

NEW PHOTOVOLTAIC PITCHED ROOF MOUNTED SYSTEM - 12.320 KW DC/10.640 KW AC
& ENERGY STORAGE SYSTEM - 18 KWH
2229 NEILLS CREEK RD, LILLINGTON, NC 27456

NEW PV SYSTEM SPECIFICATIONS
SYSTEM SIZE: DC SIZE: 12.320 KW DC-(STC)
AC SIZE: 10.640 KW AC
MODULE: (28) HYUNDAI HIN-T440NF (BK)
INVERTER: (28) ENPHASE I88HC-72-M-JS
BATTERY: (1) GENERAC PWRCELL 2 APKE00075
(6) GENERAC PWRCELL G0080040

APPLICABLE CODES
ALL WORK SHALL CONFORM TO THE FOLLOWING CODES:
2018 NORTH CAROLINA BUILDING CODE
2018 NORTH CAROLINA RESIDENTIAL CODE
2018 NORTH CAROLINA FIRE CODE
2020 NORTH CAROLINA ELECTRICAL CODE
AS ADOPTED BY HARNETT COUNTY

DESIGN CRITERIA
ROOF SURFACE TYPE: COMPOSITE SHINGLE
ROOF FRAMING: 2"x8" RAFTERS @ 16" OC
BUILDING STORY: ONE STORY
GROUND SNOW LOAD: 10 PSF
WIND SPEED: 117 MPH
WIND EXPOSURE: C
RISK CATEGORY: II

PROJECT NOTES
1.1.1 THIS PHOTOVOLTAIC (PV) & ENERGY STORAGE SYSTEM SHALL COMPLY WITH THE RELEVANT YEAR OF THE NATIONAL ELECTRICAL CODE (NEC), ALL MANUFACTURER'S LISTING AND INSTALLATION INSTRUCTIONS, AND THE RELEVANT CODES AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION'S (AHJ) APPLICABLE CODES.
1.1.2 THE UTILITY INTERCONNECTION APPLICATION MUST BE APPROVED AND THE PV & ENERGY STORAGE SYSTEM MUST BE INSPECTED PRIOR TO OPERATION
1.1.3 ALL PV & ENERGY STORAGE SYSTEM COMPONENTS, MODULES, UTILITY-INTERACTIVE INVERTERS, BATTERIES, AND SOURCE CIRCUIT COMBINER BOXES ARE IDENTIFIED AND LISTED FOR USE IN PHOTOVOLTAIC SYSTEMS AS REQUIRED BY NEC AND OTHER GOVERNING CODES
1.1.4 ALL SIGNAGE TO BE PLACED IN ACCORDANCE WITH LOCAL BUILDING CODE. IF EXPOSED TO SUNLIGHT, IT SHALL BE UV RESISTANT. ALL PLAQUES AND SIGNAGE WILL BE INSTALLED AS REQUIRED BY THE NEC AND AHJ.

SCOPE OF WORK
1.2.1 CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND SPECIFICATIONS OF THE GRID-TIED PHOTOVOLTAIC & ENERGY STORAGE SYSTEM. THE CONTRACTOR WILL BE RESPONSIBLE FOR COLLECTION OF EXISTING ONSITE CONDITIONS TO DESIGN, SPECIFY, AND INSTALL THE PITCHED ROOF-MOUNTED PV SYSTEM AND ENERGY STORAGE SYSTEM DETAILED IN THIS DOCUMENT

1 PROPERTY PLAN
PV-01
SCALE: 1" = 140'-0"

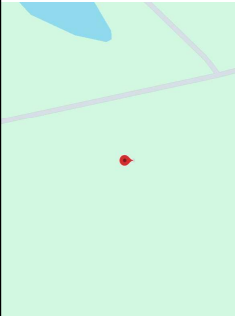
SHEET INDEX

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PV-07	INSTALLATION RESOURCE
EQUIPMENT DATASHEETS ATTACHED	

LEGEND

—•—	PROPERTY LINE
—○—	FENCE LINE

VICINITY MAP



SATELLITE MAP



CONTRACTOR

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PHONE - (804) 271-2800
LIC. NO. - 2705036452

PROJECT NAME & ADDRESS
ERIC MEAUX
2229 NEILLS CREEK RD,
LILLINGTON, NC 27456

APN #: 110661 0017 01
AHJ: HARNETT COUNTY
UTILITY: DUKE ENERGY
PROGRESS

SYSTEM DETAILS
(28) HYUNDAI HIN-T440NF (BK)
(28) ENPHASE I88HC-72-M-JS
(1) GENERAC PWRCELL 2 APKE00075
(6) GENERAC PWRCELL G0080040

REVISIONS

REV	DESCRIPTION	DATE

SHEET TITLE

COVER PAGE

DRAWN DATE 10/14/2025

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SHEET NUMBER

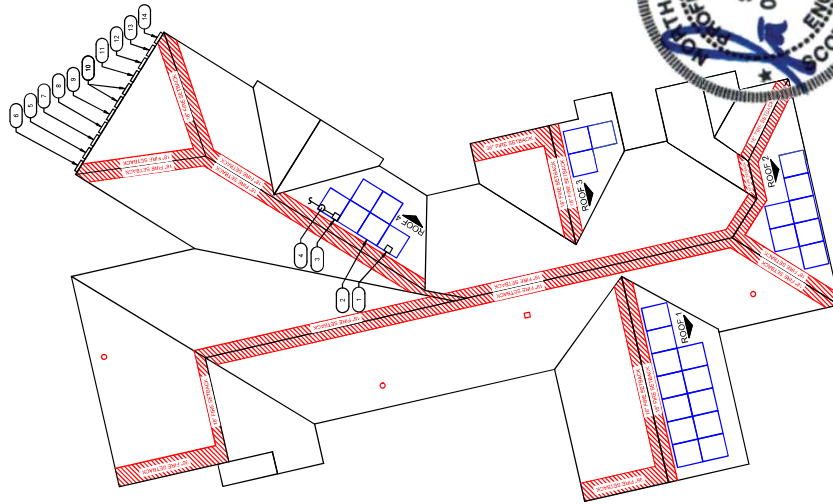
PV-01

NOTES:

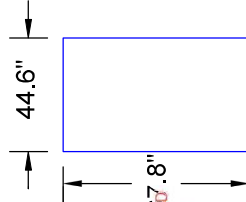
1. ROOF ACCESS POINT SHALL NOT BE LOCATED IN AREAS THAT REQUIRE THE ERECTION OF LADDERS OR SCAFFOLDING OVER OPENINGS SUCH AS WINDOWS OR DOORS, AND LOCATED AT STRONG POINTS OF BUILDING CONSTRUCTION IN LOCATIONS WHERE THE ACCESS POINT DOES NOT CONFLICT WITH OVERHEAD OBSTRUCTIONS SUCH AS TREE LIMBS, WIRES OR SIGNS.

2. STRUCTURES, PATIO COVERS, AND/OR ADDITIONS BUILT WITHOUT PERMITS TO BE RESOLVED BY A SEPARATE PERMIT.

PLAN VIEW TOTAL ROOF AREA: 8441.42 FT²
TOTAL PV ARRAY AREA: 567.98 FT²
TOTAL % OF ROOF COVERED BY PV: 6.97%



FRONT OF HOUSE



Wyssling Consulting, PLLC
716 N Meadowbrook Drive Alpine UT 84004
North Carolina CDA # P-2388

Signed 10/15/2025

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SITE PLAN
SCALE: 1" = 20'-0"

1
PV-02

LEGEND



- 1 MICROINVERTER (1 PER MODULE)
- 2 PV MODULES
- 3 JUNCTION BOX, SIZE DETERMINED IN FIELD
- 4 CONDUIT RUN, SURFACE MOUNTED (ACTUAL CONDUIT RUNS TO BE DETERMINED IN FIELD)
- 5 UTILITY METER (UNDERGROUND SERVICE) METER # 340976886
- 6 MAIN SERVICE PANEL - A
- 7 MAIN SERVICE PANEL - B
- 8 GENERAC SMART DISCONNECT SWITCH
- 9 E-STOP DEVICE
- 10 (2) AC DISCONNECTS
- 11 GENERAC PWRCELL 2 APKE00075 INVERTER
- 12 (6) GENERAC PWRCELL G0080040 BATTERIES
- 13 PV PRODUCTION METER
- 14 ENPHASE IQ COMBINER BOX

ROOF 1	SLOPE - 45° AZIMUTH - 187° MODULE QTY - 12 RAFTERS - 2'x8" @ 16" O.C. COMPOSITE SHINGLE
ROOF 2	SLOPE - 45° AZIMUTH - 167° MODULE QTY - 7 RAFTERS - 2'x8" @ 16" O.C. COMPOSITE SHINGLE
ROOF 3	SLOPE - 45° AZIMUTH - 167° MODULE QTY - 3 RAFTERS - 2'x8" @ 16" O.C. COMPOSITE SHINGLE
ROOF 4	SLOPE - 45° AZIMUTH - 121° MODULE QTY - 6 RAFTERS - 2'x8" @ 16" O.C. COMPOSITE SHINGLE

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APN #: 110661 0017 01
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UTILITY: DUKE ENERGY
PROGRESS

SYSTEM DETAILS
12,320 KW (DC+13TC) / 10,640 KW AC
(28) HYUNDAI HIN-1440NFBK
(28) INVERTER
(1) GENERAC PWRCELL 2 APKE00075
(6) GENERAC PWRCELL G0080040

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PV-02

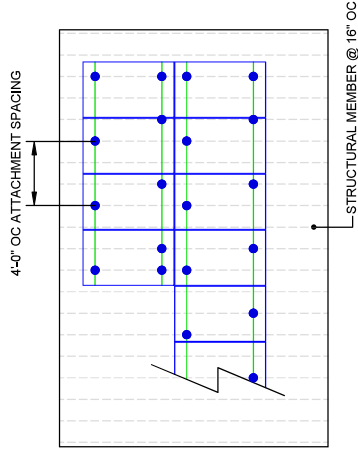
DISTRIBUTED LOAD CALCULATIONS

MODULE	HYUNDAI HIN-1440N(BK)
MODULE WEIGHT	50.01 LBS
MODULE DIMENSIONS (L" x W")	67.6" x 44.6"
TOTAL QTY. OF MODULES	28
TOTAL WEIGHT OF MODULES	1400.3 LBS
TYPE OF RACKING	UNIRAC 185RLD1
TYPE OF ATTACHMENT	UNIRAC SH-BUTYL M2
DISTRIBUTED WEIGHT OF RACKING	0.5 PSF
TOTAL WEIGHT OF ARRAY	1694.3 LBS
AREA OF MODULE	21.0 SQFT.
TOTAL ARRAY AREA	588.0 SQFT.
DISTRIBUTED LOAD	2.9 PSF

NOTE:

1. CONTRACTOR/INSTALLER TO VERIFY COMPATIBILITY OF ANY BRANDS OR PRODUCTS SUBSTITUTED OR USED AS ALTERNATES WITHIN ANY BRAND-SPECIFIC SYSTEMS. CONTRACTOR SHALL SUPPLY AND PRESENT CERTIFICATES OF COMPATIBILITY TO THE BUILDING OFFICIAL UPON INSPECTION AS NEEDED.

2. REFER TO PV MODULE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR RAIL SPACING SPECIFICATIONS



1.0 TYPICAL ATTACHMENT PLAN (PORTRAIT)

PV-03

SCALE: NTS



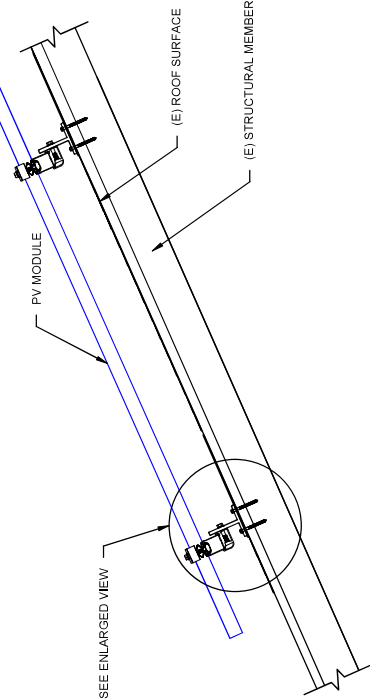
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SYSTEM DETAILS

- (28) HYUNDAI HIN-1440N(BK)
- (28) UNIRAC 185RLD1
- (1) GENERAC PWRCELL 2 APKE00075
- (6) GENERAC PWRCELL G0080040

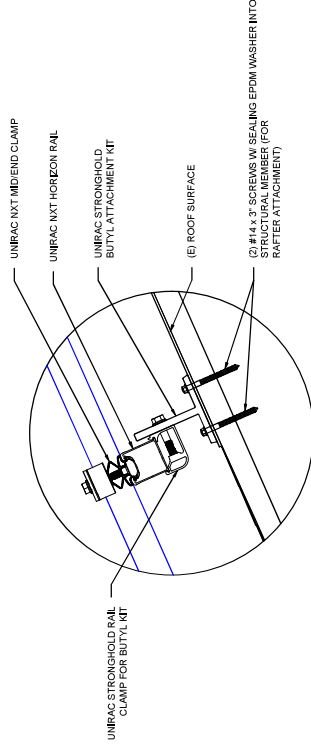


NOTE: 6" MAXIMUM DISTANCE FROM ROOF SURFACE TO TOP OF PV MODULES

2 ATTACHMENT DETAIL

PV-03

Scale: NTS



3 ENLARGED VIEW

PV-03

Scale: NTS

LEGEND

- ATTACHMENT POINTS
- RAIL
- STRUCTURAL MEMBER

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APN #: 110661 0017 01
AHJ: HARNETT COUNTY
UTILITY: DUKE ENERGY
PROGRESS

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SHEET TITLE
ATTACHMENT PLAN
& DETAILS

DRAWN DATE 10/14/2025

DRAWN BY DGD

SHEET NUMBER

PV-03

GENERAL NOTES

SITE NOTES

2.1.1 A LADDER WILL BE IN PLACE FOR INSPECTION IN ACCORDANCE WITH OSHA REGULATIONS.
2.1.2 THE PV MODULES ARE CONSIDERED NON-COMBUSTIBLE AND THIS SYSTEM IS A UTILITY INTERACTIVE SYSTEM WITH STORAGE BATTERIES.
2.1.3 THE SOLAR PV INSTALLATION WILL NOT OBSTRUCT ANY PLUMBING, MECHANICAL, OR BUILDING ROOF VENTS.
2.1.4 PROPER ACCESS AND WORKING CLEARANCE AROUND EXISTING AND PROPOSED ELECTRICAL EQUIPMENT WILL BE PROVIDED IN ACCORDANCE WITH SECTION NEC 110.
2.1.5 ROOF COVERINGS SHALL BE DESIGNED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THIS CODE AND THE APPROVED MANUFACTURER'S INSTRUCTIONS SUCH THAT THE ROOF COVERING SERVES TO PROTECT THE BUILDING OR STRUCTURE.

EQUIPMENT LOCATIONS

2.2.1 ALL EQUIPMENT SHALL MEET MINIMUM WORKING CLEARANCES IN ACCORDANCE WITH NEC 110.
2.2.2 WIRING SYSTEMS INSTALLED IN DIRECT SUNLIGHT MUST BE RATED FOR EXPECTED OPERATING TEMPERATURE AS SPECIFIED BY 2020 NORTH CAROLINA ELECTRICAL CODE.
2.2.3 JUNCTION AND PULL BOXES PERMITTED INSTALLED UNDER PV MODULES IN ACCORDANCE WITH NEC 690.
2.2.4 ALL EQUIPMENT SHALL BE INSTALLED ACCESSIBLE TO QUALIFIED PERSONNEL IN ACCORDANCE WITH NEC APPLICABLE CODES.
2.2.5 ALL COMPONENTS ARE LISTED FOR THEIR PURPOSE AND RATED FOR OUTDOOR USAGE WHEN APPROPRIATE.

STRUCTURAL NOTES

2.3.1 RACKING SYSTEM & PV ARRAY WILL BE INSTALLED IN ACCORDANCE WITH THE CODE-COMPLIANT INSTALLATION MANUAL. TOP CLAMPS REQUIRE A DESIGNATED SPACE BETWEEN MODULES, AND RAILS MUST ALSO EXTEND A MINIMUM DISTANCE BEYOND EITHER EDGE OF THE ARRAY/SUB-ARRAY, IN ACCORDANCE WITH RAIL MANUFACTURER'S INSTALLATION PRACTICES.
2.3.2 JUNCTION BOX WILL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. IF ROOF-PENETRATING TYPE, IT SHALL BE FLASHED & SEALED PER LOCAL REQUIREMENTS.
2.3.3 ROOFTOP PENETRATIONS FOR PV RACEWAY WILL BE COMPLETED AND SEALED W/ APPROVED CHEMICAL SEALANT PER CODE BY A LICENSED CONTRACTOR.
2.3.4 ALL PV RELATED ROOF ATTACHMENTS TO BE SPACED NO GREATER THAN THE SPAN DISTANCE SPECIFIED BY THE RACKING MANUFACTURER OR PROFESSIONAL ENGINEERING GUIDANCE.
2.3.5 WHEN POSSIBLE, ALL PV RELATED RACKING ATTACHMENTS WILL BE STAGGERED AMONGST THE ROOF FRAMING MEMBERS.

WIRING & CONDUIT NOTES

2.4.1 ALL CONDUIT AND WIRE WILL BE LISTED AND APPROVED FOR THEIR PURPOSE. CONDUIT AND WIRE SPECIFICATIONS ARE BASED ON MINIMUM CODE REQUIREMENTS AND ARE NOT MEANT TO LIMIT UP-SIZING.
2.4.2 CONDUCTORS SIZED IN ACCORDANCE WITH THE NEC
2.4.3 AC CONDUCTORS TO BE COLORED OR MARKED PER NEC
2.4.4 LISTED OR LABELED EQUIPMENT SHALL BE INSTALLED AND USED IN ACCORDANCE WITH ANY INSTRUCTIONS INCLUDED IN THE LISTING OR LABELING PER NEC

GROUNDING NOTES

2.5.1 GROUNDING SYSTEM COMPONENTS SHALL BE LISTED FOR THEIR PURPOSE, AND GROUNDING DEVICES EXPOSED TO THE ELEMENTS SHALL BE RATED FOR SUCH USE.
2.5.2 PV EQUIPMENT SHALL BE GROUNDING IN ACCORDANCE WITH NEC 690 AND NEC TABLE 250.122.
2.5.3 METAL PARTS OF MODULE FRAMES, MODULE RACKING, AND ENCLOSURES CONSIDERED GROUNDING IN ACCORDANCE WITH NEC 250.
2.5.4 EQUIPMENT GROUNDING CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH NEC 690 AND INVERTER MANUFACTURER'S INSTALLATION PRACTICES
2.5.5 EACH MODULE WILL BE GROUNDING AS SHOWN IN MANUFACTURER DOCUMENTATION AND APPROVED BY THE AHJ.
2.5.6 THE GROUNDING CONNECTION TO A MODULE SHALL BE ARRANGED SUCH THAT THE REMOVAL OF A MODULE DOES NOT INTERRUPT A GROUNDING CONDUCTOR TO ANOTHER MODULE.
2.5.7 GROUNDING AND BONDING CONDUCTORS, IF INSULATED, SHALL BE COLORED GREEN OR MARKED GREEN IF #4 AWG OR LARGER PER NEC 250.
2.5.8 THE GROUNDING ELECTRODE SYSTEM COMPLIES WITH NEC 690 AND NEC 250. IF EXISTING SYSTEM IS INACCESSIBLE, OR INADEQUATE, A GROUNDING ELECTRODE SYSTEM PROVIDED IN ACCORDANCE WITH NEC 250, NEC 690 AND THE AHJ.
2.5.9 GROUND-FAULT DETECTION SHALL COMPLY WITH NEC 690 TO REDUCE FIRE HAZARDS

DISCONNECTION AND OVERCURRENT PROTECTION NOTES
2.6.1 DISCONNECTING SWITCHES SHALL BE WIRED SUCH THAT WHEN THE SWITCH IS OPENED THE CONDUCTORS REMAINING ENERGIZED ARE CONNECTED TO THE TERMINALS MARKED "LINE SIDE" (TYPICALLY THE UPPER TERMINALS).
2.6.2 DISCONNECTS TO BE ACCESSIBLE TO QUALIFIED UTILITY PERSONNEL, BE LOCKABLE, AND BE A VISIBLE-BREAK SWITCH
2.6.3 PV SYSTEM CIRCUITS INSTALLED ON OR IN HABITABLE BUILDINGS SHALL INCLUDE A RAPID SHUTDOWN FUNCTION TO REDUCE SHOCK HAZARD FOR EMERGENCY RESPONDERS IN ACCORDANCE WITH 690.
2.6.4 ALL OCPD RATINGS AND TYPES SPECIFIED ACCORDING TO NEC 690 AND 240.
2.6.5 INVERTER ON-GRID BRANCHES SHALL BE CONNECTED TO A SINGLE BREAKER OR GROUPED FUSE DISCONNECT(S) IN ACCORDANCE WITH NEC 110.
2.6.6 IF REQUIRED BY THE AHJ, SYSTEM WILL INCLUDE AFCI-FAULT CIRCUIT PROTECTION IN ACCORDANCE WITH NEC 690 AND UL 1699B.

INTERCONNECTION NOTES
2.7.1 LOAD SIDE INTERCONNECTION SHALL BE IN ACCORDANCE WITH NEC 705.
2.7.2 THE SUM OF THE UTILITY OCPD AND INVERTER CONTINUOUS OUTPUT MAY NOT EXCEED 120 PERCENT OF BUSBAR RATING PER NEC 705.
2.7.3 THE SUM OF 125 PERCENT OF THE POWER SOURCE(S) OUTPUT CIRCUIT CURRENT AND THE RATING OF THE OVERCURRENT DEVICE PROTECTING THE BUSBAR SHALL NOT EXCEED 120 PERCENT OF THE AMPACITY OF THE BUSBAR. PV DEDICATED BACKFEED BREAKERS MUST BE LOCATED OPPOSITE END OF THE BUS FROM THE UTILITY SOURCE OCPD PER NEC 705.
2.7.4 AT MULTIPLE ELECTRIC POWER SOURCES OUTPUT COMBINER PANEL, TOTAL RATING OF ALL OVERCURRENT PROTECTION DEVICES SHALL NOT EXCEED AMPACITY OF BUSBAR. HOWEVER, THE MAIN OVERCURRENT PROTECTION DEVICE MAY BE EXCLUDED IN ACCORDANCE WITH NEC 705.
2.7.5 FEEDER TAP INTERCONNECTION (LOAD SIDE) IN ACCORDANCE WITH NEC 705.
2.7.6 SUPPLY SIDE TAP INTERCONNECTION IN ACCORDANCE WITH TO NEC 705 WITH SERVICE ENTRANCE CONDUCTORS IN ACCORDANCE WITH NEC 230.
2.7.7 BACKFEEDING BREAKER FOR ELECTRIC POWER SOURCES OUTPUT IS EXEMPT FROM ADDITIONAL FASTENING PER NEC 705.



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PROJECT NAME & ADDRESS
ERIC MEAUX
2229 NEILLS CREEK RD,
LILLINGTON, NC 27456

APN #: 110661 0017 01
AHJ: HARNETT COUNTY
UTILITY: DUKE ENERGY
PROGRESS

SYSTEM DETAILS
(28) HYDROLINK-H400(FBK)
(28) HYDROLINK-H400(FBK)
(1) GENERAC PWRCELL 2 APKE00075
(6) GENERAC PWRCELL G008040

REVISIONS

REV	DESCRIPTION	DATE

SHEET TITLE

NOTES

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SHEET NUMBER

PV-05

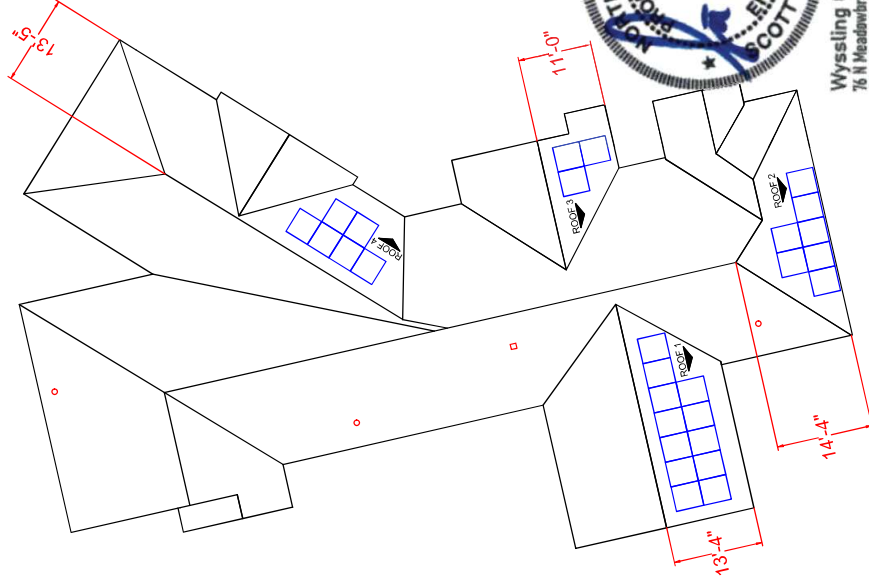
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FRONT OF HOUSE



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SYSTEM DETAILS
12,320 KW(DC+1STC) / 10,640 KW AC
(28) HYDRO-1 HNC-1440(FBK)
(18) HARNETT COUNTY (10) 7000
(1) GENERAC PWRCELL 2 APRK00075
(6) GENERAC PWRCELL G0080040

REVISIONS

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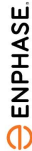
SHEET TITLE
INSTALLATION
RESOURCE

DRAWN DATE 10/14/2025

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SHEET NUMBER

PV-07



IQ8HC Microinverter

Our newest IQ8 Series Microinverters are the industry's first microgrid-forming¹, software-defined microinverters with self-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 55-nm 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 App² for monitoring and analysis software.



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



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



IQ8 Series Microinverters are UL Listed as PV rapid shutdown equipment and conform with various regulations when installed according to the manufacturer's instructions.

¹Meets UL 1741 only when installed with IQ3 System Controller 2 or 3.
²Enphase Energy App requires a smartphone or tablet. IQ8 and earlier other models listed at <https://enphase.com/en-us/compatibility> are trademarks of Enphase Energy, Inc. in the U.S. and other countries. Data subject to change.

DATA SHEET

IQ8HC Microinverter

INPUT DATA (DC)	UNITS	IQ8HC-72-M-US / IQ8HC-72-M-QDM-US ¹
Commonly used module pairings: ²	W	320-540
Module compatibility	—	—
MPPT voltage range	V	29.5-45
Operating range	V	18-58
Minimum/Maximum start voltage	V	22/58
Maximum input DC voltage	V	60
Maximum continuous operating DC current	A	14
Maximum input DC short-circuit current	A	25
Maximum module I_{sc}	A	20
Overvoltage class DC port	—	II
DC port backfeed current	mA	0
PV array configuration	—	—
Ungrounded array; no additional DC side protection required; AC side protection requires max. 20 A per branch circuit.		

OUTPUT DATA (AC)	UNITS	IQ8HC-72-M-US @240 VAC IQ8HC-72-M-QDM-US @240 VAC	IQ8HC-72-M-US @248 VAC IQ8HC-72-M-QDM-US @248 VAC
Peak output power	VA	384	368
Maximum continuous output power	VA	380	360
Nominal grid voltage (L-L), 180°	V	240, split-phase (L-L), 180°	208, single-phase (L-L), 20°
Minimum and maximum grid voltage ³	V	211-264	183-229
Maximum continuous output current	A	1.58	1.73
Nominal frequency	Hz	60	60
Extended frequency range	Hz	47-58	47-58
AC short-circuit fault current over three cycles	A _{max}	10	9
Maximum units per 20 A (L-L) branch circuit ⁴	—	—	—
Total harmonic distortion	%	—	4.5
Overvoltage class AC port	—	—	III
AC port backfeed current	mA	18	18
Power factor setting	—	—	1.0
Grid-tied power factor (adjustable)	—	0.85 leading... 0.85 lagging	—
Peak efficiency	%	97.3	97.2
CEC weighted efficiency	%	97.0	96.5
Nighttime power consumption	mW	22	26

MECHANICAL DATA

Ambient temperature range	°C (°F)	-40 to 65 (-40 to 140)
Relative humidity range	%	4 to 100 (condensing)
DC connector type	—	Standard MC4
Dimensions (H x W x D), Weight	mm (in); kg (lb)	212 (8.3) x 175 (6.9) x 30.2 (1.2); 11 (2.43)
Cooling	—	Natural convection - no fans
Approved for wet locations: Pollution degree	—	Yes: PD3
Enclosure	—	Class II double-insulated, corrosion-resistant polymeric enclosure
Environmental category; UV exposure rating	—	NEMA Type 6; outdoor

¹IQ8HC-72-M-QDM-US is undergoing compliance, and the specs are preliminary. This 30U is made in the USA, and the PCBs, Electrical Parts, and Enclosure are domestically manufactured to meet the requirements of eligibility to be considered for the FTC Domestic Content Bonus adder.
²Enphase Energy App requires a smartphone or tablet. IQ8 and earlier other models listed at <https://enphase.com/en-us/compatibility> are trademarks of Enphase Energy, Inc. in the U.S. and other countries. Data subject to change.
³Nominal voltage range can be extended beyond nominal if required by the utility.
⁴Limits may vary refer to local requirements to define the number of microinverters per branch in your area.

IQ8HC-MC4-IQH-00047-S-A-BN-US-2024-07-19

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UTILITY: DUKE ENERGY
PROGRESS

SYSTEM DETAILS
12,320 KW (DC+STC) / 10,840 KW AC
(28) HYDRA-1 HIN-1440NFBK
(28) HYDRA-1 HIN-1440NFBK
(1) GENERAC PWRCELL 2 APKE00075
(6) GENERAC PWRCELL G08B0040

REVISIONS

REV	DESCRIPTION	DATE

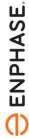
SHEET TITLE
INSTALLATION
RESOURCE

DRAWN DATE 10/14/2025

DRAWN BY DGD

SHEET NUMBER

R-02



X-IQ-AMI-240-S-HDK
X-IQ-AMI-240-SC-HDK
X-IQ-AMI-240-S
X-IQ-AMI-240-SC

DATA SHEET

IQ Combiner 5/5C

The IQ Combiner 5/5C consolidates interconnection equipment into a single enclosure and streamlines IQ Series Microinverters and IQ Gateway installation by providing a consistent, pre-wired solution for residential applications. IQ Combiner 5/5C uses wired control communication and is compatible with IQ System Controller 3/3G and IQ Battery 5P.

The IQ Combiner 5/5C, IQ Series Microinverters, IQ System Controller 3/3G, and IQ Battery 5P provide a complete grid-agnostic Enphase Energy System.



IQ Series Microinverters
The high-powered smart grid-ready IQ Series Microinverters (IQ3, IQ7, and IQ8 Series) simplify the installation process.



IQ System Controller 3/3G
Provides microgrid interconnection device (MID) functionality by automatically detecting grid failures and seamlessly transitioning energy system from grid power to backup power.



IQ Battery 5P
Fully integrated AC battery system. Includes six field-replaceable (B02-B01) Microinverters.



IQ Load Controller
Helps prioritize essential appliances during a grid outage to optimize energy consumption and prolong battery life.



5-year limited warranty



*For country-specific warranty information, see the <https://enphase.com/usa/enphase/regions/usa/enphase> page.
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IQ Combiner 5/5C

MODEL NUMBER	
IQ Combiner 5 X-IQ-AMI-240-S / X-IQ-AMI-240-S-HDK	IQ Combiner 5 with IQ Gateway printed circuit board for integrated revenue-grade PV production metering (ANSI C12.20 ±0.5%), consumption monitoring (±2.5%), and IQ Battery monitoring (±2.5%). Includes a silver solar shield to deflect heat. IQ Combiner 5-HDK includes a factory installed hold-down kit compatible with all the circuit breakers mentioned in the Accessories and Replacement Parts section.

IQ Combiner 5C X-IQ-AMI-240-SC / X-IQ-AMI-240-SC-HDK	IQ Combiner 5C with IQ Gateway printed circuit board for integrated revenue-grade PV production metering (ANSI C12.20 ±0.5%), consumption monitoring (±2.5%), and IQ Battery monitoring (±2.5%). Includes Enphase Mobile Connect cellular modem (CELLMODEM-MT-06-SP-05). Includes a silver solar shield to deflect heat. IQ Combiner 5C-HDK includes a factory installed hold-down kit compatible with all the circuit breakers mentioned in the Accessories and Replacement Parts section.
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WHAT'S IN THE BOX

IQ Gateway printed circuit board	IQ Gateway is the platform for total energy management for comprehensive, remote maintenance, and management of the Enphase Energy System
Busbar	80 A busbar with support for one IQ Gateway breaker and four 20 A breakers for installing IQ Series Microinverters and IQ Battery 5P
IQ Gateway breaker	Circuit breaker, 2-pole, 10 A / 15 A
Production CT	Pre-wired revenue-grade solid-core CT, accurate up to ±0.5%
Consumption CT	Two consumption metering clamp CTs, shipped with the box, accurate up to ±2.5%
IQ Battery CT	One battery metering clamp CT, shipped with the box, accurate up to ±2.5%
CTRL board	Control board for wired communication with IQ System Controller 3/3G and the IQ Battery 5P
Enphase Mobile Connect (only with IQ Combiner 5C)	4G-based LTE-MT cellular modem (CELLMODEM-MT-06-SP-05) with a 5-year T-Mobile data plan
Accessories kit	Spare control headers for the COMMS-KIT-2 board
ACCESSORIES AND REPLACEMENT PARTS (NOT INCLUDED, ORDER SEPARATELY)	
CELLMODEM-MT-06-SP-05	4G-based LTE-MT cellular modem with a 5-year T-Mobile data plan
CELLMODEM-MT-06-MT-05	4G-based LTE-MT cellular modem with a 5-year AT&T data plan
Circuit breakers (off-the-shelf)	Supports Eaton BR2XX, Siemens CQXX, and GE/ABB THQUL 2XX Series circuit breakers (XX represents 10, 15, 20, 40, 50, or 60). Also supports Eaton BR220B, BR230B, and BR240B circuit breakers compatible with the hold-down kit.
Circuit breakers (provided by Enphase)	BBK-10A-2-240V, BBK-15A-2-240V, BBK-20A-2P-240V, BBK-15A-2P-240V-B, and BBK-20A-2P-240V-B (more details in the Accessories section)
XA-SOLARSHIELD-ES	Replacement solar shield for IQ Combiner 5/5C
XA-ENV2-PCBA-5	IQ Gateway replacement printed circuit board (PCB) for IQ Combiner 5/5C
X-IQ-NA-HD-125A	Hold-down kit compatible with Eaton BR-8 Series circuit breakers (with screws). Not required for X-IQ-AMI-240-S-HDK / X-IQ-AMI-240-SC-HDK.
XA-COMMS2-PCBA-5	Replacement COMMS-KIT-2 printed circuit board (PCB) for IQ Combiner 5/5C

ELECTRICAL SPECIFICATIONS

Rating	80 A
System voltage and frequency	120/240 VAC or 120/208 VAC, 60 Hz
Busbar rating	125 A
Fault current rating	10 kAIC
Maximum continuous current rating (input from PV/storage)	64 A
Branch circuits (solar and/or storage)	Up to four 2-pole Eaton BR, Siemens Q, or GE/ABB THQUL Series distributed generation (DG) breakers only (not included)
Maximum total branch circuit breaker rating (input)	80 A of distributed generation/95 A with IQ Gateway breaker included
IQ Gateway breaker	10 A or 15 A rating GE/Siemens/Eaton included
Production metering CT	200 A solid core pre-installed and wired to IQ Gateway

*A plug-in solar-ready industrial-grade cell modem for systems of up to 80 microinverters. Available in the United States, Canada, Mexico, Puerto Rico, and the US Virgin Islands, where there is adequate cellular service in the installation area.

ICC-5-SC-05H-00007-6-0-EN-US-2024-09-20

CONTRACTOR

SOLARTYME BY AAPCO
6710 JEFFERSON DAVIS HWY
RICHMOND, VIRGINIA 23237
PHONE - (804) 271-2800
LIC. NO. - 2705086452

PROJECT NAME & ADDRESS
ERIC MEAUX
2229 NEILLS CREEK RD,
LILLINGTON, NC 27456

APN #: 110661 0017 01
AHJ: HARNETT COUNTY
UTILITY: DUKE ENERGY
PROGRESS

SYSTEM DETAILS
12,320 KW (DC+STC) / 10,840 KW AC
(28) HYUNDAI HIN-140NFBK
(1) GENERAC PWRCELL 2 APKE00075
(6) GENERAC PWRCELL G008040

REVISIONS

REV	DESCRIPTION	DATE

SHEET TITLE
INSTALLATION
RESOURCE

DRAWN DATE	10/14/2025
DRAWN BY	DGD

SHEET NUMBER

R-03

11.5 kW PWRcell 2 Inverter

MODEL NUMBER: APKE00075

This 11.5 kW max continuous power inverter moves power from the battery to the home or the AC connected solar PV array into the battery and has enough power to start up to a 5-ton air conditioner without a soft starter.

Features & Benefits

- Up to 236 LRA when configured with two battery cabinets
- Can be configured with up to 2 inverters and 4 battery cabinets for 72 kWh of capacity and 23 kW continuous power
- Works with PWRcell 2 – an AC coupled system



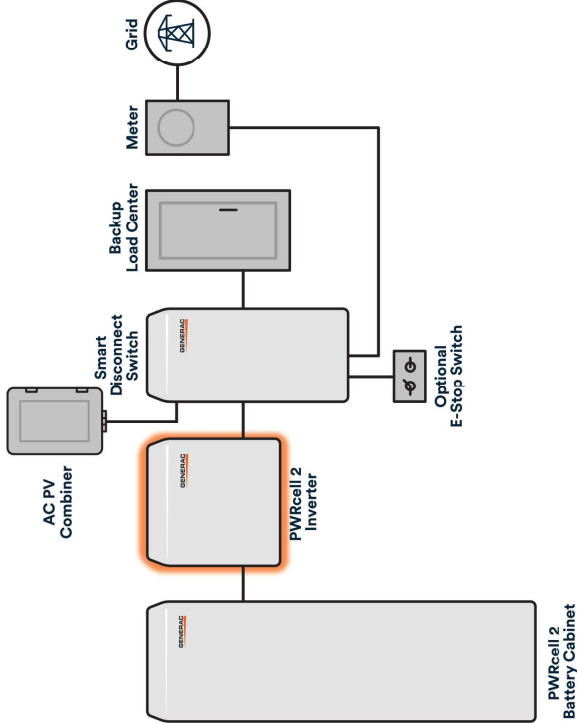
Specifications

AC OUTPUT	
Maximum Continuous AC Power	11.5 kW
Maximum DC Power	12 kW
Maximum Continuous AC Current	48 A
Overcurrent Protection	60 A
Operating AC Voltage Range	105 - 132 VAC (120 nominal)
Nominal Power Factor	0-1
LRA	236
Maximum AC Fault Current	175 A
DC INPUT	
Nominal Input Voltage	400 VDC
DC Input Voltage Range	360 to 420 VDC
Maximum DC Input Current	34 A
PERFORMANCE	
Operating Frequency	60 Hz
CEC Efficiency	98.50%
Warranty	10 years
MECHANICAL	
Dimensions - in (cm)	22.8 x 8.1 x 24.1 (57.91 x 20.57 x 61.2)
Weight - lbs (kg)	61 (27.67)
Mounting Options	Wall

CONFIGURATION

Whole Home Backup

The PWRcell 2 Inverter is an integral component of the PWRcell 2 Home Energy Storage System.



Generac Power Systems, Inc., 845 W25290 Hwy 59, Waukegan, WI 53199
www.Generac.com | 888-GENERAC (562-3722)
REV A 01/2025
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GENERAC

CONTRACTOR

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PHONE - (804) 271-2500
LIC. NO. - 2705036452

PROJECT NAME & ADDRESS
ERIC MEAUX
2229 NEILLS CREEK RD,
LILLINGTON, NC 27456

APN #: 110661 0017 01
AHJ: HARNETT COUNTY
UTILITY: DUKE ENERGY
PROGRESS

SYSTEM DETAILS
12,320 KW (DC+STC) / 10,840 KW AC
(28) HYDRA-UL HIN-1440 (HFK)
(18) HYDRA-UL HIN-1440 (HFK)
(1) GENERAC PWRCELL 2 APKE00075
(6) GENERAC PWRCELL G0080040

REVISIONS

REV	DESCRIPTION	DATE

SHEET TITLE
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RESOURCE

DRAWN DATE 10/14/2025

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SHEET NUMBER

R-04

CONTRACTOR		
SOLARTYME BY AAPCO 6710 JEFFERSON DAVIS HWY RICHMOND VIRGINIA 23237 PHONE - (804) 271-2500 LIC. NO. - 2705036452		
PROJECT NAME & ADDRESS ERIC MEAUX 2229 NEILLS CREEK RD, LILLINGTON, NC 27456		
APN #: 110661 0017 01 AHJ: HARNETT COUNTY UTILITY: DUKE ENERGY PROGRESS		
SYSTEM DETAILS 12,320 KW DC-1STC / 10,840 KW AC (28) HYUNDAI HIN-140NFBK (28) HYUNDAI HIN-140NFBK (28) HYUNDAI HIN-140NFBK (1) GENERAC PWRCELL 2 APKE00075 (6) GENERAC PWRCELL G0080040		
REVISIONS		
REV	DESCRIPTION	DATE
SHEET TITLE INSTALLATION RESOURCE		
DRAWN DATE	10/14/2025	
DRAWN BY	DGD	
SHEET NUMBER R-05		



GENERAC®

PWRCELL

3.0kWh DCB BATTERY MODULE

3.0kWh Prevalent DCB Battery Module
Model # BU-DCB022400 (Formerly JBU G0080040)



Build a better backup system with the Generac DCB Battery Module for PWRcell™. Stack as few as three or as many as six DCB modules to match battery capacity and backup power to a specific application. Upgrade a PWRcell Battery post-installation with the addition of more DCB modules for more power and capacity.

FEATURES & BENEFITS

- Suitable for indoor and outdoor use
- Modular: Stack the right number of battery modules for the application
- Upgradable: Add more modules later when consumer needs change
- Easy to install: At just 55lbs, installers won't need special equipment to move and install these batteries

SPECIFICATIONS

NOMINAL VOLTAGE:	46.8 VDC
USABLE CAPACITY @ TYPICAL VOLTAGE:	3.00 kWh
MAXIMUM AMBIENT OPERATING TEMPERATURE:	14 to 122 °F (-10 to 50 °C)
RECOMMENDED AMBIENT OPERATING TEMPERATURE:	41 to 104 °F (5 to 40 °C)
RECOMMENDED STORAGE TEMPERATURE:	68 °F (20 °C)
SCALABILITY:	3-6 pcs in series
DIMENSIONS: L x W x H - IN (MM):	17.3" x 17.3" x 3.3" (440 x 450 x 84)
WEIGHT - LB (KG):	55 (25)
BATTERY CHEMISTRY:	Nickel Manganese Cobalt (NMC)
WARRANTY:	10 years or 756MWh Throughput (per module)

Note: Charge/discharge rate may be reduced at temperature extremes

Generac Power Systems, Inc.
545 W29290 Hwy. 159, Waukegan, WI 53189
www.Generac.com | 888-GENERAC (436-3722)
A0000953959 REV C

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GENERAC®

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STRONGHOLD™ | BUTYL



Unirac's STRONGHOLD® Butyl is efficient, dependable, and optimized for UNIRAC's NXT UMount® system. The pre-applied butyl pad removes the need for additional flashing. Just peel the liner, place the attachment, and fasten it to the roof. In addition, the butyl, used throughout the roofing and solar industries for its reliability, conforms to the screws and roof for a robust, dependable seal with no extra work! Couple this with the NXT UMount® system, and you have a highly reliable, easy-to-install system with integrated wire management.



KITTED WITH

- ONE (1) STRONGHOLD® Butyl direct-to-deck attachment with pre-applied butyl patch (Extra patches for shimming available.)
- TWO (2) screws for rafter installation (Additional screws for direct-to-deck applications available.)
- ONE (1) NXT Rail Clamp

STRONGHOLD™ | BUTYL



SIMPLIFIED FLASHLESS SOLUTION

- One-step Butyl application
- Reliable waterproofing without messy sealant
- Eliminate roof disturbance
- Minimize labor

OPTIMIZED FOR NXT UMount, UNIRAC'S OPEN CHANNEL RAIL SYSTEM

- Open slot design for ease of rail connectivity with included STRONGHOLD® NXT rail clamp
- STRONGHOLD® Butyl combined with the NXT UMount system make installation and wire management a breeze
- UL Certified with NXT UMount

DUAL MOUNTING OPTIONS

- Pre-attached butyl pad: Simply peel, stick, and fasten with the two (2) included screws for rafter mount
- For direct-to-deck applications, additional decking screws are available

ADDITIONAL BENEFITS

- Mill and Dark Finishes
- Option for extra cross-course butyl patches
- Competitively priced with standard rafter attachments

UNIRAC CUSTOMER SERVICE MEANS THE HIGHEST LEVEL OF PRODUCT SUPPORT



TECHNICAL SUPPORT

UNIRAC's technical support team is dedicated to answering questions & addressing issues in real time. An online library of documents including engineering reports, stamped letters and technical data sheets greatly simplifies your permitting and project planning process.

CERTIFIED QUALITY PROVIDER

UNIRAC is the only PV mounting vendor with ISO certifications for 9001:2015, 14001:2015 and OHSAS 18001:2007, which means we deliver the highest standards for fit, form, and function. These certifications demonstrate our excellence and commitment to first class business practices.

BANKABLE WARRANTY

Don't leave your project to chance. UNIRAC has the financial strength to back our products and reduce your risk. Have peace of mind knowing you are receiving products of exceptional quality. STRONGHOLD® products are covered by a twenty (20) year limited product warranty.

FOR QUESTIONS OR CUSTOMER SERVICE CONTACT: 505-242-6411 | SALES@UNIRAC.COM | WWW.UNIRAC.COM

FW20220403-V2

PROTECT YOUR REPUTATION WITH QUALITY RACKING SOLUTIONS BACKED BY ENGINEERING EXCELLENCE AND A SUPERIOR SUPPLY CHAIN

CONTRACTOR

SOLARTYME BY AAPCO
6710 JEFFERSON DAVIS HWY
RICHMOND, VIRGINIA 23237
PHONE - (804) 271-2500
LIC. NO. - 2705036452

PROJECT NAME & ADDRESS
ERIC MEAUX
2229 NELLIS CREEK RD,
LILLINGTON, NC 27456

APN #: 110661 0017 01
AHJ: HARNETT COUNTY
UTILITY: DUKE ENERGY
PROGRESS

SYSTEM DETAILS
12,320 KW (DC+STC) / 10,840 KW AC
(28) HYDROLINK-H40NFBK
(28) UNIRAC STRONGHOLD
(1) GENERAC PWRCELL 2 APKE00075
(6) GENERAC PWRCELL G008040

REVISIONS

REV	DESCRIPTION	DATE

SHEET TITLE INSTALLATION RESOURCE

DRAWN DATE 10/14/2025

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SHEET NUMBER

R-06

CONTRACTOR	SOLARTYME BY AAPCO 6770 JEFFERSON DAVIS HWY RICHMOND, VIRGINIA 23237 PHONE - (804) 271-2500 LIC. NO. - 2705036452
PROJECT NAME & ADDRESS	ERIC MEALX 2229 NEILLS CREEK RD, LILLINGTON, NC 27456 APN # : 110661 0017 01 A/LJ: HARNETT COUNTY UTILITY: DUKE ENERGY SYSTEM DETAILS 12,320 KW DC-STC / 10,540 KW AC (28) HYUNDAI HIN14ADNE(BK) (28) ENPHASE IQ8HC-72M-US (1) GENERAC PWRCELL 2 APKE00075 (6) GENERAC PWRCELL G0080040
REVISIONS	
REV	DESCRIPTION DATE
SHEET TITLE	INSTALLATION RESOURCE
DRAWN DATE	10/14/2025
DRAWN BY	DGD
SHEET NUMBER	R-07

REVISIONS		
REV	DESCRIPTION	DATE

SHEET TITLE INSTALLATION RESOURCE	
DRAWN DATE	10/14/2025
DRAWN BY	DGD

SHEET NUMBER
R-07