PHOTOVOLTAIC SYSTEM SPECIFICATIONS:

SYSTEM SIZE:	9,030W DC 7,329W AC
MODULE TYPE & AMOUNT:	(21) QCELL Q.TRON BLK M-G2+/AC 430
MODULE DIMENSIONS:	(L/W/H) 67.8"/44.6"/1.18"
INVERTER:	(21) QCELLS Q.MI.349B-G1 INTEGRATED
INTERCONNECTION METHOD:	LINE SIDE TAP
AHJ:	COUNTY OF HARNETT

GOVERNING CODES

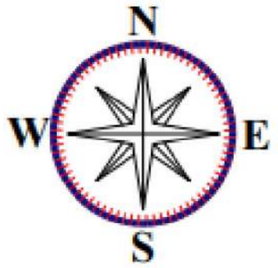
ALL WORK SHALL CONFORM TO THE FOLLOWING CODES

a. 2020 NATIONAL ELECTRICAL CODE
b. 2018 NC BUILDING CODE
c. 2018 NC RESIDENTIAL CODE
d. 2015 INTERNATIONAL RESIDENTIAL CODE
e. 2018 NC PLUMBING CODE
f. 2018 NC MECHANICAL CODE
g. 2018 NC FIRE CODE
h. COUNTY OF HARNETT CODE
i. ANY OTHER LOCAL AMENDMENTS

GENERAL NOTES:

1. APPLICABLE CODE: 2018 NC BUILDING CODE & ASCE 7-16 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.
2. LAG SCREW DIAMETER AND EMBEDMENT LENGTHS ARE DESIGNED PER 2018 NC BUILDING CODE REQUIREMENTS. ALL BOLT CAPACITIES ARE BASED ON A SOUTHER YELLOW PINE (SYP) RESIDENTIAL WOOD ROOF RAFTERS AS EMBEDMENT MATERIAL.
3. ROOF SEALANTS SHALL CONFORM TO ASTM C920 AND ASTM 6511, AND IS THE RESPONSIBILITY OF THE CONTRACTOR TO PILOT DRILL AND FILL ALL HOLES.
4. ALL DISSIMILAR MATERIALS SHALL BE SEPARATED WITH NEOPRENE WASHERS, PADS, ETC OR SIMILAR.
5. ALL ALUMINIUM COMPONENTS SHALL BE ANODIZED ALUMINIUM 6105-T5 UNLESS OTHERWISE NOTED.
6. ALL LAG SCREW SHALL BE ASTM A276 STAINLESS STEEL UNLESS OTHERWISE NOTED.
7. ALL SOLAR RAILING AND MODULES SHALL BE INSTALLED PER MANUFACTURER INSTRUCTIONS.
8. CONTRACTOR SHALL ENSURE ALL ROOF PENETRATIONS TO BE INSTALLED AND SEALED PER 2018 NC BUILDING CODE OR LOCAL GOVERNING CODE.

1 PLOT PLAN
A-00



SHEET INDEX:

NOTICE TO CONTRACTOR
All construction must comply with current NC Building Codes and is subject to field inspection and verification.
APPROVED
Limited building only review
Permit holder responsible for full compliance with the code
08/05/2025
Harnett COUNTY NORTH CAROLINA

PHOTOVOLTAIC ROOF MOUNT SYSTEM

21 MODULES-ROOF MOUNTED - 9,030W DC, 7,329W AC

EPC SOLAR
379 DOUGLAS RD E
OLDSMAR, FL 34677
PHONE: 727-267-4033

REVISIONS

DESCRIPTION	DATE	REV

PROJECT NAME: SAMANTHA CHILDERS

PROJECT ADDRESS: 639 RIVERWIND DR, SPRING LAKE, NC 28390

SHEET NAME: COVER SHEET

SHEET NUMBER: A-00

SHEET SIZE: ANSI B 11"x17"

NORTH CAROLINA PROFESSIONAL SEAL 051426 ENGINEER RAFAEL A. GONZALEZ SOTO

Digitally signed by Rafael A Gonzalez Soto
Date: 2025.07.24 09:56:17 -03'00'

GENERAL INSTALLATION PLAN NOTES:

1. ROOF ATTACHMENTS SHALL BE INSTALLED AS SHOWN IN SHEET S-01 AND AS FOLLOWS FOR EACH WIND ZONE.

WIND ZONE 1: 6'-0" O.C.
WIND ZONE 2: 6'-0" O.C.
WIND ZONE 3: 6'-0" O.C.

THE PERIMETER WIDTH OF WIND UPLIFT ZONES IS 3 FT

SYSTEM LEGEND

◯	EXISTING UTILITY METER
MP	EXISTING MAIN SERVICE PANEL
C	NEW DEDICATED PV SYSTEM COMBINER PANEL.
JB	NEW JUNCTION BOX. EXACT LOCATION TBD ON SITE
AC	NEW PHOTOVOLTAIC UTILITY DISCONNECT SWITCH. LOCATED WITHIN 10' OF METER.
RA	ROOF ACCESS POINT
▭	21 NEW QCELL Q.TRON BLK M-G2+/AC 430 MODULES WITH QCELLS Q.MI.349B-G1 INTEGRATED INVERTERS, MOUNTED ON THE BACK OF EACH MODULE
▭◯	= ROOF OBSTRUCTIONS
▨	= 36" FIRE PATHWAY
▨	= 18" FIRE PATHWAY

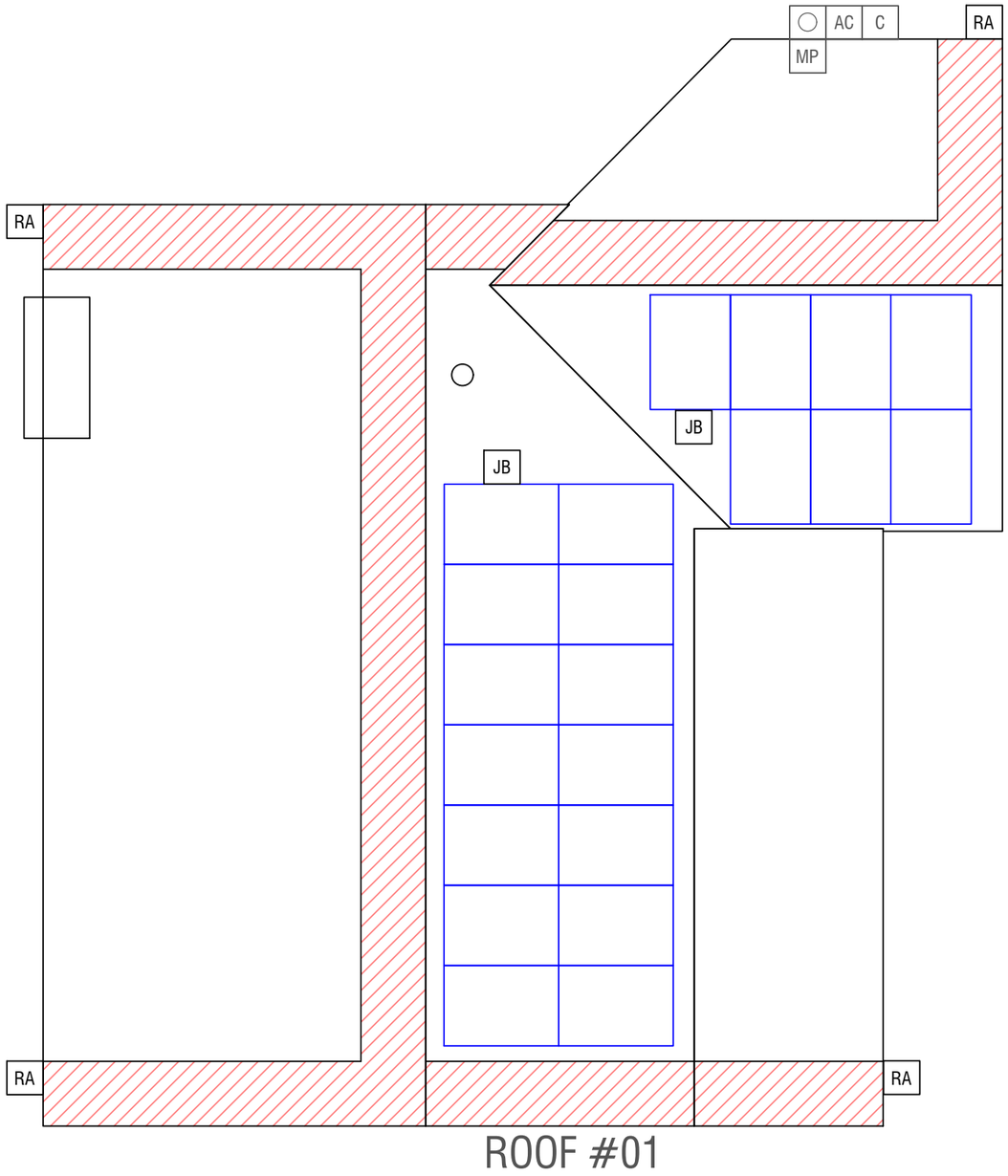
ROOF SECTIONS

ROOF #01

MODULE: 14
SLOPE: 20°
AZIMUTH: 92°
MATERIAL: COMPOSITION SHINGLES
RAFTER SIZE: 2"X4" @ 24 O.C.

ROOF #02

MODULE: 7
SLOPE: 20°
AZIMUTH: 182°
MATERIAL: COMPOSITION SHINGLES
RAFTER SIZE: 2"X4" @ 24 O.C.



ROOF #01

RIVERWIND DR
FRONT OF HOME

GENERAL NOTES FIRE SAFETY NOTES:

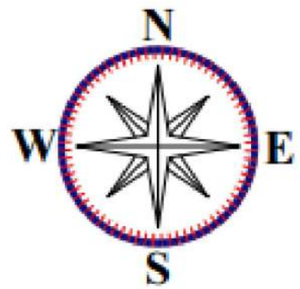
ROOF ACCESS POINTS SHALL BE DEFINED AS AREAS WHERE FIRE DEPARTMENT LADDERS ARE NOT PLACED OVER OPENINGS (WINDOWS OR DOORS), ARE LOCATED AT STRONG POINTS OF BUILDING CONSTRUCTION, AND ARE IN LOCATIONS WHERE THEY WILL NOT CONFLICT WITH OVERHEAD OBSTRUCTIONS (TREE LIMBS, WIRES, OR SIGNS). (NFPA 1 11.12.2.2.1.3)

· PHOTOVOLTAIC MODULES SHALL BE LOCATED IN A MANNER THAT PROVIDES TWO 3 FT WIDE ACCESS PATHWAYS FROM THE EAVE TO THE RIDGE ON EACH ROOF SLOPE WHERE THE MODULES ARE LOCATED. (NFPA 1 11.10.2.2.2.1.2)

· FIRST RESPONDER ACCESS WILL BE A MINIMUM OF 36" UNOBSTRUCTED

· CABLES, WHEN RUN BETWEEN ARRAYS, SHALL BE ENCLOSED IN CONDUIT.

TOTAL PLAN AREA OF ROOF: 2,270.88 FT^2
TOTAL AREA OF MODULES: 441.40 FT^2
MODULE COVERAGE: 19.44%



EPC SOLAR
379 DOUGLAS RD E
OLDSMAR, FL 34677
PHONE: 727-267-4033

REVISIONS

DESCRIPTION	DATE	REV

PROJECT NAME: SAMANTHA CHILDERS

PROJECT ADDRESS: 639 RIVERWIND DR, SPRING LAKE, NC 28390

SHEET NAME: SITE PLAN

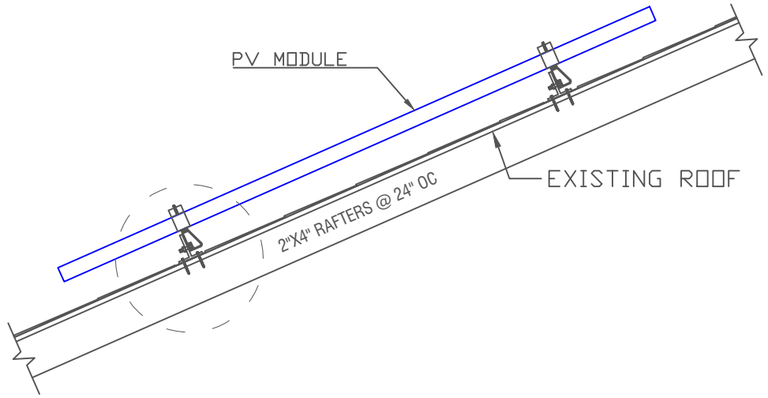
SHEET NUMBER: A-01

SHEET SIZE: ANSI B 11"x17"

NORTH CAROLINA PROFESSIONAL SEAL 051426 ENGINEER RAFAEL A. GONZALEZ SOTO

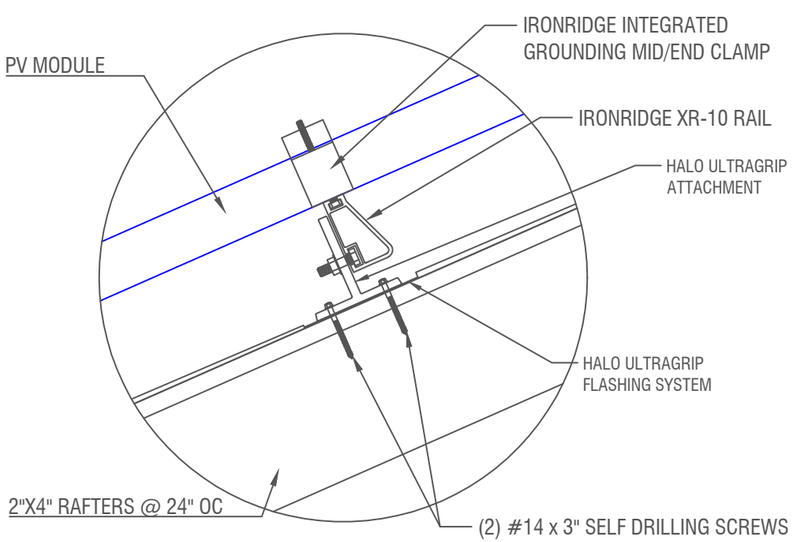
Digitally signed by Rafael A Gonzalez Soto
Date: 2025.07.24 09:56:34 -03'00'

ROOF MATERIAL: COMPOSITION SHINGLES

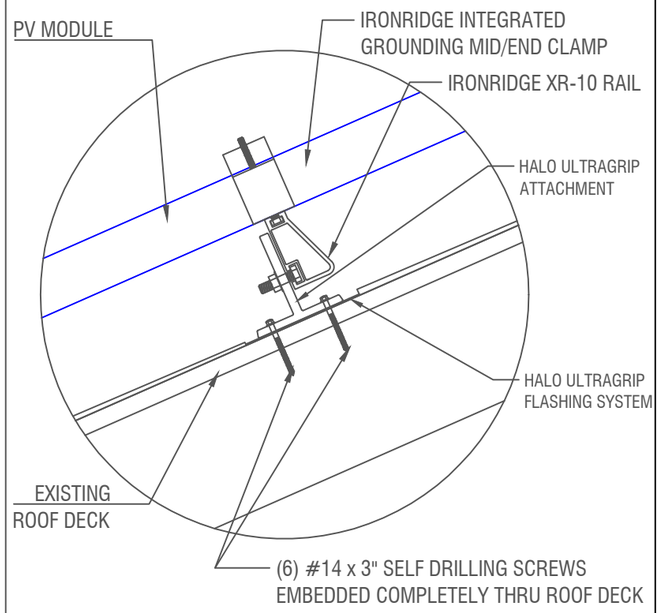


1 S-01 ATTACHMENT DETAIL (SIDE VIEW)

IRONRIDGE XR-10 RAIL



2 S-01 ATTACHMENT DETAIL ENLARGED VIEW



3 S-01 OPTIONAL DECK ATTACHMENT

QUICKMOUNT HALO ULTRAGRIP

MOUNTING PLAN NOTES:

1. DESIGNED AS PER ASCE7-16, 2018 NCBC
2. MEAN ROOF HEIGHT IS 15 FEET
3. EXPOSURE CATEGORY: C
4. DESIGN WIND SPEED: 120 MPH
5. DESIGN SNOW LOAD: 30 PSF
6. EXISTING ROOF HAS ONE LAYER
7. ANCHORAGE OF SOLAR PANELS WILL BE TO EXISTING ROOF SUPPORTING MEMBERS
8. INSTALLATION IS IN COMPLIANCE WITH 15.14.2.5.2, RAS111, & RAS120.10
9. PENETRATIONS WILL BE FLASHED AND SEALED WITH ULTRAGRIP FLASHING SYSTEM.

EPC SOLAR
379 DOUGLAS RD E
OLDSMAR, FL 34677
PHONE: 727-267-4033

REVISIONS

DESCRIPTION	DATE	REV

PROJECT NAME: SAMANTHA CHILDERS

PROJECT ADDRESS: 639 RIVERWIND DR, SPRING LAKE, NC 28390

SHEET NAME: MOUNTING DETAILS

SHEET NUMBER: S-01

SHEET SIZE: ANSI B 11"x17"

NORTH CAROLINA PROFESSIONAL SEAL 051426 ENGINEER RAFAEL A. GONZALEZ SOTO

Digitally signed by Rafael A Gonzalez Soto
Date: 2025.07.24 09:56:48 -03'00'

SYSTEM LEGEND

21 NEW QCELL Q.TRON BLK M-G2+/AC 430 MODULES WITH QCELLS Q.MI.349B-G1 INTEGRATED INVERTERS, MOUNTED ON THE BACK OF EACH MODULE

□○ = ROOF OBSTRUCTIONS

● = ATTACHMENT POINTS

= RAFTER

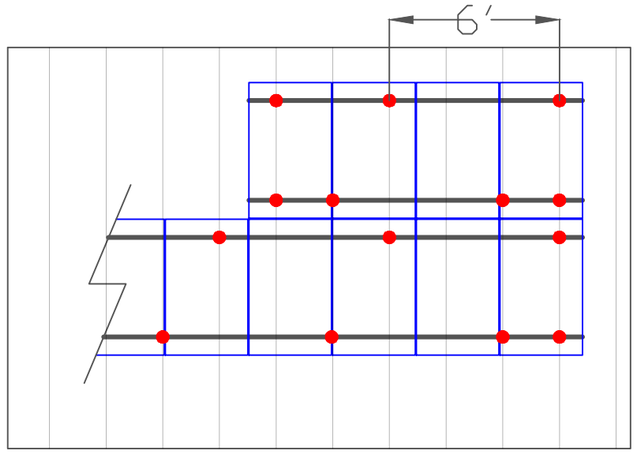
= RAIL

GENERAL INSTALLATION PLAN NOTES:

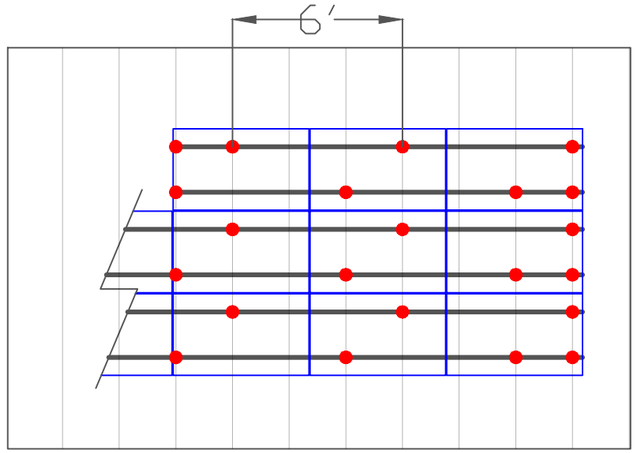
1. ROOF ATTACHMENTS SHALL BE INSTALLED AS SHOWN IN SHEET S-01 AND AS FOLLOWS FOR EACH WIND ZONE.
WIND ZONE 1: 6'-0" O.C.
WIND ZONE 2: 6'-0" O.C.
WIND ZONE 3: 6'-0" O.C.
MAXIMUM CANTILEVER SPAN = $\frac{1}{3}$ *MOUNT SPANS
2. THE PERIMETER WIDTH OF WIND UPLIFT ZONES IS 3 FT
3. THE VERTICAL DISTANCE BETWEEN ROOF SURFACE AND PV MODULES IS 6 INCHES PER ASCE7-16 SECT 29.4.4.
4. SOLAR RAIL TO BE INSTALLED TO SOLAR PANEL MANUFACTURER'S SPECIFICATION.
5. INSTALLATION IS IN COMPLIANCE WITH THE FOLLOWING: NCBC RESIDENTIAL 903.2, NCBC RESIDENTIAL TABLE R301.2(7), 15.14.2.5.2, 301.2 & RAS111.
6. MEETS THE REQUIREMENTS OF SECTION 1512 THROUGH 1525 & NCBC 1510.7.1
7. PLANS SATISFY ZONES PER NCBC 1510.7.1

TYPICAL ATTACHMENT SPACING

ESTIMATED MOUNT QUANTITY: 38



6'-0" ATTACHMENT SPACING (24" RAFTERS)



6'-0" ATTACHMENT SPACING (24" RAFTERS)

MODULE, ARRAY WEIGHT (LOAD CALCS)		
NUMBER OF MODULES	21	
MODULE WEIGHT	46.7	LBS
TOTAL MODULE WEIGHT	980.7	LBS
TOTAL MICROINVERTER WEIGHT	84	LBS
NUMBER OF ATTACHMENT POINTS	38	
TOTAL RAIL LENGTH	78.12	FT
MOUNTING SYSTEM WEIGHT	78.12	LBS
TOTAL SYSTEM WEIGHT	1142.82	LBS
WEIGHT AT EACH ATTACHMENT POINT (ARRAY WEIGHT/NUMBER OF ATTACHMENT POINTS)	30.07	LBS
MODULE AREA	21.02	SQFT
TOTAL ARRAY AREA	441.38	SQFT
DISTRIBUTED LOAD (TOTAL SYSTEM WEIGHT/TOTAL ARRAY AREA)	2.59	PER SQFT
PULLOUT VALUE PER MOUNT	1004	LBS

DESIGN CRITERIA	
GROUND SNOW LOAD (PSF)	30
WIND SPEED (MPH)	120
EXPOSURE CATEGORY	C
MEAN ROOF HEIGHT (FT.)	15

DESIGN CALCULATIONS		
ASCE 29.4-7	PRESSURE COEFFICIENT GC_p	$p = q_h \cdot K_d \cdot GC_p \cdot \gamma_E \cdot \gamma_a$ (PSF)
ZONE 1:	-1.21	-23.5
ZONE 2:	-1.68	-33.8
ZONE 3:	-1.70	-33.8

POINT LOAD CALCULATIONS		
ASCE 29.4-7	$p = q_h \cdot K_d \cdot GC_p \cdot \gamma_E \cdot \gamma_a$ (PSF)	$PL = p * A_e$ (LBS)
ZONE 1:	-23.5	-178.6
ZONE 2:	-33.8	-240.8
ZONE 3:	-33.8	-240.8

WIND LOAD PARAMETERS		
WIND SPEED	V = 135.5 MPH	FRC R301.2.1.3
EFFECTIVE WIND AREA	A_e = 21.67 ft^2	26.2
WIND DIRECTIONALITY	K_d = 0.85	TABLE 26.6-1
GROUND ELEVATION FACTOR	K_e = 1.0	TABLE 26.9-1
TOPOGRAPHIC FACTOR	K_{zt} = 1.0	26.8, 26.8.2
VELOCITY EXPOSURE COEFFICIENT	K_z = 0.85	TABLE 26.10-1
ARRAY EDGE FACTOR	γ_E = 1.5	29.4.4
SOLAR PANEL EQUALIZATION FACTOR	γ_a = 0.67	FIGURE 29.4-8
VELOCITY PRESSURE	q_h = 39.98 PSF	$q_h = 0.00256 \cdot K_z \cdot K_{zt} \cdot K_e \cdot V^2$

ALL MODULES ARE ASSUMED TO BE EXPOSED

REFER TO SHEET S-01 FOR ROOF, MOUNT, & RAIL DETAILS

EPC SOLAR
379 DOUGLAS RD E
OLDSMAR, FL 34677
PHONE: 727-267-4033

REVISIONS		
DESCRIPTION	DATE	REV

PROJECT NAME: SAMANTHA CHILDERS

PROJECT ADDRESS: 639 RIVERWIND DR, SPRING LAKE, NC 28390

SHEET NAME: MOUNTING PLAN

SHEET NUMBER: S-02

SHEET SIZE: ANSI B 11"x17"

NORTH CAROLINA PROFESSIONAL SEAL 051426 ENGINEER RAFAEL A. GONZALEZ SOTO

Digitally signed by Rafael A Gonzalez Soto
Date: 2025.07.24 09:57:02 -03'00'

WIRE TAG #	WIRE FROM --	CONDUIT (TBD ON SITE)	WIRE QTY	WIRE GAUGE	WIRE RATING	GRND SIZE	GRND WIRE TYPE
1	ARRAY TO JUNCTION BOX	TRUNK CABLE	4	#12	TRUNK CABLE	#6 OR #8	SBC
2	JUNCTION BOX TO COMBINER PANEL	MIN 3/4" CONDUIT	4	#10	THHN	#10	THWN-2
3	COMBINER PANEL TO ACD	MIN 3/4" CONDUIT	3	#8	THHN	#10	THWN-2
4	ACD TO MAIN SERVICE PANEL	MIN 3/4" CONDUIT	3	#6	THHN	N/A	N/A
5	SERVICE WIRES	MIN 1.5" CONDUIT	3	#2/0	THHN	N/A	N/A

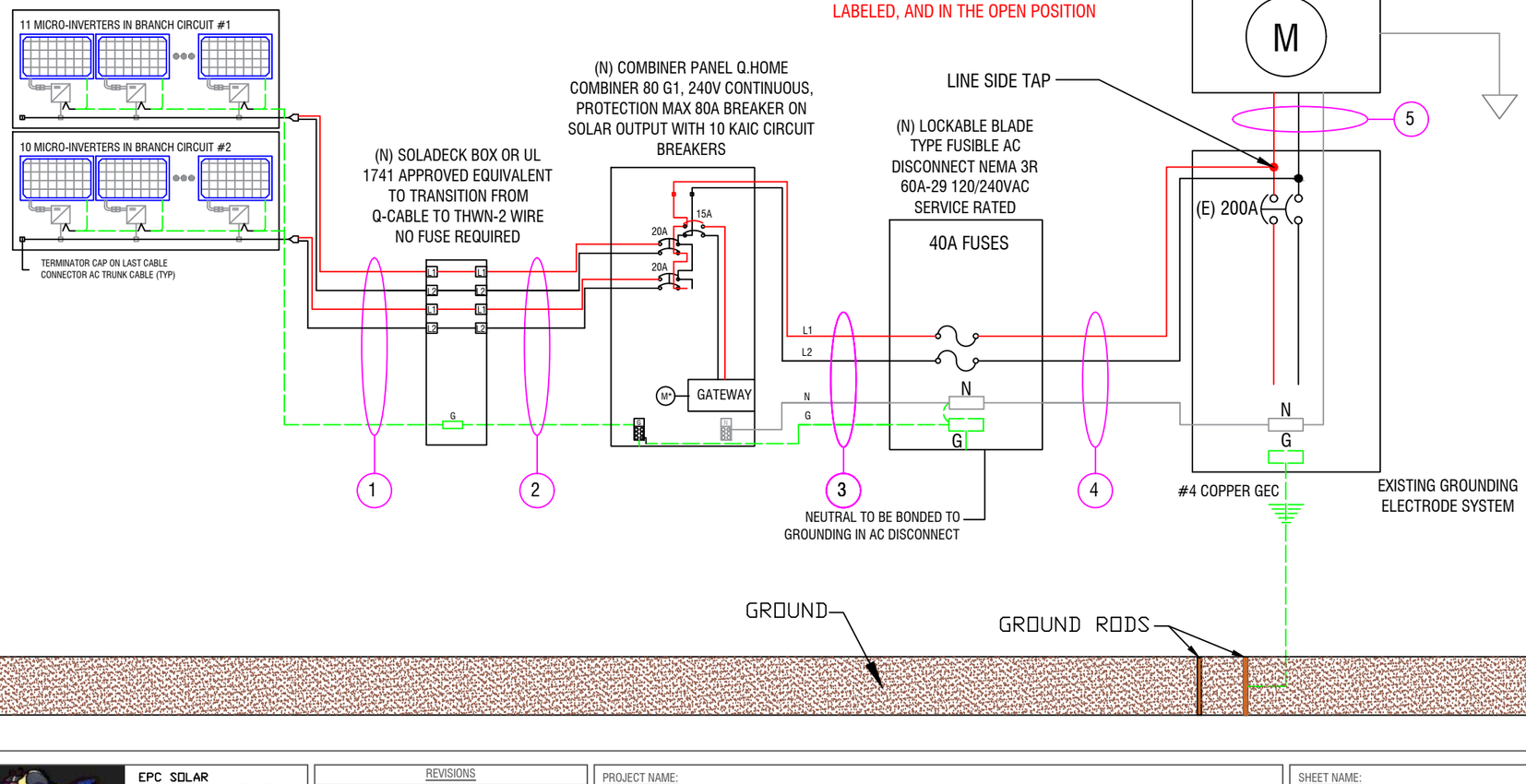
SYSTEM DATA	
# STRINGS:	2
LARGEST STRING:	11
TOTAL MODULES:	21
TOTAL INVERTERS:	21
SYSTEM RATINGS:	9,030W DC STC
	7,329W AC STC
TOTAL AC OUPUT:	30.45A

MICROINVERTER CALCULATIONS	INVERTER QTY		NOC		NECS		STRING AMPS	OCP	WIRE GAUGE
MAXIMUM STRING OUTPUT	11	x	1.45A	x	1.25	=	19.94A	20A	#10
TOTAL OUTPUT	21	x	1.45A	x	1.25	=	38.06A	40A	#8

AC CABLE TO BE ATTACHED TO RAIL
MIN. 3-1/2" ABOVE ROOF SURFACE

GROUNDING CONDUCTOR TO BE PROTECTED #8 AWG OR TO BE UNPROTECTED #6 AWG 250.64(B) 250.66 & 250.120(C)

(21) - QCELL Q.TRON BLK M-G2+/AC 430 PV MODULES
(21) QCELLS Q.MI.349B-G1 INTEGRATED MICROINVERTERS
240VAC, 1.45A MAX
CEC WEIGHTED EFFICIENCY 97.0%
NEMA 4R, UL LISTED, INTERNAL GFDI



EPC SOLAR
379 DOUGLAS RD E
OLDSMAR, FL 34677
PHONE: 727-267-4033

REVISIONS		
DESCRIPTION	DATE	REV

PROJECT NAME: SAMANTHA CHILDERS

PROJECT ADDRESS: 639 RIVERWIND DR, SPRING LAKE, NC 28390

SHEET NAME: 3-LINE DIAGRAM

SHEET NUMBER: E-01

SHEET SIZE: ANSI B 11"x17"

NORTH CAROLINA PROFESSIONAL SEAL 051426 ENGINEER RAFAEL A. GONZALEZ SOTO

Digitally signed by Rafael A Gonzalez Soto
Date: 2025.07.24 09:57:21 -03'00'

ELECTRICAL NOTES:

1. ALL EQUIPMENT TO BE LISTED BY UL OR OTHER NRTL, AND LABELED FOR ITS APPLICATION.
2. ALL CONDUCTORS SHALL BE COPPER, RATED FOR 600 V AND 90 DEGREE C WET ENVIRONMENT.
3. WIRING, CONDUIT, AND RACEWAYS MOUNTED ON ROOFTOPS SHALL BE ROUTED DIRECTLY TO, AND LOCATED AS CLOSE AS POSSIBLE TO THE NEARES 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 ILSCO GBL-4DBT LAY-IN LUG.
10. UTILITY HAS 24-HR UNRESTRICTED ACCESS TO ALL PHOTOVOLTAIC SYSTEM COMPONENTS LOCATED AT THE SERVICE ENTRANCE.
11. WORKING CLEARANCES AROUND THE EXISTING AND NEW ELECTRICAL EQUIPMENT WILL BE MAINTAINED IN ACCORDANCE WITH NEC ARTICLE 110.26.
12. ALL EQUIPMENT INSTALLED SHALL BE LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL) PER NEC ARTICLE 110.3.
13. RACKING CONFORMS TO AND IS LISTED UNDER UL 2703.
14. ALL LABELS OR MARKINGS SHALL BE VISIBLE AFTER INSTALLATION. THE LABELS SHALL BE REFLECTIVE, AND ALL LETTERS SHALL BE CAPITALIZED AND SHALL BE A MINIMUM HEIGHT OF 9.5 MM (3/8 IN) IN WHITE ON A RED BACKGROUND.
15. CONDUCTORS EXPOSED TO SUNLIGHT SHALL BE LISTED AS SUNLIGHT RESISTANT PER NEC ARTICLE 310.10.
16. CONDUCTORS EXPOSED TO WET LOCATIONS SHALL BE SUITABLE FOR USE I WET LOCATIONS PER NEC ARTICLE 310.10.
17. ALL EXTERIOR EQUIPMENT IS A MINIMUM OF NEMA-R3 RATED.
18. ALL ELECTRICAL EQUIPMENT WILL BE LOCATED AT OR ABOVE BFE+1' OR 8.00' NAVD.
19. SMOKE ALARMS PER F.S. 553.883.
20. GROUNDING WILL BE IN COMPLIANCE WITH NEC 2020.
21. SYSTEM MEETS THE GROUNDING REQUIREMENTS OF NEC 2020
22. GROUND RODS WILL BE AT LEAST 8' LONG AND 5/18" IN DIAMETER (NEC 250.52(A)(5).
23. SYSTEM MEETS THE REQUIREMENTS OF NEC 2020.
24. SUPPLEMENTAL ELECTRODES WILL BE ADDED IF REQUIRED.

SYSTEM NOTES:

1. QCELL MICROINVERTERS DO NOT REQUIRE GROUNDING ELECTRODE CONDUCTORS OR EQUIPMENT GROUNDING CONDUCTORS. THE MICROINVERTERS ITSELF HAS CLASS II DOUBLE-INSULATED RATING, WHICH INCLUDES GROUND FAULT PROTECTION.
2. AC CABLE HAS NO NEUTRAL WIRE - (2 WIRE DOUBLE INSULATED CABLING)
3. MODULES ARE BONDED TO RAIL USING INTEGRATED GROUNDING.
4. RAILS ARE BONDED WITH UL 2703 RATED LAY-IN LUGS
5. SYSTEM IS UNGROUNDED
6. BARE COPPER IS TRANSITIONED TO THHN/THWN-2 VIA IRREVERSIBLE CRIMP; GEC TO BE CONTINUOUS PER CEC 250.64(C)
7. SUB-BRANCHES ARE CENTER-FED AT JBOX TO MAKE ONE TOTAL BRANCH CIRCUIT.
8. QCELL GATEWAY INSIDE COMBINER REQUIRES A NEUTRAL TO BE LANDED AT THE NEUTRAL BUS AT MAIN PANEL PER QCELL INSTALLATION INSTRUCTIONS.
9. QCELL MICROINVERTERS ARE ALL RAPID SHUTDOWN READY PER NEC 690.12

INVERTER OUTPUT CIRCUIT		
TO OVERCURRENT PROTECTION DEVICE		
DESIGN TEMPERATURE (°F)	94	
MAXIMUM AMBIENT TEMPERATURE RANGE (°F)	87-95	310.15(B)
TEMPERATURE RATING OF CONDUCTOR	75°C	
# OF CARRYING CONDUCTORS	<4	310.15(C)(1)
AC MAX OUTPUT CURRENT	30.45A	690.8(A)(3)
AC MAX OUTPUT CURRENT * 1.25%	38.06A	690.8(B)
OVERCURRENT PROTECTION (A)	40A	
AMBIENT TEMPERATURE CORRECTION FACTOR	0.94	310.15(B)
CONDUCTOR ADJUSTMENT FACTOR	100%	310.15(B)
CONDUCTOR GAUGE (AWG)	8	310.16
CONDUCTOR ALLOWABLE AMPACITY (AMPS)	50	
CONDUCTOR ADJUSTED AMPACITY (AMPS)	47	50*.94*1=47

INVERTER SPECIFICATIONS	
MANUFACTURER	QCELLS Q.MI.349B-G1 INTEGRATED
MAX DC VOLT RATING	60 VOLTS
MAX CONT POWER	349 WATTS
NOMINAL AC VOLTAGE	240 VOLTS
MAX AC CURRENT	1.45 AMPS
MAX OCPD RATING	20 AMPS
MAX PANELS/CIRCUIT	11
SHORT CIRCUIT CURRENT	15 AMPS

PHOTOVOLTAIC OUTPUT	
AC OUTPUT CURRENT	30.45 A
NOMINAL AC VOLTAGE	240V

EPC SOLAR
379 DOUGLAS RD E
OLDSMAR, FL 34677
PHONE: 727-267-4033

REVISIONS

DESCRIPTION	DATE	REV

PROJECT NAME: SAMANTHA CHILDERS

PROJECT ADDRESS: 639 RIVERWIND DR, SPRING LAKE, NC 28390

SHEET NAME: ELECTRICAL NOTES

SHEET NUMBER: E-02

SHEET SIZE: ANSI B 11"x17"

NORTH CAROLINA PROFESSIONAL SEAL 051426 ENGINEER RAFAEL A. GONZALEZ SOTO

Digitally signed by Rafael A Gonzalez Soto
Date: 2025.07.24 09:57:57 -03'00'

⚠ WARNING

ELECTRICAL SHOCK HAZARD

DO NOT TOUCH TERMINALS. TERMINALS ON LINE AND LOAD MAY BE ENERGIZED IN THE OPEN POSITION

LABEL LOCATION:
INVERTER(S), AC DISCONNECT(S), AC COMBINER PANEL (IF APPLICABLE).

⚠ WARNING

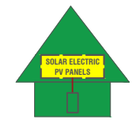
PHOTOVOLTAIC SYSTEM COMBINER PANEL

DO NOT ADD LOADS

LABEL LOCATION:
PHOTOVOLTAIC AC COMBINER (IF APPLICABLE).

EMERGENCY RESPONDER
THIS SOLAR PV SYSTEM IS EQUIPPED WITH RAPID SHUTDOWN

TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUTDOWN ENTIRE PV SYSTEM



NOTES AND SPECIFICATIONS:

- SIGNS AND LABELS SHALL MEET THE REQUIREMENTS OF THE NEC 2020, UNLESS SPECIFIC INSTRUCTIONS ARE REQUIRED, OR IF REQUESTED BY THE LOCAL AHJ.
- SIGNS AND LABELS SHALL ADEQUATELY WARN OF HAZARDS USING EFFECTIVE WORDS, COLORS AND SYMBOLS.
- LABELS SHALL BE PERMANENTLY AFFIXED TO THE EQUIPMENT OR WIRING METHOD AND SHALL NOT BE HAND WRITTEN.
- LABEL SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.
- SIGNS AND LABELS SHALL COMPLY WITH ANSI Z535.4-2011, PRODUCT SAFETY SIGNS AND LABELS, UNLESS OTHERWISE SPECIFIED.
- DO NOT COVER EXISTING MANUFACTURER LABELS.

⚠ WARNING

DUAL POWER SUPPLY

SOURCES: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM

LABEL LOCATION:
UTILITY SERVICE METER AND MAIN SERVICE PANEL.

⚠ WARNING

INVERTER OUTPUT CONNECTION

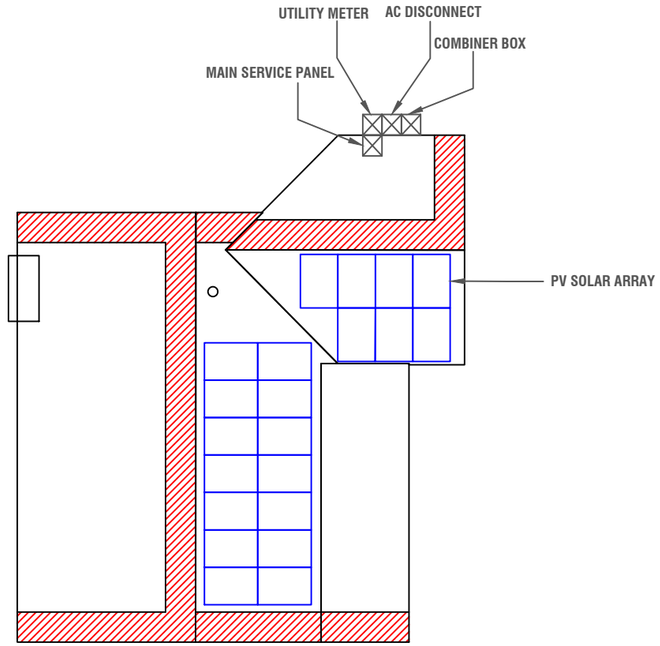
DO NOT RELOCATE THIS OVERCURRENT DEVICE

LABEL LOCATION:
ADJACENT TO PV BREAKER (IF APPLICABLE).

CAUTION

MULTIPLE SOURCES OF POWER

POWER TO THIS BUILDING IS ALSO SUPPLIED FROM THE FOLLOWING SOURCES WITH DISCONNECT LOCATED AS SHOWN



WARNING: PHOTOVOLTAIC POWER SOURCE

LABEL LOCATION:
INTERIOR AND EXTERIOR DC CONDUIT EVERY 10 FT, AT EACH TURN, ABOVE AND BELOW PENETRATIONS, ON EVERY JB/PULL BOX CONTAINING DC CIRCUITS.

ON-SITE GENERATION UTILITY DISCONNECT SWITCH

LABEL LOCATION:
AC DISCONNECT

WARNING
IN CASE OF EMERGENCY, CONTACT:
EPC SOLAR
PH. NO. 727-267-4033

LABEL LOCATION:
MAIN DISCONNECT

PHOTOVOLTAIC AC DISCONNECT
MAXIMUM AC OPERATING CURRENT: 30.45 AMPS
NOMINAL OPERATING AC VOLTAGE: 240 VAC

LABEL LOCATION:
AC DISCONNECT(S), PHOTOVOLTAIC SYSTEM POINT OF INTERCONNECTION.

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

LABEL LOCATION:
RSD SWITCH

EPC SOLAR
379 DOUGLAS RD E
OLDSMAR, FL 34677
PHONE: 727-267-4033

REVISIONS

DESCRIPTION	DATE	REV

PROJECT NAME: SAMANTHA CHILDERS

PROJECT ADDRESS: 639 RIVERWIND DR, SPRING LAKE, NC 28390

SHEET NAME: WARNING LABELS

SHEET NUMBER: E-03

SHEET SIZE: ANSI B 11"x17"

NORTH CAROLINA PROFESSIONAL SEAL 051426 ENGINEER RAFAEL A. GONZALEZ SOTO

Digitally signed by Rafael A Gonzalez Soto
Date: 2025.07.24 09:58:17 -03'00'

July 23, 2025

Harnett County Central Permit

420 McKinney Pkwy

Lillington, NC 27546

RE: Solar PV System

Samantha Childers

639 Riverwind Dr

Spring Lake, NC 28390

Dear Plans Reviewer,

Consider this as a statement by Rafael Gonzalez Soto, P.E, regarding the project referenced above.

The proposed solar installation for this project will add approximately 3 PSF of additional deadload. This includes the solar modules & microinverters, racking, and all other accessories. Based on my evaluation of the building, the existing roof structure can support the additional load of the proposed PV system. The proposed solar system is designed and complies with the 2018 North Carolina Building Code structural requirements. The contractor is responsible for installing the solar system according to the manufacturer's recommendations and instructions.

Please feel free to contact me at 786-393-4740 if you have any questions or require any further information.

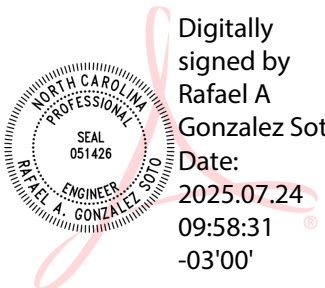
Regards,

Rafael Gonzalez Soto, P.E

237 S Dixie Hwy, 4th Floor, Suite 13,

Coral Gables, FL 33133

786-393-4740



Digitally signed by Rafael A Gonzalez Soto
Date: 2025.07.24 09:58:31 -03'00'

Solar Simplified.

Domestic Content Option Available

qcells

Q.TRON AC

Q.TRON BLK M-G2+/AC
Q.TRON BLK M-G2.H1+/AC

Q.TRON AC

AC module powered by
Q.ANTUM NEO Technology

Module-Level Monitoring & Control

- Easily and intelligently monitor system performance at the module level using the Q.OMMAND PRO App for installers
- Homeowners have PV production visibility at their fingertips with the user friendly Q.OMMAND HOME App
- Enhanced communications performance, thanks to high-bandwidth PLC communication technology

Streamlined Installation & Product Management

- Fast installation enabled by integrated Qcells microinverter
- QR codes on both module and embedded microinverter allow installer to map out arrays in the Q.OMMAND Pro app pre- or post-installation
- Improved inventory management enabled by reduced SKU counts and one complete module and MLPE solution by the same brand
- Seamlessly couples with Qcells' residential energy storage system to form one complete Q.HOME SMART system

Superior Module Performance

- Q.TRON AC is powered by Q.ANTUM NEO Technology, delivering up to 22.0% efficiency
- Lowest module degradation rate compared with Tier 1 TOPCon competitors, translating to more power production over time (90%+ nominal power guaranteed after 25 years)

Top Quality Customer Support & Post-Sales Servicing

- Top tier, responsive customer support offered by Qcells for rapid system troubleshooting
- Detachable microinverter simplifies onsite maintenance when required
- Inbound module and microinverter related inquiries all supported by one brand

Dependably Backed by One Warrantor

- Inclusive 25-year product warranty and 25-year linear performance warranty
- Integrated module & microinverter solution backed by one bankable, leading complete solutions provider

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]
- Module and microinverter both assembled in the USA by America's No.1 residential module manufacturer

[1] This 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.

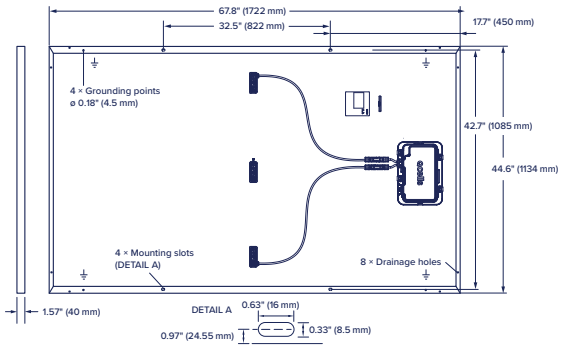
qcells

Description

The Q.TRON AC SERIES is a N-Type TOPCon PV module with an integrated microinverter. The module, with its embedded microinverter, provides optimized power output while also acting as a rapid shutdown compliant solution for optimal system safety. The solution includes a microinverter, DC cables and a junction box, enabling a streamlined installation experience.

Mechanical Specification

Format	67.8 in × 44.6 in × 1.57 in (including frame) (1722 mm × 1134 mm × 40 mm)
Weight	50.59 lbs (22.95 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed ARC solar glass
Back Cover	Composite film
Frame	Black anodized aluminum
Cell	6 × 18 monocrystalline Q.ANTUM NEO 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), Protection class IP67, with bypass diodes
Cable	4 mm² Solar cable; (+) ≥ 25.8 in (655 mm), (−) ≥ 25.2 in (640 mm)
Connector	Stäubli MC4; IP68



AC Output Electrical Characteristics

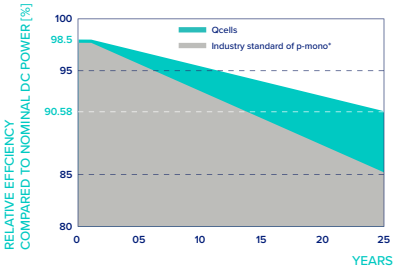
Q.MI.349B-G1 (Model Name)					
Peak Output Power	[VA]	366	**Power Factor (adjustable)**		0.85 leading...0.85 lagging
Max Continuous Output Power	[VA]	349	**Max. number of AC Modules per Q.HOME COMBINER 80 G1**	[ea]	44 (Q.HOME COMBINER CB : Max 4)
Nominal (L-L) Voltage / Range	[V]	240 / 211 to 264	**Max Units per 20 A (L-L) Branch Circuit**	[ea]	11
Nominal Rated Output Current	[A]	1.45	**Total Harmonic Distortion**	[%]	<5
Nominal Frequency / Range	[Hz]	60 / 59.3 to 60.5	**Overvoltage Class AC Port**		III
Extended Frequency Range	[Hz]	50 to 66	**Night-Time Power Consumption**	[mW]	60
Power Factor at Rated Power		1.0	**CEC Efficiency**	[%]	97

DC Power Electrical Characteristics

POWER CLASS				415	420	425	430	435	440
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC[1] (POWER TOLERANCE +5 W / −0 W)									
Minimum	**Power at MPP[1]**	P_{MPP}	[W]	415	420	425	430	435	440
	Short Circuit Current[1]	I_{SC}	[A]	13.49	13.58	13.66	13.74	13.82	13.90
	Open Circuit Voltage[1]	V_{OC}	[V]	38.47	38.75	39.03	39.32	39.60	39.88
	Current at MPP	I_{MPP}	[A]	12.83	12.91	12.98	13.05	13.13	13.20
	Voltage at MPP	V_{MPP}	[V]	32.34	32.54	32.74	32.94	33.14	33.33
	Efficiency[1]	η	[%]	≥21.3	≥21.5	≥21.8	≥22.0	≥22.3	≥22.5
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT[2]									
Minimum	**Power at MPP**	P_{MPP}	[W]	313.7	317.5	321.2	325.0	328.8	332.6
	Short Circuit Current	I_{SC}	[A]	10.87	10.94	11.00	11.07	11.14	11.20
	Open Circuit Voltage	V_{OC}	[V]	36.50	36.77	37.04	37.31	37.58	37.84
	Current at MPP	I_{MPP}	[A]	10.10	10.15	10.21	10.27	10.33	10.38
	Voltage at MPP	V_{MPP}	[V]	31.07	31.26	31.46	31.65	31.84	32.03

[1]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 • [2]800 W/m², NMOT, spectrum AM 1.5

Qcells PERFORMANCE WARRANTY

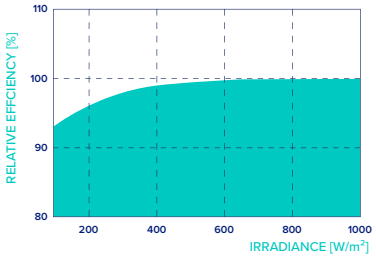


At least 98.5 % of nominal DC power during first year. Thereafter max. 0.33 % degradation per year. At least 95.53 % of nominal DC power up to 10 years. At least 90.58 % of nominal DC power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Qcells sales organization of your respective country.

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

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]	−0.24
Temperature Coefficient of P_{MPP}	γ	[%/K]	−0.30	**Nominal Module Operating Temperature**	NMOT	[°F]	109±5.4 (43±3°C)

Properties for System Design

Maximum System Voltage	V_{SYS}	[V]	1000 (UL)	**PV Module Classification**	**Class II**
Maximum Series Fuse Rating		[A DC]	25	**Fire Rating Based on ANSI / UL 61730**	C / TYPE 2
Max. Design Load, Push / Pull[3]		[lbs / ft²]	113 (5400 Pa) / 75 (3600 Pa)	**Permitted Module Temperature on Continuous Duty[2]**	−40 °F up to +140 °F (−40 °C up to +60 °C)
Max. Test Load, Push / Pull[3]		[lbs / ft²]	169 (8100 Pa) / 113 (5400 Pa)	**Storage Temperature Range[2]**	−4 °F up to +113 °F (−20 °C up to +6450 °C)

[2] According to the Q.MI.349B-G1, the maximum temperature is stated as "60 °C (+140 °F)", but the maximum temperature of the connected DC module is up to "+85 °C (+185 °F)".

[3] See Installation Manual

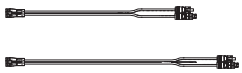
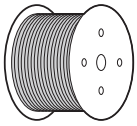
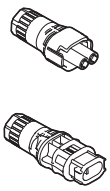
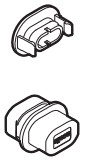
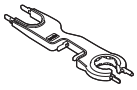
Qualifications and Certificates

Base DC module (Q.TRON BLK M-G2(.XY)+/AC solar module series, where "X" can be any letter between A to W and "Y" can be any number between 1 to 9.)
UL 61730-1 & UL 61730-2, CE-compliant;
IEC 61215:2016;
IEC 61730:2016.
This data sheet complies
with DIN EN 50380.

Qcells Microinverter (Q.MI.349B-G1 (Model Name))
This product is UL listed as PV Rapid Shut Down Equipment
UL1741, UL 1741SA, UL 1741SB, CSA C22.2 No 107

AC Module (Q.TRON BLK M-G2(.XY)+/AC solar module series, where "X" can be any letter between A to W and "Y" can be any number between 1 to 9.)
UL 1741, CSA C22.2 No. 107

Accessories (Additional parts, not included in AC module package)

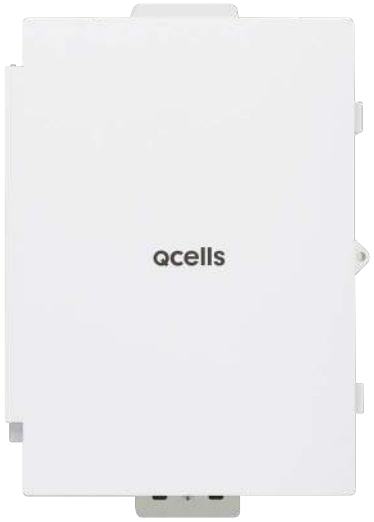
Model		Category
 UL9703 E493181	CAS-HQ-LO-1000 CAS-HQ-SH-650	AC Cable Long (1000 mm) AC Cable Short (650 mm)
 UL3003 E533140	CAB-HQ-KIT-200	AC Cable (Raw) : 200 m cable without AC connector for the free design of AC PV installation. - Detail components : 200 meter (656 ft)
 UL6703 E479328	CON-HQ-KIT-20	AC Connector : To assemble the AC cable (CAB-HQ-KIT-200) by installer themselves. - Detail components : 20pcs Female + 20pcs Male
 UL9703 E493181	ECAP-HQ-KIT-20	End Cap : To close the end of AC cable. - Detail components : 20pcs Female + 20pcs Male
 UL9703 E493181	UNT-HQ-TOOL-G1	AC cable and DC cable Unlocking Tool

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 | TEL 1-(888) 249-7750 | EMAIL na.support@qcells.com | WEB www.qcells.com/us

Solar Simplified.

qcells



Q.HOME COMBINER

Q.HOME COMBINER 80 G1

Q.HOME COMBINER

The Q.HOME SMART Residential Energy Solution Combiner Box

Flexible

- Network connectivity with Wi-Fi, Ethernet or Cellular

Consolidated

- Supports 64A input of Solar or Solar + Storage
- Supports up to 144 AC Modules (using external subpanel)

Robust

- NRTL-certified NEMA type 3R enclosure rated for outdoor installation

Streamlined

- Pre-installed revenue grade production meter
- 2 slim clamp CTs provided for consumption metering

Reliable

- 5-year warranty
- Automatic firmware updates

Complete

- Part of Qcells' complete Q.HOME SMART solution offering
- One brand. One warrantor.

Description

Q.HOME COMBINER 80 G1 consolidates up to 4 PV strings with a maximum of 44 AC Modules connected into a single enclosure. This enables a smooth interconnection across Q.HOME SMART products while ensuring easy and fast installations. Save time and costs by incorporating this user-friendly combiner box, optimally designed for residential applications.

Technical Specification

GENERAL PRODUCT INFORMATION	Q.HOME COMBINER 80 G1
Manufacturer	Hanwha Solutions Corporation
Product Warranty	5 years
Country of Manufacture	Vietnam

ACCESSORIES AND REPLACEMENT PARTS	
Supported AC Modules (Microinverter included)	Q.TRON BLK M-G2+/AC
Cellular Modem (LTE-MT-MODEM-CAT4-TN5)	4G based LTE-CAT4 (+5year data plan included)
Wi-Fi Dongle (WIFI-HQ-DG-USB)	FCC Part 15 Subpart C/2412.0 to 2462.0 MHz **
Circuit Breakers	Supports Eaton BR210, BR215*, BR220, BR230, BR240, BR250, and BR260 circuit breakers
Consumption Monitoring CT (CT-JS-CLAMP-200A-5.2m)	A pair of 200 A clamp type current transformers (accuracy ±0.5 %) **

* pre-assembled / ** included in the package
(Others are not included, need to be ordered separately)

ELECTRICAL SPECIFICATIONS		
System Voltage	[V]	120/240 VAC, 60 Hz
Eaton BR Series Busbar Rating	[A]	125
Max. Continuous Current Rating (input from PV/storage)	[A]	64
Branch Circuits (Solar or Solar + Storage)	[pcs]	Up to four 2-pole Eaton BR series Distributed Generation (DG) breakers only (not included)
Max. Total Branch Circuit Breaker Rating (input)	[A]	80 A of distributed generation/95 A with Gateway breaker included
Gateway Circuit Breaker	[A]	15 A rating Eaton BR215 included
Consumption Monitoring	[A]	Metering with a pair of 200 A slim clamp current transformers (accuracy ±2.0 %)
Production Metering	[A]	Metering with 200 A solid core current transformer, pre-wired to Gateway (accuracy ±0.5 %)

MECHANICAL DATA		
Max. AC Module Connection Q'ty	[pcs]	▪ Up to 44 AC Modules in 1 combiner (11 in series × 4 strings) ▪ Up to 144 AC Modules using 1 combiner with external subpanel
Dimensions (W × H × D)	[inch]	14.6 × 19.3 × 6.3/height is 21.7 with mounting brackets (37.0 × 49.0 × 16.0 cm/height is 55.1 cm with mounting brackets)
Weights (without connection cables)	[lb]	11.5 (5.2 kg)
Operating Temperature Range	[°F]	−40 to 140 (−40 to 60 °C)
Storage Temperature Range	[°F]	−40 to 140 (−40 to 60 °C)
Enclosure Environmental Rating		Outdoor, NRTL-certified, NEMA type 3R
Wire Sizes		▪ 20 A breaker inputs: 12 to 8 AWG copper conductors ▪ Main lug combined output: 10 to 2/0 AWG copper conductors ▪ Neutral and ground: 8 to 6 copper conductors ▪ Always follow local code requirements for conductor sizing
Cooling		Natural convection
Altitude	[ft]	Up to 6,561 (2,000 m)

INTERNET CONNECTION OPTIONS	
Wi-Fi	IEEE 802.11b/g/n
Cellular	CELLMODEM-CAT4 (4G based LTE-CAT4)
Ethernet	Optional, IEEE 802.3, CAT5E (or CAT6) STP Ethernet cable

COMPLIANCE	
AC Combiner	▪ UL 1741, CSA C22.2 No.107 ▪ FCC Part 15.B ▪ ANSI C 12.20 accuracy class 0.5 (production meter) ▪ NEMA type 3R ▪ IEEE 2030.5 / CSIP Compliant
Monitoring Board	UL 61010-1 / UL 61010-2-030 CSA 22.2 No. 61010-1-12 / CSA 22.2 No. 61010-2-030
CT Sensor	UL 2808 (XOBA)

Qualifications and Certificates

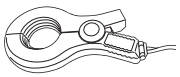
Accessories

Parts Included in the Package

WIFI-HQ-DG-USB

Wi-Fi dongle with 2.4 GHz bandwidth

FCC ID: OZ5C307-HW-WF



CT-JS-CLAMP-200A-5.2 m

A slim clamp type consumption CT with ±0.5 % accuracy (5.2 m, 20 AWG)

UL 2808(XOBA) E498920

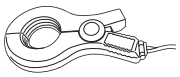
Additional Parts (Not Included in the Package)

CT-HQ-SOLID-200A-2 m

A solid core production CT with ±0.1% accuracy (2 m, 18 AWG)

- Required for >44 AC Module solution

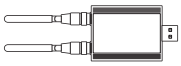
UL 2808(XOBA) E535456



CT-JS-CLAMP-200A-25 m

A slim clamp type consumption CT with ±0.5 % accuracy (25 m, 20 AWG)

UL 2808(XOBA) E498920



LTE-MT-MODEM-CAT4-TN5

Cellular modem with 5 year data plan included

UL 62368-1 E150299

LTE-TN-DP-5Y

5 year data plan extension

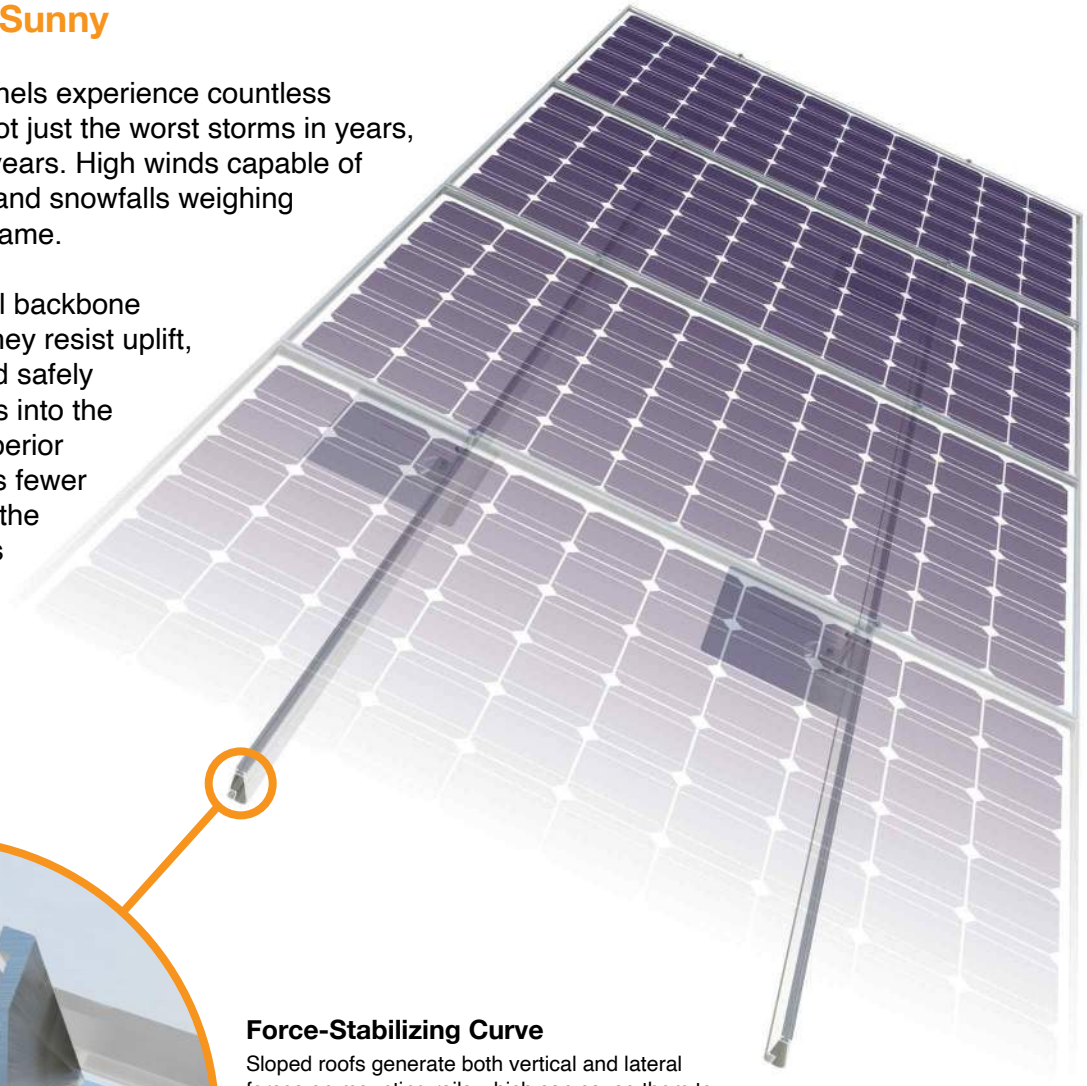
IRONRIDGE

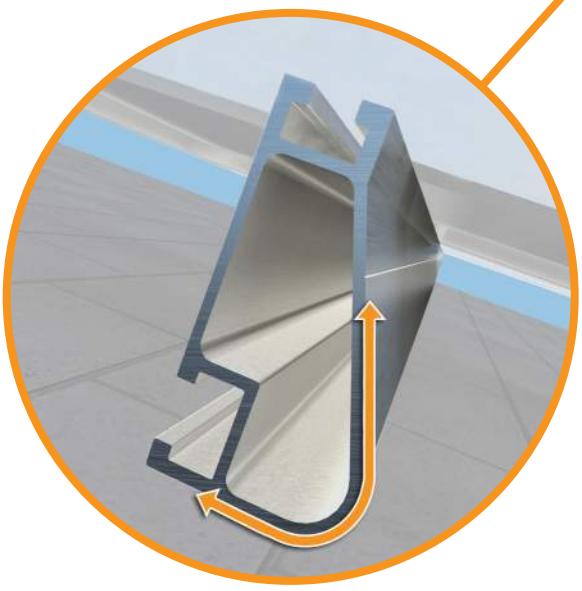
XR Rail® Family

Solar Is Not Always Sunny

Over their lifetime, solar panels experience countless extreme weather events. Not just the worst storms in years, but the worst storms in 40 years. High winds capable of ripping panels from a roof, and snowfalls weighing enough to buckle a panel frame.

XR Rails® are the structural backbone preventing these results. They resist uplift, protect against buckling and safely and efficiently transfer loads into the building structure. Their superior spanning capability requires fewer roof attachments, reducing the number of roof penetrations and the amount of installation time.





Force-Stabilizing Curve

Sloped roofs generate both vertical and lateral forces on mounting rails which can cause them to bend and twist. The curved shape of XR Rails® is specially designed to increase strength in both directions while resisting the twisting. This unique feature ensures greater security during extreme weather and a longer system lifetime.

Compatible with Flat & Pitched Roofs

XR Rails® are compatible with FlashFoot® and other pitched roof attachments.

IronRidge® offers a range of tilt leg options for flat roof mounting applications.

Corrosion-Resistant Materials

All XR Rails® are made of 6000-series aluminum alloy, then protected with an anodized finish. Anodizing prevents surface and structural corrosion, while also providing a more attractive appearance.

XR Rail® Family

The XR Rail® Family offers the strength of a curved rail in three targeted sizes. Each size supports specific design loads, while minimizing material costs. Depending on your location, there is an XR Rail® to match.

XR10

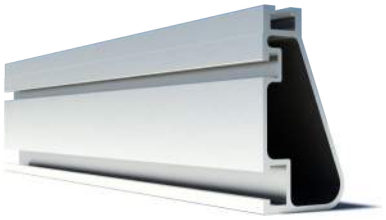
XR10 is a sleek, low-profile mounting rail, designed for regions with light or no snow. It achieves spans up to 6 feet, while remaining light and economical.

- 6' spanning capability
- Moderate load capability
- Clear & black anodized finish
- Internal splices available

XR100

XR100 is a residential and commercial mounting rail. It supports a range of wind and snow conditions, while also maximizing spans up to 10 feet.

- 10' spanning capability
- Heavy load capability
- Clear & black anodized finish
- Internal splices available



XR1000

XR1000 is a heavyweight among solar mounting rails. It's built to handle extreme climates and spans up to 12 feet for commercial applications.

- 12' spanning capability
- Extreme load capability
- Clear anodized finish
- Internal splices available

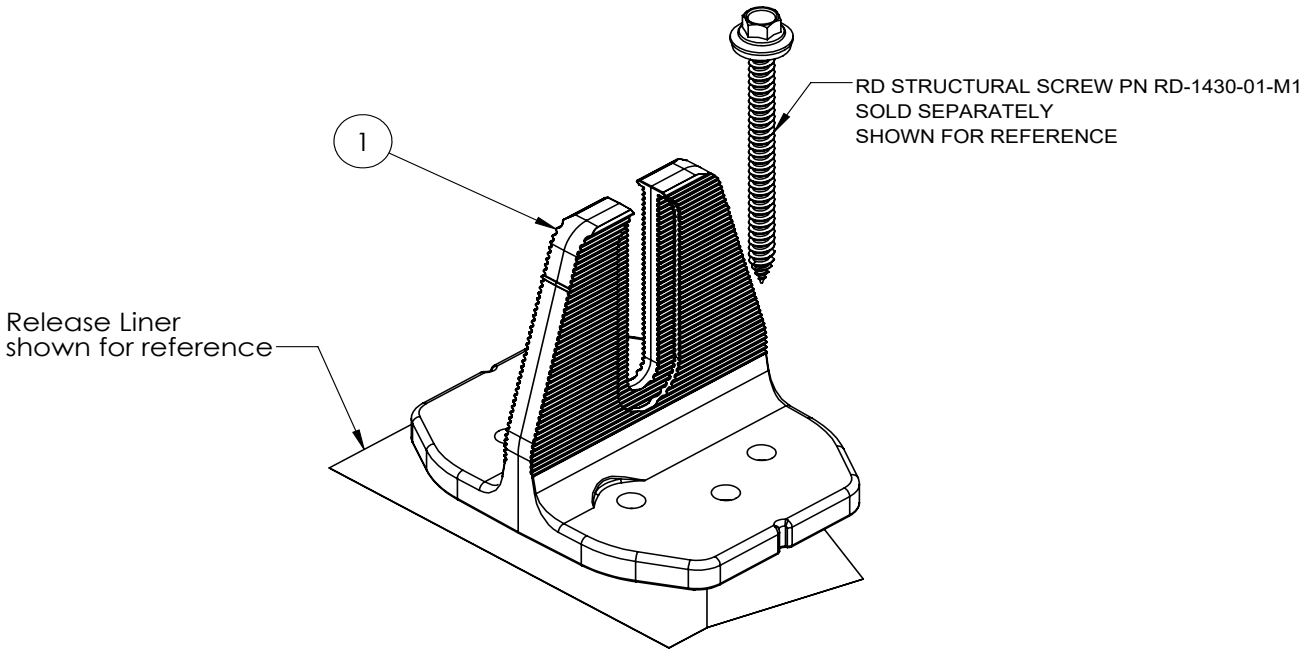
Rail Selection

The table below was prepared in compliance with applicable engineering codes and standards.* Values are based on the following criteria: ASCE 7-16, Gable Roof Flush Mount, Roof Zones 1 & 2e, Exposure B, Roof Slope of 8 to 20 degrees and Mean Building Height of 30 ft. Visit IronRidge.com for detailed certification letters.

Load		Rail Span					
Snow (PSF)	Wind (MPH)	4'	5' 4"	6'	8'	10'	12'
None	90	XR10		XR100		XR1000	
	120						
	140						
	160						
20	90						
	120						
	140						
	160						
30	90						
	160						
40	90						
	160						
80	160						
120	160						

*Table is meant to be a simplified span chart for conveying general rail capabilities. Use approved certification letters for actual design guidance.

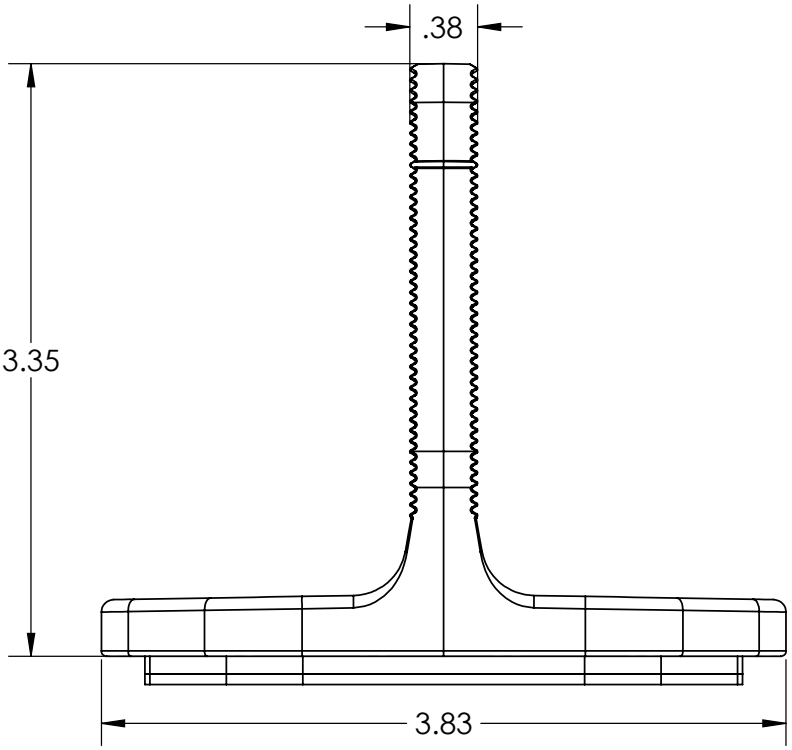
QuickMount® Halo UltraGrip®

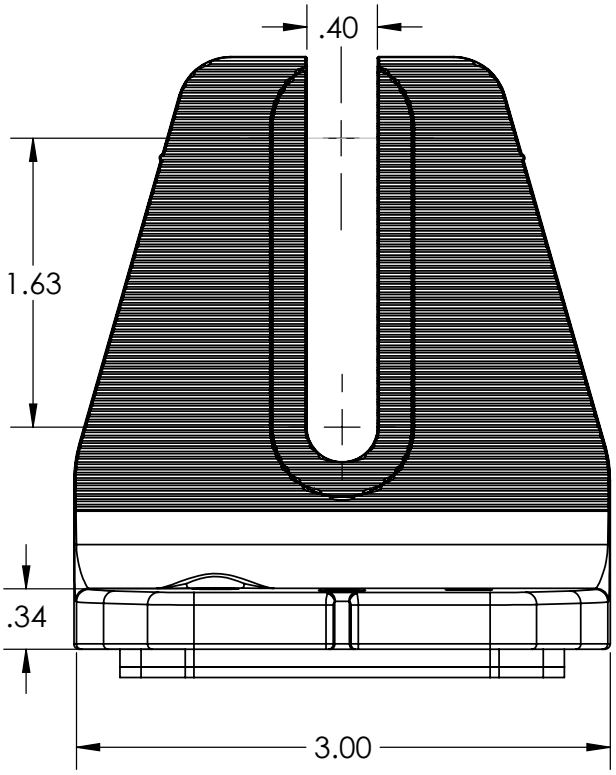


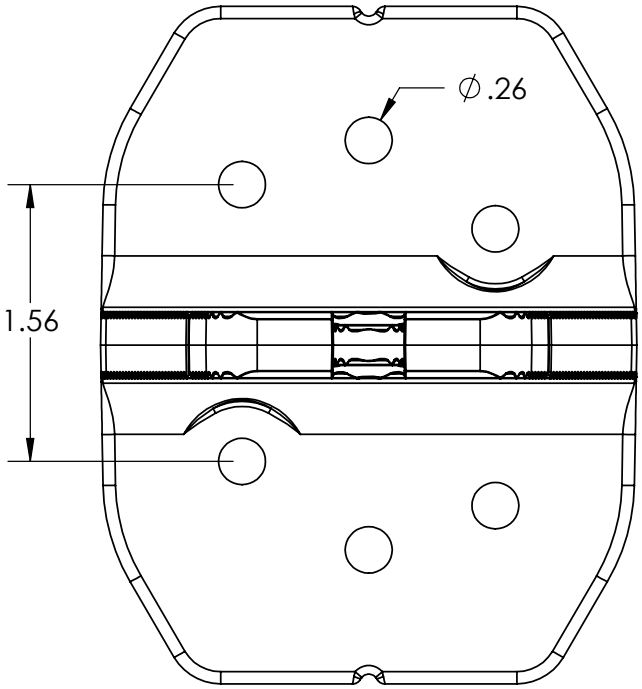
ITEM NO	DESCRIPTION	QTY IN KIT
1	QM Halo UltraGrip(Mill or Black)	1

PART NUMBER	DESCRIPTION
QM-HUG-01-M1	Halo UltraGrip - Mill
QM-HUG-01-B1	Halo UltraGrip - Black

1. Halo UltraGrip







Property	Value
Material	300 Series Aluminium
Finish	Mill or Black