603 SOLAR

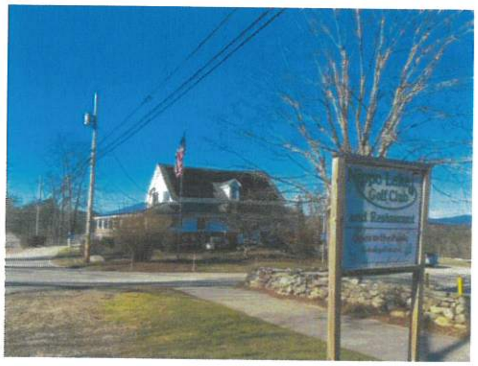
Barrington NH Town Hall Solar Proposal

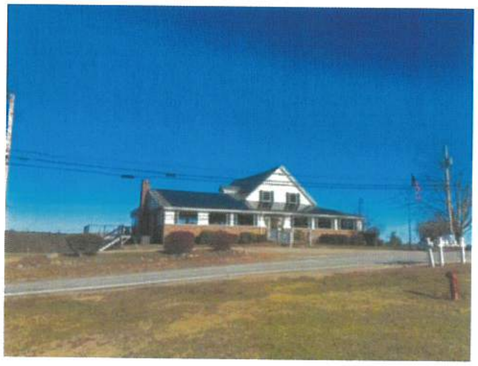
Dear Barrington Energy Committee,

Thank you very much for the opportunity to provide a proposal for the solar project at the new Town Hall. We greatly appreciate the potential to be an even bigger part of the community then we already have been. This would be a great project to have in our portfolio as our company started its operation from the home of one of our owners, Sean Carlson over at 38 Shady Ln. Now almost 6 years later we have just shy of 1000 active systems. With that we have plenty of experience in the industry and have many projects of similar size as what we are proposing for the Town Hall. Also, we are very proud to be announced the Gold Winner of the Best of the 603 Manchester Radio Group for Solar Energy Company as well as the Winner of the Best of the Seacoast Choice Awards in 2023.

Below you will find a complete list of our active systems in Barrington totaling just over 300kW.

- Nippo Lake Golf Club (41.3 kW)





- Applewood Family Dentistry (27.6 kW)
- 43 Swain Rd (12.8 kW)
- 186 Swain Rd (14.4 kW)
- 264 Swain Rd (6.7 kW)
- 38 Shady Ln (7 kW)
- 60 Breezy Way (6.4 kW)
- 194 Breezy Way (9.8 kW)
- 61 Greenhill Rd (14.9 kW)
- 53 Weeks Ln (8.8 kW)
- 38 Clover Ln (10.1 kW)
- 373 Pond Hill Rd (12 kW)
- 69 Tolend Rd (17.8 kW)
- 50 Glass Ln (9.6 kW)
- 35 Merry Hill Rd (9.2 kW)
- 101 Merry Hill Rd (12 kW)
- 184 Merry Hill Rd (5.5 kW)

- 76 Parker Mountain Rd (16 kW)
- 237 France Rd (11.1 kW)
- 49 Berry River Rd (10.4 kW)
- 28 Cedar Creek (6.5 kW)
- 26 Wellington Way (9.7 kW)
- 5 Stone Farm Rd (11.5 kW)
- 689 Hall Rd (9.1 kW)

Along with our list of systems right in town, we would like to also provide references for similar projects we have completed that do not include residential homes. Below you will find these projects.

- Nippo Lake Golf Club (41.3 kW)
    - John Mairino
    - 603-817-9754
    - john@nippolake.com

- Town of Shelburne Town Hall (16.8 kW)
    - Ray Danforth
    - 603-466-2621
    - randhdanforth@gmail.com

- Newmarket Fire Department (51.4 kW)
    - Missy Godfrey (Administrative Assistant)
    - 603-659-3334
    - mgodfrey@newmarketnh.gov

- Brookline Fire Department (24 kW)
    - Charlie Corey (Fire Chief)
    - 603-672-8531

- Henniker Community School (100 kW)
    - Matthew Colby (Principal)
    - 603-428-3476
    - Matthew.colby@sau24.org
- NH Liquor Store Exit 17 off I-93 (48.8 kW)
    - David Rauseo (Building Owner)
    - 603-491-1103
    - drauseo@comcast.net

SCOPE OF WORK:

We are proposing the installation of a 42.5 kW system. This system will consist of 2 arrays mounted on the two best producing areas of the building to be the most efficient system possible and create the best return on investment for the town. With the exposure of the two facets plan to be used, the system is projected to produce 50,932 kWh/year creating a 114% offset of the past years usage pulled from the supplied Eversource bill. Looking at the Eversource bill, there was a 46% increase on the usage in August of 2023 compared to August of 2022, therefore the percentage of offset to the usage could vary. The total cost for this project is a gross amount of **$109,244.** The breakdown for what is included in this cost is below.

- Main Solar Components (54% of the Project Cost)
  - 100 Q.Tron G2+ 425w Panels
  - 100 Enphase IQ8M Microinverters
  - 1 Envoy Gateway
  - Enphase Trunk Cable
- Installation Labor (31% of the Project Cost)
  - Installation of 100 Panels
  - 2 separate Arrays
  - Conduit Runs
  - Mounting Electrical Components
  - System Inspection
- Design/Site Audit/Administration/ Fees (15% of Project Cost)
  - Site Audit to gather all pictures and measurements to come up with Design.
  - Drone Flight for all exterior measurements and Shade Analysis.
  - Administration for filing Building permits, Electrical Permits and Utility Interconnection.
  - Complete Design and Electrical Line Diagram.
  - Commissioning of System and Enphase Monitoring Set Up.
  - Continuous Monitoring for life of the system
  - REC Reporting set up with PowerDash and Knollwood
  - PowerDash Subscription Fee
  - Assistance with grants and benefits that are available.

There are two potential added costs that can occur after the project agreement is signed. This would be a required Transformer upgrade from the utility company should the transformer be undersized for the system size. The other would be if there were any required structural upgrades needed for the solar to be mounted on the roof. 603 Solar will split any require transformer cost up to $1,500.

EQUIPMENT:

- Q-Cells Q.Tron M-G2+ 425w All Black Panels
  - 425w Output
  - 22.4% Efficiency
  - 25 Year Product Warranty
  - 25 Year Performance Warranty
  - Must produce 90.5% of nominal power up to 25 years.
  - All Black Panel
  - 67.8" x 44.6"
- Enphase IQ8M Microinverters
  - 330w Peak Power Output
  - Rated for 260 – 460w Solar Panels
  - 25 Year Warranty
- Enphase Envoy
  - Web Based Monitoring Control
  - Monitors up to 600 Microinverters.
  - Bidirectional Communications for remote upgrades
  - Supports power export limiting and zero export applications.
  - Built in RGM for REC Reporting
  - 5-year Warranty
- Data sheets for these pieces of equipment will be included in the packet below.

WARRANTY & MAINTENANCE:

- Manufacturer Warranties
  - Q-Cell Q.Tron M-G2+
    - 25 Year Product Warranty
    - 25 Year Performance Warranty
  - Enphase IQ8M Microinverters
    - 25 Year Full Coverage Warranty
  - Enphase Envoy
    - 5 Year Product Warranty

- 603 Solar Warranties and Guarantees
  - 12 Year Workmanship Warranty
    - Covers any labor for product defects.
    - Installations issues
    - Defective Parts
    - Roof leaks
    - Damage due to installation
  - Production Guarantee
  - 603 Solar guarantees the projected output of the system with a +/- 5% margin of error for unforeseeable weather patterns year to year. System

performance will have an expected degradation rate as noted in the manufacture product spec sheet to be provided by contractor. If system does not meet at least 95% of the expected annual production, Contractor will either add capacity to the system at no cost to the customer or pay the amount of lost production based on the current utility rate, should adding capacity is not an option.

INSURANCE:

603 Solar is fully insured. Our policy has a commercial general liability for each occurrence of $1,000,000, and a General Aggregate of $2,000,000. A copy of insurance will be provided via email with the Town of Barrington listed as additionally insured.

If there are any questions that the committee may have, please reach out to Sean Carlson directly. See information below.

Sean Carlson
Co-Founder
603-978-2228
sean@603solar.com

Again, we thank you for your consideration in this opportunity to help the Town of Barrington with their Town Hall Solar Project.

The 603 Solar Team

603 Solar Solar Return on Investment (ROI) and System Details

Quotes are valid for 30 days after creation

Homeowner Info:

Name:	Barrington NH Town Hall
Address:	4 Signature Dr, Barrington NH 03825
Email:	energy@barrinton.nh.gov
Phone Number:	603-664-9007

Array Layout:

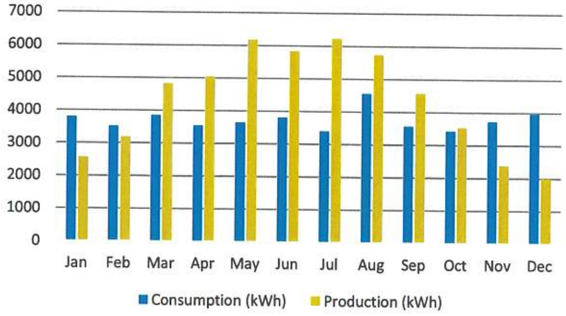
Primary System Equipment:

Panels:	Hanwha Q.Tron 425w G2+
Inverters:	Enphase IQ8M Micro inverters
Racking:	Iron Ridge Aire Series

Also Included with Project:

Enphase Combiner Panel
All misc. Electric and solar equipment
PV Solar Design and Engineering
Utility Interconnection approval (fees covered)
Building / Electric Permit Approval (fees covered)
Complete installation of solar project
Town / City / AHJ Inspection
System Commissioning
Enphase Enlighten monitoring set up
Customer / System support post installation

Consumption vs Production



System Performance and Financial ROI

Usage and System Production	
Annual Usage (kWh)	44,812
Panel Count	100
Array Size (kW)	42,500
Annual Production (kWh)	50,932
114%	Utility Offset

Cost of System	
Gross System Cost	$109,244.00
30% Federal Tax Credit	$32,773.20
Net Investment	**$76,470.80**

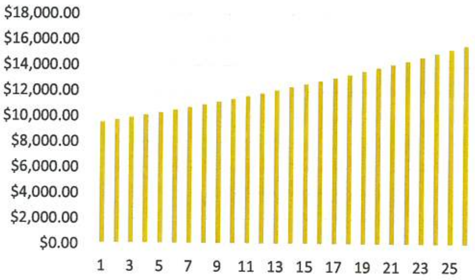
Current Utility Bill	
Current Utility Rate	$0.207
Member Charge	$16.21
Average Monthly Bill	$790.71
Annual Utility Cost	$9,488.53

Payback (Years)	
Net Investment	$76,470.80
Annual kWh Value	$10,563.30
ROI Period (years)	**7.24**
Annual Rate of Return (%)	**13.81%**

Projected Total Utility Cost over 25 Years*

*2% Escalator (below historic average)

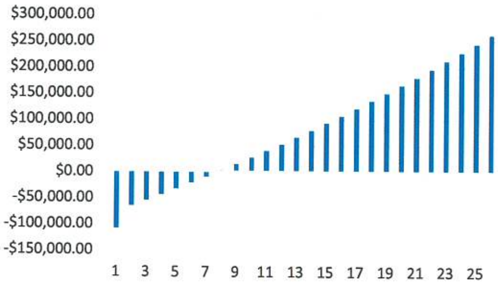
Total Cost = **$319,487.36**



Projected Savings with Solar over 25 Years*

*2% Escalator (below historical average)

Total Savings = **$261,874.76**



Reclaim your energy independence.

Learn more about 603 Solar and how solar can work for you!

603 SOLAR

Why invest in a solar array?

REDUCE OR ELIMINATE YOUR ELECTRIC BILL.
By creating your own, clean solar energy you can reduce or completely eliminate your electric gill. We typically see an average of a 7-9 year return on investment. With 25 year manufacturer warranties on all of the major components of the system, you can be assured that your system will continue to produce clean power for you for years to come.

PROTECT YOURSELF AGAINST RISING UTILITY RATES.
New England has some of the highest electricity costs in the continental US. The cost of electricity is constantly rising and will never stop. When you create your own energy, you are no longer subjective to your utility companies fluctuating rates. Solar payments are fixed, and easier to budget.

PROTECT THE ENVIRONMENT.
In a world with increasingly finite natural resources, it's up to all of us to do our part. Purchasing a solar array is not only a great investment, it also lowers your carbon footprint. To date our systems have produced more than 20,000,000 kWh of clean energy! That is the equivalent to the carbon emission from 1,500,000 gallons of gasoline, 16,000,000 lbs of coal or 32,000 barrels of oil.

Why 603 Solar?

Our mission is to educate home and business owners on the benefits of solar energy, to the best of our ability, and to assist them to receive the best return on investment for their solar array.

- FASTEST GROWING, NH BASED SOLAR COMPANY
- 5 YEARS IN BUSINESS
- 4.9/5 STARS ON GOOGLE
- OVER 850 SYSTEMS DEPLOYED (10,000 kW+)

What some of our clients are saying...

★★★★★

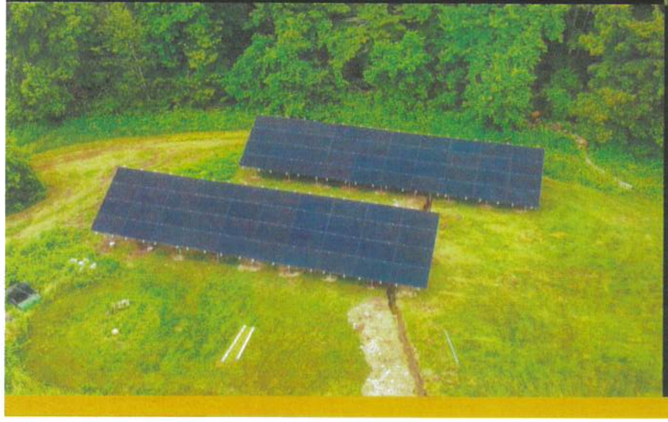
We had a great experience working with Zach and the entire team at 603 Solar. Their pricing and product were competitive with other vendors. I can't say enough about how positive and seamless our experience has been. The communication was great and all of the details managed to perfection.

- **Brigid M**

★★★★★

Can't say enough about the great experience we had with 603 Solar. They were helpful, transparent, and available whenever we had questions. We had received a few quotes and they were the best price, but above all they handled all the confusing work with with the electric company so professionally and efficiently. We are so glad we went with 603 Solar.

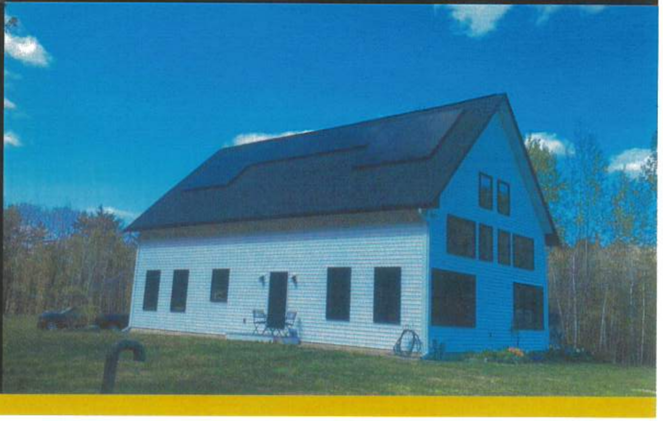
- **Ron R**



★★★★★

We received quotes from a number of companies and 603 Solar was by far the most competitive. The installation was smooth, the communication was great, and the administrative support with the utility company and state was fast and professional. Highly recommend using 603 Solar.

- **Kevin P**



Our Process

Step 1:

Site Evaluation

Step 2:

System Design and Engineering

Step 3:

Permit and Interconnection Approval

Step 4:

System Installation

Step 5:

Inspection and Commissioning

Step 6:

System Monitoring

Main Considerations

There are a few considerations that everyone should know about solar before getting into the knitty gritty.

WARRANTIES AND HOMEOWNERS INSURANCE

25 Year manufacturers warranty on all major components of the array.

12 Year workmanship warranty for the installation of the system, backed by 603 Solar.

You also want to make sure to add the system to your homeowners insurance.

MAINTENANCE

PV arrays are very low maintenance. There are no moving parts, so there is relatively little that can go wrong with them. There is no regular maintenance to upkeep the system.

Snow removal may be necessary for low pitched arrays for maximum output. Also be weary of where the snow will fall during the winter.

NET METERING

Net metering is the buying and selling of electricity with your utility company. The most important thing to remember is that there is a difference in value between the energy you you sell them, and the energy you buy from them (in NH). Maine offers one for one net metering!

POTENTIAL UPGRADES

There are two potential costs that may come up during the approval process. The first is a roof reinforcement if the roof cannot support the additional load of the system. The second is a utility upgrade if their equipment (transformer) is not sized large enough to take the output of the system.

What makes 603 Solar different?

ENERGY PRODUCTION GUARANTEE

The most important part of the solar array is of course the power production, so it nice to have peace of mind when it comes to your arrays kWh output. That is why we take special care to confirm our production values to ensure you will hit the production that we promise. If you don't, we will pay you for the difference in output.

603 SOLAR REFERRAL PROGRAM

As a small business, word of mouth is important. That is why we love to reward our clients for referring business to us. For each client you refer who moves forward, we will cut a check for $500! There is no limit to the number of referrals a client can make, so the earning potential is unlimited. To date we have paid over $75,000 in referral bonuses.

10 YEAR REC SUBSCRIPTION AND POWERDASH SET UP

REC or Renewable Energy Credits are credits that are generated from producing clean energy. For every 1,000 kWh you produce you can generate one REC. The production data is automatically reported via the Enphase monitoring system through a company called Power Dash. We cover a 10 year subscription of PowerDash reporting and assist in getting everything situated for you to automatically report!

SOLAR SENSE MODULE OPTION

603 Solar has partnered up with Sense Power Monitor for home and business owners interested in seeing advanced consumption data from their site via Sense's app. The sense module is capable of showing real time energy consumption and production from the array! It is also has self learning software that picks up your home's devices over time and categorizes your usage.

What are the next steps?

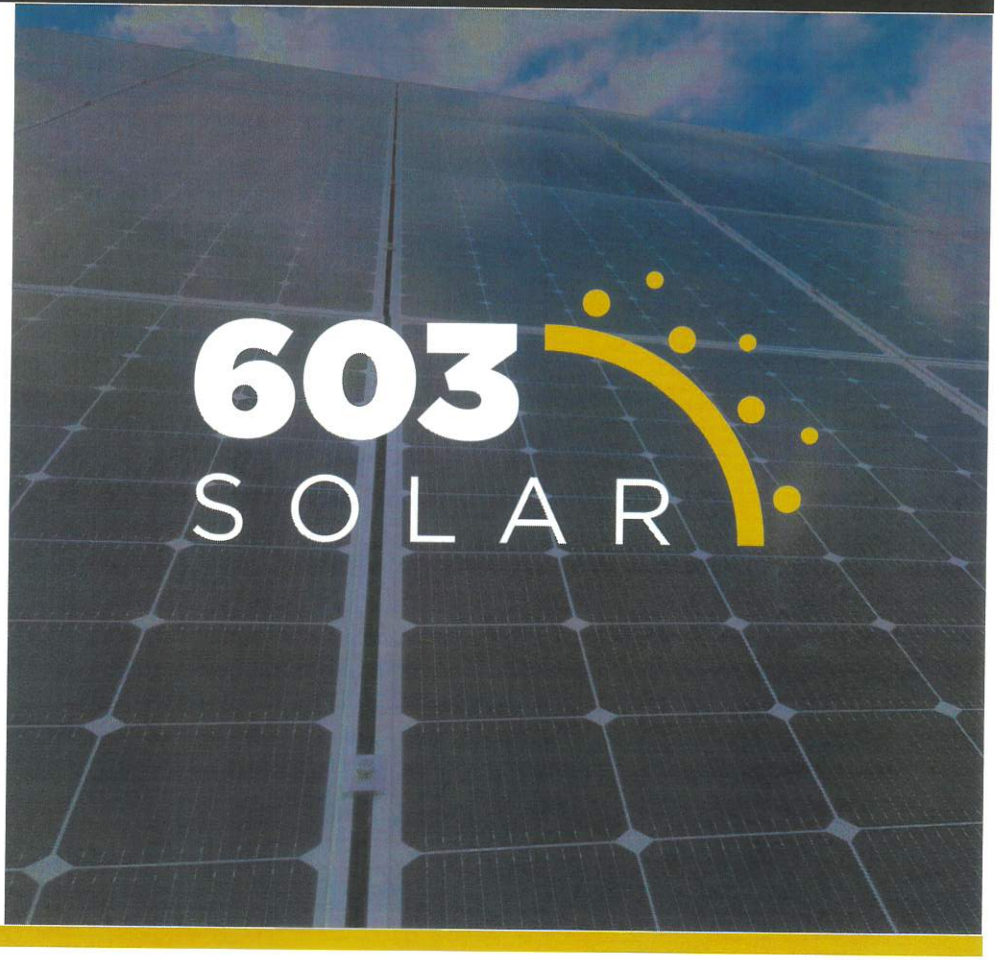
Ready to make the switch to solar? Here's what happens next!

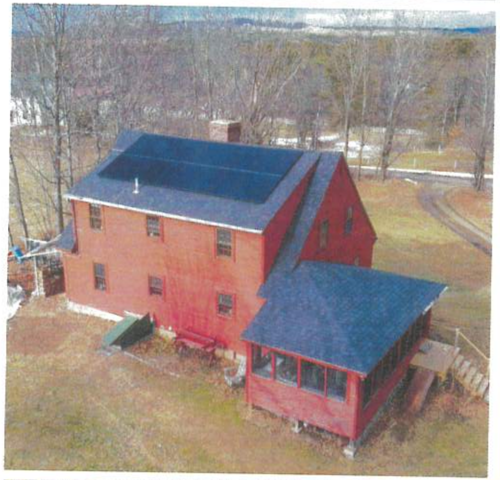
1. **Project Agreement and Utility Forms.** The first step in getting in the queue for your solar project is signing all of the required utility documents and our Project Agreement. The agreement outlines the system details and our responsibilities to you.

1. **Finance approval and deposit.** If financing the project, the next step is to go through the loan pre-approval process. We require a 5% deposit on the gross system cost.

1. **Schedule your solar site survey.** Once you have finance pre approval, all of the required form, and have collected the deposit its time to schedule your site survey! Our site survey team will be in touch within 1-3 business days to schedule your survey.

We look forward to working with you to build a more sustainable future!





Q.TRON BLK M-G2+ SERIES

Qcells

PRELIMINARY

410-430 Wp | 108 Cells
22.4 % Maximum Module Efficiency

MODEL Q.TRON BLK M-G2+

Q.ANTUM NEO

High performance Qcells N-type solar cells

Q.ANTUM NEO Technology with optimized module layout boosts module efficiency up to 22.4%.

25 YEARS Warranty Product & Performance

A reliable investment

Inclusive 25-year product warranty and 25-year linear performance warranty[1].

Qcells Advanced Yield Security

Enduring high performance

Long-term yield security with Anti LeTID Technology, Anti PID Technology[2], Hot-Spot Protect.

Extreme weather rating

High-tech aluminium alloy frame, certified for high snow (5400 Pa) and wind loads (3600 Pa).

Innovative all-weather technology

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

The most thorough testing programme in the industry

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

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[1] See data sheet on rear for further information.
[2] APT test conditions according to IEC/TS 62804-1:2015, method A (−1500 V, 96 h)

The ideal solution for:

Rooftop arrays on residential buildings

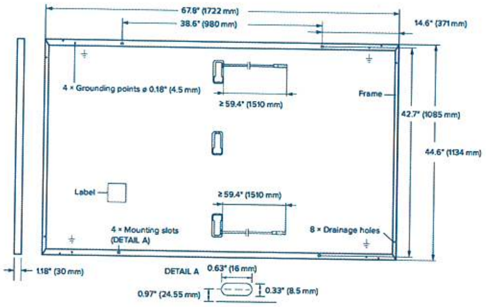
TÜVRheinland CERTIFIED
Quality Controlled PV
www.tuv.com
ID 1111232815

EUPD RESEARCH TOP BRAND PV MODULES USA 2022

Q.TRON BLK M-G2+ SERIES

■ Mechanical Specification

Format	67.8 in × 44.6 in × 1.18 in (including frame) (1722 mm × 1134 mm × 30 mm)
Weight	47.2 lbs (21.4 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodised aluminium
Cell	6 × 18 monocrystalline Q.ANTUM NEO solar half cells
Junction box	2.09-3.98 in × 1.26-2.36 in× 0.59-0.71 in (53-101 mm × 32-60 mm × 15-18 mm), Protection class IP67, with bypass diodes
Cable	4 mm² Solar cable; (+) ≥59.4 in (1510 mm), (−) ≥59.4 in (1510 mm)
Connector	Stäubli MC4; IP68

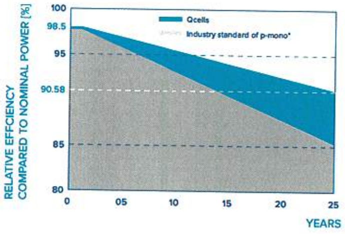


■ Electrical Characteristics

	POWER CLASS			**410**	**415**	**420**	**425**	**430**
	MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC[1] (POWER TOLERANCE +5 W/−0 W)							
Minimum	**Power at MPP[1]**	P_{MPP}	[W]	410	415	420	425	430
	Short Circuit Current[1]	I_{SC}	[A]	13.39	13.42	13.46	13.49	13.53
	Open Circuit Voltage[1]	V_{OC}	[V]	38.58	38.61	38.64	38.67	38.70
	Current at MPP	I_{MPP}	[A]	12.68	12.75	12.82	12.88	12.95
	Voltage at MPP	V_{MPP}	[V]	32.32	32.55	32.77	32.98	33.20
	Efficiency[1]	η	[%]	≥21.4	≥21.6	≥21.9	≥22.2	≥22.4
	MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT[2]							
Minimum	**Power at MPP**	P_{MPP}	[W]	310.0	313.8	317.6	321.4	325.2
	Short Circuit Current	I_{SC}	[A]	10.79	10.82	10.84	10.87	10.90
	Open Circuit Voltage	V_{OC}	[V]	36.61	36.63	36.66	36.69	36.71
	Current at MPP	I_{MPP}	[A]	9.97	10.03	10.09	10.15	10.21
	Voltage at MPP	V_{MPP}	[V]	31.09	31.29	31.48	31.66	31.85

[1] Measurement tolerances P_{MPP} ±3%; I_{SC}; V_{OC} ±5% at STC: 1000 W/m², 25±2 °C, AM 1.5 according to IEC 60904-3 • [2] 800 W/m², NMOT, spectrum AM 1.5

Qcells PERFORMANCE WARRANTY

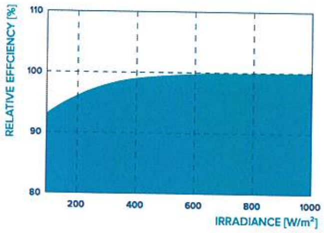


At least 98.5% of nominal power during first year. Thereafter max. 0.33% degradation per year. At least 95.53% of nominal power up to 10 years. At least 90.58% of nominal power up to 25 years.

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

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

PERFORMANCE AT LOW IRRADIANCE



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

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I_{SC}	α	[%/K]	+0.04	**Temperature Coefficient of V_{OC}**	β	[%/K]	−0.24
Temperature Coefficient of P_{MPP}	γ	[%/K]	−0.30	**Nominal Module Operating Temperature**	NMOT	[°F]	109±5.4 (43±3 °C)

■ Properties for System Design

Maximum System Voltage	V_{SYS}	[V]	1000 (IEC)/1000 (UL)	**PV module classification**	Class II
Maximum Series Fuse Rating		[A DC]	20	**Fire Rating based on ANSI/UL 61730**	C/TYPE 2
Max. Design Load, Push/Pull[3]		[lbs/ft²]	75 (3600 Pa)/50 (2400 Pa)	**Permitted Module Temperature on Continuous Duty**	−40 °F up to +185 °F (−40 °C up to +85 °C)
Max. Test Load, Push/Pull[3]		[lbs/ft²]	113 (5400 Pa)/75 (3600 Pa)		

[3] See Installation Manual

■ Qualifications and Certificates

Quality Controlled PV - TÜV Rheinland;
IEC 61215:2016;
IEC 61730:2016.
This data sheet complies with DIN EN 50380.

C Certified US
UL 61730

CE

TÜVRheinland
CERTIFIED
www.tuv.com
ID 1111220277

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

Note: Installation instructions must be followed. Contact our technical service for further information on approved installation of this product.

Hanwha Q CELLS America Inc. 400 Spectrum Center Drive, Suite 1400, Irvine, CA 92618, USA | TEL +1 949 748 59 96 | EMAIL hqc-inquiry@qcells.com | WEB www.qcells.com

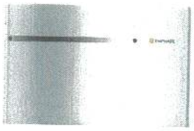
Qcells

ENPHASE.

DATA SHEET

IQ8M and IQ8A Microinverters

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



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

Enphase 25 year limited warranty

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

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

UL CERTIFIED SAFETY

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

Easy to install

- Lightweight and compact with plug-n-play connectors
- Power Line Communication (PLC) between components
- Faster installation with simple two-wire cabling

High productivity and reliability

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

Microgrid-forming

- Complies with the latest advanced grid support**
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) and IEEE 1547:2018 (UL 1741-SB 3rd Ed.)

Note:

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

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*Only when installed with IQ System Controller 2, meets UL 1741.
**IQ8M and IQ8A support split-phase, 240V installations only.

IQ8M and IQ8A Microinverters

INPUT DATA (DC)		IQ8M-72-2-US	IQ8A-72-2-US
Commonly used module pairings[1]	W	260 – 460	295 – 500
Module compatibility		54-cell / 108 half-cell, 60-cell / 120 half-cell, 66-cell / 132 half-cell and 72-cell / 144 half-cell	
MPPT voltage range	V	30 – 45	32 – 45
Operating range	V	16 – 58	
Min. / Max. start voltage	V	22 / 58	
Max. input DC voltage	V	60	
Max. continuous input DC current	A	12	
Max. input DC short-circuit current	A	25	
Max. module I_{sc}	A	20	
Overvoltage class DC port		II	
DC port backfeed current	mA	0	
PV array configuration		1 x 1 Ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit	

OUTPUT DATA (AC)		IQ8M-72-2-US	IQ8A-72-2-US
Peak output power	VA	330	366
Max. continuous output power	VA	325	349
Nominal (L-L) voltage / range[2]	V	240 / 211 – 264	
Max. continuous output current	A	1.35	1.45
Nominal frequency	Hz	60	
Extended frequency range	Hz	47 – 68	
AC short circuit fault current over 3 cycles	Arms	2	
Max. units per 20 A (L-L) branch circuit[3]		11	
Total harmonic distortion		<5%	
Overvoltage class AC port		III	
AC port backfeed current	mA	30	
Power factor setting		1.0	
Grid-tied power factor (adjustable)		0.85 leading – 0.85 lagging	
Peak efficiency	%	97.8	97.7
CEC weighted efficiency	%	97.5	97
Night-time power consumption	mW	60	

MECHANICAL DATA	
Ambient temperature range	-40°C to +60°C (-40°F to +140°F)
Relative humidity range	4% to 100% (condensing)
DC Connector type	MC4
Dimensions (H x W x D)	212 mm (8.3") x 175 mm (6.9") x 30.2 mm (1.2")
Weight	1.08 kg (2.38 lbs)
Cooling	Natural convection – no fans
Approved for wet locations	Yes
Pollution degree	PD3
Enclosure	Class II double-insulated, corrosion resistant polymeric enclosure
Environ. category / UV exposure rating	NEMA Type 6 / outdoor

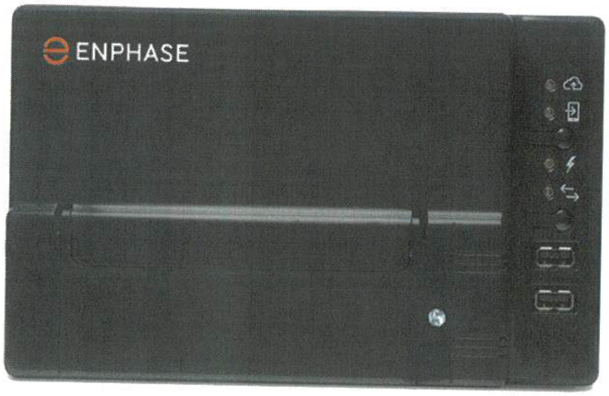
COMPLIANCE	
Certifications	CA Rule 21 (UL 1741-SA), UL 62109-1, IEEE 1547:2018 (UL 1741-SB 3rd Ed.), FCC Part 15 Class B, ICES-0003 Class B, CAN / CSA-C22.2 NO. 107.1-01 This product is UL Listed as PV Rapid Shutdown Equipment and conforms with NEC 2014, NEC 2017, and NEC 2020 section 690.12 and C22.1-2018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

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

Enphase IQ Envoy

The **Enphase IQ Envoy**™ communications gateway delivers solar production and energy consumption data to Enphase Enlighten™ monitoring and analysis software for comprehensive, remote maintenance and management of the Enphase IQ System.

With integrated revenue grade production metering and optional consumption monitoring, Envoy IQ is the platform for total energy management and integrates with the Enphase Ensemble™and the Enphase IQ Battery™.



Smart

- Enables web-based monitoring and control
- Bidirectional communications for remote upgrades
- Supports power export limiting and zeroexport applications

Simple

- Easy system configuration using Enphase Installer Toolkit™ mobile app
- Flexible networking with Wi-Fi, Ethernet, or cellular

Reliable

- Designed for installation indoors or outdoors
- Five-year warranty

UL CERTIFIED SAFETY

To learn more about Enphase offerings, visit **enphase.com**

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Enphase IQ Envoy

MODEL NUMBERS	
Enphase IQ Envoy™ ENV-IQ-AM1-240	Enphase IQ Envoy communications gateway with integrated revenue grade PV production metering (ANSI C12.20 +/- 0.5%) and optional consumption monitoring (+/- 2.5%). Includes one 200A continuous rated production CT (current transformer).
ACCESORIES (Order Seperately)	
Enphase Mobile Connect™ CELLMODEM-M1 (4G based LTE-M/5-year data plan) CELLMODEM-M1-B (4G-based LTE-M1/5-year data plan)	Plug and play industrial grade cellular modem with data plan for systems up to 60 microinverters. (Available in the US, Canada, Mexico, Puerto Rico, and the US Virgin Islands, where there is adequate cellular service in the installation area.)
Consumption Monitoring CT CT-200-SPLIT	Split-core consumption CTs enable whole home metering.
Ensemble Communications Kit COMMS-KIT-01	Installed at the IQ Envoy. For communications with Enphase Encharge™ storage and Enphase Enpower™ smart switch. Includes USB cable for connection to IQ Envoy or Enphase IQ Combiner™ and allows wireless communication with Encharge and Enpower.
POWER REQUIREMENTS	
Power requirements	120/240 VAC split-phase. Max 20 A overcurrent protection required.
Typical Power Consumption	5W
CAPACITY	
Number of microinverters polled	Up to 600
MECHANICAL DATA	
Dimensions (WxHxD)	21.3 x 12.6 x 4.5 cm (8.4" x 5" x 1.8")
Weight	17.6 oz (498 g)
Ambient temperature range	-40° to 65° C (-40° to 149° F) -40° to 46° C (-40° to 115° F) if installed in an enclosure
Environmental rating	IP30. For installation indoors or in an NRTL-certified, NEMA type 3R enclosure.
Altitude	To 2000 meters (6,560 feet)
Production CT	- Limited to 200A of continuous current / 250A OCPD – 72kW AC - Internal aperture measures 19.36mm to support 250MCM THWN conductors (max) - UL2808 certified for revenue grade metering
Consumption CT	- For electrical services to 250A with parallel runs up to 500A - Internal aperture measures 0.84" x 0.96" (21.33mm x 24.38mm) to support 3/0 THWN conductor - UL2808 certified, for use at service entrance for services up to 250Vac
INTERNET CONNECTION OPTIONS	
Integrated Wi-Fi	802.11b/g/n
Ethernet	802.3, Cat5E (or Cat 6) UTP Ethernet cable (not included)
Mobile	CELLMODEM-M1 (4G) or CELLMODEM-M1-B (4G). Not included. Note that an Enphase Mobile Connect cellular modem is required for all Ensemble installations.
COMPLIANCE	
Compliance	UL 61010-1 CAN/CSA C22.2 No. 61010-1 47 CFR, Part 15, Class B, ICES 003 IEC/EN 61010-1:2010, EN50065-1, EN61000-4-5, EN61000-6-1, EN61000-6-2 Metering: ANSI C12.20 accuracy class 0.5 (PV production only)

To learn more about Enphase offerings, visit **enphase.com**

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Town of Barrington
Solar Proposal for Town Hall