SCOPE OF WORK

TO INSTALL A RESIDENTIAL ROOFTOP SOLAR PHOTOVOLTAIC (PV) SYSTEM.
THE POWER GENERATED BY THE PV SYSTEM WILL BE INTERCONNECTED WITH THE UTILITY GRID THROUGH THE EXISTING ELECTRICAL SERVICE EQUIPMENT.
THE PV SYSTEM DOES NOT INCLUDE BATTERIES.

ELECTRICAL NOTES

1) ALL EQUIPMENT TO BE LISTED BY THE UL OR OTHER NRTL AND LABELED FOR ITS APPLICATION.
2) ALL CONDUCTORS SHALL BE COPPER, RATED FOR 600V AND 90°C WET ENVIRONMENT.
3) WIRING, CONDUIT, AND RACEWAYS MOUNTED ON ROOFTOPS SHALL BE ROUTED DIRECTLY TO, AND LOCATED AS CLOSE AS POSSIBLE TO THE NEAREST RIDGE, HIP, OR VALLEY.
4) WORKING CLEARANCES AROUND ALL NEW AND EXISTING ELECTRICAL EQUIPMENT SHALL COMPLY WITH NEC 110.26.
5) DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS. CONTRACTOR SHALL FURNISH ALL NECESSARY OUTLETS, SUPPORTS, FITTINGS AND ACCESSORIES TO FULFILL APPLICABLE CODES AND STANDARDS.
6) WHERE SIZES OF JUNCTION BOXES, RACEWAYS, AND CONDUITS ARE NOT SPECIFIED, THE CONTRACTOR SHALL SIZE THEM ACCORDINGLY.
7) ALL WIRE TERMINATIONS SHALL BE APPROPRIATELY LABELED AND READILY VISIBLE.
8) MODULE GROUNDING CLIPS TO BE INSTALLED BETWEEN MODULE FRAME AND MODULE SUPPORT RAIL, PER THE GROUNDING CLIP MANUFACTURER'S INSTRUCTION.
9) MODULE SUPPORT RAIL TO BE BONDED TO CONTINUOUS COPPER G.E.C. VIA WEEB LUG OR THE ILSCO GBL-4DBT LAY-IN LUG.
10) THE POLARITY OF THE GROUNDED CONDUCTORS IS (positive/negative) OR THE DC SIDE OF THE PV SYSTEM IS UNGROUNDED AND SHALL COMPLY WITH NEC 690.35

NCDOI REQUIREMENTS

OPTION 2

WEIGHT OF PV SYSTEM ON ROOF:

2.6610 PSF

EXISTING ROOF MATERIAL TYPE:

ASPHALT SHINGLES (SINGLE LAYER)

PROJECT LOCATION WIND ZONE:

115 MPH

VICINITY MAP

SHEET INDEX	
COVER	GENERAL INFORMATION
PV-1	SITE PLAN
PV-2	ROOF LAYOUT AND MOUNTING DETAIL
PV-3	ELECTRICAL SCHEMATIC
PV-4	AMPACITY CALCULATIONS AND WIRE SIZING
PV-5	LABELING SCHEDULE
CUTSHEETS	MANUFACTURER SPECIFICATION SHEETS

GOVERNING CODES
NFPA 70 NATIONAL ELECTRICAL CODE 2017
2018 INTERNATIONAL BUILDING CODE
2018 NORTH CAROLINA BUILDING CODE
2018 NORTH CAROLINA RESIDENTIAL CODE
UNDERWRITERS LABORATORIES (UL) STANDARDS
OSHA 29 CFR 1910.269
NORTH CAROLINA DEPARTMENT OF INSURANCE

DESIGN SPECIFICATIONS	
CONSTRUCTION TYPE	SINGLE-FAMILY
ZONING	RESIDENTIAL
GROUND SNOW LOAD	20 PSF
WIND EXPOSURE CATEGORY	CATEGORY B
WIND SPEED	115 MPH
UTILITY PROVIDER	DUKE PROGRESS
AHJ	HARNETT COUNTY

SYSTEM SPECIFICATIONS	
SOLAR MODULES	(22) SILFAB SIL-330NL 330 WATT MODULES
POWER OPTIMIZERS	(22) SOLAREDGE P340
INVERTER(S)	(1) SOLAREDGE SE10000H-US
SOLAR MOUNTS	QUICKMOUNT PV L-MOUNTS
SOLAR RACKING SYSTEM	EVEREST CROSSRAIL X48
MONITORING	YES
POINT OF INTERCONNECT	60A/2P LOAD SIDE BREAKER IN MSP

CONTRACTOR

SUN DOLLAR ENERGY, LLC
4904 ELAINE AVENUE
RALEIGH, NC 27616
(919) 508-6907
NC ELE LICENSE #: 30043U
NC GC LICENSE #: 73462

PROJECT & CLIENT INFORMATION

CASTNER RESIDENCE
NEW SOLAR PV SYSTEM
SYSTEM SIZE: 7.26 KW DC
SYSTEM SIZE: 10.0 KW AC

ROBERT CASTNER
217 OXFORD WOODS DR
ANGIER, NC 27501
(919) 275-9521

ENGINEER OF RECORD

DRAWING BY

GBR

REVISIONS

DESCRIPTION	DATE	#	BY
RELEASED FOR PERMITTING	11/6/2020	1	GBR

SHEET SIZE

ANSI B
11" X 17"

DATE

11/6/2020

SHEET NAME

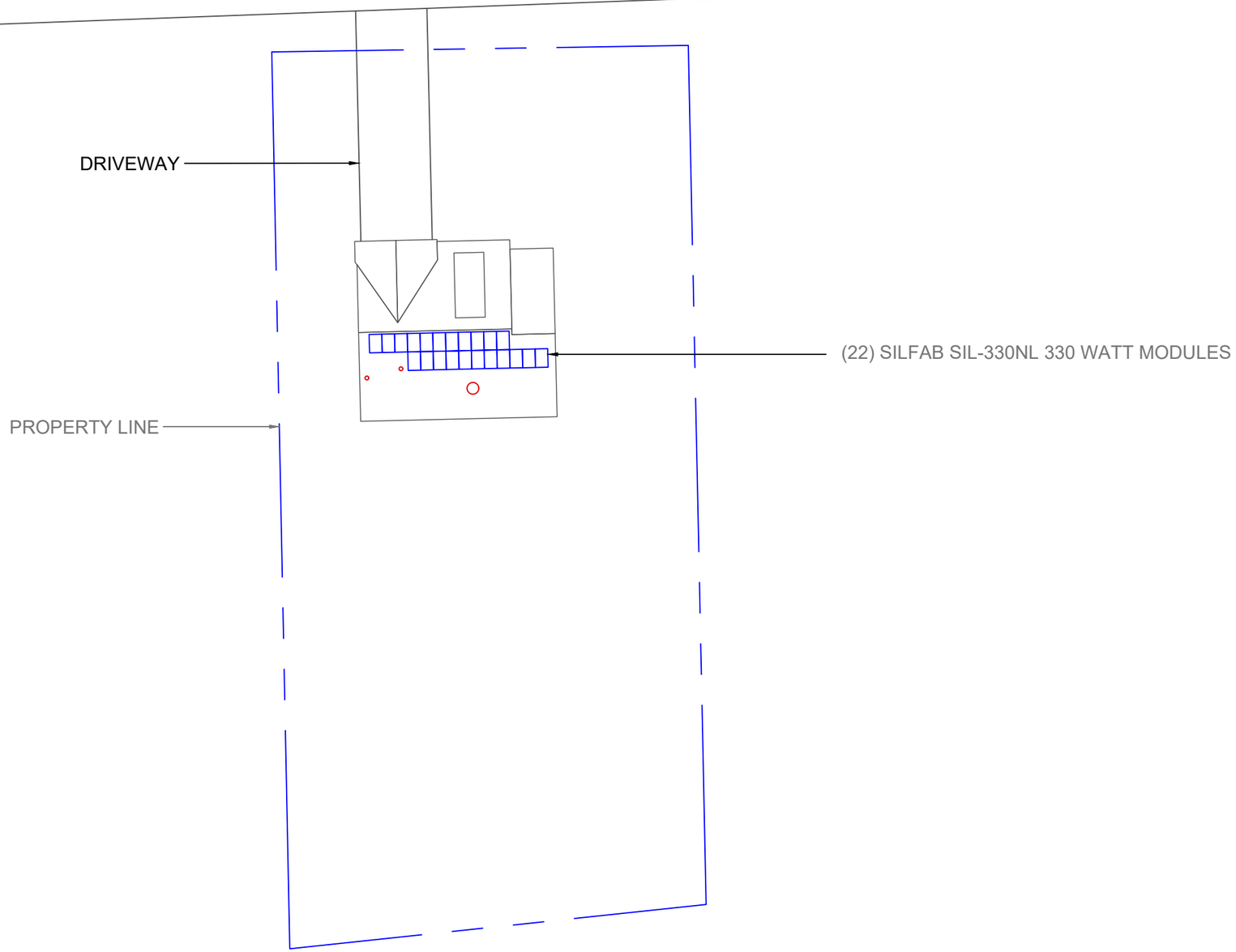
GENERAL INFORMATION

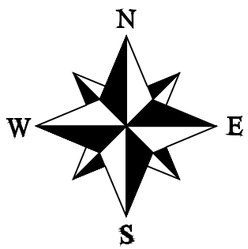
SHEET NUMBER

COVER

PROPERTY PLAN

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





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SITE PLAN

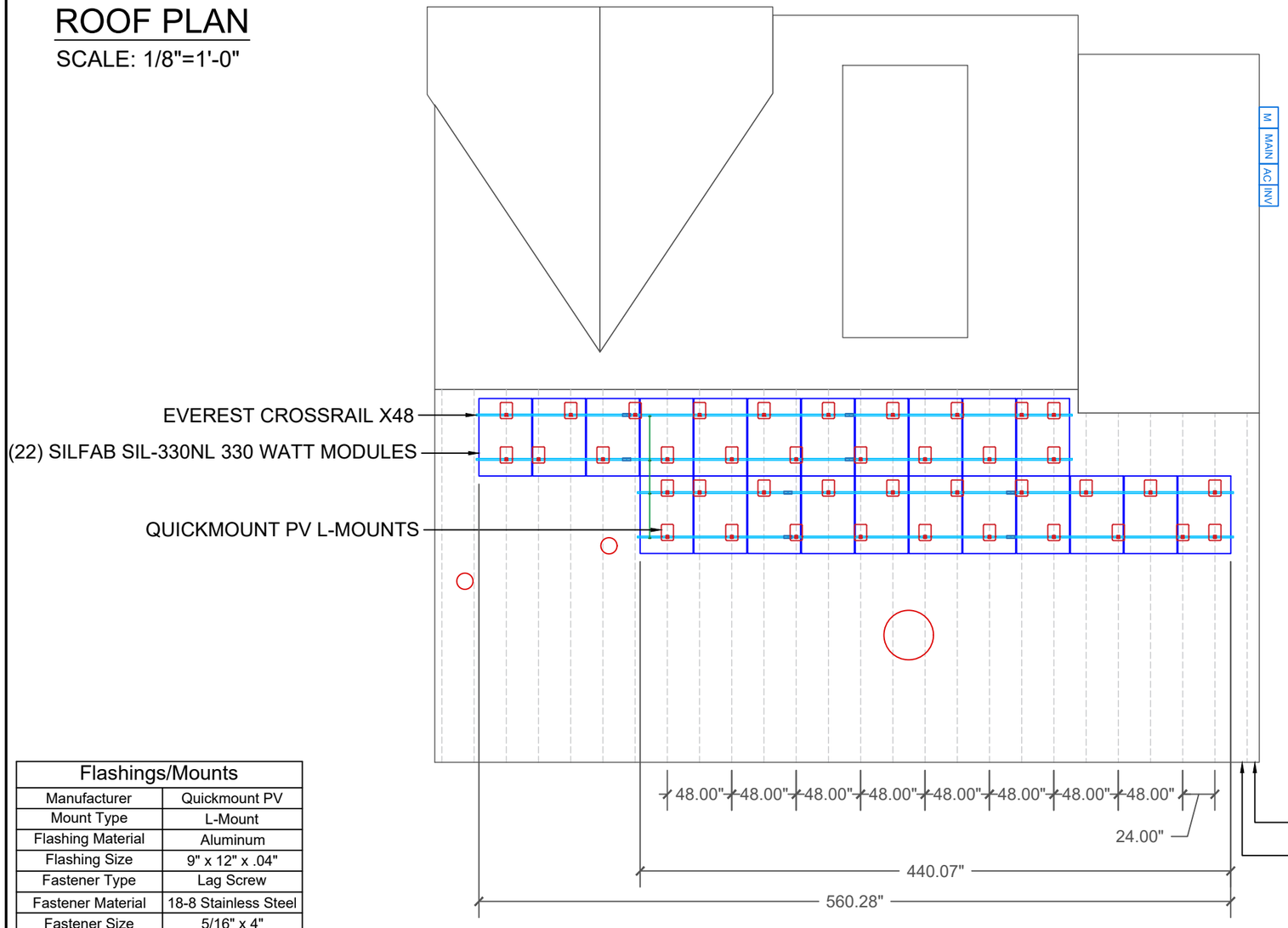
SHEET NUMBER

PV-1

ROOF PLAN

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

ROOF 1 PITCH: 30°
ROOF 1 AZIMUTH: 179°



LOAD CALCULATIONS

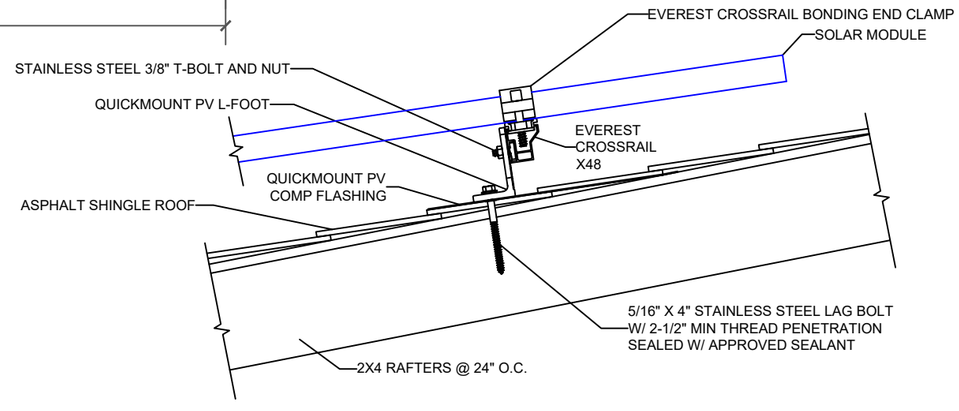
NUMBER OF MODULES	22	
MODULE WEIGHT	43	LBS
MODULE SQ FT	18.8	SQ FT
TOTAL MODULE WEIGHT	946	LBS
TOTAL MODULE SQ FT	413.6	SQ FT
NUMBER OF PORTRAIT	22	
NUMBER OF LANDSCAPE	0	
NUMBER OF OPTIMIZERS	22	
WEIGHT PER OPTIMIZER	1.5	LBS
TOTAL OPTIMIZER WEIGHT	33	LBS
TOTAL LENGTH OF RAIL	147	LF
RAIL WEIGHT PER FOOT	0.56	LBS
TOTAL RAIL WEIGHT	82.32	LBS
NUMBER OF FLANGES	40	
WEIGHT PER FLANGE	0.7565	LBS
WEIGHT PER SYSTEM	30.26	LBS
NUMBER OF MID CLAMPS	40	
MID CLAMP WEIGHT	0.21	LBS
WEIGHT PER SYSTEM	8.4	LBS
NUMBER OF END CLAMPS	8	
END CLAMP WEIGHT	0.32	LBS
WEIGHT PER SYSTEM	6	LBS
NUMBER OF SPLICES	8	
WEIGHT PER SPLICE	0.1	LBS
WEIGHT PER SYSTEM	0.8	LBS
TOTAL ARRAY WEIGHT	1106.78	LBS
POINT LOAD	27.6695	LBS/FT
TOTAL ARRAY AREA	413.6	SQ FT
ARRAY DEAD LOAD	**2.6760**	**PSF**

Flashings/Mounts	
Manufacturer	Quickmount PV
Mount Type	L-Mount
Flashing Material	Aluminum
Flashing Size	9" x 12" x .04"
Fastener Type	Lag Screw
Fastener Material	18-8 Stainless Steel
Fastener Size	5/16" x 4"
L-Foot Material	Aluminum
Sealing Washer	EPDM Bonded SS
Sealing Washer Size	5/16" ID x 3/4" OD
Weight	0.7565 Lbs.
Structural	IBC Compliant
UL Listing	UL 2703

Racking	
Manufacturer	Everest Solar
Model Number	Crossrail 48-X
Length	166"
Width	1.54"
Height	1.89"
Weight	0.56 Lbs./Ft
Material	Aluminum
Structural	IBC Compliant
UL Listing	UL 2703

LEGEND

- M UTILITY METER
- MSP MAIN SERVICE PANEL
- INV INVERTER
- AC AC DISCONNECT
- DC DC DISCONNECT
- JB JUNCTION BOX
- SUB SUBPANEL
- LC LOAD CENTER
- PV METER
- EXTERIOR CONDUIT
- G GAS METER
- FLASHINGS
- RAILS
- GROUNDING
- RAIL SPLICE



SOLAR MOUNTING DETAIL

CONTRACTOR

SUN DOLLAR ENERGY, LLC
4904 ELAINE AVENUE
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SYSTEM SIZE: 10.0 KW AC

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DATE

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SHEET NAME

ROOF LAYOUT & DETAIL DRAWINGS

SHEET NUMBER

PV-2

Solar PV Module Data	
Manufacturer	Silfab
Model Number	SIL-330NL
Max Power (Pmax)	330
Max Power Voltage (Vmp)	33.3
Max Power Current (Imp)	9.92
Open Circuit Voltage (Voc)	40.5
Short Circuit Current (Isc)	10.42
Max Series Fuse (OCPD)	20
Max System Voltage	1000
UL Listing	UL1703
Protection Rating	IP67

Power Optimizer Data	
Manufacturer	SolarEdge
Model Number	P340
Rated DC Input Power	340
Max Input Voltage	48
Max Input Current	13.75
Max Short Circuit Current	11
Max Output Voltage	60
Max Output Current	15
UL Listing	UL1741
Protection Rating	IP68/NEMA6P

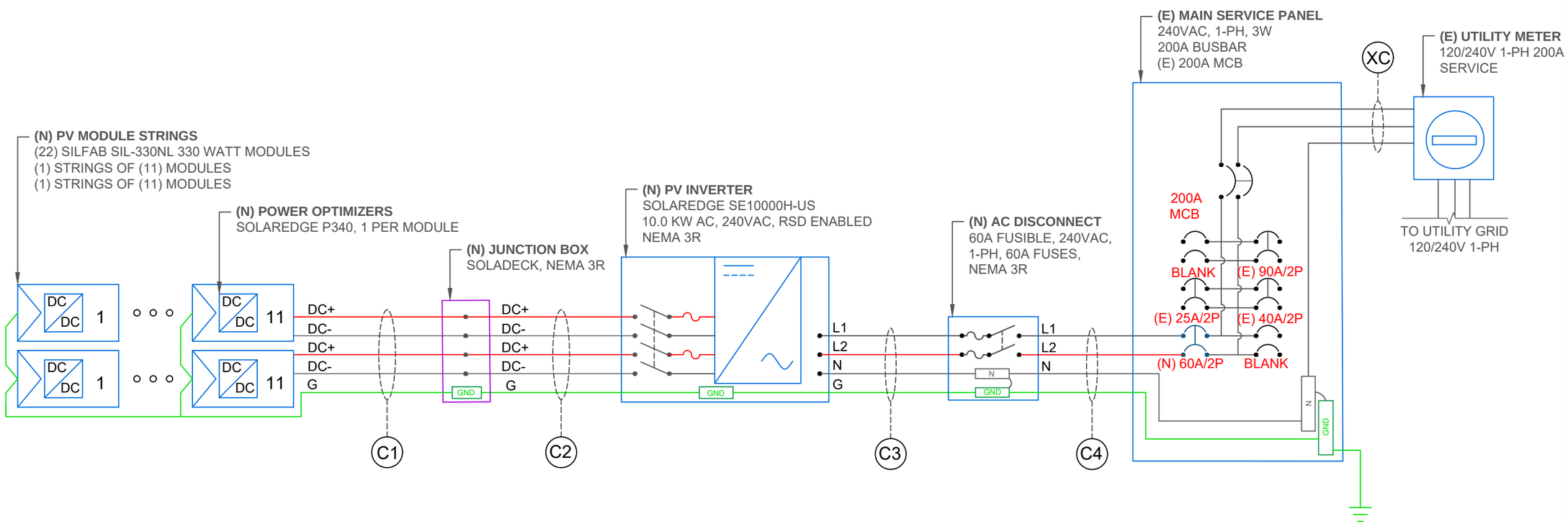
Junction Box Data	
Manufacturer	Soladeck
Model Number	0799-5B
Voltage Rating	600
Amperage Rating	120
UL Listing	UL 50
Enclosure Rating	NEMA 3R

Inverter Data	
Manufacturer	SolarEdge
Model Number	SE10000H-US
Max DC Input Voltage	480
Nominal DC Input Voltage	400
Max DC Input Current	27
Max DC Short Circuit Current	45
Max DC Input Power	15500
Max AC Output Power	10000
Nominal AC Output Voltage	240
Max AC Output Current	42
Strings Per Inverter	1 - 3
UL Listing	UL1741
Enclosure Rating	NEMA 4X

AC Disconnect Data	
Manufacturer	GE
Model Number	TG3222R
Voltage Rating	240
Amperage Rating	60
Phase	Single
Switch Syle	Fusible
Fuse Rating	60
UL Listing	UL 98
Enclosure Rating	NEMA 3R

Main Service Panel Data	
Manufacturer	Square D
Model Type	Homeline
Model Number	RC1224L200CH
Voltage Rating	120/240
Busbar Amp Rating	200
Main Breaker/Main Lug	Main Lug
Breaker Amp Rating	200
Phase	Single
UL Listing	UL 67
Enclosure Rating	NEMA 3R

Temperature Data	
Average High Temp	93.2° F
Record Low Temp	10.4° F



WIRE SCHEDULE

TAG	CURRENT CARRYING CONDUCTORS				GROUNDING CONDUCTORS				CONDUIT/RACEWAY				NOTES
	QTY.	SIZE	MATERIAL	INSULATION TYP.	QTY.	SIZE	MATERIAL	INSULATION TYP.	QTY.	SIZE	MATERIAL	LOCATION	
C1	4	10 AWG	COPPER	PV WIRE	1	8 AWG	BARE COPPER	N/A	-	-	-	FREE AIR	
C2	4	10 AWG	COPPER	THHN/THWN-2	1	10 AWG	COPPER	THHN/THWN-2	1	3/4"	LFMC/EMT	EXTERIOR/INTERIOR	
C3	3	6 AWG	COPPER	THHN/THWN-2	1	10 AWG	COPPER	THHN/THWN-2	1	3/4"	LFNC/EMT	EXTERIOR	
C4	3	6 AWG	COPPER	THHN/THWN-2	1	10 AWG	COPPER	THHN/THWN-2	1	3/4"	LFNC/EMT	EXTERIOR	
XC	-	-	-	-	-	-	-	-	-	-	-	-	

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DATE

11/6/2020

SHEET NAME

ELECTRICAL SCHEMATIC

SHEET NUMBER

PV-3

Ampacity Calculations

Wiring Location: Module to Power Optimizer (Direct Current)
Wiring Location: Inverter to Service Entrance (Alternating Current)
All calculations show minimum sizing for ampacity
Actual wire sizing may be larger for voltage drop or other factors
All calculations are according to the 2017 National Electric Code

Modules: **Silfab** **SIL-330NL**
Inverter: **SolarEdge** **SE10000H-US**

Initial Input Values

Isc (Short Circuit Current)	10.42				
Number of circuits	10.42	x	1	=	10.42
Maximum Circuit Current (NEC 690.8 (A)(1+2)	10.42	x	156%	=	16.2552
Minimum Overcurrent Device	20 A		Series Fuse Rating by Manufacturer		
	Size AWG #				
Chosen Conductor Type (THHN, RHW-2, or USE-2)	10				

Conductor Derating

NEC 690.31 © ref (NEC 310.16)						
Conductor 90°C Ampacity		40				
Conduit Fill Derating	1-3	40	x	1	=	40
Temperature Derating (°F)	141-149	40	x	0.65	=	26

Ampacity vs Overcurrent Device

Conductor Ampacity Check	26	16.2552	OK
Conductor to Overcurrent Check	26	20	OK

Input Data Into Yellow Fields
Green Field must say OK

Use this calculation for over current protection and wire sizing for stringers coming from Solar Panels.
Isc comes from manufacturer

Ampacity Calculations

Wiring Location: Inverter to Service Entrance (Alternating Current)
All calculations show minimum sizing for ampacity
Actual wire sizing may be larger for voltage drop or other factors
All calculations are according to the 2017 National Electric Code

Modules: **Silfab** **SIL-330NL**
Inverter: **SolarEdge** **SE10000H-US**

Initial Input Values

Inverter Continuous AC Output Combined (Watts)	10000	Watts	/	Volts	=	Amps
Minimum Operating Voltage	240	10000	/	240	=	42
Inverter Continuous AC Amps		42				
Number of Inverters		42	x	1	=	42
Overcurrent Device Rating						
NEC 690.8 (B)(3)		42	x	125%	=	52.5
Minimum Overcurrent Device		60 Amps				
Circuit Breaker Size per NEC 240.6(A)	60	Amps				
		Size AWG #				
Chosen Conductor Type THHN,THWN,RHW-2 or USE-2	6					

Conductor Derating

NEC 690.31© ref (NEC 310.16)						
Conductor 90°C Ampacity		75				
Conduit Fill Derating	1-3	75	x	1	=	75
Temperature Derating (°F)	96-104	75	x	0.91	=	68.25

Ampacity vs Overcurrent Device

Conductor Ampacity Check	68.25	52.5	OK
Conductor to Overcurrent Check	68.25	60	OK

Input Data into Yellow Fields
Green Fields must say OK

Use this calculation for over current protection and wire sizing for inverter

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DATE
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SHEET NAME
AMPACITY CALCULATIONS

SHEET NUMBER
PV-4

PV LABELS

SIGNAGE REQUIREMENTS

> WARNING SIGNS OR LABELS SHALL COMPLY WITH NEC 110.21(B)
> MIN. 3/8" LETTER HEIGHT
> ALL CAPITAL LETTERS
> ARIAL OR SIMILAR FONT
> REFLECTIVE, WEATHER RESISTANT MATERIAL, UL 969

PHOTOVOLTAIC SYSTEM DC DISCONNECT

OPERATING VOLTAGE:		VDC
OPERATING CURRENT:		AMPS
MAX SYSTEM VOLTAGE:		VDC
SHORT CIRCUIT CURRENT:		AMPS
CHARGE CONTROLLER MAX:		AMPS

NEC 690.53 — 1

APPLY TO:
INVERTER

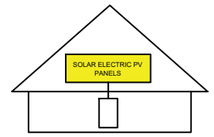
WARNING: PHOTOVOLTAIC POWER SOURCE

NEC 690.31(G)(3)(4) — 2

APPLY TO:
SOLAR DC CONDUIT

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



NEC 690.56(C)(1)(a) — 3

APPLY TO:
SOLAREDGE INVERTERS

⚠ WARNING

ELECTRIC SHOCK HAZARD

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

NEC 690.13(B) — 4

APPLY TO:
DISCONNECTS
SOLAR LOAD CENTERS
COMBINER BOXES

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

NEC 690.5(C)(3) — 5

APPLY TO:
SMA AND SOLAREDGE INVERTERS

PHOTOVOLTAIC SYSTEM AC DISCONNECT

OPERATING VOLTAGE:		VDC
OPERATING CURRENT:		AMPS

NEC 690.54 — 6

APPLY TO:
AC DISCONNECT

⚠ WARNING

TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

NEC 110.27(C) & OSHA 1910.145(f)(7) — 7

APPLY TO:
COMBINER BOXES
ENCLOSURES
BREAKER PANEL
MAIN SERVICE DISCONNECT

SOLAR PV BREAKER

BREAKER IS BACKFED
DO NOT RELOCATE

NEC 690.64(B)(7) & NEC 705.12(B)(2) — 8

APPLY TO:
PV SYSTEM BREAKER

⚠ WARNING

DUAL POWER SUPPLY

SOURCES: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM

NEC 705.12(D)(3) & NEC 690.64

APPLY TO:
MAIN SERVICE PANEL
METER

9

DC JUNCTION BOX

⚠ WARNING

ELECTRIC SHOCK HAZARD

THE DC CONDUCTORS OF THIS PHOTOVOLTAIC SYSTEM ARE UNGROUNDED AND MAY BE ENERGIZED

PHOTOVOLTAIC POWER SOURCE

NEC 690.31(G)(2) — 10

APPLY TO:
DC JUNCTION BOXES

CONTRACTOR

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LABELING SCHEDULE

SHEET NUMBER

PV-5

SIL-330 NL

HIGH EFFICIENCY PREMIUM MONO-PERC PV MODULE

CHUBB
* Chubb provides error and omission insurance to Silfab Solar Inc.

INDUSTRY LEADING WARRANTY
All our products include an industry leading 25-year product workmanship and 30-year performance warranty.

35+ YEARS OF SOLAR INNOVATION
Leveraging over 35+ years of worldwide experience in the solar industry, Silfab is dedicated to superior manufacturing processes and innovations such as Bifacial and Back Contact technologies, to ensure our partners have the latest in solar innovation.

NORTH AMERICAN QUALITY
Silfab is the leading automated solar module manufacturer in North America. Utilizing premium quality materials and strict quality control management to deliver the highest efficiency, premium quality PV modules.

BAA / ARRA COMPLIANT
Silfab panels are designed and manufactured to meet Buy American Act Compliance. The US State Department, US Military and FAA have all utilized Silfab panels in their solar installations.

LIGHT AND DURABLE
Engineered to accommodate high wind load conditions for test loads validated up to 4000Pa uplift. The light-weight frame is exclusively designed for wide-ranging racking compatibility and durability.

QUALITY MATTERS
Total automation ensures strict quality controls during the entire manufacturing process at our ISO certified facilities.

DOMESTIC PRODUCTION
Silfab Solar manufactures PV modules in two automated locations within North America. Our 500+ North American team is ready to help our partners win the hearts and minds of customers, providing customer service and product delivery that is direct, efficient and local.

AESTHETICALLY PLEASING
All black sleek design, ideal for high-profile residential or commercial applications.

PID RESISTANT
PID Resistant due to advanced cell technology and material selection. In accordance to IEC 62804-1.

Electrical Specifications		SIL-330 NL mono PERC	
Test Conditions		STC	NOCT
Module Power (Pmax)	Wp	330	235
Maximum power voltage (Vpmax)	V	33.3	30.2
Maximum power current (Ipmax)	A	9.92	7.8
Open circuit voltage (Voc)	V	40.5	36.7
Short circuit current (Isc)	A	10.42	8.2
Module efficiency	%	19.4	17.3
Maximum system voltage (VDC)	V	1000	
Max series fuse rating	A	20	
Power Tolerance	Wp	0 to +10	

Measurement conditions: STC 1000 W/m2 • AM 1.5 • Temperature 25 °C • NOCT 800 W/m² • AM 1.5 • Measurement uncertainty ≤ 3%
• Sun simulator calibration reference modules from Fraunhofer Institute. Electrical characteristics may vary by ±5% and power by 0 to +10W.

Temperature Ratings	SIL-330 NL mono PERC
Temperature Coefficient Isc	0.064 %/°C
Temperature Coefficient Voc	-0.28 %/°C
Temperature Coefficient Pmax	-0.36 %/°C
NOCT (± 2°C)	46 °C
Operating temperature	-40/+85 °C

Mechanical Properties and Components	SIL-330 NL mono PERC	
	Metric	Imperial
Module weight	18.6 kg ±0.2 kg	41 ±0.4 lbs
Dimensions (H x L x D)	1700 mm x 1000 mm x 38 mm	66.9 in x 39.4 in x 1.5 in
Maximum surface load (wind/snow)*	4000 Pa rear load / 5400 Pa front load N/m²	83.5/112.8 lb/ft^2
Hail impact resistance	ø 25 mm at 83 km/h	ø 1 in at 51.6 mph
Cells	60 - Si mono PERC - 5 busbar 158.75 x 158.75 mm	60 - Si mono PERC - 5 busbar 6.25 x 6.25 Inch
Glass	3.2 mm high transmittance, tempered, DSM anti-reflective coating	0.126 in high transmittance, tempered, DSM anti-reflective coating
Cables and connectors (refer to installation manual)	1200 mm, ø 5.7 mm, MC4 from Staubli	47.2 in, ø 0.22 in (12AWG), MC4 from Staubli
Backsheet	High durability, superior hydrolysis and UV resistance, multi-layer dielectric film, fluorine-free PV backsheet	
Frame	Anodized Aluminum (Black)	
Bypass diodes	3 diodes-30SQ045T (45V max DC blocking voltage, 30A max forward rectified current)	
Junction Box	UL 3730 Certified, IEC 62790 Certified, IP67 rated	

Warranties	SIL-330 NL mono PERC			
Module product workmanship warranty	25 years**			
Linear power performance guarantee	30 years			
	≥ 97.1% end 1st year	≥ 91.6% end 12th year	≥ 85.1% end 25th year	≥ 82.6% end 30th year

Certifications	SIL-330 NL mono PERC
Product	ULC ORD C1703, UL1703, CEC listed***, UL 61215-1/-1-1/-2, UL 61730-1/-2, IEC 61215-1/-1-1/-2***. IEC 61730-1/-2***, CSA C22.2#61730-1/-2***, IEC 62716 Ammonia Corrosion; IEC61701:2011 Salt Mist Corrosion Certifed, UL Fire Rating: Type 2
Factory	ISO9001:2015

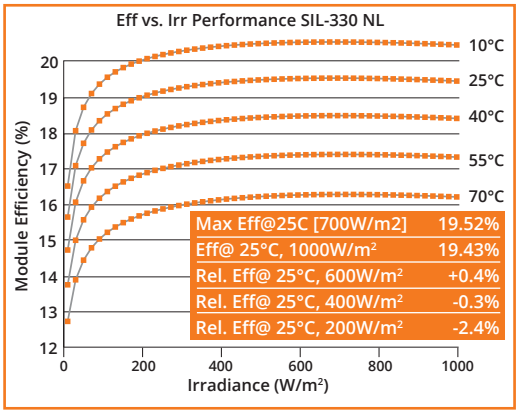
- Modules Per Pallet: 26
- Pallets Per Truck: 36
- Modules Per Truck: 936

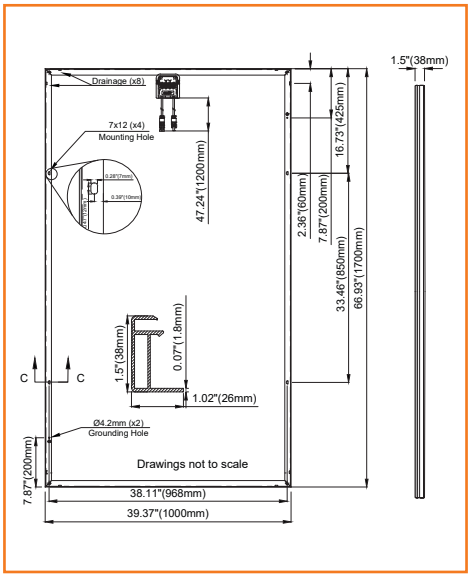
*⚠ Warning. Read the Safety and Installation Manual for mounting specifications and before handling, installing and operating modules.

**12 year extendable to 25 years subject to registration and conditions outlined under "Warranty" at www.silfabsolar.com.

***Certification and CEC listing in progress. August 2020 expected completion date for CEC listing, IEC 61730/61215 and CSA C22.2#61730-1/-2

Third-party generated pan files from Fraunhofer-Institute for Solar Energy Systems ISE are available for download at: www.silfabsolar.com/downloads





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2020 TOP PERFORMER PVEL DNV·GL PV MODULE RELIABILITY SCORECARD

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INVERTERS

Single Phase Inverter with HD-Wave Technology

for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US /
SE7600H-US / SE10000H-US / SE11400H-US

12-25 YEAR WARRANTY

Optimized installation with HD-Wave technology

- Specifically designed to work with power optimizers
- Record-breaking efficiency
- Quick and easy inverter commissioning directly from a smartphone using the SolarEdge SetApp
- Fixed voltage inverter for longer strings
- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- UL1741 SA certified, for CPUC Rule 21 grid compliance
- Extremely small
- Built-in module-level monitoring
- Outdoor and indoor installation
- Optional: Revenue grade data, ANSI C12.20 Class 0.5 (0.5% accuracy)

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Single Phase Inverter with HD-Wave Technology for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US/ SE7600H-US / SE10000H-US / SE11400H-US

Model Number	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
APPLICABLE TO INVERTERS WITH PART NUMBER	SEXXXXH-XXXXXBXX4							
OUTPUT								
Rated AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
Maximum AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
AC Output Voltage Min.-Nom.-Max. (211 - 240 - 264)	✓	✓	✓	✓	✓	✓	✓	Vac
AC Output Voltage Min.-Nom.-Max. (183 - 208 - 229)	-	✓	-	✓	-	-	✓	Vac
AC Frequency (Nominal)	59.3 - 60 - 60.5[1]							Hz
Maximum Continuous Output Current @240V	12.5	16	21	25	32	42	47.5	A
Maximum Continuous Output Current @208V	-	16	-	24	-	-	48.5	A
Power Factor	1, adjustable -0.85 to 0.85							
GFDI Threshold	1							A
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes							
INPUT								
Maximum DC Power @240V	4650	5900	7750	9300	11800	15500	17650	W
Maximum DC Power @208V	-	5100	-	7750	-	-	15500	W
Transformer-less, Ungrounded	Yes							
Maximum Input Voltage	480							Vdc
Nominal DC Input Voltage	380				400			Vdc
Maximum Input Current @240V[2]	8.5	10.5	13.5	16.5	20	27	30.5	Adc
Maximum Input Current @208V[2]	-	9	-	13.5	-	-	27	Adc
Max. Input Short Circuit Current	45							Adc
Reverse-Polarity Protection	Yes							
Ground-Fault Isolation Detection	600kΩ Sensitivity							
Maximum Inverter Efficiency	99	99.2						%
CEC Weighted Efficiency	99						99 @ 240V 98.5 @ 208V	%
Nighttime Power Consumption	< 2.5							W

[1] For other regional settings please contact SolarEdge support
[2] A higher current source may be used; the inverter will limit its input current to the values stated

Power Optimizer

For North America

P320 / P340 / P370 / P400 / P405 / P505

POWER OPTIMIZER

PV power optimization at the module-level

- Specifically designed to work with SolarEdge inverters
- Up to 25% more energy
- Superior efficiency (99.5%)
- Mitigates all types of module mismatch losses, from manufacturing tolerance to partial shading
- Flexible system design for maximum space utilization
- Fast installation with a single bolt
- Next generation maintenance with module-level monitoring
- Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)
- Module-level voltage shutdown for installer and firefighter safety

solaredge

/ Power Optimizer
For North America
P320 / P340 / P370 / P400 / P405 / P505

Optimizer model (typical module compatibility)	P320 (for 60-cell modules)	P340 (for high-power 60-cell modules)	P370 (for higher-power 60 and 72-cell modules)	P400 (for 72 & 96-cell modules)	P405 (for thin film modules)	P505 (for higher current modules)	
INPUT							
Rated Input DC Power[1]	320	340	370	400	405	505	W
Absolute Maximum Input Voltage (Voc at lowest temperature)	48		60	80	125[2]	83[2]	Vdc
MPPT Operating Range	8 - 48		8 - 60	8 - 80	12.5 - 105	12.5 - 83	Vdc
Maximum Short Circuit Current (Isc)	11			10.1		14	Adc
Maximum DC Input Current	13.75			12.63		17.5	Adc
Maximum Efficiency	99.5						%
Weighted Efficiency	98.8					98.6	%
Overvoltage Category	II						
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREDGE INVERTER)							
Maximum Output Current	15						Adc
Maximum Output Voltage	60				85		Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREDGE INVERTER OR SOLAREDGE INVERTER OFF)							
Safety Output Voltage per Power Optimizer	1 ± 0.1						Vdc
STANDARD COMPLIANCE							
EMC	FCC Part15 Class B, IEC61000-6-2, IEC61000-6-3						
Safety	IEC62109-1 (class II safety), UL1741						
RoHS	Yes						
INSTALLATION SPECIFICATIONS							
Maximum Allowed System Voltage	1000						Vdc
Compatible inverters	All SolarEdge Single Phase and Three Phase inverters						
Dimensions (W x L x H)	129 x 153 x 27.5 / 5.1 x 6 x 1.1			129 x 153 x 33.5 / 5.1 x 6 x 1.3	129 x 159 x 49.5 / 5.1 x 6.3 x 1.9	129 x 162 x 59 / 5.1 x 6.4 x 2.3	mm / in
Weight (including cables)	630 / 1.4			750 / 1.7	845 / 1.9	1064 / 2.3	gr / lb
Input Connector	MC4[3]						
Output Wire Type / Connector	Double Insulated; MC4						
Output Wire Length	0.95 / 3.0		1.2 / 3.9				m / ft
Input Wire Length	0.16 / 0.52						m / ft
Operating Temperature Range	-40 - +85 / -40 - +185						˚C / ˚F
Protection Rating	IP68 / NEMA6P						
Relative Humidity	0 - 100						%

[1] Rated STC power of the module. Module of up to +5% power tolerance allowed
[2] NEC 2017 requires max input voltage be not more than 80V
[3] For other connector types please contact SolarEdge

PV System Design Using a SolarEdge Inverter[4][5]		Single Phase HD-Wave	Single phase	Three Phase 208V	Three Phase 480V	
Minimum String Length (Power Optimizers)	P320, P340, P370, P400	8		10	18	
	P405 / P505	6		8	14	
Maximum String Length (Power Optimizers)		25		25	50[6]	
Maximum Power per String		5700 (6000 with SE7600-US - SE11400-US)	5250	6000[7]	12750[8]	W
Parallel Strings of Different Lengths or Orientations		Yes				

[4] For detailed string sizing information refer to: http://www.solaredge.com/sites/default/files/string_sizing_na.pdf
[5] It is not allowed to mix P405/P505 with P320/P340/P370/P400 in one string
[6] A string with more than 30 optimizers does not meet NEC rapid shutdown requirements; safety voltage will be above the 30V requirement
[7] For SE14.4KUS/SE43.2KUS: It is allowed to install up to 6,500W per string when 3 strings are connected to the inverter (3 strings per unit for SE43.2KUS) and when the maximum power difference between the strings is up to 1,000W
[8] For SE30KUS/SE33.3KUS/SE66.6KUS/SE100KUS: It is allowed to install up to 15,000W per string when 3 strings are connected to the inverter (3 strings per unit for SE66.6KUS/SE100KUS) and when the maximum power difference between the strings is up to 2,000W

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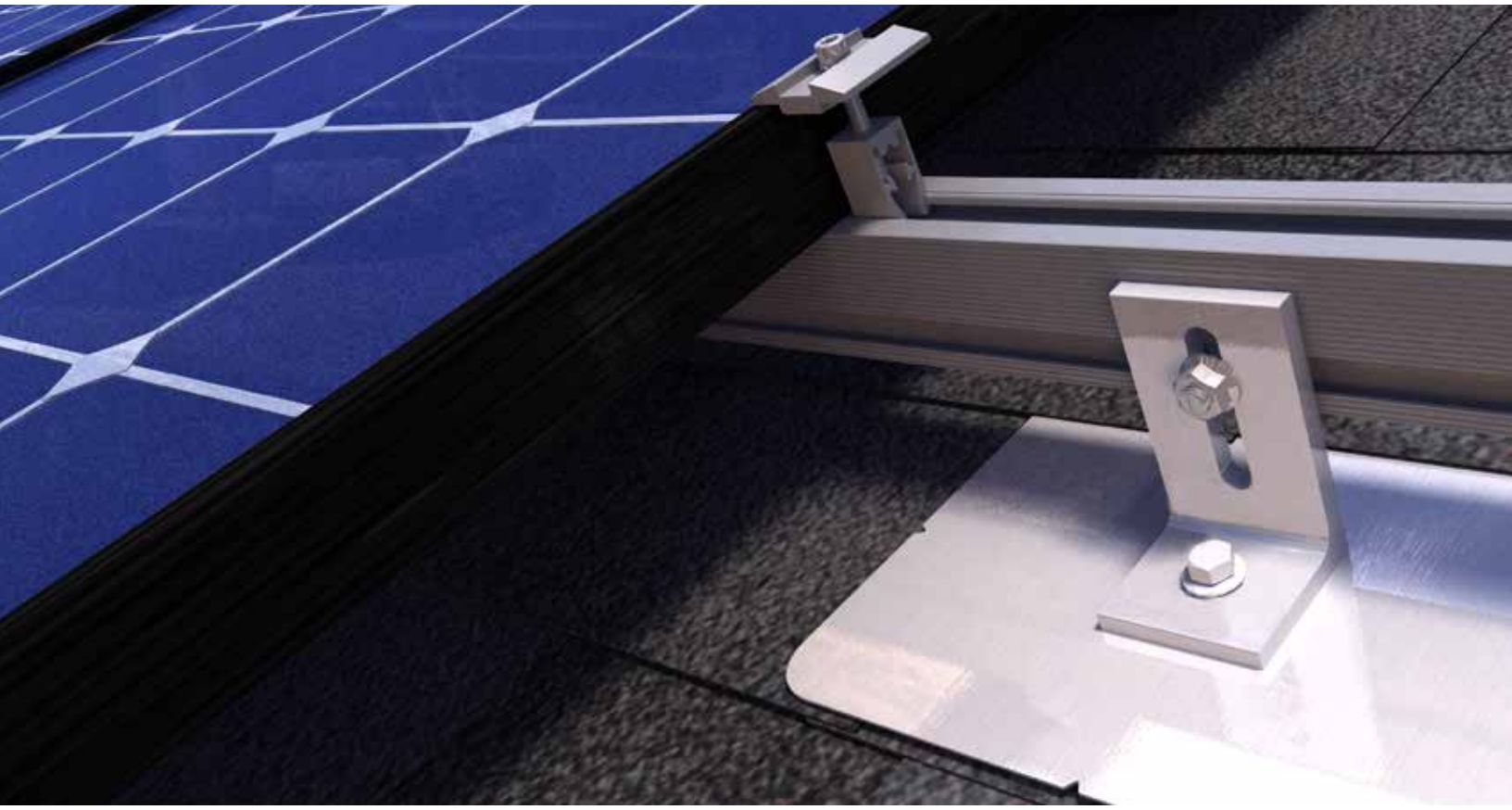
CE RoHS

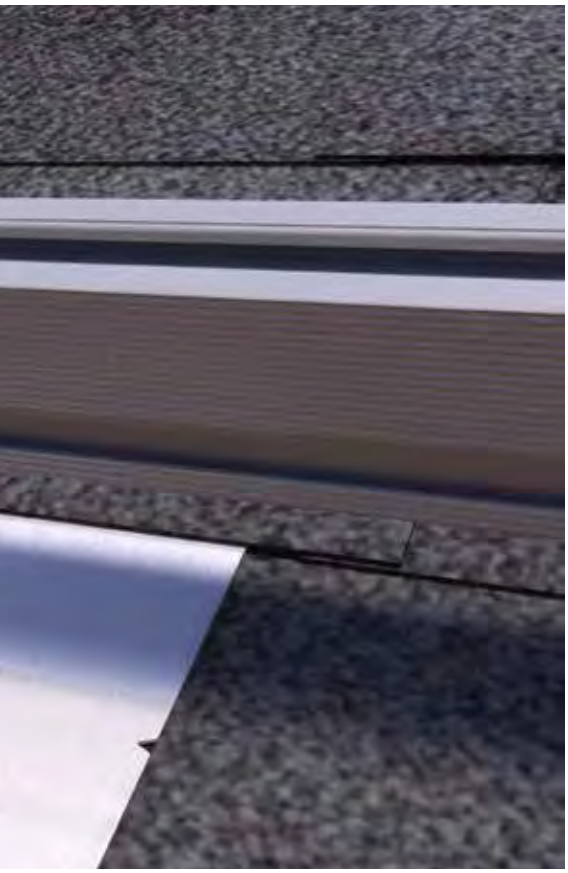
L-Mount® Series

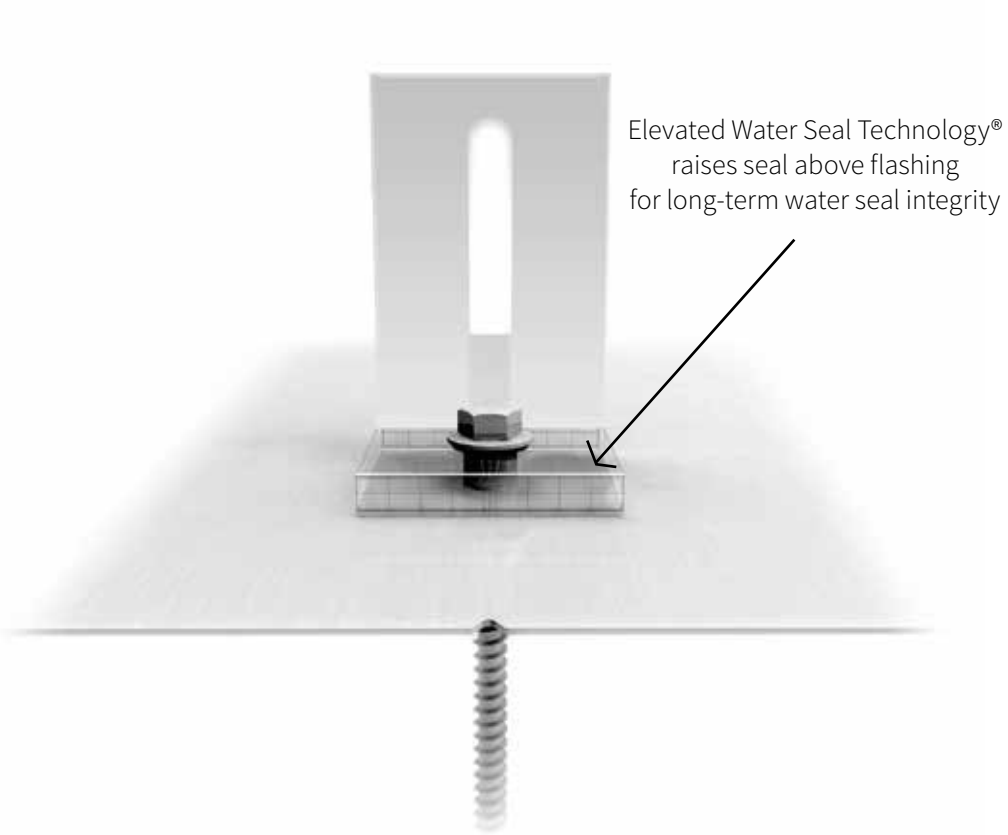


The L-Mount ® Series is designed for cost-effective, one-bolt installation onto existing composition/asphalt shingle roofs. Quick Mount PV engineered its patented Elevated Water Seal Technology® into an integrated L-foot and flashing for super-fast, single-lag bolt installation with unparalleled waterproofing. The L-Mount comes with a lag bolt or structural screw for attachment versatility and works with all leading racks. The L-Mount features a 9" x 12" aluminum flashing with alignment guides and rounded corners to easily slide under shingles and speed installation on the roof.

Features

- L-foot can be rotated 360 degree for optimal adjustability
- Works with all leading racks
- Available with lag bolt or structural screw
- QBlock® Elevated Water Seal Technology®
- Single bolt installation, no shingle cutting
- 9" x 12" aluminum flashing
- Meets or exceeds roofing industry best practices; 100% IBC compliant
- 18-8 stainless steel hardware included
- Alignment guides
- 25-year warranty



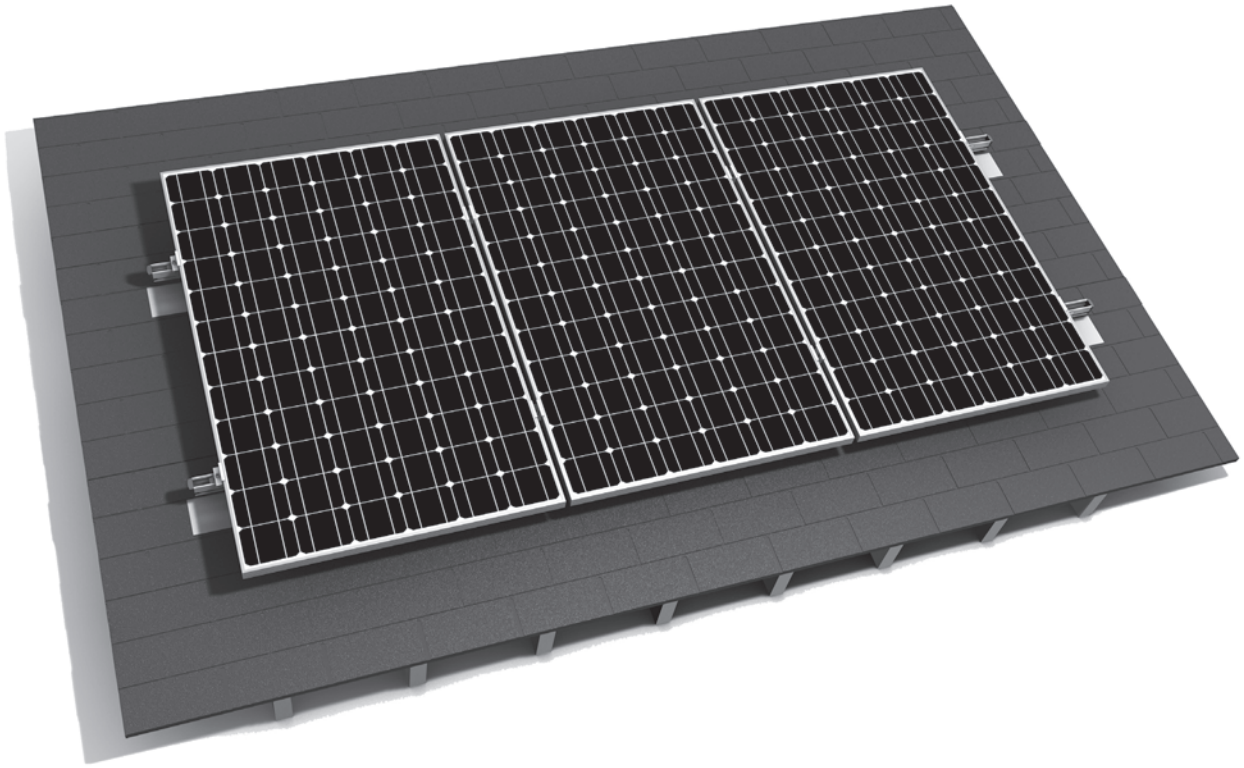


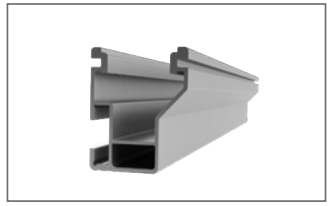
Single-Slot L-Mount with lag bolt

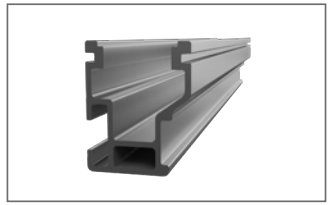
Single-Slot L-Mount

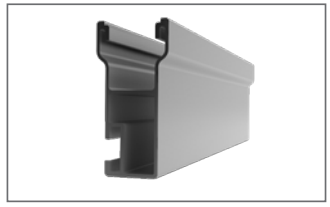
Available finishes:
aluminum mill (A); black (B)

Mounting systems for solar technology









EVEREST SOLAR SYSTEMS

RESIDENTIAL ROOF SOLUTIONS
CROSSRAIL SYSTEM

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info@everest-solarsystems.com
www.everest-solarsystems.com

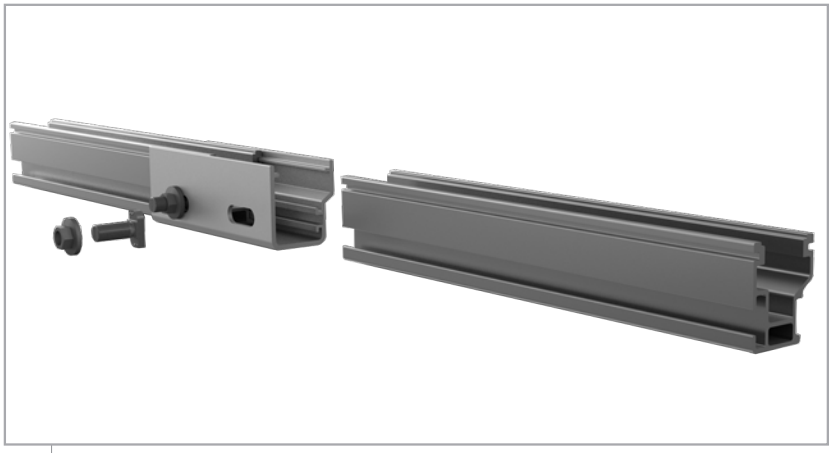
CROSSRAIL SYSTEM

LISTED

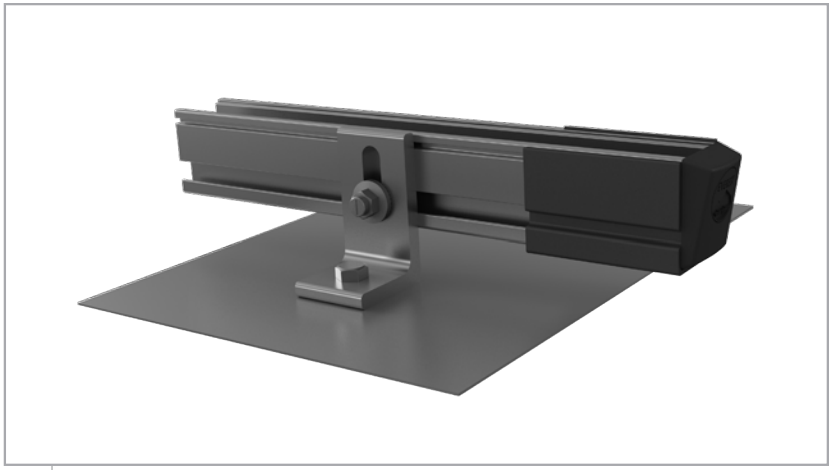
- High quality, German-engineered system optimized for residential installation
- MK3 mounting hardware simplifies module installation – fast, easy, and secure
- Easily integrates with third party roof attachment products
- L-foot provides adjustability and compatibility with common roof types
- 100% code-compliant, structural validation for all solar states
- Three rail sizes available to suit all structural conditions
- Most components also available in dark
- Fast installation with minimal component count result in low total installed cost
- Simple to design using code compliant Everest Online Design Tool
- Use two innovative components to turn this system into Shared Rail or Tilt Up

TECHNICAL DATA

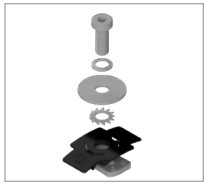
Applicable roof types	Composition shingle, tile, flat tile
Flexibility	Modular construction, suitable for any system size, height adjustable
PV modules	For all common module types
Module orientation	Portrait and landscape
Material	High corrosion resistance, stainless steel and high grade aluminum
Roof attachment	Screw connection into rafter
Structural validity	IBC compliant, stamped engineering letters available for all solar states
Warranty	20 years
System components	CrossRail 48-X/48-XL/80, L-Foot, Mid and End Clamp Sets



CrossRail Structural Splice



CrossRail with EverFlash, Rail Sleeve and End Cap



Bonding Mid Clamp | End Clamp | Micro, Optimizer & Accs Mounting Kit

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