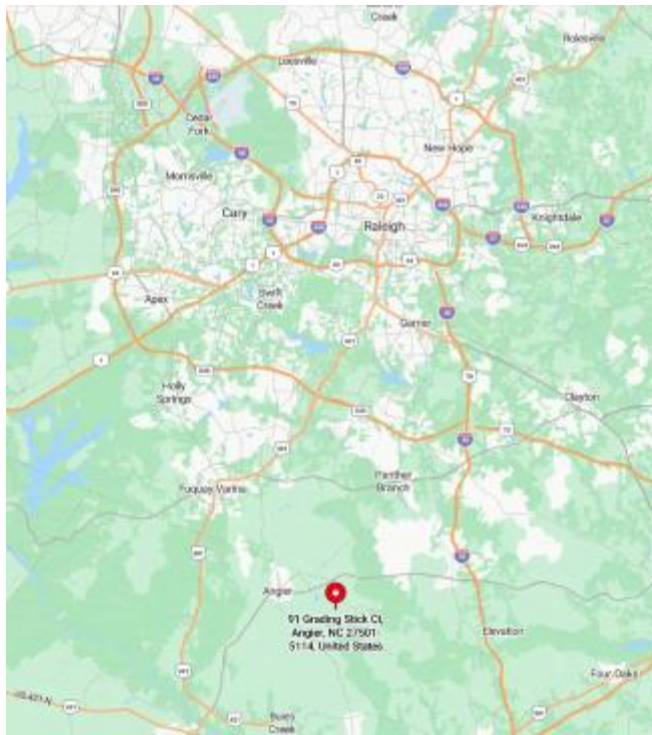


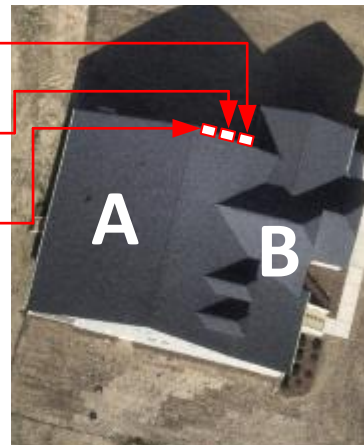
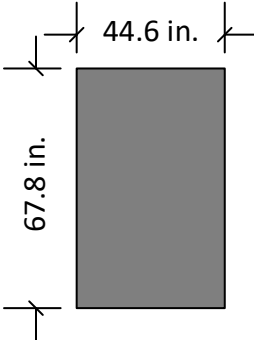

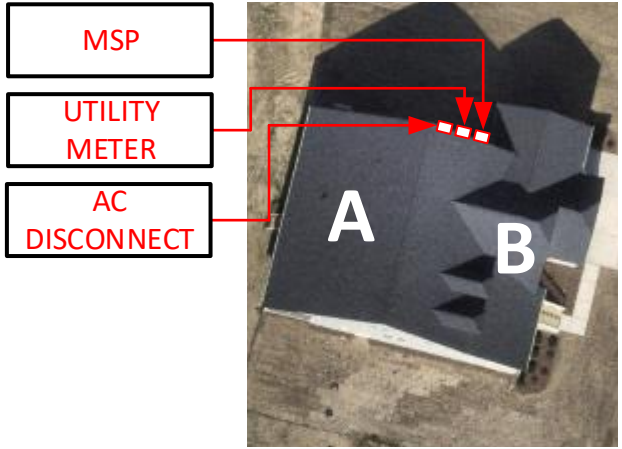


PHOTOVOLTAIC ROOF MOUNT SYSTEM			SR.#	PROJECT INFORMATION	
<div>CODE AND STANDARDS</div> <div>THE INSTALLATION OF SOLAR ARRAYS AND PHOTOVOLTAIC POWER SYSTEMS SHALL COMPLY WITH THE FOLLOWING CODES:</div> <div><div><div>NOTICE TO CONTRACTOR</div><div>Approved</div><div>04/04/2025</div><div>Harnett COUNTY NORTH CAROLINA</div></div></div> <div>SITE NOTES / OSHA REGULATION</div> <div><div><div>1.</div><div>A LADDER SHALL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH OSHA REGULATIONS.</div></div><div><div>2.</div><div>THE SOLAR PV INSTALLATION SHALL NOT OBSTRUCT ANY PLUMBING, MECHANICAL, OR BUILDING ROOF VENTS.</div></div><div><div>3.</div><div>ROOFTOP MOUNTED PHOTOVOLTAIC PANELS AND MODULES SHALL BE TESTED, LISTED AND IDENTIFIED BY RECOGNIZED ELECTRICAL TESTING LABORATORY.</div></div><div><div>4.</div><div>MODULES AND SUPPORT STRUCTURES SHALL BE GROUNDED</div></div><div><div>5.</div><div>SOLAR INVERTER SHALL BE LISTED TO UL1741</div></div><div><div>6.</div><div>ALL CONDUCTORS SHALL BE COPPER AND SHOULD BE 75 AND 90 DEG RATED</div></div><div><div>7.</div><div>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.</div></div><div><div>8.</div><div>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.</div></div><div><div>9.</div><div>ALL PV MODULES AND ASSOCIATED EQUIPMENT AND WIRING SHALL BE PROTECTED FROM PHYSICAL DAMAGE.</div></div></div> <div>SOLAR CONTRACTOR</div> <div><div>1.</div><div>MODULE CERTIFICATIONS INCLUDE UL1703, IEC61646, IEC61370.</div></div> <div><div>2.</div><div>IF APPLICABLE, MODULE GROUNDING LUGS MUST BE INSTALLED AT THE MARKED GROUNDING LUG HOLES PER THE MANUFACTURERS INSTALLATION REQUIREMENTS.</div></div> <div><div>3.</div><div>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.</div></div> <div><div>4.</div><div>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).</div></div> <div><div>5.</div><div>ALL SIGNAGE TO BE INSTALLED IN ACCORDANCE WITH LOCAL BUILDING CODE.</div></div> <div><div>6.</div><div>TERMINALS AND LUGS WILL BE TIGHTENED TO MANUFACTURER TORQUE SPECIFICATIONS (WHEN PROVIDED) IN ACCORDANCE WITH NEC CODE 110.14(D) ON ALL ELECTRICAL CONNECTIONS.</div></div> <div><div>7.</div><div>MAX DC VOLTAGE CALCULATED USING MANUFACTURER PROVIDED TEMP COEFFICIENT FOR VOC UNLESS NOT AVAILABLE.</div></div>			1	PV MODULES	28 x AXITEC AC-440TGB/108BB+440W
			2	INVERTER + BATTERY	01 X POWERWALL3
			3	ROOF TYPE	ASPHALT SHINGLES
			4	RACKING	PSR-B84 RAILS (BLACK)
			5	MOUNTING TYPE	COMP MOUNT FLASHING (BLACK)
			6	DC SIZE	12.32 KW
			7	AC SIZE	11.5 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			
					
DESIGN CRITERIA WIND SPEED: 120 MPH GROUND SNOW LOAD: 15 PSF WIND EXPOSURE FACTOR: B		UTILITY COMPANY: DUKE ENERGY PERMIT ISSUER (AHJ): HARNETT COUNTY	SCOPE OF WORK INSTALLATION OF UTILITY INTERACTIVE PHOTOVOLTAIC SOLAR SYSTEM.		
VICINITY MAP		TOP VIEW OF THE BUILDING			
					

Revision:

ROOF DESCRIPTION				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					<div><div>MSP</div><div>UTILITY METER</div><div>AC DISCONNECT</div></div> 
ROOF	PITCH	AZIMUTH	NO. OF MODULES		ROOF	A	B			
A	34°	284°	21		DEAD LOAD (PSF)	2.77	2.77			
B	40°	194°	07							
Vent		<ul style="list-style-type: none">Roof B have no ventsNo vent will be covered by PV modules during the installation.		SYSTEM DETAILS NUMBER OF PANELS : 28 PANELS MODEL : AXITEC AC-440TGB/108BB+ 440W DC SIZE : 12.32 KW						



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Customer Information:

Gary Neff

91 Grading Stick Ct
Angier, NC 27501

Customer Signature:

Sheet Name:

Site Layout

JOB NUMBER:

25-106-GA

Date:

03/26/2025

Revision:

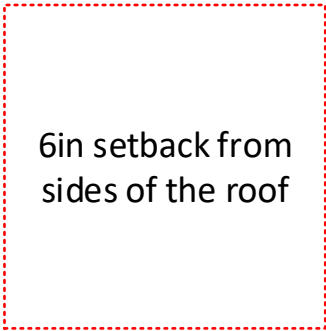
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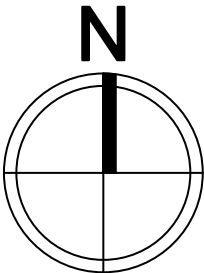
ANSI C
17" X 22"

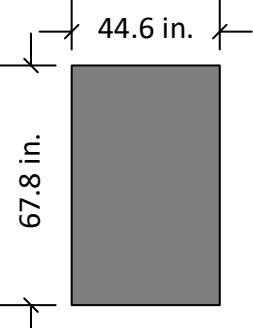

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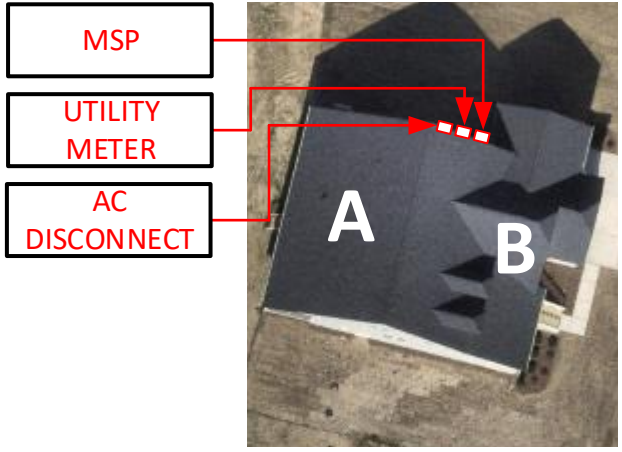
PV2



SITE LAYOUT
SCALE: 1/8" - 1'



ROOF DESCRIPTION				MODULE DIMENSIONS	STRING LAYOUT					
ROOF	PITCH	AZIMUTH	NO. OF MODULES		TESLA POWERWALL3					
A	34°	284°	21		Strings #	No. of Modules	Color	Strings #	No. of Modules	Color
B	40°	194°	07		String 1	12				
					String 2	09				
					String 3	07				
Tesla MCI (Mid Circuit Interrupter)				<div>SYSTEM DETAILS</div> <div>NUMBER OF PANELS : 28</div> <div>PANELS MODEL : AXITEC AC-440TGB/108BB+ 440W</div> <div>DC SIZE : 12.32 KW</div> <div>AC SIZE : 11.5 KVA</div>						



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Customer Signature:

Sheet Name:

String Mapping

JOB NUMBER:

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Revision:

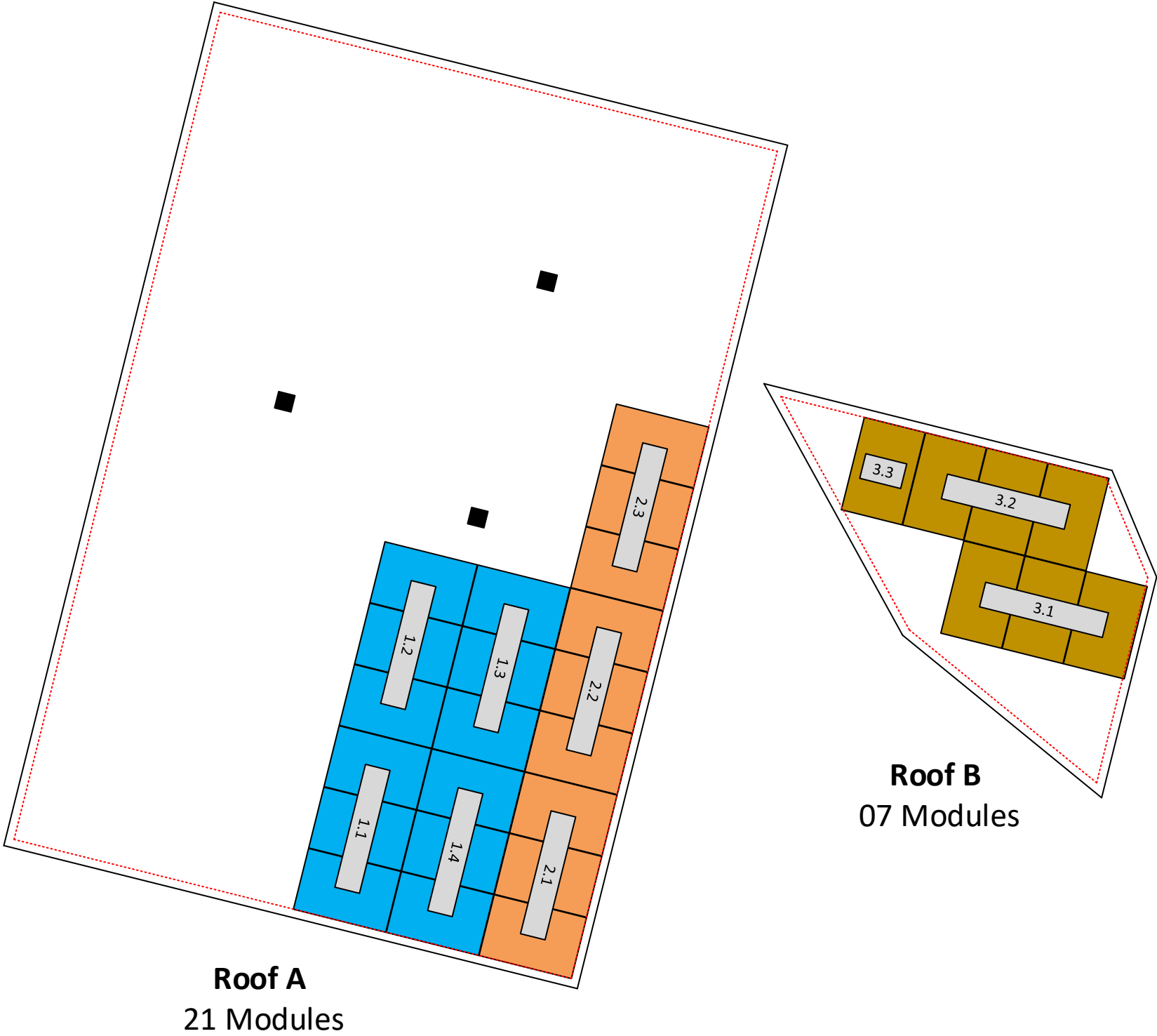
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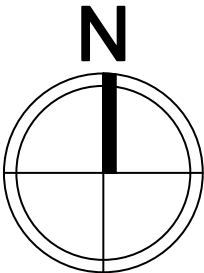
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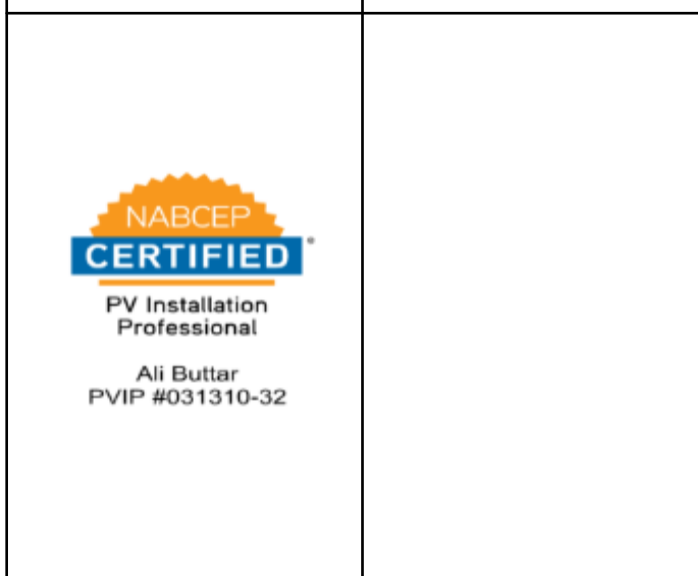
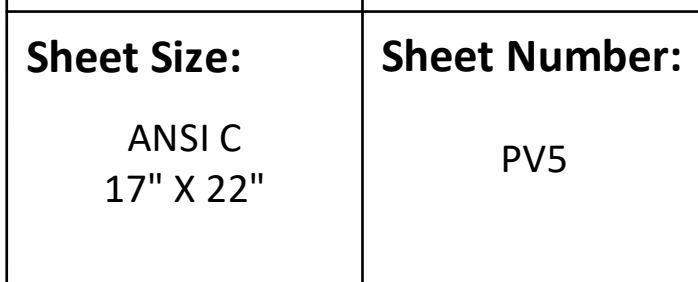
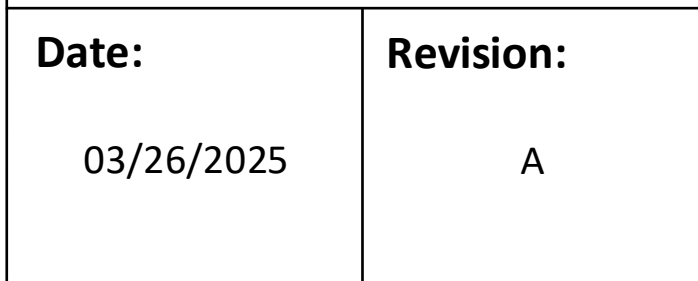
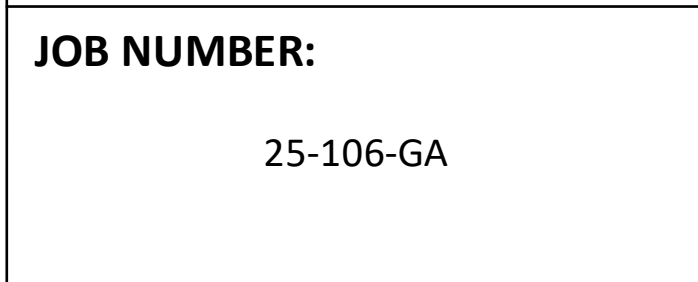
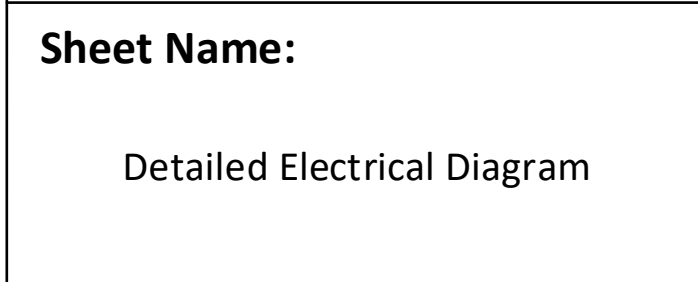
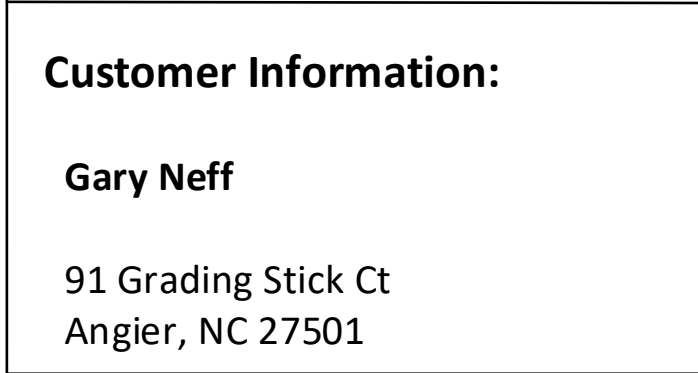
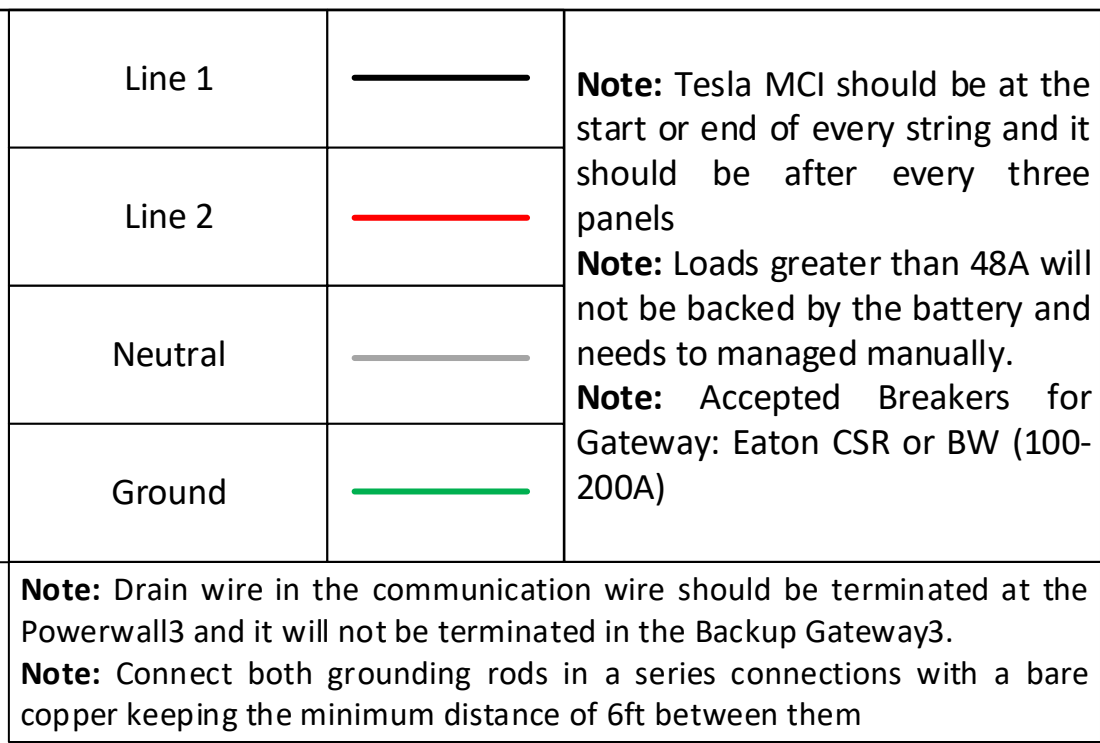
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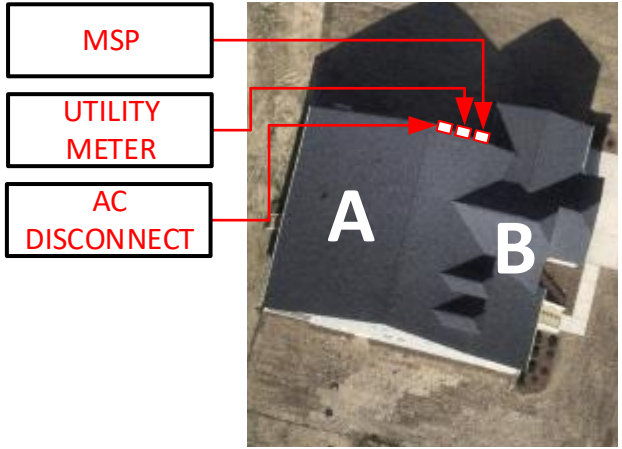


STRING MAPPING
SCALE: 1/8" - 1'





ROOF DESCRIPTION				MODULE DIMENSIONS	Rails and Splices : PSR-B84 (BLACK)	Roof Attachment : Pegasus Comp Mount
ROOF	PITCH	AZIMUTH	NO. OF MODULES			
A	34°	284°	21			
B	40°	194°	07		Rafter Spacing : 24 in	There is one layer of shingles Roofing material is asphalt shingles
					Attachment Span: 4ft	The roof is located in 120mph wind zone



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Bill of Material

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A

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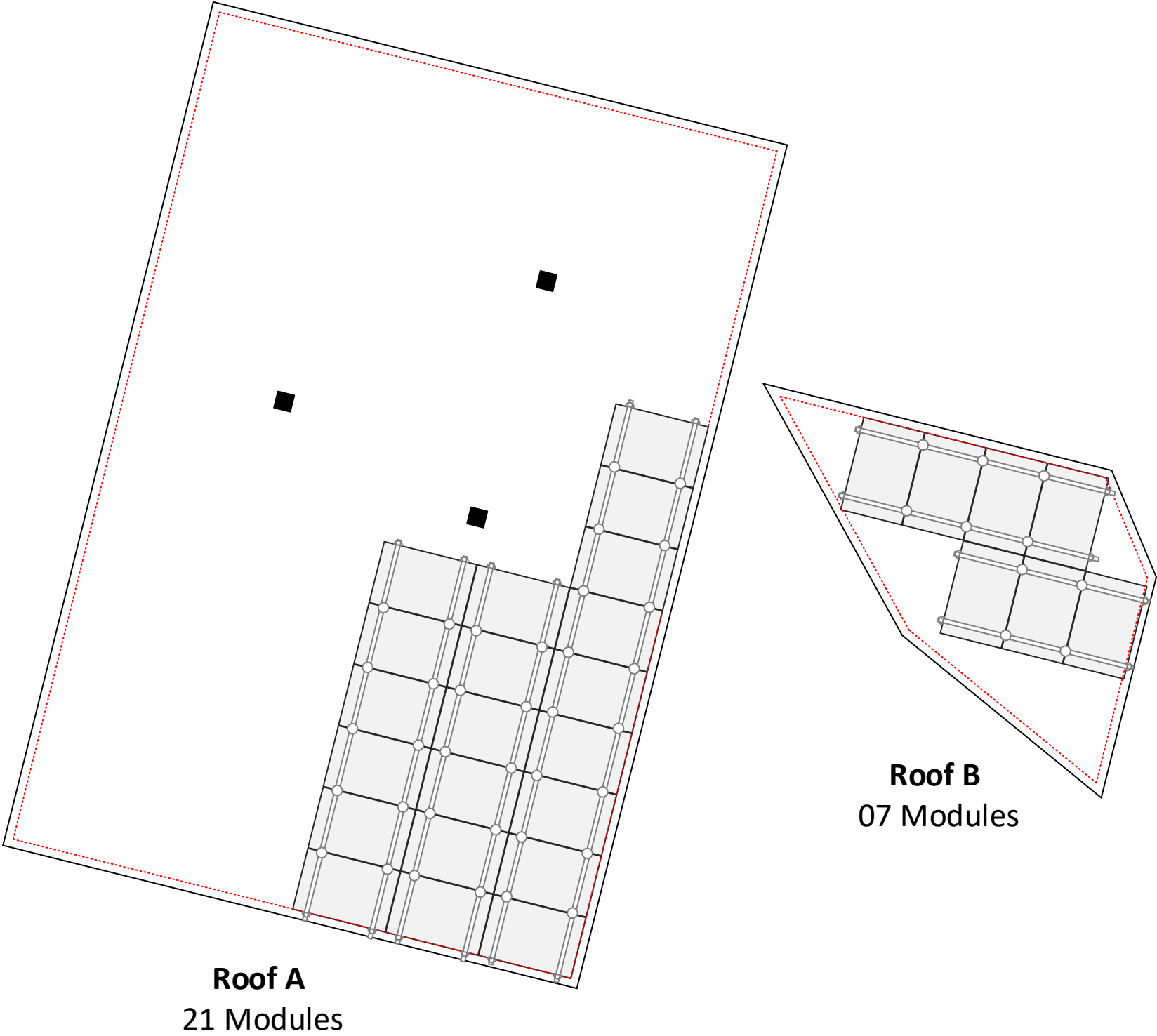
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17" X 22"

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PV7



PV LABELS		
Sr. No	Code	Qty
01	02-314	12
02	03-301	01
03	03-302	01
04	02-316	02
05	03-308	01
06	03-390	01
07	03-306	01
08	05-215	02
09	05-230	02
10	03-230	01
11	05-372	01
12	05-216	01
13	05-342	01
14	07-111	01
15	8M-001	03
16	8M-002	03
17	03-395	01
18	04-304	01
19	8M-004	03
20	03-511	01



Roof A
21 Modules

Roof B
07 Modules

RAILS AND MOUNTING SYSTEM

- 36 x PSR-B84: Pegasus Rail, Black, 84" (7 Feet)
- 26 x PSR-SPLS: Pegasus - Bonded, Structural Splice
- 46 x PSR-MCB: Pegasus - Multiclamp, Mid/End, 30 to 40 mm, Black
- 20 x PSR-HEC: Pegasus - Hidden End Clamp
- 09 x PSR-LUG: Pegasus - Grounding Lug
- 43 x PSR-WMC: Pegasus - Wire Management Clip
- 06 x PSR-CBG: Pegasus - Cable Grip
- 20 x PSR-CAP: Pegasus - End Cap
- 64 x PSCR-UBBDT: Pegasus Comp Mount - Open Slot, Black L Foot, Black Flashing, Dovetail 3/8" T-Bolt
- 56 x Heyco Wire Clips
- 05 x GEOC GC66100: SEALANT 2300 10.3OZ CLEAR (20) GEOCEL 230 TRIPOLY CLEAR
- 15 x MULTI 32.0017P0001-UR: PV MC4 MALE (10) [1000]
- 15 x MULTI 32.0016P0001-UR: PV MC4 FEMALE (10) [1000]

SOLAR MODULES

- 28 x Axitec AC-440TGB/108BB+ 440W

INVERTER & SUPPORTING ITEMS

- 01 x 1707000-00-J :Tesla Powerwall3
- 10 x 1879359-15-B: Tesla MCI-2 High Current
- 01 x 1841000-01-C: Backup GateWay 3
- 01 x 1549184-00-X: 02" Conduit Hub Kit

WIRE

- 01 x WIRPV 2KVPV10STRBLK500: #10 PV WIRE BLK (Cu) 500ft

ELECTRICAL ITEMS

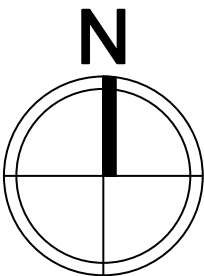
- 01 x BW2200: Gateway Main Breaker-Eaton BW2200
- 01 x BR260: Eaton BR 60/2
- 01 x DG222URB: 250volt/60amp/2pole non fusible disconnect (NEMA 3R)
- 01 x EATON UTRS213BE: Eaton 200A Meter Base
- 01 x CHP24B200R: Eaton CH main breaker 200A Load Center
- 01 x EATON M22PVK01: 22.5MM PB EMG STOP W/ CONTACTOR
- 01 x Eaton M22I1PG: SFC MTG ENC Emergency Stop Enclosure
- 01 x EZSLR JB-1.2: SolaDeck

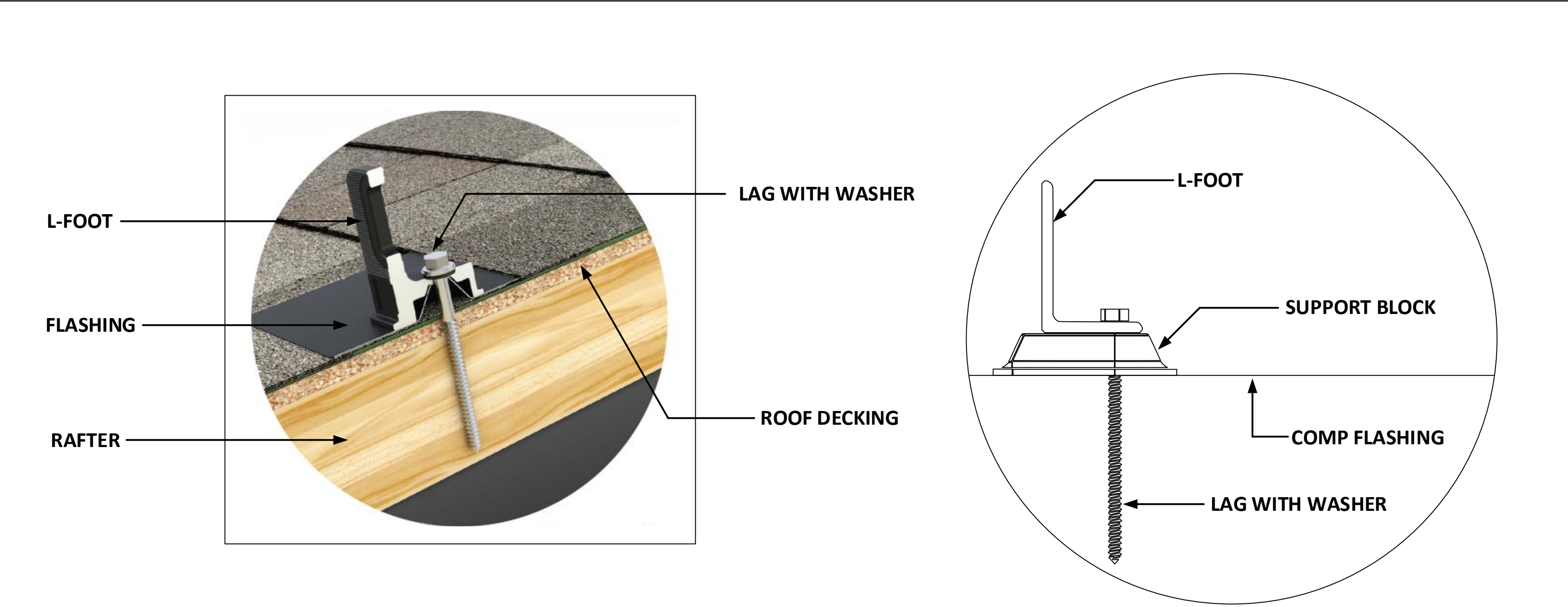
ROOF FLASHINGS

- 06 x PSCA-0MB0: Roof Flashing Conduit Supports
- 06 x BPT 921S: 3/4" 1H EMT PIPE STRAP STEEL

6in setback from
sides of the roof

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





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Attachment Details

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Date:

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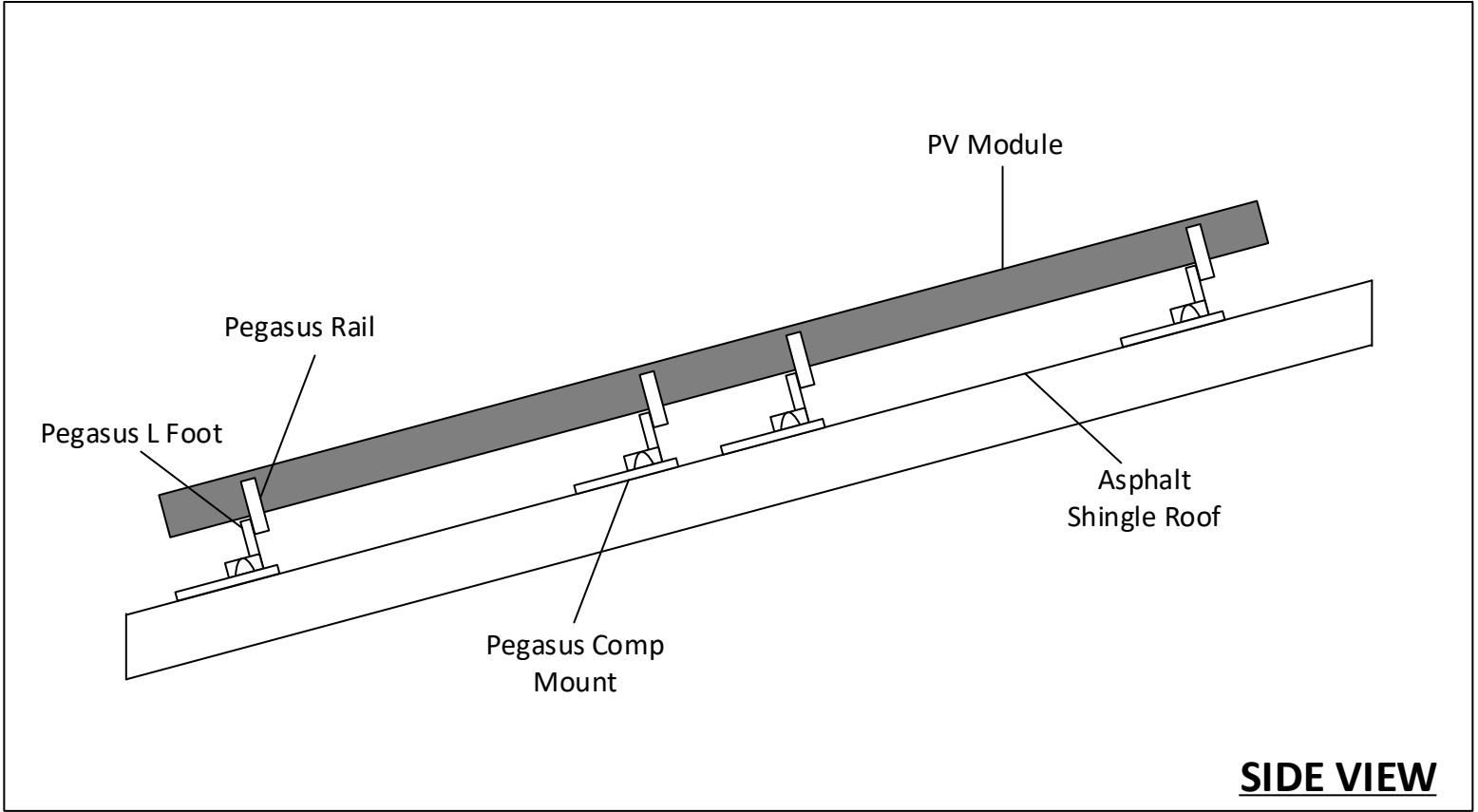
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17" X 22"

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PV8



					
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.



PV Dead Load	
Roof A	PV System Dead Load (Panel + Racking weight) / PV System Area (21 panels x 47.2 lbs./panel + 15 ft. of racking x 1.17 lb.ft) / (21 panels x 5.65' x 3.71') = 2.77 psf
Roof B	PV System Dead Load (Panel + Racking weight) / PV System Area (07 panels x 47.2 lbs./panel + 15 ft. of racking x 1.17 lb.ft) / (07 panels x 5.65' x 3.71') = 2.77 psf

AXIblackbiperfect 440 - 455 Wp

High performance bifacial solar module 108
halfcell, glass/glass, N-Type TOPCon

The advantages:

- 30 Years** 30 years Manufacturer's warranty and Performance guarantee
- +30%** Up to 30 % more power output by Bifacial-Technology
- TOP** More performance through innovative N-Type TOPCon-Technology
- PID less** PID reduced through glass/glass-Technology
- Safe** Increased safety through improved fire protection
- + Wp** Positive power sorting from 0-5 Wp

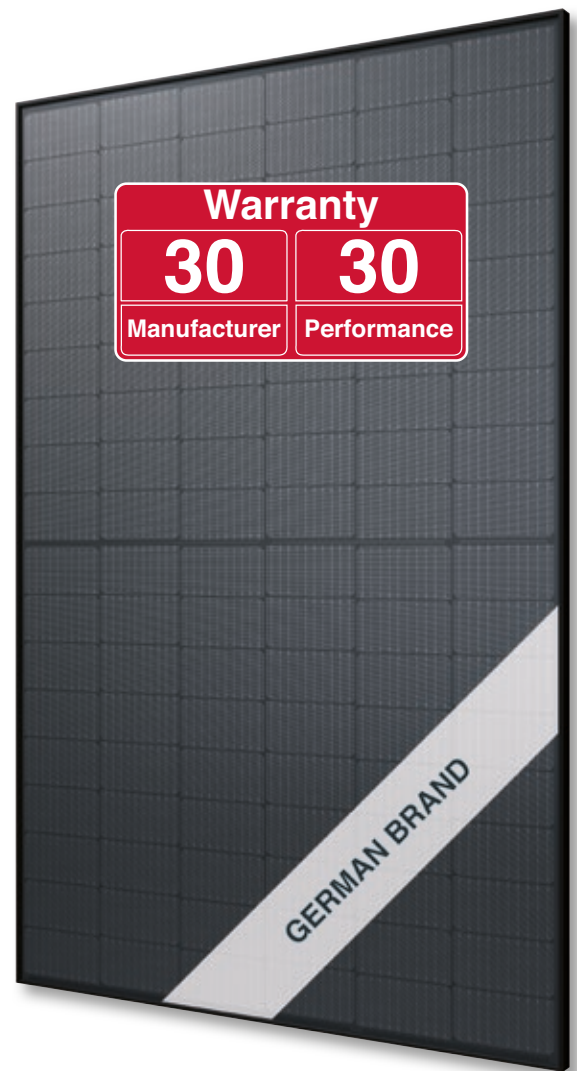
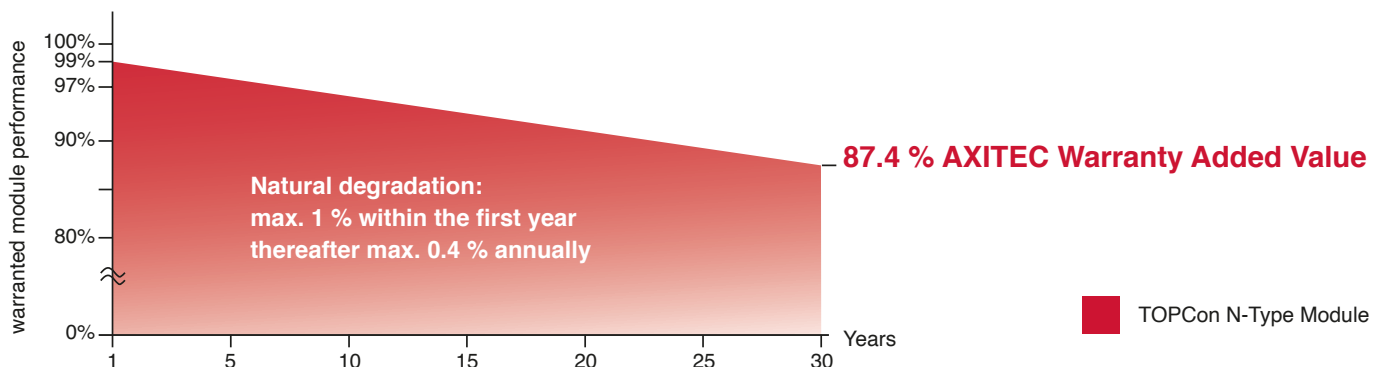


Fig. similar 108TGBLEN241028A

Exclusive linear AXITEC high performance guarantee!



AXIblackbiperfect 440-455 Wp

Electrical data

at standard conditions (STC): irradiance 1000 W/m², spectrum AM 1.5 at a cell temperature of 25°C

Type	AC-440TGB/108BB	AC-445TGB/108BB	AC-450TGB/108BB	AC-455TGB/108BB
Nominal output	440 Wp	445 Wp	450 Wp	455 Wp
Nominal voltage U _{mpp}	32.74 V	32.99 V	33.24 V	33.41 V
Nominal current I _{mpp}	13.44 A	13.49 A	13.54 A	13.62 A
Short circuit current I _{sc}	14.13 A	14.19 A	14.25 A	14.31 A
Open circuit voltage U _{oc}	39.42 V	39.70 V	39.98 V	40.28 V
Module conversion efficiency	22.02 %	22.27 %	22.52 %	22.77 %

at BNPI test conditions: irradiance frontside 1000 W/m², backside 135 W/m², with spectrum AM 1.5 at a cell temperature of 25°C

Nominal output P _{mpp}	485 Wp	491 Wp	496 Wp	502 Wp
Short circuit current I _{sc}	15.58 A	15.64 A	15.71 A	15.77 A
Open circuit voltage U _{oc}	39.42 V	39.70 V	39.98 V	40.28 V

Bifacial coefficients: ϕU_{oc} 0.98±5%; ϕI_{sc} 0.80±10%; ϕP_{mpp} 0.80±10%

Design

Frontside	2.0 mm low-reflection white glass
Backside	2.0 mm glass, cell spaces black
Cells	108 N-Type TOPCon bifacial high efficiency cells
Frame	30 mm black aluminium frame

Mechanical data

L x W x H	1722 x 1134 x 30 mm
Weight	22,5 kg with frame

Mechanical load

Design load (pressure/suction) 3600 Pa / 1600 Pa *

Test load (pressure/suction) 5400 Pa / 2400 Pa *

* depending on the type of installation according to the installation instructions

Power connection

Socket	Protection Class IP68, 3 bypass diodes
Wire	approx. 1.2 m, 4 mm ²
Plug-in system	IP68, MC4-EVO 2, MC4-EVO 2A, JM608

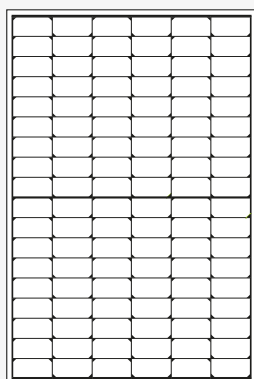
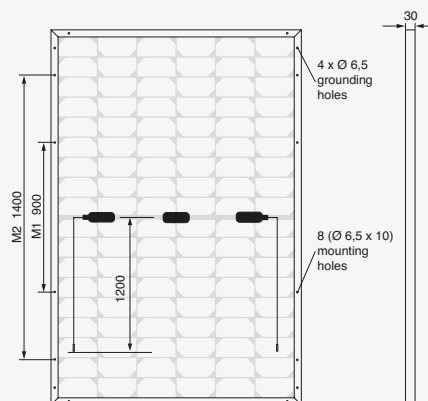


Fig. principle sketch



All dimensions in mm

Limit values

System voltage	1500 VDC
NOCT (nominal operating cell temperature)*	45°C +/-2K
Reverse current feed IR	30.0 A

Permissible operating temperature	-40°C to 85°C / -40°F to 185°F
Fire class / Protection class	C (UL790) / II
Hail resistance	HW3 (Ø 30 mm, 23.6 m/s)

(No external voltages greater than U_{oc} may be applied to the module)

* NOCT, irradiance 800 W/m²; AM 1.5; wind speed 1 m/s; Temperature 20°C

Temperature coefficients

Voltage U _{oc}	-0.26 %/K
Current I _{sc}	0.046 %/K
Output P _{mpp}	-0.31 %/K

Low-light performance without Bifacial-effect

(Example for 455TGBL/108BB)

I-U characteristic curve	Current I _{pp}	Voltage U _{pp}
200 W/m ²	2.78 A	32.15 V
400 W/m ²	5.62 A	32.52 V
600 W/m ²	8.39 A	32.78 V
800 W/m ²	11.09 A	33.06 V
1000 W/m ²	13.62 A	33.41 V

Packaging

Module pieces per pallet	36
Module pieces per HC-container	936



Powerwall 3

Power Everything

Powerwall 3 is a fully integrated solar and battery system, designed to accelerate the transition to sustainable energy. Customers can receive whole home backup, cost savings, and energy independence by producing and consuming their own energy while participating in grid services. Once installed, customers can manage their system using the Tesla App to customize system behavior to meet their energy goals.

Powerwall 3 achieves this by supporting up to 20 kW DC of solar and providing 11.5 kW AC of continuous power per unit. It has the ability to start heavy loads up to 150 A LRA, meaning a single unit can support the power needs of most homes. Powerwall 3 is designed for mass production, fast and efficient installations, easy system expansion, and simple connection to any electrical service.



Powerwall 3 Technical Specifications

System Technical Specifications

Model Number	1707000-xx-y
Nominal Grid Voltage (Input & Output)	120/240 VAC
Grid Type	Split phase
Frequency	60 Hz
Overcurrent Protection Device	Configurable up to 60 A
Solar to Battery to Grid Round Trip Efficiency	89% ^{1,2}
Solar to Grid Efficiency	97% ³
Supported Islanding Devices	Backup Gateway 2, Backup Switch
Connectivity	Wi-Fi (2.4 and 5 GHz), Dual-port switched Ethernet, Cellular (LTE/4G ⁴)
Hardware Interface	Dry contact relay, Rapid Shutdown (RSD) certified switch and 2-pin connector, RS-485 for meters
AC Metering	Revenue Grade (+/- 0.5%)
Protections	Integrated arc fault circuit interrupter (AFCI), Isolation Monitor Interrupter (IMI), PV Rapid Shutdown (RSD) using Tesla Mid-Circuit Interrupters
Customer Interface	Tesla Mobile App
Warranty	10 years

Solar Technical Specifications

Maximum Solar STC Input	20 kW
Withstand Voltage	600 V DC
PV DC Input Voltage Range	60 — 550 V DC
PV DC MPPT Voltage Range	150 — 480 V DC
MPPTs	6
Maximum Current per MPPT (I_{mp})	13 A ⁵
Maximum Short Circuit Current per MPPT (I_{sc})	15 A ⁵

Battery Technical Specifications

Nominal Battery Energy	13.5 kWh AC ²
Maximum Continuous Discharge Power	11.5 kW AC
Maximum Continuous Charge Power	5 kW AC
Output Power Factor Rating	0 - 1 (Grid Code configurable)
Maximum Continuous Current	48 A
Maximum Output Fault Current	10 kA
Load Start Capability (1 s)	150 A LRA
Power Scalability	Up to 4 Powerwall 3 units supported

¹ Typical solar shifting use case.

² Values provided for 25°C (77°F), at beginning of life. 3.3 kW charge/discharge power.

³ Tested using CEC weighted efficiency methodology.

⁴ Cellular connectivity subject to network service coverage and signal strength.

⁵ Where the DC input current exceeds the MPPT rating, a jumper can be used to combine two MPPTs into a single input to intake DC current up to 26 A I_{MP} / 30 A I_{SC} .

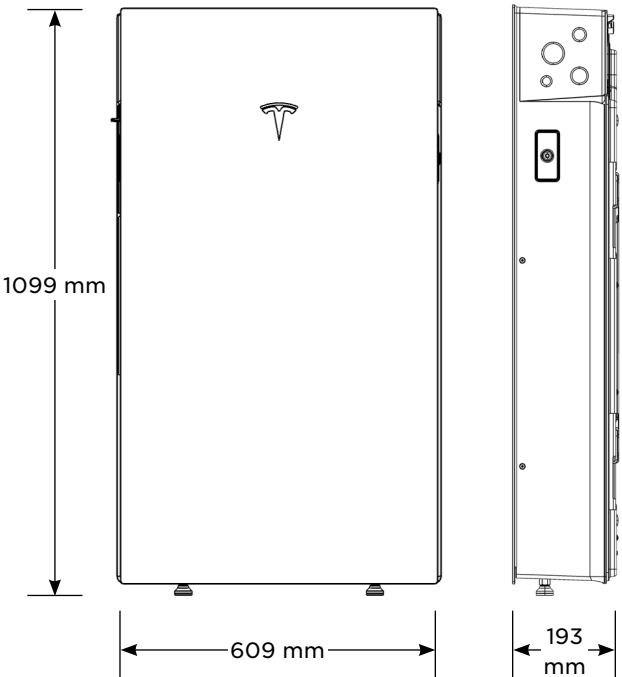
Powerwall 3 Technical Specifications

Environmental Specifications	Operating Temperature	-20°C to 50°C (-4°F to 122°F) ⁶
	Operating Humidity (RH)	Up to 100%, condensing
	Storage Temperature	-20°C to 30°C (-4°F to 86°F), up to 95% RH, non-condensing, State of Energy (SOE): 25% initial
	Maximum Elevation	3000 m (9843 ft)
	Environment	Indoor and outdoor rated
	Enclosure Rating	NEMA 3R
	Ingress Rating	IPX7 (Battery & Power Electronics) IPX5 (Wiring Compartment)
	Pollution Rating	PD3
	Operating Noise @ 1 m	< 50 db(A) typical < 62 db(A) maximum

⁶ Performance may be de-rated at operating temperatures above 40°C (104°F).

Compliance Information	Certifications	UL 1642, UL 1699B, UL 1741, UL 1741 SA, UL 1741 SB, UL 3741, UL 1973, UL 1998, UL 9540, IEEE 1547-2018, IEEE 1547.1, UN 38.3
	Grid Connection	United States
	Emissions	FCC Part 15 Class B
	Environmental	RoHS Directive 2011/65/EU
	Seismic	AC156, IEEE 693-2005 (high)
	Fire Testing	Meets the unit level performance criteria of UL 9540A

Mechanical Specifications	Dimensions	1099 x 609 x 193 mm (43.25 x 24 x 7.6 in)
	Weight	130 kg (287 lb)
	Mounting Options	Floor or wall mount



Solar Shutdown Device Technical Specifications

The Solar Shutdown Device is a Mid-Circuit Interrupter (MCI) and is part of the PV system rapid shutdown (RSD) function in accordance with Article 690 of the applicable NEC. When paired with Powerwall 3, solar array shutdown is initiated by any loss of AC power.

Electrical Specifications	Model	MCI-1	MCI-2
	Nominal Input DC Current Rating (I_{MP})	12 A	13 A
	Maximum Input Short Circuit Current (I_{SC})	19 A	17 A
	Maximum System Voltage (PVHCS)	600 V DC	1000 V DC ⁷
⁷ Maximum System Voltage is limited by Powerwall to 600 V DC.			
RSD Module Performance	Maximum Number of Devices per String	5	5
	Control	Power Line Excitation	Power Line Excitation
	Passive State	Normally Open	Normally Open
	Maximum Power Consumption	7 W	7 W
	Warranty	25 years	25 years
Environmental Specifications	Operating Temperature	-40°C to 50°C (-40°F to 122°F)	-45°C to 70°C (-49°F to 158°F)
	Storage Temperature	-30°C to 70°C (-22°F to 158°F)	-30°C to 70°C (-22°F to 158°F)
	Enclosure Rating	NEMA 4X / IP65	NEMA 4X / IP65
Mechanical Specifications	Electrical Connections	MC4 Connector	MC4 Connector
	Housing	Plastic	Plastic
	Dimensions	125 x 150 x 22 mm (5 x 6 x 1 in)	173 x 45 x 22 mm (6.8 x 1.8 x 1 in)
	Weight	350 g (0.77 lb)	120 g (0.26 lb)
	Mounting Options	ZEP Home Run Clip M4 Screw (#10) M8 Bolt (5/16") Nail / Wood screw	Wire Clip
Compliance Information	Certifications	UL 1741 PVRSE, UL 3741, PVRSA (Photovoltaic Rapid Shutdown Array)	
	RSD Initiation Method	External System Shutdown Switch or Powerwall 3 Enable Switch	

UL 3741 PV Hazard Control (and PVRSA) Compatibility

The following categories of solar module meet the UL 3741 PVHCS listing when installed with Powerwall 3 and Solar Shutdown Devices.

Tesla Solar Roof	PV Hazard Control System: BIPV compliance document
Tesla or Hanwha (Q.Peak Duo BLK or BLK-G6+) Modules certified for use with ZEP racking	PV Hazard Control System: ZS PVHCS compliance document
Other module and racking combinations	PV Hazard Control System: Generic PV Array compliance document

Backup Switch

The Tesla Backup Switch controls connection to the grid in a Powerwall system, and can be easily installed behind the utility meter or in a standalone meter panel downstream of the utility meter.

The Backup Switch automatically detects grid outages, providing a seamless transition to backup power. It communicates directly with Powerwall, allowing home energy usage monitoring from any mobile device with the Tesla app.

Performance Specifications	Model Number	1624171-xx-y
	Continuous Load Rating	200 A, 120/240 V split phase
	Maximum Supply Short Circuit Current	22 kA with breaker ¹⁰
	Communication	CAN
	AC Meter	Revenue accurate (+/- 0.5%)
	Expected Service Life	21 years
	Warranty	10 years

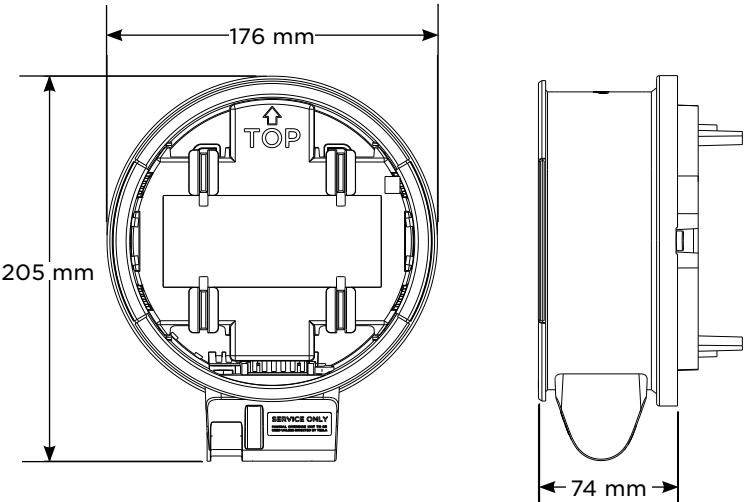
¹⁰ Breaker maximum supply short circuit current rating must be equal to or greater than the available fault current.

Environmental Specifications	Operating Temperature	-40°C to 50°C (-40°F to 122°F)
	Storage Temperature	-40°C to 85°C (-40°F to 185°F)
	Enclosure Rating	NEMA 3R
	Pollution Rating	PD3

Compliance Information	Safety Standards	USA: UL 414, UL 2735, UL 916, CA Prop 65
	Emmissions	FCC, ICES

Mechanical Specifications	Dimensions	176 x 205 x 74 mm (6.9 x 8.1 x 2.9 in)
	Weight	2.8 lb
	Meter and Socket Compatibility	ANSI Type 2S, ringless or ring type
	External Service Interface	Contactor manual override ¹¹ Reset button
	Conduit Compatibility	1/2-inch NPT

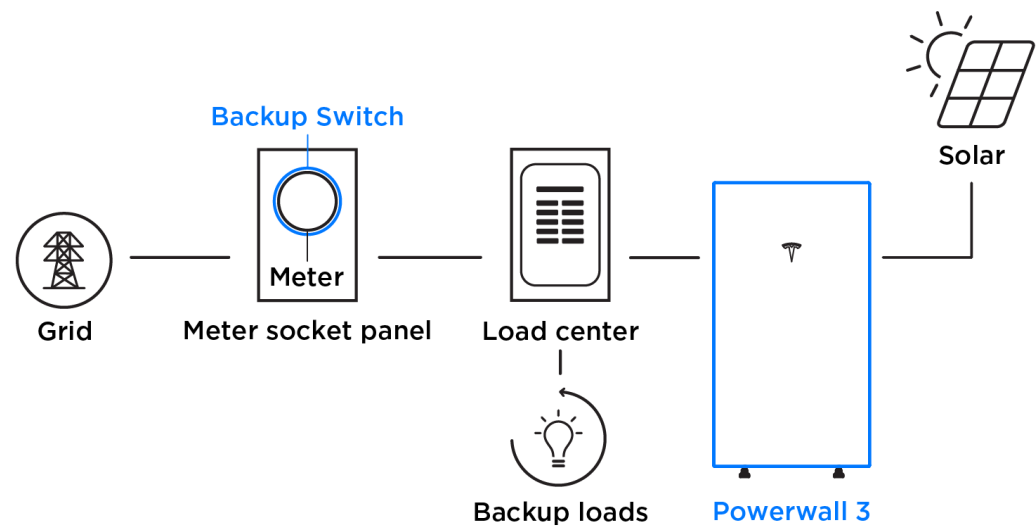
¹¹ Manually overrides the contactor position during a service event.



Powerwall 3 Example System Configurations

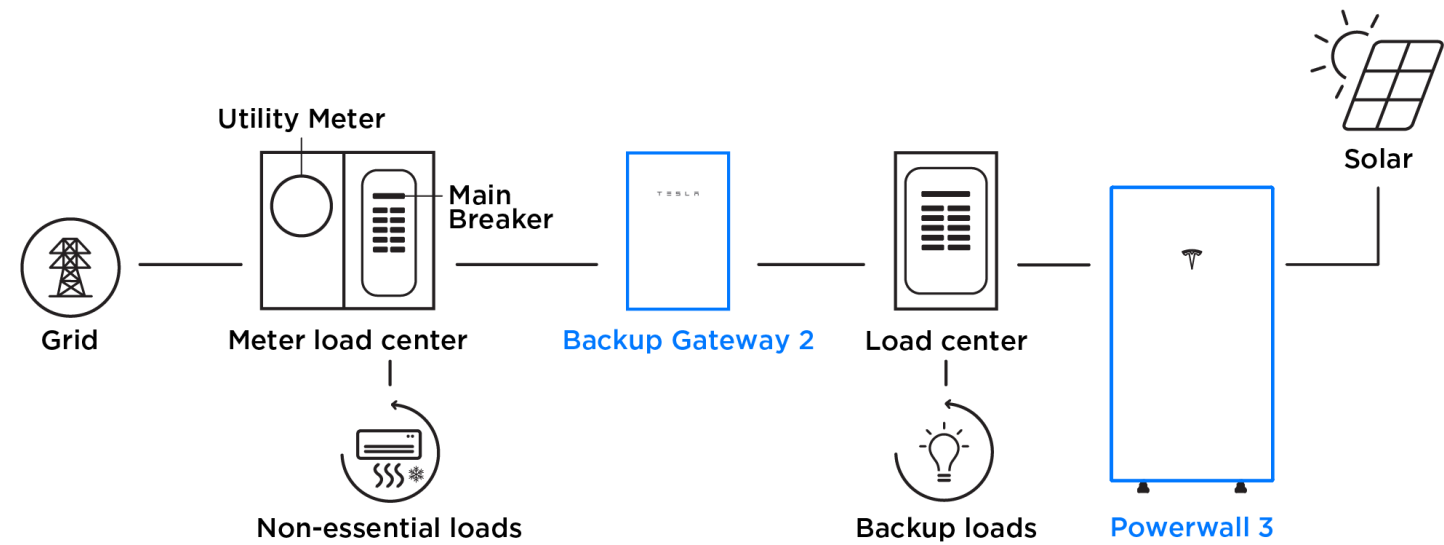
Powerwall 3 with Backup Switch

Whole Home Backup



Powerwall 3 with Backup Gateway 2

Partial Home Backup



Gateway 3

Tesla Gateway 3 controls connection to the grid in a Powerwall system, automatically detecting outages and providing seamless transition to backup power. It provides energy monitoring that is used by Powerwall for solar self-consumption, time-based control, and backup operation.

Performance Specifications

Model Number	1841000-01-y	AC Meter	Revenue accurate (+/- 0.5%)
Nominal Grid Voltage	120/240 V AC	Communication	CAN
Grid Configuration	Split phase	User Interface	Tesla App
Grid Frequency	60 Hz	Backup Transition	Automatic disconnect for seamless backup
Continuous Current Rating	200 A	Overcurrent Protection Device	100–200 A Service entrance rated Eaton CSR, BWH, or BW, or Square D QOM breakers
Maximum Supply Short Circuit Current	22 kA with Square D or Eaton main breaker 25 kA with Eaton main breaker ¹	Internal Panelboard	200 A 8-space/16 circuit breakers Eaton BR, Siemens QP, or Square D HOM breakers rated to 10–125A
IEC Protective Class	Class I	Warranty	10 years
Overvoltage Category	Category IV		

¹Only Eaton CSR or BWH main breakers are 25 kA rated

Environmental Specifications

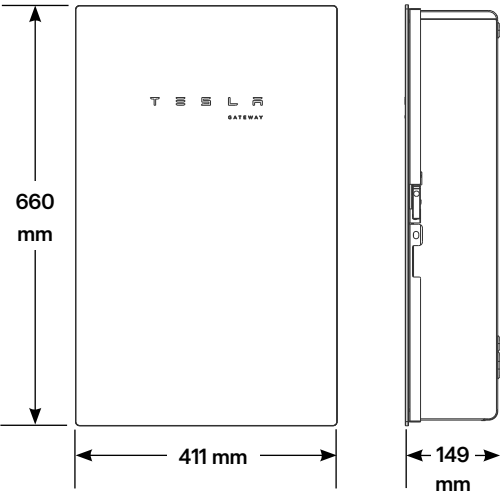
Operating Temperature	–20°C to 50°C (–4°F to 122°F)
Operating Humidity (RH)	Up to 100%, condensing
Maximum Elevation	3000 m (9843 ft)
Environment	Indoor and outdoor rated
Enclosure Type	NEMA 3R

Compliance Information

Certifications	UL 67, UL 869A, UL 916, UL 1741 PCS, CSA 22.2 107.1, CSA 22.2 29
Emmissions	FCC Part 15, ICES 003

Mechanical Specifications

Dimensions	660 x 411 x 149 mm (26 x 16 x 6 in)
Weight	16.3 kg (36 lb)
Mounting options	Wall mount



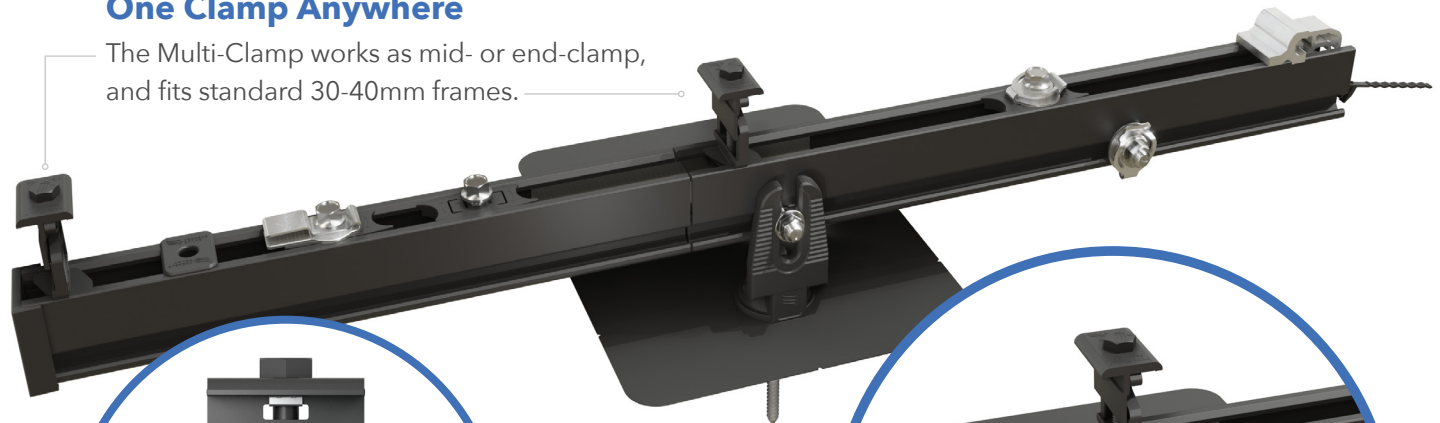
RAIL SYSTEM

One Clamp Anywhere

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

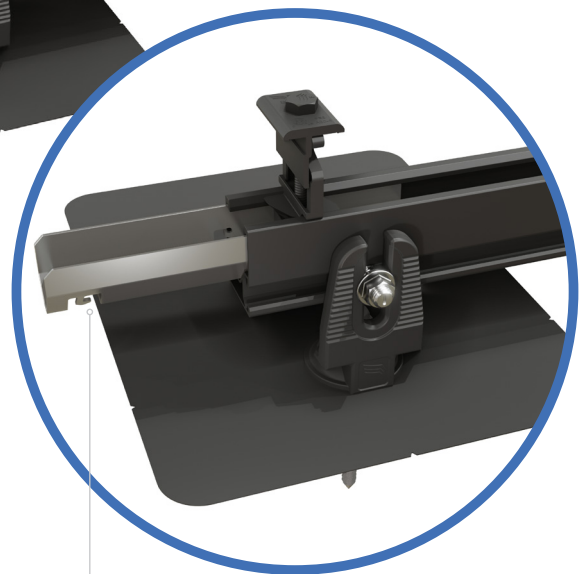
Instant Bonding

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



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.



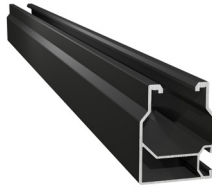
Watertight for Life

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



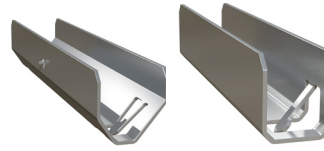
Pegasus Rail

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



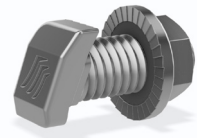
Pegasus Max Rail

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 1/2" 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.



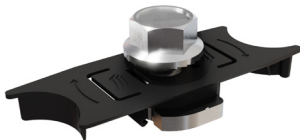
Ground Lug

Holds 6 or 8 AWG wire.
Mounts on top or side of rail.
Assembled on MLPE Mount.
UL2703 listed as reusable.



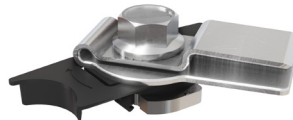
N-S Bonding Jumper

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



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](https://www.pegasussolar.com/portal)

Patents pending. All rights reserved. ©2021 Pegasus Solar Inc.

LOAD		SPAN			
SNOW (PSF)	WIND (MPH)	32"	4'	6'	8'
0	120	PEGASUS RAIL			
	160				
	190				
15	140	PEGASUS RAIL			
	160				
	190				
30	160	PEGASUS RAIL			
	190				
45	190	PEGASUS RAIL			
70	190	PEGASUS RAIL			
110	190	PEGASUS 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.

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

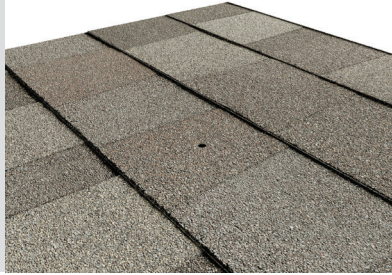


All-In-One Kit Packaging

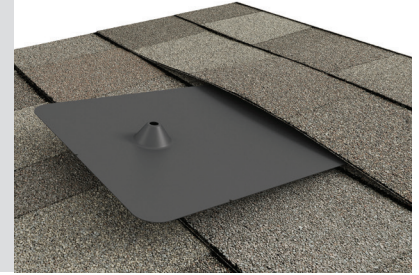
Flashings, L-Feet and SS lags with bonded EPDM washers are included in each 24-pack

1

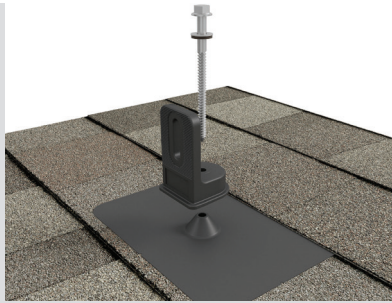
Drill pilot hole in the center of the rafter.


2

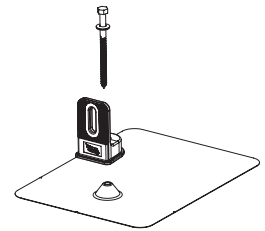
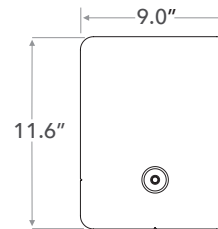
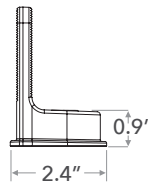
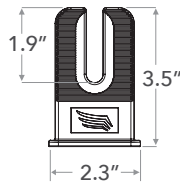
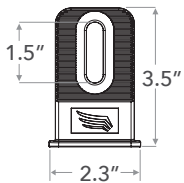
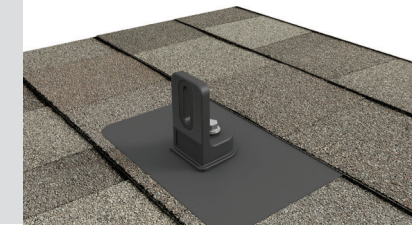
Optional: Apply a "u-shape" of sealant to the underside of the flashing and position under 2nd shingle course, cone over pilot hole.


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				

Protected under US Patent: 10,998,847. Additional patents pending. All rights reserved. ©2021 Pegasus

SolaDeck

PV ROOF-MOUNT ENCLOSURE



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

Enclosure Includes:

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

**INTRODUCED AT
*SOLAR POWER 2007***



PV Roof-Mount Combiner/Enclosure

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



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





SolaDeck Part # 780

Specifications:

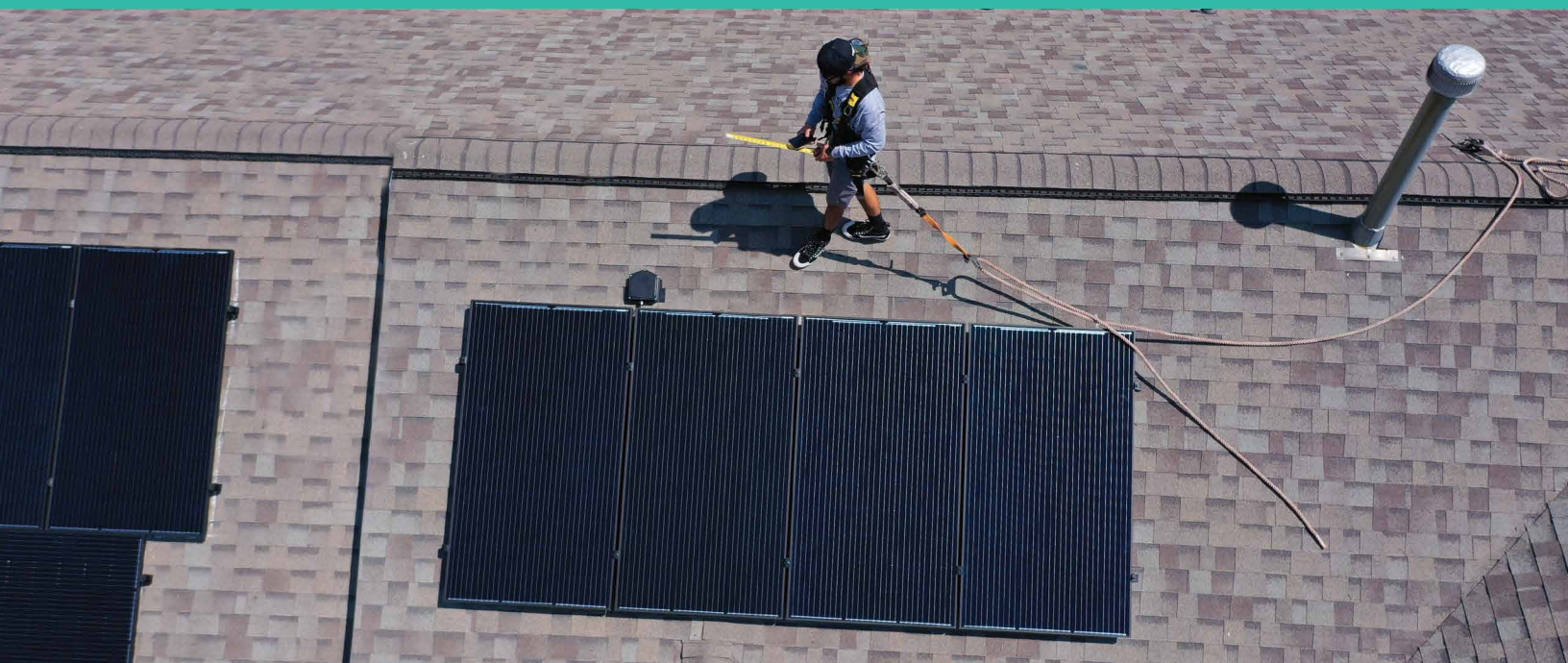
18 Gauge Steel Base (1) and Cover (2)
Pre Punched 7 holes in base (1) for roof deck
Pre Punched 4 holes in base (1) and cover (2) for match
Draw Process both parts
Powder Coated to withstand 1000 hours Salt Spray (Primer Gray)
High UV resistance
15" x 15" flashing dimension
Cavity dimension 8"W x 9" 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:

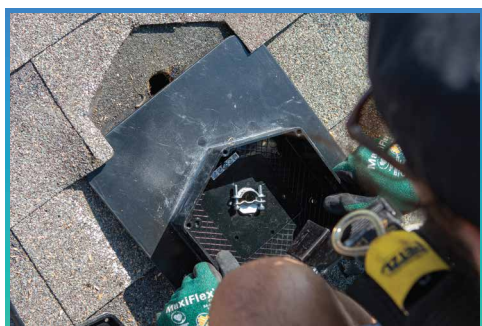
Individually bagged and boxed
Box dimension 15.5"w x 16" L x 3" D
White Carton labeled with Cut out template
Print One Color - Black

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



THE ULTIMATE ROOFTOP JUNCTION BOX

EZ Solar believes innovation is key to making Solar Simple! The most revolutionary junction box on the market just got better! Designed with the installer in mind, the **JB-1.2** makes installation fast and easy!



SIMPLE TO INSTALL

- Minimal Shingle Cutting
- Enter Through 3 Sidewalls
- Wider and Taller Sidewalls



HIGH QUALITY

- Made from advanced durable polycarbonate + superior components, UL1741, Type 3R
- 3 patented layers of water protection
- 2 Weep Holes for breathability



LOWER PRICE

- We believe that **EVERYONE** should have access to affordable renewable energy
- With the same great features as the JB-1, the JB-1.2 is now available with updates to make installation even easier.



A. System Specifications and Ratings

- Maximum Voltage: 1,000 Volts
- Maximum Current: 80 Amps
- Allowable Wire: 14 AWG – 6 AWG
- Spacing: Please maintain a spacing of at least ½” between uninsulated live parts and fittings for conduit, armored cable, and uninsulated live parts of opposite polarity.
- Enclosure Rating: Type 3R
- Roof Slope Range: 2.5 – 12:12
- Max Side Wall Fitting Size: 1”
- Max Floor Pass-Through Fitting Size: 1”
- Ambient Operating Conditions: (-35°C) - (+75°C)
- Compliance:
 - JB-1.2: UL1741
 - Approved wire connectors: must conform to UL1741
- System Marking: **Interek Symbol and File #5019942**
- Periodic Re-inspections: If re-inspections yield loose components, loose fasteners, or any corrosion between components, components that are found to be affected are to be replaced immediately.

Table 1: Typical Wire Size, Torque Loads and Ratings

	1 Conductor	2 Conductor	Torque				
			Type	NM	Inch Lbs	Voltage	Current
ABB ZS6 terminal block	10-24 awg	16-24 awg	Sol/Str	0.5-0.7	6.2-8.85	600V	30 amp
ABB ZS10 terminal block	6-24 awg	12-20 awg	Sol/Str	1.0-1.6	8.85-14.16	600V	40 amp
ABB ZS16 terminal block	4-24 awg	10-20 awg	Sol/Str	1.6-2.4	14.6-21.24	600V	60 amp
ABB M6/8 terminal block	8-22 awg		Sol/Str	.08-1	8.85	600V	50 amp
Ideal 452 Red WING-NUT Wire Connector	8-18 awg		Sol/Str			600V	
Ideal 451 Yellow WING-NUT Wire Connector	10-18 awg		Sol/Str			600V	
Ideal, In-Sure Push-In Connector Part #39	10-14 awg		Sol/Str			600V	
WAGO, 221-612	10-14 awg		Sol/Str			600V	
International Hydraulics 2S2/0	10-14 awg		Sol/Str	4	35		
	8 awg		Sol/Str	4.5	40		
Brumall 4-5,3	4-6 awg		Sol/Str		45	2000V	
	10-14 awg		Sol/Str		35		
Blackburn LL414	4-14 awg		Sol/Str				

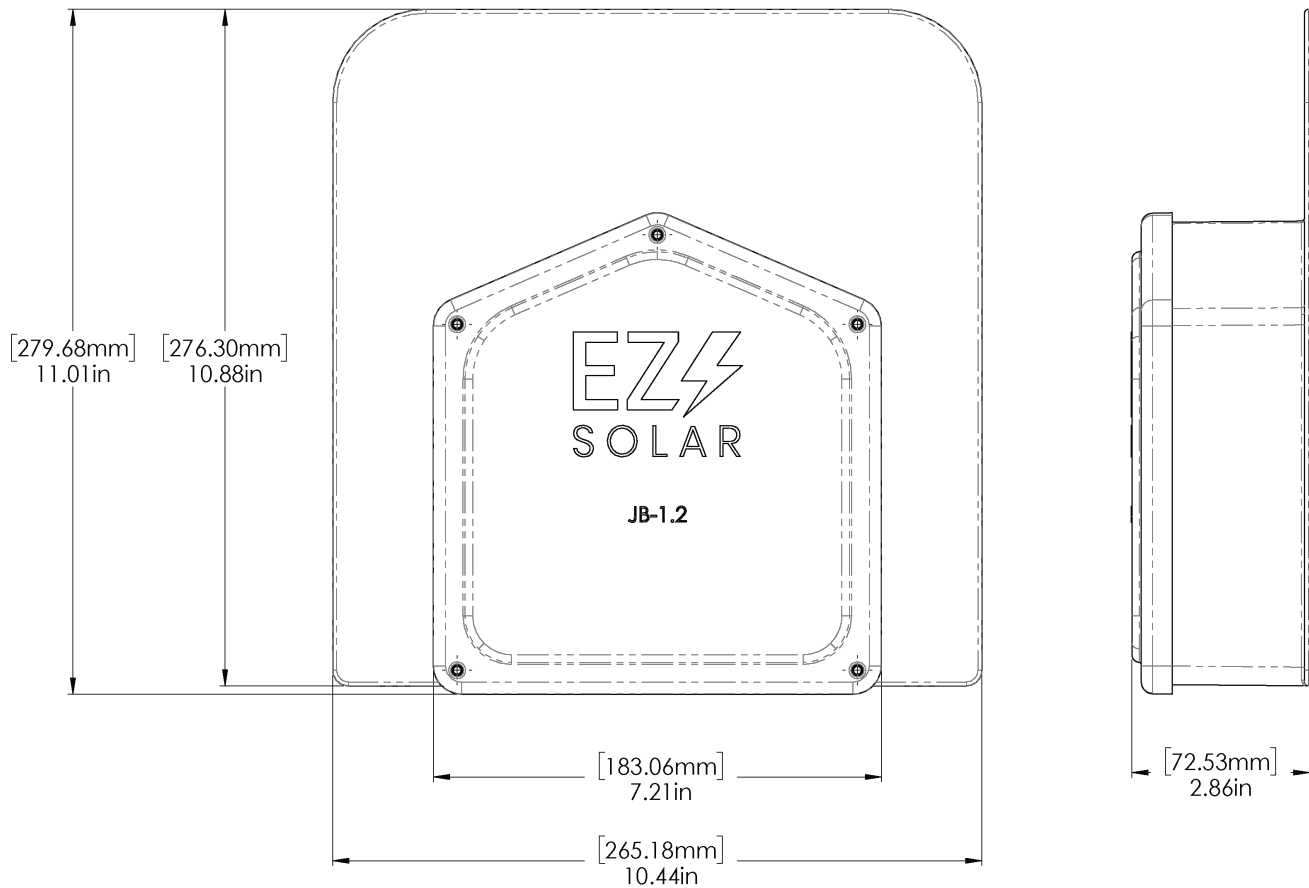
Table 2: Minimum wire-bending space for conductors through a wall opposite terminals in mm (inches)

Wire size, AWG or kcmil (mm2)		Wires per terminal (pole)			
		1	2	3	4 or More
		mm (inch)	mm (inch)	mm (inch)	mm (inch)
14-10	(2.1-5.3)	Not specified	-	-	-
8	(8.4)	38.1 (1-1/2)	-	-	-
6	(13.3)	50.8 (2)	-	-	-

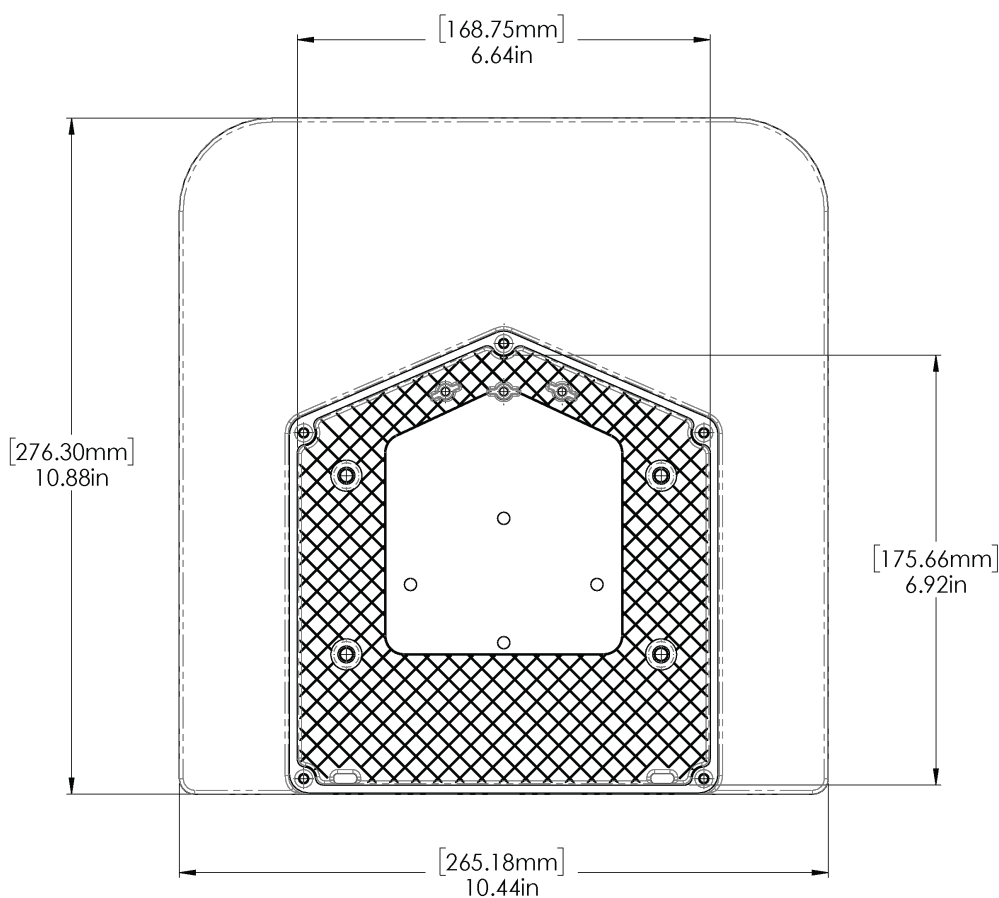
ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	JB-1.2 BODY	POLYCARBONATE WITH UV INHIBITORS	1
2	JB-1.2 LID	POLYCARBONATE WITH UV INHIBITORS	1
3	#10 X 1-1/4" PHILLIPS PAN HEAD SCREW		6
4	#8 X 3/4" PHILLIPS PAN HEAD SCREW		6

SIZE B	DWG. NO. JB-1.2	REV
SCALE: 1:2	WEIGHT: 1.45 LBS	SHEET 1 OF 3

TORQUE SPECIFICATION:	15-20 LBS
CERTIFICATION:	UL STANDARD 1741, NEMA 3R
WEIGHT:	1.45 LBS

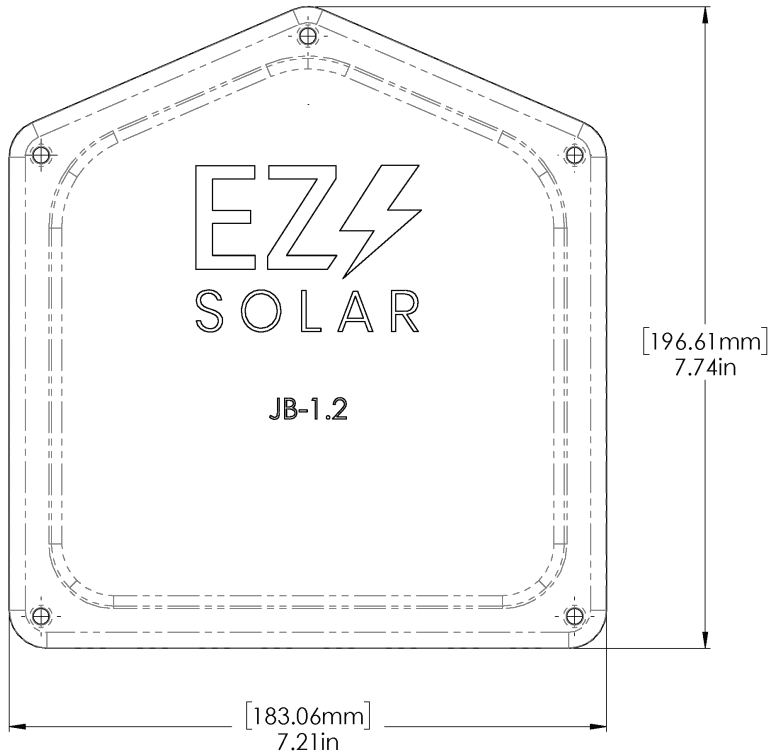


SIZE B	DWG. NO. JB-1.2	REV
SCALE: 1:2	WEIGHT: 1.45 LBS	SHEET 2 OF 3

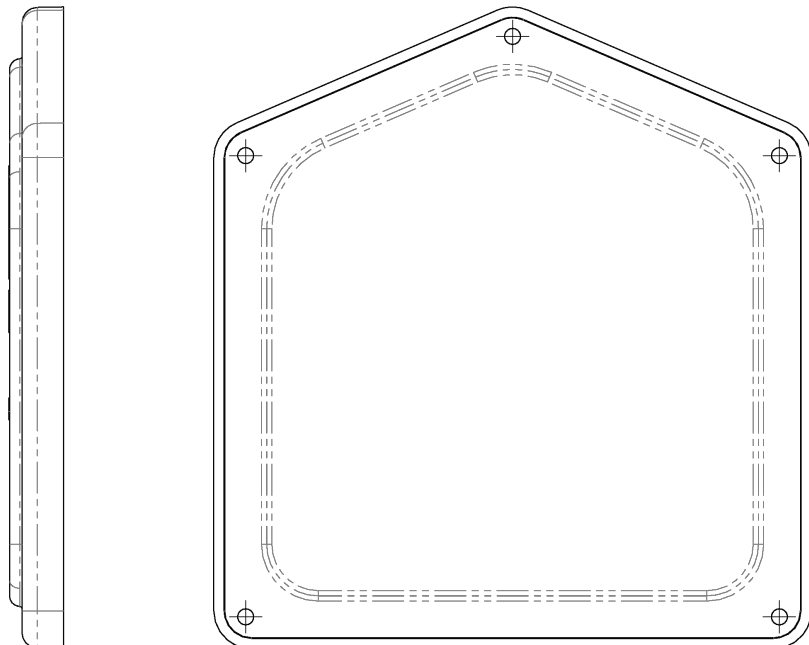


SIZE B	DWG. NO. JB-1.2	REV
SCALE: 1:2	WEIGHT: 1.45 LBS	SHEET 3 OF 3

OUTSIDE



INSIDE



Eaton DG222URB

Catalog Number: DG222URB

Eaton General duty non-fusible safety switch, single-throw, 60 A, NEMA 3R, Rainproof, Painted galvanized steel, Two-pole, Two-wire, 240 V

Photo is representative



General specifications	
Product Name	Catalog Number
Eaton general duty non-fusible safety switch	DG222URB
	UPC
	782113144238
Product Length/Depth	Product Height
7.38 in	14.38 in
Product Width	Product Weight
8.69 in	9 lb
Warranty	Compliances
Eaton Selling Policy 25-000, one (1) year NEC 230.62 (C) Compliant Barrier from the date of installation of the Product or eighteen (18) months from the date of shipment of the Product, whichever occurs first.	Certifications
	UL Listed
	Catalog Notes
	WARNING! Switch is not approved for service entrance unless a neutral kit is installed.

Type

Non-fusible, single-throw

Amperage Rating

60A

Number Of Poles

Two-pole

Product Category

General duty safety switch

Voltage rating

240V

Enclosure

NEMA 3R

Enclosure material

Painted galvanized steel

Fuse configuration

Non-fusible

Number of wires

2

Catalogs

[Eaton's Volume 2—Commercial Distribution](#)

Multimedia

[Double Up on Safety](#)

[Switching Devices Flex Center](#)

Specifications and datasheets

[Eaton Specification Sheet - DG222URB](#)

Warranty guides

[Selling Policy 25-000 - Distribution and Control Products and Services](#)



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Specifications

Photo is representative



Eaton CHP24B200R

Eaton CH main breaker loadcenters, Cover included, Main breaker, 200 A, X5, Copper, NEMA 3R, Metallic, CSR, 48, 24, Three-wire, Single-phase, Overhead, 120/240 V

General specifications

PRODUCT NAME	Eaton CH main breaker loadcenter
CATALOG NUMBER	CHP24B200R
UPC	786689058609
PRODUCT LENGTH/DEPTH	29 in
PRODUCT HEIGHT	5.19 in
PRODUCT WIDTH	14.31 in
PRODUCT WEIGHT	26 lb
WARRANTY	Limited lifetime
CERTIFICATIONS	UL 67 UL 50

CATALOG NOTES

Suitable for use as service equipment when not more than six service disconnecting mains are provided or when not used as a lighting and appliance panelboard. Rainproof panels are furnished with hub closure plates. For rainproof hubs.

Product specifications

SPECIAL FEATURES	Cover included
TYPE	Main breaker
AMPERAGE RATING	200 A
BUS MATERIAL	Copper
MAIN CIRCUIT BREAKER	CSR
NUMBER OF CIRCUITS	48
NUMBER OF SPACES	24
PHASE	Single-phase
FEED TYPE	Overhead
VOLTAGE RATING	120/240 V
BOX SIZE	X5
ENCLOSURE	NEMA 3R
ENCLOSURE MATERIAL	Metallic
NUMBER OF WIRES	3