

# 230187

OCALA ELECTRIC UTILITY  
OCALA, FLORIDA

FIRST REVISED SHEET NO. 19.0  
CANCELS ORIGINAL SHEET NO. 19.0

**APPLICATION FOR INTERCONNECTION OF  
CUSTOMER-OWNED RENEWABLE  
GENERATION SYSTEMS**

TIER 1 - Ten (10) kW or Less

TIER 2 - Greater than 10 kW and Less Than or Equal to 100 kW

TIER 3 - Greater than 100 kW and Less Than or Equal to Two (2) MW

Note: These customer-owned renewable generation system size limits may be subject to a cumulative enrollment limit on net-metering customers located in the area served by the City of Ocala Electric Utility. Please refer to the Ocala Electric Utility Net-Metering Rate Schedule.

Ocala Electric Utility customers who install customer-owned renewable generation systems (RGS) and desire to interconnect those facilities with the Ocala Electric Utility system are required to complete this application. When the completed application and fees are returned to Ocala Electric Utility, the process of completing the appropriate Tier 1, Tier 2 or Tier 3 Interconnection Agreement can begin. This application and copies of the Interconnection Agreements may be obtained at Ocala Electric Utility, located at 201 SE 3rd Street, Ocala, Florida 34471, or may be requested by email from OEU@ocalafl.org.

**1. Customer Information**

Name: Norman Van Pelt

Mailing Address: 530 Northeast 37th Place

City: Ocala State: FL Zip Code: 34479

Phone Number: (352) 427-6056 Alternate Phone Number: \_\_\_\_\_

Email Address: chip@artmetalstudios.com Fax Number: \_\_\_\_\_

Ocala Electric Utility Customer Account Number: 541469-149653

**2. RGS Facility Information**

Facility Location: 530 Northeast 37th Place Ocala FL 34479

Ocala Electric Utility Customer Account Number: 541469-149653

RGS Manufacturer: Hanwha Q.Cells

Manufacturer's Address: 400 Spectrum Center Dr. Suite 1400

Irvine, CA 92618

Reference or Model Number: Q.PEAK DUO BLK ML-G10+ 400W

Serial Number: 201622416557502103

(Continued on Sheet No.19.1)

Issued by: Michael Poucher, P.E.  
Electric Utility Director

Effective: October 1, 2019

### 3. Facility Rating Information

Gross Power Rating: 4.42 (“Gross power rating” means the total manufacturer’s AC nameplate generating capacity of an on-site customer-owned renewable generation system that will be interconnected to and operate in parallel with Ocala Electric Utility’s distribution facilities. For inverter-based systems, the AC nameplate generating capacity shall be calculated by multiplying the total installed DC nameplate generating capacity by 0.85 in order to account for losses during the conversion from DC to AC.)

Fuel or Energy Source: Solar Photovoltaic

Anticipated In- Service Date: 11/15/2022

### 4. Application Fee

The application fee is based on the Gross Power Rating and must be submitted with this application. The non-refundable application fee is \$375 for Tier 2 and \$750 for Tier 3 installations. There is no application fee for Tier 1 installations.

### 5. Interconnection Study Fee

For Tier 3 installations, a deposit in the amount of the estimated costs of the study (to be determined at time of application) must be paid along with this application in addition to the application fee referenced in Article 4 above. This deposit will be applied toward the cost of an interconnection study. The customer will be responsible for the actual costs of the study. Should the actual cost of the study be less than the deposit, the difference will be refunded to the customer. Customer agrees to comply with all interconnection requirements identified in the interconnection study report.

### 6. Required Documentation

Prior to completion of the Interconnection Agreement, the following information must be provided to the Ocala Electric Utility by the customer.

- A. Documentation demonstrating that the installation complies with (or most current version at time of inspection approval):
1. IEEE 1547 (2018) Standard for Interconnecting Distributed Resources with Electric Power Systems.
  2. IEEE 1547.1 (2005) Standard Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems.
  3. UL 1741 (2010) Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources.

(Continued on Sheet No. 19.2)

Issued by: Michael Poucher, P.E.  
Electric Utility Director

Effective: October 1, 2019

OCALA ELECTRIC UTILITY  
OCALA, FLORIDA  
(Continued from Sheet No. 19.1)

FIRST REVISED SHEET NO. 19.2  
CANCELS ORIGINAL SHEET NO. 19.2

B. Documentation that the customer-owned renewable generation has been inspected and approved by local code officials prior to its operation in parallel with the Ocala Electric Utility system to ensure compliance with applicable local codes. OEU will also require proof of commission testing by a qualified 3<sup>rd</sup> party testing company (not affiliated in any way with the manufacturer, vendor or installation contractor), for compliance with all required and applicable codes, standards, and interconnection study requirements, prior to setting of OEU metering equipment.

C. Proof of insurance in the amount of:  
Tier 1 - \$100,000.00  
Tier 2 - \$1,000,000.00  
Tier 3 - \$2,000,000.00

**Customer**

By: Norman Van Pelt Date: 12/13/22  
(Print Name)

  
(Signature)

Issued by: Michael Poucher, P.E.  
Electric Utility Director

Effective: October 1, 2019

Policy number: **941 579 999**

Policy effective date: June 23, 2022

**Total Premium** for the Premium Period (Your bill will be mailed separately)

Premium for property insured \$1,438.00

01/2007 Florida Hurricane Catastrophe Fund Emergency Assessment \$0.00

**Total \$1,440.00**

*Your bill will be mailed separately. Before making a payment, please refer to your latest bill, which includes payment options and installment fee information. If you do not pay in full, you will be charged an installment fee(s). If you do not pay your bill by the due date shown on your billing statement, you may be charged a late fee.*

See the **Important Payment and Coverage Information** section for details about installment fees.

*The total premium includes a \$271.00 hurricane premium.*

*The total premium includes a \$1,167.00 non-hurricane premium.*

*The total premium includes a \$2.00 EMPA trust fund surcharge.*

*The total premium includes a windstorm loss mitigation discount.*

*The total premium includes a \$183.00 increase due to rate change.*

*The total premium includes a \$91.00 increase due to coverage changes.*

**Discounts** (included in your total premium)

Windstorm Mitigation 74% Age of Home 6%

**Location of property insured**

530 Ne 37th Place, Ocala, FL 34479-2367

**Rating Information**

The dwelling is of brick construction and is occupied by 1 family

Your dwelling is 4 miles to the fire department

Hurricane Premium adjusted 0% and Non-Hurricane Premium adjusted 0% for Building Code Effectiveness Grading Adjustments range from 1% surcharge to 11% discount.

**Mortgagee**

None

**Additional Interested Party**

None

FLO70RBD (Ed.Date 11/18)

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PROR4FL2022042823442302A-000343-002-0-00-00

**Coverage detail** for the property insured

Coverage	Limits of Liability	Applicable Deductible(s)
Dwelling Protection - with Building Structure Replacement Cost Method Extended Limits	\$161,000	<ul style="list-style-type: none"> <li>• Other Peril Deductible Applies**</li> <li>• <b>Deductible for Hurricane Applies***</b></li> </ul>
Other Structures Protection	\$3,220	<ul style="list-style-type: none"> <li>• Other Peril Deductible Applies**</li> <li>• <b>Deductible for Hurricane Applies***</b></li> </ul>
Personal Property Protection - Replacement Cost Method Provision	\$80,500	<ul style="list-style-type: none"> <li>• Other Peril Deductible Applies**</li> <li>• <b>Deductible for Hurricane Applies***</b></li> </ul>
Additional Living Expense	Lesser of \$16,100 or 12 months	
Family Liability Protection	\$100,000 each occurrence	
Guest Medical Protection	\$1,000 each person	
Building Codes (Law and Ordinance Coverage)	25% of the Limit of Liability of Dwelling Protection	

► **Other Coverages Not Purchased:**

- Business Property Protection\*
- Business Pursuits\*
- Cellular Communication System\*
- Electronic Data Processing Equipment\*
- Extended Coverage on Cameras\*
- Extended Coverage on Jewelry, Watches and Furs\*
- Extended Coverage on Musical Instruments\*
- Extended Coverage on Sports Equipment\*
- Fire Department Charges\*
- Golf Cart\*
- Home Day Care\*
- Incidental Office, Private School Or Studio\*
- Increased Coverage on Money\*
- Increased Coverage on Securities\*
- Increased Silverware Theft Limit\*
- Lock Replacement\*
- Loss Assessments\*
- Optional Protection for Mold\*
- Satellite Dish Antennas\*
- Sinkhole Activity\*

\* This coverage can provide you with valuable protection. To help you stay current with your insurance needs, contact your agent to discuss available coverage options and other products and services that can help protect you.

\*\* \$500 is your Other Peril Deductible, which applies to the total of all losses under the coverages indicated above.

**\*\*\*\$500 (calculated by applying 0% to your Dwelling Protection limit) is your Deductible for Hurricanes, which applies to the total of all property losses under the coverages indicated above. Please read your Hurricane Deductible Endorsement carefully.**

**Scheduled Personal Property Coverage**

Your policy does not include Scheduled Personal Property Coverage. This coverage can provide you with valuable protection. To help you stay current with your insurance needs, contact your agent to discuss available coverage options and other products and services that can help protect you.





# IQ8 and IQ8+ 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 super-fast response times to changing loads and grid events, alleviating constraints on battery sizing for home energy systems.

### Easy to install

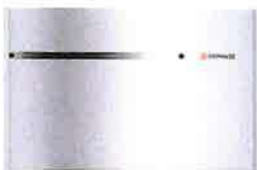
- Lightweight and compact with plug-n-play connectors
- Power Line Communication (PLC) between components
- Faster installation with simple two-wire cabling

### 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) requirements



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



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



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



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

# IQ8 and IQ8+ Microinverters

INPUT DATA (DC)		IQ8-60-2-US	IQ8PLUS-72-2-US
Commonly used module pairings <sup>1</sup>	W	235 – 350	235 – 440
Module compatibility		60-cell/120 half-cell	60-cell/120 half-cell and 72-cell/144 half-cell
MPPT voltage range	V	27 – 37	29 – 45
Operating range	V	25 – 48	25 – 58
Min/max start voltage	V	30 / 48	30 / 58
Max input DC voltage	V	50	60
Max DC current <sup>2</sup> [module Isc]	A		15
Overvoltage class DC port			II
DC port backfeed current	mA		0
PV array configuration		1x1 Ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit	
OUTPUT DATA (AC)		IQ8-60-2-US	IQ8PLUS-72-2-US
Peak output power	VA	245	300
Max continuous output power	VA	240	290
Nominal (L-L) voltage/range <sup>3</sup>	V		240 / 211 – 264
Max continuous output current	A	1.0	1.21
Nominal frequency	Hz		60
Extended frequency range	Hz		50 – 68
Max units per 20 A (L-L) branch circuit <sup>4</sup>		16	13
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	%	97.5	97.6
CEC weighted efficiency	%	97	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 (HxWxD)		212 mm (8.3") x 175 mm (6.9") x 30.2 mm (1.2")	
Weight		1.08 kg (2.38 lbs)	
Cooling		Natural convection – no fans	
Approved for wet locations		Yes	
Acoustic noise at 1 m		<60 dBA	
Pollution degree		PD3	
Enclosure		Class II double-insulated, corrosion resistant polymeric enclosure	
Environ. category / UV exposure rating		NEMA Type 6 / outdoor	
COMPLIANCE			
		CA Rule 21 (UL 1741-SA), UL 62109-1, UL1741/IEEE1547, FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 107.1-01	
Certifications		This product is UL Listed as PV Rapid Shut Down 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) No enforced DC/AC ratio. See the compatibility calculator at <https://link.enphase.com/module-compatibility> (2) Maximum continuous input DC current is 10.6A (3) Nominal voltage range can be extended beyond nominal if required by the utility. (4) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.



# Q. PEAK DUO BLK ML-G10+

## 385-405

ENDING-HIGH PERFORMANCE



**BREAKING THE 20% EFFICIENCY BARRIER**  
Q-ANTUM DUO Z has broken the 20% efficiency barrier with its monocrystalline PERC solar modules, achieving up to 20.9%.

**THE MOST THOROUGH TESTING PROGRAMME IN THE INDUSTRY**  
Q-CELLS is the first solar module manufacturer to pass the most comprehensive quality programme in the industry. The new 'Quality Certified PV' of the independent certification institute TÜV Rheinland.

**INNOVATIVE ALL-WEATHER TECHNOLOGY**  
Optimal yields whatever the weather with excellent low-light and temperature behavior.

**ENDURING-HIGH-PERFORMANCE**  
Long-term yield security with Anti-LID Technology, Anti-PID Technology, Hot-Spot-Protect and Trackable Quality TraQ™.

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

**A RELIABLE INVESTMENT**  
Inclusive 25-year product warranty and 25-year linear performance warranty.

2021 Year-on-year increase in efficiency: 0.22% → 2015, module A1 (385-405), 980g  
See also Product Page for more information.

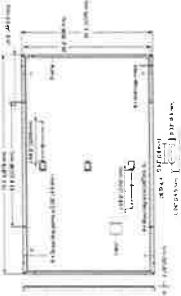
THE IDEAL SOLUTION FOR:  
 Residential  
 Commercial  
 Industrial

Engineered in Germany



### MECHANICAL SPECIFICATION

Material	Al-Glass 41.1mm x 1.96mm (backsheet/frame)
Weight	48.5kg (20.0kg)
Height	1.65m (5'5") (height for standard glass with 1.5mm gap)
Back Sheet	Composite film
Cell	6 x 12 monocrystalline PERC 200mm x 200mm solar cells
Dimensions	2093.98mm x 1296.23mm x 35.93mm
Weight	93.30kg (206.50lb) (with support rails)
Depth	4mm (Support rails) x 40.2mm (1.58") (Cable) x 48.7mm (1.92") (Support)
Dimensions	2093.98mm x 1296.23mm x 35.93mm



### ELECTRICAL CHARACTERISTICS

POWER CLASS	385	390	395	400	405
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS (STC) (1000 W/m², 25°C, AM 1.5)					
Power at STC	345	360	365	400	405
Open Circuit Voltage	38.0V	39.5V	40.0V	43.5V	44.0V
Short Circuit Current	9.10A	9.35A	9.40A	10.35A	10.40A
Maximum Power Point Voltage	31.0V	32.0V	32.5V	36.0V	36.5V
Maximum Power Point Current	11.17A	11.27A	11.37A	11.11A	11.17A
Temperature Coefficient (P <sub>max</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
Temperature Coefficient (V <sub>oc</sub> )	2.10%/°C	2.10%/°C	2.10%/°C	2.10%/°C	2.10%/°C
Temperature Coefficient (I <sub>sc</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (P <sub>mp</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
Temperature Coefficient (V <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (I <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (P <sub>stc</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
Temperature Coefficient (V <sub>stc</sub> )	2.10%/°C	2.10%/°C	2.10%/°C	2.10%/°C	2.10%/°C
Temperature Coefficient (I <sub>stc</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (P <sub>mp</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
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Temperature Coefficient (V <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
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Temperature Coefficient (P <sub>stc</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
Temperature Coefficient (V <sub>stc</sub> )	2.10%/°C	2.10%/°C	2.10%/°C	2.10%/°C	2.10%/°C
Temperature Coefficient (I <sub>stc</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (P <sub>mp</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
Temperature Coefficient (V <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
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Temperature Coefficient (P <sub>mp</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
Temperature Coefficient (V <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
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Temperature Coefficient (V <sub>stc</sub> )	2.10%/°C	2.10%/°C	2.10%/°C	2.10%/°C	2.10%/°C
Temperature Coefficient (I <sub>stc</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (P <sub>mp</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
Temperature Coefficient (V <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
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Temperature Coefficient (V <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
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Temperature Coefficient (P <sub>stc</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
Temperature Coefficient (V <sub>stc</sub> )	2.10%/°C	2.10%/°C	2.10%/°C	2.10%/°C	2.10%/°C
Temperature Coefficient (I <sub>stc</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (P <sub>mp</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
Temperature Coefficient (V <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (I <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (P <sub>stc</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
Temperature Coefficient (V <sub>stc</sub> )	2.10%/°C	2.10%/°C	2.10%/°C	2.10%/°C	2.10%/°C
Temperature Coefficient (I <sub>stc</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (P <sub>mp</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
Temperature Coefficient (V <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (I <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (P <sub>stc</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
Temperature Coefficient (V <sub>stc</sub> )	2.10%/°C	2.10%/°C	2.10%/°C	2.10%/°C	2.10%/°C
Temperature Coefficient (I <sub>stc</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (P <sub>mp</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
Temperature Coefficient (V <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (I <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (P <sub>stc</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
Temperature Coefficient (V <sub>stc</sub> )	2.10%/°C	2.10%/°C	2.10%/°C	2.10%/°C	2.10%/°C
Temperature Coefficient (I <sub>stc</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (P <sub>mp</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
Temperature Coefficient (V <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (I <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
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Temperature Coefficient (V <sub>stc</sub> )	2.10%/°C	2.10%/°C	2.10%/°C	2.10%/°C	2.10%/°C
Temperature Coefficient (I <sub>stc</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (P <sub>mp</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
Temperature Coefficient (V <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (I <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (P <sub>stc</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
Temperature Coefficient (V <sub>stc</sub> )	2.10%/°C	2.10%/°C	2.10%/°C	2.10%/°C	2.10%/°C
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Temperature Coefficient (P <sub>mp</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
Temperature Coefficient (V <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (I <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (P <sub>stc</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
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Temperature Coefficient (I <sub>stc</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (P <sub>mp</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
Temperature Coefficient (V <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (I <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
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Temperature Coefficient (V <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
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Temperature Coefficient (P <sub>stc</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
Temperature Coefficient (V <sub>stc</sub> )	2.10%/°C	2.10%/°C	2.10%/°C	2.10%/°C	2.10%/°C
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Temperature Coefficient (V <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
Temperature Coefficient (I <sub>mp</sub> )	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C	0.03%/°C
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Temperature Coefficient (P <sub>stc</sub> )	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C	-0.45%/°C
Temperature Coefficient (V <sub>stc</sub>					

## Enphase IQ 7, IQ 7+, and IQ 7X Microinverters

The high-powered smart grid-ready **Enphase IQ Series Micros™** achieve the highest system efficiency.

Part of the Enphase IQ System, the IQ 7, IQ 7+, and IQ 7X Micro integrate perfectly with the Enphase Envoy-S™, and the Enphase Enlighten™ monitoring and analysis software.

The IQ Series Micros extend the reliability standards set forth by previous generations and undergo over a million hours of power-on testing, enabling Enphase to provide an industry-leading warranty.



### Easy to Install

- Lightweight and simple
- Faster installation with improved, lighter two-wire cabling

### Productive and Reliable

- Optimized for high powered 60-cell, 72-cell\* and 96-cell\* modules
- More than a million hours of testing
- Class II double-insulated enclosure

### Smart Grid Ready

- Complies with advanced grid support, voltage and frequency ride-through requirements
- Remotely updates to respond to changing grid requirements
- Configurable for varying grid profiles

\* The IQ 7+ Micro is required to support 72-cell modules, and the IQ 7X is required to support 96-cell modules.

## Enphase IQ 7, IQ 7+, and IQ 7X Microinverters

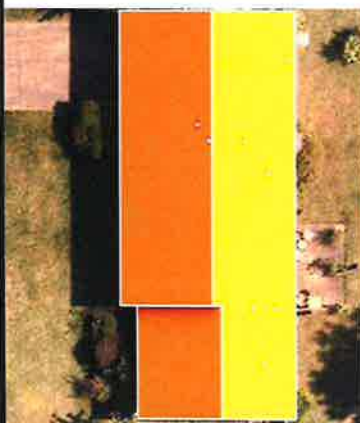
INPUT DATA (DC)	IQ7-60-2-INT	IQ7PLUS-72-2-INT	IQ7X-96-2-INT
Commonly used module pairings	235 W - 350 W + 1	235 W - 440 W + 1,2	320 W - 460 W + 1,2
Module compatibility	60-cell PV modules only	60-cell & 72-cell PV modules	96-cell PV modules only
Maximum input DC voltage	48 V	60 V	79.5 V
Peak power tracking voltage	27 V - 37 V	27 V - 45 V	53 V - 64 V
Operating range	16 V - 48 V	16 V - 60 V	25 V - 79.5 V
Min/Max start voltage	22 V / 48 V	22 V / 60 V	33 V / 79.5 V
Max DC short circuit current (module I <sub>sc</sub> )	15 A	15 A	10 A
Overvoltage class DC port	II	II	II
DC port backfeed under single fault	0 A	0 A	0 A
OUTPUT DATA (AC)	IQ 7 Microinverter	IQ 7+ Microinverter	IQ 7X Microinverter
Peak output power	250 VA	295 VA	320 VA
Maximum continuous output power	240 VA	290 VA	315 VA
Nominal (L-N) voltage/range <sup>3</sup>	230 V / 184-276 V	230 V / 184-276 V	230 V / 184-276 V
Maximum continuous output current	1.04 A	1.26 A	1.37 A
Nominal frequency	50 Hz	50 Hz	50 Hz
Extended frequency range	45 - 55 Hz	45 - 55 Hz	45 - 55 Hz
Maximum units per 20 A (L-N) branch circuit <sup>4</sup>	16 (230 VAC)	13 (230 VAC)	12 (230 VAC)
Overvoltage class AC port	III	III	III
AC port backfeed current	0 A	0 A	0 A
Power factor setting	1.0	1.0	1.0
Power factor (adjustable)	0.8 leading ... 0.8 lagging	0.8 leading ... 0.8 lagging	0.8 leading ... 0.8 lagging
EFFICIENCY	@230 V	@230 V	@230 V
EN 50530 (EU) weighted efficiency	96.5 %	96.5 %	96.5 %
MECHANICAL DATA			
Ambient temperature range	-40°C to +65°C	-40°C to +65°C	-40°C to +60°C
Relative humidity range	4% to 100% (condensing)		
Connector type	MC4 (or Amphenol H4 UTX with additional Q-DCC-5 adapter)		
Dimensions (WxHxD)	212 mm x 175 mm x 30.2 mm (without bracket)		
Weight	1.08 kg		
Cooling	Natural convection - No fans		
Approved for wet locations	Yes		
Pollution degree	PD3		
Enclosure	Class II double-insulated, corrosion resistant polymeric enclosure		
Environmental category / UV exposure rating	Outdoor - IP67		
FEATURES			
Communication	Power Line Communication (PLC)		
Monitoring	Enlighten Manager and MyEnlighten monitoring options Compatible with Enphase Envoy-S		
Compliance (pending)	AS 4777.2, RCM, IEC/EN 61000-6-3, IEC/EN 62109-1, IEC/EN 62109-2		

1. No enforced DC/AC ratio in NZ. In Australia, CEC design guidelines state inverter continuous AC power output cannot be less than 75% of the array peak power.
2. Maximum DC input limited to 350 W at 25°C as per AU/NZS 5033:2014 4.3.12(d).
3. Nominal voltage range can be extended beyond nominal if required by the utility.
4. Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

To learn more about Enphase offerings, visit [enphase.com/au](http://enphase.com/au)

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**SCOPE OF WORK:**  
 TO INSTALL A ROOF MOUNTED SOLAR PHOTOVOLTAIC SYSTEM AT THE OWNER RESIDENCE LOCATED AT 530 NORTHEAST 37TH PLACE, OCALA, FL 34479.

SYSTEM DC RATING: 5.20 KWDC  
 SYSTEM AC RATING: 3.78 KWAC

**GENERAL NOTES:**

- THESE CONSTRUCTION DOCUMENTS HAVE BEEN BASED ON FIELD INSPECTIONS AND OTHER INFORMATION AVAILABLE AT THE TIME. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS IN CONSTRUCTION DETAILS.
- CONTRACTOR HAS THE FULL RESPONSIBILITY TO CHECK AND VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK. ANY WORK STARTED BEFORE CONSULTATION AND ACCEPTANCE BY THE ENGINEER SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE SUBJECT TO CORRECTION BY THEM WITHOUT ADDITIONAL COMPENSATION.
- THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THE PROPER INSTALLATION AND COMPLETION OF THE WORK WITH APPROVED MATERIALS.
- THE EQUIPMENT AND ALL ASSOCIATED WIRING AND INTERCONNECTION SHALL BE INSTALLED ONLY BY QUALIFIED PEOPLE. A QUALIFIED PERSON IS ONE WHO HAS SKILLS AND KNOWLEDGE RELATED TO THE CONSTRUCTION AND OPERATION OF THE ELECTRICAL EQUIPMENT AND INSTALLATIONS AND HAS RECEIVED SAFETY TRAINING TO RECOGNIZE AND AVOID THE HAZARDS INVOLVED. (NEC 690.4(C), NEC 2017).
- NEW CONDUIT ROUTING SHOWN IS ESSENTIALLY SCHEMATIC. CONTRACTOR SHALL LAY OUT RUNS TO SUIT FIELD CONDITIONS AND THE COORDINATION REQUIREMENTS OF OTHER TRADES.
- ARRAY WIRING SHOULD NOT BE READILY ACCESSIBLE EXCEPT TO QUALIFIED PERSONNEL.
- THE AC DISCONNECT MUST BE ACCESSIBLE TO QUALIFIED UTILITY PERSONNEL, BE LOCKABLE, AND BE A VISIBLE-BREAK SWITCH.

**SHEET INDEX**

CS-0	COVER SHEET & BOM
E-1	STRING LAYOUT & SIGNAGE
E-2	ELECTRICAL DIAGRAM & CALCS.
E-3*	EQUIPMENT SPECIFICATIONS

**GOVERNING CODES**

2018 NFPA 1 (FIRE CODE) / 2020 NFPA 70 (NATIONAL ELECTRICAL CODE)  
 2018 NFPA 70 (NATIONAL ELECTRICAL CODE)  
 2020 FLORIDA BUILDING CODE (7TH EDITION)  
 AUTHORITY HAVING JURISDICTION (AHJ): MARION COUNTY

**BILL OF MATERIALS**

EQUIPMENT	QTY	DESCRIPTION
SOLAR PV MODULE	13	Q-PEAK DUO BLK ML-G10* 400W
MICROWVERTER	13	EN-PHASE IQBPPLUS-72-24US
JUNCTION BOX	1	JUNCTION BOX, NEMA 3R, UL LISTED
COMBINER BOX	1	EN-PHASE IQ COMBINER 44C W/ IQ ENVOY (X-IQ-AM1-240-4)
AC DISCONNECT	1	FUSED AC DISCONNECT, 240V, NEMA 3R, UL LISTED

**ATLANTIC KEY ENERGY LLC**  
 7035 STAPFORD CT  
 WINTER PARK, FL 32782  
 \* 1 (407) 988-0273

**PROJECT NAME & ADDRESS**  
 NORMAN VANFELT  
 RESIDENCE  
 530 NORTHEAST 37TH PLACE,  
 OCALA, FL 34479

**SIGNATURE WITH SEAL**

**REVISIONS**

DESCRIPTION	DATE	REV

Prepared by: \_\_\_\_\_  
 Checked by: \_\_\_\_\_  
 Date: \_\_\_\_\_

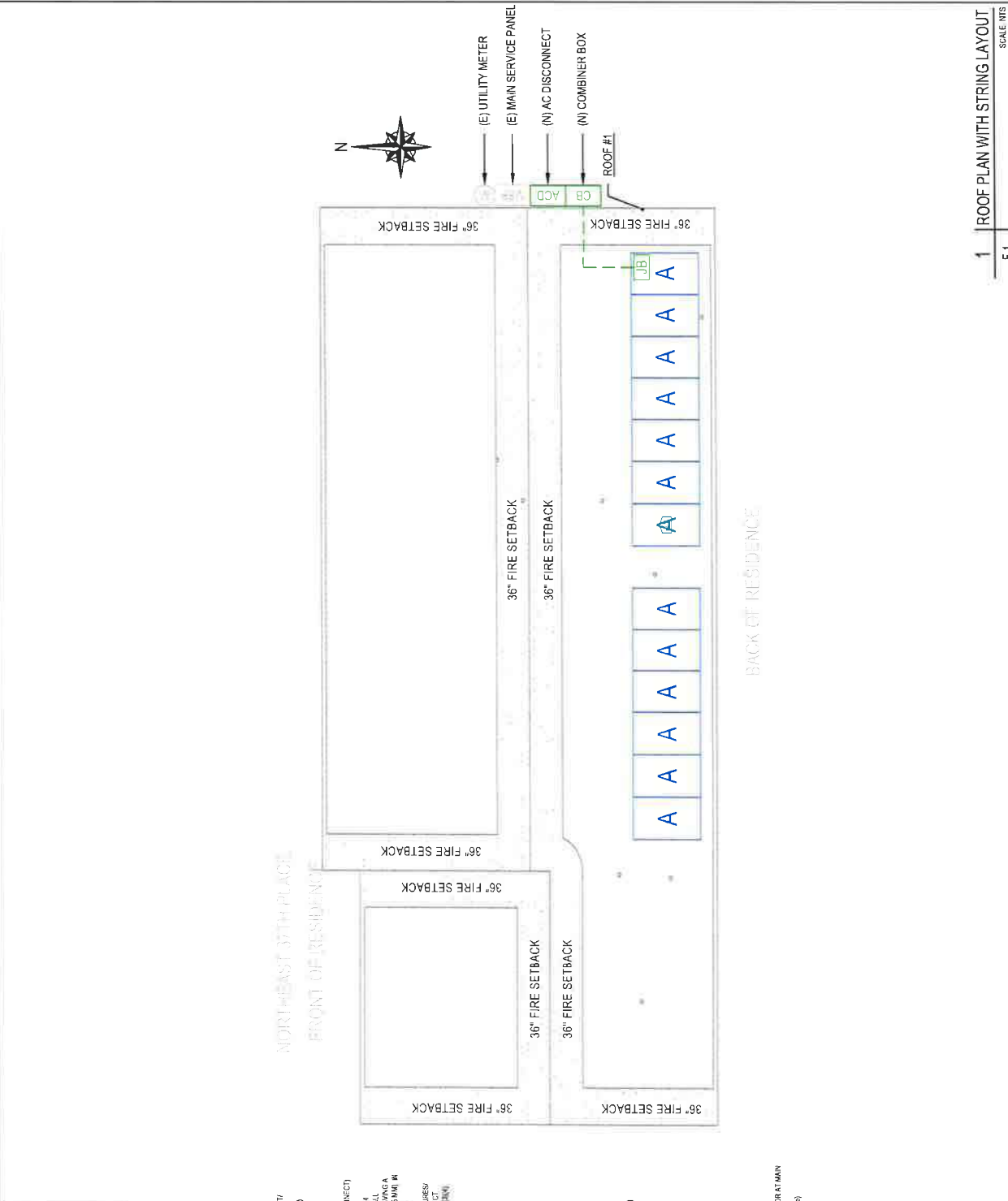
**SHEET NAME**  
 COVER SHEET & BOM

**SHEET NUMBER**  
 CS-0

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REVISIONS	DATE	REV

Drawn by:	DM
Checked by:	EW
Date:	10/20
<b>SHEET NAME</b>	
STRING LAYOUT & SIGNAGE	
SHEET NUMBER	
E-1	



1 ROOF PLAN WITH STRING LAYOUT  
 SCALE: NTS  
 E-1

**LEGEND**

X	MODULE STRING ID
BEI	EXISTING
(N)	NEW
U	UTILITY METER
MS	MAIN SERVICE PANEL
ACD	AC DISCONNECT
CB	COMBINER BOX
	LOAD CENTER
	SUBPANEL
	JUNCTION BOX
	STRING CENTER TAP
	CONDUIT
	ENERGY STORAGE
	INTERCONNECTIVE DEVICE
	BACK-UP LOADS PANEL

**ADDITIONAL NOTES:**  
 1. ALL LABELS FOR PHOTOVOLTAIC SYSTEMS SHALL BE REFLECTIVE AND MEET ALL REQUIREMENTS.  
 2. ALL LABELS AND MARKINGS FOR PHOTOVOLTAIC SYSTEMS SHALL BE REFLECTIVE AND MEET ALL REQUIREMENTS.  
 3. ALL LABELS AND MARKINGS FOR PHOTOVOLTAIC SYSTEMS SHALL BE REFLECTIVE AND MEET ALL REQUIREMENTS.

**WARNING**  
 ELECTRIC SHOCK HAZARD  
 CONTACT WITH ENERGIZED ELECTRICAL EQUIPMENT OR TERMINALS WITHIN THE RISE AND LEAD INSULATION MAY BE FATAL OR CAUSE SEVERE BURNS OR INJURY.

**EMERGENCY RESPONDER SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN**  
 PHOTOVOLTAIC AC DISCONNECT PER CODE NEC 690.12(B)(1) & (2) SHALL BE INSTALLED AND HAVE A MINIMUM HEIGHT OF 36 IN. (914 MM) WITH A WHITE ON RED BACKGROUND.

**PHOTOVOLTAIC AC DISCONNECT**  
 PHOTOVOLTAIC AC DISCONNECT PER CODE NEC 690.12(B)(1) & (2) SHALL BE INSTALLED AND HAVE A MINIMUM HEIGHT OF 36 IN. (914 MM) WITH A WHITE ON RED BACKGROUND.

**WARNING**  
 RISK OF ELECTRICAL SHOCK  
 PHOTOVOLTAIC AC DISCONNECT PER CODE NEC 690.12(B)(1) & (2) SHALL BE INSTALLED AND HAVE A MINIMUM HEIGHT OF 36 IN. (914 MM) WITH A WHITE ON RED BACKGROUND.

**WARNING**  
 RISK OF ELECTRICAL SHOCK  
 PHOTOVOLTAIC AC DISCONNECT PER CODE NEC 690.12(B)(1) & (2) SHALL BE INSTALLED AND HAVE A MINIMUM HEIGHT OF 36 IN. (914 MM) WITH A WHITE ON RED BACKGROUND.

**FOR SERVICE CONTACT**  
 AKE  
 (407) 988-0273  
 LUC # - ECC-1-10089113

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ATLANTIC KEY ENERGY LLC  
1800 STATE STREET  
WINTER PARK, FL 32782  
+1 (407) 988-0273

PROJECT NAME & ADDRESS  
NORMAN VANPELT  
RESIDENCE  
530 NORTHEAST 37TH PLACE  
OCALA, FL 34479

**IQ8 and IQ8+ Microinverters**

PROPERTY	IQ8	IQ8+
Carrier (max) (inches) (height)	235 - 350	235 - 440
Module compatibility	60 cell (120 half cut)	60 cell (120 half cut) and 72 cell (144 half cut)
MPPT voltage range	27 - 37	28 - 48
Open-circuit voltage	25 - 40	26 - 56
Maximum panel voltage	30 / 48	30 / 58
Max input DC voltage	50	60
Max DC current (module) (A)	15	15
Overvoltage class (DC port)	0	0
DC port backfeed current	0	0
PV array configuration		

PROPERTY	IQ8	IQ8+
Max output power	245	300
Max continuous output power	240	200
Max continuous output current	1.0	1.21
Max output frequency	60	60
Frequency range	50 - 60	50 - 60
Max output per 20 A (L) DC input circuit*	18	13
Total harmonic distortion	< 5%	< 5%
AC port backfeed current	0	0
Power factor	1.0	1.0
Grid-tied power factor (input side)	0.95 leading - 0.95 lagging	0.95
Peak efficiency	97.5	97.5
CEC weighted efficiency	97	97
Max AC power consumption	60	60

**ENVIRONMENTAL DATA**

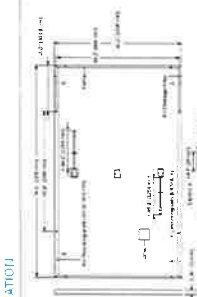
Operating temperature range: -40°C to +60°C (-40°F to +140°F)  
Relative humidity range: 4% to 100% (condensing)  
DC Connector type: MC4  
Dimensions (HxWxD): 212 mm (8.31 x 123 mm (4.84 x 4.84 in))  
Weight: 108 kg (238 lbs)  
Cooling: Natural convection - no fans  
Approved for wet location: Yes  
Applications: All in  
Photomontage: POC  
Enclosure: Class II, Type 1, NEMA Type 1 / outdoor  
Grounding category: (UL) equipment safety

**COMPLIANCE**

CA Rule 21 (UL 1741) 50 UL 82109, UL 1741, UL 1741-2, UL 1741-3, UL 1741-4, UL 1741-5, UL 1741-6, UL 1741-7, UL 1741-8, UL 1741-9, UL 1741-10, UL 1741-11, UL 1741-12, UL 1741-13, UL 1741-14, UL 1741-15, UL 1741-16, UL 1741-17, UL 1741-18, UL 1741-19, UL 1741-20, UL 1741-21, UL 1741-22, UL 1741-23, UL 1741-24, UL 1741-25, UL 1741-26, UL 1741-27, UL 1741-28, UL 1741-29, UL 1741-30, UL 1741-31, UL 1741-32, UL 1741-33, UL 1741-34, UL 1741-35, UL 1741-36, UL 1741-37, UL 1741-38, UL 1741-39, UL 1741-40, UL 1741-41, UL 1741-42, UL 1741-43, UL 1741-44, UL 1741-45, UL 1741-46, UL 1741-47, UL 1741-48, UL 1741-49, UL 1741-50, UL 1741-51, UL 1741-52, UL 1741-53, UL 1741-54, UL 1741-55, UL 1741-56, UL 1741-57, UL 1741-58, UL 1741-59, UL 1741-60, UL 1741-61, UL 1741-62, UL 1741-63, UL 1741-64, UL 1741-65, UL 1741-66, UL 1741-67, UL 1741-68, UL 1741-69, UL 1741-70, UL 1741-71, UL 1741-72, UL 1741-73, UL 1741-74, UL 1741-75, UL 1741-76, UL 1741-77, UL 1741-78, UL 1741-79, UL 1741-80, UL 1741-81, UL 1741-82, UL 1741-83, UL 1741-84, UL 1741-85, UL 1741-86, UL 1741-87, UL 1741-88, UL 1741-89, UL 1741-90, UL 1741-91, UL 1741-92, UL 1741-93, UL 1741-94, UL 1741-95, UL 1741-96, UL 1741-97, UL 1741-98, UL 1741-99, UL 1741-100

**NOTES**

(1) We warrant DC AC ratio. See our compatibility calculator at <https://a1k.com/compatibility>.  
(2) Maximum continuous DC current is 10 A (3) Maximum voltage range can be extended beyond nominal if installed by the utility. (4) UL may vary by local jurisdiction. (5) See the manual of individual inverters for details on your area.

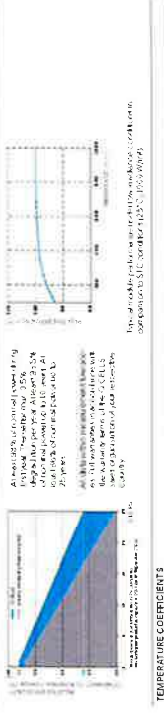


**MECHANICAL SPECIFICATIONS**

PROPERTY	IQ8	IQ8+
Weight	10.8 kg (23.8 lbs)	10.8 kg (23.8 lbs)
Dimensions (HxWxD)	212 mm (8.31 x 123 mm (4.84 x 4.84 in))	212 mm (8.31 x 123 mm (4.84 x 4.84 in))
Mounting options	Standard, Flush, Surface	Standard, Flush, Surface
Material	Aluminum	Aluminum
Finish	Black	Black
Operating temperature	-40°C to +60°C (-40°F to +140°F)	-40°C to +60°C (-40°F to +140°F)
Relative humidity	4% to 100% (condensing)	4% to 100% (condensing)
IP Rating	IP20	IP20
UL Rating	Class II, Type 1	Class II, Type 1
CEC Weighted Efficiency	97%	97%
CEC Weighted Output Power	240 W	200 W
CEC Weighted Output Current	1.0 A	1.21 A
CEC Weighted Frequency	60 Hz	60 Hz
CEC Weighted THD	< 5%	< 5%
CEC Weighted Power Factor	0.95 leading - 0.95 lagging	0.95
CEC Weighted AC Power Consumption	60 W	60 W

**ELECTRICAL CHARACTERISTICS**

PROPERTY	IQ8	IQ8+
Carrier (max) (inches) (height)	235 - 350	235 - 440
Module compatibility	60 cell (120 half cut)	60 cell (120 half cut) and 72 cell (144 half cut)
MPPT voltage range	27 - 37	28 - 48
Open-circuit voltage	25 - 40	26 - 56
Maximum panel voltage	30 / 48	30 / 58
Max input DC voltage	50	60
Max DC current (module) (A)	15	15
Overvoltage class (DC port)	0	0
DC port backfeed current	0	0
PV array configuration		
Max output power	245	300
Max continuous output power	240	200
Max continuous output current	1.0	1.21
Max output frequency	60	60
Frequency range	50 - 60	50 - 60
Max output per 20 A (L) DC input circuit*	18	13
Total harmonic distortion	< 5%	< 5%
AC port backfeed current	0	0
Power factor	1.0	1.0
Grid-tied power factor (input side)	0.95 leading - 0.95 lagging	0.95
Peak efficiency	97.5	97.5
CEC weighted efficiency	97	97
Max AC power consumption	60	60



**TEMPERATURE COEFFICIENTS**

PROPERTY	IQ8	IQ8+
Operating temperature range	-40°C to +60°C (-40°F to +140°F)	-40°C to +60°C (-40°F to +140°F)
Relative humidity range	4% to 100% (condensing)	4% to 100% (condensing)
DC Connector type	MC4	MC4
Dimensions (HxWxD)	212 mm (8.31 x 123 mm (4.84 x 4.84 in))	212 mm (8.31 x 123 mm (4.84 x 4.84 in))
Weight	108 kg (238 lbs)	108 kg (238 lbs)
Cooling	Natural convection - no fans	Natural convection - no fans
Approved for wet location	Yes	Yes
Applications	All in	All in
Photomontage	POC	POC
Enclosure	Class II, Type 1, NEMA Type 1 / outdoor	Class II, Type 1, NEMA Type 1 / outdoor
Grounding category	(UL) equipment safety	(UL) equipment safety

**PROPERTIES FOR SYSTEM DESIGN**

Operating temperature range: -40°C to +60°C (-40°F to +140°F)  
Relative humidity range: 4% to 100% (condensing)  
DC Connector type: MC4  
Dimensions (HxWxD): 212 mm (8.31 x 123 mm (4.84 x 4.84 in))  
Weight: 108 kg (238 lbs)  
Cooling: Natural convection - no fans  
Approved for wet location: Yes  
Applications: All in  
Photomontage: POC  
Enclosure: Class II, Type 1, NEMA Type 1 / outdoor  
Grounding category: (UL) equipment safety

**QUALIFICATIONS AND CERTIFICATES**

UL 1741, UL 1741-2, UL 1741-3, UL 1741-4, UL 1741-5, UL 1741-6, UL 1741-7, UL 1741-8, UL 1741-9, UL 1741-10, UL 1741-11, UL 1741-12, UL 1741-13, UL 1741-14, UL 1741-15, UL 1741-16, UL 1741-17, UL 1741-18, UL 1741-19, UL 1741-20, UL 1741-21, UL 1741-22, UL 1741-23, UL 1741-24, UL 1741-25, UL 1741-26, UL 1741-27, UL 1741-28, UL 1741-29, UL 1741-30, UL 1741-31, UL 1741-32, UL 1741-33, UL 1741-34, UL 1741-35, UL 1741-36, UL 1741-37, UL 1741-38, UL 1741-39, UL 1741-40, UL 1741-41, UL 1741-42, UL 1741-43, UL 1741-44, UL 1741-45, UL 1741-46, UL 1741-47, UL 1741-48, UL 1741-49, UL 1741-50, UL 1741-51, UL 1741-52, UL 1741-53, UL 1741-54, UL 1741-55, UL 1741-56, UL 1741-57, UL 1741-58, UL 1741-59, UL 1741-60, UL 1741-61, UL 1741-62, UL 1741-63, UL 1741-64, UL 1741-65, UL 1741-66, UL 1741-67, UL 1741-68, UL 1741-69, UL 1741-70, UL 1741-71, UL 1741-72, UL 1741-73, UL 1741-74, UL 1741-75, UL 1741-76, UL 1741-77, UL 1741-78, UL 1741-79, UL 1741-80, UL 1741-81, UL 1741-82, UL 1741-83, UL 1741-84, UL 1741-85, UL 1741-86, UL 1741-87, UL 1741-88, UL 1741-89, UL 1741-90, UL 1741-91, UL 1741-92, UL 1741-93, UL 1741-94, UL 1741-95, UL 1741-96, UL 1741-97, UL 1741-98, UL 1741-99, UL 1741-100

**NOTES**

(1) We warrant DC AC ratio. See our compatibility calculator at <https://a1k.com/compatibility>.  
(2) Maximum continuous DC current is 10 A (3) Maximum voltage range can be extended beyond nominal if installed by the utility. (4) UL may vary by local jurisdiction. (5) See the manual of individual inverters for details on your area.

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OCALA ELECTRIC UTILITY  
OCALA, FLORIDA

FIRST REVISED SHEET NO. 21.0  
CANCELS ORIGINAL SHEET NO. 21.0

**Tier 1 – Standard Interconnection Agreement  
Customer-Owned Renewable Generation System**

This **Agreement** is made and entered into this 29th day of November, 2022, by and between Norman Van Pelt, (hereinafter called "**Customer**"), located at 530 Northeast 37th Place in Ocala, Florida, and the City of Ocala doing business as Ocala Electric Utility (hereinafter called OEU), a body politic. Customer and OEU shall collectively be called the "**Parties**". The physical location/premise where the interconnection is taking place: 530 Northeast 37th Place Ocala FL 34479.

**WITNESSETH**

**Whereas**, a Tier 1 Renewable Generation System (RGS) is an electric generating system that uses one or more of the following fuels or energy sources: hydrogen, biomass, solar energy, geothermal energy, wind energy, ocean energy, waste heat, or hydroelectric power as defined in Section 377.803, Florida Statutes, rated at no more than ten (10) kilowatts (10 kW) alternating current (AC) power output and is primarily intended to offset part or all of the Customer's current electric requirements; and

**Whereas**, OEU operates an electric system serving the City of Ocala; and

**Whereas**, Customer has made a written Application to OEU, a copy being attached hereto, to interconnect its RGS with OEU's electrical supply grid at the location identified above; and

**Whereas**, the City of Ocala and the Florida Municipal Power Agency (hereinafter called "FMPA") have entered into the All-Requirements Power Supply Contract pursuant to which the City of Ocala has agreed to purchase and receive, and FMPA has agreed to sell and supply OEU with all energy and capacity necessary to operate the OEU electric system, which limits OEU's ability to directly purchase excess energy from customer-owned renewable generation; and

**Whereas**, in order to promote the development of small customer-owned renewable generation by permitting OEU to allow its customers to interconnect with OEU's electric system and to allow OEU customers to offset their electric consumption with customer-owned renewable generation, FMPA, in accordance with the terms and conditions of this agreement, has agreed to purchase excess customer-owned generation from OEU customers interconnected to OEU's electric system; and

**Whereas**, the OEU desires to provide interconnection of a RGS under conditions which will insure the safety of OEU customers and employees, reliability and integrity of its distribution system;

**NOW, THEREFORE**, for and in consideration of the mutual covenants and agreements herein set forth, the parties hereto covenant and agree as follows:

(Continued on Sheet No. 21.1)

Issued by: Michael Poucher, P.E.  
Electric Utility Director

Effective: October 1, 2019

1. The Customer shall be required to enter into a Tri-Party Net-Metering Purchase Power Agreement with FMPA and the City of Ocala Electric Utility (OEU).
2. "Gross power rating" (GPR) means the total manufacturer's AC nameplate generating capacity of an on-site customer-owned renewable generation system that will be interconnected to and operate in parallel with OEU's distribution facilities. For inverter-based systems, the GPR shall be calculated by multiplying the total installed DC nameplate generating capacity by 0.85 in order to account for losses during the conversion from DC to AC.
3. This agreement is strictly limited to cover a Tier 1 RGS as defined above. It is the Customer's responsibility to notify OEU of any change to the GPR of the RGS by submitting a new application for interconnection specifying the modifications at least 30 days prior to making the modifications. Increase in GPR above the ten kilowatt (10 kW) limit would necessitate entering into a new agreement at either Tier 2 or Tier 3 which may impose additional requirements on the Customer. In no case does the Tier 1, Tier 2 or Tier 3 agreement cover increases in GPR above two megawatts (2MW).
4. The RGS GPR must not exceed 90 percent (90%) of the Customer's OEU calculated distribution service rating at the Customer's location (including shared electric facilities). If the GPR does exceed the 90 percent (90%) limit, the Customer shall be responsible to pay the cost of upgrades to the distribution facilities required to accommodate the GPR capacity and ensure the 90 percent (90%) threshold is not breached. OEU will not allow a RGS GPR greater than required to offset the customer's annual kWh energy consumption (based on customer's historical consumption data or by means of estimated usage of similar type of service as determined by OEU).
5. The Customer shall not be required to pay any special fees due solely to the installation of the RGS.
6. The Customer shall fully comply with OEU's Design Standards following NEC standards as those documents may be amended or revised by OUS from time to time.
7. The Customer certifies that its installation, its operation and its maintenance shall be in compliance with the following standards (or most current version at time of inspection approval):
  - a. IEEE-1547 (2018) Standard for Interconnecting Distributed Resources with Electric Power System;
  - b. IEEE-1547.1 (2005) Standard Conformance Test Procedures for Equipment Interconnection Distributed Resources with Electric Power Systems;
  - c. UL-1741 (2010) Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed *Energy Resources*.
  - d. The National Electric Code, state and/or local building codes, mechanical codes and/or electrical codes;
  - e. The manufacturer's installation, operation and maintenance instructions.

(Continued to Sheet No. 21.2)

Issued by: Michael Poucher, P.E.  
Electric Utility Director

Effective: October 1, 2019

8. The Customer is not precluded from contracting for the lease, operation or maintenance of the RGS with a third party. Such lease may not provide terms or conditions that provide for any payments under the agreement to any way indicate or reflect the purchase of energy produced by the RGS. Customer shall not enter into any lease agreement that results in the retail purchase of electricity; or the retail sale of electricity from the customer-owned renewable generation. Notwithstanding this restriction, in the event that Customer is determined to have engaged in the retail purchase of electricity from a party other than OEU, then Customer shall be in breach of this Agreement and may be subject to the jurisdiction of the Florida Public Service Commission and to fines/penalties.

9. The Customer shall provide a copy of the manufacturer's installation, operation and maintenance instructions to OEU. If the RGS is leased to the Customer by a third party, or if the operation or maintenance of the RGS is to be performed by a third party, the lease and/or maintenance agreements and any pertinent documents related to these agreements shall be provided to OEU.

10. Prior to commencing parallel operation with OEU's electric system, Customer shall have the RGS inspected and approved by the appropriate code authorities having jurisdiction. Customer shall provide a copy of this inspection and approval to OEU.

11. The Customer agrees to permit OEU, if it should so choose, to inspect the RGS and its component equipment and the documents necessary to ensure compliance with this Agreement both before and after the RGS goes into service and to witness the initial testing of the RGS equipment and protective apparatus. OEU will provide Customer with as much notice as reasonably possible, either in writing, email, facsimile or by phone as to when OEU may conduct inspections and or document review. Upon reasonable notice, or at any time without notice in the event of an emergency or hazardous condition, Customer agrees to provide OEU access to the Customer's premises for any purpose in connection with the performance of the obligations required by this Agreement or, if necessary, to meet OEU's legal obligation to provide service to its customers. At least ten (10) business days prior to initially placing the customer-owned renewable generation system in service, Customer shall provide written notification to OEU advising of the date and time at which Customer intends to place the system in service, and OEU shall have the right to have personnel present on the in-service date in order to ensure compliance with the requirements of this Agreement.

(Continued on Sheet No. 21.3)

Issued by: Michael Poucher, P.E.  
Electric Utility Director

Effective: October 1, 2019

12. The Customer's RGS must have an appropriately sized grid-tie inverter system that includes applicable protective systems. Customer certifies that the RGS equipment includes an OEU interactive inverter or interconnection system equipment that ceases to interconnect with the OEU system upon a loss of OEU's electric power. The inverter shall be considered certified for interconnected operation if it has been submitted by a manufacturer to a nationally recognized testing laboratory (NRTL) to comply with UL 1741. The NRTL shall be approved by the Occupational Safety & Health Administration (OSHA).

13. If Customer adds another RGS that (i) utilizes the same OEU interactive inverter for both systems, or (ii) utilizes a separate OEU interactive inverter for each system, Customer shall provide OEU with sixty (60) days advance written notice of the addition.

14. The Customer shall not energize the OEU system when OEU's system is deenergized. The Customer shall cease to energize the OEU system during a faulted condition on the OEU system and/or upon any notice from OEU that the deenergizing of Customer's RGS equipment is necessary. The Customer shall cease to energize the OEU system prior to automatic or non-automatic reclosing of OEU's protective devices. There shall be no intentional islanding, as described in IEEE 1547, between the Customer's and OEU' systems.

15. The Customer is responsible for the protection of its generation equipment, inverters, protection devices, and other system components from damage from the normal and abnormal operations that occur on OEU system in delivering and restoring system power. Customer agrees that any damage to any of its property, including, without limitation, all components and related accessories of its RGS system, due to the normal or abnormal operation of OEU system, is at Customer's sole risk and expense. Customer is also responsible for ensuring that the customer-owned renewable generation equipment is inspected, maintained, and tested regularly in accordance with the manufacturer's instructions to ensure that it is operating correctly and safely.

16. The Customer must install, at their expense, a manual disconnect switch of the visible load break type to provide a separation point between the AC power output of the customer-owned renewable generation system and any Customer wiring connected to OEU's system, such that back feed from the customer-owned renewable generation system to OEU's system cannot occur when the switch is in the open position. The manual disconnect switch shall be mounted separate from the meter socket on an exterior surface adjacent to the meter. The switch shall be readily accessible to OEU and capable of being locked in the open position with an OEU padlock. When locked and tagged in the open position by OEU, this switch will be under the control of OEU.

(Continued on Sheet No. 21.4)

Issued by: Michael Poucher, P.E.  
Electric Utility Director

Effective: October 1, 2019

17. Subject to an approved inspection, including installation of acceptable disconnect switch, this Agreement shall be executed by OEU within thirty (30) calendar days of receipt of a completed application. Customer must execute this Agreement and return it to OEU at least thirty (30) calendar days prior to beginning parallel operations with OEU's electric system, subject to the requirements of Section 18, below, and within one (1) year after OEU executes this Agreement.

18. Once OEU has received Customer's written documentation that the requirements of this Agreement have been met, all agreements and documentation have been received and the correct operation of the manual switch has been demonstrated to an OEU representative, OEU will, within fifteen (15) business days, send written notice that parallel operation of the RGS may commence.

19. OEU requires the Customer to maintain general liability insurance for personal injury and property damage in the amount of not less than one hundred thousand dollars (\$100,000.00).

20. OEU will furnish, install, own and maintain metering equipment capable of measuring the flow of kilowatt-hours (kWh) of energy. The Customer's service associated with the RGS will be metered to measure the energy delivered by OEU to Customer, and measure the energy delivered by Customer to OEU. Customer agrees to provide safe and reasonable access to the premises for installation, maintenance and reading of the metering and related equipment. The Customer shall not be responsible for the cost of the installation and maintenance of the metering equipment necessary to measure the energy delivered by the Customer to OEU.

21. The Customer shall be solely responsible for all legal and financial obligations arising from the design, construction, installation, operation, maintenance and ownership of the RGS.

22. The Customer must obtain all permits, inspections and approvals required by applicable jurisdictions with respect to the generating system and must use a licensed, bonded and insured contractor to design and install the generating system. The Customer agrees to provide OEU with a copy of the local building code official inspection and certification of installation. The certification shall reflect that the local code official has inspected and certified that the installation was permitted, has been approved, and has met all electrical and mechanical qualifications.

(Continued on Sheet No. 21.5)

Issued by: Michael Poucher, P.E.  
Electric Utility Director

Effective: October 1, 2019

23. In no event shall any statement, representation, or lack thereof, either express or implied, by OEU, relieve the Customer of exclusive responsibility for the Customer's system. Specifically, any OEU inspection of the RGS shall not be construed as confirming or endorsing the system design or its operating or maintenance procedures or as a warranty or guarantee as to the safety, reliability, or durability of the RGS. OEU's inspection, acceptance, or its failure to inspect shall not be deemed an endorsement of any RGS equipment or procedure. Further, as set forth in Sections 15 and 26 of this Agreement, Customer shall remain solely responsible for any and all losses, claims, damages and/or expenses related in any way to the operation or misoperation of its RGS equipment.

24. Notwithstanding any other provision of this Interconnection Agreement, OEU, at its sole and absolute discretion, may isolate the Customer's system from the distribution grid by whatever means necessary, without prior notice to the Customer. To the extent practical, however, prior notice shall be given. The system will be reconnected as soon as practical once the conditions causing the disconnection cease to exist. OEU shall have no obligation to compensate the Customer for any loss of energy during any and all periods when Customer's RGS is operating at reduced capacity or is disconnected from OEU's electrical distribution system pursuant to this Interconnection Agreement. Typical conditions which may require the disconnection of the Customer's system include, but are not limited to, the following:

- a. OEU system emergencies, forced outages, uncontrollable forces or compliance with prudent electric OEU practice.
- b. When necessary to investigate, inspect, construct, install, maintain, repair, replace or remove any OEU equipment, any part of OEU's electrical distribution system or Customer's generating system.
- c. Hazardous conditions existing on OEU's system due to the operation of the Customer's generation or protective equipment as determined by OEU.
- d. Adverse electrical affects (such as power quality problems) on the electrical equipment of OEU's other electric consumers caused by the Customer's generation as determined by OEU.
- e. When Customer is in breach of any of its obligations under this Interconnection Agreement or any other applicable policies and procedures of OEU.
- f. When the Customer fails to make any payments due to OEU by the due date thereof.

25. Upon termination of services pursuant to this Agreement, OEU shall open and padlock the manual disconnect switch and remove any additional metering equipment related to this Agreement. At the Customer's expense, within thirty (30) working days following the termination, the Customer shall permanently isolate the RGS and any associated equipment from OEU's electric supply system, notify OEU that the isolation is complete, and coordinate with OEU for return of OEU's lock.

(Continued to Sheet No. 21.6)

Issued by: Michael Poucher, P.E.  
Electric Utility Director

Effective: October 1, 2019

26. To the fullest extent permitted by law, and in return for adequate, separate consideration, Customer shall indemnify, defend and hold harmless OEU, any and all of their members of its governing bodies, and its officers, agents, and employees for, from and against any and all claims, demands, suits, costs of defense, attorneys fees, witness fees of any type, losses, damages, expenses, and liabilities, whether direct, indirect or consequential, related to, arising from, or in any way connected with:

- a. Customer's design, construction, installation, inspection, maintenance, testing or operation of Customer's generating system or equipment used in connection with this Interconnection Agreement, irrespective of any fault on the part of OEU.
- b. The interconnection of Customer's generating system with, and delivery of energy from the generating system to, OEU's electrical distribution system, irrespective of any fault on the part of OEU.
- c. The performance or nonperformance of Customer's obligations under this Interconnection Agreement or the obligations of any and all of the members of Customer's governing bodies and its officers, agents, contractors (and any subcontractor or material supplier thereof) and employees.

Customer's obligations under this Section shall survive the termination of this Interconnection Agreement.

27. Customer shall not have the right to assign its benefits or obligations under this Agreement without OEU's prior written consent and such consent shall not be unreasonably withheld. If there is a change in ownership of the RGS, Customer shall provide written notice to OEU at least thirty (30) days prior to the change in ownership. The new owner will be required to assume, in writing, the Customer's rights and duties under this Agreement, or execute a new Standard Interconnection Agreement. The new owner shall not be permitted to net meter or begin parallel operations until the new owner assumes this Agreement or executes a new Agreement.

28. This Agreement supersedes all previous agreements and representations either written or verbal heretofore made between OEU and Customer with respect to matters herein contained. This Agreement, when duly executed, constitutes the only Agreement between parties hereto relative to the matters herein described. This Agreement shall continue in effect from year to year until either party gives sixty (60) days' notice of its intent to terminate this Agreement.

(Continued on Sheet No. 21.7)

Issued by: Michael Poucher, P.E.  
Electric Utility Director

Effective: October 1, 2019

29. This Agreement shall be governed by and construed and enforced in accordance with the laws, rules and regulations of the State of Florida and OEU's tariff as it may be modified, changed, or amended from time to time, including any amendments modification or changes to OEU's Net-Metering Service Rate Schedule, the schedule applicable to this Agreement. The Customer and OEU agree that any action, suit, or proceeding arising out of or relating to this Interconnection Agreement shall be initiated and prosecuted in the state court of competent jurisdiction located in Marion County, Florida, and OEU and the Customer irrevocably submit to the jurisdiction and venue of such court. To the fullest extent permitted by law, each Party hereby irrevocably waives any and all rights to a trial by jury and covenants and agrees that it will not request a trial by jury with respect to any legal proceeding arising out of or relating to this Interconnection Agreement.

None of the provisions of this Interconnection Agreement shall be considered waived by either Party except when such waiver is given in writing. No waiver by either Party of any one or more defaults in the performance of the provisions of this Interconnection Agreement shall operate or be construed as a waiver of any other existing or future default or defaults. If any one or more of the provisions of this Interconnection Agreement or the applicability of any provision to a specific situation is held invalid or unenforceable, the provision shall be modified to the minimum extent necessary to make it or its application valid and enforceable, and the validity and enforceability of all other provisions of this Interconnection Agreement and all other applications of such provisions shall not be affected by any such invalidity or unenforceability. This Interconnection Agreement does not govern the terms and conditions for the delivery of power and energy to non-generating retail customers of OEU's electrical distribution system.

30. This Agreement incorporates by reference the terms of the tariff filed with the Florida Public Service Commission by OEU, including OEU's Net-Metering Service Rate Schedule, and associated technical terms and abbreviations, general rules and regulations and standard electric service requirements (as may be applicable) are incorporated by reference, as amended from time to time. To the extent of any conflict between this Agreement and such tariff, the tariff shall control.

31. OEU and Customer recognize that the Florida Statutes and/or the Florida Public Service Commission Rules, including those directly addressing the subject of this Agreement, may be amended from time to time. In the event that such statutes and/or rules are amended that affect the terms and conditions of this Agreement, OEU and Customer agree to supersede and replace this Agreement with a new Interconnection Agreement, which complies with the amended statutes/rules.

(Continued on Sheet No. 21.8)

Issued by: Michael Poucher, P.E.  
Electric Utility Director

Effective: October 1, 2019

OCALA ELECTRIC UTILITY  
OCALA, FLORIDA  
(Continued from Sheet No. 21.7)

FIRST REVISED SHEET NO. 21.8  
CANCELS ORIGINAL SHEET NO. 21.8

32. Customer acknowledges that its provision of electricity to OEU hereunder is on a first-offered, first-accepted basis and subject to diminution and/or rejection in the event the total amount of electricity delivered to OEU pursuant to the OEU's Net-Metering Service Rate Schedule, (as filed with the Florida Public Service Commission), from all participating OEU customers, exceeds two and one-half percent (2.5%) of the aggregate customer peak demand on the OEU system.

33. This Agreement is solely for the benefit of OEU and Customer and no right nor any cause of action shall accrue upon or by reason, to or for the benefit of any third party not a formal party to this Agreement. Nothing in this Agreement, expressed or implied, is intended or shall be construed to confer upon any person or corporation other than OEU or Customer, any right, remedy, or claim under or by reason of this Agreement or any of the provisions or conditions of this Agreement; and, all provisions, representations, covenants, and conditions contained in this Agreement shall inure to the sole benefit of and be binding upon OEU and Customer and their respective representatives, successors, and assigns. Further, no term or condition contained in this Agreement shall be construed in any way as a waiver by OEU of the sovereign immunity applicable to OEU as established by Florida Statutes, 768.28.

(Continued on Sheet No. 21.9)

Issued by: Michael Poucher, P.E.  
Electric Utility Director

Effective: October 1, 2019

OCALA ELECTRIC UTILITY  
OCALA, FLORIDA  
(Continued from Sheet No. 21.8)

FIRST REVISED SHEET NO. 21.9  
CANCELS ORIGINAL SHEET NO. 21.9

IN WITNESS WHEREOF, Customer and OEU have executed this Agreement the day and year first above written.

City of Ocala Electric Utility:

By: Ken Whitehead

Title: Asst. City Manager

Date: 02 / 05 / 2023

Customer:

By: Norman Van Pelt  
(Print Name)

Norman Van Pelt  
(Signature)

Date: 12-13-22

City of Ocala Electric Utility Account Number:

541469-149653

Approved as to form and legality:

William E. Sexton

William E. Sexton  
City Attorney

Issued by: Michael Poucher, P.E.  
Electric Utility Director

Effective: October 1, 2019

### **Tri-Party Net-Metering Power Purchase Agreement**

This Tri-Party Net-Metering Power Purchase Agreement (this "Agreement") is entered into this 29th day of November, 20    , by and between the Florida Municipal Power Agency, a governmental joint action agency created and existing under the laws of the State of Florida (hereinafter "FMPA"), the City of Ocala doing business as Ocala Electric Utility, a body politic (hereinafter "OEU"), and Norman Van Pelt, a retail electric customer of OEU (hereinafter "Customer").

#### **Section 1. Recitals**

1.01. OEU and Customer have executed OEU's Standard Interconnection Agreement for a Customer-Owned Renewable Generation System (RGS) pursuant to which OEU has agreed to permit interconnection of Customer's renewable generation to OEU's electric system at Customer's presently-metered location, and Customer has agreed to deliver excess electric energy generated by Customer's Renewable Generation System to OEU's electric distribution system;

1.02. The City of Ocala and FMPA have entered into the All-Requirements Power Supply Contract, dated as of May 1, 1986, (hereinafter the "ARP Contract") pursuant to which the City of Ocala has agreed to purchase and receive, and FMPA has agreed to sell and supply OEU with all energy and capacity necessary to operate the OEU electric system, which limits OEU's ability to directly purchase excess energy from customer-owned renewable generation.

1.03. In order to promote the development of small customer-owned renewable generation by permitting OEU to allow its customers to interconnect with OEU's electric system and to allow OEU's electric customers to offset their electric consumption with customer-owned renewable generation, FMPA, in accordance with the terms and conditions of this agreement, has agreed to purchase excess customer-owned generation from OEU's electric customers interconnected to OEU's electric system.

NOW THEREFORE, for and in consideration of the mutual covenants and agreements set forth herein, the Parties covenant and agree as follows:

#### **Section 2. Interconnection**

2.01. Customer shall not begin parallel operations with the OEU electric distribution system until Customer has executed OEU's electric Standard Interconnection Agreement for Small Customer-Owned Renewable Generation and is in compliance with all terms and conditions

OEU requires that the customer install and operate the RGS in accordance with all applicable safety codes and standards. OEU shall establish and enforce terms and conditions of operation and disconnection of all interconnected customer-owned renewable generation as it relates to the effect of the RGS on OEU's electric distribution system.

(Continued on Sheet No. 20.1)

Issued by: Michael Poucher, P.E.  
Electric Utility Director

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### **Section 3. Metering**

3.01 In accordance with the OEU's Standard Interconnection Agreement for Customer-Owned Renewable Generation, OEU shall install metering equipment at the point of delivery capable of recording two separate kWh meter readings: (1) the flow of electricity from OEU to the Customer (Delivered), and (2) the flow of excess electricity from the Customer to OEU. OEU shall take meter readings on the same cycle as the otherwise applicable rate schedule.

### **Section 4. Purchase of Excess Customer-Owned Renewable Generation**

4.01. Customer-owned renewable generation shall be first used for Customer's own load and shall offset Customer's demand for OEU's electricity. All electric power and energy delivered by OEU to Customer shall be received and paid for by Customer to OEU (Received) pursuant to the terms, conditions and rates of the OEU otherwise applicable rate schedule.

4.02. Excess customer-owned renewable generation shall be delivered to the OEU Electric distribution system. For purposes of this Agreement, the term "excess customer-owned renewable generation" means any kWh of electrical energy produced by the customer-owned renewable generation system that is not consumed by Customer and is delivered to the OEU electric distribution system. FMPA agrees to purchase and receive, and Customer agrees to sell and deliver, all excess customer-owned renewable generation at the energy rate established by FMPA, which shall be calculated in accordance with Schedule A. Excess customer-owned renewable generation shall be purchased in the form of a credit on Customer's monthly energy consumption bill from OEU.

4.03. In the event that a given monthly credit for excess customer-owned renewable generation exceeds the total billed amount for Customer's consumption in any corresponding month, then the excess credit shall be applied to the subsequent month's bill. Excess energy credits produced pursuant to the preceding sentence shall accumulate and be used to offset Customer's energy consumption bill for a period of not more than twelve (12) months. At the end of each calendar year, any unused excess energy credits shall be paid by OEU to the Customer in accordance with the OEU Electric Net-Metering Service Rate Schedule.

(Continued on Sheet No. 20.2)

Issued by: Michael Poucher, P.E.  
Electric Utility Director

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4.04. FMPA and OEU shall not be required to purchase or receive excess customer-owned renewable generation, and may require Customer to interrupt or reduce production of customer-owned renewable generation, (a) when necessary in order to construct, install, maintain, repair, replace, remove, investigate, or inspect any OEU equipment or part of OEU's system; or (b) if either FMPA or OEU determine, in their sole judgment, that curtailment, interruption, or reduction is necessary because of emergencies, forced outages, force majeure, or compliance with any applicable electric code or standard.

4.05. Customer acknowledges that its provision of electricity to OEU hereunder is on a first-offered, first-accepted basis and subject to diminution and/or rejection in the event the total amount of electricity delivered to OEU pursuant to the Net-Metering Service Rate Schedule (as filed with the Florida Public Service Commission), from all participating OEU customers, exceeds two and one-half percent (2.5%) of the aggregate customer peak demand on the OEU electric system.

#### **Section 5. Renewable Energy Credits**

5.01. Customer shall offer FMPA a first right of refusal before selling or granting to any third party the right to the Green Attributes associated with its customer-owned renewable generation that is interconnected to OEU electric distribution system. The term "Green Attributes" shall include any and all credits, certificates, benefits, environmental attributes, emissions reductions, offsets, and allowances, however entitled, attributable to the generation of electricity from the customer-owned-renewable generation and its displacement of conventional energy generation.

5.02. Any additional meter(s) installed to measure total renewable electricity generated by the Customer for the purposes of measuring Green Attributes, including and renewable energy certificates (or similarly titled credits for renewable energy generated), shall be installed at the expense of the Customer, unless determined otherwise during negotiations for the sale of the Customer's credits to FMPA.

#### **Section 6. Term and Termination**

6.01. This Agreement shall become effective upon execution by all Parties, and shall remain in effect thereafter on a month-to-month basis until terminated by any Party upon thirty (30) days written notice to all other Parties.

6.02. This Agreement shall terminate immediately and without notice upon: (a) termination of the electric distribution service by OEU or (b) failure by Customer to comply with any of the terms and conditions of this Agreement or OEU's Standard Interconnection Agreement for Customer-Owned Renewable Generation.

(Continued on Sheet No. 20.3)

Issued by: Michael Poucher, P.E.  
Electric Utility Director

Effective: October 1, 2019

**Section 7. Miscellaneous Provisions**

7.01. Assignment. It is understood and agreed that no party may transfer, sell, mortgage, pledge, hypothecate, convey, designate, or otherwise assign this Agreement, or any interest herein or any rights or obligations hereunder, in whole or in part, either voluntarily or by operation of law, (including, without limitation, by merger, consolidation, or otherwise), without the express written consent of the other parties (and any such attempt shall be void), which consent shall not be unreasonably withheld. Subject to the foregoing, this Agreement shall inure to the benefit of and be binding upon the parties and their respective successors and permitted assigns.

7.02. Amendment. It is understood and agreed that FMPA and OEU reserve the right, on no less than an annual basis, to change any of the terms and conditions, including pricing, in this Agreement on sixty (60) days advance written notice. FMPA and OEU may make such changes on an immediate basis in the event any applicable law, rule, regulation or court order requires them. In such event, FMPA and OEU will give Customer as much notice as reasonably possible under the circumstances.

7.03. Indemnification. To the fullest extent permitted by laws and regulations, and in return for adequate, separate consideration, Customer shall defend, indemnify, and hold harmless FMPA and OEU, their officers, directors, agents, guests, invitees, and employees from and against all claims, damages, losses to persons or property, whether direct, indirect, or consequential (including but not limited to fees and charges of attorneys, and other professionals and court and arbitration costs) arising out of, resulting from, occasioned by, or otherwise caused by the operation or misoperation of the customer-owned renewable generation, or the acts or omissions of any other person or organization directly or indirectly employed by the Customer to install, furnish, repair, replace or maintain the customer-owned renewable generation system, or anyone for whose acts any of them may be liable.

7.04. Governing Law. The validity and interpretation of this Agreement and the rights and obligations of the parties shall be governed and construed in accordance with the laws of the State of Florida without regard for any conflicts of law provisions that might cause the law of other jurisdictions to apply. All controversies, claims, or disputes arising out of or related to this Agreement or any agreement, instrument, or document contemplated hereby, shall be brought exclusively in the County or Circuit Court for Marion County, Florida, or the United States District Court sitting in Marion County, Florida, as appropriate.

(Continued on Sheet No. 20.4)

Issued by: Michael Poucher, P.E.  
Electric Utility Director

Effective: October 1, 2019

7.05. Enforcement of Agreement. In the event that either party is required to enforce this Agreement by court proceedings or otherwise, the prevailing party shall be entitled to recover all fees and costs incurred, including reasonable attorney's fees and costs for trial, alternative dispute resolution, and/or appellate proceedings.

7.06. Severability. To the extent any provision of this Agreement is prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or the remaining provisions of this Agreement.

7.07. Third Party Beneficiaries and Sovereign Immunity. This Agreement is solely for the benefit of FMPA, OEU, and Customer and no right nor shall any cause of action accrue upon or by reason, to or for the benefit of any third party not a formal party to this Agreement. Nothing in this Agreement, expressed or implied, is intended or shall be construed to confer upon any person or corporation other than FMPA, OEU, or Customer, any right, remedy, or claim under or by reason of this Agreement or any of the provisions or conditions of this Agreement; and, all provisions, representations, covenants, and conditions contained in this Agreement shall inure to the sole benefit of and be binding upon FMPA, OEU, and Customer and their respective representatives, successors, and assigns. Further, no term or condition contained in this Agreement shall be construed in any way as a waiver by either FMPA or OEU of the sovereign immunity applicable to either or both of them as established by Florida Statutes, 768.28.

(Continued on Sheet No. 20.5)

Issued by: Michael Poucher, P.E.  
Electric Utility Director

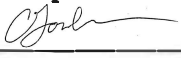
Effective: October 1, 2019


OCALA ELECTRIC UTILITY  
OCALA, FLORIDA  
(Continued from Sheet No. 20.4)

FIRST REVISED SHEET NO. 20.5  
CANCELS ORIGINAL SHEET NO. 20.5

IN WITNESS WHEREOF, Customer and OEU have executed this Agreement the day and year first above written.

**City of Ocala Electric Utility**  
By: Ken Whitehead  
Title: Asst. City Manager  
Date: 02 / 05 / 2023

**Florida Municipal Power Agency**  
By:   
Title: Bus Dev & Sys Ops Director  
Date: 02 / 05 / 2023

**Customer**  
By: Norman Van Pelt Date: 12-13-22  
(Print Name)  
  
(Signature)

Customer's City of Ocala Electric Utility Account Number: 541469-149653

Approved as to form and legality:

William E. Sexton  
William E. Sexton  
City Attorney

(Continued on Sheet No. 20.6)

Issued by: Michael Poucher, P.E.  
Electric Utility Director

Effective: October 1, 2019

**Tri-Party Net-Metering Power Purchase Agreement  
Schedule A**

**I. All-Requirements Project Calculation of Excess Customer-Owned Renewable Generation Credit**

- a) FMPA shall pay OEU for the excess kWh energy delivered by customer-owned renewable generation to OEU's electric system. Every month, OEU shall determine the total kWh of customer-owned renewable generation that is delivered to OEU's electric system, and shall send the information to FMPA as soon as it becomes available, but no later than the second working day of every month. FMPA will then provide a monthly payment to OEU in the form of a credit on the ARP power bill for the excess energy delivered to the distribution grid. The ARP Renewable Generation Credit will be calculated as follows:

**ARP Renewable Generation Credit = Quarterly Energy Rate \* Monthly kWh of excess customer-owned renewable generation**

**Quarterly Energy Rate = 3 month average of ARP energy rate. FMPA will update the Quarterly Energy Rate every April 1, July 1, October 1 and January 1.**

- b) As part of the monthly bill adjustment, FMPA will also increase OEU's kWh billing amount by the same kWh amount as the customer-owned renewable generation purchased by FMPA. This adjustment is necessary because excess customer generation that flows onto OEU's electric system has been purchased by FMPA, but will remain on OEU's electric system and be used by OEU to meet its other customers' electric needs. As a result, OEU's monthly ARP bill will be adjusted accordingly to reflect FMPA's subsequent sale of this energy to OEU.

**II. Payment for Unused Excess Energy Credits**

- a) Monthly excess energy credits shall accumulate and be used to offset the Customer's following month energy consumption bill for a period of not more than twelve (12) months.
- b) At the end of each calendar year, OEU shall pay the Customer for any unused excess energy credits in accordance with the OEU Electric Net-Metering Service Rate Schedule.

<b>Title</b>	FOR SIGNATURES - Application for Interconnection of.....
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<b>Status</b>	● Signed

## Document History

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(chris.gowder@fmpa.com)  
IP: 38.77.131.2



**02 / 05 / 2023**  
19:05:11 UTC-5

The document has been completed.