



Prepared by:
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For: Tenino Food Bank
Dave Watterson
748 Sussex Ave W
Tenino, WA 98589
(1)(360) 264-2368
None

Quote #: 8749760
Valid until: Apr 15 2026



Solar Energy System Proposal

Dear Dave,

Thank you for considering Forecast Energy as your renewable energy partner.

For over a decade, we've been pioneering the Northwest solar industry, offering cutting-edge renewable energy solutions. Quality is our cornerstone, with the highest-rated products at fair prices.

What sets us apart? Our dedication to your satisfaction. Our in-house team of certified technicians and electricians ensures expertise and reliability throughout your project.

Let's discuss your renewable energy goals soon! Don't hesitate to reach out for questions or to schedule a conversation.

Best Regards,
Bradley Dosch

Forecast Energy
3429 132nd St SW
Lynnwood WA 98087

Phone: (425) 487-6000
Email: Info@ForecastEnergy.com
Web: www.ForecastEnergy.com

Scan QR code on your phone to
access the online proposal.



Recommended System Option

16,251 kWh

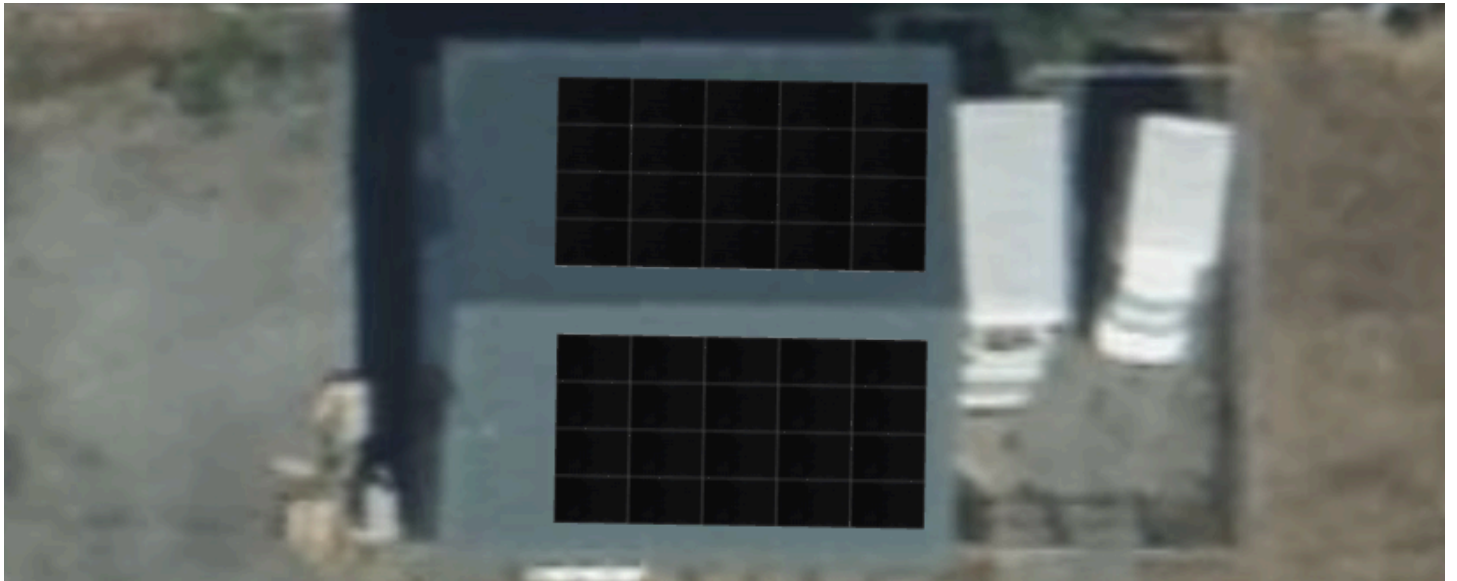
Estimated Annual
Solar Generation

17.6 kW

System Size

44.5 kWh

Daily Solar Generation



Your Solution

SIL-440 QD

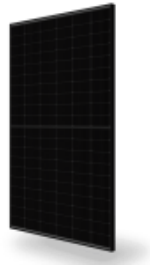
17.600kW of Solar Power

40 x SIL-440 QD

440 Watt panels

25 Year Product Warranty & 30 Year Linear Performance Warranty

16,251kWh per year



EG4 FLEXBOSS21 Hybrid Inverter

16 kW of Inverter Power

EG4 Electronics

1 x EG4 FlexBOSS21

10 Year Warranty Product



EG4 PowerPro WallMount 14.3kWh

85.8kWh of Battery Storage

EG4 Electronics

6 x PowerPro WallMount All-Weather 14.3 kWh



EG4 GridBOSS (MID)

The EG4 GridBOSS Micro-Grid Interconnection Device (MID) simplifies Energy Storage Systems (ESS) by consolidating multiple components into a single, innovative unit.

1 x EG4 GridBOSS



PV Module Advanced Add-On

PV Module Advanced Add-On

40 x TS4-A-S

Warranties: 25 Year Panel Product Warranty, 30 Year Panel Performance Warranty, 10 Year Inverter Product Warranty, 10 Year Battery Product Warranty



Quotation

Payment Option: Cash

40 x Silfab Solar Inc. 440 Watt Panels (SIL-440 QD) 1 x EG4 FlexBOSS21 (EG4 Electronics) 6 x PowerPro WallMount All-Weather 14.3 kWh (EG4 Electronics) 1 x EG4 GridBOSS, 40 x TS4-A-S	
Total System Price	\$98,091.00
Purchase Price	\$98,091.00

Price excludes Retailer Smart Meter should you want us to install your Smart Meter it will be an additional cost.
 This proposal is valid until Apr 15 2026.

Quote Acceptance

I have read & accept the terms and conditions.

Signature _____

Name _____

Date _____



This proposal has been prepared by Forecast Energy using tools from OpenSolar. Please visit www.opensolar.com/proposal-disclaimer for additional disclosures from OpenSolar.



PHOTOVOLTAIC SYSTEM PROPOSAL & CONTRACT

Proposal Submitted to:
City of Tenino Tenino Food Bank 748 Sussex Ave W, Tenino, WA 98589 (1)(360) 264-2368

Work to be Performed at / System Location
Tenino Food Bank 748 Sussex Ave W, Tenino, WA 98589

AGREEMENT. This 'Agreement' is made between Tenino Food Bank ('Customer') and Forecast Roofing LLC DBA Forecast Energy, effective Apr 01 2026 (Agreement Effective Date). Forecast Energy and Customer may individually be referenced herein as a 'Party', or collectively, as the 'Parties'. Any arrangement between the Customer and any external financing party is independent of, and outside the scope of this Agreement. System is being purchased for price per watt of \$5.57 (includes battery cost if applicable) with payment of cash.

SCOPE OF WORK. Forecast Energy intends to solely provide the services, materials and labor described herein, for the installation of a Solar Photovoltaic Grid-Tied System ('System') at the property located at 748 Sussex Ave W, Tenino, WA 98589 (the 'Site'). This includes building and construction materials, necessary labor and site security, and the required tools and machinery needed for completion of construction. Open Solar estimates System to produce 16,251 kWh during year one with an estimated utility bill savings of \$1,809.

Key components to include: 17.60 kW

Modules	40 x SIL-440 QD
Inverter	1 x EG4 FlexBOSS21
Optimizer and/or other	1 x EG4 GridBOSS, 40 x TS4-A-S
Battery	6 x PowerPro WallMount All-Weather 14.3 kWh

Manufacturer Warranties: Warranties: 25 Year Panel Product Warranty, 30 Year Panel Performance Warranty, 10 Year Inverter Product Warranty, 10 Year Battery Product Warranty

*Labor reimbursement & extended warranties may be available

System Cost (sales tax exempt unless otherwise stated)	\$98,091
Tax Credit	0
Cost less tax Credit	\$98,091

GENERAL TERMS & CONDITIONS OF CONTRACT

Complete Agreement: Acceptance of Forecast Energy's Estimate shall constitute acceptance by the customer of these "General Terms and Conditions." These Terms & Conditions and Forecast Energy's Estimate shall constitute the entire agreement between the parties, and any additional terms and modifications proposed by the customer shall be binding only if agreed to in writing by Forecast Energy. The authorizing agent and signature of the buyer must be the owner of the structure receiving the PV installation.

1. **Payment/Interest:** Forecast Energy's terms of payment are 25% of System Cost is due upon contract signing, 25% of System Cost due at time of procurement of major components, 25% of total before the first day of installation, and 25% due after system passes inspection; balance of total is due upon final inspection unless otherwise stipulated within the contract. Overdue payments shall be assessed interest at the rate of 8% per month. All payments on account may be applied to particular invoices at the sole discretion of Forecast Energy. The parties to this contract agree to resolve legal disputes through arbitration methods rather than civil lawsuits for any and all suits or actions brought for any breach of the contract between Forecast Energy and the customer. The laws, manufacturer's specifications and standard installation precedent within the State of Washington shall apply.
2. **Permits and Taxes:** Unless otherwise specified, Forecast Energy's price does not include the cost of excise, use or other taxes, or fees now in effect or hereafter levied which Forecast Energy may be required to pay or collect in connection with work performed by Forecast Energy. All unspecified permit fees, taxes and other fees shall be due and payable by the customer, who shall pay Forecast Energy upon demand.
3. **Customer's Liability:** Customer shall assume risk of loss or damage not done by Forecast Energy or its agents to any equipment after delivery to site of installation.
4. **Release of Liability:** While executing the work specified within this contract, it may be necessary for trucks or equipment to access the customer's property. The customer agrees to release Forecast Energy or its agents from liability for any damage resulting from such delivery, including cracks in driveways or sidewalks. The customer further releases Forecast Energy from any damage done to siding, bushes, shrubs, flowers, etc., though Forecast Energy and its agents shall take reasonable precautions to prevent such incidents from occurring.
5. **Limited Warranty:** Forecast Energy provides a Limited Warranty, the terms of which are stated as follows:
 - A. Upon final payment, Forecast Energy warrants that all labor, materials and taxes will be paid for, removing the possibility of lien claimants upon the work of Forecast Energy. Forecast Energy agrees to perform its work in a workman-like manner according to the laws and codes or construction/installation precedent established within the State of Washington. This warranty covers only the installation and application of the solar equipment or roofing material and does not cover damage caused by defects in or failure of material used as components of the solar equipment and roofing material installed. If the need should arise, Forecast Energy will assist the customer in filing warranty claims against equipment defects with manufacturers of any material used in the solar or roof installation by Forecast Energy if such a warranty exists. Labor costs for installing replacement of defective equipment may be assessed at the time of installation.
 - B. This warranty shall be void if a person or firm other than Forecast Energy performs or re-performs any work identified within the original scope of work of this Contract with Forecast Energy. Forecast Energy shall have the irrevocable right to perform all corrective work identified by the Customer unless Forecast Energy declines to do so following receipt from the Customer of specific list of corrective work and a reasonable period of time within which to perform the work. Any manufacturer's material warranties may be issued only after final job completion and final payment is received by Forecast Energy.
 - C. Forecast Energy retains the right to disclaim any claim or refuse repair or replacement of any work, materials or damage caused in part or whole by the following:
 - materials failure
 - preexisting unsound construction or material not within the designated scope of work of this agreement
 - natural forces including wind, hail, snow and earthquake (wind exceeding the manufacturer's wind rating for that material or equipment)
 - inadequate solar or roof maintenance, or changes in solar exposure
 - damage done to solar equipment or roof by falling objects, foot traffic, or any kind of abuse

- slight deviation from manufacturer’s recommended specification or jurisdictional codes that do not significantly influence solar or roof performance during the term of this warranty including but not limited to high winds or jurisdictional code changes
 - the growth or incursion of moss, mold, birds, other rodents, or animals.
- D. Concerning the property upon which the PV System is being installed: Forecast Energy warrants its workmanship against any significant defects in workmanship and will replace or repair any significant defects in workmanship or structural damage done to the house or building due to defects in the workmanship of Forecast Energy. This warranty is for 10 years from the original invoice date and issued to the original customer (presumed owner) and transferable to a new owner for the remainder of that period and thereafter terminates. This warranty is void if in the event of a leak, Forecast Energy is not contacted within three days of detection, or in the case of other defects or damage within two weeks of detection. This warranty is given in lieu of all other express or implied warranties of fitness, merchantability or habitability otherwise provided under the laws of Washington.

Forecast Energy 10 Year Limited Warranty

Forecast Energy warrants its workmanship for 10 years. This covers installation, interconnection issues and all related equipment and wire provided by Forecast Energy not excluded below. Forecast Energy will facilitate the replacement of any inverters, racking or solar modules covered by manufacturer's warranties, according to the full conditions of that coverage by the manufacturer at the time of purchase for ten years. Forecast Energy is not liable for free servicing if the original manufacturer, warranties, or conditions have changed or cease to exist. All monitoring, network, online and interactive programs purchased by the buyer and/or provided by the inverter manufacturer are solely provided by that manufacturer or their service provider. Forecast Energy will cover the basic initial installation of monitoring but is not responsible for subsequent existing and future internal network or connectivity issues at the site location.

Contract Addendum

Any additional items listed below are included in this proposal.

Additional Disclosures:

- Electrical and Utility permits are included in this estimate. Due to the variance in jurisdictions and projects, building and fire permits are not included in this estimate. Contact us for current project specific permit costs. Your utility district may add meter fees directly into your utility bill. **Customer Initial** _____
- If you are a residential customer, you must have sufficient tax liability to utilize the residential clean energy credit. You will not receive these funds directly; you can only offset the taxes that you owe to the federal government. IF YOU ARE PARTICIPATING IN GOVERNMENT ASSISTANCE PROGRAMS OR ARE ON A FIXED INCOME, YOU MAY NOT BE ELIGIBLE FOR THIS TAX CREDIT. The cost of roof repairs should not be included in calculating the tax credit. It is recommended that you consult a tax attorney if you are relying on the tax credit to afford the cost of the solar energy installation. **Customer Initial** _____
- CUSTOMER'S RIGHT TO CANCEL: YOU HAVE THE RIGHT TO CANCEL YOUR SOLAR ENERGY INSTALLATION CONTRACT WITHIN THREE BUSINESS DAYS OF CONTRACT SIGNING. YOUR NOTICE OF CANCELLATION MUST BE MADE IN WRITING AND EMAILED OR MAILED VIA CERTIFIED LETTER TO THE CONTACTS LISTED IN THIS CONTRACT. **Customer Initial** _____
- IF YOU INTEND TO OBTAIN A LOAN TO PAY FOR ALL OR PART OF THE CONTRACT, IT IS RECOMMENDED THAT YOU WAIT UNTIL RECEIVING FINANCIAL APPROVAL BEFORE SIGNING THIS SOLAR ENERGY INSTALLATION CONTRACT. IN ADDITION, IF YOU INTEND TO OBTAIN A LOAN TO PAY FOR ALL OR PART OF THE CONTRACT, IT IS RECOMMENDED THAT YOU VERIFY WHETHER LOAN PAYMENTS ARE DUE BEFORE THE SYSTEM IS OPERATIONAL. NOTHING IN THIS CONTRACT ALTERS YOUR RESPONSIBILITY TO PAY YOUR ELECTRIC UTILITY COMPANY FOR AMOUNTS DUE ON YOUR ELECTRIC BILL. **Customer Initial** _____

Additional Resources:

- Access to Interconnection Agreement - <https://www.utc.wa.gov/regulated-industries/utilities/energy/energy-resources-list>
- Contractor Verification Tool - <https://secure.ini.wa.gov/verify/>

Buyer's Retail Sales Tax Exemption Certificate

Form 27 0032

Do not use this form for resale purchases

This certificate is for:

Single use

You need to show this certificate each time you buy an exempt item.

Blanket certificate

You can use this certificate anytime, if you and the seller/marketplace facilitator have a recurring business relationship. A recurring business relationship means you have at least one sale transaction within 12 months (RCW 82.08.050(7)(c)).

Vendor/seller's name: Forecast Energy Date:

Mailing address: 3429 132nd St SW

City: Lynnwood State: WA Zip: 98087

I, the undersigned buyer, certify I am making an exempt purchase for the following reason:
(Enter information and/or check applicable box(es)).

1 Nonresident vessel purchases:

Place of residence:

Proof of residence provided (driver's license, State issued ID),
including any identification numbers, and expiration date.

Watercraft (make, model and serial number of vessel):

Registered or documented with the US Coast Guard or state of principal use and will leave
Washington waters within 45 days; or

Buyer is a resident of a foreign country. Purchase is for use outside Washington and will
leave Washington water within 45 days.

Seller's signature:

2 Electric vehicles/vessels:

- a. Batteries or fuel cells for electric vehicles and services for installing, repairing, or improving electric vehicle batteries and fuel cells (expired July 1, 2025).
- b. Tangible personal property that will become a component of a battery or fuel cell electric vehicle infrastructure and labor and services for installing, constructing, repairing, or improving battery or fuel cell electric vehicle infrastructure, including hydrogen fueling stations (expired July 1, 2025).
- c. Zero emissions buses (expired July 1, 2025).
- d. Vessels equipped with battery-powered electric marine propulsion systems or the systems themselves with continuous power greater than 15kW.
- e. Batteries and battery packs or shoreside battery infrastructure used to exclusively power electric marine propulsion systems operating at a continuous power greater than 15kW.
- f. Zero emission buses purchased by a transit agency or federally recognized Indian tribe for providing transportation services (effective July 1, 2025).

3 Intrastate air transport:

- Airplanes for use in providing intrastate air transportation by a commuter air carrier and the sale of repair and related services for these airplanes.

4 Interstate or foreign commerce or commercial deep sea fishing business:

- a. Motor vehicle, trailers and component parts thereof used to transport persons or property for hire in interstate or foreign commerce.
- b. Airplanes, locomotives, railroad cars or watercraft and component parts thereof used in transporting persons or property for hire.
- c. Labor and services rendered to construct, repair, clean, alter or improve for hire carrier property.
- d. Items for use connected with private or common carriers engaged in air, rail or water in interstate or foreign commerce. (Note: Items consumed in the state are subject to use tax.)
- e. Watercraft, component parts, labor and services, and/or diesel fuel used in a qualifying commercial deep sea fishing operation.
Registered vessel name: Vessel number:
- f. Purchases of liquefied natural gas (LNG) by private or common waterborne carriers in interstate or foreign commerce. The exemption applies to 90% of LNG transported and consumed outside this State by the buyer.

5 Other:

Prescription items: You must use the Sales Tax Exemption Certificate for Health Care Providers to claim exemptions for items prescribed for human use and other medical purchases.

- a. Waste vegetable oil used to produce biodiesel fuel for personal use.
- b. Equipment rental and purchase of services for use in motion picture and video production.
- c. Objects of art or cultural value purchased by an artistic or cultural organization.
- d. Adaptive automobile equipment purchased by disabled veterans.
- e. Animal pharmaceuticals purchased by veterinarians. This exemption does not apply to pharmaceuticals for pets (describe): _____
- f. Computer hardware, peripherals, software and related installation, used by the aerospace industry.
Note: Buyers must complete the Buyers Sales and Use Preference Addendum with their excise tax return.
- g. Labor, services and tangible personal property related to the constructing of new buildings by a manufacturer of commercial airplanes, fuselages, or wings of a commercial airplane, or by a port district, political subdivision, or municipal corporation to be leased to such a manufacturer.
Note: Buyers must complete the Buyers Sales and Use Preference Addendum with their excise tax return.
- h. Computer hardware, peripherals, software and related installation, purchased by publishers and printers.
- i. City, County, Tribal, or Inter-Tribal Housing Authorities.
- j. Tangible personal property for use in a noncontiguous state delivered to the usual receiving terminal of the shipper.
 Types of goods purchased: _____
 Point of delivery: _____ Carrier/agent: _____
- k. Gases and chemicals used by a manufacturer or processor for hire in the production of semiconductor materials.
- l. Hog fuel used to produce electricity, steam, heat, or biofuel.
- m. Tangible personal property under the weatherization assistance program.
- n. Trail grooming services.
- o. Federal credit union purchases.
- p. Wax, ceramic materials, and labor used to create molds consumed during the process of creating investment castings.
- q. Sales of ferry vessels to the state or local governmental units, components thereof, and labor and service charges.
- r. Joint Municipal Utilities Services Authority.
- s. Paratransit vehicles purchased by paratransit service providers.
- t. Large/private airplanes purchased by nonresidents.

Buyer's Retail Sales Tax Exemption Certificate Form

- u. Standard financial information purchased by qualifying international investment management companies and their affiliates.
- v. Material and supplies directly used in the packing of fresh perishable horticultural products by persons who receive, wash, sort, and pack fresh perishable horticultural products for farmers.
- w. Vessel deconstruction services.
- x. Only for delivered bottled water No source of potable water Prescribed water
 Purchased with food stamps (SNAP)
- y. Anaerobic digesters and repair services.
- z. Purchases of solar energy machinery and equipment that generates at least 1 kilowatt (kW) and no more than 100 kW of electricity and labor and services rendered in regard to installation of such equipment.
- aa. Ride-sharing vehicles to be used in certain rideshare programs.
- bb. Mobility enhancing equipment for complex needs patients.

Items purchased: _____

Certification:

I, the undersigned buyer, understand that by completing and signing this certificate I am certifying that I qualify for the tax exempt purchase(s) indicated above. I understand that I will be required to pay sales or use tax on purchases that do not qualify for an exemption. In addition, I understand that false or erroneous use of this certificate will result in liability for unpaid tax with interest and may result in additional penalties.

Type of entity: Individual Corporation Sole Proprietor Partnership
 Other (explain) _____

Type of business: _____ Account ID: _____

Buyer name: Tenino Food Bank Dave Watterson Title: _____

Street address: 748 Sussex Ave W

City, State, Zip: Tenino WA 98589

Buyer signature: _____

**Seller must retain the original of this certificate for their records.
Do not send a copy of this certificate to the Department of Revenue.**

Instructions

Buyer's must ensure entitlement to the exemption before using this certificate.

For information regarding exemptions, contact Washington State Department of Revenue Taxpayer Information Center at 360-705-6705 or visit our website at dor.wa.gov.

Line 1 applies to watercraft purchased by a nonresident for use outside Washington when delivery takes place in Washington. The buyer must provide proof of residency (picture ID) and check the applicable box. By checking the box, the buyer certifies that the vessel will leave Washington State waters within forty-five days. Sellers must examine and document the proof of residency provided by the buyer. **Seller must sign the form.** By signing the form, the seller certifies they have examined and listed the buyer's proof of residency. See WAC 458-20-238 for acceptable proof of residency for corporations, partnerships and limited liability companies. Reference: RCW 82.08.0266, RCW 82.08.02665 and WAC 458-20-238.

Line 2a applies to the purchase of batteries or fuel cells for electric vehicles and services for installing, repairing, or improving electric vehicle batteries and fuel cells. Reference: RCW 82.08.816.

Line 2b applies to the purchase of tangible personal property that will become a component of electric vehicle infrastructure or to labor and services rendered in respect to installing, constructing, repairing, or improving electric vehicle infrastructure, including hydrogen fueling stations. Reference: RCW 82.08.816.

Line 2c applies to the purchase of zero emissions buses. Reference: RCW 82.08.816.

Line 2d applies to the purchases of vessels with battery- powered electric marine propulsion systems or the systems themselves with continuous power greater than 15 kW. Reference: RCW 82.08.996.

Line 2e applies to the purchase of marine batteries, shoreside infrastructure, and related labor and installation charges used with electric vessel marine propulsion systems. Reference: 82.08.996.

Line 3 applies to the purchase of airplanes for use in providing intrastate air transportation by a commuter air carrier and the sale of repair and related services for these airplanes. Commuter air carriers are air carriers holding authority under Title 14, part 298 of the code of federal regulations that carries passengers on at least five round trips per week on at least one route between two or more points. Reference: RCW 82.08.0262 and 82.12.0254.

Line 4a applies to the purchase of motor vehicles, trailers, component parts, or repairs by a business operating or contracting to operate for the holder of a motor carrier (MC) permit. For vehicles and trailers, the buyer must attach a list stating make, model, year, serial number, motor number and MC permit number. Reference: RCW 82.08.0263 and WAC 458-20-174.

Line 4b applies to the purchase of airplanes, locomotives, railroad cars, or watercraft for use in conducting interstate or foreign commerce by transporting therein or there with persons or property for hire. The exemption also applies to component parts of such carrier property. Reference: RCW 82.08.0262 and WAC 458-20-175.

Line 4c applies to charges for labor and services rendered in the course of constructing, repairing, cleaning, altering or improving carrier property when carrier property is used for hire. Reference: RCW 82.08.0262 and WAC 458-20-175.

Line 4d applies to the purchase of durable goods or consumables, other than those mentioned in line 4b, for use in connection with interstate or foreign commerce by such businesses. The goods must be for exclusive use while engaged in transporting persons or property in interstate or foreign commerce. The exemption does not apply to charges for labor or services in regard to the installing, repairing, cleaning or altering of such property. Although exempt from retail sales tax, materials are subject to use tax if consumed in Washington. Unregistered businesses must attach a list stating the description and quantity of items that will be consumed in Washington and pay use tax to the seller. Reference: RCW 82.08.0261 and WAC 458-20-175.

Line 4e applies to the purchase of vessels, component parts, or repairs by persons engaged in commercial deep sea fishing operations outside the territorial waters of the state of Washington. The exemption also applies to the purchase of diesel fuel used in commercial deep or commercial passenger fishing operations when annual gross receipts from the operations are at least five thousand dollars. Reference: RCW 82.08.0262, RCW 82.08.0298, and WAC 458-20-176.

Line 4f applies to the purchase of LNG by carriers that are registered with the Department of Revenue. Carriers not registered with the Department must pay sales tax on all LNG at the time of purchase, and may later apply for a partial refund directly from the Department.

Line 5a applies to the purchase of waste vegetable oil from restaurants and food processors to produce biodiesel fuel for personal use. The exemption does not apply to persons that are engaged in selling biodiesel fuel at wholesale or retail. Reference: RCW 82.08.0205.

Line 5b applies to the rental of production equipment and purchases of production services by motion picture and video production companies. Reference: RCW 82.08.0315.

Line 5c applies to the purchase of objects of art or cultural value, and items used in the creation of a work of art (other than tools), or in displaying art objects or presenting artistic or cultural exhibitions or performances by artistic or cultural organizations. Reference: RCW 82.08.031 and WAC 458-20-249.

Line 5d applies to the purchases of add-on adaptive automotive equipment purchased by disabled veterans and disabled members of the armed forces currently on active duty. To qualify, the equipment must be prescribed by a physician and the purchaser must be reimbursed by the Department of Veterans Affairs and the reimbursement must be paid directly to the seller. Reference: RCW 82.08.875.

Line 5e applies to the purchase of animal pharmaceuticals by veterinarians or farmers for the purpose of administering to an animal raised for sale by a farmer. Animal pharmaceuticals must be approved by the United States Food and Drug Administration or the United States Department of Agriculture. This exemption does not extend to or include pet animals. Reference: RCW 82.08.880.

Line 5f applies to the purchase of computer hardware, peripherals, and software, and related installation, not otherwise eligible for the M&E exemption, used primarily in development, design, and engineering of aerospace products or in providing aerospace services. Reference: RCW 82.08.975.

Line 5g applies to charges for labor and services rendered in respect to the constructing of new buildings used primarily to manufacture commercial airplanes, fuselages of commercial airplanes, or wings of commercial airplanes. The exemption is available to manufacturers engaged in manufacturing commercial airplanes, fuselages of commercial airplanes, or wings of commercial airplanes. It is also available to port districts, political subdivisions, or

municipal corporations who lease an eligible facility to a manufacturer engaged in eligible manufacturing activities. The exemption also applies to sales and installation, during the course of construction, of tangible personal property and building fixtures not otherwise eligible for the exemption under RCW 82.08.02565(2)(b).

Reference: RCW 82.08.980 and RCW 82.32.850.

Line 5h applies to the purchase of computer hardware, peripherals, digital cameras, software, and related installation not otherwise eligible for the M&E exemption that is used primarily in the printing or publishing of printed materials. The exemption includes repairs and replacement parts. Reference: RCW 82.08.806.

Line 5i applies to all retail purchases of goods and services by City, County, Tribal, or Inter-Tribal Housing Authorities. Reference: RCW 35.82.210.

Line 5j applies to the purchase of goods for use in a state, territory or possession of the United States which is not contiguous to any other state such as Alaska, Hawaii, Guam, and American Samoa. For the exemption to apply, the seller must deliver the goods to the usual receiving terminal of the for-hire carrier selected to transport the goods. Reference: RCW 82.08.0269.

Line 5k applies to the purchase of gases and chemicals by a manufacturer or processor for hire in the production of semiconductor materials. Limited to gases and chemicals used to grow the product, deposit or grow permanent or sacrificial layers on the product, to etch or remove material from the product, to anneal the product, to immerse the product, to clean the product, and other uses where the gases and chemicals come into direct contact with the product during the production process, or gases and chemicals used to clean the chambers and other like equipment in which processing takes place. Reference: RCW 82.08.9651.

Line 5l applies to the purchase of hog fuel to produce electricity, steam, heat, or biofuel. Hog fuel is defined as wood waste and other wood residuals including forest derived biomass. Hog fuel does not include firewood or wood pellets. Reference: RCW 82.08.956.

Line 5m applies to the purchase of tangible personal property used in the weatherization of residences under the weatherization assistance program. The tangible personal property must become a component part of the residence. Reference: RCW 82.08.998.

Line 5n applies to the purchase of trail grooming services by the state of Washington and nonprofit corporations organized under chapter 24.03 RCW. Trail grooming activities include snow compacting,

snow redistribution, or snow removal on state or privately-owned trails. Reference: RCW 82.08.0203.

Line 5o applies to the purchase of goods and retail services by federally chartered credit unions. Federal credit unions are exempt from state and local consumer taxes under federal law, such as sales tax, lodging taxes and rental car tax. To be exempt, the federal credit union must pay for goods and services directly, such as by a check written on the federal credit union or a credit card issued to the federal credit union. Sellers should keep a copy of the check or credit card used for payment to support the exempt nature of the sale. Reference: WAC 458-20-190.

Line 5p applies to the purchase of wax and ceramic materials used to create molds consumed during the process of creating ferrous and nonferrous investment castings used in industrial applications. Also applies to labor or services used to create wax patterns and ceramic shells used as molds in this process. Reference: RCW 82.08.983.

Line 5q applies to sales of ferry vessels to the state of Washington or to a local governmental unit in the state of Washington for use in transporting pedestrians, vehicles, and goods within or outside the territorial waters of the state. The exemption also applies to sales of tangible personal property which becomes a component part of such ferry vessels and sales of or charges made for labor and services rendered in respect to constructing or improving such ferry vessels. Reference RCW 82.08.0285.

Line 5r applies to cities, counties, and other municipalities that create a Joint Municipal Services Authority. Reference: RCW 82.08.999.

Line 5s applies to purchases of small buses, cutaways, and modified vans not more than 28 feet long by a public social service agency (transit authority) or a private, nonprofit transportation provider. Reference: RCW 82.08.0287.

Line 5t applies to purchases of private airplanes weighing over 41,000 pounds by nonresidents. Also applies to charges for repairing, cleaning, altering or improving such airplanes owned by nonresidents. Only applies if the nonresident is not required to register the airplane with the Department of Transportation. Reference: RCW 82.08.215.

Line 5u applies to the purchase and use of standard financial information by a qualifying international investment management companies and their qualifying affiliates to \$15 million dollars in a calendar year. The standard financial information may be provided in any format. Reference: RCW 82.08.207.

Line 5v applies to purchases of materials and supplies used in packing horticultural products. The exemption applies only to persons who receive, wash, sort, and pack fresh perishable horticultural products for farmers as defined in RCW 82.04.330 and that are entitled to a deduction under RCW 82.04.4287 either as an agent or an independent contractor. Reference: RCW 82.08.0311.

Line 5w applies to deconstruction of vessels performed in certain areas. Reference RCW 82.08.9996.

Line 5x applies only to bottled water delivered to the buyer in a re-usable container not sold with the water under one of the following three conditions:

1. There is no readily available source of potable water. Potable water is water that is safe for human consumption.
2. Dispensed to patients pursuant to a prescription for use in the cure, mitigation, treatment, or prevention of disease or medical condition.

“Prescription” means an order, formula, or recipe issued in any form of oral, written, electronic, or other means of transmission by a duly licensed practitioner authorized by the laws of this state to prescribe.

3. Purchased under the Supplemental Nutrition Assistance Program (SNAP), formerly known as the Food Stamp Program.

Line 5y applies to the purchases by owners and operators of anaerobic digesters of services to install, construct, repair, clean, alter, or improve an anaerobic digester. Also applies to purchases of tangible personal property that becomes an ingredient or component of the anaerobic digester. Includes equipment necessary to process biogas and digestate from an anaerobic and biogas from a landfill into marketable coproducts. See RCW 82.08.900.

Line 5z applies to the purchases of solar energy machinery and equipment that generates at least 1 kilowatt and no more than 100kW of electricity. Also applies to the labor and services purchased to install such machinery and equipment. Reference: RCW 82.08.962.

Line 5aa applies to purchases of vehicles by a public transportation agency, a major employer, or employees of major employers, to be primarily used for ride sharing or ride sharing for persons with special transportation needs. The vehicle and use of vehicle must meet the criteria in RCW 82.08.0287.

Line 5bb applies to the purchase of mobility enhancing equipment used by a complex needs patient to meet the user's specific and unique medical, physical, and functional needs and capacities for basic activities when medically necessary to prevent hospitalization or institutionalization.

"Complex needs patient" means an individual with a diagnosis or medical condition that results in significant physical or functional needs and capacities.

"Mobility enhancing equipment" means equipment, including repair and replacement parts for mobility enhancing equipment that:

- Is primarily and customarily used to provide or increase the ability to move from one place to another and that is appropriate for use either in a home or a motor vehicle;
- Is not generally used by persons with normal mobility; and
- Does not include any motor vehicle or equipment on a motor vehicle normally provided by a motor vehicle manufacturer. Reference: RCW 82.08.814.



Disclosure Statement Notice to Customers

Business Name: Forecast Roofing LLC DBA Forecast Energy

This contractor is registered with the state of Washington, registration no. FORECRL955MK
has posted with the state a bond or deposit of \$ 30,000.00 for the purpose of satisfying claims
against the contractor for breach of contract including negligent or improper work in the conduct of the
contractor's business. The expiration date of this contractor's registration is 08/21/2027.

***THIS BOND OR DEPOSIT MIGHT NOT BE SUFFICIENT TO COVER A CLAIM THAT MIGHT ARISE FROM
THE WORK DONE UNDER YOUR CONTRACT.***

This bond or deposit is not for your exclusive use because it covers all work performed by this contractor. The
bond or deposit is intended to pay valid claims up to \$ 30,000.00 that you and other
customers, suppliers, subcontractors, or taxing authorities may have.

FOR GREATER PROTECTION YOU MAY WITHHOLD A PERCENTAGE OF YOUR CONTRACT.

You may withhold a contractually defined percentage of your construction contract as retainage for a stated
period of time to provide protection to you and help insure that your project will be completed as required by
your contract.

YOUR PROPERTY MAY BE LIENED.

If a supplier of materials used in your construction project or an employee or subcontractor of your contractor
or subcontractors is not paid, your property may be liened to payment and you could pay twice for the same
work.

***FOR ADDITIONAL PROTECTION, YOU MAY REQUEST THE CONTRACTOR TO PROVIDE YOU WITH
ORIGINAL "LIEN RELEASE" DOCUMENTS FROM EACH SUPPLIER OR SUBCONTRACTOR ON YOUR
PROJECT.***

The contractor is required to provide you with further information about lien release documents if you request it.
General information is also available from the state Department of Labor and Industries.

I have received a copy of this disclosure statement.

Dated this _____ day of _____ of the year _____.

Signature of Customer

*The contractor must retain a signed copy of this disclosure statement in his or her files for a minimum of three years and
produce a signed or electronic signature copy of the disclosure statement to the department upon request.*

For more information, please refer to [RCW 18.27.114](#).

Instructions for Form 5695

Residential Energy Credits

Section references are to the Internal Revenue Code unless otherwise noted.

General Instructions

Future Developments

For the latest information about developments related to Form 5695 and its instructions, such as legislation enacted after they were published, go to [IRS.gov/Form5695](https://www.irs.gov/Form5695).

What's New

Home energy audits. Beginning January 1, 2024, home energy audits must be performed by a Qualified Home Energy Auditor or under the supervision of a Qualified Home Energy Auditor. The Qualified Home Energy Auditor must be certified by a Qualified Certification Program at the time of the home energy audit. See [Lines 26a Through 26c](#), later for details.

Reminders

Residential clean energy credit. The residential energy efficient property credit is now the residential clean energy credit. The credit rate for property placed in service in 2022 through 2032 is 30%.

The residential clean energy credit added a credit for qualified battery storage technology. Battery storage technology costs are allowed for the residential clean energy credit for expenses paid after December 31, 2022. See [Qualified battery storage technology costs](#), later, for details.

Biomass fuel property costs are no longer allowed for the residential clean energy credit for property placed in service after December 31, 2022.

Energy efficient home improvement credit. The nonbusiness energy property credit is now the energy efficient home improvement credit. The credit is extended to property placed in service through December 31, 2032.

The energy efficient home improvement credit is now divided into two sections to differentiate between qualified energy efficiency improvements and residential energy property expenditures.

For the energy efficient home improvement credit, the lifetime limitation has been replaced by an annual credit limit. A 30% credit, up to a maximum of \$1,200, may be allowed for:

- Insulation material or air sealing material or systems;
- Exterior doors;
- Windows and skylights;
- Central air conditioners;
- Natural gas, propane or oil water heaters;
- Natural gas, propane or oil furnaces or hot water boilers;
- Improvements or replacement of panelboards, subpanelboards, branch circuits or feeders; and
- Home energy audits.

The limits for each category of these items that qualify for a credit is discussed later in [Section A—Qualified Energy Efficiency Improvements](#).

Heat pumps and heat pump water heaters, biomass stoves and biomass boilers have a separate annual credit limit of \$2,000 with no lifetime limitation, which replaces the prior lifetime limitation of \$500.

For additional information and frequently asked questions about energy efficient home improvements and residential clean energy

property credits, see Fact Sheet 2024-15 at <https://www.irs.gov/pub/taxpros/fs-2024-15.pdf>.

Purpose of Form

Use Form 5695 to figure and take your residential energy credits.

The residential energy credits are:

- The residential clean energy credit, and
- The energy efficient home improvement credit.

Also use Form 5695 to take any residential clean energy credit carryforward from 2023 or to carry the unused portion of the residential clean energy credit to 2025.

Who Can Take the Credits

You may be able to take the credits if you made energy saving improvements to your home located in the United States in 2024.

Home. A home is where you lived in 2024 and can include a house, houseboat, mobile home, cooperative apartment, condominium, and a manufactured home that conforms to Federal Manufactured Home Construction and Safety Standards.

You must reduce the cost basis of your home if a residential energy credit is allowed for any expense for any property. The increase in the basis of the property that would result from the expenses will be reduced by the amount of the allowed credit.

Main home. Your main home is generally the home where you live most of the time. A temporary absence due to special circumstances, such as illness, education, business, military service, or vacation, won't change your main home.

Costs. For purposes of both credits, costs are treated as being paid when the original installation of the item is completed, or, in the case of costs connected with the reconstruction of your home, when your original use of the reconstructed home begins. For purposes of the residential clean energy credit only, costs connected with the construction of a home are treated as being paid when your original use of the constructed home begins. If less than 80% of the use of an item is for nonbusiness purposes, only that portion of the costs that is allocable to the nonbusiness use can be used to determine either credit.



The residential clean energy credit (Part I) is available for both existing homes and homes being constructed. The energy efficient home improvement credit (Part II) is only available for existing homes.



IRS guidance issued with respect to the energy credit under section 48, such as Notice 2018-59 and Notice 2021-41, does not apply to the residential energy credits.

Association or cooperative costs. If you are a member of a condominium management association for a condominium you own or a tenant-stockholder in a cooperative housing corporation, you are treated as having paid your proportionate share of any costs of such association or corporation.



If you received a subsidy from a public utility for the purchase or installation of an energy conservation product and that subsidy wasn't included in your gross income, you must reduce your cost for the product by the amount of that subsidy before you figure your credit. This rule also applies if a third party (such as a contractor) receives the subsidy on your behalf. See Fact Sheet 2024-15 at <https://www.irs.gov/pub/taxpros/fs-2024-15.pdf>, for details.

Residential Clean Energy Credit (Part I)

If you made energy saving improvements to more than one home that you used as a residence during 2024, enter the total of those costs on the applicable line(s) of one Form 5695. For qualified fuel cell property, see [Lines 7a Through 7c](#), later.

You may be able to take a credit of 30% of your costs of qualified solar electric property, solar water heating property, small wind energy property, geothermal heat pump property, battery storage technology, and fuel cell property. Include any labor costs properly allocable to the onsite preparation, assembly, or original installation of the residential clean energy property and for piping or wiring to interconnect such property to the home. The credit amount for costs paid for qualified fuel cell property is limited to \$500 for each one-half kilowatt of capacity of the property.

Qualified solar electric property costs. Qualified solar electric property costs are costs for property that uses solar energy to generate electricity for use in your home located in the United States. No costs relating to a solar panel or other property installed as a roof (or portion thereof) will fail to qualify solely because the property constitutes a structural component of the structure on which it is installed. Some solar roofing tiles and solar roofing shingles serve the function of both traditional roofing and solar electric collectors, and thus serve functions of both solar electric generation and structural support. These solar roofing tiles and solar roofing shingles can qualify for the credit. This is in contrast to structural components such as a roof's decking or rafters that serve only a roofing or structural function and thus do not qualify for the credit. The home doesn't have to be your main home.

Qualified solar water heating property costs. Qualified solar water heating property costs are costs for property to heat water for use in your home located in the United States if at least half of the energy used by the solar water heating property for such purpose is derived from the sun. No costs relating to a solar panel or other property installed as a roof (or portion thereof) will fail to qualify solely because the property constitutes a structural component of the structure on which it is installed. Some solar roofing tiles and solar roofing shingles serve the function of both traditional roofing and solar electric collectors, and thus serve functions of both solar electric generation and structural support. These solar roofing tiles and solar roofing shingles can qualify for the credit. This is in contrast to structural components such as a roof's decking or rafters that serve only a roofing or structural function and thus do not qualify for the credit. To qualify for the credit, the property must be certified for performance by the nonprofit Solar Rating Certification Corporation or a comparable entity endorsed by the government of the state in which the property is installed. The home doesn't have to be your main home.

Qualified small wind energy property costs. Qualified small wind energy property costs are costs for property that uses a wind turbine to generate electricity for use in connection with your home located in the United States. The home doesn't have to be your main home.

Qualified geothermal heat pump property costs. Qualified geothermal heat pump property costs are costs for qualified geothermal heat pump property installed on or in connection with your home located in the United States. Qualified geothermal heat pump property is any equipment that uses the ground or ground water as a thermal energy source to heat your home or as a thermal energy sink to cool your home. To qualify for the credit, the geothermal heat pump property must meet the requirements of the Energy Star program that are in effect at the time of purchase. The home doesn't have to be your main home.

Qualified battery storage technology costs. Qualified battery storage technology costs are costs for battery storage technology that is installed in connection with your home located in the United States and has a capacity of at least 3 kilowatt hours.

Qualified fuel cell property costs. Qualified fuel cell property costs are costs for qualified fuel cell property installed on or in connection with your main home located in the United States. Qualified fuel cell property is an integrated system comprised of a fuel cell stack assembly and associated balance of plant components that converts a fuel into electricity using electrochemical means. To qualify for the credit, the fuel cell property must have a nameplate capacity of at least one-half kilowatt of electricity using an electrochemical process and an electricity-only generation efficiency greater than 30%.



Costs allocable to a swimming pool, hot tub, or any other energy storage medium that has a function other than the function of such storage don't qualify for the residential clean energy credit.

Joint occupancy. If you occupied your home jointly with someone, each occupant must complete their own Form 5695. To figure the credit, the maximum qualifying costs that can be taken into account by all occupants for qualified fuel cell property costs is \$1,667 for each one-half kilowatt of capacity of the property. The amount allocable to you for qualified fuel cell property costs is the lesser of:

1. The amount you paid, or
2. The maximum qualifying cost of the property multiplied by a fraction. The numerator is the amount you paid and the denominator is the total amount paid by you and all other occupants.

These rules don't apply to married individuals filing a joint return.

Example. Ava owns a house with Bruce where they both reside. In 2024, they installed qualified fuel cell property at a cost of \$20,000 with a kilowatt capacity of 5. Ava paid \$12,000 towards the cost of the property and Bruce paid the remaining \$8,000. The amount to be allocated is \$16,670 ($\$1,667 \times 10$ (kilowatt capacity \times 2)). The amount of cost allocable to Ava is \$10,002 ($\$16,670 \times \$12,000/\$20,000$). The amount of cost allocable to Bruce is \$6,668 ($\$16,670 \times \$8,000/\$20,000$).

Energy Efficient Home Improvement Credit (Part II)

You may be able to take a credit equal to 30% of the sum of:

1. The amount paid or incurred for qualified energy efficiency improvements installed during 2024,
2. The amount of the residential energy property costs paid or incurred in 2024, and
3. The amount paid or incurred for home energy audits during 2024.

However, this credit is limited as follows.

- A total combined credit limit of \$1,200 for qualified energy property.
- A credit limit of \$600 for any qualified energy property item.
- A combined credit limit of \$600 for all exterior windows and skylights.
- A credit limit of \$250 for any qualifying exterior door and \$500 total for all qualifying exterior doors.
- A combined credit limit of \$2,000 for heat pump and heat pump water heaters; biomass stoves and boilers.
- A credit limit of \$150 for home energy audits.

Subsidized energy financing. Any amounts provided for by subsidized energy financing can't be used to figure the energy efficient home improvement credit. This is financing provided under a federal, state, or local program, the principal purpose of which is to provide subsidized financing for projects designed to conserve or produce energy.

Section A—Qualified Energy Efficiency Improvements

Qualified energy efficiency improvements. Qualified energy efficiency improvements are the following building envelope components installed on or in your main home that you owned during 2024 located in the United States if the original use of the component begins with you, the component can be expected to remain in use at least 5 years, and the component meets certain energy standards.

- Any insulation material or system and air sealing material or system that is specifically and primarily designed to reduce heat loss or gain of a home when installed in or on such a home.
- Exterior windows and skylights.
- Exterior doors.

For purposes of figuring the credit, don't include amounts paid for the onsite preparation, assembly, or original installation of the building envelope component.



To qualify for the credit, qualified energy efficiency improvements must meet certain energy efficiency requirements. See [Line 18a](#) through [Line 20a](#), later, for details.

Section B—Residential Energy Property Expenditures

Residential energy property costs are costs of new qualified energy property that is installed on or in connection with a home that you used during 2024 located in the United States. Include any labor costs properly allocable to the onsite preparation, assembly, or original installation of the energy property. Qualified energy property is any of the following.

- Certain electric or natural gas heat pump water heaters; electric or natural gas heat pumps; central air conditioners; and natural gas, propane, or oil water heaters.
- Natural gas, propane, or oil furnaces and hot water boilers.
- Certain biomass stoves and biomass boilers.
- Certain improvements or replacements of panelboards, subpanelboards, branch circuits, or feeders.



To qualify for the credit, qualified energy property must meet certain energy efficiency requirements. See [Line 22a](#) through [Line 25a](#) and [Lines 29a Through 29e](#), later, for details.

Home energy audits. Home energy audit costs are costs for an inspection and written report for your main home located in the United States that:

1. Identifies the most significant and cost-effective energy efficiency improvements for the home, including an estimate of the energy and cost savings for each improvement; and
2. Is conducted and prepared by either a Qualified Home Energy Auditor or under the supervision of a Qualified Home Energy Auditor.

The written report must include the following:

1. The Qualified Home Energy Auditor's name and employer identification number (EIN) or other type of relevant taxpayer identifying number (TIN);
2. An attestation that the Qualified Home Energy Auditor is certified by a Qualified Certification Program; and
3. The name of the Qualified Certification Program.

The Qualified Home Energy Auditor must be certified by a Qualified Certification Program at the time of the home energy audit. See <https://www.energy.gov/eere/buildings/25c-energy-efficient-home-improvement-credit> for a listing of Qualified Certification Programs.

Joint ownership of qualified property. If you and a neighbor shared the cost of qualifying property to benefit each of your main homes, both of you can take the energy efficient home improvement

credit. You figure your credit on the part of the cost you paid. The limit on the amount of the credit applies to each of you separately.

Married taxpayers with more than one home. If both you and your spouse owned and lived apart in separate main homes, the limit on the amount of the credit applies to each of you separately. If you are filing separate returns, both of you would complete a separate Form 5695. If you are filing a joint return, figure your energy efficient home improvement credit as follows.

1. Complete lines 17a through 30 of a separate Form 5695 for each main home.
2. Figure the amount to be entered on line 30 of both forms and enter the combined amount on line 30 of one of the forms.
3. On the dotted line to the left of line 30, enter "More than one main home." Then, complete the rest of this form.
4. Attach both forms to your return.

Joint occupancy. If you occupied your home jointly with someone, each occupant must complete their own Form 5695. To figure the credit, enter the amounts you paid for the items on lines 18a, 19a, 19c, 20a, 22a, 23a, 24a, 25a, 26b, or 29d.

If the aggregate credit that would be allowed to all occupants for any item of property exceeds the credit limit below, then you must figure your allocable share of the credit from each property. The credit allocable to you is the credit limit for that property multiplied by a fraction. The numerator is the amount you paid and the denominator is the total amount paid by you and all other occupants. Enter the credit allocable to you from that property on lines 18b, 19b, 19d, 20b, 22b, 23b, 24b, 25b, 26c, and 29e. Check the box on line 32a and attach a statement explaining how you allocated the credit.

If the total on line 27 is more than \$1,200, then the credit allocable to you is further limited. Multiply \$1,200 by a fraction. The numerator is the sum of the amounts on lines 18a, 19a, 19c, 20a, 22a, 23a, 24a, 25a, and 26b. The denominator is the total amount paid by you and all other occupants for the corresponding properties. Enter the result on line 28. Check the box on line 32a and attach a statement explaining how you allocated the credit.

If line 29e is more than \$2,000, then the credit allocable to you is further limited. Multiply \$2,000 by a fraction. The numerator is the amount on line 29d. The denominator is the total amount paid by you and all other occupants for the item of property. Enter the result on line 29e.

The credit limit for each property is as follows.

- \$1,200 for insulation or air sealing material system.
- \$250 for one exterior door and \$500 for all exterior doors.
- \$600 for windows.
- \$600 for central air conditioners.
- \$600 for natural gas, propane, or oil water heaters.
- \$600 for natural gas, propane, or oil furnace or hot water boilers.
- \$600 for improvements or replacements of panelboards, subpanelboards, branch circuits, or feeders.
- \$150 for home energy audits.
- \$2,000 for heat pumps and heat pump water heaters; biomass stoves and biomass boilers.

Specific Instructions

Part I

Residential Clean Energy Credit

Before you begin Part I.

Figure the amount of the credits shown in the credit limitation worksheet if you take those credits on your return.



Include on lines 1 through 4, 5b, and 8 any labor costs properly allocable to the onsite preparation, assembly, or original installation of the property and for piping or wiring to interconnect such property to the home.

In the section above line 1, enter the complete address of the home where you installed the qualified residential clean energy property or technology associated with lines 1 through 4 and 5b. If you made improvements to more than one home, list the complete address of the home with the greatest total cost in the section above line 1. Then, attach a statement listing the additional addresses to Form 5695.

Line 1

Enter the amounts you paid for qualified solar electric property. See [Qualified solar electric property costs](#), earlier.

Line 2

Enter the amounts you paid for qualified solar water heating property. See [Qualified solar water heating property costs](#), earlier.

Line 3

Enter the amounts you paid for qualified small wind energy property. See [Qualified small wind energy property costs](#), earlier.

Line 4

Enter the amounts you paid for qualified geothermal heat pump property. See [Qualified geothermal heat pump property costs](#), earlier.

Lines 5a and 5b

To qualify for the credit, the qualified battery storage technology must have a capacity of at least 3 kilowatt hours.

If the qualified battery storage technology has a capacity of 3 kilowatt hours or greater, then check the “Yes” box, enter the amounts you paid for qualified battery storage technology on line 5b.

If you check the “No” box, you can't include any battery storage technology costs on line 5b. See [Qualified battery storage technology costs](#), earlier.

Lines 7a Through 7c

Any qualified fuel cell property costs must have been for your main home located in the United States. See [Main home](#), earlier. If you check the “Yes” box, enter the full address of your main home during 2024 on line 7b.

If you and your spouse are filing jointly and you each have different main homes with qualified fuel cell property costs, provide on line 7b the address of your main home. Add a statement providing the address of your spouse's main home. You and your spouse should add your qualified fuel cell property costs together on line 8 of one Form 5695.

If you check the “No” box, you can't include any fuel cell property costs on line 8.

Joint occupants of a home who are claiming the credit for qualified fuel cell property costs must check the box on line 7c and attach a statement explaining how they allocated the costs among each occupant. See [Joint occupancy](#), earlier.

Line 8

Enter the amounts you paid for qualified fuel cell property. See [Qualified fuel cell property costs](#), earlier.

Line 14

Complete the following [worksheet](#) to figure the amount to enter on line 14.

Residential Clean Energy Credit Limit Worksheet—Line 14

1. Enter the amount from Form 1040, 1040-SR, or 1040-NR, line 18 1. _____
2. Enter the total of the following credit(s)/adjustment(s) if you are taking the credit(s)/adjustment(s) on your 2024 income tax return:
 - + Amount on Schedule 3 (Form 1040), line 6l _____
 - + Foreign Tax Credit, Schedule 3 (Form 1040), line 1 _____
 - + Credit for Child and Dependent Care Expenses, Schedule 3 (Form 1040), line 2 _____
 - + Credit for the Elderly or the Disabled, Schedule 3 (Form 1040), line 6d _____
 - + Nonrefundable Education Credits, Schedule 3 (Form 1040), line 3 _____
 - + Retirement Savings Contributions Credit, Schedule 3 (Form 1040), line 4 _____
 - + Energy efficient home improvement credit, Form 5695, line 32* _____
 - + Credit for previously owned clean vehicles, Schedule 3 (Form 1040), line 6m _____
 - + Clean Vehicle Credit, Schedule 3 (Form 1040), line 6f _____
 - + Child tax credit or credit for other dependents, Form 1040, 1040-SR, or 1040-NR, line 19* _____
 - + Mortgage Interest Credit, Schedule 3 (Form 1040), line 6g _____
 - + Adoption Credit, Schedule 3 (Form 1040), line 6c _____
 - + Carryforward of the District of Columbia First-Time Homebuyer Credit, Schedule 3 (Form 1040), line 6h _____

Note. Enter the total of the preceding credit(s)/adjustment(s) only if allowed and taken on your 2024 income tax return. Not all credits/adjustments are available for all years nor for all filers. See the instructions for your 2024 income tax return.
3. Subtract line 2 from line 1. Also enter this amount on Form 5695, line 14. If zero or less, enter -0- on Form 5695, lines 14 and 15 3. _____

* Include the amount in the instructions for Schedule 8812 (Form 1040), Credit Limit Worksheet B, line 14, instead of the amount from Form 1040, 1040-SR, or 1040-NR, line 19, if the instructions for Schedule 8812 (Form 1040) direct you to complete Credit Limit Worksheet B.

Manufacturer’s certification. For purposes of taking the credit, you can rely on the manufacturer’s certification, in writing, that a product is qualifying property for the credit. Don’t attach the certification to your return. Keep it for your records.

Line 16

If you can’t use all of the credit because of the tax liability limit (that is, line 14 is less than line 13), you can carry the unused portion of the credit to 2025.

File this form even if you can’t use any of your credit in 2024.

Part II Energy Efficient Home Improvement Credit

Section A—Qualified Energy Efficiency Improvements

Lines 17a Through 17e

Line 17a. To qualify for the credit, any qualified energy efficiency improvements must have been for your main home located in the United States. See *Main home*, earlier. If you check the “No” box, you can’t take the energy efficient home improvement credit.

Line 17b. To qualify for the credit, you must be the original user of the qualified energy efficiency improvements. If you check the “No” box, you can’t take the energy efficient home improvement credit.


Line 17c. To qualify for the credit, the components must be reasonably expected to remain in use for at least 5 years on your main home located in the United States. If you check the “No” box, you can’t take the energy efficient home improvement credit.

Line 17d. Enter the complete address of your main home during 2024. You can only claim the energy efficient home improvement credit on one main home.

Line 17e. You cannot claim the credit for expenses related to the construction of a new home. If you are claiming the credit only for expenses for qualified improvements to an existing home or for an addition or renovation to an existing home, check the “No” box. If the qualified improvements for which you are seeking to claim the credit are related to the construction of a new home, check the “Yes” box. If you check the “Yes” box, skip lines 18a through 20b.


Lines 18a and 18b

Note. A reference to the IECC is a reference to the International Energy Conservation Code as in effect (with supplements) on January 1, 2021, for components placed in service during 2024.

 Don’t include on lines 18a, 19a, 19c, and 20a any amounts paid for the onsite preparation, assembly, or original installation of the components.

Line 18a. Enter the amounts you paid for any insulation material or air sealing material or system (including any vapor retarder or seal to limit infiltration) that is specifically and primarily designed to reduce the heat loss or gain of your home when installed in or on such home and meets the criteria established by the IECC.

Don’t enter more than \$1,200 on line 18b.

 A component isn’t specifically and primarily designed to reduce the heat loss or gain of your home if it provides structural support or a finished surface (such as drywall or siding) or its principal purpose is to serve any function unrelated to the reduction of heat loss or gain.

Lines 19a Through 19e

Line 19a. Enter the amounts you paid for the most expensive exterior door that meets the Energy Star program requirements.

Don't enter more than \$250 on line 19b.

Line 19c. Enter the amounts you paid for all other qualifying exterior doors in 2024.

Don't enter more than \$500 on line 19e.

Line 20a

Enter the amounts you paid for exterior windows and skylights that meet Energy Star certification requirements.

Don't enter more than \$600 on line 20b.

Manufacturer's certification. For purposes of taking the credit, you can rely on a manufacturer's certification in writing that a building envelope component is an eligible building envelope component. Don't attach the certification to your return. Keep it for your records.

Section B—Residential Energy Property Expenditures

Lines 21a Through 21c

Line 21a. To qualify for the credit, any qualified energy property installed on or in your home must be located in the United States. If you check the "No" box, you can't take the energy efficient home improvement credit for your residential energy property costs.

Line 21b. To qualify for the credit, the qualified energy property must have been originally placed in service by you. If you check the "No" box, you can't take the energy efficient home improvement credit for your residential energy property costs.

Line 21c. Enter the full address of each home where you installed qualified residential energy property.



Include on lines 22a, 23a, 24a, 25a, 29a, 29b, and 29c any labor costs properly allocable to the onsite preparation, assembly, or original installation of the property.

Line 22a

Enter the amounts you paid for central air conditioners that achieve the highest efficiency tier that has been established by the Consortium for Energy Efficiency (CEE) that is in effect as of the beginning of the calendar year in which the property is placed in service.

Don't enter more than \$600 on line 22b.

Line 23a

Enter the amounts you paid for natural gas, propane, or oil water heaters that achieve the highest efficiency tier established by the CEE that is in effect as of the beginning of the calendar year in which the property is placed in service.

Don't enter more than \$600 on line 23b.

Line 24a

Enter the amounts you paid for a natural gas, propane, or oil furnace or hot water boilers that achieve the highest efficiency tier established by the CEE that is in effect as of the beginning of the calendar year in which the property is placed in service. In addition, oil furnaces and hot water boilers placed in service after December 31, 2022, and before January 1, 2027, must meet the 2021 Energy Star efficiency criteria and be rated by the manufacturer for use with

fuel blends at least 20% of the volume of which consists of an eligible fuel.

Line 25a

Enter the amounts you paid for improvements or replacement of panelboards, subpanelboards, branch circuits, or feeders that were installed in a manner consistent with the National Electric Code, have a load capacity of at least 200 amps, and were installed with qualified energy efficiency improvements or qualified energy property.

Don't enter more than \$600 on line 25b.

Lines 26a Through 26c

Line 26a. To qualify for the credit, a home energy audit must have included an inspection of your [main home](#) located in the United States and a written report prepared by a Qualified Home Energy Auditor or under the supervision of a Qualified Home Energy Auditor. If you check the "No" box, you can't claim the home energy audit credit.

Line 26b. Enter the amounts you paid for home energy audits in 2024.

Don't enter more than \$150 on line 26c.



Beginning January 1, 2024, home energy audits must be performed by a Qualified Home Energy Auditor or under the supervision of a Qualified Home Energy Auditor. The Qualified Home Energy Auditor must be certified by a Qualified Certification Program at the time of the home energy audit. See [Home energy audits](#), earlier.

Lines 29a Through 29e

Line 29a. Enter the amounts you paid for electric or natural gas heat pumps that achieve the highest efficiency tier established by the CEE that is in effect as of the beginning of the calendar year in which the property is placed in service.

Line 29b. Enter the amounts you paid for electric or natural gas heat pump water heaters that achieve the highest efficiency tier established by the CEE that is in effect as of the beginning of the calendar year in which the property is placed in service.

Line 29c. Enter the amounts you paid for biomass stoves and biomass boilers that have a thermal efficiency rating of at least 75% (measured by the higher heating value of the fuel).

Don't enter more than \$2,000 on line 29e.

Manufacturer's certification. For purposes of taking the credit, you can rely on a manufacturer's certification in writing that a product is qualified energy property. Don't attach the certification to your return. Keep it for your records.

Line 31

Complete the [worksheet](#) below to figure the amount to enter on line 31.

Energy Efficient Home Improvement Credit Limit Worksheet—Line 31

Line 32a

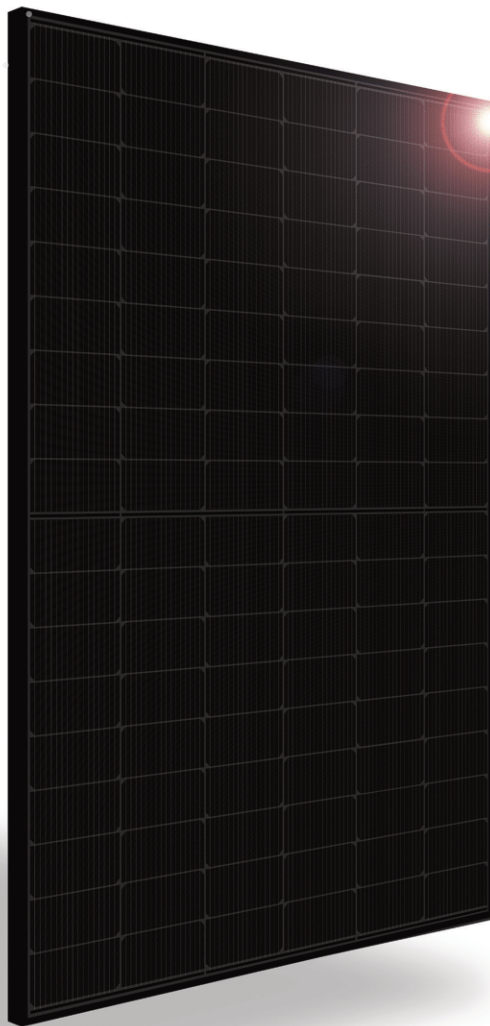
Joint occupants of a home who are claiming the energy efficient home improvement credit must check the box on line 32c and attach a statement explaining how they allocated the credit among each occupant. See [Joint occupancy](#), earlier.

<p>1. Enter the amount from Form 1040, 1040-SR, or 1040-NR, line 18 . . .</p>	<p>1. _____</p>
<p>2. Enter the total of the following credit(s)/adjustment(s) if you are taking the credit(s)/adjustment(s) on your 2024 income tax return:</p> <p>+ Amount on Schedule 3 (Form 1040), line 6l</p> <p>+ Foreign Tax Credit, Schedule 3 (Form 1040), line 1</p> <p>+ Credit for Child or Dependent Care Expenses, Schedule 3 (Form 1040), line 2</p> <p>+ Credit for the Elderly or the Disabled, Schedule 3 (Form 1040), line 6d</p> <p>+ Nonrefundable Education Credits, Schedule 3 (Form 1040), line 3</p> <p>+ Retirement Savings Contributions Credit, Schedule 3 (Form 1040), line 4</p> <p>Note. Enter the total of the preceding credit(s)/adjustment(s) only if allowed and taken on your 2024 income tax return. Not all credits/adjustments are available for all years nor for all filers. See the instructions for your 2024 income tax return.</p>	<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>2. _____</p>
<p>3. Subtract line 2 from line 1. Also enter this amount on Form 5695, line 31. If zero or less, enter -0- on Form 5695, lines 31 and 32</p>	<p>3. _____</p>

SILFAB
PRIME **NTC**

SIL-440 QD

SILFAB
SOLAR®



• NEXT-GENERATION N-TYPE CELL TECHNOLOGY

- Improved Shade Tolerance
- Improved Low-Light Performance
- Increased Performance in High Temperatures
- Enhanced Durability
- Reduced Degradation Rate
- 25-Year Product Warranty/
30-Year Performance Warranty



SILFABSOLAR.COM



ELECTRICAL SPECIFICATIONS

440

Test Conditions		STC	NOCT
Module Power (Pmax)	Wp	440	328.0
Maximum power voltage (Vpmax)	V	33.41	31.17
Maximum power current (Ipmax)	A	13.17	10.52
Open circuit voltage (Voc)	V	38.97	36.64
Short circuit current (Isc)	A	14.22	11.44
Module efficiency	%	22.6%	
Maximum system voltage (VDC)	V		1000
Series fuse rating	A		25
Power Tolerance	Wp		0 to +10

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

MECHANICAL PROPERTIES / COMPONENTS

METRIC

IMPERIAL

Module weight	21 kg ± 0.2 kg	46.3 lbs ± 0.4 lbs
Dimensions (H x L x D)	1721 mm x 1133 mm x 35 mm	67.8 in x 44.6 in x 1.37 in
Maximum surface load (wind/snow)*	4000 Pa rear load / 5400 Pa front load	83.5 lb/ft ² rear load / 112.8 lb/ft ² front load
Hail impact resistance	Ø 25 mm at 83 km/h	Ø 1 in at 51.6 mph
Cells	108 Half cells - N-Type Silicon solar cell 182 mm x 91 mm	108 Half cells - N-Type Silicon solar cell 7.16 in x 3.58 in
Glass	3.2 mm high transmittance, tempered, antireflective coating	0.126 in high transmittance, tempered, antireflective coating
Cables and connectors (refer to installation manual)	1350 mm, Ø 5.7 mm, MC4 from Staubli	53.1 in, Ø 0.22 in (12 AWG), MC4 from Staubli
Backsheet	High durability, superior hydrolysis and UV resistance, multi-layer dielectric film, fluorine-free PV backsheet	
Frame	Anodized aluminum (Black)	
Junction Box	UL 3730 Certified, IEC 62790 Certified, IP68 rated, 3 diodes	

TEMPERATURE RATINGS

WARRANTIES

Temperature Coefficient Isc	0.04 %/°C	Module product workmanship warranty	25 years**
Temperature Coefficient Voc	-0.24 %/°C	Linear power performance guarantee	30 years
Temperature Coefficient Pmax	-0.29 %/°C		≥ 98% end 1st yr ≥ 94.7% end 12th yr ≥ 90.8% end 25th yr ≥ 89.3% end 30th yr
NOCT (± 2 °C)	45 °C		
Operating temperature	-40/+85 °C		

CERTIFICATIONS

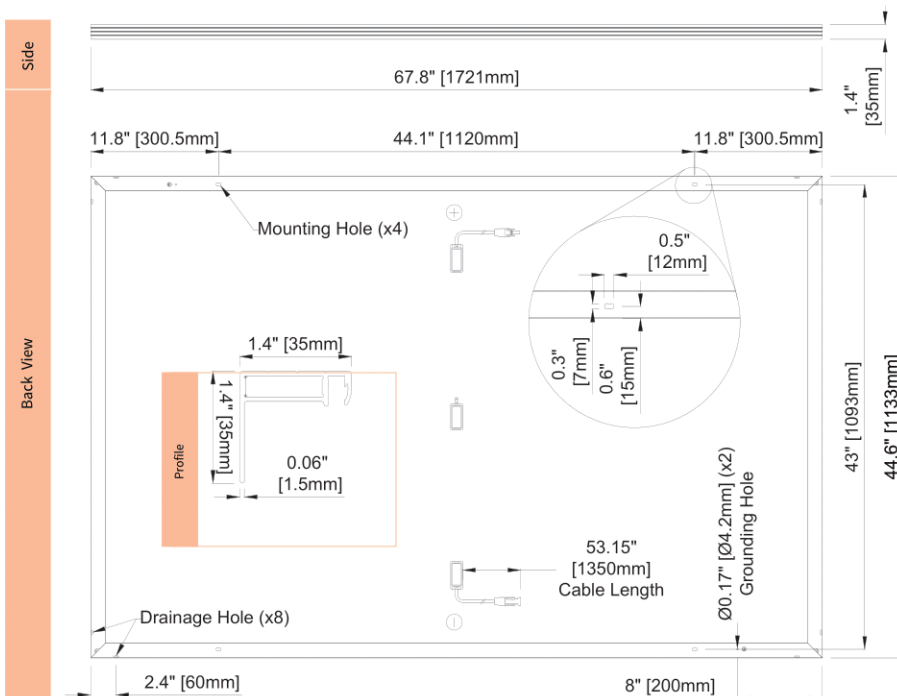
SHIPPING SPECS

Product	UL 61215, UL 61730, CSA C22.2#61730, IEC 61215, IEC 61730, IEC 61701 (Salt Mist Corrosion), IEC 62716 (Ammonia Corrosion), CEC Listed, UL Fire Rating: Type 2	Modules Per Pallet:	26 or 26 (California)
Factory	ISO9001:2015	Pallets Per Truck	32 or 30 (California)
		Modules Per Truck	832 or 780 (California)

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

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

PAN files generated from 3rd party performance data are available for download at: silfabsolar.com/downloads.



SILFAB SOLAR INC.

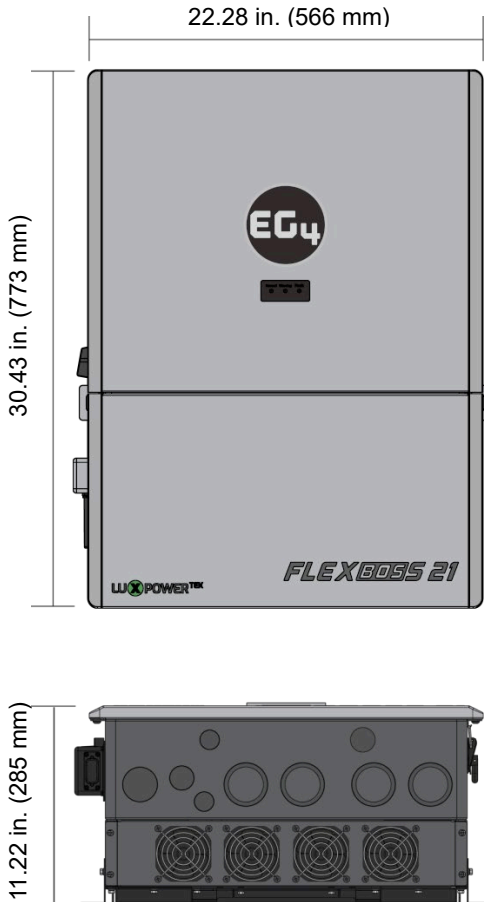
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240 Courtneypark Drive East
Mississauga ON L5T 2Y3 Canada
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EG4® FLEXBOSS21 HYBRID INVERTER

The EG4 FlexBOSS21 is a versatile 48V split-phase, hybrid inverter/charger that offers the same dependable power as the 18kPV with enhanced flexibility. Powerful enough to start a 5-ton AC unit, the FlexBOSS21 supports up to 21kW of PV input. Capable of paralleling up to 10 units together, the FlexBOSS21 has an impressive total output of 160kW. Able to provide 16kW of continuous output power with PV & battery, and up to 12kW continuous output by using battery alone. Three individual MPPTs give users optimal control over their solar needs, while the updated EG4 monitoring software allows for convenient total remote management, complete with mobile notifications and remote setting. Seamless interaction with the EG4 GridBOSS gives users control over the entire Energy Storage System (ESS).

HIGH
FREQUENCY
SPLIT-PHASE
DESIGN

* 10 - YEAR
WARRANTY

REMOTE
ADJUSTMENT
VIA EG4
SOFTWARE

ALL-IN-ONE HYBRID INVERTER

Capable of running entirely off grid, using grid electricity, and selling power back to the grid.

UP TO 600VDC INPUT

The extra high voltage enables lower cable sizing for the 3 MPPTs and a maximum recommended PV input of 24kW, eliminating the need for a combiner box.

PLUG-IN WI-FI DEVICE

Enables wireless connection between our monitoring platform and the FlexBOSS21 through the EG4® app or EG4 Monitor system for remote system management.

CLOSED-LOOP COMMUNICATIONS

Able to communicate with EG4 48V batteries and other battery brands. A battery firmware update is required for closed-loop communications with LifePower4 batteries.

RAPID SHUTDOWN

The FlexBOSS21 is CSA C22.2#330:2017 and NEC 690.12 ready with its built-in RSD capabilities.



TECHNICAL SPECIFICATIONS

INVERTER TYPE & MODEL #	
HYBRID	IV-16000-HYB-AW-FX-XX (XX is a number between 00-99)
AC INPUT/OUTPUT	
NOMINAL GRID VOLTAGE (INPUT & OUTPUT)	120/240 VAC; 120/208 VAC (L1/L2/N required)
FREQUENCY	60 Hz (Default) 50 Hz
MAX. CONTINUOUS OUTPUT POWER	12kW
MAX. APPARENT POWER	12KVA
MAX. CONTINUOUS CURRENT @ 25°C	66.7A
MAX. CONTINUOUS DISCHARGE W/ PV & GRID ONLY @ 25°C	w/ PV: 16000W @240V 13800kW @208V w/ out PV: 12000W @240V 12000W @208V
POWER FACTOR (OUTPUT)	.99 @ Full Load
PEAK POWER	24000W (.5 sec) 18000W (1 sec) 15000W (6 min) 13200W (12 min)
MAX OUTPUT FAULT CURRENT	156A
MAX PASSTHROUGH FROM GRID	90A
THD V (VOLTAGE)	<5% at full load
THD I (CURRENT)	<5% at full load
BACKUP SWITCHING TIME (TRANSFER TIME)	20ms (Default), 10ms (Configurable)
OPEN LOOP RESPONSE TIME (OLRT)	<2 sec
TIME TO STEADY STATE	10 sec
MAX CONTINUOUS LINE WATTAGE	6000W
MAX. AC CURRENT	50A @ 240V 57.7A @ 208V
MAX. AC INPUT POWER	12kW
MAX. CONTINUOUS PER-LINE WATTAGE	6000W
EFFICIENCY	
BATTERY TO GRID/LOAD	94%
PV TO GRID/LOAD	97%
PV TO BATTERY	94.5%
CEC EFFICIENCY (CALIFORNIA ENERGY COMMISSION)	96.9%
SOLAR TECHNICAL SPECS	
MAX. SOLAR STC INPUT POWER	21kW
MAX. PV INPUT VOLTAGE	600VDC
MPPT VOLTAGE RANGE	120 – 440 VDC
MPPT FULL POWER VOLTAGE RANGE	250 – 440 VDC
# OF MPPTS # OF STRINGS PER MPPT	3 2 (MPPT 1) 2 (MPPT 2) 1 (MPPT 3)
MAX. CURRENT PER MPPT	26A (MPPT 1) 26A (MPPT 2) 15A (MPPT 3)
MAX. SHORT CIRCUIT CURRENT RATING PER MPPT	31A (MPPT 1) 31A (MPPT 2) 19A (MPPT 3)
NOMINAL MPPT VOLTAGE	360 VDC
UNIT STARTUP VOLTAGE	100 VDC
BATTERY TECHNICAL SPECS	
COMPATIBLE BATTERY TECHNOLOGIES	Lead-acid/Lithium
OPERATING VOLTAGE	40-60VDC
NOMINAL VOLTAGE	48V
MAX CHARGE/DISCHARGE CURRENT	250ADC
BATTERY COMMUNICATION PROTOCOL	CAN/RS485

ENVIRONMENTAL	
OPERATING TEMPERATURE RANGE	-13° – 140°F (-25° – 60°C)
OPERATING HUMIDITY	0-100% relative humidity
MAX ALTITUDE OF OPERATION	<6561 ft (<2000 m)
ENCLOSURE RATING	NEMA 4X
STORAGE TEMPERATURE RATING	-13° – 140°F (-25° – 60°C)
COOLING (OR COOLING CONCEPT)	Fans
GENERAL SPECIFICATIONS	
DIMENSIONS (H x W x D)	30.43 x 22.28 x 11.22 in. (773 x 566 x 285 mm)
TOTAL WEIGHT	121 lbs. (55 kg)
MOUNTING OPTION(S)	Wall mount
USER INTERFACE	APP/WEB/LCD (optional)
SCALABILITY	10 units
INVERTER IDLE CONSUMPTION @ NO LOAD	<65W @ 25C
NOISE	<50dB @ 3 ft
LOCKED ROTOR AMPS	195A
COMPLIANCE	
CERTIFICATIONS	UL1741, SA, SB, PCS CRD California Rule 21 Phase I, II, III CSA 22.2.107.1:2016 Ed. 4 CSA 22.2.330:2017 Ed. 1 IEEE 1547.1:2020; IEEE 1547:2018 Hawaii Rule 14H [HECO SRD IEEE 1547.1-2020 Ed.2]
PROTECTIONS	Arc-Fault Circuit Interrupter (AFCI) NEC 2020:690.11/UL1699B Ground Fault Monitoring (GFDI) NEC 2020:690.41(B) Rapid Shutdown (RSD) NEC 2020:690.12
WARRANTY (*)	10 years
EMISSIONS	FCC Part 15, Class B
SAFETY	Integrated DC disconnect, Reverse polarity protection, Output over-voltage protection varistor, Output over current protection, Ground fault monitoring, Grid monitoring, Pole sensitive leakage current monitoring unit, AFCI, RSD

***For information regarding warranty registration on EG4® Electronics products, please navigate to <https://eg4electronics.com/warranty/> and select the corresponding product to begin the registration process.**

CHANGELOG

v1.1.9

- Reformatted Spec Sheet
- Added OLRT & Time to Steady State to Spec Sheet
- Corrected typos
- Modified max # of units in parallel from 16 to 10

v1.1.8

- Added surge capacity ratings
- Modified weight of unit

v1.1.7

- Added Locked Rotor Amps (LRA) value to spec sheet

v1.1.6

- Added "Full Power MPPT Voltage Range" to PV input data section
- Removed (pending) from FCC Part 15, Class B

v1.1.5

- Modified Nominal Power Output in spec sheet

v1.1.4

- Modified model # format on cover page

v1.1.3

- Modified intro. paragraph for clarity on paralleling output wattage

v1.1.2

- Updated Warranty Information

v1.1.1

- Correct QR code on cover page
- Modified verbiage in top paragraph to better highlight key features
- Modified FCC Part 15, Class B to show (pending)

v1.0

- Published

WALLMOUNT ALL WEATHER LITHIUM BATTERY



The EG4® WallMount All Weather 280Ah batteries are ideal for low-voltage residential outdoor energy storage system (ESS) applications. The batteries use lithium iron phosphate cells with the highest safety performance and an intelligent Battery Management System (BMS) that can monitor and record the voltage of each cell along with the current, voltage, and temperature of the module in real-time. The BMS also contains a passive balance function and an advanced battery control method, both of which improve the performance and longevity of the battery pack.

**BUILT-IN
200A BMS**

**INTEGRATED
600A BUSBARS**

**82.6MWh
LIFETIME
PRODUCTION***

***10 YEAR
WARRANTY
>8000 CYCLES @
80% DOD**

ON-BOARD LCD TOUCH SCREEN

Easy to see BMS monitoring, and selectable closed-loop communications with EG4, Schneider, Sol-Ark, Victron, Growatt, Megarevo, Luxpower, and Deye inverters.

DUAL ON-BOARD FIRE ARRESTORS

Offer fail-safe protection against thermal runaway.

WEATHER-TIGHT QUICK CONNECTS

Included battery cables with outdoor rated connectors allowing for fast, safe, and reliable battery connections.

INTEGRATED SELF-HEATING FEATURE

Heats the battery when the ambient temperature is low. A key feature for outdoor Lithium battery cell operations.

INTEGRATED BUSBARS

The battery design comes manufactured with 600A internal busbars with multiple terminals (4 positive & 4 negative) eliminating the need for external busbars when paralleling batteries and/or multiple inverters.

INNOVATIVE EMERGENCY STOP FUNCTION

The optional ESS disconnect can shut down all batteries and inverters (if equipped with rapid shut down capability) with the press of a button.

THE PERFECT PARTNER TO THE EG4 18kPV

The optional conduit box mates up directly to the connection ports of the inverter allowing a sleek and efficient installation. For other inverters or stand-alone battery installation, the conduit box plugs should be installed.



SPECIFICATION SHEET

MODULE OPERATING PARAMETERS			
Parameter	BMS		Recommended Charger Settings
Total Energy Capacity	14.3kWh @25C, 100% SOC		-
Voltage	51.2V		-
Capacity	280Ah ±2%		@25°C ±2°C @ 0.5C
Charging Voltage (Bulk/Absorb)	56.0V (±0.8V)		56.2V (±0.2V)
Float	-		54V (±0.2V)
SOC Cutoff	-		20%*
Charge Current	140A Max. Continuous		60 – 140A
Discharge Current	140A Max. Continuous		60 – 140A
BMS PARAMETERS			
Charge	Spec	Delay	Recovery
Cell Voltage Protection	3.8V	1 sec	3.45V
Module Voltage Protection	60V	1 sec	55.2V
Charge Over-Current 1	>205A	10 sec	-
Charge Over-Current 2	>225A	3 sec	-
Temperature Protection	<23°F or >158°F <-5°C or >70°C	1 sec	>32°F or <140°F >0°C or <60°C
Discharge	Spec	Delay	Recovery
Cell Voltage Protection	2.3V	1 sec	3.1V
Module Voltage Protection	44.8V	1 sec	48V
Discharge Over-Current 1	>205A	10 sec	60 sec
Discharge Over-Current 2	>300A	3 sec	60 sec
Short Circuit	>600A	<0.1 ms	-
Temperature Protection	<-4°F or >167°F <-20°C or >75°C	1 sec	>14°F or <149°F (>-10°C or <65°C)
PCB Temperature Protection	>230°F (>110°C)	1 sec	@ <176°F (<80°C)
GENERAL SPECIFICATIONS			
Parameter	Spec		Condition
Cell Balance	120mA	Passive Balance	Cell Voltage Difference >40mV
Temperature Accuracy	3%	Cycle Measurement	Measure Range: -40°F – ≈212°F (-40°C – ≈100°C)
Voltage Accuracy	0.5%	Cycle Measurement	Cells & Module
Current Accuracy	3%	Cycle Measurement	Measure Range: -200 – 200A
SOC	5%		Integral Calculation
Power Consumption (Standby)	<300uA		Standby/Storage
Power Consumption (Operating)	<25mA		Charging/Discharging
Communication Ports	RS485/CAN		Customizable

*EG4 recommends this value be set no lower than 20% to maintain the recommended 80% depth of discharge.

BATTERY HEATER SPECIFICATIONS		
Parameter	Spec	Condition
Voltage	56V	-
Power Consumption	224W	-
Internal Battery Temperature	≤32°F (0°C) or ≥41°F (5°C)	Heat On/Heat Off
ENVIRONMENTAL PARAMETERS		
Charging Range		32°F to ≈122°F (0°C to ≈50°C)
Discharging Range		-4°F to ≈131°F (-20°C to ≈55°C)
Storage Range		32°F to ≈113°F (0°C to ≈45°C)
Operating Altitude		<16404 ft. (<5000 m)
Ingress Protection		IP65
PHYSICAL SPECIFICATIONS		
Dimensions (H × W × D)		36.2 × 20.2 × 9.1 in. (92 × 51.2 × 23.2 cm)
Weight		308.6 lbs. (140 kg)
Design Life		>15 years
Cycle Life		>8000 Cycles @ 0.5C 80% DOD
Lifetime Production		82.6MWh**
SAFETY CERTIFICATIONS		
Certifications		UL1973, UL9540A (Passed)

** $(51.2V \times 280Ah / 1000 \times 80\% \times 8000 \text{ cycles} / 1000) 90\% = MWh$

CHANGELOG

Version 1.1.8

- Modified operating altitude into environmental parameters

Version 1.1.7

- Modified the dimensions of the unit
- Modified Max. Continuous charging current from 200A to 140A
- Modified Max. Continuous discharging current from 200A to 140A
- Modified recommended discharging current from 160A to 60 – 140A
- Modified temperature range for charge range, discharge range, and storage range
- Modified short circuit spec from 2000A to >600A
- Modified short circuit delay from 0.1 ms to <0.1 ms

Version 1.1.6

- Modified recommended charging current from 60 – 160A to 60 – 140A.

Version 1.1.5

- Added operating altitude range value

Version 1.1.3

- Added additional safety certification

Version 1.1.0

- Reformatted document to match template standards.
- Adjusted the short circuit current rating from 600A to 2000A.

Version 1.0.2

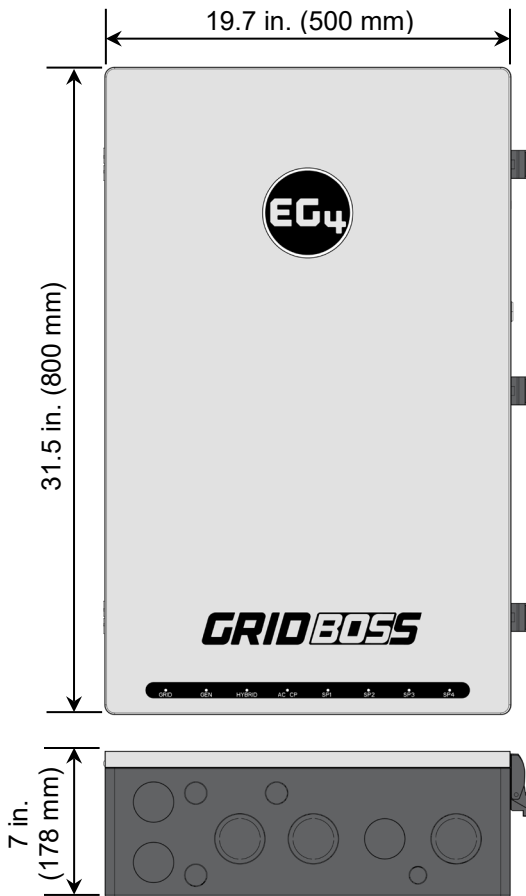
- Added Total Energy Capacity to table

Version 1.0.1

- Added QR Codes

Version 1.0.0

- First revision of spec sheet



EG4[®] GRID BOSS

MICRO-GRID INTERCONNECTION DEVICE (MID)

The EG4 GridBOSS Micro-Grid Interconnection Device (MID) simplifies Energy Storage Systems (ESS) by consolidating multiple components into a single, innovative unit. It replaces traditional elements such as the point of common connection, back-fed breakers, feeder taps, tap breakers, supply-side taps, transfer switches, and dedicated combiner panels for grid-in, grid-out, and generator input. As a versatile solution, the GridBOSS serves as the service entrance equipment* when paired with the utility meter, providing a single point of connection for utilities, hybrid inverters, generators, smart loads, and AC-coupled inverters.

**200A SERVICE
ENTRANCE***

**4 CONFIGURABLE
SMART PORTS**

**INTEGRATED
GENERATOR SUPPORT**

CENTRALIZED ESS CONTROL

Provides a single point of connection for utility, hybrid inverters, generators, smart loads, and AC-coupled inverters.

REDUCED ESS COMPLEXITY

Replaces up to 10 components with one unit, including point of common connection, back-fed breakers, feeder taps, feeder tap breakers, supply side taps & breakers, transfer switches, and dedicated combiner panels for grid-in, load/EPS, and generator input.

SERVICE ENTRANCE RATED

200 Amp service entrance with a 22 kAIC main breaker, acts as service entrance equipment in conjunction with a utility meter and a 200A Eaton braker (CSR25K).

REMOTE MONITORING

Enable remote monitoring, configuration, and firmware updates through the EG4 mobile app or online monitoring system.

SMART PORTS

Includes load shedding, which disconnects loads during low battery voltage and reconnects on high voltage. Power shedding connects loads when at full SOC and PV flow and disconnects on low SOC or PV loss.



*When used with an Eaton 200A main breaker (model CSR25k)

T E C H N I C A L S P E C I F I C A T I O N S

GRID	
NOMINAL AC VOLTAGE	120/240 VAC (L1/L2/N required)
FREQUENCY	60 Hz
MAXIMUM CURRENT	200A
SERVICE ENTRANCE RATED	22kAIC with 200A Eaton CSR2200N (CSR25K) breaker
GENERATOR	
NOMINAL VOLTAGE	120/240 VAC (L1/L2/N required)
FREQUENCY	60 Hz
MAXIMUM CURRENT	125A
NON-BACKUP	
NOMINAL VOLTAGE	120/240 VAC (L1/L2/N required)
FREQUENCY	60 Hz
MAXIMUM CURRENT	200A
BACKUP	
NOMINAL VOLTAGE	120/240 VAC (L1/L2/N required)
FREQUENCY	60 Hz
MAXIMUM CURRENT	200A
HYBRID	
NUMBER OF PORTS	3
NOMINAL VOLTAGE	120/240 VAC (L1/L2/N required)
FREQUENCY	60 Hz
MAXIMUM CURRENT PER PORT	90A*
SUPPORTED INVERTERS	EG4® 12kPV, 18kPV, FlexBOSS18 & FlexBOSS21**
SMART PORTS	
NUMBER OF PORTS	4
NOMINAL VOLTAGE	120/240 VAC (L1/L2/N required)
FREQUENCY	60 Hz
MAXIMUM CURRENT PER PORT	1: 125A 2: 80A 3: 60A 4: 60A
GENERAL DATA	
COMMUNICATION INTERFACE	RS485/Wi-Fi/CAN
IDLE CONSUMPTION	~55W
TRANSFER TIME	~25 ms
INTERNAL BUS RATING	350A (software limited to 200A)
INTERNAL FUSE RATING	315A
OPERATING ALTITUDE	<6561 ft (<2000 m)
RELATIVE HUMIDITY	0 – 100%
OUTDOOR RATING	NEMA 3R
OPERATING AMBIENT TEMPERATURE RANGE	-40°F – 113°F (-40°C – 45°C)
PRODUCT DIMENSIONS (H×W×D)	31.5×19.7×7 in (800×500×178 mm)
UNIT WEIGHT	55 lbs. (25 kg)
STANDARD WARRANTY	10-year standard warranty***

*Install a properly sized breaker based on the connected inverter: 50A - 12kPV; 70A - 18kPV; 90A – FlexBOSS18 & 21.

**Third-party inverters are not supported and cannot be connected to the hybrid ports.

***For information regarding warranty registration on EG4® Electronics products, please navigate to <https://eg4electronics.com/warranty/> and select the corresponding product to begin the registration process.

STANDARDS AND CERTIFICATIONS

UL1741, UL67, UL869A*

FCC PART 15, CLASS B

*When used with a 200A Eaton CSR2200N (CSR25K) main breaker.

05-01-25 – Published 1.1.4

- Added FlexBOSS18
- Added software limited to 200A for the internal bus rating
- Removed (pending) from FCC Part 15, Class B

02-07-25 - Published v1.1.3

- Changed ambient operating temperature to -40°F – 113°F (-40°C – 45°C)
- Changed maximum current per hybrid port to 90A.

11-12-24 - Published v1.1.2

- Added QR code to cover page
- Added idle consumption and transfer time data.
- Modified warranty information and added direct link

10-31-24 - Published v1.1.1

- Modified spec sheet FCC Part 15, Class B to read as (pending)