-cell/144 half-cell				
MPPT voltage range	V	27 – 37	29 – 45	33 – 45	36 – 45	38 – 45	38 – 45
Operating range	V	25 – 48	25 – 58				
Min/max start voltage	V	30 / 48	30 / 58				
Max input DC voltage	V	50	60				
Max DC current[3] [module Isc]	A	15					
Overvoltage class DC port		II					
DC port backfeed current	mA	0					
PV array configuration		1x1 Ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit					

OUTPUT DATA (AC)		IQ8-60-2-US	IQ8PLUS-72-2-US	IQ8M-72-2-US	IQ8A-72-2-US	IQ8H-240-72-2-US	IQ8H-208-72-2-US[1]
Peak output power	VA	245	300	330	366	384	366
Max continuous output power	VA	240	290	325	349	380	360
Nominal (L-L) voltage/range[4]	V	240 / 211 – 264					208 / 183 – 250
Max continuous output current	A	1.0	1.21	1.35	1.45	1.58	1.73
Nominal frequency	Hz	60					
Extended frequency range	Hz	50 – 68					
AC short circuit fault current over 3 cycles	Arms	2					4.4
Max units per 20 A (L-L) branch circuit[5]		16	13	11	11	10	9
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	%	97.5	97.6	97.6	97.6	97.6	97.4
CEC weighted efficiency	%	97	97	97	97.5	97	97
Night-time power consumption	mW	60					

MECHANICAL DATA	
Ambient temperature range	-40°C to +60°C (-40°F to +140°F)
Relative humidity range	4% to 100% (condensing)
DC Connector type	MC4
Dimensions (HxWxD)	212 mm (8.3”) x 175 mm (6.9”) x 30.2 mm (1.2”)
Weight	1.08 kg (2.38 lbs)
Cooling	Natural convection – no fans
Approved for wet locations	Yes
Pollution degree	PD3
Enclosure	Class II double-insulated, corrosion resistant polymeric enclosure
Environ. category / UV exposure rating	NEMA Type 6 / outdoor

COMPLIANCE	
Certifications	CA Rule 21 (UL 1741-SA), UL 62109-1, UL1741/IEEE1547, 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 Shut Down 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.

(1) The IQ8H-208 variant will be operating in grid-tied mode only at 208V AC. (2) No enforced DC/AC ratio. See the compatibility calculator at https://link.enphase.com/module-compatibility (3) Maximum continuous input DC current is 10.6A (4) Nominal voltage range can be extended beyond nominal if required by the utility. (5) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

Enphase IQ Combiner 4/4C

X-IQ-AM1-240-4
X-IQ-AM1-240-4C

X-IQ-AM1-240-4C

X-IQ-AM1-240-4

The **Enphase IQ Combiner 4/4C** with Enphase 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 Eaton BR series busbar assembly.

Smart

- Includes IQ Gateway for communication and control
- Includes Enphase Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05), included only with IQ Combiner 4C
- Includes solar shield to match Enphase IQ Battery aesthetics and deflect heat
- Flexible networking supports Wi-Fi, Ethernet, or cellular
- Optional AC receptacle available for PLC bridge
- Provides production metering and consumption monitoring

Simple

- Centered mounting brackets support single stud mounting
- Supports bottom, back and side conduit entry
- Up to four 2-pole branch circuits for 240 VAC plug-in breakers (not included)
- 80A 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 SKU's
- UL listed

UL LISTED

To learn more about Enphase offerings, visit **enphase.com**

ENPHASE

Enphase IQ Combiner 4/4C

MODEL NUMBER	
IQ Combiner 4 (X-IQ-AM1-240-4)	IQ Combiner 4 with Enphase IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 +/- 0.5%) and consumption monitoring (+/- 2.5%). Includes a silver solar shield to match the IQ Battery system and IQ System Controller 2 and to deflect heat.
IQ Combiner 4C (X-IQ-AM1-240-4C)	IQ Combiner 4C with Enphase 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 and to deflect heat.
ACCESSORIES AND REPLACEMENT PARTS	(not included, order separately)
Ensemble Communications Kit COMMS-CELLMODEM-M1-06 CELLMODEM-M1-06-SP-05 CELLMODEM-M1-06-AT-05	- Includes COMMS-KIT-01 and CELLMODEM-M1-06-SP-05 with 5-year Sprint data plan for Ensemble sites - 4G based LTE-M1 cellular modem with 5-year Sprint data plan - 4G based LTE-M1 cellular modem with 5-year AT&T data plan
Circuit Breakers BRK-10A-2-240V BRK-15A-2-240V BRK-20A-2P-240V BRK-15A-2P-240V-B BRK-20A-2P-240V-B	Supports Eaton BR210, BR215, BR220, BR230, BR240, BR250, and BR260 circuit breakers. Circuit breaker, 2 pole, 10A, Eaton BR210 Circuit breaker, 2 pole, 15A, Eaton BR215 Circuit breaker, 2 pole, 20A, Eaton BR220 Circuit breaker, 2 pole, 15A, Eaton BR215B with hold down kit support Circuit breaker, 2 pole, 20A, Eaton BR220B with hold down kit support
EPLC-01	Power line carrier (communication bridge pair), quantity - one pair
XA-SOLARSHIELD-ES	Replacement solar shield for IQ Combiner 4/4C
XA-PLUG-120-3	Accessory receptacle for Power Line Carrier in IQ Combiner 4/4C (required for EPLC-01)
XA-ENV-PCBA-3	Replacement IQ Gateway printed circuit board (PCB) for Combiner 4/4C
X-IQ-NA-HD-125A	Hold down kit for Eaton circuit breaker with screws.
ELECTRICAL SPECIFICATIONS	
Rating	Continuous duty
System voltage	120/240 VAC, 60 Hz
Eaton BR series busbar rating	125 A
Max. continuous current rating	65 A
Max. continuous current rating (input from PV/storage)	64 A
Max. fuse/circuit rating (output)	90 A
Branch circuits (solar and/or storage)	Up to four 2-pole Eaton BR series Distributed Generation (DG) breakers only (not included)
Max. total branch circuit breaker rating (input)	80A of distributed generation / 95A with IQ Gateway breaker included
Envoy breaker	10A or 15A rating GE/Siemens/Eaton included
Production metering CT	200 A solid core pre-installed and wired to IQ Gateway
Consumption monitoring CT (CT-200-SPLIT)	A pair of 200 A split core current transformers
MECHANICAL DATA	
Dimensions (WxHxD)	37.5 x 49.5 x 16.8 cm (14.75" x 19.5" x 6.63"). Height is 21.06" (53.5 cm) with mounting brackets.
Weight	7.5 kg (16.5 lbs)
Ambient temperature range	-40° C to +46° C (-40° 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.
Altitude	To 2000 meters (6,560 feet)
INTERNET CONNECTION OPTIONS	
Integrated Wi-Fi	802.11b/g/n
Cellular	CELLMODEM-M1-06-SP-05, CELLMODEM-M1-06-AT-05 (4G based LTE-M1 cellular modem). Note that an Enphase Mobile Connect cellular modem is required for all Ensemble installations.
Ethernet	Optional, 802.3, Cat5E (or Cat 6) UTP Ethernet cable (not included)
COMPLIANCE	
Compliance, IQ Combiner	UL 1741, CAN/CSA C22.2 No. 107.1, 47 CFR, Part 15, Class B, ICES 003 Production metering: ANSI C12.20 accuracy class 0.5 (PV production) Consumption metering: accuracy class 2.5
Compliance, IQ Gateway	UL 60601-1/CANCSA 22.2 No. 61010-1

To learn more about Enphase offerings, visit **enphase.com**

Rapid shutdown is built-in

The 2014 edition of the National Electrical Code (NEC 2014) added new rapid shutdown requirements for PV systems installed on buildings. Enphase Microinverters fully meet rapid shutdown requirements in the new code without the need to install any additional electrical equipment.

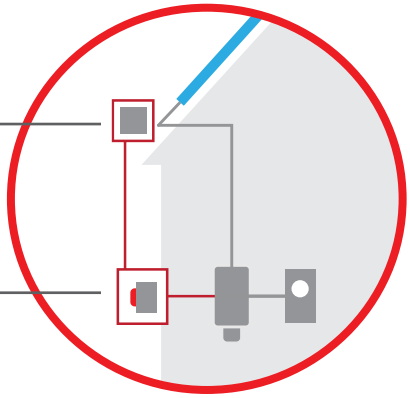
What's new in NEC 2014?
NEC 2014, Section 690.12 applies to PV conductors over 10 feet from the PV array and requires that the conductors power down to 30 volts and 240 volt-amperes within 10 seconds of rapid shutdown initiation.

String inverters require work arounds for rapid shutdown

Work around.
Specialized Rapid Shutdown electrical box installed on the roof within 10 feet of array.

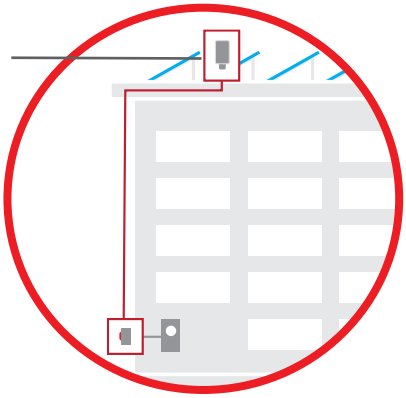
Work around.
Shutoff switch that is easily accessible to first responders on the ground.

Work around.
Extra conduit in installation.



Residential String Inverter

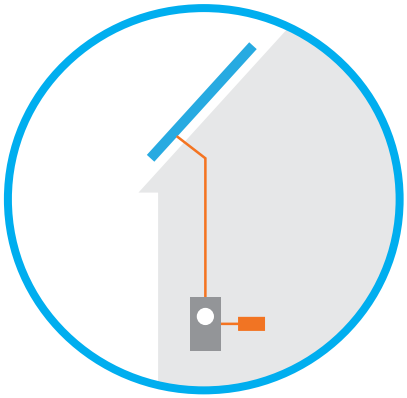
Work around.
String inverter installed on roof, a hostile environment that string inverters are not built to live in.



Commercial String Inverter

Enphase comes standard with rapid shutdown capability

All Enphase microinverters, even those that were previously installed, inherently meet rapid shutdown requirements, no additional equipment or workarounds needed



Residential Microinverter

Enphase microinverters can safely shut down automatically, leaving only low-voltage DC electricity isolated to the PV module

Commercial Microinverter

To learn more, visit **enphase.com**

ENPHASE.

AUTEL MAXICHARGER

AC Lite

MaxiCharger AC Lite

Fast Home AC Charging

Charge faster and more efficiently

- Up to a maximum of 50A, creating 12kW of power for increased charging speed
- 9X fasters than a traditional AC home charger
- Can be adjusted through a hardware switch or the APP

Smart Charging

Real-time notification and reporting

- Easly view schedules and details
- Charging status sessions

High Convenience

Ready to go and easy to Install

- Comes standard with hardwired or NEMA 14-50/6-50 plug
- Plug in system can be installed in 8 minutes
- Hardwired version requires a certified electrician

MaxiCharger AC Lite

Technical Specifications

AC Power Output Rating	Maximum 12 kW (240V AC * 50A)
AC Power Input Rating	208/240V AC 60Hz single phase @ 12A, 16A, 24A, 32A, 40A, 48A, 50A
Circuit Breaker Options (A)	20A,30A,40A,50A,60A,70A
Input Wiring Scheme	3 Wire – L1, L2, PE
Input Cord	NEMA 6-50 or NEMA 14-50 or Hard wired
Connector Type	SAE J1772 （Duosida）
Charging Cable Length	3m/5m/7.5m
Cable management	No
Display	4 LEDs，No LOGO LED
Ambient Light Sensor	No
Metering	Meter IC,+/-1%
Ground Fault Detection	20 mA CCID with auto retry
Protection	Overcurrent, overvoltage, undervoltage, integrated surge protection
Connectivity	Bluetooth, Wi-Fi, RS485, Ethernet
Card Reader	YES
Sub-G(Auto Open The Tesla Charging Port)	No
Communication protocols	OCPP 1.6J
Mounting	Wall or floor using a pedestal
Enclosure Ratings	NEMA 4X,Indoor or Outdoor installation
Operating Temperature	-40℃~55℃
Storage Temperature	-40℃~70℃
Operating Humidity	<95%, Non-Condensing
Dimension(H×W×D)	335*187*85mm
Safety and Compliance	UL 2594, UL 2231-1, UL 2231-2, UL 1998, CSA C22.2. NO.280
Codes and standards	FCC Part 15 Class B、ENERGY STAR、OpenADR2.0 B
Product design life	More than 10 years
Warranty	3 years

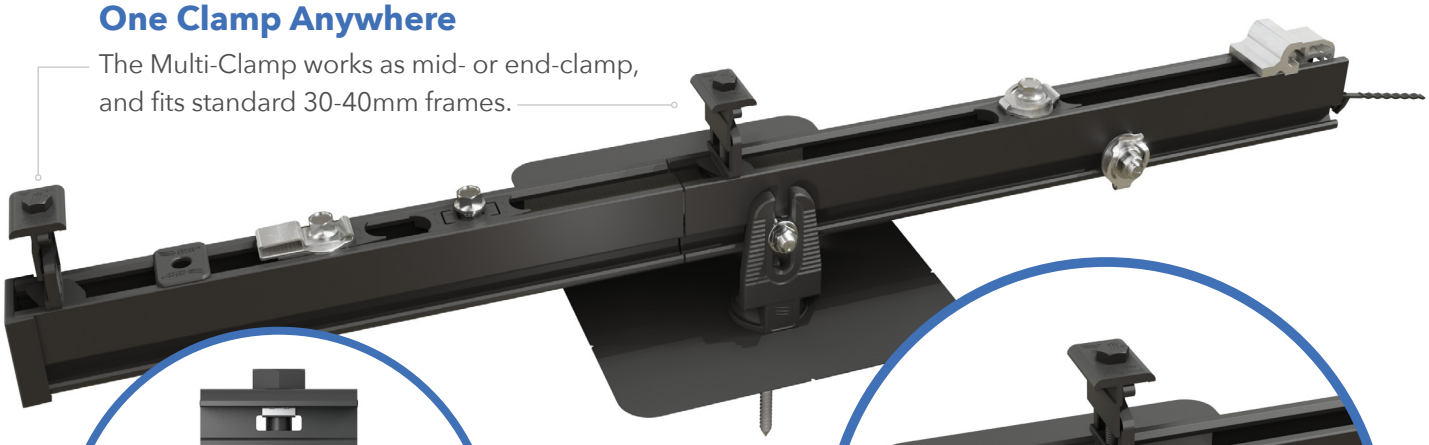
** All pictures shown are for illustration purpose only, actual product and specifications may vary due to product enhancement*

PEGASUS SOLAR™
A Better Day on the Job

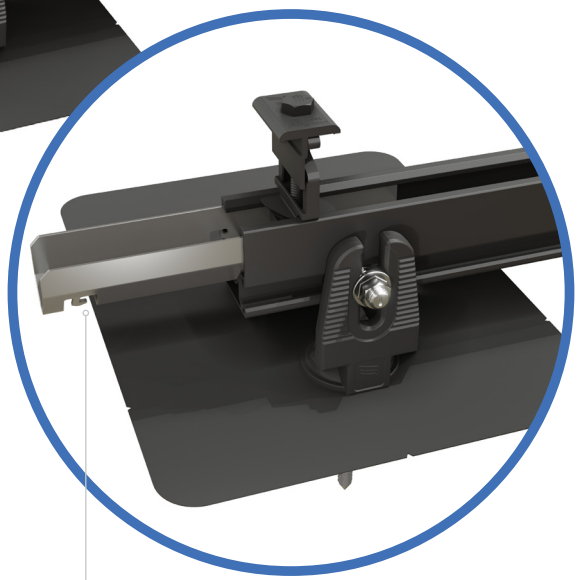
RAIL SYSTEM

Instant Bonding
The N-S Bonding Jumper bonds row to row with no tools.

One Clamp Anywhere
The Multi-Clamp works as mid- or end-clamp, and fits standard 30-40mm frames.



Lifetime Wire Management
Open rail channel holds and protects wires. Clamps won't pinch wires after tightening.



Bonding Structural Splice
Connect rails instantly, without tools, interference or limitations.

Next-Level Solar Mounting

A complete system for hassle-free rooftop installation, from watertight mounts to lifetime wire management.

Simplicity

1/2"socket for everything.
One clamp for mid or end.
No tool splicing and bonding.
Easy wire management.

Code Compliant

UL 2703 listed
LTR-AE-001-2012 listed
Class A fire rating for any slope
ASCE 7-16 PE Certified

Premium Aesthetics

The narrowest panel gap available. Optional Hidden End Clamps and End Caps provide a flush look on the edge of the array.

Watertight for Life

Secured on industry-leading Pegasus Mounts, for composite shingle and tile roofs.
Backed by a 25-year warranty.

Pegasus Solar Inc | 506 West Ohio Avenue, Richmond, CA 94804 | T: 510.210.3797 | **www.pegasussolar.com**

RAIL SYSTEM

Pegasus Rail

Available in 14′ and 7′ lengths for easy layout and shipping.

Open-channel design holds MC4 connectors, PV wire and trunk cables.

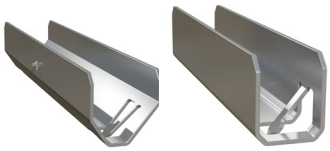
Black and Mill finish

Pegasus Max Rail

Maximum-strength design.

Meets specifications for high snow-load and hurricane zones.

Black and Mill finish

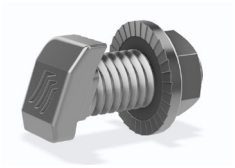


Splice and Max Splice

Installs by hand.

Works over mounts.

Structurally connects and bonds rails automatically; UL2703 listed as reusable.



Dovetail T-bolt

Dovetail shape for extra strength.

Uses ½″ socket.

Multi-Clamp

Fits 30-40mm PV frames, as mid- or end-clamp.

Twist-locks into position; doesn't pinch wires in rail.

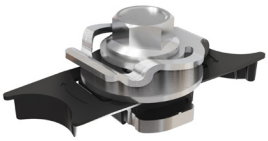
Bonds modules to rail; UL2703 listed as reusable

Hidden End Clamp

Offers premium edge appearance.

Preinstalled pull-tab grips rail edge, allowing easy, one-hand installation.

Tucks away for reuse.



Ground Lug

Holds 6 or 8 AWG wire.

Mounts on top or side of rail.

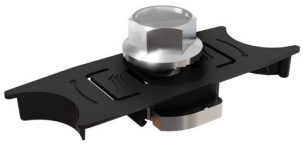
Assembled on MLPE Mount.

UL2703 listed as reusable.

N-S Bonding Jumper

Installs by hand, eliminates row-to-row copper wire.

UL2703 listed as reusable only with Pegasus Rail.

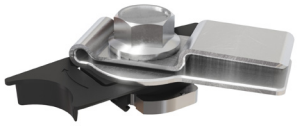


MLPE Mount

Secures and bonds most micro-inverters and optimizers to rail.

Connectors and wires easily route underneath after installation.

UL2703 listed as reusable.



Cable Grip

Secures four PV wires or two trunk cables.

Stainless-steel backing provides durable grip.

Eliminates sagging wires.

Wire Clip

Hand operable.

Holds wires in channel.

Won't slip.

End Cap and Max End Cap

Fits flush to PV module and hides raw or angled cuts.

Hidden drain quickly clears water from rail.

Certifications:

- UL 2703, Edition 1
- LTR-AE-001-2012
- ASCE 7-16 PE certified
- Class A fire rating for any slope roof

LOAD		SPAN			
SNOW (PSF)	WIND (MPH)	32″	4′	6′	8′
0	120				
	160				
	190				
15	140				
	160				
	190				
30	160				
	190				
45	190				
70	190				
110	190				

PEGASUS RAIL PEGASUS MAX RAIL

For reference only. Spans above are calculated using ASCE 7-16 for a Gable Roof, Exposure Category B, 7-20deg roof angle, 30ft mean roof height with non-exposed modules. For PE certified span tables, visit www.pegasussolar.com/spans.

FREE
PEGASUS SOLAR
Design Tool

Quickly calculate the most efficient layout, spans and materials needed to suit your job. Visit the Pegasus Customer Portal. **pegasussolar.com/portal**

Pegasus Solar Inc | 506 West Ohio Avenue, Richmond, CA 94804 | T: 510.210.3797 | **www.pegasussolar.com**

PEGASUS SOLAR™
A Better Day on the Job

COMP MOUNT

One-Piece Flashing with Elevated Cone
No press-fits or deck-level EPDM washers to fail

Encapsulating Design
Raises the water seal 0.9" Above roof deck

Simple 3-Piece Design Watertight For Life

Pegasus solar's comp mounts are a cost effective, high-quality option for rail installations on composition shingle roofs. Designed to last decades, the one-piece flashing with elevated cone means there is simply nothing to fail.

25-Year Warranty
Manufactured with advanced materials and coatings to outlast the roof itself

Code Compliant
Fully IBC/CBC Code Compliant
Exceeds ASCE 7-16 Standards

Superior Waterproofing
Tested to AC286 without sealant
Water seal elevated 0.9" above

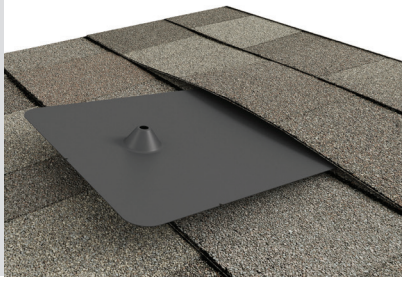
All-In-One Kit Packaging
Flashings, L-Feet and SS lags with bonded EPDM washers are included in each 24-pack

Pegasus Solar Inc | 506 West Ohio Avenue, Richmond, CA 94804 | T: 510.210.3797 | **www.pegasussolar.com**

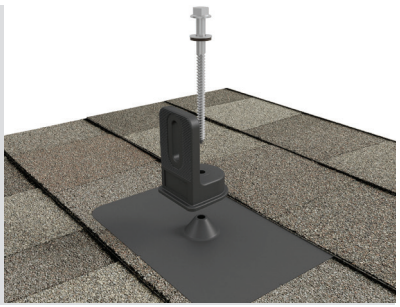
COMP MOUNT

1
Drill pilot hole in the center of the rafter.

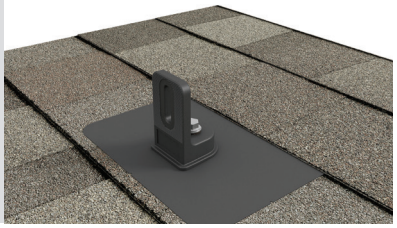
2
Optional: Apply a "u-shape" of sealant to the underside of the flashing and position under 2nd shingle course, cone over pilot hole.

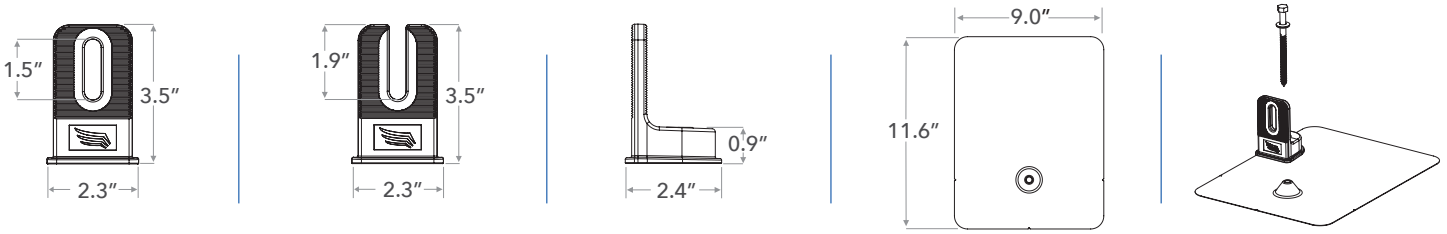


3
Place L-Foot over cone and install lag with washer through L-Foot.



4
Drive lag to required depth. Attach rail per rail manufacturer's instructions.





SPECIFICATIONS	COMP MOUNT INSTALL KITS				
SKU	PSCR-CBB0	PSCR-UBB0	SPCR-CBBH	PSCR-CMM0	PSCR-UMM0
Finish	Black L-Foot And Black Flashing			Mill	
L-Foot Type	Closed Slot	Open Slot	Closed Slot	Closed Slot	Open Slot
Kit Contents	L-Foot, Flashing, 5/16″ x 4 1/2″ SS Lag with metalized EPDM washer	L-Foot, Flashing, 5/16″ x 4 1/2″ SS Lag with metalized EPDM washer and M10 Hex Bolt	L-Foot, Flashing, 5/16″ x 4 1/2″ SS Lag with metalized EPDM washer	L-Foot, Flashing, 5/16″ x 4 1/2″ SS Lag with metalized EPDM washer	L-Foot, Flashing, 5/16″ x 4 1/2″ SS Lag with metalized EPDM washer
Roof Type	Composition Shingle				
Certifications	IBC, ASCE/SEI 7-16, AC286				
Install Application	Railed Systems				
Compatible Rail	Most				
Kit Quantity	24				
Boxes per Pallet	72				

SolaDeck

PV ROOF-MOUNT ENCLOSURE

UL50 Type 3R Enclosure• Stamped 18 gauge gal. steel • Powder coated finish • Weather tight

INTRODUCED AT

SOLAR POWER 2007

PV Roof-Mount Combiner/Enclosure

Enclosure Includes:

- Dual ground lug
- Universal DIN rail
- 1/2", 3/4" & 1" knockouts
- Wire strain relief clip
- Complete hardware package

Benefits

- The ability to prep the building is now possible
- Replaces several parts used today
- Provides professional looking install
- Saves time on install
- Allows for easy access
- Guaranteed seal to roof
- Low profile design

For product information contact us at

(866) 367-7782

www.commdeck.com

R.S.T.C. ENTERPRISES Incorporated

RSTC Enterprises, Inc
2219 Heimstead Road
Eau Claire, WI 54703
1 (866) 367 - 7782

SolaDeck Part # 780

Specifications:

18 Gauge Steel Base (1) and Cover (2)
Pre Punched 7 holes in base (1) for roof deck
Pre Punched 4 holes in base (1) and cover (2) for match
Draw Process both parts
Powder Coated to withstand 1000 hours Salt Spray (Primer Gray)
High UV resistance
15" x 15" flashing dimension
Cavity dimension 8"W x 9" L x 2.5"D
Approx. 162 Cubic inch equipment cavity
Norloked steel base plate (3) to drawn base (2)
Three knockout locations .5", .75" and 1"
3" DIN rail installed
Grounding Lug- Installed (In Equipment Cavity)
Wire Strain Relief Clip –Installed (In Equipment Cavity)
Hardware pack withstands 500 hours Salt Spray
- **7 - 2" Trusshead Screws**
- **4 - .5" 8-32 thread cutting screws**
- **4 - #10 Bonded Seal washers**
- **1 – Foam closed Cell Seal**

ETL Listed UL50 Type 3R

Total Weight 6.9 pounds each

Packaging:
Individually bagged and boxed
Box dimension 15.5"w x 16" L x 3" D
White Carton labeled with Cut out template
Print One Color - Black

Master Cartons of 6 Units each
Master Carton dimension 18.75"x16"x16.375"
Master Carton Weight – 42 pounds
18 Master Cartons per skid Approx 800 pounds with skid

2219 Heimstead Road, Eau Claire, WI 54703
Phone: 715/830-9997 Fax: 715/830-9976 866/FOR-RSTC (367-7782)

Product data sheet

Specifications

Safety switch, general duty, fusible, 200A, 3 wire, 2 poles, 1 neutral, 60hp, 240VAC, Type 3R, bolt on hub provision

D224NRB

Product availability : Stock - Normally stocked in distribution facility

Price* : 1,200.00 USD

Main

Product	Single Throw Safety Switch
Duty Rating	General duty
Device Application	Residential
Disconnect Type	Fusible disconnect switch
Factory Installed Neutral	Neutral (factory installed)
Phase	3 phase
Number of Poles	2
Current Rating	200 A
Voltage Rating	240 V AC
Enclosure Rating NEMA	NEMA 3R
Maximum Horse Power Rating	15 hp 240 V at AC 60 Hz for 1 phase conforming to NEC 240.6 25 hp 240 V at AC 60 Hz for 3 phase conforming to NEC 240.6 60 hp 240 V at AC 60 Hz for 3 phase conforming to NEC 430.52

Complementary

Short Circuit Current Rating	100 kA maximum depending on fuse H, K or R
Fuse type	H, K or R
Mounting Type	Surface
Electrical Connection	Lugs
Wiring configuration	3-wire
Wire Size	AWG 6...250 kcmil aluminium/copper
Tightening torque	275 lbf.in (31.07 N.m) (AWG 6...250 kcmil)
Depth	8.5 in (215.90 mm)
Width	19 in (482.60 mm)
Height	29.25 in (742.95 mm)
Net Weight	53.51 lb(US) (24.27 kg)

* Price is “List Price” and may be subject to a trade discount – check with your local distributor or retailer for actual price.

Environment

Certifications	UL listed file E2875

Ordering and shipping details

Category	00106-D & DU SW,NEMA3R, 30-200A
Discount Schedule	DE1A
GTIN	785901460763
Nbr. of units in pkg.	1
Package weight(Lbs)	42.70 lb(US) (19.368 kg)
Returnability	Yes
Country of origin	US

Packing Units

Unit Type of Package 1	PCE
Package 1 Height	8.50 in (21.59 cm)
Package 1 width	19.50 in (49.53 cm)
Package 1 Length	30.50 in (77.47 cm)
Unit Type of Package 2	PAL
Number of Units in Package 2	15
Package 2 Weight	670.00 lb(US) (303.907 kg)
Package 2 Height	45.00 in (114.3 cm)
Package 2 width	40.00 in (101.6 cm)
Package 2 Length	48.00 in (121.92 cm)

Offer Sustainability

Sustainable offer status	Green Premium product
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov
REACh Regulation	REACh Declaration
REACh free of SVHC	Yes
EU RoHS Directive	Compliant EU RoHS Declaration
Toxic heavy metal free	Yes
Mercury free	Yes
RoHS exemption information	Yes
China RoHS Regulation	China RoHS declaration Pro-active China RoHS declaration (out of China RoHS legal scope)
Environmental Disclosure	Product Environmental Profile
PVC free	Yes

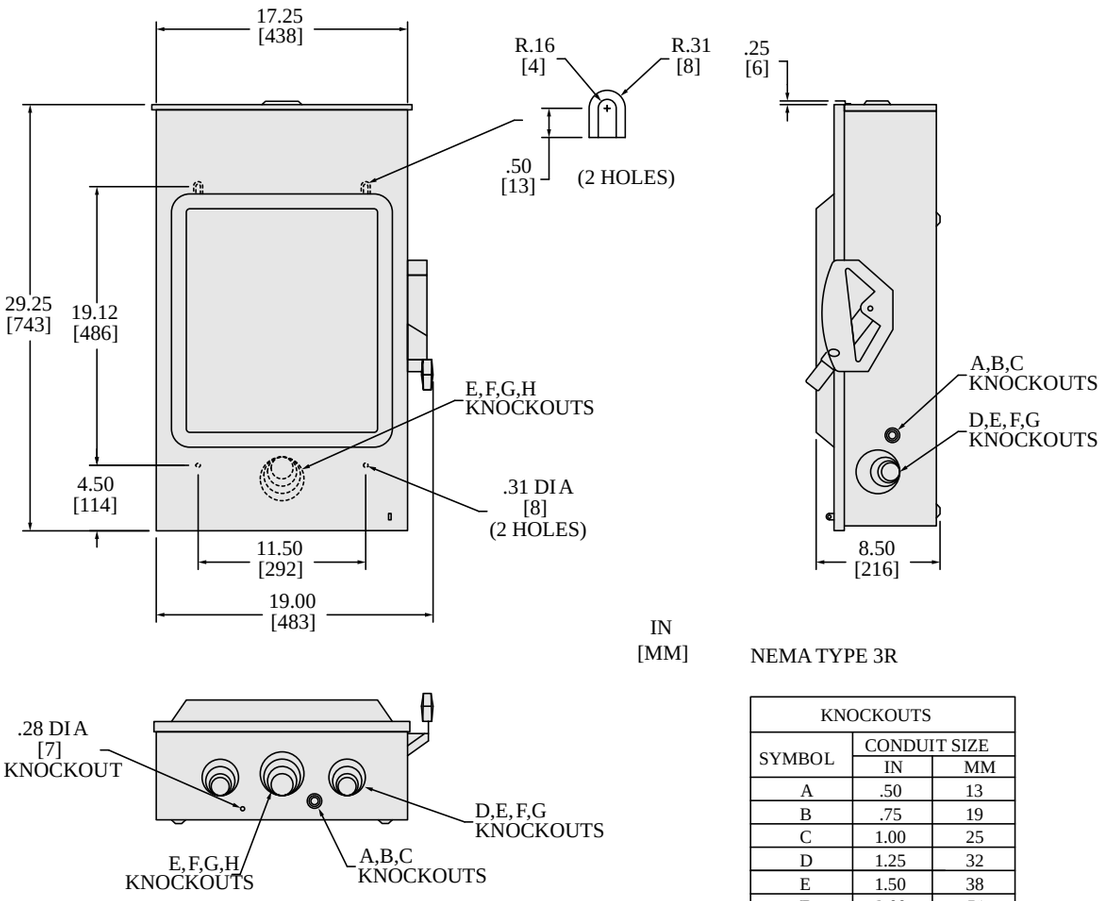
Contractual warranty

Warranty	18 months

Product data sheet D224NRB

Technical Illustration

Dimensions



KNOCKOUTS		
SYMBOL	CONDUIT SIZE	
	IN	MM
A	.50	13
B	.75	19
C	1.00	25
D	1.25	32
E	1.50	38
F	2.00	51
G	2.50	64
H	3.00	76

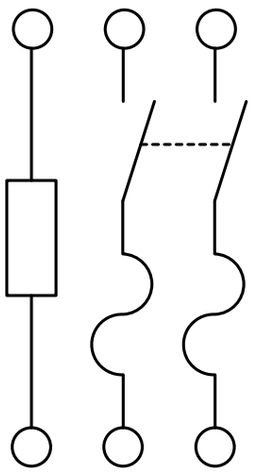
WHEN MOUNTING THESE SWITCHES, ALLOW 4.00 [102] MIN CLEARANCE BETWEEN ENCLOSURES FOR OPENING OF SIDE HINGED DOOR.

TOP OF NEMA TYPE 3R DEVICES HAVE PROVISIONS FOR MAXIMUM 2.50 [64] BOLT-ON HUB.

ALL DIMENSIONS ARE APPROXIMATE. REFER TO TECHNICAL DRAWINGS AND DOCUMENTATION.

Wiring Diagram

FUSIBLE



D224NRB

Product data sheet

Specifications

Load center, Homeline, 1 phase, 20 spaces, 40 circuits, 125A convertible main lugs, PoN, NEMA3R

HOM2040L125PRB

Product availability : Stock - Normally stocked in distribution facility

Price* : 413.64 USD

Main

Product Type	Load Center
Marketing Trade Name	Homeline
Load Center Type	PoN Convertible Mains (lugs)
Rated Current	125 A
Number of Spaces	20
Maximum Number of Single Pole Circuits	40
Enclosure Rating	NEMA 3R outdoor
Cover Type	Surface cover
Electrical Connection	Lugs

Complementary

Max Short Circuit Current Rating	10 kA
Maximum Number of Tandem Breakers	20
Number of Phases	1 phase
Voltage Rating	120/240 V AC
Wire Size	AWG 6...AWG 2/0 aluminium AWG 6...AWG 1/0 copper
Ground Bar	Grounding bar (ordered separately)
Wiring Configuration	3-wire
Busbar Material	Tin plated aluminium busbar
Enclosure Material	Welded galvannealed steel
Surface Finish	Baked enamel Gray
Box Number	4R
Bus Rated Current	125.0 A
Height	22.05 in (560 mm)
Width	14.76 in (375 mm)
Depth	4.53 in (115 mm)

* Price is “List Price” and may be subject to a trade discount – check with your local distributor or retailer for actual price.

Environment

Ambient Air Temperature for Operation	23 °F (-5 °C) 104 °F (40 °C)
Product Certifications	UL listed file E-6294

Ordering and shipping details

Category	00145-HOM LC&CVR,12-42CKT NEMA3R
Discount Schedule	DE3C
GTIN	785901847557
Returnability	Yes
Country of origin	US

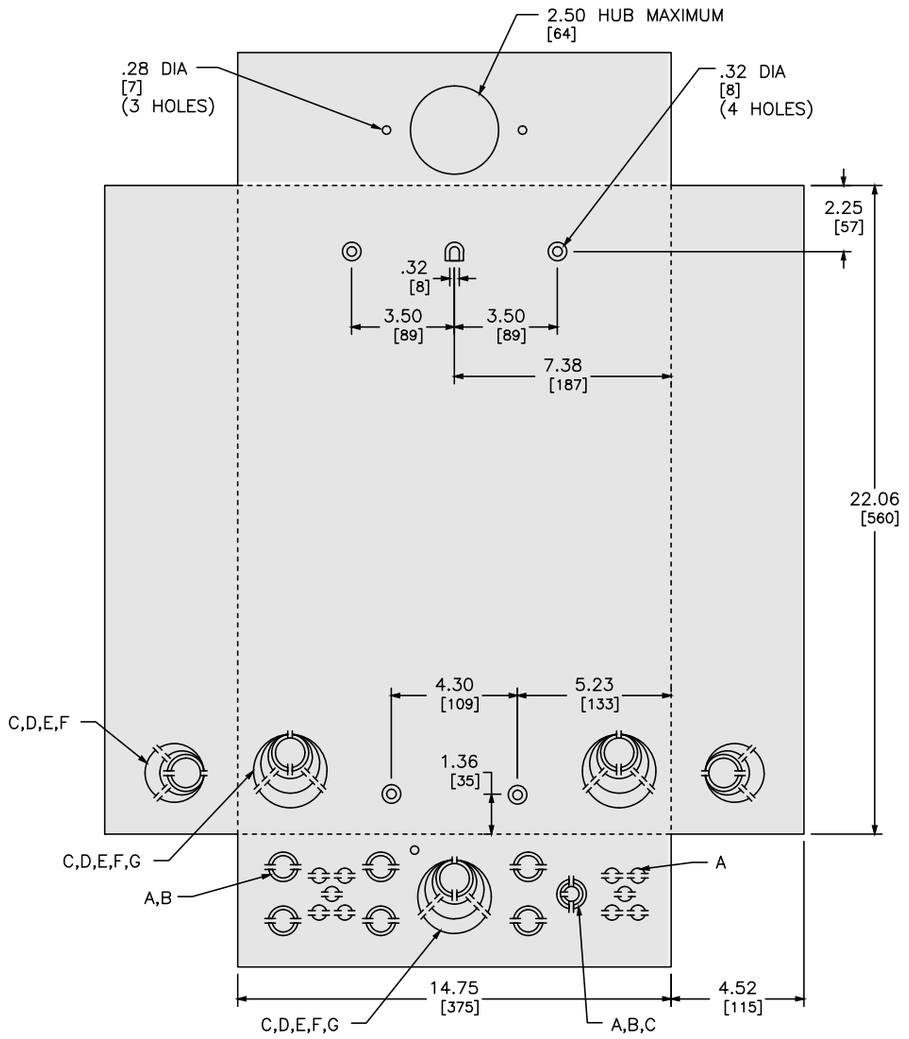
Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	5.10 in (12.954 cm)
Package 1 Width	15.50 in (39.37 cm)
Package 1 Length	24.00 in (60.96 cm)
Package 1 Weight	23.80 lb(US) (10.795 kg)
Unit Type of Package 2	PAL
Number of Units in Package 2	40
Package 2 Height	46.00 in (116.84 cm)
Package 2 Width	40.00 in (101.6 cm)
Package 2 Length	48.00 in (121.92 cm)
Package 2 Weight	982.00 lb(US) (445.427 kg)

Offer Sustainability

Sustainable offer status	Green Premium product
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov
REACh Regulation	REACh Declaration
EU RoHS Directive	Compliant EU RoHS Declaration
Toxic heavy metal free	Yes
Mercury free	Yes
China RoHS Regulation	China RoHS declaration Pro-active China RoHS declaration (out of China RoHS legal scope)
RoHS exemption information	Yes
Environmental Disclosure	Product Environmental Profile

Dimensions

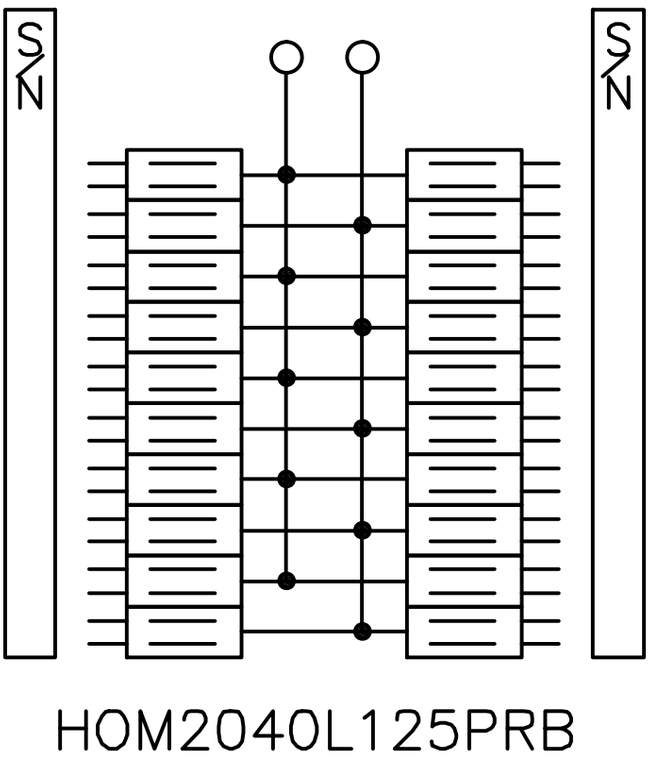


in.
[mm]

KNOCKOUTS							
SYMBOL	A	B	C	D	E	F	G
IN	.50	.75	1.00	1.25	1.50	2.00	2.50
MM	13	19	25	32	38	51	64

Dimensions are approximate. Refer to technical documentation for additional detail.

Wiring Diagram



Recommended replacement(s)

	SUB Load Panel (200A)		
Sr. No.	Loads	Amperage	Wattage (VA)
1	Bedroom + Guest Bathroom	15 - 1 pole	400
2	Bonus RM + Recepticles	15 - 1 pole	1500
3	Family Room	15 - 1 pole	400
4	Office	15 - 1 pole	1500
5	Master Bedroom + Smoke Detectors	15 - 1 pole	1500
6 7	Upwall Unit	30 - 2 pole	5000
8	Washer	20 - 1 pole	1500
9	Microwave	20 - 1 pole	1800
10	Down Heat	60 - 2 pole	5000
11	Range	40 - 2 pole	3000
12	Garage GFCI	15 - 1 pole	1500
13	Upstairs Lights + recepticles	15 - 1 pole	1500
14	Porch Lights	15 - 1 pole	400
15	Kitchen + Front Door Lights	15 - 1 pole	500
16	M.Bath + Closet Lights	15 - 1 pole	1500
17	Bedroom Hall + Recepticles	15 - 1 pole	1500
18	Dinning Room + Nook Recepticles	20 - 1 pole	1500
19	Bathroom GFI Recepticles	20 - 1 pole	1500
20	Kitchen Counter top GFCI Recepticles	20 - 1 pole	1700
21	Kitchen Counter top GFCI Recepticles	20 - 1 pole	1700
22	Diswasher	20 - 1 pole	1500

23	Dryer	30 - 2 pole	5000
24	Garage Lights	15 - 1 pole	400
25	AC	30 - 2 pole	5500

Total Wattage of Sub Load Panels	47300
100% of first 10kVA	10000
40% of Remainder Loads	14920
(Remiander + 10kVA)+ Largest Load	30420
Total Current of the Loads	126.75
Bus Bar of Existing Sub Load Panel	200A