



**RENEWABLE ENERGY  
PROJECT DOCUMENTS  
(2.88KW SOLAR SYSTEM)**

**38566 VISTA DEL BOSQUE  
MURRIETA, CA 92562**

**CINRAN ELECTRICAL SOLUTIONS INC**  
CA C-10 Lic# 1020538  
13600 Pawnee Rd. – Ste 4  
Apple Valley, CA 92308  
(760) 820-8853 | [www.cinran.com](http://www.cinran.com)



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## **PROJECT DOCUMENTS**

### **1 Renewable Energy Power & Energy Storage System**



## **SOLAR ENERGY SYSTEM DISCLOSURE DOCUMENT**

**This disclosure shall be printed on the front page or cover page of every solar energy contract for the installation of a solar energy system on a residential building.**

**The TOTAL COST for the solar energy system (including financing and energy / power cost if applicable) is: \$11,372.76.**

**To make a complaint against a contractor who installs this system and/or the home improvement salesperson who sold this system, contact the Contractors State License Board (CSLB) through their website at [www.cslb.ca.gov](http://www.cslb.ca.gov) (search: "complaint form"), by telephone at 800-321-CSLB (2752), or by writing to P.O. Box 26000, Sacramento, CA 95826.**

**If the attached contract was not negotiated at the contractor's place of business, you have a Three-Day Right to Cancel the contract, pursuant to Business and Professions Code (BPC) section 7159, as noted below. For further details on canceling the contract, see the Notice of Cancellation, which must be included in your contract.**

### **Three-Day Right to Cancel**

**You, the buyer, have the right to cancel this contract within three business days. You may cancel by e-mailing, mailing, faxing, or delivering a written notice to the contractor at the contractor's place of business by midnight of the third business day after you received a signed and dated copy of the contract that includes this notice. Include your name, your address, and the date you received the signed copy of the contract and this notice.**

*This document was developed through coordination of the California Contractors State License Board and the California Public Utilities Commission pursuant to Business and Professions Code section 7169.*



Cinran Electrical Solutions Inc  
13600 Pawnee Road- Suite #4  
Apple Valley, CA 92308  
(760) 820-8853 | [randall.cinran.com](http://randall.cinran.com)  
CA C-10 Lic #1020538

Project #: **23-010r**

**\*\* Note: According to California law, you are entitled to a completely filled in copy of this Contract, signed by both you and Contractor, before any work maybe started \*\***

## **RENEWABLE ENERGY POWER AND ENERGY STORAGE SYSTEM RESIDENTIAL BUILDING AGREEMENT**

**AGREEMENT** made as of the Twenty-Eighth day of August in the year Two Thousand Twenty-Three.

**BETWEEN** the Owner:

Justin and Briana Comereski  
38566 Via Del Bosque  
Murrieta, CA 92562  
(XXX) XXX-XXXX | [briana@murphyconstruction.net](mailto:briana@murphyconstruction.net)

and the Contractor

**Cinran Electrical Solutions Inc**  
**13600 Pawnee Road – Suite 4**  
**Apple Valley, CA 92308**  
**(760) 820-8853 | [randall@cinran.com](mailto:randall@cinran.com)**

occasionally referred to herein as "Party" or "Parties"

### **LIST OF DOCUMENTS INCORPORATED INTO THE CONTRACT**

- I. Scope of Work, Inclusions and Exclusions
- II. Contract Price and Payment Schedule
- III. Signatures
- IV. General Terms and Conditions
- V. Exhibits
  - Exhibit 1: Limited Warranty
  - Exhibit 2: Three Day Right to Cancel Notice
  - Exhibit 3: Notice of Cancellation
  - Exhibit 4: Property Conditions to be Repaired by Owner
  - Exhibit 5: Unrepaired Property Conditions
  - Exhibit 6: California Mechanics Lien Warning
  - Exhibit 7: Information About the Contractors State License Board



The work described in Section 1 below shall be performed in accordance with all plans, specifications and other contract documents for the project located at:

**COMERESKI RESIDENCE**  
**38566 VISTA DEL BOSQUE – MURRIETA, CA 92562**  
**APN# 929-060-021**

## **I. SCOPE OF WORK, INCLUSIONS AND EXCLUSIONS**

The Contractor agrees to provide all labor materials, equipment necessary to install in a good and workman like manner a 3.20kW roof mount solar system for the Comereski single family residence and further described below.

### ***Scope***

Install a Grid-Tie Solar Roof mount PV System above the living room(great room) per property owner's 08-27-2023 email

Install (8) 400-watt Q Cell Q.Peak Duo ML G10+ 385-405 PV modules or equal

Install (8) Enphase IQ8H-240-72-M-US micro inverter or equal

Install (1) Enphase Combiner Box

Interconnection process to begin after property owner establishes electrical service with local utility provider

### ***Inclusions***

1. Design, Engineering, Plans, Permit Fees and Inspections
2. PV Modules and Inverters
3. Electrical wiring, conduit
4. Racking, Rails
5. Commissioning and Start-Up
6. Monitoring
7. Owner Training
8. Clean-up of our work
9. 10-year Workmanship Warranty
10. PV Module Manufacturer's Warranty
11. Inverter Manufacturer's Warranty
12. Net Energy Metering (NEM) process with utility for Permission To Operate (PTO)
13. Solar Project Closeout Package

### ***Exclusions***

1. Electrical work outside of Scope
2. Any type of roof repairs or work
3. Tie-in of any work by other trades
4. Unexpected Hazardous Material Removal
5. Damages and Penalties for Delays
6. Unforeseen / Concealed Site Conditions
7. Costs & Working Arising from "Force Majeure"
8. Overtime / Off-Hours Work
9. Any and all work not indicated in contract/approved plans



**II. CONTRACT PRICE and PAYMENT SCHEDULE**

Owner shall pay to Contractor the fixed sum of **Eleven Thousand Three Hundred Seventy-Two and Seventy-Six ne Cents (\$11,372.76)** (the "Fixed Sum Contract Price") for the work to be performed under this Contract, subject to additions and deductions pursuant to change orders agreed upon in writing by the Parties.

Fixed Sum Contract Price.....\$11,372.76  
 Estimated 30% Federal Investment Tax Credit (ITC).....\$ 3,411.83

<i>Payment</i>	<i>Schedule of Progress Payment Description</i>	<i>Amount</i>
Deposit PP 01	Contract Execution, Preliminary Design and Equipment Layout ( <b>DOWN PAYMENT MAY NOT EXCEED 10% OF THE CONTRACT PRICE OR \$1,000, WHICHEVER IS LESS</b> )	\$1,000.00
PP 02	Pre-wire, Plan Design, Admin (AHJ, License, Interconnection), AHJ Submittal, Substantial Equipment Down Payment, Interconnection	\$2,593.19
PP 03	Installation Prep, Equipment/Material Delivery, Substantial Installation	\$4,149.10
PP 04	Substantial Completion, Start-Up, Commissioning and Owner Training	\$3,111.83
PP 05 Final Payment	Final Payment due upon Final Inspection by AHJ	\$ 518.64

Down payment is due at contract signing. Payment to contractor may be made by cash, check, wire transfer and Zelle

**DOWN PAYMENT MAY NOT EXCEED 10% OF THE CONTRACT PRICE OR \$1,000, WHICHEVER IS LESS**  
**“The schedule of progress payments must specifically describe each phase of work, including the type and amount of work or services scheduled to be supplied in each phase, along with the amount of each proposed progress payment. IT IS AGAINST THE LAW FOR A CONTRACTOR TO COLLECT PAYMENT FOR WORK NOT YET COMPLETED, OR FOR MATERIALS NOT YET DELIVERED. HOWEVER, A CONTRACTOR MAY REQUIRE A DOWN PAYMENT.**



**ENTIRE CONTRACT** This Contract sets forth the entire agreement between the Owner and Contractor and fully supersedes any and all prior agreements, understanding, written or oral, between the parties regarding the System. No other agreements either written or spoken exists between the parties. This Agreement may be amended or modified only in writing signed by both parties

**INTENDING TO BE LEGALLY BOUND**, the Parties are executing this Contract through their legally authorized representatives on the date below.

### III. SIGNATURES

*I have reviewed and fully understand the Term and Conditions set forth within this contract*

OWNER:  
Justin and Briana Comereski

Date: Aug 31, 2023

Signature: *Briana Comereski*

Printed Name: Briana Comereski

CONTRACTOR:  
CINRAN ELECTRICAL SOLUTIONS INC  
CA C-10 LIC#1020538

Date: Aug 31, 2023

Signature: *Randall Mulvey*

Printed Name: Randall Mulvey  
Contractor's Authorized Representative

Date: Aug 31, 2023

Signature: *Justin Comereski*  
Justin Comereski (Aug 31, 2023 07:47 PDT)

Printed Name: Justin Comereski



#### IV. GENERAL TERMS AND CONDITIONS

**1. LABOR AND MATERIAL** Contractor shall pay all valid charges for labor and material furnished by Contractor or its subcontractors and used in the construction of the project but is excused from this obligation to the extent that Owner has paid Contractor for such work or materials, and as a result, mechanics liens are recorded or threatened against the project. Owner may make such payments in good faith on Contractor's behalf, and Contractor shall demand reimburse Owner for the amount actually paid. If Owner settles or purchases such claims at discount, Contractor shall be entitled to the benefit of the discount.

#### 2. SCHEDULING

**2.1 APPROXIMATE START AND COMPLETION OF WORK** Contractor will commence substantial work on the project within six (6) months of execution of this agreement. Substantial work is defined as any work necessary to prepare for construction including but not limited to submitting any applicable documents to the utility or incentive/rebate authority, preparing documents necessary for a building permit, or ordering materials/equipment for the project. Contractor will diligently pursue all aspects of preparation and construction until the installation of the project is complete, a period of time that varies with the complexity, scope, and size of the project. Owner acknowledges that the commencement and completion date may be extended due to product availability, inclement weather or the current COVID-19 (coronavirus) Pandemic. The contractor will inform the homeowner as soon as possible if a delay of commencement or completion is expected.

**2.2 OWNER REQUESTED DELAYS** Should the homeowner want to delay the start of this project; Contractor must be notified with a minimum (7) day advance notice in writing or by email. Delays beyond thirty (30) days (i.e. to obtain financing, other construction projects, owner repairs), Contractor reserves the right to adjust the contract price to reflect actual costs of materials or equipment at the time of construction.

**2.3 COST OR DELAY DUE TO UNFORESEEN CONDITIONS** Contractor is not responsible for failures, delays or expenses due to unanticipated, unusual, unforeseen conditions at the Property arising out of latent physical conditions beyond the Contractor's reasonable control (all of which shall be considered "Force Majeure Events"). Performance times under this Contract will be considered extended for a period of time equivalent to the time lost due to such conditions. If the Contractor discovers unforeseeable conditions requiring additional cost, the Contractor shall then present such costs to Owner and require written approval before beginning or continuing performance. Failure to provide such approval may result in the Contractor exercising its rights pursuant to 10 of this Contract.

**2.4 PERMISSABLE DELAYS** Contractor shall be excused from any delay in the commencement and completion of the work performed under this contract due to

- Actions or omissions of Owner or Owner's agents, employees, or independent contractors
- Actions or omissions of any governmental agencies (including but not limited to denial or cancellation of any necessary license or permit for the project)
- Owner's delay or failure to make progress payments promptly
- Changes due to unanticipated occurrences, latent physical conditions at the property or Owner's requests
- All causes beyond Contractor's reasonable control including but not limited weather related delays, material/equipment shortages, labor disputes, embargoes, epidemics, pandemics like COVID-19, natural disasters, acts of God or acts of war



**3. ENGINEERING / PERMITS / INSPECTIONS** All plans, fees, permits and engineering are included unless otherwise noted. Contractor shall obtain all required applications, permits, licenses or other regulatory approvals for the completion of the project up to (\$1,000.00). Owner shall approve and execute a change order for any fees over \$1,000 in addition to the Contract Price for the required permitting process. Contractor shall not be responsible for delays in work due to the actions of Authorities Having Jurisdiction (AHJ), governmental and regulatory agencies or their employees. Contractor shall coordinate and attend local building department inspections as needed.

**4. COST CHANGES** Both parties will have the right to terminate this Contract, without penalty or fee, if the Contractor determines after the engineering site audit of your Home that it has misestimated by more than ten percent (10%) any of: (i) the System's size, (ii) the System's total cost or (iii) the System's annual production. Such termination right will expire at the earlier of: (i) one (1) week prior to your scheduled installation date and (ii) one (1) month after we inform you in writing of the revised size, cost or production estimate. Any changes to the System will be documented in a written amendment/change order to this Contract signed by both Owner and the Contractor. Owner acknowledges that the System equipment and materials to be furnished and installed maybe subject to cost increases. Contractor will hold the Contract Price for thirty (30) days after the execution date of this Contract. After thirty (30) days, if the cost of any System equipment or material rises by an unusual amount because of circumstances beyond the Contractor's control, including, but not limited to, market price fluctuation or a site audit revealing the need for additional materials or labor, then the Contractor shall have the right to present the Owner with a revised price for the System equipment. If the revised price is not accepted, the Contractor has the right to terminate this Contract and issue the Owner a refund, less expenses or obligations already incurred, and the parties shall have no further obligations to one another.

The Contractor shall not be obligated to make changes to the work or additional work until the Owner has approved, in writing, the changes to the Contract price and the Contract time with a fully executed change order signed by Owner and Contractor. Upon change order execution, deposit from Owner to Contractor maybe required in advance prior to commencement of additional work.

## **5. OWNER'S RESPONSIBILITY AND OBLIGATION**

**5.1 WORK SITE ACCESS** Owner shall grant free access to work areas for the Contractor, its employees, agents, contractors ("Contractors' Workers") and vehicles necessary for the purposes of: (A) installing, constructing, operating, repairing, removing and replacing the solar or energy storage system or making any additions to it; (B) installing, using and maintaining electric lines and inverters and meters, necessary to interconnect the solar or energy storage system to your electric system at the Property and/or to the utility's electric distribution system; or (C) taking any other action reasonably necessary in connection with the construction, installation, operation, maintenance, removal or repair of the solar or energy storage system. Owner agrees to keep driveways clear and available for movement and parking of Contractor's Workers and vehicles during normal working hours. Contractor's Workers will not be expected to keep gates closed for animals, children or provide work area security during the performance of your System's installation. Contractor's Workers shall not be responsible for any issues resulting from the failure of to lock gates and doors.

**5.2 PROPERTY SITE CONDITIONS** Owner will be responsible for the structural integrity of the location where the solar or energy storage system is installed, including structural or electrical modifications necessary to prepare your Property for the solar or energy storage system installation. Owner agrees that the Contractor is not responsible for any known or unknown Property conditions. Any known Property conditions that the Owner decides not to repair or replace are listed in Exhibit 5. Should Owner agree to make changes to the Property before we commence the System, those changes shall be listed in Exhibit 4. If Owner fails to make those changes



before installation begins, then Owner shall be in default of this Contract and the Contractor shall not be responsible for any project completion delays.

**5.3 PRE-EXISTING CONDITIONS** The Contractor is not responsible and bears no liability for the malfunctioning of existing electrical equipment at the Property, including, but not limited to, the main electrical panel, any major electrical devices, or any other fuses or similar devices. While Contractor will exercise all due care, Contractor will not be responsible for pre-existing damages or problems arising from such pre-existing conditions which may be aggravated by normal material handling procedures.

**6. CLEAN UP** Debris shall be removed from the premises. The site shall be in order at all times when work is not actually being performed and shall be maintained in a reasonably clean condition

**7. FINANCIAL ASSURANCES** Prior to commencement of work, and at each stage anticipated thereafter. The Contractor shall have the right to request reasonable assurance that Owner can fulfill its financial obligations hereunder. If evidence of financial arrangements is not satisfactory to Contractor, then Contractor may stop work until such financial assurance is provided or may terminate this contract with written notice to Owner and Contractor will be entitled to any unrecoverable cost in the event of this termination.

**8. MECHANICS' LIEN RELEASES** Upon satisfactory payment for any portion of the work performed, the Contractor shall, prior to any further payment being made, furnish to Owner a full and unconditional release from any potential lien claim or mechanics' lien pursuant to applicable law for that portion of the work for which payment has been made. Please see Exhibit 6 for applicable lien notices and warnings required by law.

**9. RISK OF LOSS AND TITLE** other than damage directly resulting from the Contractor's Workers, Owner shall bear the risk of loss for all materials and equipment which are included in Contractor's work here in at such time as the materials and equipment are delivered to installation site.

**10. EQUIPMENT TITLE AND RIGHT TO REMOVE** Title to the System shall transfer to Owner when Contractor completes installation of the System and payment is received in full. Contractor may at its option remove any portion of the system in value to any payment required and not paid within sixty (60) days after receipt of proper invoice(s) without limiting Contractor's rights herein.

**11. REMEDIES UPON OWNER'S BREACH** Without limiting any of the Contractor's other rights and remedies, upon any breach by Owner, including any failure of Owner to pay the Contractor any amount due, the Contractor shall have the right to: (i) pursue a stop work order at the Property, (ii) prevent any more work from being performed at the Property until the breach is cured and a bond is posted by the Owner for any amounts payable under this Contract; (iii) recover all amounts due under this Contract for services provided through the date of termination including interest (prime+ 1 % or such amount as allowed by law). Owner will have a 15-day grace period to remedy the breach. If Owner has not remedied the breach, Contractor may remove any System materials or equipment from the Property, including uninstalling any components previously installed and may take any other legal remedies, including but not limited to, mechanics liens or similar remedies.

**12. TERMINATION AND DEFAULT** The Contractor may terminate this Contract for any material or non-material breach, for any failure of Owner to agree to an appropriate executed change order, for any failure of Owner to pay the Contractor any amount due, for any bankruptcy or financial distress of Owner, or for any hindrance to the Contractor in the performance process. Owner can cancel the contract up to 3 days of the contract execution date. If so, Contractor shall refund the Owner the deposit of \$1,000 less administrative costs and minor expenses incurred.



In such an event, the Owner terminates Contract after the 3 Day Cancellation Clause has expired, the Contractor shall be paid its actual costs for the any work performed to the date of termination, and for all of Contractor's incurred costs of termination, including but not limited office administration, and any termination charges by vendors and subcontractors. Contractor shall return deposit received from Owner for project specific equipment and materials only less restocking fee.

**13. COST: ATTORNEYS' FEES** If the Contract Price is not paid when due, Owner shall pay all costs of collection including reasonable attorneys' fees. The prevailing Party in any legal action or arbitration proceeding relate4d to this contract shall be entitle to receive from the other Party, in addition to any other relief that may be granted, their reasonable attorneys fees, costs, and expenses incurred in the action or proceeding.

#### **14. ARBITRATION OF DISPUTES**

**PLEASE READ THIS SECTION CAREFULLY. ARBITRATION REPLACES THE RIGHT TO GO TO COURT, INCLUDING THE RIGHT TO A JURY AND THE RIGHT TO PARTICIPATE IN A CLASS ACTION OR SIMILAR PROCEEDING. IN ARBITRATION, A DISPUTE IS RESOLVED BY AN ARBITRATOR INSTEAD OF A JUDGE OR JURY.**

The laws of the state where your Property is located shall govern this Contract without giving effect to conflict of laws principles. We agree that any dispute, claim or disagreement between the Parties (a "Dispute") shall be resolved exclusively by arbitration.

The arbitration, including the selecting of the arbitrator, will be administered by JAMS, under its Streamlined Arbitration Rules (the "Rules") by a single neutral arbitrator agreed on by the parties within thirty (30) days of the commencement of the arbitration. The arbitration will be governed by the Federal Arbitration Act (Title 9 of the U.S. Code). Either party may initiate the arbitration proves by filing the necessary forms with JAMS. To learn more about arbitration, you can call any JAMS office or review the materials at [www.jamsadr.com](http://www.jamsadr.com). The arbitration shall be held in a location that is most convenient to your Property. If we initiate the arbitration, we will pay all of the filing fees and all of the arbitration fees and costs. We will each bear all of our own attorney's fees and costs except that you are entitled to recover your attorney's fees and costs if you prevail in the arbitration and the award you receive from the arbitrator is higher than the Contractor's last written settlement offer. When determining whether your award is higher than the Company's last written settlement offer, your attorney's fees and costs will not be included.

Only Disputes involving Owner and the Company may be addressed in the arbitration. Disputes must be brought in the name of an individual person or entity and must proceed on an individual (non-class, non-representative) basis. The arbitrator will not award relief for or against anyone who is not a party. If either of us arbitrates a Dispute, neither of us, not any other person, may pursue the Dispute in arbitration as a class action, class arbitration, private attorney general action or other representative action, nor may any such Dispute be pursued on your or out behalf in any litigation in any court. Claims regarding any Dispute and remedies sought as part of a class action, class arbitration, private attorney general or other representative action are subject to arbitration on an individual (non-class, non-representative) basis, and the arbitrator may award relief only on an individual (non-class, non-representative) basis. This means that the arbitration may not address disputes involving other persons with disputes similar to the Disputes between you and the Company.

The arbitrator shall have the authority to award any legal or equitable remedy that a court could order or grant under this Contract. The arbitrator, however, is not authorized to change or alter the terms of this Contract or make any award that would extend to any transaction other than yours. All statutes of limitations that are applicable to any dispute shall apply to any arbitration between The Parties. The arbitrator will issue a decision or award in writing, briefly stating the essential findings of fact and conclusions of law.



BECAUSE YOU AND WE HAVE AGREED TO ARBITRATE ALL DISPUTES, NEITHER OF THE PARTIES WILL HAVE THE RIGHT TO LITIGATE THAT DISPUTE IN COURT, OR TO HAVE A JURY TRIAL ON THAT DISPUTE, OR ENGAGE IN DISCOVERY EXCEPT AS PROVIDED FOR IN THE RULES. FURTHER, YOU WILL NOT HAVE THE RIGHT TO PARTICIPATE AS A REPRESENTATIVE OR MEMBER OF ANY CLASS PERTAINING TO ANY DISPUTE. THE ARBITRATOR'S DECISION WILL BE FINAL AND BINDING ON THE PARTIES AND MAY BE ENTERED AND ENFORCED IN ANY COURT HAVING JURISDICTION, EXCEPT TO THE EXTENT IT IS SUBJECT TO REVIEW IN ACCORDANCE WITH APPLICABLE LAW GOVERNING ARBITRATION AWARDS. OTHER RIGHTS THAT YOU OR WE WOULD HAVE IN COURT MAY ALSO NOT BE AVAILABLE IN ARBITRATION.

NOTICE: BY INITIALING IN THE SPACE BELOW, YOU ARE AGREEING TO HAVE ANY DISPUTE ARISING OUT OF THE MATTERS INCLUDED IN THE "ARBITRATION OF DISPUTE" PROVISION DECIDED BY NEUTRAL ARBITRATION AS PROVIDED BY CALIFORNIA LAW AND YOU ARE GIVING UP ANY RIGHTS YOU MIGHT POSSESS TO HAVE THE DISPUTE LITIGATED IN A COURT OR JURY TRIAL. BY INITIALING IN THE SPACE BELOW, YOU ARE GIVING UP YOUR JUDICIAL RIGHTS TO DISCOVERY AND APPEAL, UNLESS THOSE RIGHTS ARE SPECIFICALLY INCLUDED IN THE "ARBITRATION OF DISPUTE" PROVISION. IF YOU REFUSE TO SUBMIT TO ARBITRATION AFTER AGREEING TO THIS PROVISION, YOU MAY BE COMPELLED TO ARBITRATE UNDER THE AUTHORITY OF THE BUSINESS AND PROFESSIONS CODE OR OTHER APPLICABLE LAWS. YOUR AGREEMENT TO THIS ARBITRATION PROVISION IS VOLUNTARY.

WE HAVE READ AND UNDERSTAND THE FOREGOING AND AGREE TO SUBMIT DISPUTE ARISING OF THE MATTERS INCLUDED IN THE "ARBITRATION OF DISPUTES" PROVISION NEUTRAL ARBITRATION.

OWNER'S INITIALS: Briana Comereski JC  
JC

CONTRACTOR REPRESENTATIVE'S INITIALS: RM  
RM

**15. GOVERNING LAW** This Agreement shall be governed by and the rights, duties and obligations of the Parties shall be determined and enforced in accordance with the laws of the State of California. The Parties further agree that any action or proceeding brought to enforce the terms and conditions of this Agreement shall be maintained in county in which the District's administrative offices are located.

**16. INDEMNIFICATION** Both parties shall indemnify, defend and hold harmless the other and its employees, officers, directors, agents, subcontractors and assigns from any and all third party claims, actions, costs, expenses (including reasonable attorneys' fees and expenses), damages, liabilities, penalties, losses, obligations, demands and liens of any kind arising out of or relating to its failure to perform its obligations under this Contract. Neither party shall be required to indemnify the other for its own negligence willful misconduct or fraud.

**17. PRIVACY/PUBLICITY** Owner grants the Contractor the right to publicly use, display, share, and advertise the photographic images, System details, Price, and any other non-personally identifying information about your System. The Contractor shall not knowingly release any personally identifiable information about you or any data associating you with the System location. You may opt-out of these publicity rights by giving the Contractor written notice.

**18. ASSIGNMENT** You may not assign your rights or duties under this Contract without our written permission. The Contractor may assign or subcontract its rights to any successor, partner or purchaser.

**19. LIMITATION OF LIABILITY**

a. **No Consequential Damages.** UNDER THIS CONTRACT, EACH PARTY'S LIABILITY TO THE OTHER SHALL BE LIMITED TO DIRECT, ACTUAL DAMAGES ONLY. WE BOTH AGREE THAT IN NO EVENT SHALL EITHER PARTY BE LIABLE TO THE OTHER FOR CONSEQUENTIAL, INCIDENTAL, PUNITIVE, EXEMPLARY, SPECIAL OR INDIRECT DAMAGES.



- b. **Actual Damages.** Neither party's liability to the other will exceed \$2,000,000, including, without limitation, damages to your Home or Property during the performance of the System or resulting from the System.
- c. **Renewable Energy System Limitations.** Owner shall not hold Contractor liable for any and all future consumption, energy production or system performance. System sizes are estimates only and based on the Owner's information provided to Contractor. Owner acknowledges and is aware of the following:
  - i. *Consumption.* The size of the System, to which was agreed, is based on Owner's average electrical consumption, and any increase in Owner's electricity consumption may result in higher charges for electricity from utility company.
  - ii. *Estimates.* Any stated amount of energy production or savings from the System is only an estimate and does not constitute any guaranty or warranted quantity regarding production from the System. Savings will vary based on utility rate, energy consumption habits, the solar or energy storage system equipment installed onsite, tax incentives eligibility, weather and other factors.
  - iii. *Performance.* Performance of the System is dependent on weather conditions and other factors, including without limitation, smoke, particulate matter from fires, or Force Majeure Events. Contractor does not guaranty production from the System.

EXCEPTING THE OTHER PROVISION UNDER THIS HEADING, THE COMPANY DISCLAIMS AND OWNER WAIVES ALL EXPRESS OR IMPLIED WARRANTIES INCLUDING (WITHOUT LIMITATION) ANY IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE COMPANY SHALL NOT BE LIABLE TO THE OWNER UNDER WARRANTY IF AN ALLEGED DEFECT IN ANY WORK OR EQUIPMENT WAS CAUSED BY OWNER'S OR ANY THIRD PERSON'S (FOR WHOM THE CONTRACTOR IS NOT RESPONSIBLE AS PROVIDED HEREIN) MISUSE, NEGLIGENCE, UNAUTHORIZED ATTEMPTS TO REPAIR, OR ANY OTHER CAUSE BEYOND THE RANGE OF THE INTENDED USE, OR BY ACCIDENT, FIRE, LIGHTNING, OR OTHER HAZARD.

**20. LIMITED WARRANTY** YOU UNDERSTAND THAT THE PROJECT IS WARRANTIED UNDER THE TERMS OF EXHIBIT 1, AND THAT THERE ARE NO OTHER REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, AS TO THE MERCHANTABILITY, FITNESS FOR ANY PURPOSE, CONDITION, DESIGN, CAPACITY, SUITABILITY OR PERFORMANCE OF THE PROJECT OR ITS INSTALLATION. UPON RECEIPT OF PAYMENT IN FULL UNDER THIS CONTACT, ALL WARRANTIES THAT ARE PROVIDED BY MANUFACTURERS OF EQUIPMENT USED IN THE PROJECT WILL BE TRANSFERRED DIRECTLY TO YOU. YOU UNDERSTAND THAT THE COMP ANY HAS NO RESPONSIBILITY WITH RESPECT TO SUCH WARRANTIES OTHER THAN TO TRANSFER THEM TO YOU.

**21. NOTICES** Any notice, request, demand or other communication required or Permitted under this Contract, shall be deemed to be properly given by the sender and received by the addressee if made in writing and (a) if personally delivered; (b) if delivered by a nationally recognized courier (FedEx or UPS, but specifically excluding the United States Postal Service), on the date of the delivery receipt provided by the nationally recognized courier. The noticing party shall also email or fax a copy of the document to the addressee on the day it is provided in person or shipped by the nationally recognized carrier. Notwithstanding the foregoing, Change Orders and Invoices may be submitted via email or fax to the following.

CONTRACTOR: Cinran Electrical Solutions Inc  
13600 Pawnee Road, Ste 4 - Apple Valley, CA 92308  
(760) 820-8853 | [randall@cinran.com](mailto:randall@cinran.com)

OWNER(s): Justin and Briana Comereski  
38566 Via Del Bosque – Murrieta, CA 92562  
(760) 244-6311 | [briana@murphyconstruction.net](mailto:briana@murphyconstruction.net)



**22. ADDITIONAL CONSUMER NOTICES** All of the following notices must be provided to consumers in the contract or, in some cases they can be added as an attachment if the law allows per the CSLB

- **Commercial General Liability Insurance (CGL)** This Contractor carries commercial general liability insurance written by Certain Underwriters at Lloyds of London. You may call (951) 506-5859 to check the Contractor's insurance coverage. You may be added as an additional insured on this policy during the course of construction for a service charge of fifty dollars (\$50).
- **Workers' Compensation Insurance** This Contractor carries workers' compensation insurance for all employees.
- **Performance and Payment Bonds** The owner or tenant in a home improvement contract has the right to require the contractor to have a performance and payment bond.
- **Extra or Change-order Work Notice** Extra Work and Change Orders become part of the contract once the order is prepared in writing and signed by the parties prior to commencement of any work covered by the new change order. The order must describe: (i) the scope of the extra work or change, (ii) the cost to be added or subtracted from the Contract, and (iii) the effect the order will have on the schedule of progress payments or the completion date. Notwithstanding this provision, the Contractor shall have the right to substitute System equipment without Owner's agreement, so long as that substitution adds no extra cost to the project and does not materially affect the System's performance. The Contractor's failure to comply with the requirements of this paragraph does not preclude the recovery of compensation for work performed based on legal or equitable remedies designed to prevent unjust enrichment. The Owner may not require a contractor to perform extra or change-order work without providing written authorization prior to the commencement of the work covered by a new change order.



## V. EXHIBITS

### Exhibit 1 LIMITED WARRANTY

**1. INTRODUCTION** This Limited Warranty is the Contractor's agreement to provide Owner warranties for the System purchased under this Agreement. The System installation will be professionally performed by the Contractor at the address listed in the Agreement. We will refer to the installation location as Owner's "Property". We look forward to helping you produce clean, renewable solar power at your Home.

#### 2. LIMITED WARRANTIES

**a. Limited Warranties** The Company warrants the System as follows:

**i. Installation Warranty** Contractor hereby warrants the installation of System for ten (10) years from the date of completion of the installation, which is defined as the date of final AHJ inspection.

**ii. Solar System and Energy Storage System Components Warranty** Contractor shall provide a ten (10) year system warranty that administers the manufacturers' warranties for defective system components, and provides no-cost repair and replacement of said defective system components. Beyond ten (10) years, the Contractor will pass through all individual supplier warranties with documentation stating exactly what is covered for specific periods. This warranty also covers any and all actions on the part of the installation team that could foreseeably affect the functioning of the PV or Energy Storage System as a whole that are not due to the malfunctioning or failure of the equipment used in the installation. We hereby assign the original equipment manufacturers' warranties to you (but do not otherwise provide an independent warranty on such components).

**iii. Roof Warranty** When we penetrate your roof during a System installation, we will warrant roof damage we cause due to our roof penetrations. This warranty will expire ten (10) years following the completion of the System.

**iv. Transfer of Warranties** Upon completion of the installation of the System Components and full payment of the Contract Price and any changes orders, Contractor here transfers the Solar and Battery System Components Warranties to you.

**b. Maintenance and Operation**

**i. General** Although Contractor has the ability to monitor your System, it is your responsibility to monitor the system and to advise the Contractor of any problems with the System.

**c. Making a Claim; Transferring this Warranty**

**i. Claim Process** You can make a claim by:

- A. Emailing us at the email address in Section 6 below;
- B. Writing us a letter and sending it through the United States Postal Service.



**ii. Transferable Limited Liability** The Company will accept and honor any valid and properly submitted Warranty claim made during the applicable warranty periods by any person who purchases the System from you.

**d. Exclusions and Disclaimer** The limited warranties and guaranty provided in this Limited Warranty do not apply to any lost power production or any repair, replacement or correction required due to the following:

- i. Someone other than the Company or its approved service providers installed, removed, re-installed or repaired the solar or energy storage system or made inoperable for an reason
- ii. Destruction or damage to the solar or energy storage system or its ability to safely produce power not caused by the Company or its approved service providers while servicing the solar or energy storage system ( e.g. if a tree falls on the solar system, your insurance may cover replacement, but we will not pay you for power it did not produce);
- iii. Failure of any equipment manufacturer to honor its warranty on installed components;
- iv. Your failure to perform, or breach of, your obligations under this Limited Warranty, including your being
- v. Any Force Majeure Event (as defined below);
- vi. Shading from foliage that is new growth or is not kept trimmed to its appearance on the date the System commenced;
- vii. Any system failure or lost production not caused by a defect ( e.g. not producing power because it has been removed to make roof repairs or you have required us to locate the inverter in a non-shaded area [If the inverter is placed in sun, inverter may not be covered under warranty due to over-exposure to sun and heat resulting in pre-mature failure]); and
- viii. Theft of the equipment and materials prior to installation (e.g. if the System is stolen prior to installation our insurance may cover replacement, but we will not pay you for the power it did not produce).

This Limited Warranty gives you specific rights, and you may also have other rights which vary from state to state. This Limited Warranty does not warrant any specific electrical performance of the System, other than that described above.

THE LIMITED WARRANTIES DESCRIBED IN SECTIONS 2(a) AND (c) ABOVE ARE THE ONLY EXPRESS WARRANTIES MADE BY THE COMPANY WITH RESPECT TO THE SYSTEM. THE COMPANY HEREBY DISCLAIMS, AND ANY BENEFICIARY OF THIS LIMITED WARRANTY HEREBY WAIVES, ANY WARRANTY WITH RESPECT TO ANY COST SAVINGS FROM USING THE SYSTEM. SOME STATES DO NOT ALLOW SUCH LIMITATIONS, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

### **3. YOUR ADDITIONAL OBLIGATIONS**

- a. You grant the Company and its employees, agents and contractors the right to reasonably access all of the Property as necessary for the purposes of compliance with this Contract.
- b. If you want to make any repairs or improvements to the Property that could interfere with the System (such as repairing the roof where the solar system is located), you may only remove and replace the System pursuant to Section 5 of this Limited Warranty.



c. During the Warranty Period, you agree:

- i. to only have the solar or energy storage system repaired pursuant to the Limited Warranty and reasonably cooperate when repairs are being made;
- ii. to keep trees, bushes and hedges trimmed so that the solar panels receive as much sunlight as it did when the Company installed them;
- iii. to keep the panels clean, pursuant to this Limited Warranty,
- iv. to not modify your Property in a way that shades the solar panels;
- v. to be responsible for any conditions at your Property that affect the installation (e.g. blocking access to the roof or removing a tree that is in the way);
- vi. to not do anything, permit or allow to exist any condition or circumstance that would cause the solar or energy storage system to not operate as intended at the Property;
- vii. that you will not make any modifications, improvements, revisions or additions to the solar or energy storage system or take any other action that could void the Limited Warranty on solar or energy storage system without the Company's prior written consent.

**4. THE COMPANY'S STANDARDS** For the purpose of this Limited Warranty, the standards for our performance will be (i) normal professional standards of performance within the solar photovoltaic power generation industry in the relevant market; and (ii) Prudent Electrical Practices. "Prudent Electrical Practices" means those practices, as changed from time to time, that are engaged in or approved by a significant portion of the solar electrical generation industry operating in the United States to operate electric equipment lawfully and with reasonable safety, dependability, efficiency and economy.

**5. LIMITATIONS ON LIABILITY**

**a. No Consequential Damages** YOU MAY ONLY RECOVER DIRECT DAMAGES, INCLUDING THOSE AMOUNTS DUE PURSUANT TO SECTION 2(c) UNDER THIS LIMITED WARRANTY, AND IN NO EVENT SHALL THE COMPANY OR ITS AGENTS OR SUBCONTRACTORS BE LIABLE TO YOU OR YOUR ASSIGNS FOR SPECIAL, INDIRECT, PUNITIVE, EXEMPLARY, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY NATURE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMJTATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

**b. Limitation of Duration of Implied Warranties** ANY IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANT ABILITY ARISING UNDER STATE LAW, SHALL IN NO EVENT EXTEND PAST THE EXPIRATION OF ANY WARRANTY PERIOD IN THIS LIMITED WARRANTY. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG IN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

**c. Limit of Liability** Notwithstanding any other provision of this Limited Warranty to the contrary, the Company's total liability arising out of and relating to this Limited Warranty shall in no event:

- i. For System Replacement: exceed the original cost of the System; and
- ii. For damages to your Property: exceed two million dollars (\$2,000,000).

THE EVALUATION AND THE REPORT DO NOT CONSTITUTE A WARRANTY OR GUARANTEE OF ANY KIND, EXPRESS OR IMPLIED. THE REPORT IS NOT A HOME INSPECTION REPORT AND OWNER AGREES NOT TO USE THE REPORT IN CONJUNCTION WITH ANY TRANSFER OF THE HOUSE. YOU UNDERSTAND THAT THE CONTRACTOR MAKES NO REPRESENTATIONS OR WARRANTIES WITH RESPECT TO THE EVALUATION, THE REPORT OR THE CONTRACTOR'S OTHER PERFORMANCE UNDER THIS CONTRACT, EXPRESS OR IMPLIED, INCLUDING AS TO MERCHANT ABILITY, FITNESS FOR ANY PURPOSE, CONDITION, DESIGN, CAP A CITY, SUIT ABILITY OR PERFORMANCE.



**6. NOTICES** All notices under this Limited Warranty shall be made in the same manner as set forth in the Contract to the addresses listed below:

CONTRACTOR: Cinran Electrical Solutions Inc  
13600 Pawnee Road, Ste 4 - Apple Valley, CA 92308  
(760) 820-8853 | [randall@cinran.com](mailto:randall@cinran.com)

OWNER(s): Justin and Briana Comereski  
38566 Via Del Bosque – Murrieta, CA 92562  
(XXX) XXX-XXXX | [briana@murphyconstruction.net](mailto:briana@murphyconstruction.net)

**7. Assignment and Transfer of this Limited Warranty** The Company may assign its rights or obligations under this Limited Warranty to a third party without your consent, provided that any assignment of the Company's obligations under this Limited Warranty shall be to a party professionally and financially qualified to perform such obligation. This Limited Warranty protects only the person who owns this System. Your rights and obligations under this Limited Warranty will be automatically transferred to any person who purchases the solar or energy storage system from you. This Limited Warranty contains the parties' entire agreement regarding the limited warranty of the System.

**I, THE UNDERSIGNED OWNER, HEREBY ACKNOWLEDGE HAVING READ AND UNDERSTOOD THE FOREGOING WARRANTY TERMS AS PART OF THIS CONTRACT:**

OWNER'S INITIALS: Briana Comereski JC



**Exhibit 2**  
**THREE DAY RIGHT TO CANCEL NOTICE**  
**(Statutory Required Language)**

“You, the buyer, have the right to cancel this contract within three business days. You may cancel by e-mailing, mailing, faxing, or delivering a written notice to the contractor at the contractor’s place of business by midnight of the third business day after you received a signed and dated copy of the contract that includes this notice. Include your name, your address, and the date you received the signed copy of the contract and this notice. If you cancel, the contractor must return to you anything you paid within 10 days of receiving the notice of cancellation. For your part, you must make available to the contractor at your residence, in substantially as good condition as you received it, any goods delivered to you under this contract or sale. Or, you may, if you wish, comply with the contractor’s instructions on how to return the goods at the contractor’s expense and risk. If you do make the goods available to the contractor and the contractor does not pick them up within 20 days of the date of your notice of cancellation, you may keep them without any further obligation. If you fail to make the goods available to the contractor, or if you agree to return the goods to the contractor and fail to do so, then you remain liable for performance of all obligations under the contract.”



“The law requires that the contractor give you a notice explaining your right to cancel. Initial the check box if the contractor has given you a ‘Notice of the Three-Day Right to Cancel.’”

***Additional Cancellation Clause:*** It is understood that the homeowner will move forward with the project if the SGIP rebate reservation is approved. If the rebate is not approved after 6 months of the contract date, the homeowner has the right to cancel this contract and receive a full refund on the \$1,000 less administrative costs

OWNER’S INITIALS: Briana Comereski

OWNER’S INITIALS: JC



**Exhibit 3 (CONTRACTOR COPY)**

**NOTICE OF CANCELLATION  
(Statutory Required Language)**

**Date of Transaction: The date you signed the Contract \_\_\_\_\_**

**You, the Owner, have the right to cancel this contract within 72 hours after contract execution. You may cancel by e-mailing, mailing, faxing, or delivering a written notice to the contractor at the contractor's place of business by midnight of the third business day after you received a signed and dated copy of the contract that includes this notice. Include your name, your address, and the date you received the signed copy of the contract and this notice.**

**If you cancel, the contractor must return to you anything you paid within 10 days of receiving the notice of cancellation. For your part, you must make available to the contractor at your residence, in substantially as good condition as you received them, goods delivered to you under this contract or sale. Or, you may, if you wish, comply with the contractor's instructions on how to return the goods at the contractor's expense and risk. If you do make the goods available to the contractor and the contractor does not pick them up within 20 days of the date of your notice of cancellation, you may keep them without any further obligation. If you fail to make the goods available to the contractor, or if you agree to return the goods to the contractor and fail to do so, then you remain liable for performance of all obligations under the contract.**

**I, [ \_\_\_\_\_ ], hereby cancel this transaction on (date) \_\_\_\_\_**

**Date:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Owner's  
Signature:** \_\_\_\_\_

**Co-Owner's  
Signature:** \_\_\_\_\_

**Printed  
Name:** \_\_\_\_\_

**Printed  
Name:** \_\_\_\_\_

**Acknowledgement of Receipt of this Notice by Owners: \_\_\_\_\_ (date)**

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Signature)



**Exhibit 3 (CUSTOMER COPY)**

**NOTICE OF CANCELLATION  
(Statutory Required Language)**

**Date of Transaction:** The date you signed the Contract \_\_\_\_\_

**You, the Owner, have the right to cancel this contract within 72 hours after contract execution. You may cancel by e-mailing, mailing, faxing, or delivering a written notice to the contractor at the contractor's place of business by midnight of the third business day after you received a signed and dated copy of the contract that includes this notice. Include your name, your address, and the date you received the signed copy of the contract and this notice.**

**If you cancel, the contractor must return to you anything you paid within 10 days of receiving the notice of cancellation. For your part, you must make available to the contractor at your residence, in substantially as good condition as you received them, goods delivered to you under this contract or sale. Or, you may, if you wish, comply with the contractor's instructions on how to return the goods at the contractor's expense and risk. If you do make the goods available to the contractor and the contractor does not pick them up within 20 days of the date of your notice of cancellation, you may keep them without any further obligation. If you fail to make the goods available to the contractor, or if you agree to return the goods to the contractor and fail to do so, then you remain liable for performance of all obligations under the contract.**

**I, [ \_\_\_\_\_ ], hereby cancel this transaction on (date) \_\_\_\_\_**

**Date:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Owner's  
Signature:** \_\_\_\_\_

**Co-Owner's  
Signature:** \_\_\_\_\_

**Printed  
Name:** \_\_\_\_\_

**Printed  
Name:** \_\_\_\_\_

**Acknowledgement of Receipt of this Notice by Owners: \_\_\_\_\_ (date)**

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Signature)



**Exhibit 4**

**PROPERTY CONDITIONS TO BE REPAIRED BY OWNER PRIOR TO INSTALLATION OF THE SYSTEM**

Owner agrees to complete the follow repairs prior to System Installation.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

Date repairs to be completed:

\_\_\_\_\_  
OWNER'S INITIALS

\_\_\_\_\_  
DATE

\_\_\_\_\_  
CO-OWNER'S INITIALS

\_\_\_\_\_  
DATE



**Exhibit 5**

**UNREPAIRED EXISTING PROPERTY CONDITIONS**

Owner agrees that the Company is not responsible or liable for damage, breach or failure arising from or relating to any of the following Property conditions, before, during or after System Installation:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

\_\_\_\_\_  
OWNER'S INITIALS

\_\_\_\_\_  
DATE

\_\_\_\_\_  
CO-OWNER'S INITIALS

\_\_\_\_\_  
DATE



**Exhibit 6**

**CALIFORNIA MECHANICS LIEN WARNING  
(Statutory Required Language)**

Anyone who helps improve your property, but who is not paid, may record what is called a mechanics' lien on your property. A mechanics' lien is a claim, like a mortgage or home equity loan, made against your property and recorded with the county recorder.

Even if you pay your contractor in full, unpaid subcontractors, suppliers, and laborers who helped to improve your property may record mechanics' liens and sue you in court to foreclose the lien. If a court finds the lien is valid, you could be forced to pay twice or have a court officer sell your home to pay the lien. Liens can also affect your credit.

To preserve their right to record a lien, each subcontractor and material supplier must provide you with a document called a '20-day Preliminary Notice.' This notice is not a lien. The purpose of the notice is to let you know that the person who sends you the notice has the right to record a lien on your property if he or she is not paid.

**BE CAREFUL.** The Preliminary Notice can be sent up to 20 days after the subcontractor starts work or the supplier provides material. This can be a big problem if you pay your contractor before you have received the Preliminary Notices. You will not get Preliminary Notices from your prime contractor or from laborers who work on your project. The law assumes that you already know they are improving your property.

**PROTECT YOURSELF FROM LIENS.** You can protect yourself from liens by getting a list from your contractor of all the [B] NOTIFICATION AND DISCLOSURE STATEMENTS Continued [B.4] 1 4 CONTRACTING FOR SUCCESS subcontractors and material suppliers that work on your project. Find out from your contractor when these subcontractors started work and when these suppliers delivered goods or materials. Then wait 20 days, paying attention to the Preliminary Notices you receive.

**PAY WITH JOINT CHECKS.** One way to protect yourself is to pay with a joint check. When your contractor tells you it is time to pay for the work of a subcontractor or supplier who has provided you with a Preliminary Notice, write a joint check payable to both the contractor and the subcontractor or material supplier.

For other ways to prevent liens, visit CSLB's website at [www.cslb.ca.gov](http://www.cslb.ca.gov) or call CSLB at 1-800-321-CSLB (2752). Remember, if you do nothing, you risk having a lien placed on your home. This can mean that you may have to pay twice, or face the forced sale of your home to pay what you owe.



## **EXHIBIT 7**

### **INFORMATION ABOUT THE CONTRACTORS STATE LICENSE BOARD (“CSLB”)**

CSLB is the state consumer protection agency that licenses and regulates construction contractors. Contact CSLB for information about the licensed contractor you are considering, including information about disclosable complaints, disciplinary actions and civil judgments that are reported to CSLB. Use only licensed contractors. If you file a complaint against a licensed contractor within the legal deadline (usually four years), CSLB has authority to investigate the complaint. If you use an unlicensed contractor, CSLB may not be able to help you resolve your complaint. Your only remedy may be in civil court, and you may be liable for damages arising out of any injuries to the unlicensed contractor or the unlicensed contractor’s employees.

For more information:

VISIT CSLB’s website at [www.cslb.ca.gov](http://www.cslb.ca.gov)

CALL CSLB at 1-800-321-CSLB (2752)

WRITE CSLB at P.O. Box 26000, Sacramento, CA 95826



## **CONSTRUCTION DOCUMENTS**

### **Riverside County (Murrieta)**

- 1 Approved Final Inspection(04/15/2024)**
- 2 Building Permit #BRS2202499**
- 3 Plans and Specifications**



([https://rivcoplus.org/EnerGov\\_Prod/SelfService/RiversideCountyCAProd](https://rivcoplus.org/EnerGov_Prod/SelfService/RiversideCountyCAProd))  
 RANDALL MULVEY ▾ ()



## Inspection Number: 24090412

[Inspection Details \(\)](#) | [Tab Elements \(\)](#) | [Main Menu \(\)](#)

<b>Inspection Type:</b>	BLD: Solar Panels	<b>Requested Date:</b>	04/15/2024
<b>Inspection Status:</b>	Approved	<b>Scheduled Date:</b>	04/15/2024
<b>Permit Number:</b>	BRS2202499	<b>Completed Date:</b>	04/15/2024
<b>Completed Time:</b>	3:43 PM		
<b>Inspector Name:</b>	Ted Gascoigne		
<b>Main Address:</b>	38566 VISTA DEL BOSQUE MURRIETA,CA 92562		

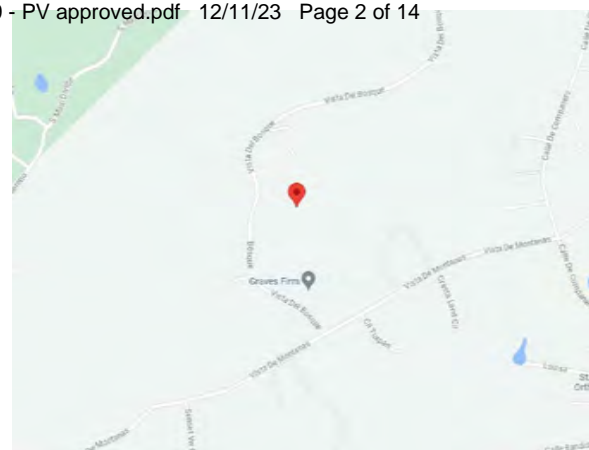
[Locations](#)   [Contacts](#)   [Fees](#)   [Previous](#)

[Locations \(\)](#) | [Next Tab \(\)](#) | [Inspection Details \(\)](#) | [Main Menu \(\)](#)



Dig alert (811) is to be contacted and compliance with excavation safety in accordance with government code 4216 will be followed, prior to any excavation taking place

PV	DESCRIPTION
1	SITE PLAN & NOTES
2	ROOF PLAN
3	STRUCTURAL DETAILS
4	SINGLE LINE DIAGRAM
5	SIGNAGE
6	INSTALLER OPTIMIZER/ MICROINVERTER MAP



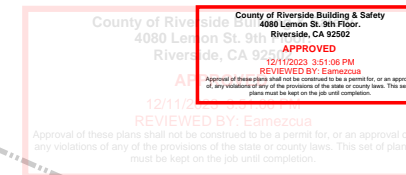
VICINITY MAP  
NOT TO SCALE

**SOLAR PHOTOVOLTAIC SYSTEM NOTES**

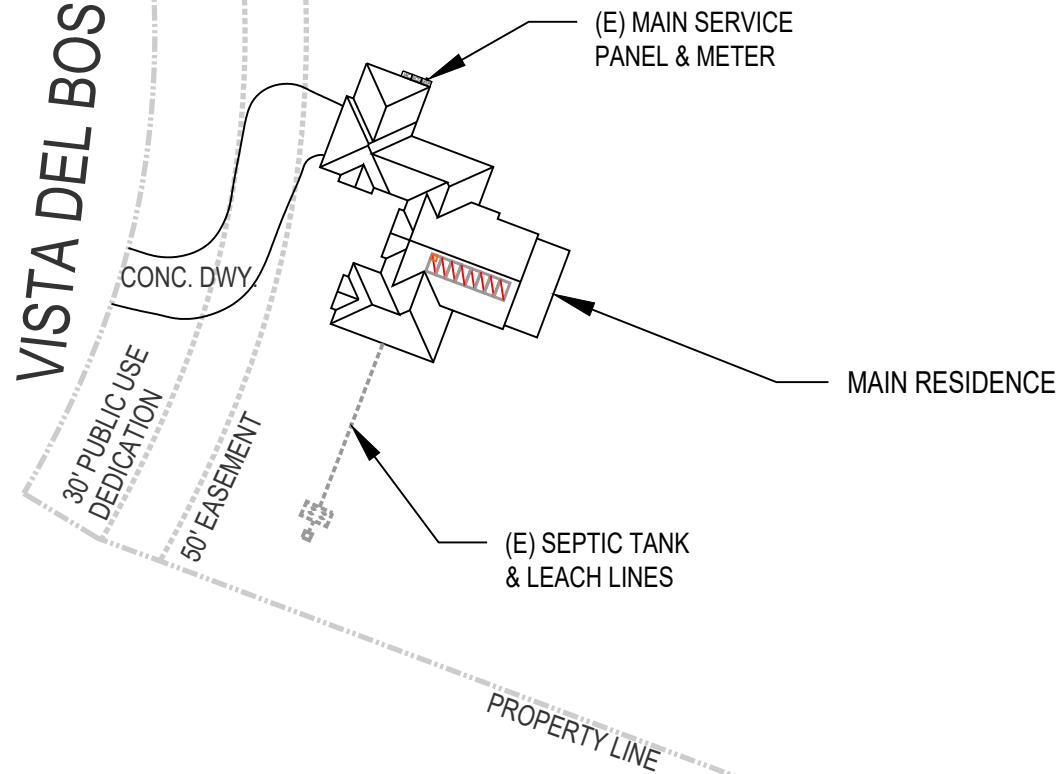
- ALL MATERIALS, EQUIPMENT, INSTALLATION AND WORK SHALL COMPLY WITH THE FOLLOWING APPLICABLE CODES:  
2022 CA BUILDING CODE, PART 2  
2022 CA RESIDENTIAL CODE PART, 2.5  
2022 CA MECHANICAL CODE, PART 4  
2022 CA ELECTRICAL CODE, PART 3  
2022 CA PLUMBING CODE, PART 5  
2022 CA EXISTING BUILDING CODE, PART 10  
2022 CA GREEN BUILDING STANDARDS CODE, PART 11  
2022 CA REFERENCE STANDARDS CODE, PART 12  
2022 CA FIRE CODE
- EXISTING PLUMBING VENTS, SKYLIGHTS, EXHAUST OUTLETS, VENTILATION'S INTAKE AIR OPENINGS SHALL NOT BE COVERED BY THE SOLAR PHOTOVOLTAIC SYSTEM.
- ALL EQUIPMENT SHALL BE LISTED AND LABELED BY A RECOGNIZED ELECTRICAL TESTING LABORATORY AND INSTALLED PER THE LISTING REQUIREMENTS AND THE MANUFACTURER'S INSTRUCTIONS. [NEC 690.4(D)]
- ALL OUTDOOR EQUIPMENT SHALL BE NEMA 3R RATED, INCLUDING ALL ROOF MOUNTED TRANSITION BOXES AND SWITCHES.
- PAINT PV CONDUIT TO MATCH THE DWELLING EXTERIOR.
- CONTACT THE SERVICING UTILITY BEFORE POWERING ON THE PHOTOVOLTAIC SYSTEM

**MURRIETA NOTES**

PAINT PV CONDUIT AND ELECTRICAL EQUIPMENT TO MATCH THE DWELLING EXTERIOR.  
EXEMPTIONS: PLASTIC OBJECTS

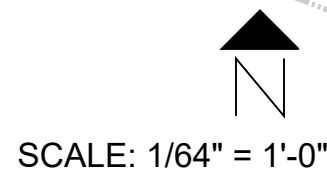


VISTA DEL BOSQUE



SCOPE OF WORK	DESIGN CRITERIA
ONE STORY ROOF: FLAT TILE	SINGLE FAMILY RESIDENCE OCCUPANCY: R-3 CONSTRUCTION TYPE: VB WIND SPEED: 130 MPH EXPOSURE CATEGORY: C MIN STANDOFF HEIGHT OF: 6" CONDUIT: 3/4" NON-SPRINKLERED LAT & LONG. : 33.55909, -117.33384 SNOW LOAD: N/A
(8) Q.CELL Q.PEAK DUO BLK ML-G10+ 400 SOLAR MODULES (8) MICRO INVERTERS (E) 400A MAIN PANEL	

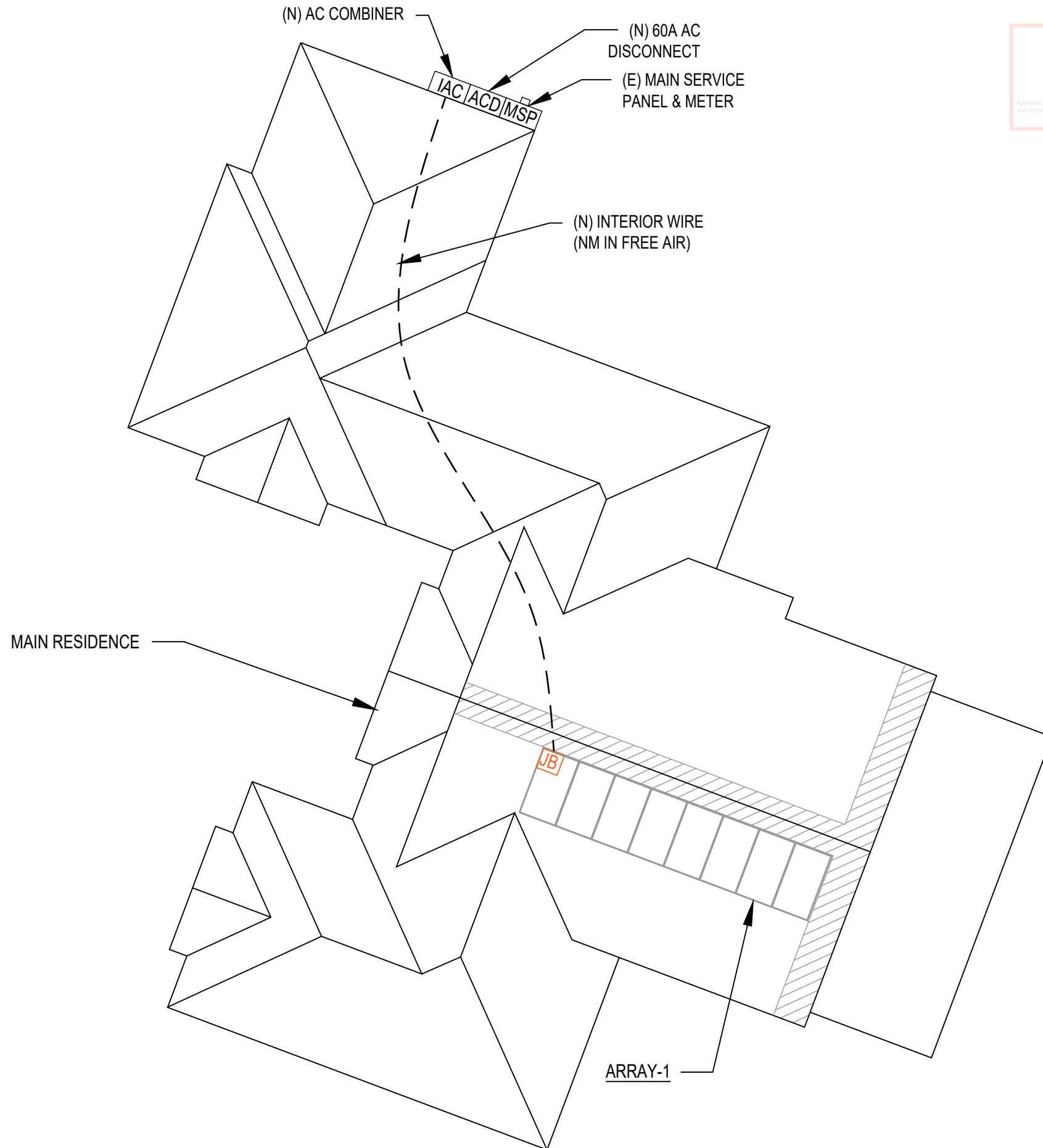
(8) Q.CELL Q.PEAK DUO BLK ML-G10+ 400 - (8) ENPHASE IQ8H-240-72-M-US [240V]



- SMOKE ALARMS AND CARBON MONOXIDE ALARMS MUST BE RETROFITTED INTO THE EXISTING DWELLING. SMOKE ALARMS ARE REQUIRED TO BE INSTALLED IN ALL BEDROOMS, OUTSIDE EACH BEDROOM, AND AT LEAST ONE ON EACH FLOOR OF THE HOUSE. CARBON MONOXIDE ALARMS ARE REQUIRED TO BE RETROFITTED OUTSIDE EACH BEDROOM AND AT LEAST ONE ON EACH FLOOR OF THE HOUSE. THESE ALARMS MAY BE SOLELY BATTERY OPERATED IF THE PHOTOVOLTAIC PROJECT DOES INVOLVE THE REMOVAL OF INTERIOR WALL AND CEILING FINISHES INSIDE THE HOME, OTHERWISE, THE ALARMS MUST BE HARD WIRED AND INTERCONNECTED (CRC R314.1, R315.1).

PROJECT SCOPE		
3.20 kWpDC 2.883 kWpAC PHOTOVOLTAIC SYSTEM PLAN		
General Notes		
1	12/5/23	--
2		--
3		--
4		--
No.	Revision/Issue	Date
ENGINEER SEAL		
<b>Firm Name and Address</b> CINRAN ELECTRICAL SOLUTION, INC 13600 PAWNEE RD, STE #4 APPLE VALLEY, CA 92308 CSLB # - 1020538 RANDALL MULVEY 		
<b>Project Name and Address</b> COMERESKI RESIDENCE 38566 VISTA DEL BOSQUE MURRIETA, CA 92562 APN: 929-060-021 AHJ: MURRIETA		
Project 4985302199	Sheet TITLE SHEET- SITE PLAN	PV1
Date 09/13/2023	DRPATER / REVIEWER HEV / MM	

ROOF DATA	
ARRAY	1
TILT	26°
AZIMUTH	270°
MODULE QUANTITY	8



County of Riverside Building & Safety  
 4080 Lemon St. 9th Floor  
 Riverside, CA 92502  
 APPROVED  
 12/11/2023 3:51:29 PM  
 REVIEWED BY: Eamezoua  
 Approval of these plans shall not be construed to be a permit for, or an approval of, any violations of any of the provisions of the state or county laws. This set of plans must be kept on the job until completion.

PROJECT SCOPE  
 3.20 kWpDC  
 2.883 kWpAC  
 PHOTOVOLTAIC  
 SYSTEM PLAN

General Notes

No.	Revision/Issue	Date
1	12/5/23	--
2		--
3		--
4		--

Total roof area(sq.ft.): 3711  
 Total array area(sq.ft.): 170  
 Array percentage: 4.58%

(8) Q.CELL Q.PEAK DUO BLK ML-G10+ 400 - (8) ENPHASE IQ8H-240-72-M-US [240V]

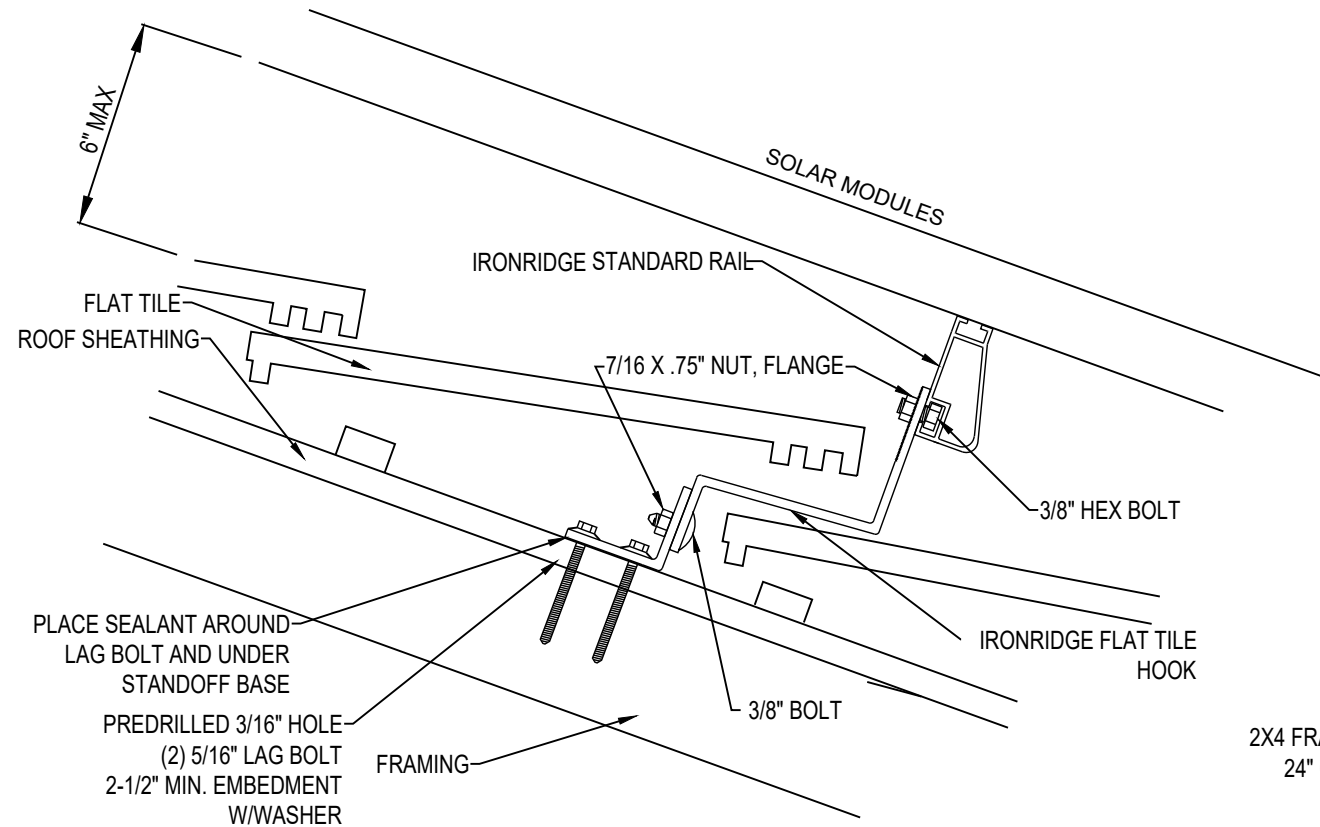
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ENGINEER SEAL

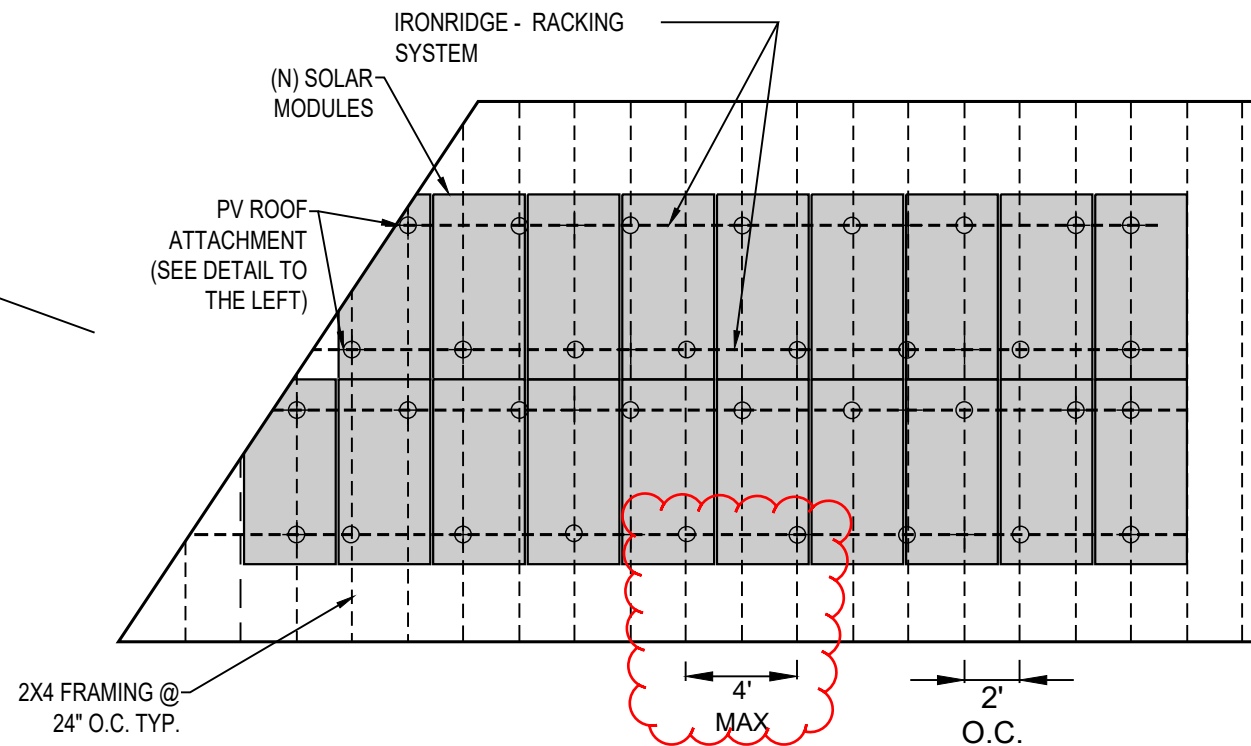
Firm Name and Address  
 CINRAN ELECTRICAL SOLUTION, INC  
 13600 PAWNEE RD, STE #4  
 APPLE VALLEY, CA 92308  
 CSLB # - 1020538  
 RANDALL MULVEY  
*Randall Mulvey*

Project Name and Address  
 COMERESKI RESIDENCE  
 38566 VISTA DEL BOSQUE  
 MURRIETA, CA 92562  
 APN: 929-060-021  
 AHJ: MURRIETA

Project	4985302199	Sheet	ROOF PLAN
Date	09/13/2023	DRAWN / REVIEWER	HEV / MM
PV2			

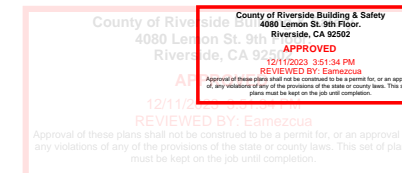


**ATTACHMENT DETAIL**  
NOT TO SCALE



**PARTIAL ROOF FRAMING PLAN**  
NOT TO SCALE

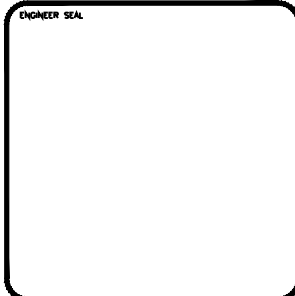
MODULE INFO	
Module Weight (lbs)	48.50
Module Area (ft <sup>2</sup> )	21.12
# of Modules	8
Total Module Weight (lbs)	388
Loading Per Stand-off:	67.90
Total area	168.97
Loading (PSF)	2.8



PROJECT SCOPE  
3.20 kWpDC  
2.883 kWpAC  
PHOTOVOLTAIC  
SYSTEM PLAN

General Notes

No.	Revision/Issue	Date
1	12/5/23	--
2		
3		
4		

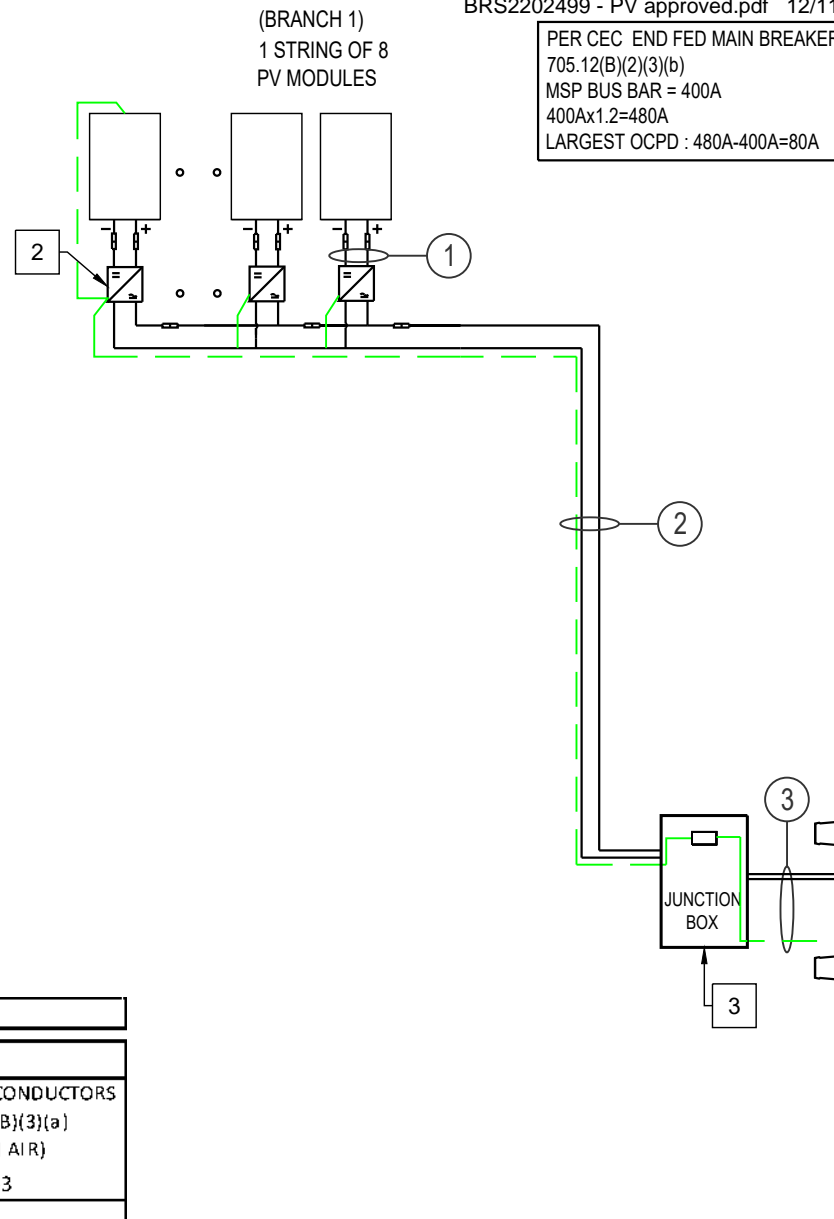


**Firm Name and Address**  
CINRAN ELECTRICAL SOLUTION, INC  
13600 PAWNEE RD, STE #4  
APPLE VALLEY, CA 92308  
CSLB # - 1020538  
RANDALL MULVEY  
*Randall Mulvey*

**Project Name and Address**  
COMERESKI RESIDENCE  
38566 VISTA DEL BOSQUE  
MURRIETA, CA 92562  
APN: 929-060-021  
AHJ: MURRIETA

Project: 4985302199  
Date: 09/13/2023  
Sheet: STRUCTURAL DETAILS  
CHAPTER / REVIEWER: HEV / MM  
**PV3**

ELECTRICAL EQUIPMENT LIST			
ITEM	DESCRIPTION	QTY	
1	PV MODULE Q.CELL Q.PEAK DUOBLK ML-G10+400 IP67 NEMA 6P OPEN CIRCUIT VOLTAGE = 40.10 VDC MAX. POWER VOLTAGE = 33.47 VDC SHORT CIRCUIT CURRENT = 10.04A MAX. POWER CURRENT = 9.56A	8	
2	MICRO INVERTER ENPHASE ENERGY: IQ8H-240-72-2-US 97.0% CEC EFFICIENCY @ 240 Vac 380 Wac CONTINUOUS MAX. OUTPUT CURRENT 1.58 Aac MAX. INPUT CURRENT 15 Adc EQUIPPED WITH RAPID SHUTDOWN	8	
3	JUNCTION BOX 6" X 6" X 4" UL LISTED, WATER-TIGHT NEMA TYPE 3,	1	
4	MAIN SERVICE PANEL (E) MAIN SERVICE PANEL & METER: 400MAIN BUSBAR W/ (E) 400 END FED MAIN BREAKER 705.12(B)(2)(3)(b).	1	
5	(N)PV BREAKER (N)20A-2P, 240V	1	
6	ENPHASE AC COMBINER BOX WITH IQ+ CONSOLIDATES INTERCONNECTION INTO A SINGLE ENCLOSED STREAMLINE	1	
6A	ENPHASE COMBINER BOX BREAKER 20A BREAKER FOR SOLAR 15A BREAKER FOR ENVOY MONITORING	1	
7	AC DISCONNECT NON-FUSED GENERAL USE SWITCH, 60A 2 POLE, BLADE TYPE 240V DISCONNECT	1	



PER CEC END FED MAIN BREAKER  
705.12(B)(2)(3)(b)  
400Ax1.2=480A  
LARGEST OCPD : 480A-400A=80A

Conductors			
Item #	QTY	Size & Description	Conduit Size
1	2	#12 AWG PV MANUFACTURE WIRE	FREE AIR
2	1	(2) #12 ENPHASE Q CABLE	FREE AIR
3	2	#12 12-2G (ROMEX IN ATTIC)	FREE AIR
4	1	#8 6-2G (ROMEX IN WALLS)	FREE AIR

**PROJECT SCOPE**

3.20 kWpDC  
2.883 kWpAC  
**PHOTOVOLTAIC SYSTEM PLAN**

**General Notes**

- SOLID BARE E.G.C. (FREE-AIR) MOUNTED UNDER ARRAY
- PER CEC 250.120(C): WHERE CONDUCTORS & GROUND WIRE ARE RUN EXPOSED ON FROM ARRAY TO J-BOX, CONDUCTORS & BARE GROUND WIRE SHALL BE CONCEALED IN CONDUIT
- PER CEC ARTICLE 690.35 INVERTER GROUND FAULT PROTECTION PROVIDED
- ALL GROUNDS AND NEUTRALS BONDED TO EXISTING GROUNDING CONDUCTOR W/ IRREVERSIBLE CRIMP CONNECTOR.
- BACKFED BREAKERS MUST BE LOCATED @ OPPOSITE END OF BUS BAR FROM MAIN BREAKER OR MAIN LUG ON GRID SIDE. WHEN A BACKFED BREAKER IS THE METHOD OF UTILITY INTERCONNECTION, BREAKER SHALL NOT READ 'LINE OR LOAD'.
- PER CEC 250.64(C): CONDUCTOR SPLICES ONLY ALLOWED WITH COMPRESSION CONNECTORS OR EXOTHERMIC WELDING
- ALL GROUNDS AND NEUTRALS BONDED TO EXISTING GROUNDING CONDUCTOR W/ IRREVERSIBLE CRIMP CONNECTOR.
- VERIFY (E) UFER GROUND NEAR MSP. IF (E) UFER IS NOT ACCESSIBLE OR VERIFIABLE, INSTALL A NEW 5/8"Ø X 8' LONG EMBEDDED GROUNDING ROD AND BOND SOLAR SYSTEM EQUIPMENT GROUNDING ACCORDINGLY.

1	12/5/23	--
2		
3		
4		

No. Revision/Issue Date

AMPACITY CALCULATIONS			
<b>ARRAY TO JBOX</b>			
WIRE AMPACITY TABLE 310.15(B)(16) Pv-1KV - 90° C 12 AWG	THERMAL DERATE FACTOR TABLE 310.15(B)(2)(a) (ON ROOF) 60	NUMBER OF CONDUCTORS 310.15 (B)(3)(a) (OPEN AIR) 0-3	
30 AMPS	X	0.67	X
MAXIMUM ALLOWABLE AMPACITY = 20.1			
BRANCH 1 IMAX = 15.80			
BRANCH 2 IMAX = 0.00			
BRANCH 3 IMAX = 0.00			

JBOX TO AC COMBINER			
WIRE AMPACITY TABLE 310.15(B)(16) THWN-2 - 90° C 12 AWG	THERMAL DERATE FACTOR TABLE 310.15(B)(2)(a) (ON ROOF) (C°) 60	NUMBER OF CONDUCTORS 310.15 (B)(3)(a) 4-6	
30 AMPS	X	0.67	X
MAXIMUM ALLOWABLE AMPACITY = 16.08			
PV DESIGN AMPACITY = 15.80			

AC COMBINER TO MAIN SERVICE PANEL			
WIRE AMPACITY TABLE 310.15(B)(16) THWN-2 - 75° C 8 AWG	THERMAL DERATE FACTOR TABLE 310.15(B)(2)(a) 38	NUMBER OF CONDUCTORS 310.15 (B)(3)(a) 0-3	
50 AMPS	X	0.88	X
MAXIMUM ALLOWABLE AMPACITY = 44.00			
PV DESIGN AMPACITY = 15.80			

SYSTEM AC CALCULATIONS						
TOTAL SYSTEM SIZE (AC)						
	MODULE PTC RATING		TOTAL # OF MODULES		INVERTER CEC EFF.	TOTAL WATTS (AC)
CEC POWER RATING	371.5	X	8	X	0.97	= 2883
	IMAX CURRENT		(AMPS)	W/NEC DERATE	OCPD / BRANCH	
BRANCH 1	1.58	X	8	= 12.64	15.8	20
BRANCH 2	1.58	X	0	= 0.00	0	1
SYSTEM IMP	2883	/	240V	= 12.01		
INV. IMAX	1.58	X	8	= 12.64	15.8	20

County of Riverside Building & Safety  
4080 Lemon St. 9th Floor.  
Riverside, CA 92502  
APPROVED  
12/11/2023 3:51:30 PM  
REVIEWED BY: Eameszoua  
Approval of these plans shall not be construed to be a permit fee, or an approval of, any violation of any of the provisions of the state or county laws. This set of plans must be kept on the job until completion.

(8) Q.CELL Q.PEAK DUO BLK ML-G10+ 400 - (8) ENPHASE IQ8H-240-72-M-US [240V]

**ENGINEER SEAL**

**Firm Name and Address**  
CINRAN ELECTRICAL SOLUTION, INC  
13600 PAWNEE RD, STE #4  
APPLE VALLEY, CA 92308  
CSLB # - 1020538  
RANDALL MULVEY

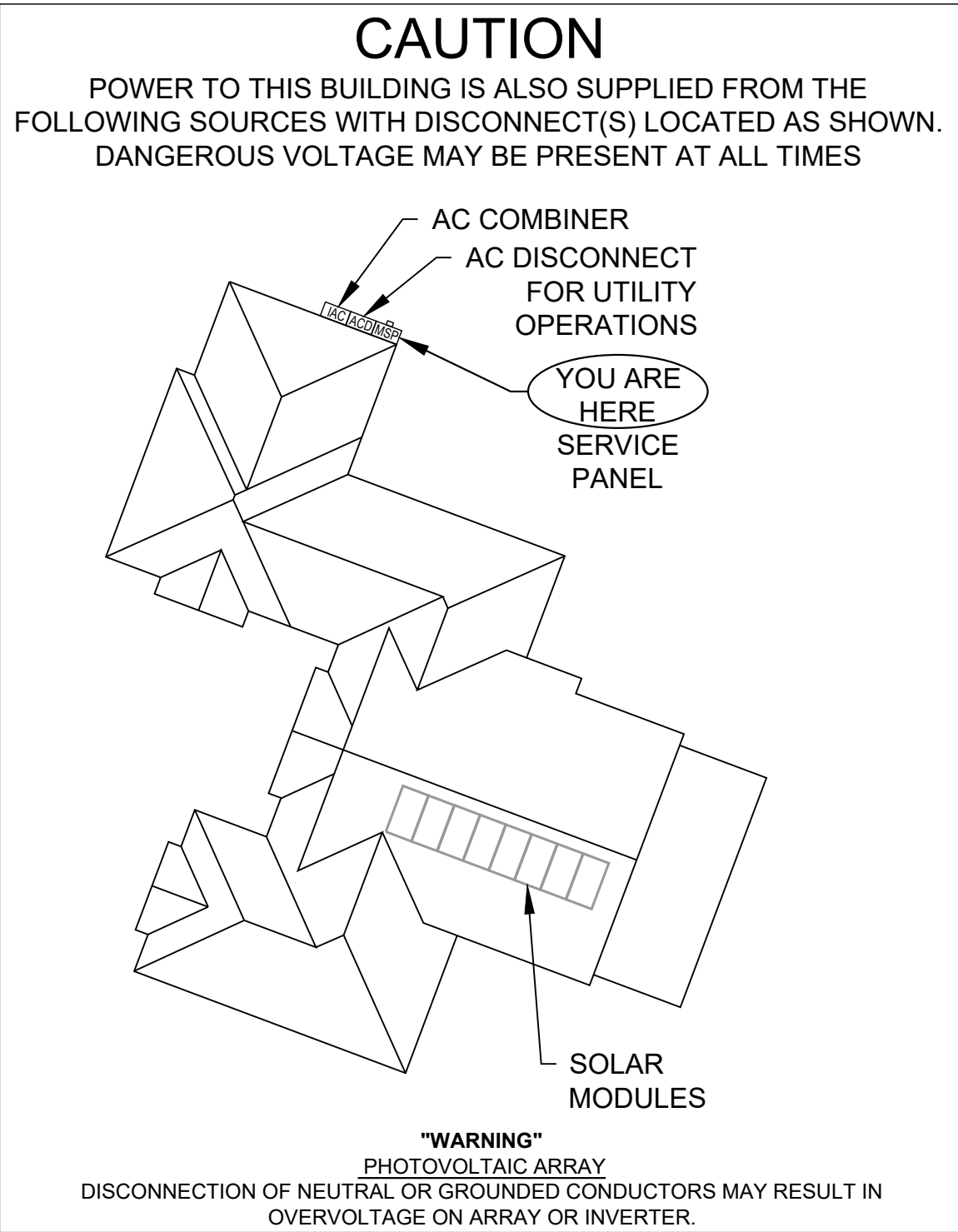
**Project Name and Address**  
COMERESKI RESIDENCE  
38566 VISTA DEL BOSQUE  
MURRIETA, CA 92562  
APN: 929-060-021  
AHJ: MURRIETA

Project: 4985302199  
Date: 09/13/2023  
DRAWN / REVIEWER: HEV / MM

Sheet: SINGLE LINE DIAGRAM  
**PV4**

**NOTES**

- CEC ARTICLES 690 AND 705 AND CRC SECTION R331 MARKINGS SHOWN HEREON
- ALL MARKINGS SHALL CONSIST OF THE FOLLOWING:
  - UV RESISTANT SIGN MATERIAL WITH ENGRAVED OR MACHINE PRINTED LETTERS OR ELECTRO-PLATING
  - RED BACKGROUND COLOR WITH WHITE TEXT AND LINE WORK
  - ARIAL FONT
- ALL SIGNS SHALL BE SIZED APPROPRIATELY AND PLACED IN THE LOCATIONS SPECIFIED.
- SIGNS SHALL NOT BE ATTACHED TO THE SERVICE EQUIPMENT USING POP-RIVETS OR SCREWS.
- THE LABEL SHALL BE SUITABLE FOR THE ENVIRONMENT WHERE IT IS INSTALLED.
- WHERE REQUIRED ELSEWHERE IN THIS CODE, ALL FIELD APPLIED LABELS, WARNINGS, AND MARKINGS SHOULD COMPLY WITH ANSI Z535.4 [CEC 110.21(B) FIELD MARKING].
- ADHESIVE FASTENED SIGNS MAY BE ACCEPTABLE IF PROPERLY ADHERED. VINYL SIGNS SHALL BE WEATHER RESISTANT [IFC 605.11.1.3]



**WARNING**  
INVERTER OUTPUT CONNECTION DO NOT RELOCATE THIS OVERCURRENT DEVICE  
(UNLESS BUSBAR IS FULLY RATED) (CEC 705.12)  
WHITE LETTERS WITH RED BACKGROUND

**PHOTOVOLTAIC SYSTEM AC DISCONNECT**  
RATED AC OPERATING CURRENT 15.8 AMPS  
AC NOMINAL OPERATING VOLTAGE 240 VOLTS  
CEC 690.54  
WHITE LETTERS WITH RED BACKGROUND

**SOLAR DISCONNECT**  
CEC 690.13(B)  
WHITE LETTERS WITH RED BACKGROUND

**WARNING**  
ELECTRIC SHOCK HAZARD  
TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION  
DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT  
CEC 690.17(E)  
BLACK OUTLINE WITH BLACK TEXT / WARNING IS IN BLACK TEXT AND ORANGE BACKGROUND

**PV SUB PANEL ONLY**

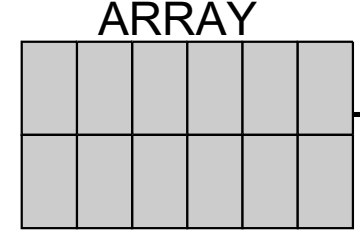
**WARNING**  
THIS EQUIPMENT FED BY MULTIPLE SOURCES. TOTAL RATING OF ALL OVERCURRENT DEVICES, EXCLUDING MAIN SUPPLY OVERCURRENT DEVICE, SHALL NOT EXCEED AMPACITY OF BUSBAR  
CEC 705.12 BLACK LETTERS WITH ORANGE BACKGROUND

**SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN**  
TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN ARRAY  
CEC 690.56(C)(1)(A)  
BLACK OUTLINE WITH BLACK TEXT AND WHITE BACKGROUND / NOTE ON TOP IS IN BLACK TEXT AND YELLOW BACKGROUND

**CAUTION: SOLAR ELECTRIC SYSTEM CONNECTED**  
CEC 690.15, 690.13(B)  
BLACK TEXT WITH YELLOW BACKGROUND

**RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM**  
CEC 690.56 (C)(3)  
WHITE LETTERS WITH RED BACKGROUND

**WARNING - Electric Shock Hazard**  
No user serviceable parts inside  
Contact authorized service provider for assistance  
CEC 690.13.G.3 & CEC 690.13.G.4  
WHITE LETTERS WITH RED BACKGROUND



**WARNING: PHOTOVOLTAIC POWER SOURCE**  
CEC 690.31(G)(3)(4) & CEC 690.13(G)(4)  
TO BE PLACED AT LEAST EVERY 10FT  
WHITE LETTERS WITH RED BACKGROUND

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4080 Lemon St. 9th Floor  
Riverside, CA 92502  
APPROVED  
12/11/2023 3:51:44 PM  
REVIEWED BY: Eamezcua  
Approval of these plans shall not be construed to be a permit for, or an approval of any violations of any of the provisions of the state or county laws. This set of plans must be kept on the job until completion.

**PROJECT SCOPE**

3.20 kWpDC  
2.883 kWpAC  
**PHOTOVOLTAIC SYSTEM PLAN**

**General Notes**

1	12/5/23	--
2		
3		
4		
No.	Revision/Issue	Date

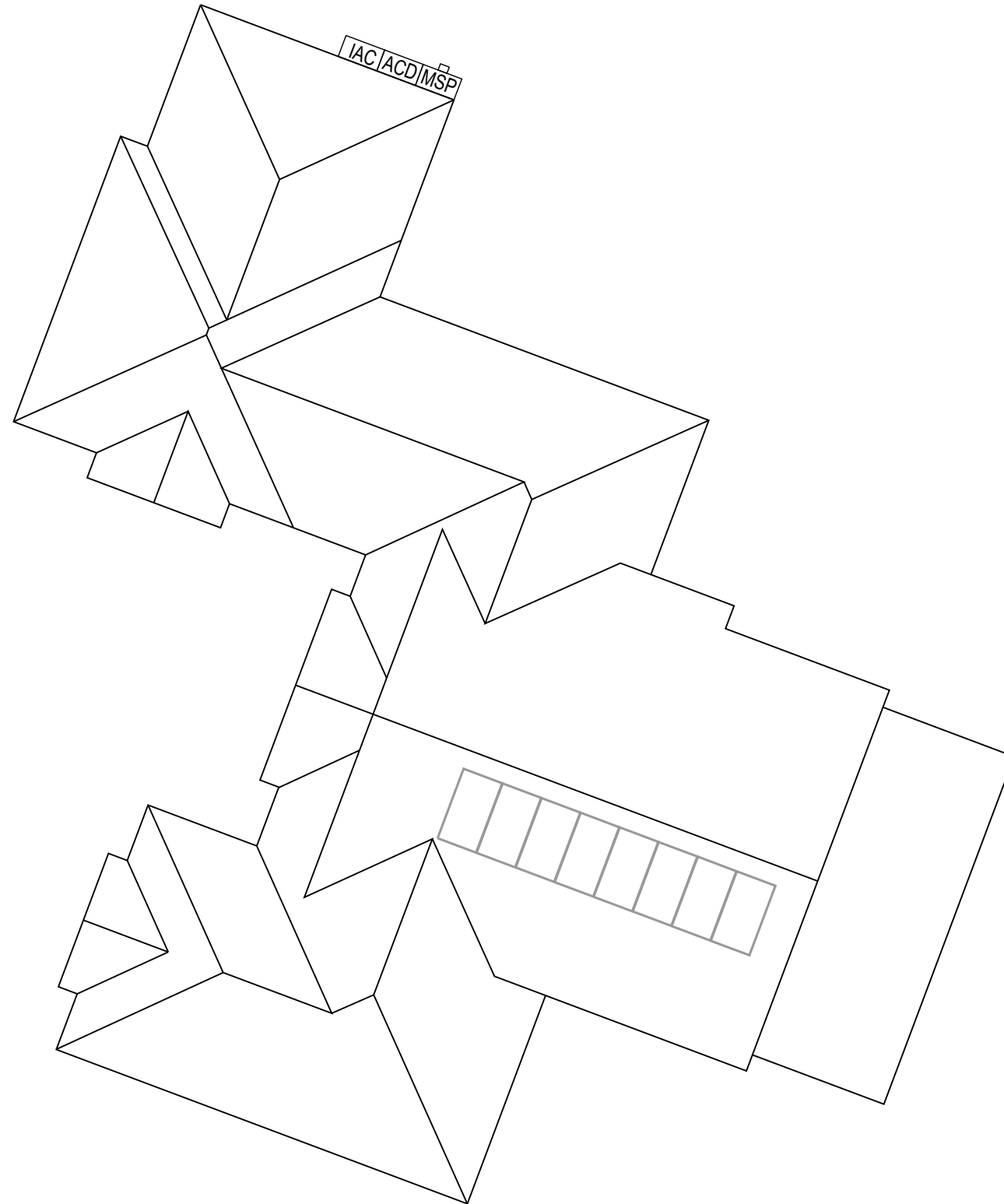
**ENGINEER SEAL**

**Firm Name and Address**  
CINRAN ELECTRICAL SOLUTION, INC  
13600 PAWNEE RD, STE #4  
APPLE VALLEY, CA 92308  
CSLB # - 1020538  
RANDALL MULVEY

**Project Name and Address**  
COMERESKI RESIDENCE  
38566 VISTA DEL BOSQUE  
MURRIETA, CA 92562  
APN: 929-060-021  
AHJ: MURRIETA

**Project** 4985302199 **Sheet** PLACARDS & LABELS  
**Date** 09/13/2023 **PLACARDS & LABELS**  
**OWNER / REVIEWER** HEV / MM **PV5**

	A	B	C	D
1				
2				
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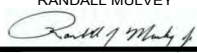


PROJECT SCOPE  
 3.20 kWpDC  
 2.883 kWpAC  
 PHOTOVOLTAIC  
 SYSTEM PLAN

General Notes

No.	Revision/Issue	Date
1		--
2		--
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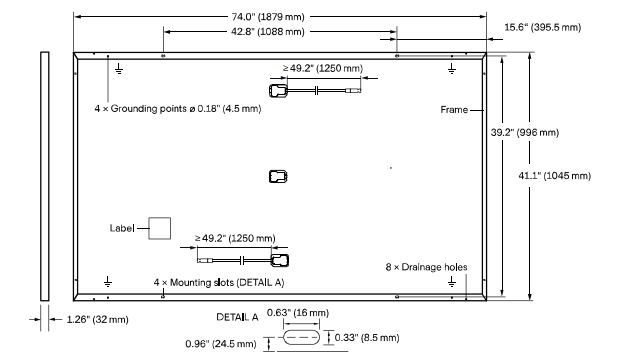
ENGINEER SEAL

  
 Firm Name and Address  
 CINRAN ELECTRICAL SOLUTION, INC  
 13600 PAWNEE RD, STE #4  
 APPLE VALLEY, CA 92308  
 CSLB # - 1020538  
 RANDALL MULVEY  


Project Name and Address  
 COMERESKI RESIDENCE  
 38566 VISTA DEL BOSQUE  
 MURRIETA, CA 92562  
 APN: 929-060-021  
 AHJ: MURRIETA

Project 4985302199	Sheet LAYOUT - STICKER MAP
Date 09/13/2023	<b>PV6</b>
CHAPTER / REVISION HEV / MM	

Format	74.0in x 41.1in x 1.26in (including frame) (1879mm x 1045mm x 32mm)
Weight	48.5lbs (22.0kg)
Front Cover	0.13in (3.2mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodized aluminum
Cell	6 x 22 monocrystalline Q.ANTUM solar half cells
Junction Box	2.09-3.98in x 1.26-2.36in x 0.59-0.71in (53-101mm x 32-60mm x 15-18mm), IP67, with bypass diodes
Cable	4mm <sup>2</sup> Solar cable; (+) ≥ 49.2in (1250mm), (-) ≥ 49.2in (1250mm)
Connector	Stäubli MC4; IP68



# Q.PEAK DUO BLK ML-G10+ 385-405

ENDURING HIGH PERFORMANCE



### BREAKING THE 20% EFFICIENCY BARRIER

Q.ANTUM DUO Z Technology with zero gap cell layout boosts module efficiency up to 20.9%.



### THE MOST THOROUGH TESTING PROGRAMME IN THE INDUSTRY

Q CELLS is the first solar module manufacturer to pass the most comprehensive quality programme in the industry: The new "Quality Controlled PV" of the independent certification institute TÜV Rheinland.



### INNOVATIVE ALL-WEATHER TECHNOLOGY

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



### ENDURING HIGH PERFORMANCE

Long-term yield security with Anti LID Technology, Anti PID Technology<sup>1</sup>, Hot-Spot Protect and Traceable Quality Tra.Q™.



### EXTREME WEATHER RATING

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



### A RELIABLE INVESTMENT

Inclusive 25-year product warranty and 25-year linear performance warranty<sup>2</sup>.

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

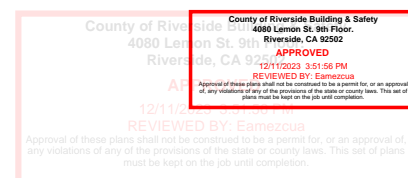
<sup>2</sup> See data sheet on rear for further information.



6 BUSBAR CELL TECHNOLOGY

12 BUSBAR CELL TECHNOLOGY

### THE IDEAL SOLUTION FOR:

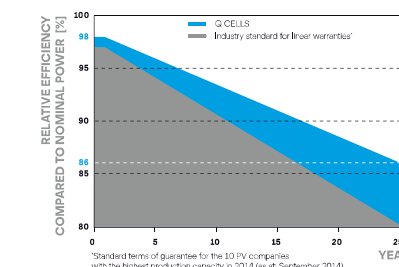


### ELECTRICAL CHARACTERISTICS

POWER CLASS		385	390	395	400	405	
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC <sup>1</sup> (POWER TOLERANCE +5W / -0W)							
Minimum	Power at MPP <sup>1</sup>	P <sub>MPP</sub> [W]	385	390	395	400	405
	Short Circuit Current <sup>2</sup>	I <sub>SC</sub> [A]	11.04	11.07	11.10	11.14	11.17
	Open Circuit Voltage <sup>2</sup>	V <sub>OC</sub> [V]	45.19	45.23	45.27	45.30	45.34
	Current at MPP	I <sub>MPP</sub> [A]	10.59	10.65	10.71	10.77	10.83
	Voltage at MPP	V <sub>MPP</sub> [V]	36.36	36.62	36.88	37.13	37.39
	Efficiency <sup>3</sup>	η [%]	≥19.6	≥19.9	≥20.1	≥20.4	≥20.6
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT <sup>2</sup>							
Minimum	Power at MPP	P <sub>MPP</sub> [W]	288.8	292.6	296.3	300.1	303.8
	Short Circuit Current	I <sub>SC</sub> [A]	8.90	8.92	8.95	8.97	9.00
	Open Circuit Voltage	V <sub>OC</sub> [V]	42.62	42.65	42.69	42.72	42.76
	Current at MPP	I <sub>MPP</sub> [A]	8.35	8.41	8.46	8.51	8.57
	Voltage at MPP	V <sub>MPP</sub> [V]	34.59	34.81	35.03	35.25	35.46

<sup>1</sup> Measurement tolerances P<sub>MPP</sub> ± 3%; I<sub>SC</sub>; V<sub>OC</sub> ± 5% at STC: 1000W/m<sup>2</sup>, 25 ± 2°C, AM 1.5 according to IEC 60904-3 • \*800W/m<sup>2</sup>, NMOT, spectrum AM 1.5

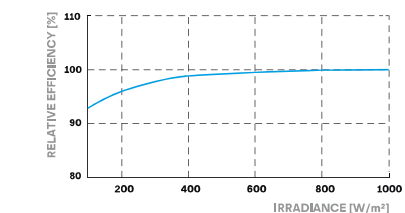
### Q CELLS PERFORMANCE WARRANTY



At least 98% of nominal power during first year. Thereafter max. 0.5% degradation per year. At least 93.5% of nominal power up to 10 years. At least 86% of nominal power up to 25 years.

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

### PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25°C, 1000W/m<sup>2</sup>)

### TEMPERATURE COEFFICIENTS

Temperature Coefficient of I <sub>SC</sub>	α [%/K]	+0.04	Temperature Coefficient of V <sub>OC</sub>	β [%/K]	-0.27
Temperature Coefficient of P <sub>MPP</sub>	γ [%/K]	-0.34	Nominal Module Operating Temperature	NMOT [°F]	109 ± 5.4 (43 ± 3°C)

### PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage V <sub>sys</sub>	[V]	1000 (IEC) / 1000 (UL)	PV module classification	Class II
Maximum Series Fuse Rating	[A DC]	20	Fire Rating based on ANSI / UL 61730	TYPE 2
Max. Design Load, Push / Pull <sup>3</sup>	[lbs/ft <sup>2</sup> ]	75 (3600 Pa) / 55 (2660 Pa)	Permitted Module Temperature on Continuous Duty	-40°F up to +185°F (-40°C up to +85°C)
Max. Test Load, Push / Pull <sup>3</sup>	[lbs/ft <sup>2</sup> ]	113 (5400 Pa) / 84 (4000 Pa)		

<sup>3</sup> See Installation Manual

### QUALIFICATIONS AND CERTIFICATES

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



### PACKAGING INFORMATION

Horizontal packaging	76.4in 1940mm	43.3in 1100mm	48.0in 1220mm	1656lbs 751kg	24 pallets	24 pallets	32 modules
----------------------	------------------	------------------	------------------	------------------	------------	------------	------------

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

# IQ8H-240 Microinverter



## IQ8H-240 Microinverter

Our newest IQ8 Microinverters are the industry's first microgrid-forming, software defined 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 superfast 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 IQ Battery, IQ Gateway, and the Enphase App monitoring and analysis software.



IQ8 Series Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 25 years.



Connect PV modules quickly and easily to the IQ8 Series Microinverters that has integrated MC4 connectors.



IQ8 Series Microinverters are UL listed as PV Rapid Shutdown Equipment and conform with various regulations, when installed according to manufacturer's instructions.

\*Only when installed with IQ System Controller 2, meets UL 1741.  
\*\*IQ8H-240 support split-phase, 240V.

### Easy to install

- Lightweight and compact with plug-n-play connectors
- 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 high-powered 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) and IEEE 1547:2018 (UL 1741-SB 3<sup>rd</sup> Ed.)

### Note:

IQ8 Microinverters cannot be mixed together with previous generations of Enphase microinverters (IQ7 Series, IQ6 Series, etc) in the same system.

INPUT DATA (DC)		IQ8H-240-72-M-US
Commonly used module pairings <sup>1</sup>	W	320 – 540
Module compatibility		54-cell / 108 half-cell, 60-cell / 120 half-cell, 66-cell / 132 half-cell and 72-cell / 144 half-cell
MPPT voltage range	V	36 – 45
Operating range	V	16 – 58
Min. / Max. start voltage	V	22 / 58
Max. input DC voltage	V	60
Max. continuous input DC current	A	12
Max. input DC short-circuit current	A	25
Max. module I <sub>sc</sub>	A	20
Overvoltage class DC port		II
DC port backfeed current	mA	0
PV array configuration		1 x 1 Ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit

OUTPUT DATA (AC)		IQ8H-240-72-M-US
Peak output power	VA	384
Max. continuous output power	VA	380
Nominal (L-L) voltage / range <sup>2</sup>	V	240 / 211 – 264
Max. continuous output current	A	1.58
Nominal frequency	Hz	60
Extended frequency range	Hz	47 – 68
AC short circuit fault current over 3 cycles	Arms	2
Max. units per 20 A (L-L) branch circuit <sup>3</sup>		10
Total harmonic distortion		<5%
Overvoltage class AC port		III
AC port backfeed current	mA	30
Power factor setting		1.0
Grid-tied power factor (adjustable)		0.85 leading – 0.85 lagging
Peak efficiency	%	97.6
CEC weighted efficiency	%	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	4% to 100% (condensing)
DC Connector type	Stäubli MC4
Dimensions (H x W x D)	212 mm (8.3") x 175 mm (6.9") x 30.2 mm (1.2")
Weight	1.1 kg (2.43 lbs)
Cooling	Natural convection – no fans
Approved for wet locations	Yes
Pollution degree	PD3
Enclosure	Class II double-insulated, corrosion resistant polymeric enclosure
Environ. category / UV exposure rating	NEMA Type 6 / outdoor

COMPLIANCE	
Certifications	CA Rule 21 (UL 1741-SA), UL 62109-1, IEEE 1547:2018 (UL 1741-SB 3 <sup>rd</sup> Ed.), FCC Part 15 Class B, ICES-0003 Class B, CAN / CSA-C22.2 NO. 107.1-01 This product is UL Listed as PV Rapid Shutdown Equipment and conforms with NEC 2014, NEC 2017, and NEC 2020 section 690.12 and C22.1-2018 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, when installed according to manufacturer's instructions.

(1) Pairing PV modules with wattage above the limit may result in additional clipping losses. See the compatibility calculator at <https://link.enphase.com/module-compatibility>. (2) Nominal voltage range can be extended beyond nominal if required by the utility. (3) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.



# Flush Mount System

## XR Rails



### XR10 Rail



A low-profile mounting rail for regions with light snow.

- 6' spanning capability
- Moderate load capability
- Clear and black finish

### XR100 Rail



The ultimate residential solar mounting rail.

- 8' spanning capability
- Heavy load capability
- Clear and black finish

### XR1000 Rail



A heavyweight mounting rail for commercial projects.

- 12' spanning capability
- Extreme load capability
- Clear anodized finish

### BOSS™ Bonded Splices



Bonded Structural Splices connect XR Rails together.

- Integrated bonding
- No tools or hardware
- Self-centering stop tab

## Clamps & Grounding

### UFO™



Universal Fastening Objects bond modules to rails.

- Fully assembled & lubed
- Single, universal size
- Clear and black finish

### Stopper Sleeves



Snap onto the UFO to turn into a bonded end clamp.

- Bonds modules to rails
- Sized to match modules
- Clear and black finish

### CAMO™



Bond modules to rails while staying completely hidden.

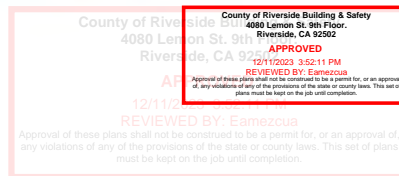
- Universal end-cam clamp
- Tool-less installation
- Fully assembled

### Bonding Hardware



Bond and attach XR Rails to roof attachments.

- T & Square Bolt options
- Nut uses 7/16" socket
- Assembled and lubricated



## Built for solar's toughest roofs.

IronRidge builds the strongest mounting system for pitched roofs in solar. Our components have been tested to the limit and proven in extreme environments, including Florida's high-velocity hurricane zones.

Our rigorous approach has led to unique structural features, such as curved rails and reinforced flashings, and is also why our products are fully certified, code compliant and backed by a 25-year warranty.

**Strength Tested**  
 All components evaluated for superior structural performance.

**Class A Fire Rating**  
 Certified to maintain the fire resistance rating of the existing roof.

**UL 2703 Listed System**  
 Entire system and components meet newest effective UL 2703 standard.

**PE Certified**  
 Pre-stamped engineering letters available in most states.

**Design Assistant**  
 Online software makes it simple to create, share, and price projects.

**25-Year Warranty**  
 Products guaranteed to be free of impairing defects.

## Attachments

### FlashFoot2™



Flash and mount XR Rails with superior waterproofing.

- Twist-on Cap eases install
- Wind-driven rain tested
- Mill and black finish

### FlashVue™



Flash and mount conduit, strut, or junction boxes.

- Twist-on Cap eases install
- Wind-driven rain tested
- Secures 3/4" or 1" conduit

### Knockout Tile



Replace tiles and ensure superior waterproofing.

- Flat, S, & W tile profiles
- Form-fit compression seal
- Single-lag universal base

### All Tile Hook



Mount on tile roofs with a simple, adjustable hook.

- Works on flat, S, & W tiles
- Single-socket installation
- Optional deck flashing

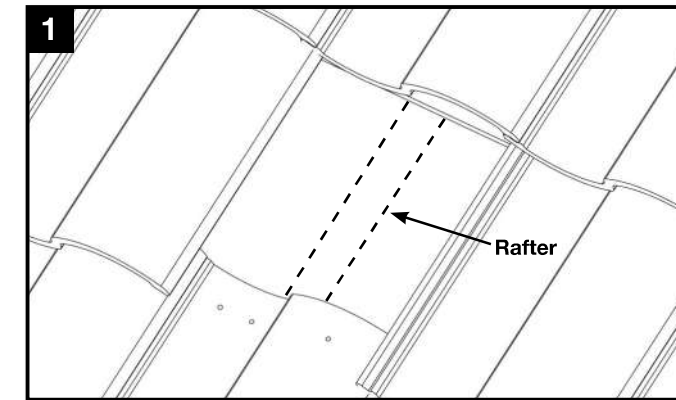
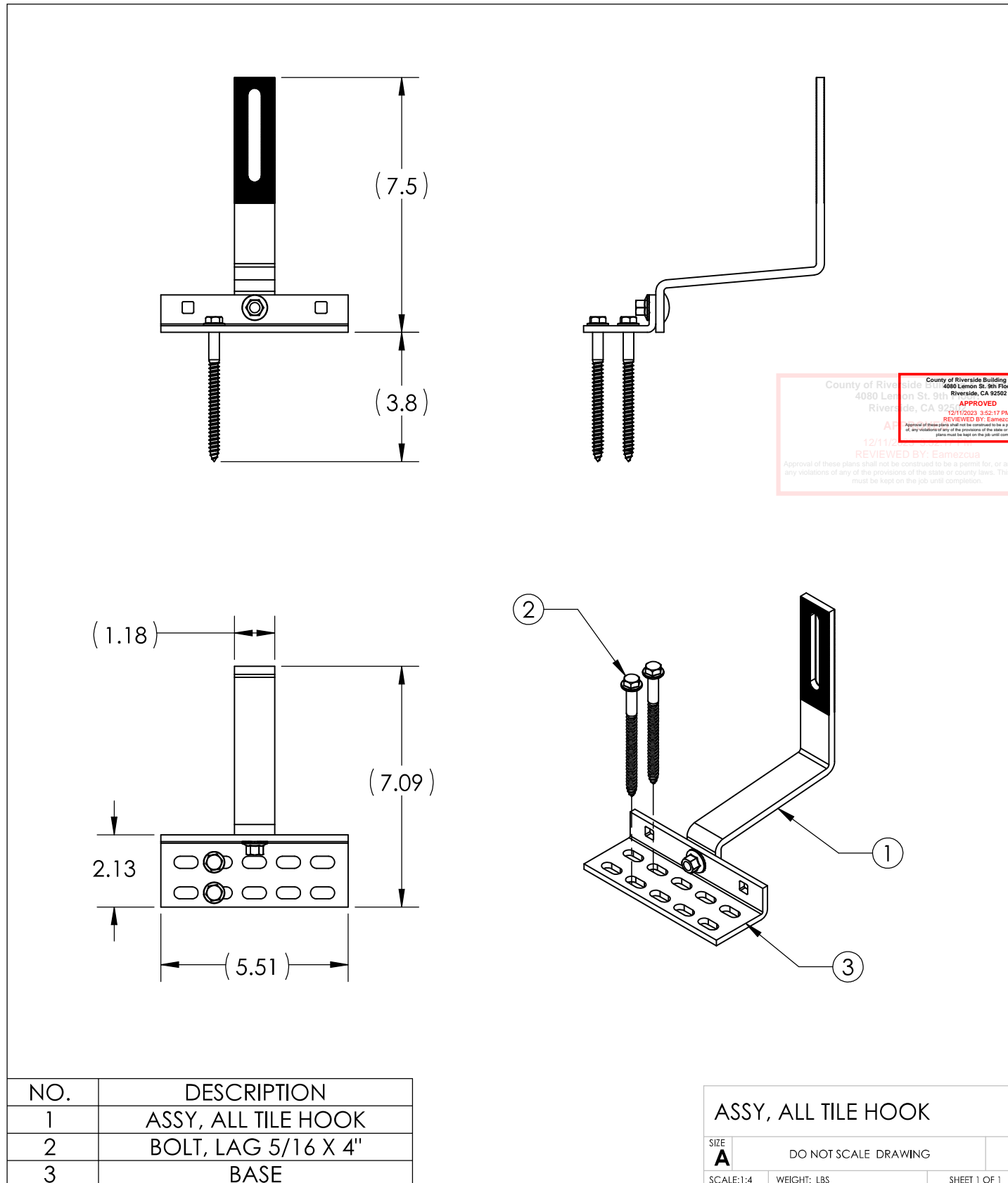
## Resources

**Design Assistant**  
 Go from rough layout to fully engineered system. For free.  
 Go to [IronRidge.com/design](https://IronRidge.com/design)

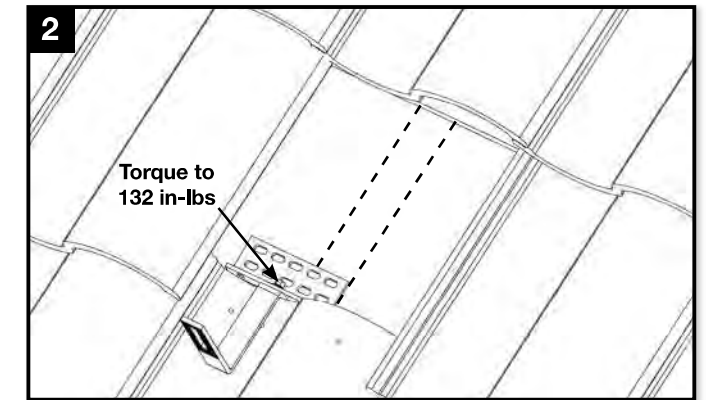
**Endorsed by FL Building Commission**  
 Flush Mount is the first mounting system to receive Florida Product approval for 2017 Florida Building Code compliance.  
 Learn More at [bit.ly/floridacert](https://bit.ly/floridacert)

**All Tile Hook Installation**

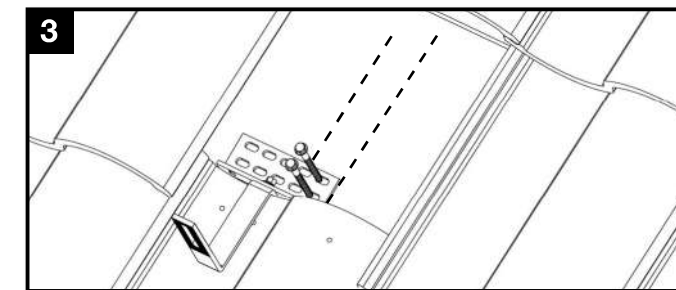
**Tools Required:** tape measure, chalk, caulking gun, driver, 7/16" hex socket, and 1/4" drill bit (optional: stud finder and tile grinder)



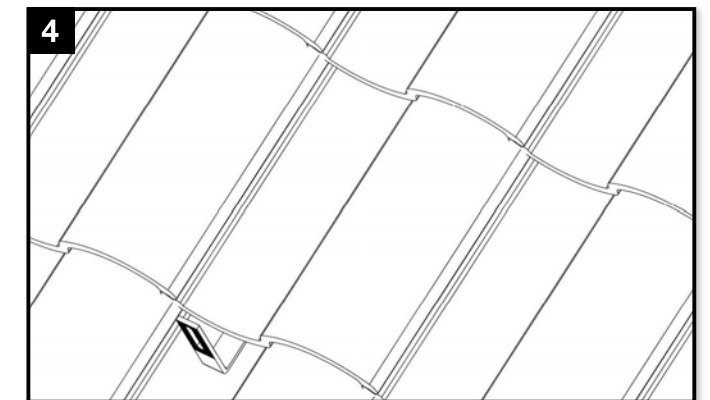
Remove tile and locate rafter.



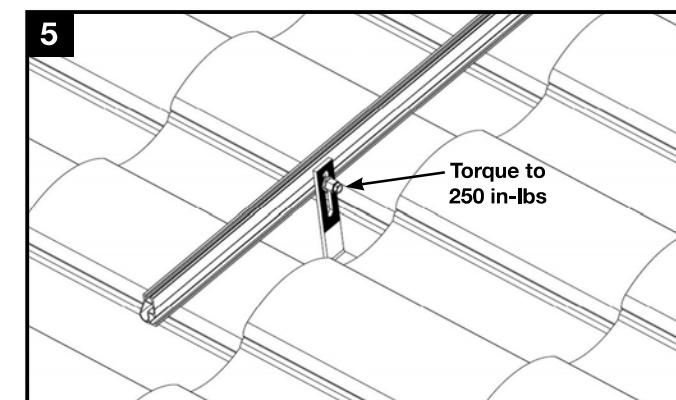
Position base over rafter, adjust arm if necessary and torque hardware to 132 in-lbs (11 ft-lbs). Position arm near center of valley for curved tiles, and away from joining seam for flat tiles.



Use base as guide to drill 1/4" pilot holes, then fill with roofing manufacturer's approved sealant. Insert lag bolts and tighten until fully seated. [IronRidge offers an optional aluminum deck flashing.](#) Other approved flashing methods include user supplied adhesive backed flexible flashing.



Replace tiles and notch if necessary to ensure proper fit.



Attach rails to either side of slot using bonding hardware. Level rails at desired height. Ensure hook does not extend above rail. Torque hardware to 250 in-lbs (21 ft-lbs).

**Structural Certification**  
 Designed and Certified for Compliance with the International Building Code & ASCE/SEI-7.

**Water Seal Ratings**  
 Water Sealing Tested to UL 441 Section 27 "Rain Test" and TAS 100(A)-95 "Wind Driven Rain Test" by Intertek. Ratings applicable for concrete tile roofs having slopes between 2:12 and 12:12. Tested and evaluated without sealant. Any roofing manufacturer approved sealant is allowed.

**UL 2703**  
 Conforms to UL 2703 Mechanical and Bonding Requirements. See IronRidge Flush Mount Installation Manual for full ratings.



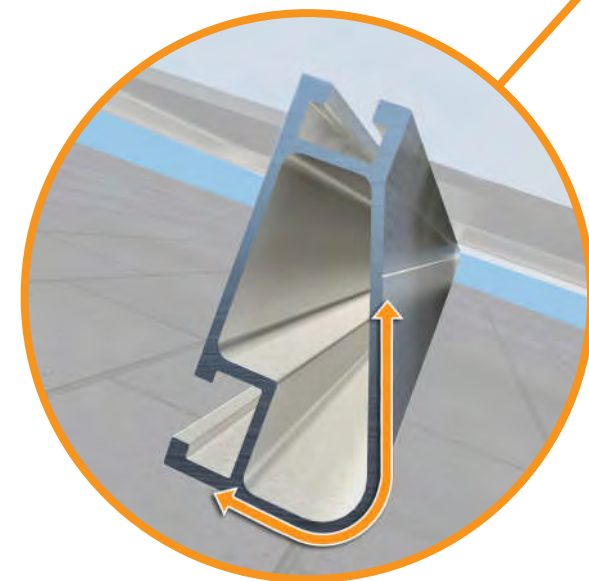
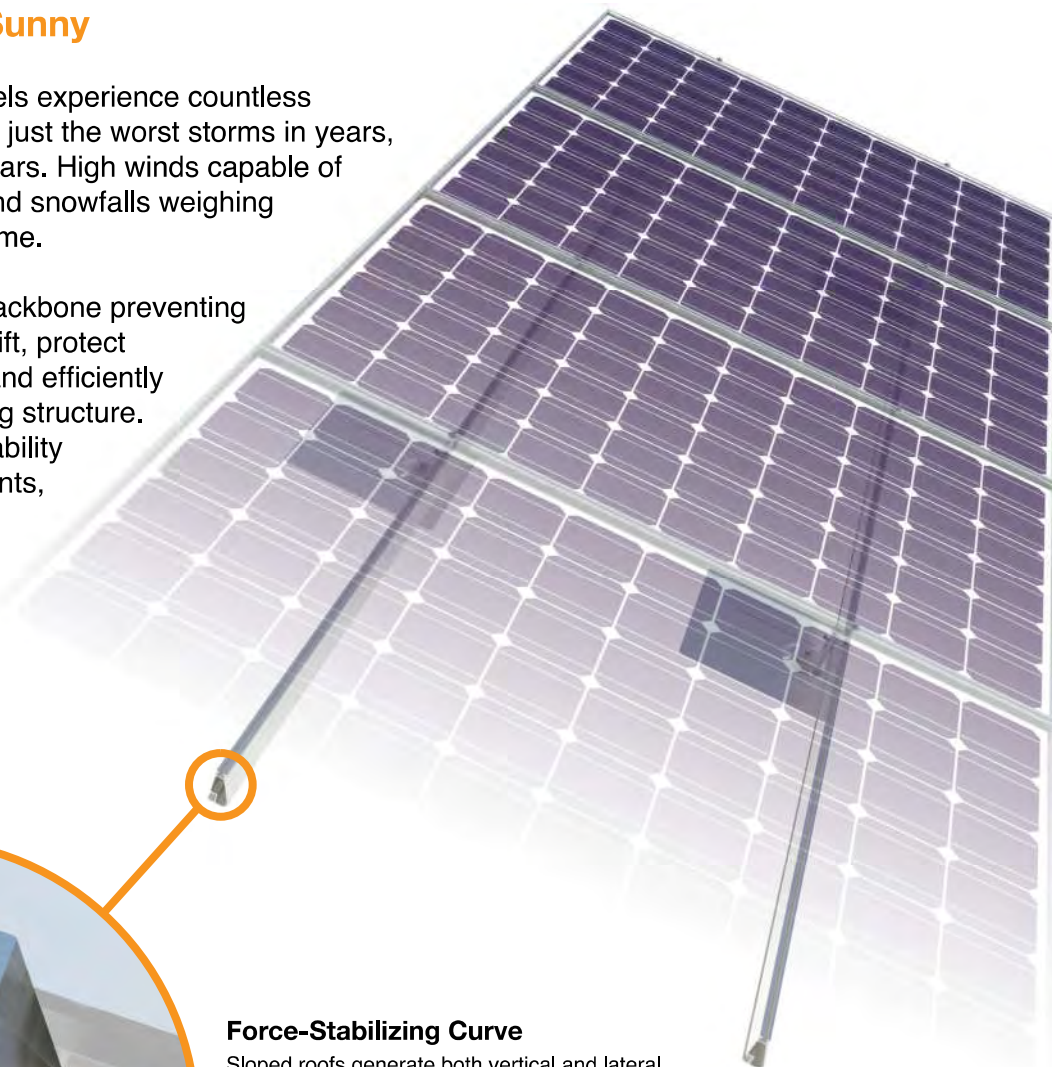
# XR Rail Family

# XR Rail Family

## Solar Is Not Always Sunny

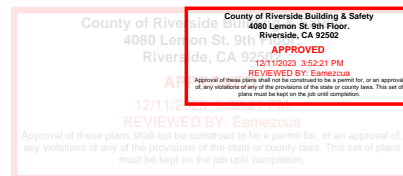
Over their lifetime, solar panels experience countless extreme weather events. Not just the worst storms in years, but the worst storms in 40 years. High winds capable of ripping panels from a roof, and snowfalls weighing enough to buckle a panel frame.

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.



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 the ultimate residential 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						

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



# Class A Fire Rating

## Frequently Asked Questions

### Background

All roofing products are tested and classified for their ability to resist fire.

Recently, these fire resistance standards were expanded to include solar equipment as part of the roof system. Specifically, this requires the modules, mounting hardware and roof covering to be tested together as a system to ensure they achieve the same fire rating as the original roof covering.

These new requirements are being adopted throughout the country in 2016.

### IronRidge Certification

IronRidge was the first company to receive a Class A Fire Rating—the highest possible rating—from Intertek Group plc., a Nationally Recognized Testing Laboratory.

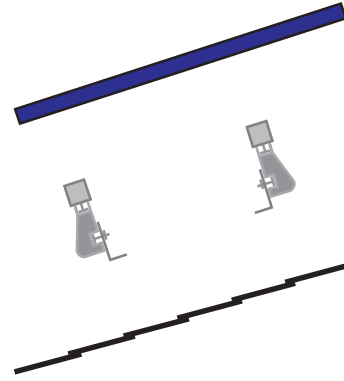
IronRidge Flush Mount and Tilt Mount Systems were tested on sloped and flat roofs in accordance with the new UL 1703 & UL 2703 test standards. The testing evaluated the system’s ability to resist flame spread, burning material and structural damage to the roof.

Refer to the table below to determine the requirements for achieving a Class A Fire Rating on your next project.

### Fire Testing Process

**Test Setup**

**Solar Modules**  
Solar modules are given a Type classification based on their materials and construction.

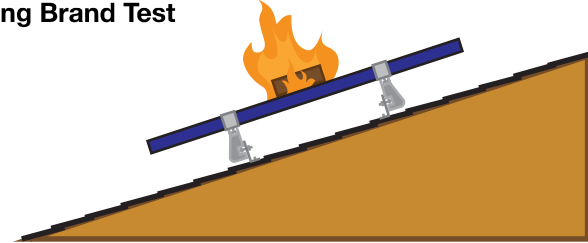


**Mounting System**  
Mounting is tested as part of a system that includes type-tested modules and fire-rated roof covering.

**Roof Covering**  
Roof covering products are given a Fire Class Rating of A, B or C based on their tested fire resistance.

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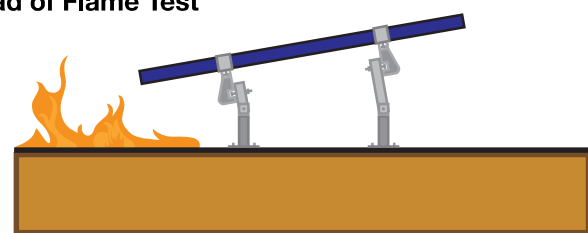
**Burning Brand Test**





A burning wooden block is placed on module as a fan blows at 12 mph. Flame cannot be seen on underside of roof within 90 minutes.

---

**Spread of Flame Test**



Flame at southern edge of roof is aimed up the roof as a fan blows at 12 mph. The flame cannot spread 6 feet or more in 10 minutes.

System	Roof Slope	Module	Fire Rating*
Flush Mount 	Any Slope	Type 1, 2, & 3	Class A
Tilt Mount 	≤ 9.5 Degrees	Type 1, 2, & 3	Class A

\*Class A rated PV systems can be installed on Class A, B, and C roofs.

### What is a “module type”?

The new UL1703 standard introduces the concept of a PV module type, based on 4 construction parameters and 2 fire performance parameters. The purpose of this classification is to certify mounting systems without needing to test it with every module.

### What roofing materials are covered?

All fire rated roofing materials are covered within this certification including composition shingle, clay and cement tile, metal, and membrane roofs.

### What if I have a Class C roof, but the jurisdiction now requires Class A or B?

Generally, older roofs will typically be “grandfathered in”, and will not require re-roofing. However, if 50% or more of the roofing material is replaced for the solar installation the code requirement will be enforced.

### Where is the new fire rating requirement code listed?

2012 IBC: 1509.7.2 Fire classification. Rooftop mounted photovoltaic systems shall have the same fire classification as the roof assembly required by Section 1505.

### Where is a Class A Fire Rating required?

The general requirement for roofing systems in the IBC refers to a Class C fire rating. Class A or B is required for areas such as Wildland Urban Interface areas (WUI) and for very high fire severity areas. Many of these areas are found throughout the western United States. California has the most Class A and B roof fire rating requirements, due to wild fire concerns.

### Are standard mid clamps covered?

Mid clamps and end clamps are considered part of the PV “system”, and are covered in the certification.

### More Resources

#### Installation Manuals

Visit our website for manuals that include UL 2703 Listing and Fire Rating Classification.

[Go to IronRidge.com](http://Go to IronRidge.com)

#### Engineering Certification Letters

We offer complete engineering resources and pre-stamped certification letters.

[Go to IronRidge.com](http://Go to IronRidge.com)

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This letter addresses the structural capacity of IronRidge *All Tile Hook* for use as a tile roof attachment for flush mounted PV solar systems. The *All Tile Hook* assembly consists of a cold formed stainless steel base and arm with an optional aluminum flashing. The All Tile Hook base is attached to an underlying roof rafter using two (2) 5/16" stainless steel lag bolts and the arm component is secured to the base by a 5/16" carriage bolt. Assembly of the arm, base, and accompanying hardware shall be installed in accordance with IronRidge's All Tile Hook installation manual. Full assembly details are shown in Exhibit EX-0016.

The referenced uplift, compression and lateral capacities of All Tile Hook tabulated below are based on mechanical load tests conducted along the four load directions shown in Figure 1, using a Universal Instron Test Unit, conforming to the following standards:

- ASTM D1761-12, Standard Test Methods for Mechanical Fasteners in Wood
- ASTM A370-13, Standard Test Methods and Definitions for Mechanical Testing of Steel Products
- NDS-2015, National Design Specification (NDS) for Wood Construction
- ICC-428, Acceptance Criteria for Modular Framing Systems Used to Support Photovoltaic (PV) Modules

The uplift, compression and lateral load testing was performed by installing the All Tile Hook assembly on a sample roof deck composed of 15/32" OSB board over 24" O.C. 2x4 Douglas Fir rafters. The measured rafter average specific gravity and moisture contents are 0.37 and less than 16%, respectively. For each test the arm component was set at the furthest allowable position from the lag bolts and loads were directly applied at the highest slot position along the center line of the arm as shown in Figure 1 in order to perform the tests at the worst configuration.

The ultimate failure mode for uplift testing was pull out of the lag bolts from the rafters and for compression testing the ultimate failure mode was rupture of the OSB board due to compression bearing of the arm. The averages of the peak loads of both directions, which were observed concurrent with the respective ultimate failure point, are documented in Table 1 shown below.

The ultimate failure mode for both lateral directions was pull out of the lag bolts from the rafters. Average peak loads of 2315 lbs. and 619 lbs. were recorded for the direction parallel to rafter and direction perpendicular to rafter respectively. The associated lateral movements at the loading point were observed to be 7" and 10" respectively. To restrict system deformation under lateral loads, a deflection based serviceability limit was applied, which consequently results in a reduced allowable capacity. The serviceability limit determined loads are reported as the allowable capacity for both lateral load directions as tabulated in Table 1. Specifically, based on full scale lateral testing, a 1" lateral arm deflection is confirmed compatible with the full-scale system and presented as the serviceability limit for the load direction parallel to rafter. For the lateral load direction perpendicular to rafter, the Instron recorded proportional limit of 0.75" is presented as the serviceability limit which eliminates permanent deformation of the assembly.

Observed test results and failure modes along with allowable capacities are summarized in the Table 1.

Load Direction	Specimen Quantity	Observed Failure Mode	Average Peak Load at Failure (lbs) <sup>(2)</sup>	Safety Factor <sup>(3)</sup>	Deviation of Test Results <sup>(4)</sup>	Allowable Load (lbs)
Uplift	4	Lag Bolt Pull-out	1011	3.0	10.6%	337
Compression	4	OSB Deck Rupture	709	2.54	10.3%	279
Lateral Parallel to Rafter	4	Lag Bolt Pull-out	2315	3.0	5.4%	154 <sup>(5)</sup>
Lateral Perpendicular to Rafter	4	Lag Bolt Pull-out	619	3.0	8.0%	75 <sup>(5)</sup>

- (1.) Capacities apply to rafter size of 2x4 or greater at 24" O.C. or less, deck thickness 15/32" or greater, and rafters with a Specific Gravity of 0.37 or greater. The specific gravity during testing was measured and recorded per ASTM D2395-14 "Standard Test Methods for Density and Specific Gravity."
- (2.) Values are based on securing lag bolt within center 1/3 of rafter width with a minimum 2.5" end distance.
- (3.) Safety factor is associated with respective failure modes per ASTM 7147-11 and NDS-2015.
- (4.) Deviation refers to the highest or lowest test value to the group average and is based on the ultimate peak load for the tension/compression and serviceability limit load for the lateral directions.
- (5.) The provided allowable loads are controlled by the specified serviceability limit.

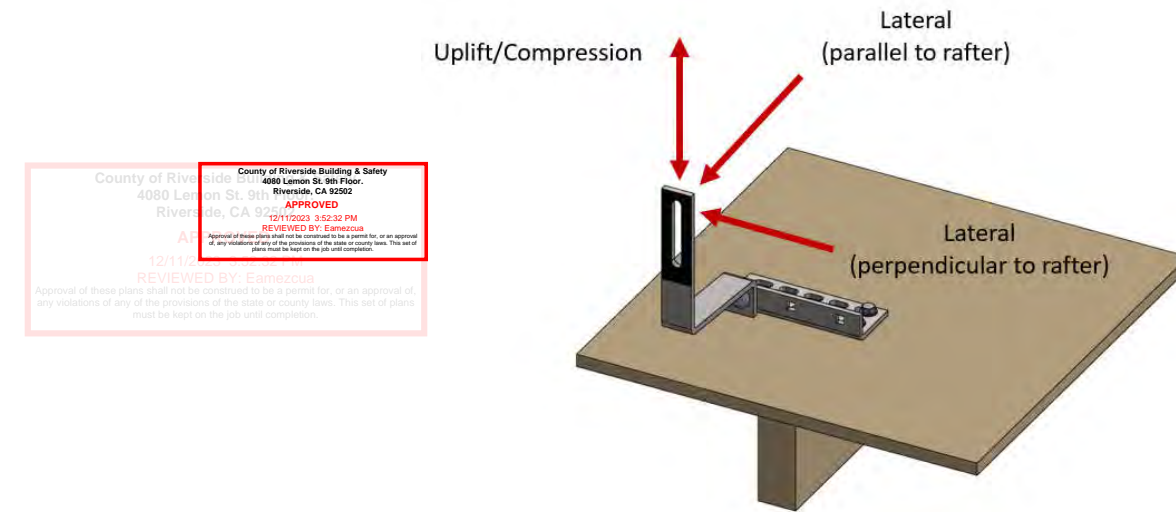
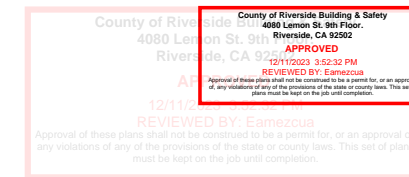


Figure 1



Sincerely,

Gang Xuan, SE  
 Senior Structural Engineer



Date:  
 2018.10.12  
 17:09:03 -07'00'



## **SOLAR BILLING PLAN INFORMATION**

- 1 Permission To Operate(PTO) Issued SBP-44181**
- 2 Interconnection Application (*form 14-957*)**
- 3 Understanding Your Solar Billing Plan Statement Link:  
<https://www.sce.com/helpcenter/topics/solar/guide-your-solar-bill>**

## Permission to Operate Granted for Project #SBP-44181

SCE Notifications <DoNotReply@PowerClerk.com>

Fri 06/07/2024 8:42 AM

To:Randall Mulvey <randall@cinran.com>;briana@murphyconstruction.net <briana@murphyconstruction.net>



## PERMISSION TO OPERATE

**BRIANA COMERESKI**  
**38566 VISTA DEL BOSQUE**  
**MURRIETA, CA 92562**

### Permission to Operate (PTO) Granted: 6/7/2024 Solar Billing Plan / NBT

Project ID	Generating Facility Address	Energy Storage Capacity (kW - if applicable)	CEC-AC Nameplate Rating (kW)
SBP-44181	38566 VISTA DEL BOSQUE, MURRIETA CA 92562	0	2.883

Congratulations, and welcome to Solar Billing Plan with SCE! Your application has been approved and Permission to Operate (PTO) has been granted.<sup>1</sup> You may now turn on your system.

#### Here's what you need to know:

**1. Your Rate Plan:** Your program requires enrollment in an eligible Time-of-Use (TOU) plan. With TOU, you can save money by shifting your energy use to off-peak hours, when your system is active and energy is cheaper. If you do not already have an eligible TOU plan, you'll be automatically enrolled. Learn more about your options here:

[Residential TOU Customers >](#)

[Business TOU Customers >](#)

**2. Your New Bill:** It may take a few months to transition to your new bill. Your new statement is a little different, and includes detailed information about your energy use that can help you make the most of solar. Learn more now with our easy-to-read [Solar Bill Guide >](#).<sup>2</sup>

**3. Solar Billing Plan 101:** If you haven't already, we encourage new Solar Billing Plan customers to get to know more how the plan works<sup>2</sup>:

[Residential Solar Billing Plan Customers >](#)

[Business Solar Billing Plan Customers >](#)

Thanks for being a partner in our shared energy future,

Eduyng Castano  
Senior Manager of Customer Generation Programs  
Southern California Edison

<sup>1</sup> SCE has approved your application for interconnection and granted you Permission to Operate (PTO). This PTO is issued based on the documentation provided. If at any time, SCE determines, at its sole discretion, that the information provided is inaccurate or that the system is not operating under the terms and conditions of SCE's Electric Rule 21 or applicable tariff and should not continue to have PTO, SCE reserves the right to immediately revoke PTO.

<sup>2</sup> **Net Energy Metering (NEM) customers only:** Refer to [sce.com/NEM](#) to learn more about the NEM program and visit the [NEM Bill Guide](#) to understand your NEM bill. **Net Energy Metering - Aggregation (NEM-A) customers only:** Visit the [NEM-A Bill Guide](#) for more information on generation credit allocation and NEM-A billing.

[Privacy Notice](#)

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This is a system generated email.



## NET BILLING TARIFF or NET ENERGY METERING (NEM) GENERATING FACILITY INTERCONNECTION APPLICATION

### **APPLICABILITY**

This Generating Facility Interconnection Application (Application) is used to request the interconnection of a Renewable Electrical Generating Facility (Generating Facility) to Southern California Edison's (SCE) Distribution System over which the California Public Utilities Commission (CPUC or Commission) has jurisdiction for the purposes of receiving service under SCE's Net Billing Tariff (NBT) or the Net Energy Metering (NEM) tariffs, including rate schedules NBT (including NBT Aggregation), NEM and NEM-ST (including NEM Aggregation (NEM-A) and NEM-MT<sup>1</sup>), NBT-V, MASH-VNM and MASH-VNM-ST, NEM-V and NEM-V-ST and SOMAH-VNM to offset part or all of the Customer's own electrical requirements.

**This document is solely an application. It does not authorize you to operate your Generating Facility in parallel with SCE's electric system. To ensure safety and grid reliability, you must not operate your Generating Facility in parallel with the Distribution System until SCE provides you with written Permission to Operate (PTO). Unauthorized Parallel Operation may be dangerous and may result in injury to persons and/or may cause damage to equipment and/or property for which the Customer may be liable.**

NBT or NEM Generating Facilities with a capacity greater than 1 MW interconnecting to SCE's Transmission System (CAISO Controlled Grid) are required to apply to the CAISO for interconnection pursuant to CPUC Decision 22-07-001. NBT or NEM Generating Facilities with a capacity of greater than 1 MW interconnecting to SCE's Transmission System are required to complete and submit this NBT or NEM Generating Facility Interconnection Application (Form 14-957) to SCE for the purpose of determining NBT or NEM eligibility; however, there is no fee applicable to its submittal and SCE's review and determination of NBT or NEM eligibility.

### **GUIDELINES AND STEPS FOR INTERCONNECTION**

This Application, along with any applicable payments, must be completed online and include all of the additional information indicated in the NEM Interconnection Handbook (see also Section 10 below) to initiate SCE's interconnection review of the proposed Generating Facility. Please refer to SCE's [Rule 21](#), the [NEM Interconnection Handbook](#) and SCE's [Electric Service Requirements](#) (ESRs) for more information regarding the interconnection of an NBT or NEM Generating Facility to SCE's Distribution System. **PURSUANT TO CPUC DECISION (D.)14-11-001, CERTAIN DATA PROVIDED ON THIS APPLICATION WILL BE TRANSFERRED TO A THIRD-PARTY FOR PROCESSING AND POSTING ON THE CALIFORNIA SOLAR STATISTICS WEBSITE. A LIST OF THE DATA THAT WILL BE SHARED CAN BE FOUND IN APPENDIX A OF D.14-11-001.** Applications submitted with blank fields (as applicable) will be deemed incomplete and will be returned to the main project contact for completion. The main project contact is also responsible for updating the Application should the information submitted change between system design and installation.

This Application must be accompanied by a Single Line Diagram (SLD) of the proposed system showing the Generating Facility components and the electrical path from the Generating Facility to SCE's meter. The SLD must clearly identify the point of interconnection (a sample SLD is available at <http://www.sce.com/nem>). Additional documentation may be required as outlined in Section 10 below. **A signed Interconnection Agreement and a copy of the final electrical inspection approval issued by the local jurisdictional authority are required before SCE will issue PTO, but may be submitted separately.** An Application Checklist and all required forms are available at <http://www.sce.com/nem>.



**NET BILLING TARIFF or NET ENERGY  
METERING (NEM)  
GENERATING FACILITY INTERCONNECTION  
APPLICATION**

SCE normally provides PTO within 30 working days of receiving all necessary information, including but not limited to a completed Application, SLD, signed Interconnection Agreement and a copy of the final electrical inspection approval issued by the local jurisdictional authority. SCE will notify the Customer of Record (COR) if PTO cannot be issued within 30 working days of receiving all necessary information and will provide an estimate of the date that PTO is likely to be issued.

**Please check this box to indicate acknowledgment of the information provided above.**

<sup>1</sup> For NBT-MT or NEM-MT interconnection requests seeking to interconnect a non-NBT generator behind the same SCE revenue meter / Point of Common Coupling as an existing NEM generator, Application Form 14-732 should be used in lieu of this Application.



**NET BILLING TARIFF or NET ENERGY  
METERING (NEM)  
GENERATING FACILITY INTERCONNECTION  
APPLICATION**

<i>For SCE Use Only</i>			
<b>Project Name:</b>	<b>Project ID:</b>	<b>Date Application Received:</b>	<b>Application Expiration Date<sup>2</sup>:</b>
<b>Application Approval Date:</b>	<b>PTO Date:</b>	<b>Decommissioned Date:</b>	

<sup>2</sup> The information submitted in this Application will remain active and valid consistent with the timelines specified in SCE's Rule 21, including Section D.13 and Section F.

**SECTION 1 – Customer and Contractor / Installer Information**

**A. Customer Electric Account and Contact Information**  
This is the electric service account that the Generating Facility will be interconnected to for Parallel Operation with SCE. The Customer Name and Service Account # listed below must match the account information on the Customer's SCE electric bill.

**Please check the applicable Customer Sector box:** Residential

<input type="checkbox"/> Residential	<input type="checkbox"/> Commercial	<input type="checkbox"/> Industrial	<input type="checkbox"/> Non-Profit
<input type="checkbox"/> Educational	<input type="checkbox"/> Military	<input type="checkbox"/> Other Government	

**Please check the applicable Customer Type box:** Bundled Service

<input type="checkbox"/> Bundled Service (All services are provided by SCE)	<input type="checkbox"/> Direct Access (DA) (Certain services are provided by an Electric Service Provider)	<input type="checkbox"/> Community Choice Aggregation (CCA) / Community Aggregation (Certain services are provided by a Community Choice Aggregator or Community Aggregator)
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<b>SCE Service Account #</b>	<b>Meter #</b>	120/240 V <b>Service Voltage of Main Panel</b> <i>(Volts)</i>
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BRIANA COMERESKI	
<b>Customer Name</b> <i>(i.e., name shown on SCE Service Account)</i>	<b>Customer (Service Account Holder) Title</b> <i>(e.g., Homeowner)</i>

38566 VISTA DEL BOSQUE, MURRIETTA CA 92562			
<b>Generating Facility (Service Account) Street Address</b>	<b>City</b>	<b>State</b>	<b>Zip Code</b>

Riverside	0
<b>County</b>	<b>Annual usage (kWh)</b>

BRIANA COMERESKI	
<b>Customer Contact Name</b> <i>(if different from above)</i>	<b>Company Name</b> <i>(if different from Customer)</i>

7608208853		randall@cinran.com
<b>Phone</b> <i>(required)</i>	<b>Fax</b> <i>(if applicable)</i>	<b>Customer Email</b> <i>(required)</i>



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38566 VIA DEL BOSQUE, MURRIETA CA 92562			
<b>Mailing Address</b> <i>(if different from above)</i>	<b>City</b>	<b>State</b>	<b>Zip Code</b>

**Please check here if the Customer is the Main Project Contact for this Application**  
*(Do not check here if the Contractor is the main project contact – see Section 1.B below)*

**B. Contractor / Installer Information**

**Please check here if this is a Self-Installation** *(i.e., installed by Service Account holder) (Proceed to Section 1.C)*  
No

RANDALL MULVEY	CINRAN ELECTRICAL SOLUTIONS INC	1020538
<b>Contractor / Installer Contact Name</b>	<b>Company Name</b>	<b>CSLB #</b> <i>(required*)</i>

\* **Please check here if the installer does not have a CSLB #.** *If the installer does have a CSLB #, it must be entered above.*

13600 PAWNEE ROAD STE 4, APPLE VALLEY CA 92308			
<b>Contractor Mailing Address</b>	<b>City</b>	<b>State</b>	<b>Zip Code</b>

(760) 820 8853		randall@cinran.com
<b>Phone</b> <i>(required)</i>	<b>Fax</b> <i>(if applicable)</i>	<b>Contractor Email</b> <i>(required)</i>

**Please check here if the Contractor is the Main Project Contact for this Application**  
*(Do not check here if the Service Account holder is the main project contact – see Section 1.A above)*

**C. Preparer Information** *(if different from Section 1.B above)*

**Please indicate who prepared and submitted this Application:**

MELISSA WELLS	
<b>Preparer Name, Title</b>	<b>Preparer Company (if applicable)</b>



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**SECTION 2 – Application Type**

**A. This Application is for:**

New NBT or NEM - New SCE Meter

**B. Please indicate the NEM program under which you intend to participate:**

NBT

**C. Customer Impacted by a Natural Disaster (Disaster)**

Customers who were taking service on a Schedule in Section 2.B prior to the total or partial destruction of their Renewable Electrical Generating Facility have the option to resume service under the same Schedule if a PTO for the new system is received within four years from the date of destruction of the original generation system. To be eligible for this provision, the Customer must adhere to the following:

- i. The Customer of Record prior to the Disaster is the Customer requesting interconnection; and
- ii. The new Renewable Electrical Generating Facility is sized to the most recent 12 months usage, or estimated usage; and
- iii. The new Renewable Electrical Generating Facility does not exceed the total generation capacity allowed under the relevant Schedule; and
- iv. You are not operating the new (either completely new or partially new) system without written permission from SCE; and
- v. The NBT or NEM Legacy Provisions have not expired at the time the new Interconnection Request is submitted.
- vi. Notify SCE of intent to rebuild and take advantage of this provision within two years following a Natural Disaster.

Based on the above, select the appropriate box (check one):

- I am a Customer who was impacted by a Natural Disaster as described in the Schedule I received PTO under and the above statements are true. I will submit my Interconnection Request online at <https://scenemsuccessortariff.powerclerk.com> and will describe the existing Generating Facility of record in the appropriate fields, including on the single line diagram. If my previous system was destroyed, I will also state this on the single line diagram.
- I am either ineligible for this provision or this provision does not apply to my application. In either case, I will submit my application online at <https://scenemsuccessortariff.powerclerk.com>

**D. Please indicate the Electric Rate Schedule under which the Service Account listed in Section 1.A above receives service (prior to interconnection of the Generating Facility) on or will receive service on (for new accounts):**

*(e.g., Schedule D "Domestic," TOU-GS-1)*



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TOU-D-4-9PM

**E. Will an Electric Vehicle (EV) Charger be installed at the same location (i.e., service account address) as the Generating Facility:**

No	

How many EVs are charged or will be charged by the EV Charger(s)?

**F. Microgrid System Operations**

If the Generating Facility is inverter based, which requires compliance with Rule 21 Section Hh., please proceed to complete the following question:

**Please indicate if the Generating Facility will be operated as a Microgrid System?**

No
If <b>yes</b> , is selected, please refer to SCE’s Rule 21, Section Hh.1.h, for additional Microgrid Operational Requirements information.

**SECTION 3 – Rebate Information**

This Application is NOT an application for any incentive and/or rebate program. Incentives or rebates must be applied for separately with the appropriate agency – for example, see <http://www.energy.ca.gov> or <http://www.cpuc.ca.gov>.

**A. Are you participating in a California rebate program related to the installation of the Generating Facility?**

No	
If <b>yes</b> , please provide the following information:	
<b>i. Rebate Program:</b>	
<b>ii. Rebate Amount:</b>	\$
<b>iii. SASH Project No.<sup>3</sup></b> <i>(if applicable)</i>	
<b>iv. SOMAH-VNM Reservation No.</b> <i>(if applicable)</i>	

<sup>3</sup>NBT customers participating in the Single-family Affordable Solar Homes (SASH) Program are exempt from any interconnection application fees, provided the Generating Facility is sized 1 MW or smaller. Participation in the SASH Program, along with the Customer’s corresponding unique SASH Project Number, must be indicated in this section for those Customers to receive the NBT interconnection application fee exemption.

**SECTION 4 – Ownership, Pricing and Financing**

**A. Please indicate if the Generating Facility is / will be owned by a third party?**

*(i.e., owned by someone other than the Service Account holder listed in Section 1.A above)*

No (SCE customer-owned)

**B. For Customer-Owned Generating Facilities, please indicate the following:**

<b>i. Purchase Price:</b> <i>(indicate the system cost paid by the Customer)</i>	\$11372.76
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<b>ii. Was Property Assessed Clean Energy (PACE) financing used?</b>	
<b>C. For Third-Party-Owned Generating Facilities, please indicate the following:</b>	
<b>i. Claimed Federal Investment Tax Credit (ITC) Cost Basis:</b>	\$
<b>ii. Name of Developer:</b> <i>(at the time of sale)</i>	
<b>iii. Contract Type:</b> <i>(e.g., PPA, lease, pre-paid lease, other)</i>	

**SECTION 5 – Net Surplus Compensation (NSC) Elections**

**Please indicate if the Customer elects to participate in the NSC program and receive compensation for Net Surplus Energy, if any, that may be generated during the Customer’s 12-month Relevant Period.**  
*(This option is only available to eligible Bundled Service Customers taking service on Schedules NBT, NEM, NEM-ST, MASH-VNM, MASH-VNM-ST, NEM-V, NEM-V-ST or SOMAH-VNM.)*

Yes (for less than or equal to 1 MW Generating Facilities)

- Yes (for ≤1 MW Generating Facilities)** – The Customer is interested in receiving NSC and certifies under the penalty of perjury that the Generating Facility is a Qualifying Facility pursuant to the Public Utility Regulatory Policies Act of 1978 that is exempt from certification filing at the Federal Energy Regulatory Commission (FERC); or,
- Yes (for >1 MW Generating Facilities)** – The Customer is interested in receiving NSC and certifies under the penalty of perjury that the Generating Facility is a Qualifying Facility pursuant to the Public Utility Regulatory Policies Act of 1978 that has been self-certified as a Qualifying Facility with the FERC by the proper completion and filing of FERC Form No. 556, *Certification of Qualifying Facility (QF) Status for a Small Power Production or Cogeneration Facility*. A copy of the completed FERC Form No. 556 must be sent to SCE.
- No** – The Customer is not interesting in participating in the NSC program and elects not to receive NSC.

***Note:** Customers electing to participate in the NSC program will receive any applicable NSC as an on-bill credit at the end of the Customer’s Relevant Period. Customers may elect to receive NSC via a check instead in accordance with the provisions of the Customer’s applicable NBT rate schedule.*

***Note:** To receive compensation for Renewable Energy Credits (RECs) associated with the Customer’s Net Surplus Energy, Form 14-935 must additionally be completed and submitted to SCE.*

**Section 6 – Cost Envelope Option (CEO) Election for Upgrades**

**Please indicate below if the Customer elects to participate in the CEO pursuant to Section F.7 of Rule 21 for the costs associated with any applicable Interconnection Facilities and/or Distribution Upgrades.**



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*(The CEO is only available to customers with Interconnection Requests processed under the Fast Track Process or Independent Study Process. Customers electing this option may be subject to a \$2,500 deposit, as outlined in Section F.7 of Rule 21.)*

No

**Yes** – Customers electing the CEO must provide all of the following additional information as part of this Interconnection Request in the manner specified by SCE:

A. Final location of the Point of Common Coupling (PCC) (Point of Change of Ownership): <i>[provide a description of the physical location of the Point of Common Coupling and indicate on the site drawing provided under Section 6.E below]</i>	
B. Final location of the Point of Interconnection (POI): <i>[provide a description of the physical location of the Point of Interconnection and indicate on the site drawing provided under Section 6.E below]</i>	
C. Confirmation of service voltage:	
D. Confirmation that technical data provided in the Interconnection Request is accurate, including equipment type and manufacturer:	
E. A site drawing on a scale of 1:30 or less, which shows the final location of the PCC, POI, and final location and routing of conductors and equipment between the PCC and POI:	
F. Identification of any constraints or limitations related to the siting or routing of conductors and equipment between the PCC and the POI: <i>[provide a description of the constraints/limitations and indicate their location on the site drawing provided under Section 6.E above]</i>	

**Section 7 – New Generating Facility Description / Technical Information**

The information provided in this section is for the Generating Facility that this Application seeks to have interconnected to SCE’s Distribution System or the Generating Facility that this Application seeks to modify (e.g., adding energy storage). Subsections A through D of Section 7 must be completed for all Generating Facilities. Subsections E through G are required, as applicable, only for those Generating Facilities that meet one or more of the following criteria: are sized larger than 10 kW; utilize a technology other than wind, solar or fuel cells that use renewable fuels; have a point of interconnection on the line side of the main circuit breaker (line side tap); require net generation output (NGO) metering; have additional generation on-site (including energy storage devices); and/or utilize non-certified equipment. Please complete a separate Section 7 for each new / modified Generating Facility that is seeking interconnection via this Application.

**NOTE:** Customers with >1 MW Generating Facilities may be subject to and have additional obligations pursuant to the California Independent System Operator (California ISO) tariff. These Customers should contact the California ISO for more information; SCE is not a party to the Customer’s interaction with the California ISO.

**A. Generating Facility Description** *(see Appendix A)*

<b>i. Number of Generators</b>	
<b>ii. Generator Manufacturer</b>	
<b>iii. Generator Model Number</b>	
<b>iv. Generator Technology Type</b>	Solar PV
<b>v. Generator CEC-AC Nameplate Rating (kW)</b>	2.883
<b>vi. Generator Gross AC Nameplate Rating (kW)</b>	



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<i>Required for Generators where the CEC-AC Nameplate Rating is not available / applicable</i>		
<b>vii. Generator Estimated Monthly Production (kWh)</b>		398.83
<b>viii. Inverter Information</b> <i>For non-inverter-based Generators, please indicate "0" and "N/A"</i>	Inverter: 8 x Enphase Energy 0.4 kW (Model IQ8H-240-72-2-US (240V) [SI1]) Inverter Rating (ea): 0.38 kW AC Efficiency: 97% PV Module Array: 8 x Qcells North America 400W (Model Q.PEAK DUO BLK ML-G10+ 400) Module Rating (ea): 400 W DC, 371.5 W PTC Tilt: 26 Azimuth: 270 Tracking: Fixed Nameplate Rating: 3.2 kW DC Inverter Nameplate Rating: 3 kW AC AC Rating: 2.883 kW CEC-AC	
<b>a. Number of Inverters</b>		
<b>b. Inverter Manufacturer(es)</b>		
<b>c. Inverter Model Number(s)</b>		
<b>ix. Module Information</b> <i>For Generators that don't use modules, please indicate "0" and "N/A"</i>		
<b>a. Number of Modules</b>		
<b>b. Module Manufacturer(es)</b>		
<b>c. Module Model Number(s)</b>		
<b>x. Mounting Method</b>	Rooftop	
<b>a. Average Standoff</b>		
<b>xi. Tracking Type</b>		
	Tilt:	Azimuth:
*If fixed, indicate:	N/A	
<b>B. Are System Output Performance Monitoring and Reporting Services being utilized?</b>		
Yes		
If yes, please indicate <b>who</b> is receiving the data ( <b>check all that apply</b> ):		
Customer		
If applicable, which <b>vendor</b> is receiving the data:		

<b>C. Is the Generator certified by a Nationally Recognized Testing Laboratory (NRTL) in accordance with Rule 21?</b>	
<input type="checkbox"/> No – Please explain:	



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<b>C.1 If the Generator is inverter-based, is the is the Inverter(s) Certified as a Smart Inverter(s) in accordance with Rule 21 Section Hh by a Nationally Recognized Testing Laboratory (NRTL)? For non-inverter-based Generators, please indicate "N/A"</b>	
<input type="checkbox"/> No – Please explain:	

<b>D. Electrical Connection Method</b>
--

Load side connection

<b>E. Additional Generating Facility Technical Information</b> <i>(see Appendix A)</i>			
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<b>i. Prime Mover Type</b>			
<b>ii. Generator Software Version Number</b>			
<b>iii. Inverter Software Version Number</b>			
<b>iv. Gross Nameplate Rating (kVA)</b>			
<b>v. Gross Nameplate Rating (kW)</b>			
<b>vi. Net Nameplate Rating (kW)</b>			
<b>vii. Operating Voltage (Volts or kV)</b>			
<b>viii. Power Factor (PF) Rating (%)</b>			
<b>ix. PF Adjustment Range (%)</b>	Maximum		Minimum
<b>x. Wiring Configuration (Choose One)</b>			
<b>xi. 3-Phase Winding Configuration (Choose One)</b>			
<b>xii. Neutral Grounding Systems Used (Choose One)</b>		Ohms	
<b>xiii. Short Circuit Current Produced by Generator (Amps)</b>			
<b>xiv. Generator Design (Choose One)</b>			
<b>xv. For Synchronous Generators Only:</b> <i>(Gross kVA Nameplate Rating must be provided above)</i>			
<b>a. Base kVA</b> <i>(if different from Gross Nameplate kVA above)</i>			
<b>b. Synchronous Reactance (%)</b>			
<b>c. Transient Reactance (%)</b>			
<b>d. Subtransient Reactance (%)</b>			
<b>xvi. For Induction Generators Only:</b> <i>(Gross kVA Nameplate Rating must be provided above)</i>			
<b>a. Base kVA</b> <i>(if different from Gross Nameplate kVA above)</i>			
<b>b. Locked Rotor Current (Amps)</b> <b>OR</b>			
<b>c. Stator Resistance (%)</b>			
<b>d. Stator Leakage Reactance (%)</b>			
<b>e. Rotor Resistance (%)</b>			
<b>f. Rotor Leakage Reactance (%)</b>			
<b>xvii. For Generators that are Started as a Motor Only:</b>			
<b>a. In-Rush Current (Amps)</b>			



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<b>b. Customer's Main Panel Continuous Current Rating</b> <i>(Amps)</i>	
--	--

<b>F. Information Required for NBT-V, <u>MASH-VNM/ST,NEM-V/ST</u> and <u>SOMAH-VNM</u> Interconnection Requests</b>	
<b>i. Does your interconnection satisfy SCE's ESR?</b>	
<b>ii. Is the current proposed tie-in point a result of restrictions placed on altering the existing panel or equipment within, as imposed by the local authority having jurisdiction?</b>	
<b>iii. Are there existing utility facilities in the vicinity of the proposed point of interconnection?</b> Minimum clearances must be maintained from SCE facilities, as specified in SCE's ESR and/or Underground Structures Standards (UGS).	

<b>G. Additional Information Required for Interconnection Requests that Include <u>Energy Storage Devices</u> (e.g., batteries)</b>	
<b>i. Will an Energy Storage Device (ESD) be connected behind the same SCE meter as the New Generating Facility?</b>	
<input type="checkbox"/> Yes, an ESD is currently interconnected ( <i>proceed to Section 6.D unless the ESD is being modified</i> ) No	
<input type="checkbox"/> Yes, an ESD will be interconnected as part of this Application ( <i>please complete the information below</i> ) No	
<b>ii. ESD Type</b>	
<b>iii. Number of ESDs</b>	
<b>iv. ESD Manufacturer(es)</b>	
<b>v. ESD Model Number(s)</b>	
<b>vi. ESD Max Capacity (kWh)</b>	
<b>vii. ESD Rated Discharge (kW)</b>	
<b>viii. ESD Max Discharge (kW)</b>	
<b>ix. Please list the devices used to limit discharge (if any):</b> ( <i>e.g., inverter, power control</i> )	
<b>x. Please describe the intended use of the ESD:</b> For example, peak shaving, export to the grid, load shifting, back-up, etc. The intended use specified may be taken into consideration during any applicable study processes.	
<b>xi. Energy Storage Charging Function</b>	
<b>a. Rated Charge Load Demand (kW)</b>	
<b>b. Estimated annual Net Energy Usage* of the ESD (kWh)</b>	



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*Net Energy Usage = (kWh input, including charging, storage device auxiliary loads, and losses) – (kWh output, including discharging)	
<b>c. Will SCE’s Distribution System be used to charge the ESD:</b>	
<b><u>If no:</u></b> Provide technical description of control systems including:	
<ul style="list-style-type: none"> <li>• Source of energy for charging:</li> <li>• Mechanism to prevent charging from the Distribution System:</li> </ul>	
<b><u>If yes:</u></b> Will charging the ESD increase the host facility’s existing peak load demand?	
<b><u>If yes:</u></b> Provide the following load information:	
<ul style="list-style-type: none"> <li>• Amount of added peak demand (kW):</li> </ul>	
<b><u>If no:</u></b> Provide technical description of control systems, including:	
<ul style="list-style-type: none"> <li>• Charging periods:</li> <li>• Mechanism to prevent charging from the Distribution System during host facility peak:</li> </ul>	
<b>xii. Generation / Export Function</b>	
<b>a. Will the Generating Facility(ies) export power to SCE’s Distribution System?</b> (Include all generation sources behind the SCE meter specified in Section 1.A above, such as PV, an ESD or other technologies when answering)	
If yes, please specify the Generating Facility’s maximum coincident export to the grid: (kW)	
<b>b. If all generation sources are not simultaneously exporting to the grid, please provide a technical description of the control systems for this function:</b>	



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**Section 8 – Existing Generating Facility Description / Technical Information**

The information provided in this section is for previously interconnected generating facilities that already exist behind the same SCE meter as the new Generating Facility(ies) outlined in Section 7 above. If an existing generating facility is being modified by this Application, please complete Section 7 (and not Section 8) for that Generating Facility. Please complete a separate Section 8 for each existing generating facility.

**A. Existing Generating Facility Description** *(see Appendix A)*

<b>i. Number of Generators</b>	
<b>ii. Generator Manufacturer</b>	
<b>iii. Generator Model Number</b>	
<b>iv. Generator Technology Type</b>	
<b>v. Generator CEC-AC Nameplate Rating (kW)</b>	
<b>vi. Generator Gross AC Nameplate Rating (kW)</b> Required for Generators where the CEC-AC Nameplate Rating is not available / applicable	
<b>vii. Generator Estimated Monthly Production (kWh)</b>	
<b>viii. Inverter Information</b> <i>For non-inverter-based Generators, please indicate "0" and "N/A"</i>	
<b>a. Number of Inverters</b>	
<b>b. Inverter Manufacturer(es)</b>	
<b>c. Inverter Model Number(s)</b>	
<b>ix. Module Information</b> <i>For Generators that don't use modules, please indicate "0" and "N/A"</i>	
<b>a. Number of Modules</b>	
<b>b. Module Manufacturer(es)</b>	
<b>c. Module Model Number(s)</b>	
<b>x. Prime Mover Type</b>	
<b>xi. Generator Software Version Number</b>	
<b>xii. Inverter Software Version Number</b>	
<b>xiii. Gross Nameplate Rating (kVA)</b>	
<b>xiv. Gross Nameplate Rating (kW)</b>	
<b>xv. Net Nameplate Rating (kW)</b>	
<b>xvi. Operating Voltage (Volts or kV)</b>	
<b>xvii. Power Factor (PF) Rating (%)</b>	
<b>xviii. PF Adjustment Range (%)</b>	Maximum <input type="text"/> Minimum <input type="text"/>
<b>xix. Wiring Configuration (Choose One)</b>	
<b>xx. 3-Phase Winding Configuration (Choose One)</b>	
<b>xxi. Neutral Grounding Systems Used (Choose One)</b>	<input type="text"/> Ohms
<b>xxii. Short Circuit Current Produced by Generator (Amps)</b>	
<b>xxiii. Generator Design (Choose One)</b>	
<b>xxiv. For Synchronous Generators Only: (Gross kVA Nameplate Rating must be provided above)</b>	
<b>a. Base kVA (if different from Gross Nameplate kVA above)</b>	
<b>b. Synchronous Reactance (%)</b>	
<b>c. Transient Reactance (%)</b>	



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<b>d. Subtransient Reactance (%)</b>	
<b>xxv. For Induction Generators Only:</b> <i>(Gross kVA Nameplate Rating must be provided above)</i>	
<b>a. Base kVA</b> <i>(if different from Gross Nameplate kVA above)</i>	
<b>b. Locked Rotor Current (Amps) OR</b>	
<b>c. Stator Resistance (%)</b>	
<b>d. Stator Leakage Reactance (%)</b>	
<b>e. Rotor Resistance (%)</b>	
<b>f. Rotor Leakage Reactance (%)</b>	
<b>xxvi. For Generators that are Started as a Motor Only:</b>	
<b>a. In-Rush Current (Amps)</b>	
<b>b. Customer's Main Panel Continuous Current Rating (Amps)</b>	

<b>B. Is the Generator served on an NEM tariff?</b>	
<input type="checkbox"/> Yes – Please specify which NEM tariff:	
<input type="checkbox"/> No	

<b>C.1 If the Generator is inverter-based, is the is the Inverter(s) Certified as a Smart Inverter(s) in accordance with Rule 21 Section Hh by a Nationally Recognized Testing Laboratory (NRTL)?</b> <i>For non-inverter-based Generators, please indicate "N/A"</i>	
If No – Please explain:	

<b>C. Is the Generator certified by a Nationally Recognized Testing Laboratory (NRTL) in accordance with Rule 21?</b>	
No – Please explain:	

<b>D. Electrical Connection Method</b>

<b>E. Additional Information Required for Interconnection Requests that Include Existing Energy Storage Devices</b> (e.g., batteries)	
<b>i. ESD Type</b>	
<b>ii. Number of ESDs</b>	
<b>iii. ESD Manufacturer(es)</b>	
<b>iv. ESD Model Number(s)</b>	
<b>v. ESD Max Capacity (kWh)</b>	
<b>vi. ESD Rated Discharge (kW)</b>	
<b>vii. ESD Max Discharge (kW)</b>	
<b>viii. Please list the devices used to limit discharge (if any)</b> (e.g., inverter, power control):	

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<b>ix. Energy Storage Charging Function</b>	
<b>a. Rated Charge Load Demand (kW)</b>	
<b>b. Estimated annual Net Energy Usage* of the ESD (kWh)</b> <small>*Net Energy Usage = (kWh input, including charging, storage device auxiliary loads, and losses) – (kWh output, including discharging)</small>	
<b>c. Will SCE’s Distribution System be used to charge the ESD:</b>	
<b>If no:</b> Provide technical description of control systems including:	
<ul style="list-style-type: none"> <li>• Source of energy for charging:</li> </ul>	
<ul style="list-style-type: none"> <li>• Mechanism to prevent charging from the Distribution System:</li> </ul>	
<b>If yes:</b> Will charging the ESD increase the host facility’s existing peak load demand?	
<b>If yes:</b> Provide the following load information:	
<ul style="list-style-type: none"> <li>• Amount of added peak demand (kW):</li> </ul>	
<b>If no:</b> Provide technical description of control systems, including:	
<ul style="list-style-type: none"> <li>• Charging periods:</li> </ul>	
<ul style="list-style-type: none"> <li>• Mechanism to prevent charging from the Distribution System during host facility peak:</li> </ul>	

**Section 9 – Safety and Consumer Protection Acknowledgements**

This section is applicable to Customers requesting service on Schedules NBT, NEM-ST, NBT-V, MASH-VNM-ST or NEM-V-ST.

**A. Equipment Verification**

**True**

- For Applicants with Solar Generating Facilities** - By checking this box, Applicant verifies that all major solar system components (including PV panels and other generation equipment, inverters and meters) are on the verified equipment list maintained by the California Energy Commission. This requirement is subject to additional verification by SCE.

*Note: For all Generating Facilities, SCE may require the Applicant to verify that other equipment, as determined by SCE, has safety certification from a NRTL.*

**B. Warranty Verification**

**True**

- By checking this box, Applicant verifies that a warranty of at least 10 years has been provided on all equipment and the installation of that equipment. In appropriate circumstances conforming to industry practice, satisfaction of this requirement may rely on manufacturers’ warranties for equipment and separate contractors’ warranties for workmanship (i.e., installation). Warranties or service agreements conforming to requirements applicable to the Self-Generation Incentive Program (SGIP) may be used to satisfy this requirement for



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Generating Facilities with technologies eligible for the SGIP. This requirement is subject to additional verification by SCE.

**C1. NBT Generating Facility Size Attestation for Existing service**

The Generating Facility should be sized such that the total annual output in kWh is primarily used to offset the customer's own annual electrical requirements. For a customer with an SCE account that has 12 or more months of billing history, the most recent 12 months usage is used to determine the size of the Generating Facility. Should the customer elect to oversize their Generating Facility (as compared to the 12-month usage history), the following attestation is required when seeking the service under the NBT:

By Checking the boxes below, the Applicant attests that:

**False**

- The Generating Facility is oversized to meet expected increased future customer's electrical usage (i.e., increased usage resulting from an electric vehicle or other electrical appliances to support electrification).

**False**

- The Generating Facility's estimated annual production in kWh is no larger than 150 percent of the customer's most recent 12 months of total usage.

**False**

- The customer expects to increase their electrical usage to correspond with the size of their Generating Facility within the next year (12 months after receiving Permission to Operate (PTO)).

**False**

- The customer has recently increased their electrical usage and the Generating Facility's estimated annual production in kWh is no larger than 150 percent of the customer's current projected electrical usage over 12 months. This means that additional electrical usage is planned so the customer's Generation Facility's annual kWh production is not expected to exceed 150 percent of the customer's current usage projected over the first 12 months after PTO.

**False**

- The Customer understands that SCE reserves the right to further validate that their Generating Facility is sized in accordance with the NBT.

**C2. NBT Generating Facility Size Attestation for New Service or Customers with Less than 12-Month of Usage History**

The Generating Facility should be sized such that the total annual output in kWh is primarily used to offset the customer's own annual electrical requirements. For a new customer, or a customer with less than 12 months of billing history, the following attestation is required when seeking service under NBT:

By Checking the boxes below, the Applicant attests that:

**True**

- The Generating Facility is sized to meet the customer's expected future electrical usage.

**True**

- The Customer expects their electrical usage to correspond with the size of the Generating Facility within the next year (12 months after receiving Permission to Operate (PTO)).

**True**



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The Customer understands that SCE reserves the right to further validate that their Generating Facility is sized in accordance with the Net Billing Tariff.

**D1. (Residential Only) To qualify as an Equity customer, Applicants must attest to the following:**

By Checking the boxes below, the Applicant attests that:

**False**

The single-family home listed in Section 1A of this application has been validated at [SB 535 Disadvantaged Communities | OEHHA \(ca.gov\)](#) to be located within a disadvantaged community and/ or California Indian Country. *(required for this section)*

The customer is a resident-owner of a single-family home living in a disadvantaged community (as defined in Decision (D.) 18-06-027).

And/ Or

The customer is a residential customer who lives in California Indian Country (as defined in D. 20-12-003).

**SECTION 10 – Prevailing Wage Checklist**

Pursuant to CPUC Decision 23-11-068, the following information must be provided. If the answer to all the following questions is “no,” your contractor must comply with California Public Utilities Code 769.2.

Beginning January 1, 2025, contractors who have been found in violation of the prevailing wage rule in PU Code Section 769.2 will not be permitted to apply to interconnect facilities utilizing tariffs established pursuant to PU Code sections 2827 or 2827.1.

Additionally, consistent with the Commission’s Tribal Consultation Policy, contractors and investor-owned utilities that have implementation questions with respect to Renewable Electrical Generating Facilities on Indian Lands should contact the Commission’s Deputy Executive Director of Energy and Climate Policy or the Commission’s Office of the Tribal lease refer to the NEM Interconnection Handbook for a complete list of technical information that is required when submitting this Application.

<u>1. Is this a residential Generation Facility with a maximum capacity of 15 kW or less of electricity?</u>	Yes
<u>2. Is this a single-family home?</u>	Yes
<u>3. Is this a public works project (as defined in Section 1720 of the Labor Code) that is subject to Article 2 (commencing with</u>	No



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<u>Section 1770) of Chapter 1 of Part 7 of Division 2 of the Labor Code)?</u>	
<u>4. Does this Generating Facility serve only a modular home, a modular home community, or multiunit housing that has two or fewer stories?</u>	No

Applicant certifies and confirms to SCE that past required submittals of payroll records are up to date. Pursuant to CPUC Decision 23-11-068

**SECTION 11 – Additional Information**

Please refer to the NEM Interconnection Handbook for a complete list of technical information that is required when submitting this Application. The NEM Interconnection Handbook can be found at <http://www.sce.com/nem> under the “NEM Forms and Documents” section. All drawings must conform to accepted engineering standards and must be legible. 11” x 17” drawings are preferred.

Please also refer to the NEM Application Checklist on <http://www.sce.com/nem> for additional forms that may be required based on your interconnection request.

Finally, please indicate here  if there are additional existing generating facilities located on the same Premises (but not behind the same SCE revenue meter) as the NBT or NEM Generating Facility that is seeking interconnection pursuant to this Application.

**Section 12 – Submittal Instructions, Payment and Assistance**

Completed applications must be submitted via SCE’s online application tool, which can be accessed at <https://sceinterconnect.powerclerk.com/Account/Login>. Any applicable Interconnection Request fees must be paid electronically via credit card (Visa or MasterCard) or debit card at the time the application is submitted online.

NOTE: Customers with >1MW Generating Facilities may choose to pre-pay the Supplemental Review fee concurrently with the Initial Review fee. Applications with a pre-payment of the Supplemental Review fee will proceed directly to Supplemental Review following Initial Review without an Initial Review results meeting.

**All NBT or NEM Projects (except NBT-MT)**

If you have questions or need assistance in completing this application, please call SCE’s NEM team at (866) 600-6290.

**NBT-MT (Multiple Tariff) Projects**

If you have questions or need assistance in completing this NBT-MT Application, please contact SCE for Distributed Generation at (909) 274-1106.



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Appendix A – Instructions for Completing Sections 7 and 8	
Manufacturer	Enter the brand name of the generator.
Model Number	Enter the model number assigned by the manufacturer of the generator.
Technology Type	<ul style="list-style-type: none"> <li>• For <i>Schedules NBT, NEM, NEM-ST, NBT-V NEM-V and NEM-V-ST</i>: biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and any additions or enhancements to the facility using that technology.</li> <li>• For <i>Schedules MASH-VNM, MASH-VNM-ST and SOMAH-VNM</i>: Solar PV</li> </ul>
CEC-AC Nameplate Rating	<p>For NEM generating facilities, this value is the CEC-AC Net Nameplate Rating and is not the same as the Net Nameplate that accounts for auxiliary loads or station service loads. The calculations used are as follows:</p> <p><b>Technology    CEC-AC Nameplate Calculation</b></p> <p>Solar PV        (Qty of Modules) x (PTC Rating) x (Inverter Efficiency %) / 1000 = ____ kW</p> <p>Wind            (Qty of Turbines) x (Power Output) x (Inverter Efficiency %) / 1000 = ____ kW</p> <p>Fuel Cell        (Qty of Cells) x (Rated Output) x (Inverter Efficiency %) / 1000 = ____ kW</p>
Gross AC Nameplate Rating	This is the capacity value normally supplied by the manufacturer and stamped on the Generator's nameplate.
Estimated Monthly Production	Example (solar): CEC-AC kW * 720 hours * 0.2 (solar) = Estimated Monthly kWh; the factors for other technologies can be found in the NEM Interconnection Handbook.
Inverter Manufacturer	Enter the brand name of the inverter.
Inverter Model Number	Enter the model number assigned by the manufacturer of the inverter.
Module Manufacturer	Enter the brand name of the modules.
Module Model Number	Enter the model number assigned by the manufacturer of the modules.
Mounting Method	Applicable to solar generating facilities.
Tracking Type	Applicable to solar generating facilities.
NRTL Certification	Answer "yes" only if the generator manufacturer can or has provided certification data. Please see SCE's Rule 21, Section L for additional information regarding this certification.
Smart Inverter Certification	Answer "yes" only if the inverter manufacturer can or has provided certification data. Please see SCE's Rule 21, Section Hh for Smart Inverter requirements, and Section L for additional information regarding certification.
Prime Mover Type	Please indicate the type and fuel used as the prime mover or source of energy for the generator.
Generator Software Version	If the control and/or protective functions are dependent on a software program supplied by the manufacturer of the equipment, please provide the version or release number for the software that will be used.
Inverter Software Version	If the control and/or protective functions are dependent on a software program supplied by the manufacturer of the equipment, please provide the version or release number for the software that will be used.
Gross Nameplate Rating (kVA)	This is the capacity value normally supplied by the manufacturer and stamped on the Generator's nameplate. This value is not required where

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	the manufacturer provides only a kW rating. However, where both kVA and kW values are available, please provide both.
Gross Nameplate Rating (kW)	This is the capacity value normally supplied by the manufacturer and stamped on the Generator’s nameplate. This value is not required where the manufacturer provides only a kVA rating. However, where both kVA and kW values are available, please provide both. For NEM generating facilities, the “gross” value is DC power.
Net Nameplate Rating (kW)	<ul style="list-style-type: none"> <li>• For NBT or NEM generating facilities, this value is the CEC-AC Net Nameplate Rating and is not the same as the Net Nameplate that accounts for auxiliary loads or station service loads.</li> <li>• For non-NBT generating facilities (e.g., those included in an NBT-MT installation), this capacity value is determined by subtracting the “Auxiliary” or “Station Service” loads used to operate the Generator or Generating Facility. Applicants are not required to supply this value but, if it is not supplied, applicable Standby Charges may be based on the higher “gross” values.</li> </ul>
Operating Voltage	This value should be the voltage rating designated by the manufacturer and used in the Generator. Please indicate phase-to-phase voltages for 3-phase installations. See SCE’s Rule 21, Section H.2.b. for additional information.
Power Factor (PF) Rating	This value should be the nominal power factor rating designated by the manufacturer for the Generator. See SCE’s Rule 21, Section H.2.i. for additional information.
PF Adjustment Range	Where the power factor of the Generator is adjustable, please indicate the maximum and minimum operating values. See SCE’s Rule 21, Section H.2.i.
Wiring Configuration	Please indicate whether the Generator is a single-phase or three-phase device. See SCE’s Rule 21, Section H.3.
3-Phase Winding Configuration	For three-phase generating units, please indicate the configuration of the Generator’s windings or inverter systems.
Neutral Grounding System Used	Wye-connected generating units are often grounded – either through a resistor or directly, depending upon the nature of the electrical system to which the Generator is connected. If the grounding method used at this facility is not listed, please attach additional descriptive information.
Short Circuit Current Produced by Generator	Please indicate the current each Generator can supply to a three-phase fault across its output terminals. For single phase Generators, please supply the phase-to-phase fault current.
Generator Design	Please indicate the designated type of each Generator. Designate “Inverter” anytime an inverter is used as the interface between the Generator and the electric system regardless of the primary power production / storage device used.
For Synchronous Generators	If the Generator is a “synchronous” design, please provide the synchronous reactance, transient reactance, and subtransient reactance values supplied by the manufacturer along with the Gross kVA Nameplate Rating or Base kVA, if different. This information is necessary to



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	determine the short circuit contribution of the Generator and as data in load flow and short circuit computer models of SCE’s Distribution System.
For Induction Generators	If the Generator is an “induction” design, please provide the locked rotor current value supplied by the manufacturer along with the Gross kVA Nameplate Rating or Base kVA, if different. If this value is not available, the stator resistance, stator leakage reactance, rotor resistance, and rotor leakage reactance values supplied by the manufacturer may be used to determine the locked rotor current.
For Generators started as Motors	This information is needed only for Generators that are started by “motoring” the generator. See SCE’s Rule 21, Section G.1.c. and Section L.3.d for significance and additional information.



## **EQUIPMENT INFORMATION**

- 1 Q.Peak Duo ML-G10+ 400w PV Module Datasheet & Warranty**
- 2 Enphase IQ8H-240-72-M-US Micro Inverter Datasheet & Warranty**

# Q.PEAK DUO BLK ML-G10+ 385-405

ENDURING HIGH  
PERFORMANCE



#### BREAKING THE 20% EFFICIENCY BARRIER

Q.ANTUM DUO Z Technology with zero gap cell layout boosts module efficiency up to 20.9%.



#### THE MOST THOROUGH TESTING PROGRAMME IN THE INDUSTRY

Q CELLS is the first solar module manufacturer to pass the most comprehensive quality programme in the industry: The new "Quality Controlled PV" of the independent certification institute TÜV Rheinland.



#### INNOVATIVE ALL-WEATHER TECHNOLOGY

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



#### ENDURING HIGH PERFORMANCE

Long-term yield security with Anti LID Technology, Anti PID Technology<sup>1</sup>, Hot-Spot Protect and Traceable Quality Tra.Q™.



#### EXTREME WEATHER RATING

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



#### A RELIABLE INVESTMENT

Inclusive 25-year product warranty and 25-year linear performance warranty<sup>2</sup>.



6 BUSBAR  
CELL TECHNOLOGY

12 BUSBAR  
CELL TECHNOLOGY

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

<sup>2</sup> See data sheet on rear for further information.

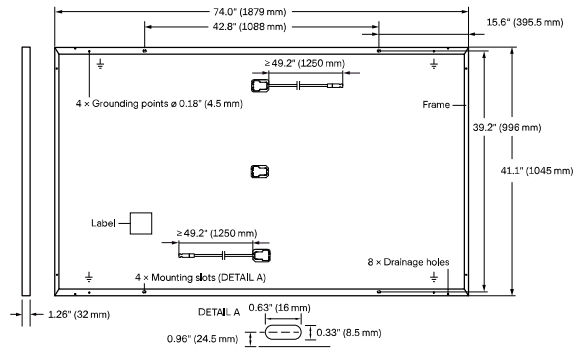
#### THE IDEAL SOLUTION FOR:



Rooftop arrays on  
residential buildings

## 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 mm <sup>2</sup> Solar cable; (+) ≥ 49.2 in (1250 mm), (-) ≥ 49.2 in (1250 mm)
Connector	Stäubli MC4; IP68

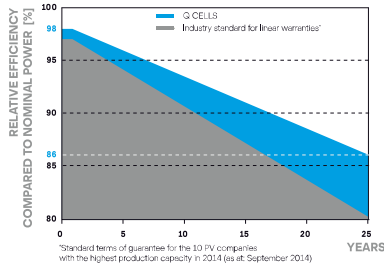


## ELECTRICAL CHARACTERISTICS

POWER CLASS		385	390	395	400	405	
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC <sup>1</sup> (POWER TOLERANCE +5 W / -0 W)							
Minimum	Power at MPP <sup>1</sup>	P <sub>MPP</sub> [W]	385	390	395	400	405
	Short Circuit Current <sup>1</sup>	I <sub>SC</sub> [A]	11.04	11.07	11.10	11.14	11.17
	Open Circuit Voltage <sup>1</sup>	V <sub>OC</sub> [V]	45.19	45.23	45.27	45.30	45.34
	Current at MPP	I <sub>MPP</sub> [A]	10.59	10.65	10.71	10.77	10.83
	Voltage at MPP	V <sub>MPP</sub> [V]	36.36	36.62	36.88	37.13	37.39
	Efficiency <sup>1</sup>	η [%]	≥ 19.6	≥ 19.9	≥ 20.1	≥ 20.4	≥ 20.6
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT <sup>2</sup>							
Minimum	Power at MPP	P <sub>MPP</sub> [W]	288.8	292.6	296.3	300.1	303.8
	Short Circuit Current	I <sub>SC</sub> [A]	8.90	8.92	8.95	8.97	9.00
	Open Circuit Voltage	V <sub>OC</sub> [V]	42.62	42.65	42.69	42.72	42.76
	Current at MPP	I <sub>MPP</sub> [A]	8.35	8.41	8.46	8.51	8.57
	Voltage at MPP	V <sub>MPP</sub> [V]	34.59	34.81	35.03	35.25	35.46

<sup>1</sup>Measurement tolerances P<sub>MPP</sub> ± 3%; I<sub>SC</sub>; V<sub>OC</sub> ± 5% at STC: 1000 W/m<sup>2</sup>, 25 ± 2°C, AM 1.5 according to IEC 60904-3 • 800 W/m<sup>2</sup>, NMOT, spectrum AM 1.5

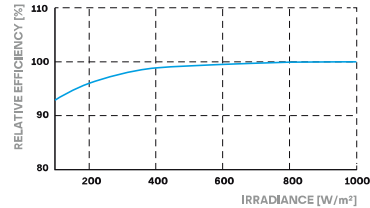
### Q CELLS PERFORMANCE WARRANTY



At least 98% of nominal power during first year. Thereafter max. 0.5% degradation per year. At least 93.5% of nominal power up to 10 years. At least 86% of nominal power up to 25 years.

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

### PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25°C, 1000 W/m<sup>2</sup>)

### TEMPERATURE COEFFICIENTS

Temperature Coefficient of I <sub>SC</sub>	α [%/K]	+0.04	Temperature Coefficient of V <sub>OC</sub>	β [%/K]	-0.27
Temperature Coefficient of P <sub>MPP</sub>	γ [%/K]	-0.34	Nominal Module Operating Temperature	NMOT [°F]	109 ± 5.4 (43 ± 3°C)

## PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage V <sub>sys</sub>	[V]	1000 (IEC)/1000 (UL)	PV module classification	Class II
Maximum Series Fuse Rating	[A DC]	20	Fire Rating based on ANSI / UL 61730	TYPE 2
Max. Design Load, Push / Pull <sup>3</sup>	[lbs/ft <sup>2</sup> ]	75 (3600 Pa) / 55 (2660 Pa)	Permitted Module Temperature on Continuous Duty	-40°F up to +185°F (-40°C up to +85°C)
Max. Test Load, Push / Pull <sup>3</sup>	[lbs/ft <sup>2</sup> ]	113 (5400 Pa) / 84 (4000 Pa)		

<sup>3</sup>See Installation Manual

## QUALIFICATIONS AND CERTIFICATES

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



## PACKAGING INFORMATION

Horizontal packaging	76.4 in 1940 mm	43.3 in 1100 mm	48.0 in 1220 mm	1656 lbs 751 kg	24 pallets	24 pallets	32 modules

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

Hanwha Q CELLS America Inc.

400 Spectrum Center Drive, Suite 1400, Irvine, CA 92618, USA | TEL +1 949 748 59 96 | EMAIL inquiry@us.q-cells.com | WEB www.q-cells.us

# LIMITED WARRANTY FOR CRYSTALLINE PHOTOVOLTAIC MODULES FROM Q CELLS

Valid from March 1st, 2022

This limited warranty ("Limited Warranty") is issued by Hanwha Q CELLS USA Inc., 300 Nexus Drive, Dalton GA 30721, USA, or its successors or assigns ("HQC"), and applies exclusively to Q CELLS Modules (as defined in Section 1.a.).

## 1. SCOPE

a. "Products" consist of the Q CELLS Modules and Microinverters as defined in this Section 1.a.

(i) "Q CELLS Modules" are defined in this Limited Warranty as Q CELLS branded photovoltaic modules manufactured by HQC or its authorized manufacturers (hereinafter "Q CELLS module") that are sold and installed within the United States and Canada and are of the following product type:

- Q.PEAK DUO BLK-G10+ / AC

(ii) "Microinverters" are defined in this Limited Warranty as the microinverters assembled with the Q CELLS Modules and are of the following product type:

- IQ™7+-series microinverters

FOR THE AVOIDANCE OF DOUBT, THIS LIMITED WARRANTY SUPERSEDES AND REPLACES ANY MANUFACTURER WARRANTY FOR THE MICROINVERTERS WITH RESPECT TO THE CUSTOMER.

### b. Beneficiary

The sole and exclusive beneficiary of this Limited Warranty is (i) an end customer who (A) purchases Products from HQC or from any one of its authorized distributors or installers ("Distributor") and (B) is the initial installer of such Products into a specific photovoltaic (PV) solar energy project ("Project"), and (ii) any of the end customer's successors or assigns (each, a "Transferee"), as long as (A) the Product remains at the Original Location (as defined below), (B) the Transferee submits to HQC's designee a "Change of Ownership Form", (C) the Transferee pays the applicable transfer fee ("Transfer Fee") to HQC's designee as set forth in the Change of Ownership Form within 30 days from the date of transfer to the Transferee and (D) if applicable, the Transferee complies with the Registration requirements in Section 2.c. (such end customer as defined in this Section 1.b.(i) or Transferee, as applicable, "Customer"). The submission of a Change of Ownership Form is required

for continued Limited Warranty coverage. The Transfer Fee is subject to reasonable adjustment from time to time (as determined at HQC's or its designee's discretion). The Change of Ownership Form will be provided by HQC upon Customer's request.

### c. Validity

This Limited Warranty takes effect on July 1st, 2020 and shall remain valid until a new version of warranty applying to the Products is released by HQC.

### d. Term

The term of this Limited Warranty ("Term") for the Customer begins on the date of initial delivery of the applicable Product to the Customer ("Warranty Start Date") and ends at the end of the warranty periods set forth in Section 2.. The performance of warranty services under this Limited Warranty does not extend the Term. HQC's obligations under this Limited Warranty are conditioned upon the Customer's compliance with its payment obligations for purchase of the applicable Product.

## 2. WARRANTY

### a. Q CELLS Module Product Warranty

Subject to the terms and conditions in this Limited Warranty, HQC warrants to the Customer that the Q CELLS Modules, when installed, used, and serviced under normal operating conditions and in accordance with Q CELLS Module Installation Manual provided by HQC or Distributor will be free from any defects in materials and workmanship that have a significantly negative effect on the power output of the Q CELLS Modules (collectively, "Q CELLS Module Defect") for a period of twenty-five (25) years following the Warranty Start Date. The warranty in this Section 2.a. does not warrant a specific power output of the Q CELLS Modules, which shall be exclusively covered under the Performance Warranty in Section 2.d..

### b. Microinverter Warranty

Subject to the terms and conditions in this Limited Warranty, HQC warrants to the Customer that the Microinverters assembled

together with the Q CELLS Modules and installed for use at the original location of the Project in the United States or Canada, as applicable (the "Original Location") will be free from defects in workmanship and materials for a period of twenty-five (25) years following the Warranty Start Date (the "Microinverter Warranty").

#### c. Registration

The Microinverter Warranty provided by HQC in this Limited Warranty is conditioned on the Customer registering the respective Microinverter within forty-five (45) days from the date of first installation (the "Registration") by either (i) completing and returning the registration card found at the end of this Limited Warranty to Enphase Energy, Inc. as HQC's designee at the address set forth in this Section 2.c., (ii) registering online at [www.enphase.com/register-my-product](http://www.enphase.com/register-my-product); or (iii) registration through the Enlighten™ application when an Enphase Envoy product is purchased and installed as part of the Project, except that IF CUSTOMER IS A RESIDENT OF CALIFORNIA, CONNECTICUT OR ANY OTHER STATE THAT FORBIDS THE RETURN OF A REGISTRATION CARD AS A CONDITION PRECEDENT TO WARRANTY COVERAGE, THEN THE REGISTRATION REQUIREMENTS DESCRIBED IN THIS SECTION 2.C. SHALL NOT APPLY.

#### Return Registration Card to:

Enphase Energy, Inc.  
Attn: Product Registration on behalf of Hanwha Q CELLS USA Inc.  
Customer Service  
3210 Elder St.  
Boise, ID 83705  
United States of America

#### d. Q CELLS Module Performance Warranty

Subject to the terms and conditions of this Limited Warranty, HQC warrants to the Customer that the Q CELLS Modules are manufactured to (i) produce a power output of at least ninety-eight percent (98%) of the minimum power output specified in the applicable module data sheet during the first twelve (12) months following the Warranty Start Date, and (ii) have a yearly maximum decrease (or degradation) of power of not more than fifty-four hundredths of one percent (0.54%) from start of the second (2nd) twelve (12)-month period following the Warranty Start Date until the end of such twelve (12)-month period, and repeated for each successive twelve (12)-month period until the twenty-fifth (25th) anniversary of the Warranty Start Date, (collectively, "Performance Warranty"). As an example, the Q CELLS Module will be manufactured to have a minimum power output of eighty-five percent (85%) of the minimum power output specified in the applicable module data sheet at the end of the term of this Limited Warranty. Failure to meet the Performance Warranty is defined herein as a "Performance Defect." In the event of a Performance Defect claim, the

power output of any Q CELLS Modules described in this Section 2.d. shall be measured by HQC under the Standard Test Conditions ("STCs") defined in the IEC standards EN 61215 and 60904-3 in effect as of the Warranty Start Date.

### 3. EXCLUSIONS

The Limited Warranty shall not apply to any Product affected by the following events or conditions:

1. Product that has been misused, neglected, tampered with, altered or otherwise damaged, either internally or externally;
2. usage, transport, storage, installation, operation and / or handling, including in any manner, condition or environment (i) for which the applicable Product was not designed or suitable, (ii) that exceed the specifications set out in the applicable data sheet and / or (iii) that fails to strictly comply with the applicable installation manual, user manual (including, without limitation, any installation or use of the Product in combination with components not listed in such installation or user manual as being compatible with the Product), packaging and transportation information sheet and / or applicable laws or regulations;
3. system or components of such system that are of a design, configuration or installation that does not meet the standards typically used by experienced professionals in the industry;
4. service, operation or maintenance of the Product by anyone who is not a representative of HQC or its designee, incorrect, improper or inadequate service operation or maintenance of the Project, or any normal wear and tear, rust or stains, scratches, dents on the casing or paintwork of the Product;
5. damage caused by environmental or other external conditions, including, but not limited to (i) acid rain or snow, (ii) blowing sand, (iii) saline air, (iv) pollution of any kind in the air, soil or water, (v) unusual oxidation levels, (vi) mold, (vii) generalized corrosion, (viii) biological infestations, (viii) any nearby fire, explosion, smoke or charring, (ix) input voltage that creates operating conditions beyond the maximum or minimum limits listed in the applicable Product data sheet or (x) high input voltage from generators or lightning strikes;
6. damage caused by acts of nature or acts of God, including, but not limited to, lightning, hail, frost, snow, storms, tidal waves, floods, extreme temperatures, earthquakes, typhoons, tornadoes, volcanic eruptions, meteorites, ground motions, earth fissures or landslides;

7. damage caused directly or indirectly by acts of violence or intervention by third parties or external forces, including but not limited to, misadventure, riots, war, insurrection, communal violence, damage caused by shipping or handling by third parties, vandalism, damage caused by animals, and / or acts or omissions by third parties beyond the control of HQC;
8. damage to the Project in which the Products are installed caused by external factors, including, but not limited to, voltage fluctuations, power peaks, excess current, power failure, poor electrical or mechanical engineering work, or other faults occurring in a power supply system with or without mains connection, whether or not such faults in the power supply system was contributed to by any act or omission of the Customer;
9. Product modified or used in processes involving other products or components, without obtaining the prior written consent of HQC or its designee;
10. the original identification markings, including serial number, product label or trademark or logo, have been defaced, removed, changed, deleted or made unrecognizable;
11. the utility approved operating parameters of a Microinverter have been altered, and such alteration causes the Microinverter to malfunction, fail or fail to optimally perform;
12. the Product used on any mobile carriers (such as motor vehicles or ships); and / or
13. the Customer fails to provide notification of a Product Defect or Performance Defect in accordance with Section 4.a. within 30 days of the initial discovery or prior to the end of the applicable warranty period set forth in Section 2..

#### 4. WARRANTY CLAIMS

a. Customers who believe they have a justified claim covered by this Limited Warranty must first immediately notify HQC's designee in accordance with the RMA process defined in Section 4.d. below.

##### b. Customer Inspection

The Customer must inspect the Products for visible defect when delivered. The Customer must notify HQC of any defects immediately, but in no event later than (30) days after any such defects were discovered during such visible defect inspection process.

##### c. Warranty Claims

The Customer will be entitled to make claims under this Limited Warranty ("Warranty Claims") only if the Customer has provided

documented evidence sufficient to prove that the malfunctioning or non-conformity of a Product resulted exclusively from a Product Defect or Performance Defect covered by this Limited Warranty. If the Warranty Claim is based on glass breakage, then the Customer shall conduct a static load calculation on the substructure.

##### d. Warranty Claim Compliance

The Customer must comply with the HQC's designee's then-current Return Merchandise Authorization ("RMA") process, set forth at <https://enphase.com/en-us/support/return-merchandise-authorization-procedure>, to make a Warranty Claim. For the avoidance of doubt, Enphase Energy, Inc. will provide customer service for RMAs on behalf of HQC. If a Customer returns a Product without complying with the RMA process or without all parts included in the original package, HQC (i) will not accept any Warranty Claims not in compliance with the RMA or delivery of any unauthorized return shipments of Products and (ii) shall be entitled to charge a restocking fee equal to the higher of fifteen percent (15%) of the original Customer's purchase price of the Product (as reasonably apportioned to the applicable Product by HQC, if necessary) or the retail value of the missing parts.

##### e. Warranty Claim Procedure

The Customer is responsible for shipping, at its expense, the Product to HQC or its designee for evaluation. HQC or its designee shall pay the costs of a technical inspection and, in the event that the Warranty Claim is confirmed by such inspection, transportation of any repaired or replacement Product to Customer at the original location of the Project. Any Product that HQC or its designee determines is not defective or that is returned without a valid RMA may be rejected and returned at Customer's expense (subject to prepayment), or kept for thirty (30) days for pick-up by Customer and then disposed of at HQC's sole discretion without further liability on the part of HQC or obligation to Customer. To make a Warranty Claim, the Customer must submit the original receipt or invoice, which bears the date of the purchase and of the delivery, the serial numbers of the relevant Products and the name of the authorized distributor or seller.

##### f. Ownership Interest

The Products sent to HQC, or its designee, in the course of the RMA process shall remain the property of the Customer until any inspection has been completed and HQC provides a replacement or refund. At the time any refund or delivery of a replacement Product to the Customer takes place under this Limited Warranty, the ownership interest of the returned Product passes to HQC or its designee. Any repaired, replaced or additionally supplied Products will be warranted only for the remainder of the original warranty period applicable to the original Product.

## 5. REMEDIES

### a. Product Defect Remedy

If HQC determines following a Warranty Claim that a Product Defect exists, then HQC or its designee shall, at its discretion, within a reasonable time provide: (i) a remedy or repair for the Product Defect using new and/or reconditioned parts or Products of original or improved design; (ii) provide a replacement Product in place of the Product with the Product Defect; or (iii) provide the Customer monetary compensation equal to the market value of the Q CELLS Module or Microinverter, as applicable, as of the time Customer notifies HQC's designee of the applicable Warranty Claim in accordance with Section 4.a. above, as reasonably determined by HQC.

### b. Performance Warranty Remedy

If HQC determines following a Warranty Claim that a Q CELLS Module has a Performance Defect, then HQC shall, at its discretion, within a reasonable time: (i) remedy or repair the Performance Defect; (ii) provide a replacement module in place of the Q CELLS Module that has the Performance Defect; (iii) make up the difference to the guaranteed power output by providing additional modules; or (iv) provide to the Customer monetary compensation equal to the portion of the market value of the Q CELLS Module as of the time Customer notifies Enphase of the applicable Warranty Claim in accordance with Section 4.a. above, as reasonably determined by HQC (the "Module Value"), that is in the same proportion to the Module Value as the actual measured power is to the guaranteed power.

### c. Sole and Exclusive Remedy and Obligation

THE REMEDIES SET FORTH IN THIS SECTION 5. ARE HQC'S SOLE AND EXCLUSIVE LIABILITY AND OBLIGATION, AND THE CUSTOMER'S SOLE AND EXCLUSIVE REMEDIES, FOR ANY PRODUCT DEFECT OR PERFORMANCE DEFECT IN ANY PRODUCT. THE REMEDY EXTENDED TO THE CUSTOMER SPECIFICALLY EXCLUDES ANY REIMBURSEMENT FOR THE COSTS OR EXPENSES INCURRED FOR (I) UNINSTALLING OR DISMANTLING ANY DEFECTIVE PRODUCT OR PARTS, (II) RE-INSTALLING ANY REPAIRED OR REPLACED PRODUCTS OR PARTS, (III) REMOVING, INSTALLING OR TROUBLESHOOTING CUSTOMER'S ELECTRICAL SYSTEMS OR (IV) LOSS OF POWER.

## 6. WARRANTY LIMITATIONS

THE GRANT OF THIS LIMITED WARRANTY BY HQC IS CONDITIONED UPON AGREEMENT BY CUSTOMER TO THE TERMS, CONDITIONS AND REQUIREMENTS HEREIN.

THE LIMITED WARRANTY DOES NOT COVER (I) TECHNICAL OR DESIGN DEFECTS OR SHORTCOMINGS, OR COSMETIC DEFECTS, SHORTCOMINGS OR CHANGES, INCLUDING ANY COLOR CHANGES, (II) COSTS RELATED TO THE REMOVAL, INSTALLATION OR TROUBLESHOOTING OF CUSTOMER'S ELECTRICAL SYSTEMS OR (II) SOFTWARE PROGRAMS INSTALLED IN A PRODUCT AND THE RECOVERY AND REINSTALLATION OF SUCH SOFTWARE PROGRAMS AND DATA. HQC DOES NOT WARRANT THAT THE OPERATION OF ANY PRODUCT WILL BE UNINTERRUPTED OR ERROR FREE. NO HQC OR ENPHASE EMPLOYEE OR ANY DISTRIBUTOR OR OTHER AUTHORIZED RESELLER IS AUTHORIZED TO MAKE ANY MODIFICATION, EXTENSION OR ADDITION TO THIS LIMITED WARRANTY.

EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, THE WARRANTIES SET FORTH IN THIS LIMITED WARRANTY ARE IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED, OR STATUTORY, REGARDING THE PRODUCTS, INCLUDING ANY

IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT OR WARRANTIES AS TO THE ACCURACY, SUFFICIENCY OR SUITABILITY OF ANY TECHNICAL OR OTHER INFORMATION PROVIDED IN MANUALS OR OTHER DOCUMENTATION .

ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT TO THE EXTENT REQUIRED BY APPLICABLE LAW ARE LIMITED TO THE PERIODS OF THE LIMITED PRODUCT AND LIMITED PERFORMANCE WARRANTIES SET FORTH ABOVE, OR SUCH SHORTER PERIOD AS PERMITTED BY APPLICABLE LAW. HQC IS NOT RESPONSIBLE OR LIABLE IN ANY WAY FOR DAMAGE OR INJURY TO PERSONS OR PROPERTY, OR FOR OTHER LOSS OR INJURY RESULTING FROM ANY CAUSE WHATSOEVER, ARISING OUT OF OR RELATED TO ANY PRODUCT UNLESS OTHERWISE STIPULATED BY MANDATORY STATUTORY LAW. IN PARTICULAR, HQC'S LIABILITY FOR FRAUDULENT OR WILLFUL INTENT, GROSS NEGLIGENCE OR PERSONAL INJURY, IN EACH CASE, UNDER APPLICABLE MANDATORY LIABILITY LAW SHALL REMAIN UNAFFECTED.

EXCEPT AS PROVIDED IN THIS SECTION 6., THE PRODUCTS, THE PRODUCT DOCUMENTATION AND ALL INFORMATION ARE PROVIDED ON AN "AS IS" BASIS.

IN NO EVENT WILL HQC BE LIABLE FOR ANY CONSEQUENTIAL, INDIRECT, EXEMPLARY, SPECIAL OR INCIDENTAL DAMAGES, LOSSES, COSTS OR EXPENSES HOWEVER ARISING, WHETHER IN CONTRACT OR TORT, INCLUDING ECONOMIC

LOSSES OF ANY KIND, LOSS OF USE, LOST REVENUE AND/OR LOST POWER, ARISING FROM OR RELATING TO THIS LIMITED WARRANTY OR ANY PRODUCT OR ANY REPLACEMENT OR ADDITIONAL PRODUCT SUPPLIED BY HQC OR ITS DESIGNEE HEREUNDER, EVEN IF HQC OR SUCH DESIGNEE IS AWARE OF THE POSSIBILITY OF SUCH DAMAGES.

THE TOTAL LIABILITY OF HQC, ANY DISTRIBUTOR, AND / OR THEIR RESPECTIVE OFFICERS, DIRECTORS, EMPLOYEES AND AGENTS ARISING FROM OR RELATING TO THIS LIMITED WARRANTY, WHETHER IN CONTRACT, TORT OR OTHERWISE, WILL NOT EXCEED THE AMOUNT RECEIVED BY HQC FOR THE PRODUCT THAT IS THE SUBJECT OF THE CLAIM OR DISPUTE.

SOME JURISDICTIONS LIMIT OR DO NOT PERMIT LIABILITY DISCLAIMERS, LIMITATIONS OR EXCLUSIONS, SO THE ABOVE LIABILITY DISCLAIMERS, LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO CUSTOMER IN SAID JURISDICTION. CUSTOMER MAY HAVE SPECIFIC LEGAL RIGHTS OUTSIDE THIS LIMITED WARRANTY FOR THE PRODUCTS, AND MAY ALSO HAVE OTHER MANDATORY RIGHTS THAT VARY FROM JURISDICTION TO JURISDICTION, WHICH SHALL REMAIN UNAFFECTED.

CUSTOMER ACKNOWLEDGES THAT THE FOREGOING LIABILITY DISCLAIMERS, LIMITATIONS AND EXCLUSIONS ARE AN ESSENTIAL ELEMENT OF THE RELEVANT SALES AGREEMENT BETWEEN THE PARTIES AND THAT IN THE ABSENCE OF SUCH LIABILITY DISCLAIMERS, EXCLUSIONS AND LIMITATIONS THE PURCHASE PRICE OF THE PRODUCTS WOULD BE SUBSTANTIALLY HIGHER.

## 7. ASSIGNMENT

### Assignment

Except to the extent expressly permitted herein, this Limited Warranty may not be assigned or transferred by Customer, and any attempt to assign or transfer in violation of this paragraph shall be null and void. HQC expressly reserves the right to novate or assign its rights and obligations under this Limited Warranty to a third party with the demonstrated expertise and requisite resources needed to effectively discharge the obligations hereunder.

## 8. MISCELLANEOUS

### a. Severability

If any provision of this Limited Warranty terms and conditions is held to be invalid, illegal or unenforceable in any respect, such provision will be changed and interpreted to accomplish the objectives of such provision to the greatest extent possible under applicable law

and the remaining provisions will continue in full force and effect.

### b. Governing Law

All matters arising from or relating to this Limited Warranty shall be governed by the laws of the State of California, without regard to its choice of law rules. The UN Convention on the International Sale of Goods shall not apply.

## 9. ARBITRATION

a. Please read the following arbitration agreement in this Section ("Arbitration Agreement") carefully. It requires Customer ("you") to arbitrate disputes with HQC ("us") and limits the manner in which you can seek relief from us. THE LAWS OF CERTAIN JURISDICTIONS DO NOT PERMIT THE USE OF MANDATORY ARBITRATION CLAUSES. WHERE SUCH LAWS APPLY TO CUSTOMER, THIS ARBITRATION CLAUSE MAY NOT APPLY.

### b. Applicability of Arbitration Agreement

You agree that any dispute or claim relating in any way to your access or use of any Product, or to any aspect of your relationship with us, will be resolved by binding arbitration rather than in court, except that (i) you may assert claims in small claims court if your claims qualify; and (ii) you or we may seek equitable relief in court for infringement or other misuse of intellectual property rights (such as trademarks, trade dress, domain names, trade secrets, copyrights, and patents).

### c. Arbitration Rules and Forum

For any dispute in connection with this Limited Warranty, you agree to first contact us at the email address identified below and attempt to resolve the dispute with us informally. If the dispute has not been resolved after 60 days, both parties agree to resolve such dispute through binding arbitration under the Optional Expedited Arbitration Procedures then in effect for the Judicial Arbitration and Mediation Services ("JAMS"). JAMS may be contacted at [www.jamsadr.com](http://www.jamsadr.com). The existence, content and result of the arbitration shall be held in confidence by all participants. The arbitration will be conducted by a single arbitrator selected by agreement of the parties or, failing such agreement, appointed in accordance with the JAMS rules. The arbitration shall be conducted in English and in Santa Clara County, California. If JAMS is not available to arbitrate, the parties will select an alternative arbitral forum. If the arbitrator finds that you cannot afford to pay JAMS's filing, administrative, hearing and/or other fees and cannot obtain a waiver from JAMS, we will pay such fees for you. In addition, we will reimburse all such JAMS's filing, administrative, hearing and/or other fees for claims totaling less than \$10,000 unless the arbitrator determines the claims are frivolous. Any judgment on the award rendered by the arbitrator

may be entered in any court of competent jurisdiction. The arbitrator shall have exclusive authority to (i) determine the scope and enforceability of this Arbitration Agreement, and (ii) resolve any dispute related to the interpretation, applicability, enforceability or formation of this Arbitration Agreement including, but not limited to any claim that all or any part of this Arbitration Agreement is void or voidable. The arbitrator will decide the rights and liabilities, if any, of the parties. The arbitration proceeding will not be consolidated with any other matters or joined with any other cases or parties. The arbitrator shall have the authority to grant motions dispositive of all or part of any claim. The arbitrator shall have the authority to award monetary damages and to grant any non-monetary remedy or relief available to an individual under applicable law, the arbitral forum's rules, and this Limited Warranty. The arbitrator shall issue a written award and statement of decision describing the essential findings and conclusions on which the award is based, including the calculation of any damages awarded. The arbitrator has the same authority to award relief on an individual basis that a judge in a court of law would have. The award of the arbitrator is final and binding upon the parties.

d. Waiver of Jury Trial

YOU AND WE HEREBY WAIVE ANY CONSTITUTIONAL AND STATUTORY RIGHTS TO SUE IN COURT AND HAVE A TRIAL IN FRONT OF A JUDGE OR A JURY. You and we are instead electing that all claims and disputes shall be resolved by arbitration under this Arbitration Agreement. An arbitrator can award on an individual basis the same damages and relief as a court and must follow this Arbitration Agreement as a court would. However, there is no judge or jury in arbitration, and court review of an arbitration award is subject to very limited review.

e. Waiver of Class or Other Non-Individualized Relief

ALL CLAIMS AND DISPUTES WITHIN THE SCOPE OF THIS ARBITRATION AGREEMENT MUST BE ARBITRATED ON AN INDIVIDUAL BASIS AND NOT ON A CLASS OR COLLECTIVE BASIS, ONLY INDIVIDUAL RELIEF IS AVAILABLE, AND CLAIMS OF MORE THAN ONE CUSTOMER CANNOT BE ARBITRATED OR CONSOLIDATED WITH THOSE OF ANY OTHER CUSTOMER. If a decision is issued stating that applicable law precludes enforcement of any of this subsection's limitations as to a given claim for relief, then such claim shall be severed from the arbitration and brought into the State or Federal Courts located in San Francisco, California. All other claims shall be arbitrated.

f. 30-Day Right to Opt Out

You have the right to opt out of the provisions of this Arbitration Agreement by sending written notice of your decision to opt out to Hanwha Q CELLS America Inc., 400 Spectrum Center Drive,

Suite 1400, Attention: Legal Department, within 30 days after first becoming subject to this Arbitration Agreement. You may also opt-out of the provisions of this Arbitration Agreement by sending written notice of your decision to the following email address: HQCA-Legal@us.q-cells.com. Your notice must include your name and address, and an unequivocal statement that you want to opt out of this Arbitration Agreement. If you opt out of this Arbitration Agreement, all other parts of this Limited Warranty will continue to apply to you. Opting out of this Arbitration Agreement has no effect on any other arbitration agreements that you may currently have, or may enter into in the future, with us.

g. Severability

Except as provided above, if any part or parts of this Arbitration Agreement are found under the law to be invalid or unenforceable, then such specific part or parts shall be of no force and effect and shall be severed and the remainder of the Arbitration Agreement shall continue in full force and effect.

h. Survival of Agreement

This Arbitration Agreement will survive the termination of your relationship with us.



# IQ8H-240 Microinverter

Our newest IQ8 Microinverters are the industry’s first microgrid-forming, software defined 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 superfast 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 IQ Battery, IQ Gateway, and the Enphase App monitoring and analysis software.



IQ8 Series Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 25 years.



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



IQ8 Series Microinverters are UL listed as PV Rapid Shutdown Equipment and conform with various regulations, when installed according to manufacturer’s instructions.

## Easy to install

- Lightweight and compact with plug-n-play connectors
- 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 high-powered 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) and IEEE 1547:2018 (UL 1741-SB 3<sup>rd</sup> Ed.)

### Note:

IQ8 Microinverters cannot be mixed together with previous generations of Enphase microinverters (IQ7 Series, IQ6 Series, etc) in the same system.

\*Only when installed with IQ System Controller 2, meets UL 1741.  
\*\*IQ8H-240 support split-phase, 240V.

# IQ8H-240 Microinverter

INPUT DATA [DC]		IQ8H-240-72-2-US
Commonly used module pairings <sup>1</sup>	W	320 – 540
Module compatibility		54-cell / 108 half-cell, 60-cell / 120 half-cell, 66-cell / 132 half-cell and 72-cell / 144 half-cell
MPPT voltage range	V	36 – 45
Operating range	V	16 – 58
Min. / Max. start voltage	V	22 / 58
Max. input DC voltage	V	60
Max. continuous input DC current	A	12
Max. input DC short-circuit current	A	25
Max. module I <sub>sc</sub>	A	20
Overvoltage class DC port		II
DC port backfeed current	mA	0
PV array configuration		1 x 1 Ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit
OUTPUT DATA [AC]		IQ8H-240-72-2-US
Peak output power	VA	384
Max. continuous output power	VA	380
Nominal (L-L) voltage / range <sup>2</sup>	V	240 / 211 – 264
Max. continuous output current	A	1.58
Nominal frequency	Hz	60
Extended frequency range	Hz	47 – 68
AC short circuit fault current over 3 cycles	Arms	2
Max. units per 20 A (L-L) branch circuit <sup>3</sup>		10
Total harmonic distortion		<5%
Overvoltage class AC port		III
AC port backfeed current	mA	30
Power factor setting		1.0
Grid-tied power factor (adjustable)		0.85 leading – 0.85 lagging
Peak efficiency	%	97.6
CEC weighted efficiency	%	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		4% to 100% (condensing)
DC Connector type		MC4
Dimensions (H x W x D)		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
Pollution degree		PD3
Enclosure		Class II double-insulated, corrosion resistant polymeric enclosure
Environ. category / UV exposure rating		NEMA Type 6 / outdoor
COMPLIANCE		
Certifications	CA Rule 21 (UL 1741-SA), UL 62109-1, IEEE 1547:2018 (UL 1741-SB 3 <sup>rd</sup> Ed.), FCC Part 15 Class B, ICES-0003 Class B, CAN / CSA-C22.2 NO. 107.1-01 This product is UL Listed as PV Rapid Shutdown Equipment and conforms with NEC 2014, NEC 2017, and NEC 2020 section 690.12 and C22.1-2018 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, when installed according to manufacturer's instructions.	

(1) Pairing PV modules with wattage above the limit may result in additional clipping losses. See the compatibility calculator at <https://link.enphase.com/module-compatibility>. (2) Nominal voltage range can be extended beyond nominal if required by the utility. (3) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.



For purposes of this Limited Warranty, “**Activation Date**” means the earlier of (i) the date the Covered Product is registered with Enphase, or (ii) the date the Covered Product is activated at the Original Location via the Enphase’s Installer Portal. A Covered Product is considered “activated” when the solar system has received “permission to operate” by authorities having jurisdiction.

2. **Registration.** Subject to Section 3, this Limited Warranty is also conditioned on the Covered Owner registering the Covered Product within forty-five (45) days from the date of first installation (the “**Registration**”) by either (a) completing and returning the registration card (found at the end of this Limited Warranty) to the address set forth in this Section 2; (b) registering on-line at [www.enphase.com/register-my-product](http://www.enphase.com/register-my-product); or (c) registering through the Enphase Installer Platform or the Enphase® application when an IQ Gateway product is purchased and installed as part of the PV solar system.

**Return Registration Card to:**

Enphase Energy, Inc.  
Attn: Product Registration NA Customer Service  
1819 S. Cobalt Point Way  
Meridian, ID 83642  
United States of America

3. **REGISTRATION EXCEPTION.** IF THE COVERED OWNER IS A RESIDENT OF CALIFORNIA, CONNECTICUT, OR ANY OTHER STATE OR PROVINCE THAT FORBIDS THE RETURN OF A REGISTRATION CARD AS A CONDITION PRECEDENT TO ANY WARRANTY COVERAGE OFFERED UNDER THIS LIMITED WARRANTY, THEN THE REGISTRATION REQUIREMENTS DESCRIBED IN SECTION 2 ABOVE SHALL NOT APPLY.
4. **Covered Owner.** For the purposes of this Limited Warranty, the “**Covered Owner**” shall mean the person or entity that purchases a Covered Product from Enphase or an Enphase-authorized reseller and installs (or has installed) such Covered Product at the Original Location. In addition, Covered Owner shall include subsequent transferees (each, a “**Transferee**”) as long as (a) the Covered Product remains at the Original Location, (b) the Transferee submits to Enphase a completed “Change of Ownership Form,” which Enphase may modify from time to time in its sole discretion (c) the Transferee pays the applicable transfer fee (“**Transfer Fee**”) set forth in the Change of Ownership Form within 30 days from the date of transfer from the Covered Owner to the Transferee, and (d) subject to Section 3, the Transferee complies with the Registration requirement in Section 2. The submission of a Change of Ownership Form is required in order for the Transferee to receive continued Limited Warranty coverage on the transferred Covered Product. The Transfer Fee is subject to reasonable adjustment from time to time (as determined at Enphase’s discretion). The Change of Ownership Form and payment instructions for the Transfer Fee are available at <https://enphase.com/en-us/support/how-to-transfer-ownership>.
5. **Continuous Connectivity.** The Covered Products should be continuously connected to the internet during the warranty period, except where interrupted by causes outside of the Covered Owner’s reasonable control. This will help ensure that potential defects in the Product can be diagnosed remotely and that the Product can receive over-the-air firmware updates.
6. **How to Obtain Warranty Service.**
  - a. To obtain warranty service for a Covered Product, the Covered Owner must comply with the Return Merchandise Authorization (RMA) Procedure available at <https://enphase.com/en-us/support/return-merchandise-authorization-procedure>. Unless Enphase specifically instructs the Covered Owner otherwise, the Covered Owner must return the allegedly defective Covered Product to Enphase in the original packaging or equivalent. If the allegedly defective Covered Product is not received by Enphase within 60 days of Enphase providing an RMA number to Covered Owner, pursuant to the RMA Procedure, Enphase will invoice the Covered Owner, and the Covered Owner will pay, the then-current list price for such new product or product part. We recommend that Covered Owners use a tracking service for their protection. The RMA Procedure allows Covered Owners to generate a prepaid mailing label for the return.
  - b. If a Covered Owner returns a Covered Product to Enphase (i) without an RMA from Enphase or (ii) without all parts included in the original package, Enphase retains the right to either (1) refuse delivery of such return; or (2) charge a restocking fee equal to the higher of fifteen (15) per cent of the original Covered Owner’s purchase price of the Covered Product or the retail value of the missing parts.

- c. By returning a Covered Product, Covered Owner hereby acknowledges that ownership of the Covered Product is transferred to Enphase upon Enphase's receipt of the Covered Product. If the claim is justified based on this Limited Warranty, Enphase will bear the cost of shipping the repaired or replacement Covered Product to
- d. Covered Owner (or to the installer authorized by Covered Owner to replace the Covered Product) at the Original Location. Any Covered Product returned to Enphase that Enphase determines is not covered under this Limited Warranty, or that is returned to Enphase without a valid RMA, may be rejected, and returned at the Covered Owner's cost (subject to prepayment), or kept for 30 days for pick-up by the Covered Owner, and then disposed of in Enphase's sole discretion without further liability or obligation to Covered Owner.
- e. Once a returned Covered Product is received and inspected, Enphase will notify Covered Owner (or the installer authorized by Covered Owner to replace the Covered Product) that Enphase has received the returned Covered Product.

## 7. Remedies.

- a. During the applicable Warranty Period, if Enphase confirms the existence of a defect that is covered by the Limited Warranty, Enphase will, at Enphase's option, either (i) repair or replace the Covered Product free of charge, or (ii) refund the Covered Owner the actual purchase price for the Covered Product less reasonable depreciation based on use at the time the Covered Owner notifies Enphase of the defect. Enphase will not elect to issue a refund unless (1) Enphase is unable to provide a replacement and repair is not commercially practicable or cannot be timely made, or (2) Covered Owner is willing to accept such a refund. In the event of a defect, to the extent permitted by law, these are the Covered Owner's sole and exclusive remedies.
- b. If Enphase repairs or replaces the Covered Product pursuant to this Limited Warranty, (i) Enphase will, at its option, use new and/or reconditioned parts or products of the Covered Product's original or improved design, and (ii) the Limited Warranty will continue to apply to the repaired or replacement product for the remainder of the original Limited Warranty Period or ninety (90) days from the date Covered Owner receives the repaired or replacement product, whichever is later.
- c. If Enphase issues a refund (rather providing a repaired or replacement Covered Product), such refund will be processed and paid within 2 weeks of Enphase's receipt of the Covered Product.

## 8. Limited Warranty Limitations and Exclusions.

- a. This Limited Warranty does not include any cost of labor related to (i) un-installing Covered Product; (ii) re-installing a repaired or replacement product, or (iii) the removal, installation or troubleshooting of the Covered Owner's electrical systems.
- b. The Limited Warranty does not cover, and Enphase will not be responsible for any delays, lost or damage or any other damage to any Covered Product caused by a freight carrier.
- c. This Limited Warranty does not apply to, and Enphase will not be responsible for, any defect in or damage to any Covered Products: (i) that have been misused, neglected, tampered with, altered, or otherwise damaged, either internally or externally; (ii) that have been improperly installed, operated, handled or used, including use under conditions for which the product was not designed, use in an unsuitable environment, or use in a manner contrary to the Enphase User Manual or applicable laws or regulations; (iii) that have been subjected to fire, water, generalized corrosion, biological infestations, acts of nature, or input voltage that creates operating conditions beyond the applicable maximum or minimum limits listed in the applicable Covered Product Data Sheet (as published online at [www.enphase.com](http://www.enphase.com)), including high input voltage from generators or lightning strikes; (iv) that have been subjected to damage caused by third party components not provided by Enphase and used with the Covered Products or any damage to the Covered Products caused by service performed by anyone who is not a representative of Enphase; (v) if the original identification markings (including trademark or serial number) of such products have been defaced, altered, or removed (other than by fading through regular wear and tear); (vi) if the Grid Profile (utility approved operating parameters) of the Covered Product has been altered, and such alteration causes the product to malfunction, fail, or fail to optimally perform; or (vii) if the Covered Product is not using the most up-to-date software or firmware version made available by Enphase and the defect or damage could have been avoided by using such firmware or software version.
- d. The Limited Warranty does not cover cosmetic, technical or design defects, or shortcomings which do not

materially influence or affect energy production or degrade form, fit, or function of the Covered Products, or any defects or parts requiring replacement due to ordinary wear and tear, corrosion, rust or stains, scratches, dents on the casing or paintwork of the Covered Product. The Limited Warranty does not cover costs related to the removal, installation or troubleshooting of the Covered Owner's electrical systems.

- e. The Limited Warranty does not apply to, and the term "Covered Product" shall not include, any third-party products that may be installed with the Covered Products at the Original Location.
  - f. For the avoidance of doubt, software programs installed in the Covered Products and the recovery and reinstallation of such software programs and data are not covered under this Limited Warranty. Enphase does not warrant that the operations of the Covered Product will be uninterrupted or error-free. No Enphase employee or authorized reseller is authorized to make any modification, extension, or addition to this Limited Warranty. If any term of this Limited Warranty is held to be illegal or unenforceable, the legality or enforceability of the remaining terms shall not be affected or impaired.
9. **Assignment.** Enphase expressly reserves the right to novate or assign its rights and obligations under this Limited Warranty to a third party with the demonstrated expertise and requisite resources needed to effectively discharge the obligations hereunder.
10. **Disclaimer of Warranties.** THIS LIMITED WARRANTY IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY ENPHASE AND, EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ALL OTHER WARRANTIES AND CONDITIONS, WHETHER EXPRESS OR IMPLIED, STATUTORY, OR OTHERWISE, ARISING BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE USAGE OF TRADE, OR OTHERWISE (INCLUDING WARRANTIES AND CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, OR WARRANTIES AS TO THE ACCURACY, SUFFICIENCY OR SUITABILITY OF ANY TECHNICAL OR OTHER INFORMATION PROVIDED IN MANUALS OR OTHER DOCUMENTATION) SHALL BE LIMITED IN DURATION TO THE DURATION OF THIS LIMITED WARRANTY.

THE GRANT OF THIS LIMITED WARRANTY BY ENPHASE IS CONDITIONED UPON AGREEMENT BY THE COVERED OWNER TO THE TERMS, CONDITIONS AND REQUIREMENTS HEREIN. THE LAWS OF CERTAIN JURISDICTIONS DO NOT ALLOW FOR THE EXCLUSIONS ON THE DURATION OF AN IMPLIED WARRANTY OR FOR EXCLUSIONS OR LIMITATIONS ON LEGAL WARRANTIES. WHERE SUCH LAWS APPLY TO THE COVERED OWNER, SOME OR ALL OF THE EXCLUSIONS OR LIMITATION MAY NOT APPLY TO COVERED OWNER, AND SUCH COVERED OWNER MAY HAVE ADDITIONAL RIGHTS. THIS LIMITED WARRANTY GIVES COVERED OWNER SPECIFIC LEGAL RIGHTS, AND COVERED OWNER MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM JURISDICTION TO JURISDICTION.

11. **Limitation of Liability.** EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, IN NO EVENT WILL ENPHASE BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSSES, COSTS OR EXPENSES HOWEVER ARISING, WHETHER IN CONTRACT OR TORT, INCLUDING WITHOUT LIMITATION ANY ECONOMIC LOSSES OF ANY KIND, ANY LOSS OR DAMAGE TO PROPERTY, OR ANY PERSONAL INJURY.

SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO COVERED OWNER AND COVERED OWNER MAY HAVE ADDITIONAL RIGHTS.

12. **Governing law.** This Limited Warranty shall be governed by the laws of the State of California, USA, without giving effect to any conflict of laws principles that may require the application of the law of another jurisdiction.
13. **Arbitration.**
- a. ***Please read the following arbitration agreement in this Section ("Arbitration Agreement") carefully. It requires Covered Owner ("you") to arbitrate disputes with ENPHASE and limits the manner in which you can seek relief from Enphase ("us"). THE LAWS OF CERTAIN JURISDICTIONS DO NOT PERMIT THE USE OF MANDATORY ARBITRATION CLAUSES. WHERE SUCH LAWS APPLY TO THE COVERED OWNER, THIS ARBITRATION CLAUSE MAY NOT APPLY.***
  - b. **Applicability of Arbitration Agreement.** You agree that any dispute or claim relating in any way to your access or use of the Covered Products, or to any aspect of your relationship with Enphase, will be resolved by binding arbitration, rather than in court, except that (i) you may assert claims in small claims court if your

claims qualify; and (ii) you or Enphase may seek equitable relief in court for infringement or other misuse of intellectual property rights (such as trademarks, trade dress, domain names, trade secrets, copyrights, and patents).

- c. **Arbitration Rules and Forum.** For any dispute with Enphase in connection with this Limited Warranty, Covered Owner agrees to first contact Enphase at the email address identified below and attempt to resolve the dispute with us informally. If the dispute has not been resolved after 60 days, both parties agree to resolve such dispute through binding arbitration under the Optional Expedited Arbitration Procedures then in effect for the Judicial Arbitration and Mediation Services (“JAMS”). JAMS may be contacted at [www.jamsadr.com](http://www.jamsadr.com). The existence, content and result of the arbitration shall be held in confidence by all participants. The arbitration will be conducted by a single arbitrator selected by agreement of the parties or, failing such agreement, appointed in accordance with the JAMS rules. The arbitration shall be conducted in English and in Santa Clara County, California. If JAMS is not available to arbitrate, the parties will select an alternative arbitral forum. If the arbitrator finds that Covered Owner cannot afford to pay JAMS’s filing, administrative, hearing and/or other fees and cannot obtain a waiver from JAMS, Enphase will pay them for Covered Owner. In addition, Enphase will reimburse all such JAMS’s filing, administrative, hearing and/or other fees for claims totaling less than \$10,000 unless the arbitrator determines the claims are frivolous. Any judgment on the award rendered by the arbitrator may be entered in any court of competent jurisdiction. The arbitrator shall have exclusive authority to determine the scope and enforceability of this Arbitration Agreement, and (b) resolve any dispute related to the interpretation, applicability, enforceability or formation of this Arbitration Agreement including, but not limited to any claim that all or any part of this Arbitration Agreement is void or voidable. The arbitration will decide the rights and liabilities, if any, of the parties. The arbitration proceeding will not be consolidated with any other matters or joined with any other cases or parties. The arbitrator shall have the authority to grant motions dispositive of all or part of any claim. The arbitrator shall have the authority to award monetary damages and to grant any non-monetary remedy or relief available to an individual under applicable law, the arbitral forum’s rules, and the Limited Warranty. The arbitrator shall issue a written award and statement of decision describing the essential findings and conclusions on which the award is based, including the calculation of any damages awarded. The arbitrator has the same authority to award relief on an individual basis that a judge in a court of law would have. The award of the arbitrator is final and binding upon the parties.
- d. **Waiver of Jury Trial.** YOU AND ENPHASE HEREBY WAIVE ANY CONSTITUTIONAL AND STATUTORY RIGHTS TO SUE IN COURT AND HAVE A TRIAL IN FRONT OF A JUDGE OR A JURY. You and ENPHASE are instead electing that all claims and disputes shall be resolved by arbitration under this Arbitration Agreement, except as specified in sections above. An arbitrator can award on an individual basis the same damages and relief as a court and must follow this Agreement as a court would. However, there is no judge or jury in arbitration, and court review of an arbitration award is subject to very limited review.
- e. **Waiver of Class or Other Non-Individualized Relief.** ALL CLAIMS AND DISPUTES WITHIN THE SCOPE OF THIS ARBITRATION AGREEMENT MUST BE ARBITRATED ON AN INDIVIDUAL BASIS AND NOT ON A CLASS OR COLLECTIVE BASIS, ONLY INDIVIDUAL RELIEF IS AVAILABLE, AND CLAIMS OF MORE THAN ONE COVERED OWNER CANNOT BE ARBITRATED OR CONSOLIDATED WITH THOSE OF ANY OTHER COVERED OWNER. If a decision is issued stating that applicable law precludes enforcement of any of this subsection’s limitations as to a given claim for relief, then such claim must be severed from the arbitration and brought into the State or Federal Courts located in San Francisco, California. All other claims shall be arbitrated.
- f. **30-Day Right to Opt Out.** You have the right to opt out of the provisions of this Arbitration Agreement by sending written notice of your decision to opt out to Enphase Energy, Inc., 47281 Bayside Parkway, Fremont, California, 94538, attention: General Counsel, within 30 days after first becoming subject to this Arbitration Agreement. You may also opt-out of the provisions of this Arbitration Agreement by sending written notice of your decision to the following email address: [legal@enphaseenergy.com](mailto:legal@enphaseenergy.com). Your notice must include your name and address, and an unequivocal statement that you want to opt out of this Arbitration Agreement. If you opt out of this Arbitration Agreement, all other parts of this Agreement will continue to apply to you. Opting out of this Arbitration Agreement has no effect on any other arbitration agreements that you may currently have, or may enter in the future, with us.
- g. **Severability.** Except as provided above, if any part or parts of this Arbitration Agreement are found under the law to be invalid or unenforceable, then such specific part or parts shall be of no force and effect and shall

be severed and the remainder of the Arbitration Agreement shall continue in full force and effect.

h. **Survival of Agreement.** This Arbitration Agreement will survive the termination of your relationship with Enphase.

Customer Support:

United States, US Territories and Canada

<https://support.enphase.com/s/contact-us>

(877) 797-4743

Puerto Rico

<https://www4.enphase.com/es-lac/contact-support-es-lac>

+1 (800) 821-1487

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# Product Registration Form



**Failure to complete and return this Product Registration Form does not diminish your warranty rights.**

Please return this form to:

Enphase Energy, Inc.  
Attn: Product Registration  
NA Customer Service  
1819 S. Cobalt Point Way  
Meridian, ID 83642  
United States of America

(or, you may register on-line at <https://enphase.com/en-us/product-registration-en-us>)

First Name \_\_\_\_\_ Last Name \_\_\_\_\_

E-mail \_\_\_\_\_

Phone Number (Area Code) \_\_\_\_\_

### Contact Address

Street Address: \_\_\_\_\_

Street Address (line 2) \_\_\_\_\_

City \_\_\_\_\_

State/Province \_\_\_\_\_ Zip Code \_\_\_\_\_

Address of installation: same as Contact Address? Yes / No

(If, "Yes", Enphase will use Contact Address as Address of Installation)

### Address of Installation

Street Address: \_\_\_\_\_

Street Address (line 2) \_\_\_\_\_

City \_\_\_\_\_

State/Province \_\_\_\_\_ Zip Code \_\_\_\_\_

### Installer Information

Installer Name \_\_\_\_\_

Installer Contact Info \_\_\_\_\_

E-mail \_\_\_\_\_

Phone Number (Area Code) \_\_\_\_\_

### Product Information

Microinverter SKU (e.g.: IQ7-60-2-US) \_\_\_\_\_

Number of Units Installed \_\_\_\_\_

Serial Numbers of Units installed \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Purchased from \_\_\_\_\_

Purchase Date (MM/DD/YY) \_\_\_\_\_

Installation Date (MM/DD/YY) \_\_\_\_\_

Permitted to Operate Date (MM/DD/YY) \_\_\_\_\_

I agree to receive critical product information about the registered products at the email and/or contact provided above.