SCOPE OF WORK

TO INSTALL A 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

GOVERNING CODES

2017 NATIONAL ELECTRICAL CODE
2018 INTERNATIONAL BUILDING CODE
2018 NC BUILDING CODE
UNDERWRITERS LABORATORIES (UL) STANDARDS
OSHA 29 CFR 1910.269

SHEET INDEX

VICINITY MAP

SUN DOLLAR ENERGY, LLC

Sun Dollar Energy, LLC
4904 Elaine Avenue
Raleigh, NC 27616
919-508-6907
NC Electrical License #: 30043U
NC GC License #: 73462

Tiffany Zabel
1397 McFarland Rd
Broadway, NC 27505
(919) 888-0950

System:
- System Type: Grid Tied
- Module Type: Hanwha Q.Peak DUO BLK-G5 315 Watt
- # of Modules: 34
- Inverter: SolarEdge SE10000H-US
- Power Optimizers: SolarEdge P320
- Racking: Everest Rail
- Solar Mounts: Quickmount L-Mounts
- DC Watts: 10.71 kW DC STC

Existing Home Electrical
- (E) Main Service Panel: 200A
- (E) Main Breaker: 200A
- Grid Voltage: 120/240V

Special Info
- Roof Type: Comp Shingle
- Array 1 Rafter Size: 2x6 @ 24" o.c.
- Array 1 Pitch: 26°
- Array 1 Azimuth: 135°
- Average High Temp: 93.2°F
- Record Low Temp: 10.4°F

DESIGNED BY: GRIFFIN PAYNE

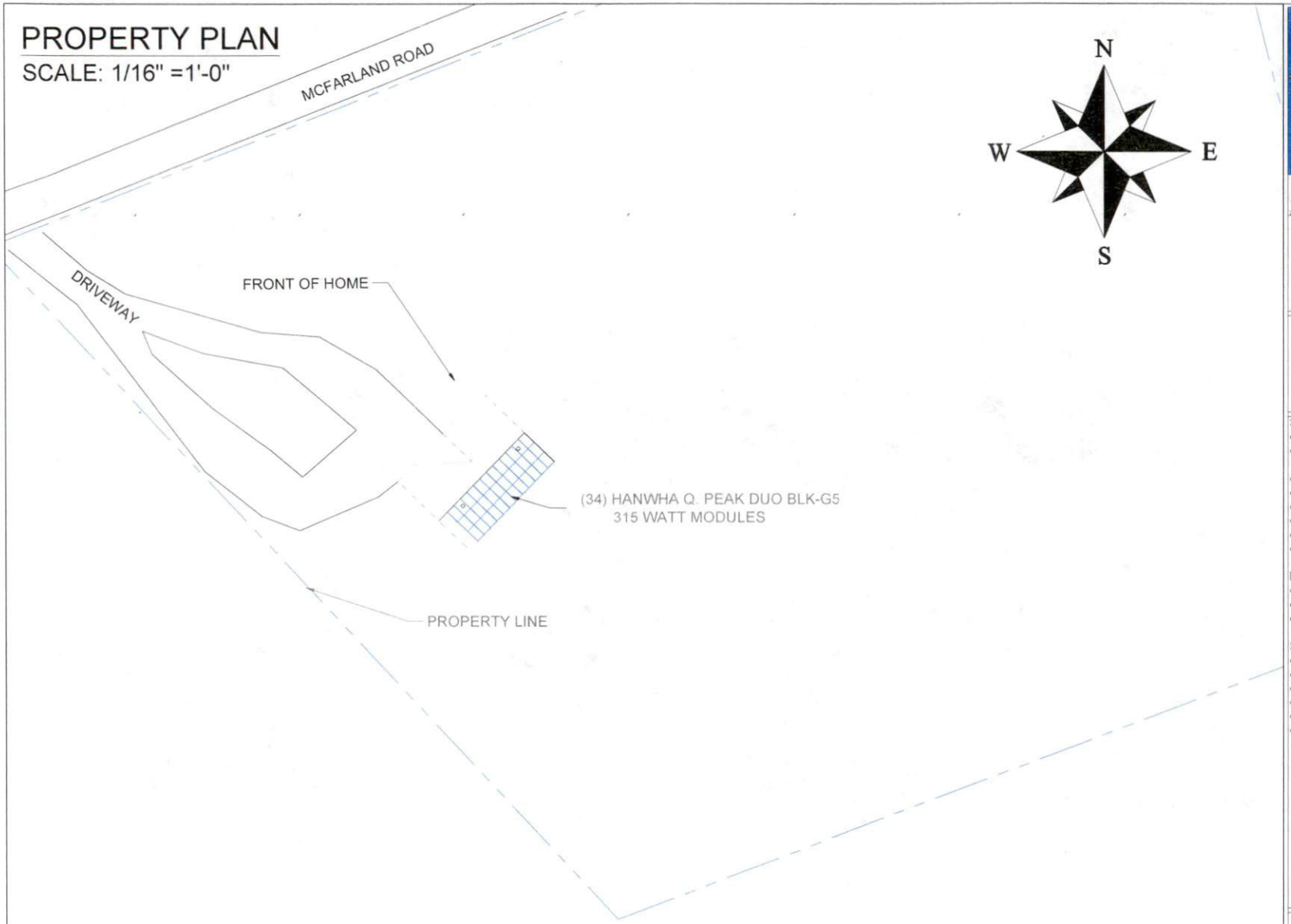
Date: 06/04/2019

SIGNATURE:

COVER

PROPERTY PLAN

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



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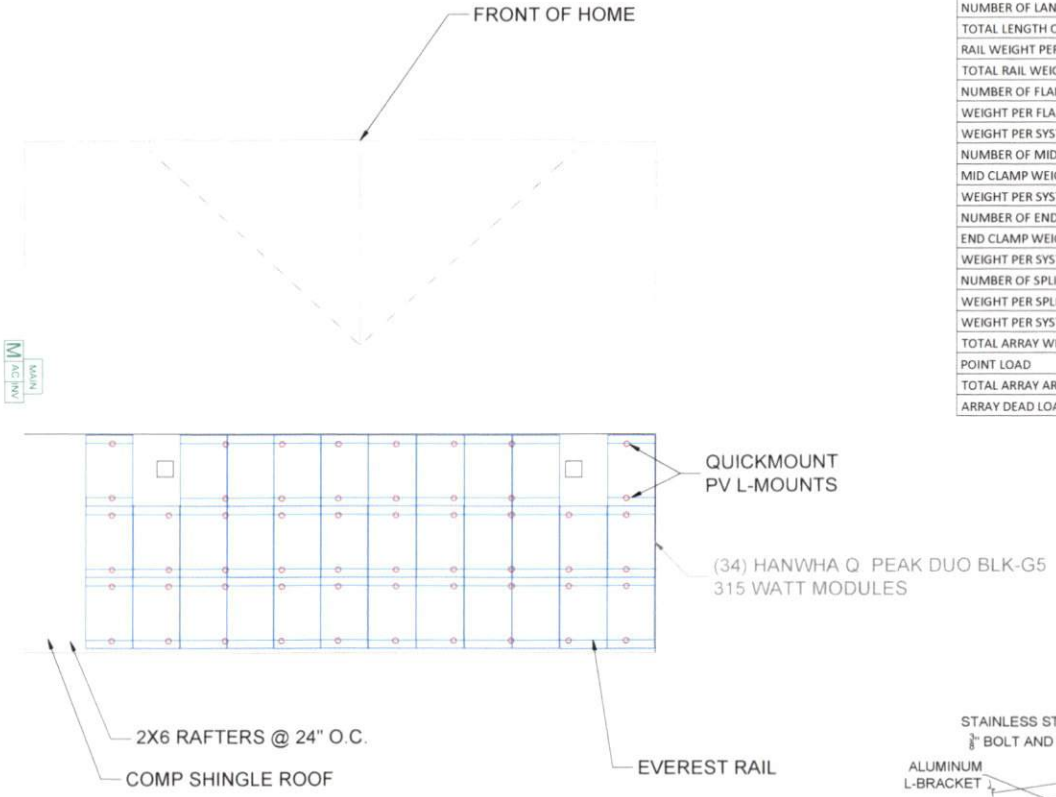
Date: 06/04/2019

PV-1

ROOF PLAN

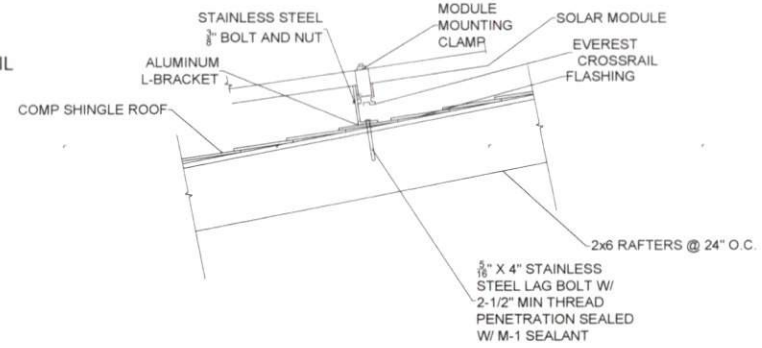
SCALE: 1/4"=1'-0"



LOAD CALCULATIONS		
NUMBER OF MODULES	34	
MODULE WEIGHT	41.23	LBS
MODULE SQ FT	18.138	SQ FT
TOTAL MODULE WEIGHT	1401.82	LBS
TOTAL MODULE SQ FT	616.692	SQ FT
NUMBER OF PORTRAIT	34	
NUMBER OF LANDSCAPE	0	
TOTAL LENGTH OF RAIL	227	LF
RAIL WEIGHT PER FOOT	0.56	LBS
TOTAL RAIL WEIGHT	127.12	LBS
NUMBER OF FLANGES	56	
WEIGHT PER FLANGE	2	LBS
WEIGHT PER SYSTEM	112	LBS
NUMBER OF MID CLAMPS	58	
MID CLAMP WEIGHT	0.21	LBS
WEIGHT PER SYSTEM	12.18	LBS
NUMBER OF END CLAMPS	20	
END CLAMP WEIGHT	0.32	LBS
WEIGHT PER SYSTEM	6.4	LBS
NUMBER OF SPLICES	10	
WEIGHT PER SPLICE	0.1	LBS
WEIGHT PER SYSTEM	1	LBS
TOTAL ARRAY WEIGHT	1660.52	LBS
POINT LOAD	29.6521429	LBS/FT
TOTAL ARRAY AREA	616.692	SQ FT
ARRAY DEAD LOAD	2.69262452	LBS/SF

LEGEND

- M — UTILITY METER
- MAIN — MAIN SERVICE PANEL
- INV — INVERTER
- AC — AC DISCONNECT
- DC — DC DISCONNECT
- JB — JUNCTION BOX
- CB — COMBINER BOX
- SUB — SUBPANEL
- LC — LOAD CENTER
- (M) — PV METER/MONITORING
- (X) — SOLMETRIC READING
- —— CONDUIT RUN ON EXTERIOR
- G — GAS METER
- ○ — SOLAR ROOF MOUNTS



SOLAR MOUNTING DETAIL

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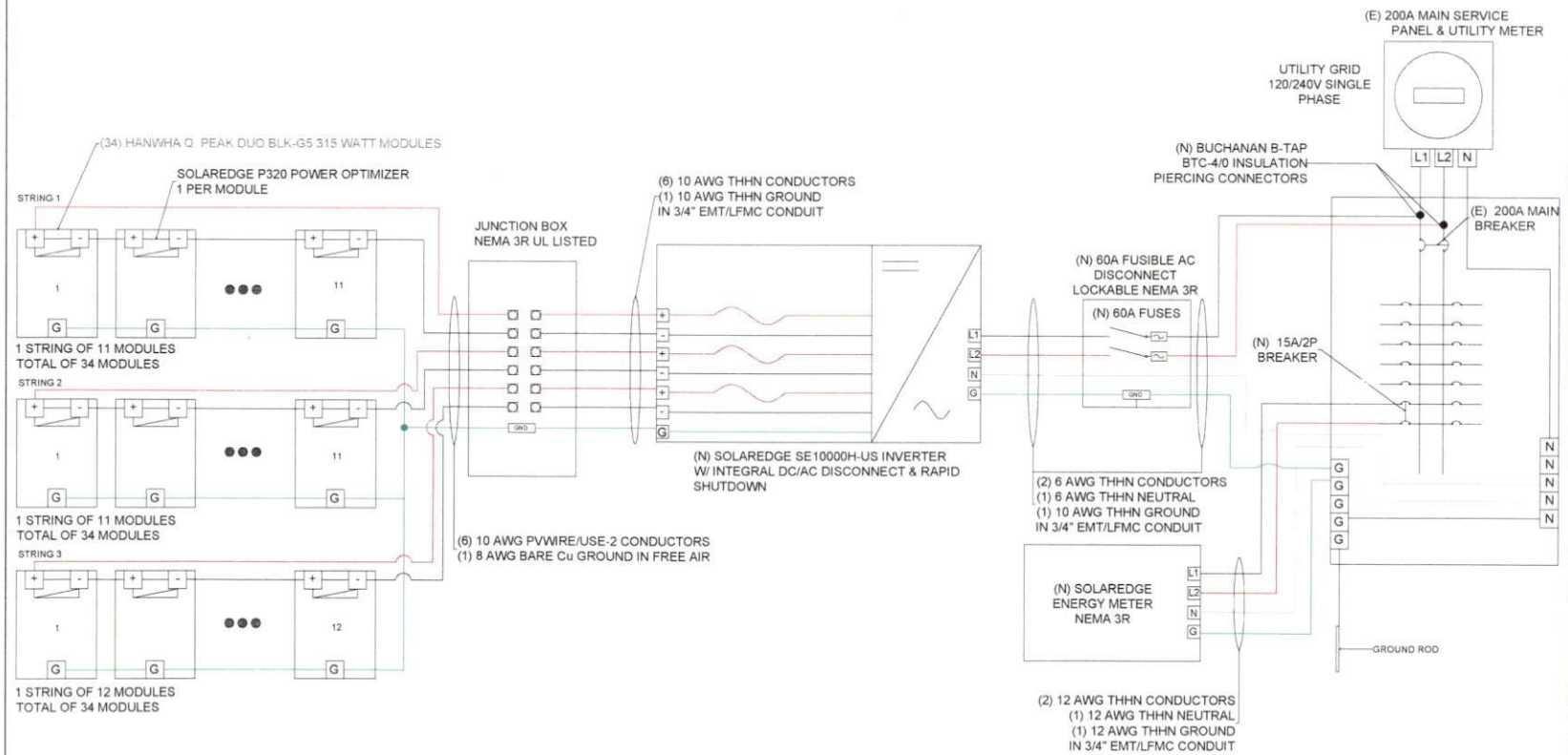
Date: 06/04/2019

PV-2

MODULE DATA	
Make of Model	Hanwha
Model Number	Q.Peak DUO BLK-G5
Max Power Point (MPP) Voltage (Vmpp)	33.46 Volts
Max Power Point (MPP) Current (Impp)	9.41 Amps
Open Circuit Voltage (Voc)	40.29 Volts
Short Circuit Current (Isc)	9.89 Amps
Max Series Fuse (OCPD)	20 Amps
Max Power (Pmax)	315 Watts
Max Voltage (typically less than 600V DC)	1000 Volts

Inverter Data (provided by manufacturer)	
Make of Model	SolarEdge
Model Number	SE10000H-US
Max DC Volt Rating	480 volts
Max AC Output	10000 Watts
Nominal AC Voltage	240 volts
Max AC Current	42 amps
Strings per Inverter	3
Number of Inverters	1

Temperature Data from ASHRAE	
Average High Temp. (°F)	93.2°F
Record Low Temp. (°F)	10.4°F



NOTE: DC IS UNGROUNDED

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Date: 06/04/2019

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: Hanwha Q-Peak DUO BLK-G5 315
Inverter: SolarEdge SE10000H-US

Initial Input Values						
Isc (Short Circuit Current)	9.89					
Number of circuits	9.89	x	1	=	9.89	
Maximum Circuit Current (NEC 690.8 (A)(1+2)	9.89	x	156%	=	15.4284	
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	4-6	40	x	0.8	=	32
Temperature Derating (°F)	132-140	32	x	0.71	=	22.72
Ampacity vs Overcurrent Device						
Conductor Ampacity Check		22.72		15.4284		OK
Conductor to Overcurrent Check		22.72		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: Hanwha Q-Peak DUO BLK-G5 315
Inverter: SolarEdge SE10000H-US

Initial Input Values								
Inverter Continuous AC Output Combined (Watts)	10000							
Minimum Operating Voltage	240							
		Watts			Volts		Amps	
		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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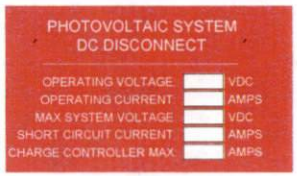
Date: 06/04/2019

PV-4

PV LABELS

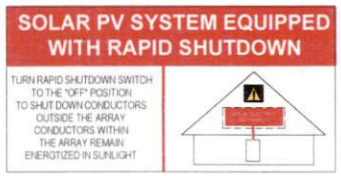
SIGNAGE REQUIREMENTS

> 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



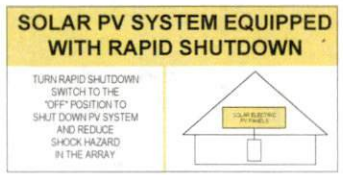
NEC 690.53 — 1

APPLY TO:
INVERTER



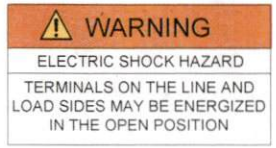
NEC 690.56(C)(1)(b) — 2

APPLY TO:
SMA INVERTERS



NEC 690.56(C)(1)(a) — 3

APPLY TO:
SOLAREDGE INVERTERS



NEC 690.13(B) — 4

APPLY TO:
DISCONNECTS
SOLAR LOAD CENTERS
COMBINER BOXES

NEC 690.5(C)(3) — 5

APPLY TO:
SMA AND SOLAREDGE INVERTERS

NEC 690.54 — 6

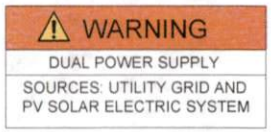
APPLY TO:
AC DISCONNECT

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

APPLY TO:
COMBINER BOXES
ENCLOSURES
BREAKER PANEL
MAIN SERVICE DISCONNECT

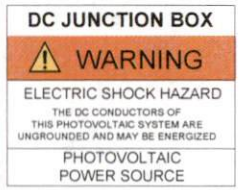
NEC 690.64(B)(7) & NEC 705.12(B)(2) — 8

APPLY TO:
PV SYSTEM BREAKER



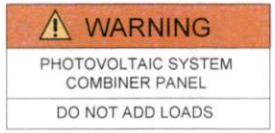
NEC 705.12(D)(3) & NEC 690.64 — 9

APPLY TO:
MAIN SERVICE PANEL
METER



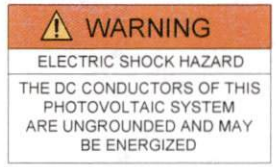
NEC 690.31(G)(2) — 10

APPLY TO:
DC JUNCTION BOXES



NEC 705.12 — 11

APPLY TO:
SOLAR LOAD CENTER
PV COMBINER PANEL



NEC 690.35(F) — 12

APPLY TO:
UNGROUNDED ARRAYS ONLY
JUNCTION BOXES
COMBINER BOXES
DC DISCONNECTS
INVERTERS

NEC 690.31(G)(3)(4) — 13

APPLY TO:
SOLAR DC CONDUIT

14

APPLY TO:
MAIN SERVICE PANEL
(IF LINE-SIDE TAP FOR OUTPUT CONNECTION)

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Date: 06/04/2019

PV-5

Q.PEAK DUO BLK-G5 305-320

Q.ANTUM SOLAR MODULE

The new Q.PEAK DUO BLK-G5 solar module from Q CELLS impresses with its outstanding visual appearance and particularly high performance on a small surface thanks to the innovative Q.ANTUM DUO Technology. Q.ANTUM's world-record-holding cell concept has now been combined with state-of-the-art circuitry half cells and a six-busbar design, thus achieving outstanding performance under real conditions — both with low-intensity solar radiation as well as on hot, clear summer days.

Q.ANTUM TECHNOLOGY: LOW LEVELISED COST OF ELECTRICITY

Higher yield per surface area, lower BOS costs, higher power classes, and an efficiency rate of up to 19.3 %.

INNOVATIVE ALL-WEATHER TECHNOLOGY

Optimal yields, whatever the weather with excellent low-light and temperature behaviour.

ENDURING HIGH PERFORMANCE

Long-term yield security with Anti LID Technology, Anti PID Technology[1], Hot-Spot Protect and Traceable Quality Tra.Q™.

EXTREME WEATHER RATING

High-tech aluminium alloy frame, certified for high snow (5400 Pa) and wind loads (4000 Pa).

A RELIABLE INVESTMENT

Inclusive 12-year product warranty and 25-year linear performance warranty[2].

STATE OF THE ART MODULE TECHNOLOGY

Q.ANTUM DUO combines cutting edge cell separation and innovative wiring with Q.ANTUM Technology.

www.VDEinfo.com
ID. 40032587

[1] APT test conditions according to IEC/TS 62804-1:2015, method B (–1500 V, 168 h)

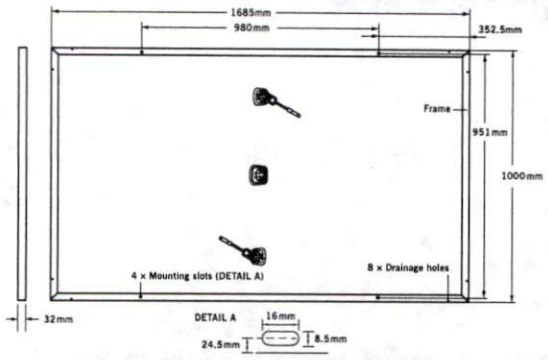
[2] See data sheet on rear for further information.

THE IDEAL SOLUTION FOR:

Rooftop arrays on residential buildings

MECHANICAL SPECIFICATION

Format	1685 mm × 1000 mm × 32 mm (including frame)
Weight	18.7 kg
Front Cover	3.2 mm thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodised aluminium
Cell	6 × 20 monocrystalline Q.ANTUM solar half cells
Junction box	70-85 mm × 50-70 mm × 13-21 mm Protection class IP67, with bypass diodes
Cable	4 mm² Solar cable; (+) 1100 mm, (–) 1100 mm
Connector	Multi-Contact MC4, IP65 and IP68

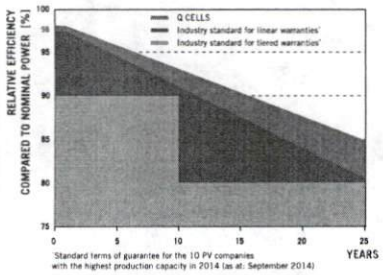


ELECTRICAL CHARACTERISTICS

POWER CLASS				305	310	315	320
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC[1] (POWER TOLERANCE +5 W / –0 W)							
Minimum	Power at MPP[2]	P_{MPP}	[W]	305	310	315	320
	Short Circuit Current*	I_{SC}	[A]	9.78	9.83	9.89	9.94
	Open Circuit Voltage*	V_{OC}	[V]	39.75	40.02	40.29	40.56
	Current at MPP*	I_{MPP}	[A]	9.31	9.36	9.41	9.47
	Voltage at MPP*	V_{MPP}	[V]	32.78	33.12	33.46	33.80
	Efficiency[2]	η	[%]	≥18.1	≥18.4	≥18.7	≥19.0
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NOC[3]							
Minimum	Power at MPP[2]	P_{MPP}	[W]	226.0	229.7	233.5	237.2
	Short Circuit Current*	I_{SC}	[A]	7.88	7.93	7.97	8.02
	Open Circuit Voltage*	V_{OC}	[V]	37.18	37.43	37.69	37.94
	Current at MPP*	I_{MPP}	[A]	7.32	7.36	7.41	7.45
	Voltage at MPP*	V_{MPP}	[V]	30.88	31.20	31.52	31.84

[1] 1000 W/m², 25 °C, spectrum AM 1.5 G [2] Measurement tolerances STC ±3 %; NOC ±5 % [3] 800 W/m², NOCT, spectrum AM 1.5 G * typical values, actual values may differ

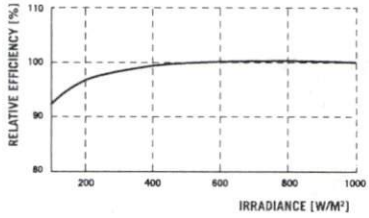
Q CELLS PERFORMANCE WARRANTY



At least 98 % of nominal power during first year. Thereafter max. 0.54 % degradation per year. At least 93.1 % of nominal power up to 10 years. At least 85 % of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Q CELLS sales organisation of your respective country.

PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m²).

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I_{SC}	α	[%/K]	+0.04	**Temperature Coefficient of V_{OC}**	β	[%/K]	–0.28
Temperature Coefficient of P_{MPP}	γ	[%/K]	–0.37	**Normal Operating Cell Temperature**	NOCT	[°C]	45

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage	V_{SYS}	[V]	1000	**Safety Class**	II
Maximum Reverse Current	I_R	[A]	20	**Fire Rating**	C
Push/Pull Load (Test-load in accordance with IEC 61215)		[Pa]	5400/4000	**Permitted Module Temperature On Continuous Duty**	-40 °C up to +85 °C

QUALIFICATIONS AND CERTIFICATES

VDE Quality Tested, IEC 61215 (Ed. 2); IEC 61730 (Ed. 1), Application class A
This data sheet complies with DIN EN 50380.

PARTNER

NOTE: Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product.

Hanwha Q CELLS GmbH
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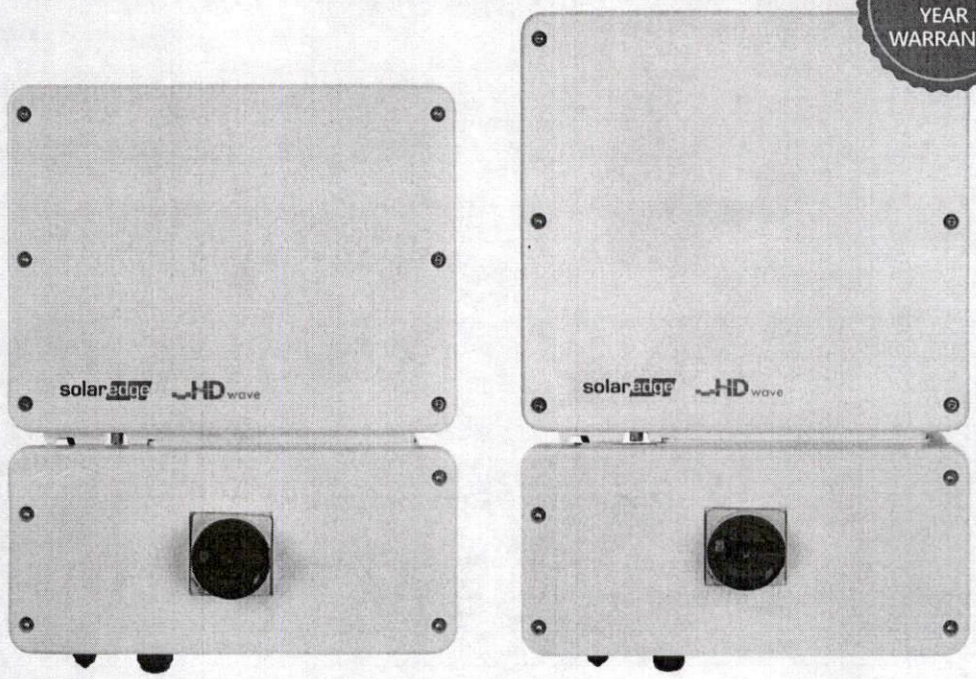
INVERTERS

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)

solaredge

/ 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

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	
ADDITIONAL FEATURES								
Supported Communication Interfaces	RS485, Ethernet, ZigBee (optional), Cellular (optional)							
Revenue Grade Data, ANSI C12.20	Optional[3]							
Inverter Commissioning	with the SetApp mobile application using built-in Wi-Fi Access Point for local connection							
Rapid Shutdown - NEC 2014 and 2017 690.12	Automatic Rapid Shutdown upon AC Grid Disconnect							
STANDARD COMPLIANCE								
Safety	UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCI according to T.I.L. M-07							
Grid Connection Standards	IEEE1547, Rule 21, Rule 14 (HI)							
Emissions	FCC Part 15 Class B							
INSTALLATION SPECIFICATIONS								
AC Output Conduit Size / AWG Range	1" Maximum / 14-6 AWG					1" Maximum /14-4 AWG		
DC Input Conduit Size / # of Strings / AWG Range	1" Maximum / 1-2 strings / 14-6 AWG					1" Maximum / 1-3 strings / 14-6 AWG		
Dimensions with Safety Switch (HxWxD)	17.7 x 14.6 x 6.8 / 450 x 370 x 174					21.3 x 14.6 x 7.3 / 540 x 370 x 185		in / mm
Weight with Safety Switch	22 / 10		25.1 / 11.4		26.2 / 11.9	38.8 / 17.6		lb / kg
Noise	< 25					<50		dBA
Cooling	Natural Convection							
Operating Temperature Range	-40 to +140 / -40 to +60[4]							°F / °C
Protection Rating	NEMA 4X (Inverter with Safety Switch)							

[3] Revenue grade inverter P/N: SExxxxH-US000BNC4

[4] Full power up to at least 50°C / 122°F; for power de-rating information refer to: https://www.solaredge.com/sites/default/files/se-temperature-derating-note-na.pdf

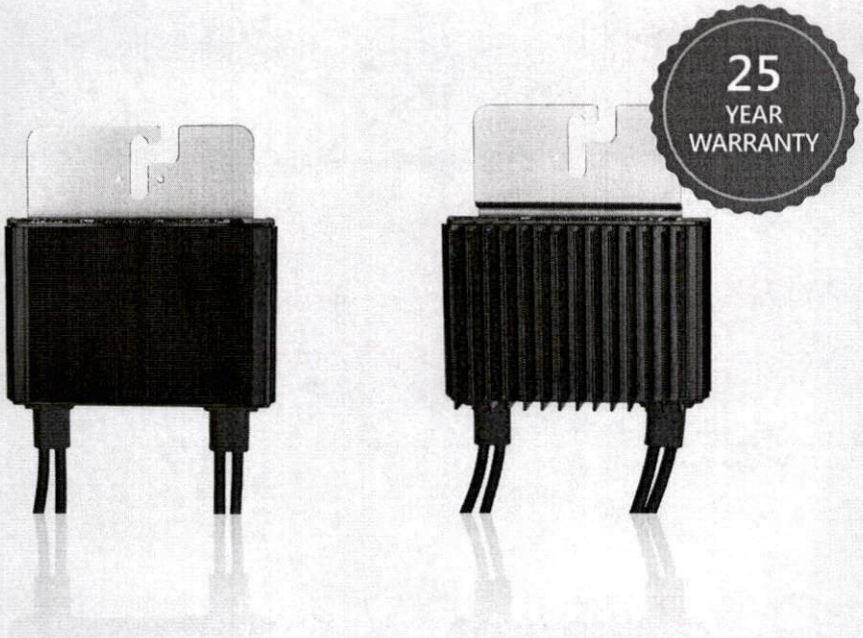
RoHS

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

/ Power Optimizer

For North America

P320 / P340 / P370 / P400 / P405 / P505

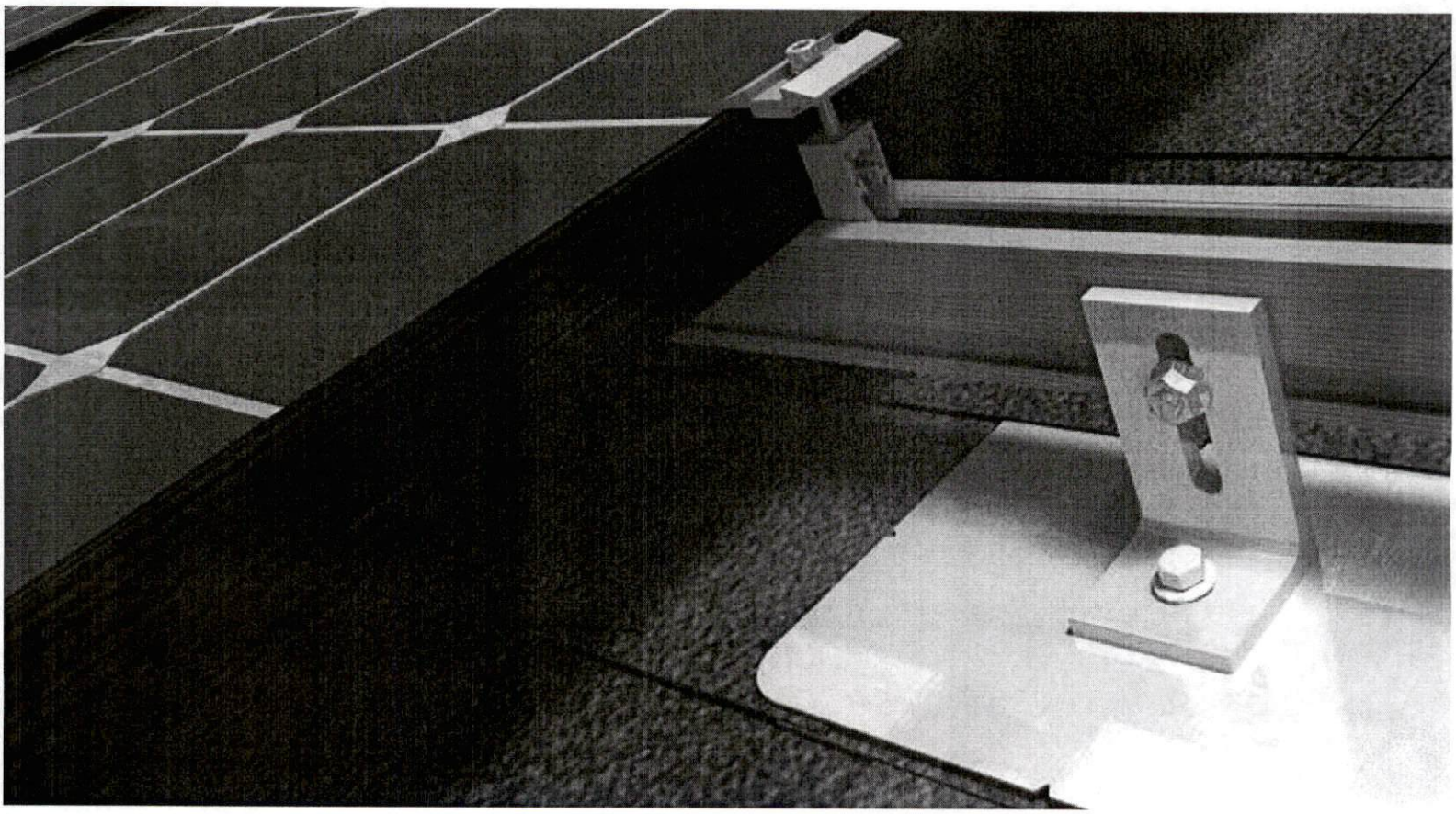
Optimizer model (typical module compatibility)	P320 (for 60-cell modules)	P340 (for high-power 60-cell modules)	P370 (for higher-power 60 and 72-cell modules)	P400 (for 72 & 96-cell modules)	P405 (for thin film modules)	P505 (for higher current modules)	
INPUT							
Rated Input DC Power[1]	320	340	370	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

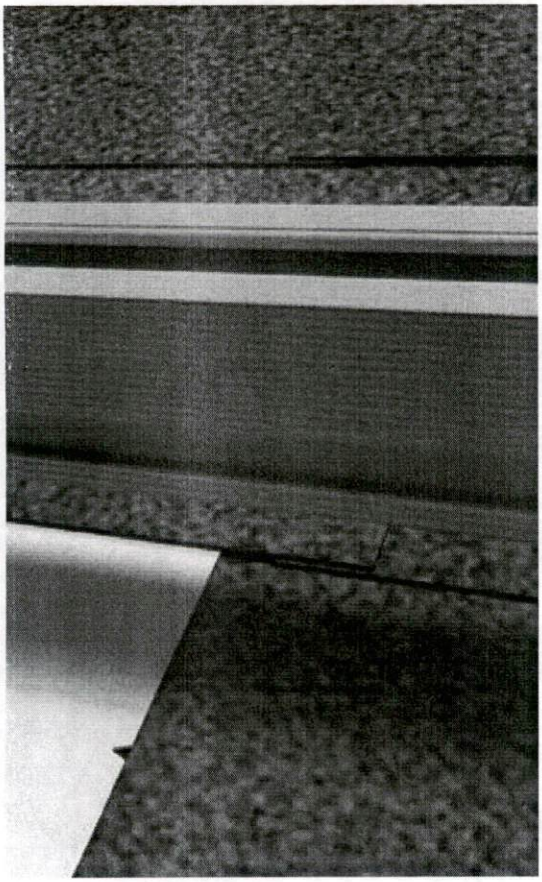
L-Mount® Series

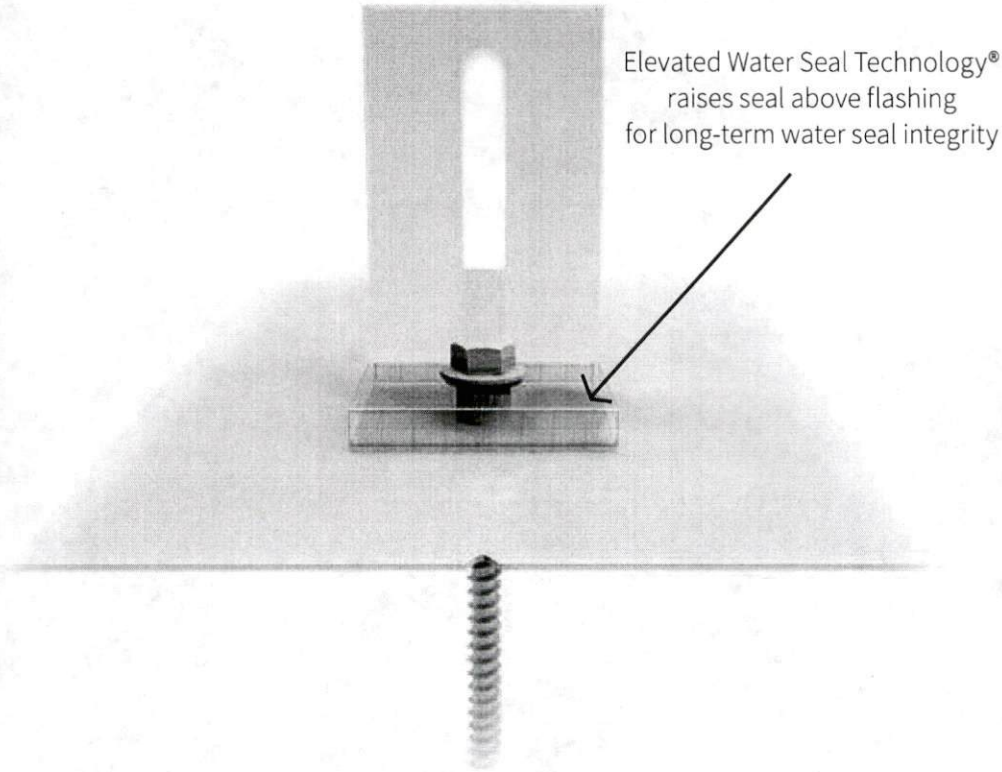


The L-Mount® Series is designed for cost-effective, one-bolt installation onto existing composition/asphalt shingle roofs. Quick Mount PV engineered its patented Elevated Water Seal Technology® into an integrated L-foot and flashing for super-fast, single-lag bolt installation with unparalleled waterproofing. 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.

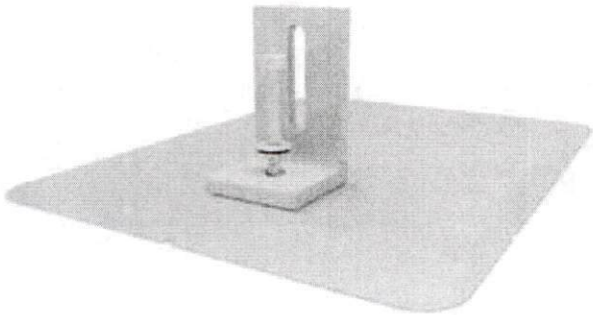
Features

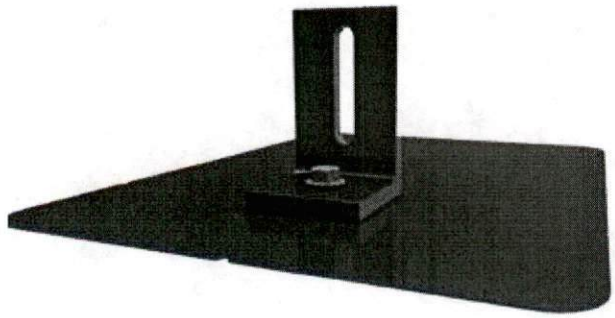
- L-foot can be rotated 360 degree for optimal adjustability
- Works with all leading racks
- Available with lag bolt or structural screw
- QBlock® Elevated Water Seal Technology®
- Single bolt installation, no shingle cutting
- 9" x 12" aluminum flashing
- Meets or exceeds roofing industry best practices;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





Single-Slot L-Mount with lag bolt

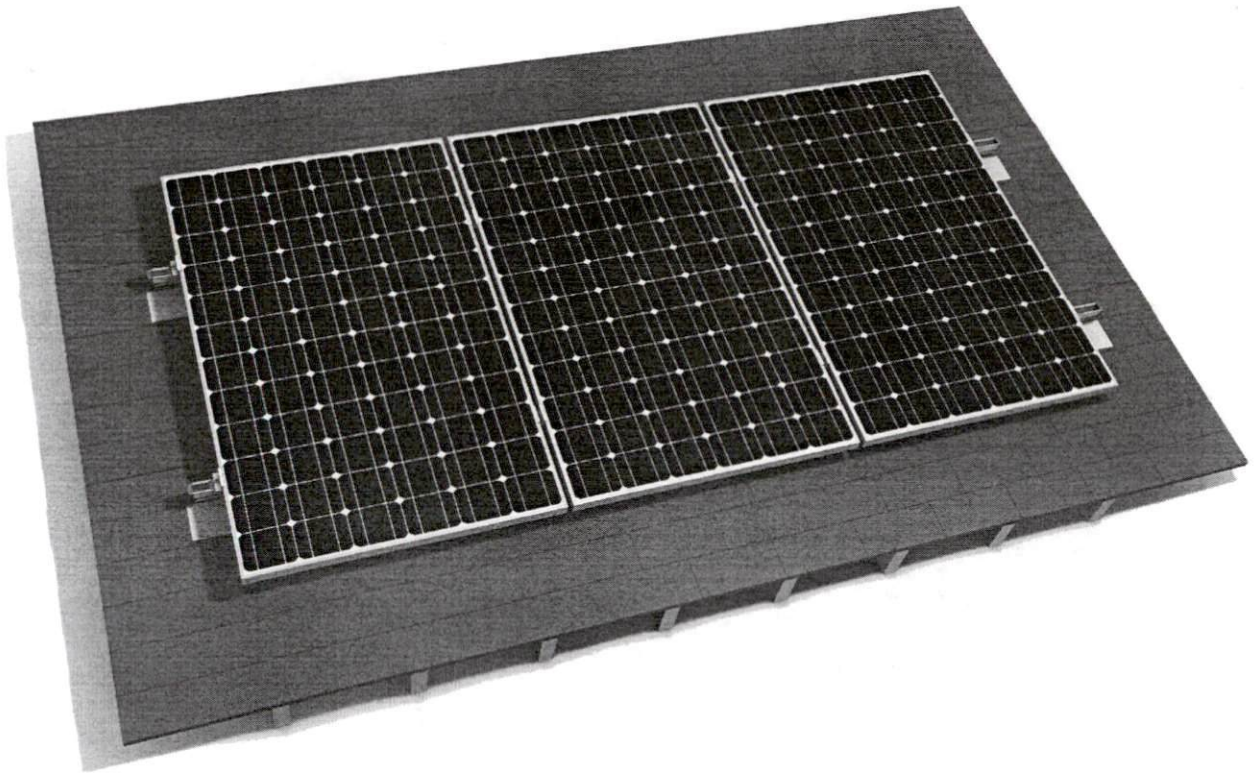


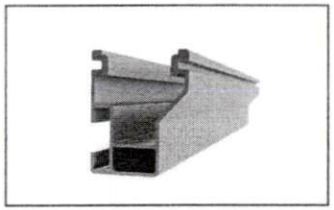


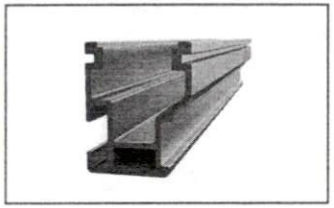
Single-Slot L-Mount

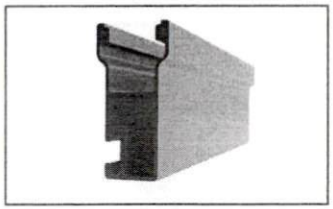
Available finishes:
aluminum mill (A); black (B)

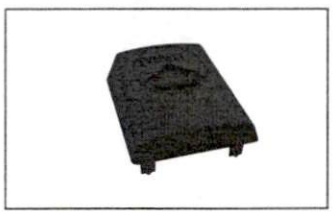
Mounting systems for solar technology











EVEREST SOLAR SYSTEMS

RESIDENTIAL ROOF SOLUTIONS

CROSSRAIL SYSTEM

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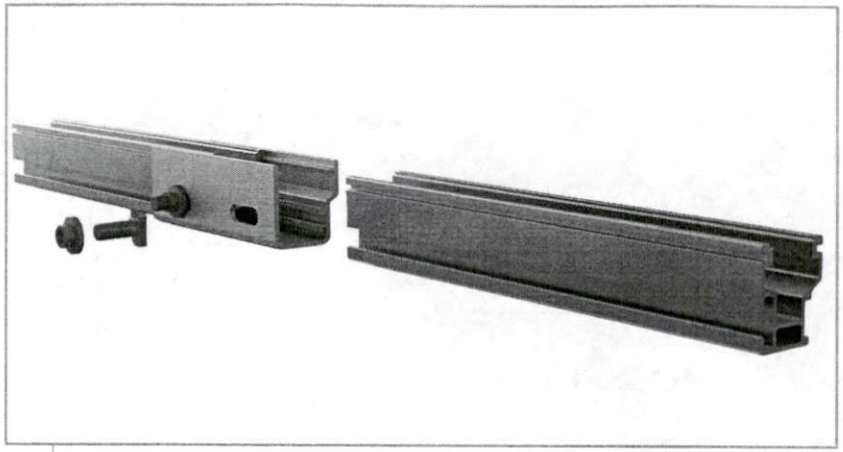
Oceanside, CA 92056
Service-Hotline +1.760.301.5300
info@everest-solarsystems.com
www.everest-solarsystems.com

CROSSRAIL SYSTEM

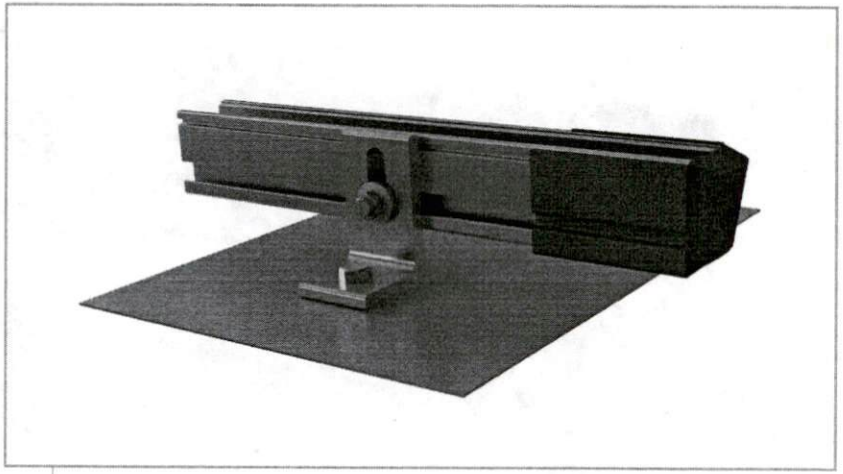
- High quality, German-engineered system optimized for residential installation
- MK3 mounting hardware simplifies module installation – fast, easy, and secure
- Easily integrates with third party roof attachment products
- L-foot provides adjustability and compatibility with common roof types
- 100% 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