

Structural Letter of Approval

July 9, 2025 Beam Solar Co 1231 Shields Road Ste. 5 Kernersville, NC 27284

Glenda Bellamy Residence: 239 Falling Water Rd, Spring Lake, NC 28390

Dear Sir/ Madam,

TEC Solar, PLLC has performed a structural evaluation for the roof of the structure referenced above based on its existing and proposed load conditions. The information used to evaluate this structure was gathered from the site visit documentation provided by the client (Beam Solar Co). The design criteria that the calculations are based on are located in the attached References page. The design of the solar panel's mounting hardware is provided by others.

Design Method

This engineering analysis was performed in accordance with ASCE 7-10 and 2018 North Carolina Residential Code (NCRC) design methods. In general, this design method is a comparison of the roof loads before and after the solar panel installation.

Results

The total additional roof load of the solar panels system is 3 psf, and the typical 20 psf live load will not be present in the area of the panels, as defined per R324.4.1 in 2018 NCRC. The total combined vertical loads are reduced when considering the worst-case load combination (ASD). Regarding lateral wind loads, the solar panel structure is considered to be partially enclosed due to the low profile of the panels (3 to 6 inches) and airflow restrictions below the panels caused by the pv frame, wiring, conduit, and frame brackets. Because the system is considered to be 'partially enclosed' additional wind pressure on the structure is considered negligible. The addition of total PV system weight results in an increase of under 10% of the total roof weight, and meets the seismic requirements in Section 403.4 of 2018 NCEBC. See the attached calculations for further details.

Conclusions

TEC Solar concludes that the installation of solar panels on existing roof will not affect the structure and allows it to remain unaltered under the applicable design standards. The calculations performed to support these conclusions are attached to this letter.

General Instructions

 The contractor shall comply with all Federal, State, County, City, local and OSHA mandated regulations and requirements. The most stringent shall govern.
 Contractor shall keep an accurate set of As-Built plans.

3. The solar panel's racking system and mounting hardware shall be mounted in accordance with the manufacturer's most current installation manual.

4. Connection: 5/16" lag screws 2.5" minimum penetration centered on truss top chord or rafter at 48" maximum spacing. Maximum overhang: 12".

5. Panel support connections shall be staggered to distribute load to adjacent trusses.

6. If during solar panel installation, the roof framing members appear unstable or deflect non-uniformly, our office should be notified before proceeding with the installation.

7. Structural observation or construction inspections will not be performed by TEC, Engineer-of-Record (EOR) nor their representatives.

8. TEC Solar assumes no responsibility for improper installation of the solar panels.

Best Regards, TEC Solar, PLLC TH CARO POFESSION POFESSION SEAL 54170 ALSHAKARO ALSHAKARO

Civil (Structural) Engineer Firm License P-3037

References

<u>Design Parameter</u>

Code: 2018 North Carolina Residential Code, ASCE 7-10 Risk Category: II Ground Snow load: 10 psf Roof Snow load: 6.9 psf Design Wind Speed: 120 mph (3 sec gust) per ASCE 7-10 Existing roof dead load: 13.2 psf Live Load: 20 psf (reducible where panels are located per R324.4.1 in 2018 NCRC). Seismic Design Category: D2 Wind Exposure Category: C

Existing Roof Structure

Roof framing: 2x6 Rafters at 16" O.C. Roof material: Composite shingles Roof slope: 46°, 50°

Solar Panels

Weight: 3 psf



Date:7/9/2025Client:Glenda BellamySubject:Gravity load

Gravity load calculations

Snow load (S)		Existing		w/ solar panels		
Roof slope (°):			45		45	
Ground snow load, p	g (psf):		10		10	ASCE 7-10, Section 7.2
Terrain category:		С		С		ASCE 7-10, table 7-2
Exposure of roof:		Fully expose	d	Fully exposed		ASCE 7-10, table 7-2
Exposure factor, Ce:			0.9		0.9	ASCE 7-10, table 7-2
Thermal factor, Ct:			1.1		1.1	ASCE 7-10, table 7-3
Risk Category:		П		II		ASCE 7-10, table 1.5-1
Minimum roof snow Minimum roof snow	load, Pm, per ASCE load	7-16 Section	7.3.	4: Is.Pg (where Pg	ŋ is <=	: 20 psf), 20.Is (where Pg is > 20psf),
Importance Factor, Is	5:		1		1	ASCE 7-10, table 1.5-2
Flat roof snow load,	of (psf):		6.9		6.9	ASCE 7-10, equation 7.3-1
Minimum roof snow	load, pm (psf):		20		20	ASCE 7-10, equation 7.3-4
				Unobstructed		
Roof Surface type:		Other		slippery surface		ASCE 7-10, Section 7.4
Roof slope factor, Cs	:		1		0.42	ASCE 7-10, figure 7-2b
	n	$= C n_{c}$		(7 4-1)		-
	P	$s = \mathcal{O}_{SPJ}$		(/		ASCE 7-10, equation 7.4-1 Design
Sloped roof snow loa	d, ps [psf]:		6.9		2.9	Snow Load (S)
Roof dead load (D)						
Roof pitch/12	12.0					
Composite shingles	3	psf		1/2" Gypsum clg		0 psf
1/2" plywood	1.5	psf		insulation		0.8 psf
Framing	3	psf		M, E & Misc		1 psf
Roof DL without PV						
arrays	13.2	psf				
PV Array DL	3	psf				
Roof live load (Lr)		Existing		w/ solar panels		
Roof Live Load			20		0	R324.4.1 in 2018 NCRC
ASD Load combination	on:					
		Existing		With PV array		
D [psf]			13.2		16.2	ASCE 7-10, Section 2.4.1
D+L [psf]			13.2		16.2	ASCE 7-10, Section 2.4.1
D+[Lr or S or R] [psf]			33.2		19.1	ASCE 7-10, Section 2.4.1
D+0.75L+0.75[Lr or S	or R] [psf]		28.2		18.4	ASCE 7-10, Section 2.4.1
Maximum gravity loa	d [psf]:		33.2		19.1	
Ratio proposed load	to existing load:			57	7.56%	

The stresses due to gravity load in the area of the solar panels is reduced, allowing the structure to remain unaltered.



Date: 7/9/2025 Client: Glenda Bellamy Subject: Wind load and Connection

Wind Pressure Calculations

$p = q_p((GC_p) - (Q_p)) - (Q_p)$	$GC_{pi}))$	(30	.9-1)		
Basic wind speed (mph)	120				
Risk category	П				
Exposure category	С				
Roof type	Gable				
Figure for GCp values	ASCE 7-10 Fig	gure 30.3-2 <i>i</i>	∖- I		
	Zone 1	Zone 2	Zone 3		
GCp (neg)	-1	-1.2		-1.2	
GCp (pos)	0.9	0.9		0.9	
zg (ft)	900	(ASCE 7-10 1	Table 26.11-1)		
α	9.5	(ASCE 7-10 1	able 26.11-1)		
Kzt	1	(ASCE 7-10 E	Equation 26.8-1)		(only changes if structure located on a hill or ridge)
Kh	0.94	(ASCE 7-10 1	able 26.10-1)		
Kd	0.85	(ASCE 7-10 T	able 26.6-1)		
Velocity Pressure,qh (psf)	29.45	(ASCE 7-10 E	Equation 26.10-1)		
Gcpi	0	(ASCE 7-10 1	able 26.13-1)		_
	Zone 1	Zone 2	Zone 3		
W Pressure, (neg) [psf]	-29.45	-35.35		-35.35	
W Pressure, (pos) [psf]	26.51	26.51		26.51	
W Pressure, (Abs. max) [psf]	29.45	35.35		35.35	



Note 1: 0.6W results from dominant ASD combo [0.6D+ 0.6W] (ASCE 7-10 2.4.1).

NEW PHOTOVOLTAIC ROOF MOUNTED SYSTEM

AHJ HARNETT COUNTY

UTILITY SOUTH RIVER ELECTRIC MEMBERSHIP CORPORATION

CODES AND STANDARDS

2017 NATIONAL ELECTRICAL CODE 2018 NORTH CAROLINA BUILDING CODE 2018 NORTH CAROLINA RESIDENTIAL CODE 2018 NORTH CAROLINA FIRE CODE AS ADOPTED BY HARNETT COUNTY

SCOPE OF WORK

(N) 7.380 kW DC/ 5.220 kW AC ROOF MOUNTED PV SYSTEM
(N) (18) QCELLS Q.PEAK DUO BLK ML-G10.C+ (DOM) (410W) MODULES
(N) (18) ENPHASE IQ8PLUS-72-2-US [240V] MICROINVERTER(S)

TEC Solar, PLLC 8470 W Magna Main St Unit 311, Magna, UT 84044 North Carolina Firm License P-3037

The mounting hardware is provided by manufacturer and is out of scope of this review. Structural observation or construction inspection will not be performed by TEC, Engineer-of-Record (EOR) nor their representatives.



Overhills

Spring Lake

GENERAL NOTES

- 1.1.1 THIS PHOTOVOLTAIC (PV) SYSTEM SHALL COMPLY WITH THE RELEVANT YEAR OF THE NATIONAL ELECTRIC CODE (NEC), ALL MANUFACTURER'S LISTING AND INSTALLATION INSTRUCTIONS, AND THE RELEVANT CODES AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION'S (AHJ) APPLICABLE CODES.
- 1.1.2 THE UTILITY INTERCONNECTION APPLICATION MUST BE APPROVED AND THE PV SYSTEM MUST BE INSPECTED PRIOR TO OPERATION
- 1.1.3 ALL PV SYSTEM COMPONENTS; MODULES, UTILITY-INTERACTIVE INVERTERS, AND SOURCE CIRCUIT COMBINER BOXES ARE IDENTIFIED AND LISTED FOR USE IN PHOTOVOLTAIC SYSTEMS AS REQUIRED BY NEC AND OTHER GOVERNING CODES
- 1.1.4 ALL SIGNAGE TO BE PLACED IN ACCORDANCE WITH LOCAL BUILDING CODE. IF EXPOSED TO SUNLIGHT, IT SHALL BE UV RESISTANT. ALL PLAQUES AND SIGNAGE WILL BE INSTALLED AS REQUIRED BY THE NEC AND AHJ.

STRUCTURAL NOTES

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- 1.2.1 ALL SOLAR PANEL COMPONENTS SHALL BE INSTALLED PER THE MANUFACTURER'S APPROVED INSTALLATION SPECIFICATIONS.
- 1.2.2 THE EXISTING BUILDING'S STRUCTURE SHALL BE VERIFIED AS PROPERLY CONSTRUCTED AND MAINTAINED IN GOOD CONDITION. NO ALLOWANCE HAS BEEN MADE FOR ANY EXISTING DEFICIENCY IN DESIGN, MATERIAL, CONSTRUCTION, OR LACK OF MAINTENANCE FOR THE EXISTING STRUCTURE OR PROPOSED EQUIPMENT. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS, PROPER FIT, AND CLEARANCES IN THE FIELD.
- 1.2.3 IF ANY CONDITION THROUGHOUT THE ASSOCIATED REPORT OR PERMIT DRAWINGS OS NOT REPRESENTED ON-SITE, CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD (EOR) OF ANY DISCREPANCIES AND RECEIVE WRITTEN APPROVAL FROM THE EOR BEFORE PROCEEDING WITH INSTALLATION.
- 1.2.4 MISCELLANEOUS ITEMS NOT EXPLICITLY NAMED AND SHOWN IN THESE DRAWINGS HAVE NOT BEEN DESIGNED. IT IS RECOMMENDED THAT MATERIAL OF SUITABLE SIZE & STRENGTH BE OBTAINED FROM A REPUTABLE MANUFACTURER FOR MISCELLANEOUS ITEMS.
- 1.2.5 CONTRACTOR SHALL BE RESPONSIBLE TO COMPLETE, SEAL, AND WATERPROOF ROOFTOP PENETRATION FOR SOLAR RACKING.
- 1.2.6 CONTRACTOR TO PROVIDE MINIMUM 1/4" GAP BETWEEN ALL SOLAR PANELS.
- 1.2.7 PROJECT WINDSPEED IS BASIC WIND SPEED PER CODE UNLESS NOTED OTHERWISE.

SHEET INDEX

PV-1	COVER SHEET
PV-2	PLOT PLAN
PV-3	SITE PLAN
PV-4	STRUCTURAL
PV-5	THREE LINE DI
PV-5.1	WIRE CALCULA
PV-6	NOTES
PV-7	LABELS
PV-8	FIELD CHANGE
PV-8.1	FIELD CHANGE
DS-1+	EQUIPMENT SF







LEGACY INSTALLATION SERVICES, LLC

3333 DIGITAL DR #600, LEHI, UT 84043, UNITED STATES 855-353-4899

Sherills

QUALIFIER #: U.13732 ELECTRICAL LIC#: U.34989

NEW PHOTOVOLTAIC ROOF MOUNTED SYSTEM

GLENDA BELLAMY 239 FALLING WATER RD, SPRING LAKE, NC 28390 7.380 kW DC/ 5.220 kW AC ROOF MOUNTED PV SYSTEM

87'-6"

FALLING WATER RD

PROJECT ID	N/A
DATE	11 July 2025
CREATED BY	RG
SIGNATURE	
PLOT PLAN	
PV-2	



ΓY	LBS/UNIT	TOTAL WEIGHT (LBS)			
	48.5	873.0			
	0.150	2.7			
	0.020	0.7			
	5.55	88.8			
	0.52	2.1			
	1.5	118.5			
	2.38	42.8			
M (L	BS)	1128.6			
PF (S	Q.FT.)	380.44			
3)		2.97			
(LBS	3)	14.29			



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GLENDA BELLAMY 239 FALLING WATER RD. SPRING LAKE, NC 28390 7.380 kW DC/ 5.220 kW AC ROOF MOUNTED PV SYSTEM

PROJECT ID N/A 11 July 2025 DATE **CREATED BY** RG SIGNATURE SITE PLAN **PV-3**

GENERAL STRUCTURAL NOTES:

- 1. THE SOLAR PANELS ARE TO BE MOUNTED TO THE ROOF FRAMING USING THE USING SNAP N RACK UR-45 172" MILL SYSTEM WITH SNAP N RACK ULTRAFOOT RAFTER, 242-10056 ATTACHMENTS.
- 2. THE MOUNTING FEET ARE TO BE SPACED AS SHOWN IN THE DETAILS, AND MUST BE STAGGERED TO ADJACENT FRAMING MEMBERS TO SPREAD OUT THE ADDITIONAL LOAD.
- 3. THE PROPOSED PV SYSTEM ADDS 2.97 PSF TO THE ROOF FRAMING SYSTEM.
- 4. ROOF LIVE LOAD = 20 PSF TYPICAL, 0 PSF UNDER NEW PV SYSTEM.
- 5. GROUND SNOW LOAD = 10 PSF
- 6. WIND SPEED = 118 MPH
- 7. EXPOSURE CATEGORY = C
- 8. RISK CATEGORY = II

PV-4

2

PV-4

9. MAX OVER HANG RAIL =1'-6"



SCALE: NTS

	4 LGCY	POWER
	LEGACY INSTALLAT	TION SERVICES, LLC
	3333 DIGITAL [UT 84043, UN 855-35	DR #600, LEHI, ITED STATES 3-4899
	QUALIFIER #: U.	Sherilla 13732
	ELECTRICAL LIC	C#: U.34989
	NEW PHOTOVOI MOUNTED SYST GLENDA BELLA 239 FALLING WA SPRING LAKE, N 7.380 kW DC/ 5.2 MOUNTED PV S	LTAIC ROOF TEM MY ATER RD, IC 28390 20 kW AC ROOF YSTEM
, UT 84044 D37 acturer and vation or by TEC, tatives.		
AMP		
LAMP		
,		
	PROJECT ID	N/A
/IN 2½" FD	DATE	11 July 2025
S	CREATED BY	RG
	SIGNATURE	
	STRUCTURAL	1
	PV-4	

CONDUCTOR SCHEDULE								
TAG ID	CONDUIT SIZE	CONDUCTOR	NEUTRAL	GROUND				
1	NONE	(2) 12 AWG Q-CABLE	NONE	(1) 6 AWG BARE COPPER, EGC				
2	3/4" EMT	(4) 10 AWG THWN-2, (Cu)	NONE	(1) 10 AWG THWN-2, EGC				
3	3/4" EMT	(2) 10 AWG THWN-2, (Cu)	(1) 10 AWG THWN-2, (Cu)	(1) 10 AWG THWN-2, EGC				
annun ann	TEC	Solar, PLLC						

PHOTOVOLTAIC S DC SYSTEM SIZE (WATTS) AC SYSTEM SIZE (WATTS) TOTAL NUMBER OF MODULES NOMINAL AC VOLTAGE (N) MODULE: (18) QCELLS Q.PEAK DUO BLK (N) INVERTER: (18) ENPHASE IQ8PLUS-72-2-US

TEC Solar, PLLC 8470 W Magna Main St Unit 311, Magna, UT 84044 North Carolina Firm License P-3037

40 OF ESSION 44 9 OF ESSION 44 9 7/11/2025 Installer must coordinate metering with electric utility and all electrical installation requirements with local AHJ. Mounting hardware is provided by manufacturer and is not in scope of this review.





PHOTOVOLTAIC S	SYSTEM						
DC SYSTEM SIZE (WATTS)		7380W		POWER			
AC SYSTEM SIZE (WATTS)		5220W	~				
TOTAL NUMBER OF MODULES		18	LEGACY INSTALLAT	TION SERVICES, LLC			
NOMINAL AC VOLTAGE		240V	3333 DIGITAL DR #600. LEHI.				
: (18) QCELLS Q.PEAK DUO BLK R: (18) ENPHASE IQ8PLUS-72-2-U	ML-G10.C+ (D S [240V]	OM) (410W)	UT 84043, UN 855-35	ITED STATES 3-4899			
VISIBLE, LOCKABLE, LABEL 10' OF SOUTH RIVER ELECT CORPORATION UTILITY ME	ED DISCONNE RIC MEMBER TER #1445810	ECT WITHIN SHIP 1	QUALIFIER #: U. ELECTRICAL LIC	Sherills 13732 C#: U.34989			
			NEW PHOTOVO	LTAIC ROOF EM			
				MY			
			239 FALLING WA	ATER RD.			
			SPRING LAKE, N	IC 28390			
			7.380 kW DC/ 5.2	20 kW AC ROOF			
			MOUNTED PV S	YSTEM			
POINT OF INTERCONNECTIO)N, (B)(2)(3)(b)						
UTILITY COMPANY - SOUTH RIV	/ER						
UTILITY METER# 14458101	ATION						
M	(E) EXTERIOR BI-DIRECTION/ UTILITY METEI 1-PHASE, 3-W, 120V/240V	AL R,					
(E) LOADS	240V/200A BUS BAR RATING, METER MAIN	8					
	COMBO PANEL SINGLE PHASE	_, _,					
(N) 30A/2P	WITH A (E) 200	A R	PROJECT ID	N/A			
		、	DATE	11 July 2025			
N			CREATED BY	RG			
			SIGNATURE				
(E) GROUNDING ELECTRODE SYST	i EM		THREE LINE DI	AGRAM			
			PV-5				

INVERTER SPECIFICATIONS				PV MOD	ULE RATING @ S	TC
MANUFACTURER	ENPHAS	SE IQ8PLUS-72-2-US [240V]		MANUFACTURER	QCELLS Q.PEAK D	UO BLK ML-G10.C+ (DOM) (410W)
MAX. DC VOLT RATIN	١G	60 VOLTS		MAX. POWER-POINT CURRENT (IMP)		10.89 AMPS
MAX. POWER AT 40 C	0	290 WATTS		MAX. POWER-POINT VOLTAGE (VMP)		37.64 VOLTS
NOMINAL AC VOLTAC	GE	240 VOLTS	240 VOLTS OF		AGE (VOC)	45.37 VOLTS
MAX. AC CURRENT		1.21 AMPS		SHORT-CIRCUIT CURRENT (ISC)		11.20 AMPS
MAX. OCPD RATING	ATING 20 AMPS			NOM. MAX. POWER AT STC (PMAX)		410 WATT
MAX. PANELS/CIRCU	IIT	13		MAX. SYSTEM VOLTAGE		1000V
SHORT CIRCUIT CUR	RRENT	25 AMPS		VOC TEMPERATURE	COEFFICIENT	-0.27 %/K

120% RULE

(BUS BAR RATING X 120%) - MAIN BREAKER RATING = MAX. PV OCPD

(200A x 120%) - 200A = 40A

AMBIENT TEMPERATURE SPECS							
RECORD LOW TEMP	-10°C						
AMBIENT TEMP (HIGH TEMP 2%)	36°C						
CONDUIT HEIGHT	7/8"						
ROOF TOP TEMP	58°C						
CONDUCTOR TEMPERATURE RATE	75°C						

HCAROL OFESSION unununun. Wannunnun 11/2025 SEAL 54170 AD ALSHAKAR "Inninnin"

8470 W Magna Main St Unit 311, Magna, UT 84044 North Carolina Firm License P-3037 Installer must coordinate metering with electric utility and all electrical installation requirements with local AHJ. Mounting hardware is provided by manufacturer and is not in scope of this review.

TEC Solar, PLLC

TEC SOLAR STRUCTURAL ENGINEERING

ELECTRICAL WIRE CALCULATION												
WIRE TAG #	WIRE QTY	WIRE GAUGE:	TEMP RATING:	WIRE AMP	TEMP DE-RATE:	CONDUIT FILL:	WIRE AMP:	INVERTER QTY:	NOC:		NEC:	STRING AMPS
	2	#12	75°	25A ×	(0.88)	K N/A	= 22.00A	09 >	c 1.21A	х	1.25	= 13.61A
2	4	#10	75°	35A ×	(0.88)	0.80	= 24.64A	09 >	c 1.21A	х	1.25	= 13.61A
3	3	#10	75°	35A ×	(0.88)	1.00	= 30.80A	18 >	c 1.21A	х	1.25	= 27.23A



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QUALIFIER #: U.13732 ELECTRICAL LIC#: U.34989

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GLENDA BELLAMY 239 FALLING WATER RD, SPRING LAKE, NC 28390 7.380 kW DC/ 5.220 kW AC ROOF MOUNTED PV SYSTEM

PROJECT ID	N/A

DATE 11 July 2025

RG

CREATED BY

SIGNATURE

WIRE CALCULATION

PV-5.1

GENERAL NOTES

SITE NOTES

2.1.1 A LADDER WILL BE IN PLACE FOR INSPECTION IN ACCORDANCE WITH OSHA REGULATIONS.

2.1.2 THE PV MODULES ARE CONSIDERED NON-COMBUSTIBLE AND THIS SYSTEM IS A UTILITY INTERACTIVE SYSTEM WITH NO STORAGE BATTERIES.

2.1.3 THE SOLAR PV INSTALLATION WILL NOT OBSTRUCT ANY PLUMBING, MECHANICAL, OR BUILDING ROOF VENTS.

2.1.4 PROPER ACCESS AND WORKING CLEARANCE AROUND EXISTING AND PROPOSED ELECTRICAL EQUIPMENT WILL BE PROVIDED IN ACCORDANCE WITH SECTION NEC 110.26.

2.1.5 ROOF COVERINGS SHALL BE DESIGNED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THIS CODE AND THE APPROVED MANUFACTURER'S INSTRUCTIONS SUCH THAT THE ROOF COVERING SERVES TO PROTECT THE BUILDING OR STRUCTURE.

EQUIPMENT LOCATIONS

2.2.1 ALL EQUIPMENT SHALL MEET MINIMUM SETBACKS IN ACCORDANCE WITH NEC 110.26.

2.2.2 WIRING SYSTEMS INSTALLED IN DIRECT SUNLIGHT MUST BE RATED FOR EXPECTED OPERATING TEMPERATURE AS SPECIFIED BY NEC 690.31 (A),(C) AND NEC TABLE 310.15 (B)(2)(a) AND 310.15 (B)(3)(a). 2.2.3 JUNCTION AND PULL BOXES PERMITTED INSTALLED UNDER PV MODULES IN ACCORDANCE WITH NEC 690.34.

2.2.4 ADDITIONAL AC DISCONNECT(S) SHALL BE PROVIDED WHERE THE INVERTER IS NOT WITHIN SIGHT OF THE AC SERVICING DISCONNECT. 2.2.5 ALL EQUIPMENT SHALL BE INSTALLED ACCESSIBLE TO QUALIFIED PERSONNEL IN ACCORDANCE WITH NEC APPLICABLE CODES. 2.2.6 ALL COMPONENTS ARE LISTED FOR THEIR PURPOSE AND RATED

FOR OUTDOOR USAGE WHEN APPROPRIATE.

STRUCTURAL NOTES

2.3.1 RACKING SYSTEM & PV ARRAY WILL BE INSTALLED IN ACCORDANCE WITH THE CODE-COMPLIANT INSTALLATION MANUAL. TOP CLAMPS REQUIRE A DESIGNATED SPACE BETWEEN MODULES. AND RAILS MUST ALSO EXTEND A MINIMUM DISTANCE BEYOND EITHER EDGE OF THE ARRAY/SUBARRAY, IN ACCORDANCE WITH RAIL MANUFACTURER'S INSTALLATION PRACTICES.

2.3.2 JUNCTION BOX WILL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. IF ROOF-PENETRATING TYPE, IT SHALL BE FLASHED & SEALED PER LOCAL REQUIREMENTS.

2.3.3 ROOFTOP PENETRATIONS FOR PV RACEWAY WILL BE COMPLETED AND SEALED W/ APPROVED CHEMICAL SEALANT PER CODE BY A LICENSED CONTRACTOR.

2.3.4 ALL PV RELATED ROOF ATTACHMENTS TO BE SPACED NO GREATER THAN THE SPAN DISTANCE SPECIFIED BY THE RACKING MANUFACTURER OR PROFESSIONAL ENGINEERING GUIDANCE.

2.3.5 WHEN POSSIBLE, ALL PV RELATED RACKING ATTACHMENTS WILL BE STAGGERED AMONGST THE ROOF FRAMING MEMBERS.

WIRING & CONDUIT NOTES

2.4.1 ALL CONDUIT AND WIRE WILL BE LISTED AND APPROVED FOR THEIR PURPOSE. CONDUIT AND WIRE SPECIFICATIONS ARE BASED ON MINIMUM CODE REQUIREMENTS AND ARE NOT MEANT TO LIMIT UP-SIZING.

2.4.2 CONDUCTORS SIZED IN ACCORDANCE WITH THE NEC 2.4.3 AC CONDUCTORS TO BE COLORED OR MARKED PER NEC 2.4.4 LISTED OR LABELED EQUIPMENT SHALL BE INSTALLED AND USED IN ACCORDANCE WITH ANY INSTRUCTIONS INCLUDED IN THE LISTING **OR LABELING PER NEC**

GROUNDING NOTES

2.5.1 GROUNDING SYSTEM COMPONENTS SHALL BE LISTED FOR THEIR PURPOSE, AND GROUNDING DEVICES EXPOSED TO THE ELEMENTS SHALL BE RATED FOR SUCH USE. 2.5.2 PV EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE

WITH NEC 690.43 AND NEC TABLE 250.122.

2.5.3 METAL PARTS OF MODULE FRAMES, MODULE RACKING, ENCLOSURES CONSIDERED GROUNDED AND IN ACCORDANCE WITH NEC 250.134 AND 250.136(A).

2.5.4 EQUIPMENT GROUNDING CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH NEC 690.45 AND INVERTER MANUFACTURER'S INSTALLATION PRACTICES

2.5.5 EACH MODULE WILL BE GROUNDED AS SHOWN IN MANUFACTURER DOCUMENTATION AND APPROVED BY THE AHJ. 2.5.6 THE GROUNDING CONNECTION TO A MODULE SHALL BE ARRANGED SUCH THAT THE REMOVAL OF A MODULE DOES NOT INTERRUPT A GROUNDING CONDUCTOR TO ANOTHER MODULE.

2.5.7 GROUNDING AND BONDING CONDUCTORS, IF INSULATED, SHALL BE COLORED GREEN OR MARKED GREEN IF #4 AWG OR LARGER PER NEC 250.119

2.5.8 THE GROUNDING ELECTRODE SYSTEM COMPLIES WITH NEC 690.47 AND NEC 250.50 THROUGH 250.106. IF EXISTING SYSTEM IS INACCESSIBLE, OR INADEQUATE, A GROUNDING ELECTRODE SYSTEM PROVIDED IN ACCORDANCE WITH NEC 250, NEC 690.47 AND THE AHJ.

2.5.9 GROUND-FAULT DETECTION SHALL COMPLY WITH NEC 690.41(B)(1) AND (2) TO REDUCE FIRE HAZARDS

DISCONNECTION AND OVERCURRENT PROTECTION NOTES

2.6.1 DISCONNECTING SWITCHES SHALL BE WIRED SUCH THAT WHEN THE SWITCH IS OPENED THE CONDUCTORS REMAINING ENERGIZED ARE CONNECTED TO THE TERMINALS MARKED "LINE SIDE" (ALWAYS BE CONNECTED TO THE UPPER TERMINALS).

2.6.2 DISCONNECTS TO BE ACCESSIBLE TO QUALIFIED UTILITY PERSONNEL, BE LOCKABLE, AND BE A **VISIBLE-BREAK SWITCH**

2.6.3 PV SYSTEM CIRCUITS INSTALLED ON OR IN HABITABLE BUILDINGS SHALL INCLUDE A RAPID SHUTDOWN FUNCTION TO REDUCE SHOCK HAZARD FOR EMERGENCY RESPONDERS IN ACCORDANCE WITH 690.12

2.6.4 ALL OCPD RATINGS AND TYPES SPECIFIED ACCORDING TO NEC 690.8. 690.9. AND 240.

2.6.5 INVERTER ON-GRID BRANCHES SHALL BE CONNECTED TO A SINGLE BREAKER OR GROUPED FUSE DISCONNECT(S) IN ACCORDANCE WITH NEC 110.3(B).

2.6.6 IF REQUIRED BY THE AHJ, SYSTEM WILL INCLUDE ARC-FAULT CIRCUIT PROTECTION IN ACCORDANCE WITH NEC 690.11 AND UL1699B.

INTERCONNECTION NOTES

2.7.1 LOAD SIDE INTERCONNECTION SHALL BE IN ACCORDANCE WITH NEC 705.12(B) 2.7.2 THE SUM OF THE UTILITY OCPD AND INVERTER CONTINUOUS OUTPUT MAY NOT EXCEED 120 PERCENT OF BUSBAR RATING PER NEC 705.12(B)(2)(3)(b) 2.7.3 THE SUM OF 125 PERCENT OF THE POWER SOURCE(S) OUTPUT CIRCUIT CURRENT AND THE RATING OF THE OVERCURRENT DEVICE PROTECTING THE BUSBAR SHALL NOT EXCEED 120 PERCENT OF THE AMPACITY OF THE BUSBAR, PV DEDICATED BACKFEED BREAKERS MUST BE LOCATED OPPOSITE END OF THE BUS FROM THE UTILITY SOURCE OCPD IN ACCORDANCE WITH NEC 705.12(B)(2)(3)(b) 2.7.4 AT MULTIPLE ELECTRIC POWER SOURCES OUTPUT COMBINER PANEL. TOTAL RATING OF ALL OVERCURRENT PROTECTION DEVICES SHALL NOT EXCEED AMPACITY OF BUSBAR. HOWEVER, THE MAIN OVERCURRENT PROTECTION DEVICE MAY BE EXCLUDED IN ACCORDANCE WITH NEC 705.12(B)(2)(3)(c). 2.7.5 FEEDER TAP INTERCONNECTION (LOAD SIDE) IN ACCORDANCE WITH NEC 705.12(B) 2.7.6 SUPPLY SIDE TAP INTERCONNECTION IN ACCORDANCE WITH TO NEC 705.12(A) WITH SERVICE ENTRANCE CONDUCTORS IN ACCORDANCE WITH NEC 230.42.

2.7.7 BACKFEEDING BREAKER FOR ELECTRIC POWER SOURCES OUTPUT IS EXEMPT FROM ADDITIONAL FASTENING PER NEC 705.12(B)



TEC Solar, PLLC

8470 W Magna Main St Unit 311, Magna, UT 84044 North Carolina Firm License P-3037 Installer must coordinate metering with electric utility and all electrical installation requirements with local AHJ. Mounting hardware is provided by manufacturer and is not in scope of this review.



LEGACY INSTALLATION SERVICES, LLC

3333 DIGITAL DR #600, LEHI, UT 84043, UNITED STATES 855-353-4899

Sherills

QUALIFIER #: U.13732 ELECTRICAL LIC#: U.34989

NEW PHOTOVOLTAIC ROOF MOUNTED SYSTEM

GLENDA BELLAMY 239 FALLING WATER RD SPRING LAKE, NC 28390 7.380 kW DC/ 5.220 kW AC ROOF MOUNTED PV SYSTEM

PROJECT ID	N/A
DATE	11 July 2025
CREATED BY	RG
SIGNATURE	
NOTES	
PV-6	



olar PLLC		
Unit 311, Magna, UT 84044 Firm License P-3037		POWER
coordinate metering with	LEGACY INSTALLAT	TION SERVICES, LLC
with local AHJ. Mounting ovided by manufacturer and of this review.	3333 DIGITAL I UT 84043, UN 855-35	DR #600, LEHI, ITED STATES 3-4899
NURTH CAROL NOROFESSION 4 97/11/2025 SEAL 54170	QUALIFIER #: U. ELECTRICAL LIC	Shewills 13732 X#: U.34989
AD ALSHAKAMIN	NEW PHOTOVO	LTAIC ROOF
TEC SOLAR BIRUETURAL ENGINEERING LICENSED IN SO STATES	GLENDA BELLA 239 FALLING WA SPRING LAKE, N 7.380 kW DC/ 5.2 MOUNTED PV S	MY ATER RD, IC 28390 2 20 kW AC ROOF YSTEM
DED FROM THE CATED AS SHOWN. AT ALL TIMES		
<u> </u>		
NA NC	PROJECT ID	N/A
AKE	DATE	11 July 2025
	CREATED BY	RG
239 F	SIGNATURE	
R PANEL	LABELS	
	PV-7	





FIELD DESIGN REQUEST FORM

JOB INFORMATION

JOB NAME:

ADDRESS:

CHANGE REQUEST

WHO AUTHORIZED THE CHANGE:

DESCRIBE THE NEEDED CHANGE & WHY:

NEW DESIGN LAYOUT

DRAW THE MOUNTING PLANE SHOWING THE NEW MODULE LAYOUT:

0

HAZARD CATEGORY	HAZARD TYPE	HAZARD CONT
LADDER SAFETY	LOCATION	
	CONDITION	
	WORKING CLEARANCE	
FALL PROTECTION	WORKING 6' OR HIGHER	
ELECTRICAL SAFETY		+
WEATHER CONDITIONS	HEAT/COLD TEMP	
WEATHER CONDITIONS		
	RAINY/ICY/WINDY	
PUBLIC SAFETY	WORK/OBJECTS OVERHEAD	
	SLIPS/TRIPS/FALLS	
	ACCESS TO LIVE ELECTRICAL	

NEAREST EMERGENCY FACILITY	
CONTACT IMMEDIATLY IN EMERGENCY (911 AND/OR)	

						POWER
le	Z LGCY	POWE	R		LEGACY INSTALLAT	TION SERVICES, LLC
	JOB HAZAR	D ANALYSIS			3333 DIGITAL I UT 84043, UNI 855-353	DR #600, LEHI, ITED STATES 3-4899
CUSTOMER NAME/JOB ID:		CUSTOMER ADDRI	ESS		M. M.	111 IV.
IN:	STALL DATE	Time	: am/pm		t-s //2	& Mercitle
					QUALIFIER #: U.	13732
HAZARD CATEGORY	HAZARD TYPE		HAZARD CONTROL MEASURES		ELECTRICAL LIC	C#: U.34989
LADDER SAFETY	LOCATION					
	CONDITION WORKING CI	EARANCE			NEW PHOTOVO	LTAIC ROOF
FALL PROTECTION	• WORKING 6'	OR HIGHER			MOUNTED SYST	ЕМ
					GLENDA BELLA	MY
ELECTRICAL SAFETY	ARCH FLASH				239 FALLING WA	ATER RD,
	ELECTRIC	TROCUTION			SPRING LAKE, N	IC 28390 20 KM AC BOOE
WEATHER CONDITIONS	HEAT/COLD	TEMP			MOUNTED PV S	YSTEM
	• RAINY/ICY/V	VINDY				
FODLIC SAFETT	SLIPS/TRIPS/	FALLS				
	ACCESS TO L	VE ELECTRICAL				
NEAREST EMERGENCY FACILITY						
CONTACT IMMEDIATLY IN EMERGEN	CY (911 AND/OR)					
	GENERAL SITE DIS	CRIPTION/NOTES				
NAME	CREW WIEWBERS O	IN SITE FOR INSTAL	SIGNATURE			
FMU/LMD-						
					PROJECT ID	N/A
ELECTRICAL COMPLETION	ROOFTOP II		MPU COMPLETION		DATE	11 July 2025
					CREATED BY	RG
					SIGNATURE	
		6				
首省建成					FIELD CHANGE	SHEET
]	PV-8	

INSTALLER NAME(PRINT):

I UNDERSTAND AND AGREE TO THE CHANGES MADE ABOVE:

CUSTOMER NAME

CUSTOMER SIGNATURE

DATE









I UNDERSTAND AND AGREE TO THE CHANGES MADE ABOVE:



CUSTOMER NAME

CUSTOMER SIGNATURE

LEGACY INSTALLATION SERVICES, LLC 3333 DIGITAL DR #600, LEHI, UT 84043, UNITED STATES 855-353-4899 Sherills 4 QUALIFIER #: U.13732 ELECTRICAL LIC#: U.34989 NEW PHOTOVOLTAIC ROOF **MOUNTED SYSTEM GLENDA BELLAMY** 239 FALLING WATER RD, SPRING LAKE, NC 28390 7.380 kW DC/ 5.220 kW AC ROOF MOUNTED PV SYSTEM PROJECT ID N/A 11 July 2025 DATE **CREATED BY** RG SIGNATURE FIELD CHANGE SHEET **PV-8.1**

Q.PEAK DUO BLK ML-G10+ SERIES

395-415 Wp | 132 Cells 21.1% Maximum Module Efficiency Domestic Content Option Available

MODEL Q.PEAK DUO BLK ML-G10.a+ *Q.PEAK DUO BLK ML-G10.C+



Qcells





Includes Domestic Content

This product contains U.S. manufactured components which can contribute to qualifying for the 10% domestic content bonus to applicable tax credits under the Inflation Reduction Act of 2022.¹



Warranty

Breaking the 21% efficiency barrier

Q.ANTUM DUO Z Technology with zero gap cell layout boosts module efficiency up to 21.1%.



A reliable investment

Inclusive 25-year product warranty and 25-year linear performance warranty.²



Enduring high performance

Long-term yield security with Anti LeTID Technology, Anti PID Technology³ and Hot-Spot Protect.

Extreme weather rating

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

Far beyond the standard

Qcells' comprehensive quality program ensures high long-term yields and the reliability of your solar system.

¹This statement should not be relied on as tax advice and is subject to change based on changes made to the Inflation Reduction Act and its implementing rules and regulations. Please consult a qualified tax professional for specific guidance. ² See data sheet on rear for further information.

³ APT test conditions according to IEC/TS 62804-1:2015, method A (~1500 V, 96 h)



Q.PEAK DUO BLK ML-G10+ SERIES

Mechanical Specification

Format	74.0 in × 41.1 in × 1.26 in (including frame) (1879 mm × 1045 mm × 32 mm)
Weight	48.5 lbs (22.0 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodized aluminum
Cell	6 × 22 monocrystalline Q.ANTUM solar half cells
Junction box	2.09-3.98 in × 1.26-2.36 in × 0.59-0.71 in (53-101 mm × 32-60 mm × 15-18 mm), IP67, with bypass diodes
Cable	4 mm² Solar cable; (+) ≥72.04 in (1830 mm), (−) ≥72.04 in (1830 mm)
Connector	Stäubli MC4; IP68



Electrical Characteristics

PC	OWER CLASS			395	400	405
MI	NIMUM PERFORMANCE AT STANDARD TEST CO	NDITIONS, ST	C1 (POWER TO	LERANCE +5 W/-0 W)		
	Power at MPP ¹	P _{MPP}	[W]	395	400	405
_	Short Circuit Current ¹	I _{sc}	[A]	11.10	11.14	11.17
	Open Circuit Voltage ¹	V _{oc}	[V]	45.27	45.30	45.34
	Current at MPP	I _{MPP}	[A]	10.71	10.77	10.83
2	Voltage at MPP	V _{MPP}	[V]	36.88	37.13	37.39
	Efficiency ¹	η	[%]	≥20.1	≥20.4	≥20.6

MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT²

	Power at MPP	P _{MPP}	[W]	296.3	300.1	303.8
Ę	Short Circuit Current	Isc	[A]	8.95	8.97	9.00
Ē.	Open Circuit Voltage	V _{oc}	[V]	42.69	42.72	42.76
ž	Current at MPP	I _{MPP}	[A]	8.46	8.51	8.57
	Voltage at MPP	V _{MPP}	[V]	35.03	35.25	35.46

Measurement tolerances P_{MPP}±3%; I_{sc}; V_{oc}±5% at STC: 1000 W/m², 25±2°C, AM 1.5 according to IEC 60904-3 • ²800 W/m², NMOT, spectrum AM 1.5





PERFORMANCE AT LOW IRRADIANCE



odule performance under low irradiance on to STC conditions (25 °C, 1000 W/m²)

*Standard terms of guarantee for the 5 PV companies with the highest production capacity in 2021 (February 2021)

TEMPERATURE COEFFICIENTS					
Temperature Coefficient of I _{sc}	α	[%/K]	+0.04	Temperature Coefficient of V_{oc}	β
Temperature Coefficient of P _{MPP}	γ	[%/K]	-0.34	Nominal Module Operating Temperature	NM

Properties for System Design

Maximum System Voltage	V _{sys}	[V]	1000 (IEC)/1000 (UL)	PV module classification
Maximum Series Fuse Rating		[A DC]	20	Fire Rating based on ANSI/UL 61730
Max. Design Load, Push/Pull ³		[lbs/ft ²]	75 (3600 Pa)/55 (2660 Pa)	Permitted Module Temperature
Max. Test Load, Push/Pull ³		[lbs/ft ²]	113 (5400 Pa)/84 (4000 Pa)	on Continuous Duty
³ See Installation Manual				

Qualifications and Certificates

UL61730-1 & UL61730-2, CE-compliant, Quality Controlled PV - TÜV Rheinland IEC 61215:2016, IEC 61730:2016, U.S. Patent No. 9,893,215 (solar cells),



*Contact your Qcells Sales Representative for details regarding the module's eligibility to be Buy American Act (BAA) compliant.

Qcells pursues minimizing paper output in consideration of the global environment.

Note: Installation instructions must be followed. Contact our technical service for further information on approved installation of this product. Hanwha Q CELLS America Inc. 300 Spectrum Center Drive, Suite 500, Irvine, CA 92618, USA I TEL +1 (949) 748 5996 I EMAIL na.support@cells.com I WEB www.ccells.com

Rooftop arrays on DC

residential buildings

The ideal solution for:

DCA 17 module has material code 'MD06G100A-017' printed on the module power label.

*DCA Module Option:



DS-1



IQ8 Series Microinverters redefine reliability

IQ8 Series Microinverters are UL Listed as

with various regulations, when installed

according to manufacturer's instructions.

PV Rapid Shut Down Equipment and conform

standards with more than one million

cumulative hours of power-on testing. enabling an industry-leading limited warranty

of up to 25 years.

Մ

CERTIFIED

IQ8 and IQ8+ Microinverters

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



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



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

© 2021 Enphase Energy, All rights reserved. Enphase, the Enphase logo, IQ8 microinverters. and other names are trademarks of Enphase Energy, Inc. Data subject to change.

IQ8SP-DS-0002-01-EN-US-2021-10-19

Easy to install

• Lightweight and compact with plug-n-play connectors

DATA SHEET

- Power Line Communication (PLC) between components
- Faster installation with simple two-wire cabling

High productivity and reliability

- Produce power even when the grid is down
- · More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest highpowered PV modules

Microgrid-forming

- · Complies with the latest advanced grid support
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles

 Meets CA Rule 21 (UL 1741-SA) requirements

IQ8 and IQ8+ Microinverters

Commonly used module pairings ¹ W 235 - 350 235 - 350 Module compatibility G0-cell/20 Pair-cell as 60-cell/20 Pair-cell as MPPT voltage range v 27 - 37 20 - 20 - 20 - 20 - 20 - 20 - 20 - 20 -	INPUT DATA (DC)		IQ8-60-2-US	IQ8PLUS-
Nodule compatibility60-cei//20 haf-ceil60-cei//20 haf-ceilMPP votage angev0.7 - 370.9 - 20 - 20 - 20 - 20 - 20 - 20 - 20 - 2	Commonly used module pairings ¹	W	235 - 350	235 -
MPPT voltage range v 9 9 Operating range v 30 / 48 30 / 48 Min/max start voltage v 30 / 48 30 / 48 Min/max start voltage v 30 / 48 30 / 48 Min/max start voltage v 30 / 48 30 / 48 Min/max start voltage v 30 / 48 30 / 48 Min/max Start voltage v 30 / 48 30 / 48 Min/max Start voltage v 10 v Overvoltage class DC port i 10 v v V array configuration 11 Ungrounded array. No additional DC side protection requires r 00 / 20 / 20 / 20 / 20 / 20 / 20 / 20 /	Module compatibility		60-cell/120 half-cell	60-cell/120 half-cell ar
Operating rangev9999999Mir/max start votagev00	MPPT voltage range	٧	27 - 37	29 -
Min./max.start.voltage v 30 / 48 30 / 48 Max.ipt.CC voltage v 500 66 Max.DC current [®] (module loc) A	Operating range	v	25 - 48	25 -
Max input DC voltageV600610Max DC current (module loc)A	Min/max start voltage	٧	30/48	30 /
Max DC current (module loc) A International DC aller Control on Control Control Control on Control Co	Max input DC voltage	٧	50	60
Overvoitage elass DC portIDC port backfeed currentnaISUngrounded array: No additional DC side protector metyrettave for text constructional protector metal metal meta	Max DC current ² [module lsc]	Α	1	15
DC port backfeed ourrent mA OP PV array configuration Int Ungrounded array; No additional DC side protection requires : AC Side protection requires : OUTPUT DATA (AC) IOSACS-20S IOSACS Peak output power VA IOSACS-20S IOSACS Peak output power VA IOSACS IOSACS Nominal (L-L) voltage/range ³ V IOSACS IOSACS Nominal frequency range Re IOSACS IOSACS Nax continuous output ourent A IOSACS IOSACS Nax units per 20A (L-L) branch circuit* IOSACS IOSACS Overvoltage class AC port IOSACS IOSACS Overvoltage class AC port IOSACS IOSACS Covervoltage class AC port IOSACS IOSACS Power factor setting IOSACS IOSACS Covervoltage class AC port IOSACS IOSACS Power factor setting IOSACS IOSACS Covervoltage class AC port IOSACS IOSACS Power factor setting IOSACS IOSACS Covervoltage class AC port IOSACS IOSACS Power factor setting IOSACS IOSACS Covervoltage class AC port IOSACS IOSACS Covervoltad	Overvoltage class DC port			II
Int Ungrounded array: No additional DC side protection requires a GB Public or part of the GB Public or part of t	DC port backfeed current	mA		0
DUPUP DATA (AC) (108+60-2-US 008200-000 Peak output power VA 245 30 30 Max continuous output power VA 240 23 30	PV array configuration		1x1 Ungrounded array; No additional DC side protection requ	uired; AC side protection requires
Peak output powerVA0.00000000000000000000000000000000000	OUTPUT DATA (AC)		IQ8-60-2-US	IQ8PLUS-
Max continuous output powerVA240240Nominal (-L) voltage/range*V240240240Max continuous output currentA666 </td <td>Peak output power</td> <td>VA</td> <td>245</td> <td>30</td>	Peak output power	VA	245	30
Nominal (IL) voltage/range ³ v Q40/21I-264 Max continuous output current A 1.0 1.2 Nominal frequency Hz G 1.2 Kax units per 20 A (L-1) branch circuit ⁴ A 16 10 10 Max units per 20 A (L-1) branch circuit ⁴ G 16 10	Max continuous output power	VA	240	29
Max continuous output current A 1.0 1.1 Nominal frequency Hz Control Contro Control Control Control Control Control Contro Co	Nominal (L-L) voltage/range ³	٧	240 / 2	211 - 264
Nominal frequency Hz Generation Extended frequency range Hz Generation Generation Max units per 20 A (L-L) branch circuit* Generation	Max continuous output current	Α	1.0	1.2
Extended frequency range Hz 6000-58 Max units per 20 A (L-L) branch circuit* 16 10 Total harmonic distortion	Nominal frequency	Hz	e	30
Max units per 20 A (L-L) branch circuit* 16 Name Total harmonic distortion Image: Construct on the stand of the stan	Extended frequency range	Hz	50	- 68
Total harmonic distortion	Max units per 20 A (L-L) branch circuit	4	16	13
Overvoltage class AC port III AC port backfeed current mA AC port backfeed current mA Power factor setting .0 Grid-tied power factor (adjustable) 0.85 leading - 0.85 leading	Total harmonic distortion		<	5%
AC port backfeed current mA Generator setting I Power factor setting I IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Overvoltage class AC port			III
Power factor setting I Grid-tied power factor (adjustable) Staging Peak efficiency % 97.5 Staging Peak efficiency % 97.5 97.5 CEC weighted efficiency % 97.5 97.5 Night-time power consumption mW	AC port backfeed current	mA	3	50
Grid-tied power factor (adjustable) 9 0.85 leading-0.85 leading 97 Peak efficiency % 97 97 97 CEC weighted efficiency % 97 97 97 Night-time power consumption w 0 97 97 Night-time power consumption w 0 97<	Power factor setting		1	.0
Peak efficiency % 975 977 CEC weighted efficiency % 977 977 Night-time power consumption mW 977 977 MetMANICAL DATA -40°C to +60°C (-40°F to +140°F) 978 Relative humidity range -40°C to +60°C (-40°F to +140°F) 978 Relative humidity range -40°C to +60°C (-40°F to +140°F) 978 Dimensions (HxWxD) -108 Kg : 38 Ibs) 979 973.02.0 mm (1.2") 978 Veight -108 Kg : 38 Ibs) 978	Grid-tied power factor (adjustable)		0.85 leading	- 0.85 lagging
CEC weighted efficiency % 97 9 Night-time power consumption www Good Weight Good Weight Good Weight Good Good<	Peak efficiency	%	97.5	97
Night-time power consumption mW 60 MECHANICAL DATA Ambient temperature range -40°C to +60°C (-40°F to +140°F) Relative humidity range 0 DC Connector type MC4 Dimensions (HxWxD) 0 Weight 1.08 kg (2.38 lbs) Cooling Natural convection - no fans Approved for wet locations Yes Acoustic noise at 1m <60 dBA	CEC weighted efficiency	%	97	9
MECHANICAL DATA Ambient temperature range -40°C to +60°C (-40°F to +140°F) Relative humidity range 4% to 100% (condensing) DC Connector type MC4 Dimensions (HxWxD) 212 mm (8.3") x 175 mm (6.9") x 30.2 mm (1.2") Weight 1.08 kg (2.38 lbs) Cooling Natural convection – no fans Approved for wet locations Yes Acoustic noise at 1m <60 dBA	Night-time power consumption	mW	e	30
Ambient temperature range40°C to +60°C (-40°F to +140°F)Relative humidity rangeGDC Connector typeMC4Dimensions (HxWxD)GWeightCollar (Collar (Co	MECHANICAL DATA			
Relative humidity range 4% to 100% (condensing) DC Connector type MC4 Dimensions (HxWxD) Collations Weight 1.08 kg (2.38 lbs) Cooling Natural convection – no fans Approved for wet locations Yes Acoustic noise at 1 m <60 dBA	Ambient temperature range		-40°C to +60°C	(-40°F to +140°F)
DC Connector typeMC4Dimensions (HxWxD)Connector typeWeightConnector (AxWxD)WeightConnector (AxWxD)CoolingNatural convection - no fansApproved for wet locationsYesAcoustic noise at 1 m<60 dBA	Relative humidity range		4% to 100%	(condensing)
Dimensions (HxWxD) 212 mm (8.3") x 175 mm (6.9") x 30.2 mm (1.2") Weight 1.08 kg (2.38 lbs) Cooling Natural convection - no fans Approved for wet locations Yes Acoustic noise at 1m <60 dBA	DC Connector type		М	C4
Weight 1.08 kg (2.38 lbs) Cooling Natural convection - no fans Approved for wet locations Yes Acoustic noise at 1 m Cooling Pollution degree PD3 Enclosure Class II double-insulated, corrosion resistant polymeric enclosure Environ. category / UV exposure rating NEMA Type 6 / outdoor COMPLIANCE CA Rule 21 (UL 1741-SA), UL 62109-1, UL1741/IEEE1547, FCC Part 15 Class B, ICES-0003 Class B, CES-0003	Dimensions (HxWxD)		212 mm (8.3") x 175 mn	n (6.9") x 30.2 mm (1.2")
Cooling Natural convection - no fans Approved for wet locations Yes Acoustic noise at 1 m <60 dBA	Weight		1.08 kg (2.38 lbs)
Approved for wet locations Yes Acoustic noise at 1 m <60 dBA	Cooling		Natural conve	ction – no fans
Acoustic noise at 1 m <60 dBA	Approved for wet locations		Y	es
Pollution degree PD3 Enclosure Class II double-insulated, corrosion resistant polymeric enclosure Environ. category / UV exposure rating NEMA Type 6 / outdoor COMPLIANCE CA Rule 21 (UL 1741-SA), UL 62109-1, UL1741/IEEE1547, FCC Part 15 Class B, ICES-0003 Class B, C Certifications This product is UL Listed as PV Rapid Shut Down Equipment and conforms with NEC 2014, NEC 20 690.12 and C22.1-2018 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, w manufacturer's instructions.	Acoustic noise at 1 m		<60	dBA
Enclosure Class II double-insulated, corrosion resistant polymeric enclosure Environ. category / UV exposure rating NEMA Type 6 / outdoor COMPLIANCE CA Rule 21 (UL 1741-SA), UL 62109-1, UL1741/IEEE1547, FCC Part 15 Class B, ICES-0003 Class B, C Certifications CA Rule 21 (UL 1741-SA), UL 62109-1, UL1741/IEEE1547, FCC Part 15 Class B, ICES-0003 Class B, C Certifications This product is UL Listed as PV Rapid Shut Down Equipment and conforms with NEC 2014, NEC 2015 Rule 64-2108 Rapid Shutdown of PV Systems, for AC and DC conductors, with munufacturer's instructions.	Pollution degree		P	D3
Environ. category / UV exposure rating NEMA Type 6 / outdoor COMPLIANCE CA Rule 21 (UL 1741-SA), UL 62109-1, UL1741/IEEE1547, FCC Part 15 Class B, ICES-0003 Class B, C Certifications This product is UL Listed as PV Rapid Shut Down Equipment and conforms with NEC 2014, NEC 2015, NEC 690.12 and C22.1-2018 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, w manufacturer's instructions.	Enclosure		Class II double-insulated, corros	ion resistant polymeric enclosure
COMPLIANCE CA Rule 21 (UL 1741-SA), UL 62109-1, UL1741/IEEE1547, FCC Part 15 Class B, ICES-0003 Class B, C Certifications This product is UL Listed as PV Rapid Shut Down Equipment and conforms with NEC 2014, NEC 20 690.12 and C22.1-2018 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, w manufacturer's instructions.	Environ. category / UV exposure rating	1	NEMA Туре	6 / outdoor
CA Rule 21 (UL 1741-SA), UL 62109-1, UL1741/IEEE1547, FCC Part 15 Class B, ICES-0003 Class B, C Certifications This product is UL Listed as PV Rapid Shut Down Equipment and conforms with NEC 2014, NEC 20 690.12 and C22.1-2018 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, w manufacturer's instructions.	COMPLIANCE			
Certifications This product is UL Listed as PV Rapid Shut Down Equipment and conforms with NEC 2014, NEC 20 690.12 and C22.1-2018 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, w manufacturer's instructions.			CA Rule 21 (UL 1741-SA), UL 62109-1, UL1741/IEEE1547, FCC Part	15 Class B, ICES-0003 Class B, C
	Certifications		This product is UL Listed as PV Rapid Shut Down Equipment and 690.12 and C22.1-2018 Rule 64-218 Rapid Shutdown of PV Systemanufacturer's instructions.	l conforms with NEC 2014, NEC 20 ams, for AC and DC conductors, w

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

IQ8SP-DS-0002-01-EN-US-2021-10-19



LEGACY INSTALLATION SERVICES, LLC

3333 DIGITAL DR #600, LEHI, UT 84043, UNITED STATES 855-353-4899

M. Shewills is

QUALIFIER #: U.13732 ELECTRICAL LIC#: U.34989

NEW PHOTOVOLTAIC ROOF **MOUNTED SYSTEM**

GLENDA BELLAMY 239 FALLING WATER RD. SPRING LAKE, NC 28390 7.380 kW DC/ 5.220 kW AC ROOF MOUNTED PV SYSTEM

PROJECT ID	N/A				
DATE	11 July 2025				
CREATED BY	RG				
SIGNATURE					
INVERTER DATA SHEET					
DS-2					

72-2-US

- 440 nd 72-cell/144 half-cell 45 - 58 58

nax 20A per branch circuit
72-2-US
0
0
1
;
6
7

CAN/CSA-C22.2 NO. 107.1-01

017, and NEC 2020 section when installed according to

ENPHASE.



IQ Combiner 5/5C

The IQ Combiner 5/5C consolidates interconnection equipment into a single enclosure and streamlines IQ Series Microinverters and IQ Gateway installation by providing a consistent, pre-wired solution for residential applications. IQ Combiner 5/5C uses wired control communication and is compatible with IQ System Controller 3/3G and IQ Battery 5P.

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

IQ System Controller 3/3G

device (MID) functionality by

IQ Load Controller

battery life

Helps prioritize essential appliances

during a grid outage to optimize

energy consumption and prolong

Provides microgrid interconnection

automatically detecting grid failures and

system from grid power to backup power

seamlessly transitioning the home energy



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



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









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Smart

- Includes IQ Gateway for communication and control
- Includes Enphase Mobile Connect (CELLMODEM-M1-06-SP-05), only with IQ Combiner 5C

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

DATASHEET

- Supports flexible networking: Wi-Fi, Ethernet, or cellular
- Provides production metering (revenue grade) and consumption monitoring

Easy to install

- Mounts to one stud with centered brackets
- Supports bottom, back, and side conduit entry
- Supports up to four 2-pole branch circuits for 240 VAC plug-in breakers (not included)
- 80 A total PV branch circuits

Reliable

- Durable NRTL-certified NEMA type 3R enclosure
- 5-year limited warranty
- Two years labor reimbursement program coverage included for both the IQ Combiner SKUs
- UL1741 listed

IQ Combiner 5/5C

MODEL NUMBER	
IQ Combiner 5 (X-IQ-AM1-240-5)	IQ Combiner 5 with IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSIC12.20 ±0.5%), consumption monitoring (±2.5%) and IQ Battery monitoring (±2.5%). Includes a silver solar shield to deflect heat
IQ Combiner 5C (X-IQ-AM1-240-5C)	IQ Combiner 5C with IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 ±0.5%), consumption monitoring (±2.5%) and IQ Battery monitoring (±2.5%). Includes Enphase Mobile Connect cellular modem (CELLMODEM-MI-06-SP-05) ¹ . Includes a silver solar shield to deflect heat
WHAT'S IN THE BOX	
IQ Gateway printed circuit board	IQ Gateway is the platform for total energy management for comprehensive, remote maintenance and management of the Enphase IQ System
Busbar	125A busbar with support for 1 x IQ Gateway breaker and 4 x 20A breaker for installing IQ Series Microinverters and IQ Battery 5P
IQ Gateway breaker	Circuit breaker, 2-pole, 10 A/15 A
Production CT	Prewired revenue-grade solid core CT, accurate up to 0.5%
Consumption CT	Two consumption metering clamp CTs, shipped with the box, accurate up to 2.5%
IQ Battery CT	One battery metering clamp CT, shipped with the box, accurate up to 2.5%
CTRL board	Control board for wired communication with IQ System Controller 3/3G and the IQ Battery $5\mathrm{P}$
Enphase Mobile Connect (only with IQ Combiner 5C)	4G-based LTE-M1 cellular modem (CELLMODEM-M1-06-SP-05) with a 5-year T-Mobile data plan
Accessories kit	Spare control headers for CTRL board
ACCESSORIES AND REPLACEMENT PARTS (NOT INCLUDED, O	RDER SEPARATELY)
CELLMODEM-M1-06-SP-05	4G-based LTE-M1 cellular modem with a 5-year T-Mobile data plan
CELLMODEM-M1-06-AT-05	4G-based LTE-M1 cellular modem with a 5-year AT&T data plan
Circuit breakers (off-the-shelf)	Supports Eaton BR210, BR215, BR220, BR230, BR240, BR250, and BR260 circuit breakers Supports Eaton BR220B, BR230B, and BR240B circuit breakers compatible with hold-down kit
Circuit breakers (provided by Enphase)	BRK-10A-2-240V, BRK-15A-2-240V, BRK-20A-2P-240V, BRK-15A-2P-240V-B, and BRK-20A-2P- 240V-B (More details in "Accessories" section)
XA-SOLARSHIELD-ES	Replacement solar shield for IQ Combiner 5/5C
XA-ENV2-PCBA-5	IQ Gateway replacement printed circuit board (PCB) for Combiner 5/5C
X-IQ-NA-HD-125A	Hold-down kit compatible with Eaton BR-B series circuit breakers (with screws)
ELECTRICAL SPECIFICATIONS	
Rating	80 A
System voltage	120/240 VAC, 60 Hz
Busbar rating	125 A
Fault curent rating	10 kAIC
Maximum continuous current rating (input from PV/storage)	64 A
Branch circuits (solar and/or storage)	Up to four 2-pole Eaton BR series distributed generation (DG) breakers only (not included)
Maximum total branch circuit breaker rating (input)	80 A of distributed generation/95 A with IQ Gateway breaker included
IQ Gateway breaker	10 A or 15 A rating GE/Siemens/Eaton included
Production metering CT	200 A solid core pre-installed and wired to IQ Gateway
Consumption monitoring CT (CT-200-CLAMP)	A pair of 200 A clamp-style current transformers is included with the box
IO Battery metering CT	200 A clamp-style current transformer for IO Battery metering, included with the box

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

IQC-5-5C-DSH-00007-1.0-EN-US-2023-07-12

IQC-5-5C-DSH-00007-1.0-EN-US-2023-07-12



LEGACY INSTALLATION SERVICES, LLC

3333 DIGITAL DR #600, LEHI, UT 84043, UNITED STATES 855-353-4899

M. Sherills es

QUALIFIER #: U.13732 ELECTRICAL LIC#: U.34989

NEW PHOTOVOLTAIC ROOF MOUNTED SYSTEM

GLENDA BELLAMY 239 FALLING WATER RD. SPRING LAKE, NC 28390 7.380 kW DC/ 5.220 kW AC ROOF MOUNTED PV SYSTEM

breakers
BRK-20A-2P-

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PROJECT ID

CREATED BY

SIGNATURE

COMBINER DATA SHEET

DATE

N/A

RG

11 July 2025

MECHANICAL DATA	
Dimensions (WxHxD)	37.5 cm x 49.5 cm x 16.8 cm (14.75" x 19.5" x 6.63"). Height is 21.06" (53.5 cm) with mounting brackets
Weight	7.5 kg (16.5 lbs)
Ambient temperature range	-40°C to 46°C (-40°F to 115°F)
Cooling	Natural convection, plus heat shield
Enclosure environmental rating	Outdoor, NRTL-certified, NEMA type 3R, polycarbonate construction
Wire sizes	 20 A to 50 A breaker inputs: 14 to 4 AWG copper conductors 60 A breaker branch input: 4 to 1/0 AWG copper conductors Main lug combined output: 10 to 2/0 AWG copper conductors Neutral and ground: 14 to 1/0 copper conductors Always follow local code requirements for conductor sizing
Communication (In-premise connectivity)	Built-in CTRL board for wired communication with IQ Battery 5P and IQ System Controller 3/3G. Integrated Power Line Communication for IQ Series Microinverters
Altitude	Up to 2,600 meters (8,530 feet)
COMMUNICATION INTERFACES	
Integrated Wi-Fi	802.11b/g/n (dual band 2.4 GHz/5 GHz), for connecting the Enphase cloud via the internet
Wi-Fi range (recommended)	10 m
Ethernet	Optional, 802.3, Cat5E (or Cat 6) UTP Ethernet cable (not included), for connecting to the Enphase Cloud via the internet
Mobile Connect	CELLMODEM-M1-06-SP-05 or CELLMODEM-M1-06-AT-05 (included with IQ Combiner 5C)
Digital I/O	Digital input/output for grid operator control
USB 2.0	For Mobile Connect
Access point (AP) mode	For connection between the IQ Gateway and a mobile device running the Enphase Installer App
Metering ports	Up to two Consumption CTs, one IQ Battery CT, and one Production CT
Power line communication	90–110 kHz
Web API	Refer to https://developer-v4.enphase.com
Local API	Refer to guide for local API
COMPLIANCE	
IQ Combiner	UL 1741, CAN/CSA C22.2 No. 107.1, Title 47 CFR, Part 15, Class B, ICES 003
IQ Gateway	UL 60601-1/CANCSA 22.2 No. 61010-1, IEEE 1547: 2018 (UL 1741-SB, 3 ^{-d} Ed.) IEEE 2030.5/CSIP Compliant Production metering: ANSI C12.20 accuracy class 0.5 (PV production)
COMPATIBILITY	
IQ System Controller 3/3G	SC200D111C240US01, SC200G111C240US01
IQ Battery 5P	IQBATTERY-5P-1P-NA
Microinverter	IQ6, IQ7, and IQ8 Series Microinverters

Accessories



Enphase Mobile Connect

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



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

CT-200-SOLID





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

CT-200-CLAMP

IQC-5-5C-DSH-00007-1.0-EN-US-2023-07-12

LEGACY INSTALLATION SERVICES, LLC

3333 DIGITAL DR #600, LEHI, UT 84043, UNITED STATES 855-353-4899

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NEW PHOTOVOLTAIC ROOF MOUNTED SYSTEM

GLENDA BELLAMY 239 FALLING WATER RD, SPRING LAKE, NC 28390 7.380 kW DC/ 5.220 kW AC ROOF MOUNTED PV SYSTEM

DATE
CREATED BY
SIGNATURE

PROJECT ID

COMBINER DATA SHEET

N/A

RG

11 July 2025

DS-4

IQC-5-5C-DSH-00007-1.0-EN-US-2023-07-12

DESCRIPTION: SNAPNRACK, TDS, UR-45 RAIL (USA)			DOC NUMBER: SNR-DC-01451 DRAWN BY:		SnapNrack®			
PART NUMBER(S): 232-10095-USA, 232-10096-USA, 232-10097-USA, 232-10130-USA			H.WULF REV:	H.WULFEKOETTER REV: DATE: SNR SOLAR LLC 3AN LUIS OBISPO, CA 39401 US SAN LUIS OBISPO, CA 39401 US EMALE CONTACTOSNAPNRACK.				
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						UR-45 RA	IL PROPERTIES	
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				232-	10096-US	A BLACK	172 in	5.55
				232-	10097-US	A MILL	94 in	3.03
				232-	10130-US	A MILL	186 in	6.00
SECTION PI	ROPERTIES 0.319 in ² 0.134 in ⁴				.895		40	
lyy Sx (TOP)	0.121 in ⁴ 0.152 in ³				.855			
Sx (BOT)	0.156 in ³							
Sy (LEFT)	0.164 in ³							
Sy (RIGHT)	0.164 in ³					_()
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ULTIMATE LOAD (LBS): N/A								
TOROUE SPECIFICATION: N/A FT_LBS								
CERTIFICATION:				3				
WEIGHT (LBS): VADIES SEE DOOPOTTE				, 150 T				
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DS-5

SIGNATURE

RACKING SPEC SHEET

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ITEM QTY DESCRIPTION 1 1 BOLT, WIDE FLANGE, RECESSED, 5-16IN-18 X 1IN, SS 2 1 SNAPNRACK, ULTRA RAIL MOUNT SPRING, SS 3 1 SNAPNRACK, ULTRAFOOT BASE, RAFTER, BLACK 4 1 SNAPNRACK, UR FLIP CLAMP, THRU, SILVER 5 1 SNAPNRACK, UR FLIP CLAMP, TAP, BLACK 6 1 SNAPNRACK, BUTYL PAD, 2.00IN X 1.44IN X .25IN MATERIALS: 6000 SERIES ALUMINUM & 300 SERIES STAINLESS STEEL TORQUE SPECIFICATION: 16 FT-LBS FT-LBS CERTIFICATION: UL 2703, FILE E359313		PARTS LIST								
1 1 BOLT, WIDE FLANGE, RECESSED, 5-16IN-18 X 1IN, SS 2 1 SNAPNRACK, ULTRA RAIL MOUNT SPRING, SS 3 1 SNAPNRACK, ULTRAFOOT BASE, RAFTER, BLACK 4 1 SNAPNRACK, UR FLIP CLAMP, THRU, SILVER 5 1 SNAPNRACK, UR FLIP CLAMP, TAP, BLACK 6 1 SNAPNRACK, BUTYL PAD, 2.00IN X 1.44IN X .25IN MATERIALS: 6000 SERIES ALUMINUM & 300 SERIES STAINLESS STEEL TORQUE SPECIFICATION: 16 FT-LBS FT-LBS CERTIFICATION: UL 2703, FILE E359313	ITEM QTY	DESCRIPT	ION		Sngon:	, Jun	2.88	2.	18	
2 1 SNAPNRACK, ULTRA RAIL MOUNT SPRING, SS 3 1 SNAPNRACK, ULTRAFOOT BASE, RAFTER, BLACK 4 1 SNAPNRACK, UR FLIP CLAMP, THRU, SILVER 5 1 SNAPNRACK, UR FLIP CLAMP, TAP, BLACK 6 1 SNAPNRACK, BUTYL PAD, 2.00IN X 1.44IN X .25IN MATERIALS: 6000 SERIES ALUMINUM & 300 SERIES STAINLESS STEEL TORQUE SPECIFICATION: 16 FT-LBS FT-LBS CERTIFICATION: UL 2703, FILE E359313	1 1 BOLT, WI	DE FLANGE, RECESSI	D, 5-16IN-18 X 1	1IN, SS		ha		[55	0.4]	
3 1 SINAPINKACK, ULTRAFOOT BASE, KAPTEK, BLACK 4 1 SNAPNRACK, UR FLIP CLAMP, THRU, SILVER 5 1 SNAPNRACK, UR FLIP CLAMP, TAP, BLACK 6 1 SNAPNRACK, BUTYL PAD, 2.00IN X 1.44IN X .25IN MATERIALS: 6000 SERIES ALUMINUM & 300 SERIES STAINLESS STEEL TORQUE SPECIFICATION: 16 FT-LBS FT-LBS CERTIFICATION: UL 2703, FILE E359313	2 1 SNAPNRACK, ULTRA RAIL MOUNT SPRING, SS									
4 1 Statistics, or fill claim, fills, silver 5 1 SNAPNRACK, UR FLIP CLAMP, TAP, BLACK 6 1 SNAPNRACK, BUTYL PAD, 2.00IN X 1.44IN X .25IN MATERIALS: 6000 SERIES ALUMINUM & 300 SERIES STAINLESS STEEL TORQUE SPECIFICATION: 16 FT-LBS FT-LBS CERTIFICATION: UL 2703, FILE E359313	3 1 SNAPNRACK, ULIRAFOUI BASE, RAFTER, BLACK 4 1 SNAPNRACK, UR FLIP CLAMP, THPU, STUVER									
6 1 SNAPNRACK, BUTYL PAD, 2.00IN X 1.44IN X .25IN TOP MATERIALS: 6000 SERIES ALUMINUM & 300 SERIES STAINLESS STEEL 1.44 .10 .30 TORQUE SPECIFICATION: 16 FT-LBS FT-LBS .15 [3.6] [2.5] [7.6] CERTIFICATION: UL 2703, FILE E359313 UL 2703, FILE E359313 .15 [3.8] .15	5 1 SNAPNRACK, UR FLIP CLAMP, TAP, BLACK							>napNrack		
MATERIALS:6000 SERIES ALUMINUM & 300 SERIES STAINLESS STEEL1.44.10.30TORQUE SPECIFICATION:16 FT-LBS FT-LBS.15.15.38CERTIFICATION:UL 2703, FILE E359313.15.38.30	6 1 SNAPNRACK, BUTYL PAD, 2.00IN X 1.44IN X .25IN							TOP		
TORQUE SPECIFICATION:16 FT-LBS FT-LBS.15CERTIFICATION:UL 2703, FILE E359313.15	MATERIALS:	6000 SERIFS	ALUMINUM & 30	0 SERIES	S STAINLESS STF	EL	- 1.44 $.10$ $.3$	0		
CERTIFICATION: UL 2703, FILE E359313 [3.8]	TORQUE SPECIFICATI	ION: 16 FT-LBS F	-LBS					6]		
	CERTIFICATION:	UL 2703. FTI	E E359313				[3.0]			
WEIGHT (LBS): .365	WEIGHT (LBS):	.365								

