



**SCOPE OF WORK:**  
TO INSTALL A ROOF MOUNTED SOLAR PHOTOVOLTAIC SYSTEM AT THE OWNER RESIDENCE LOCATED AT 1130 SW LAKE MONTGOMERY AVE, LAKE CITY, FL 32025.

SYSTEM DC RATING: 11.60 KWDC  
SYSTEM AC RATING: 8.42 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)<br>2017 NATIONAL ELECTRICAL CODE<br>2020 FLORIDA BUILDING CODE (7TH EDITION) |
| AUTHORITY HAVING JURISDICTION (AHJ): COLUMBIA COUNTY   |

| BILL OF MATERIALS |     |   |
|-------------------|-----|---|
| EQUIPMENT         | QTY | DESCRIPTION   |
| SOLAR PV MODULE   | 29  | Q.PEAK DUO BLK ML-G10+ 400W                           |
| MICROINVERTER     | 29  | ENPHASE IQ8PLUS-72-2-US                               |
| JUNCTION BOX      | 1   | JUNCTION BOX, NEMA 3R, UL LISTED                      |
| COMBINER BOX      | 1   | ENPHASE IQ COMBINER 4/4C W/ IQ ENVOY (X-IQ-AM1-240-4) |
| AC DISCONNECT     | 1   | FUSED AC DISCONNECT, 240V, NEMA 3R, UL LISTED         |
| POWER PERFECT BOX | 1   | (ES1PN), 120V/240V, NEMA 3X                           |



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PROJECT NAME & ADDRESS

**PAUL ROWE  
RESIDENCE  
1130 SW LAKE MONTGOMERY AVE  
LAKE CITY, FL 32025**

SIGNATURE WITH SEAL

| REVISIONS   |      |     |
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Checked by: O.T.  
Date: 7/29/22

| SHEET NAME        |
|-------------------|
| COVER SHEET & BOM |
| SHEET NUMBER      |
| CS-0              |

LEGEND

X

(E)

(N)

M

MSP

ACD

CB

- MODULE STRING ID

- EXISTING

- NEW

- UTILITY METER

- MAIN SERVICE PANEL

- AC DISCONNECT

- COMBINER BOX

LC

SP

JB

SCT

CONDUIT

BAT

ICD

BUL

- LOAD CENTER

- SUBPANEL

- JUNCTION BOX

- STRING CENTER TAP

- CONDUIT

- ENERGY STORAGE

- INTERCONNECTION DEVICE

- BACK UP LOADS PANEL

**ADHESIVE FASTENED SIGNS:**

- ANSI Z535.4-2011 PRODUCT SAFETY SIGNS AND LABELS, PROVIDES GUIDELINES FOR SUITABLE FONT SIZES, WORDS, COLORS, SYMBOLS, AND LOCATION REQUIREMENTS FOR LABELS. NEC 110.21(B)(1).
- THE LABEL SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED. NEC 110.21(B)(3).
- ADHESIVE FASTENED SIGNS MAY BE ACCEPTABLE IF PROPERLY ADHERED. VINYL SIGNS SHALL BE WEATHER RESISTANT.

WARNING

ELECTRIC SHOCK HAZARD

DO NOT TOUCH TERMINALS  
TERMINALS ON BOTH THE LINE AND  
LOAD SIDES MAY BE ENERGIZED  
IN THE OPEN POSITION

LABEL LOCATION:  
COMBINER BOX/ EMT  
ENCLOSURES/ AC DISCONNECT/  
MAIN SERVICE PANEL  
PER CODE: NEC 2017, 690.13(B)

EMERGENCY RESPONDER

SOLAR PV SYSTEM EQUIPPED  
WITH RAPID SHUTDOWN

TURN RAPID SHUTDOWN  
SWITCH TO THE "OFF"  
POSITION TO SHUT  
DOWN THE ENTIRE PV  
SYSTEM

LABEL LOCATION:  
RAPID SHUTDOWN  
(AC DISCONNECT)  
PER CODE: NEC 690.56 (C)(1) &  
NFPA111.12.2.1.1.1, 11.12.2.1.4

WARNING: PHOTOVOLTAIC  
POWER SOURCE

LABEL LOCATION:  
CONDUIT/ RACEWAY/ ENCLOSURES/  
COMBINER BOX/ AC DISCONNECT  
PER CODE: NEC2017, 690.31(G)(3)(4)

PHOTOVOLTAIC  
AC DISCONNECT

LABEL LOCATION:  
AC DISCONNECT/ BREAKER/  
POINTS OF CONNECTION  
PER CODE: NEC2017, 690.13(B)

PHOTOVOLTAIC AC DISCONNECT

RATED AC OUTPUT CURRENT 35.1 A

NOMINAL OPERATING AC VOLTAGE 240 V

LABEL LOCATION:  
AC DISCONNECT  
PER CODE: NEC2017, 690.53

RAPID SHUTDOWN  
SWITCH FOR  
SOLAR PV SYSTEM

LABEL LOCATION:  
RAPID SHUTDOWN  
(AC DISCONNECT)  
PER CODE: NEC 690.58 (C)(3)

WARNING

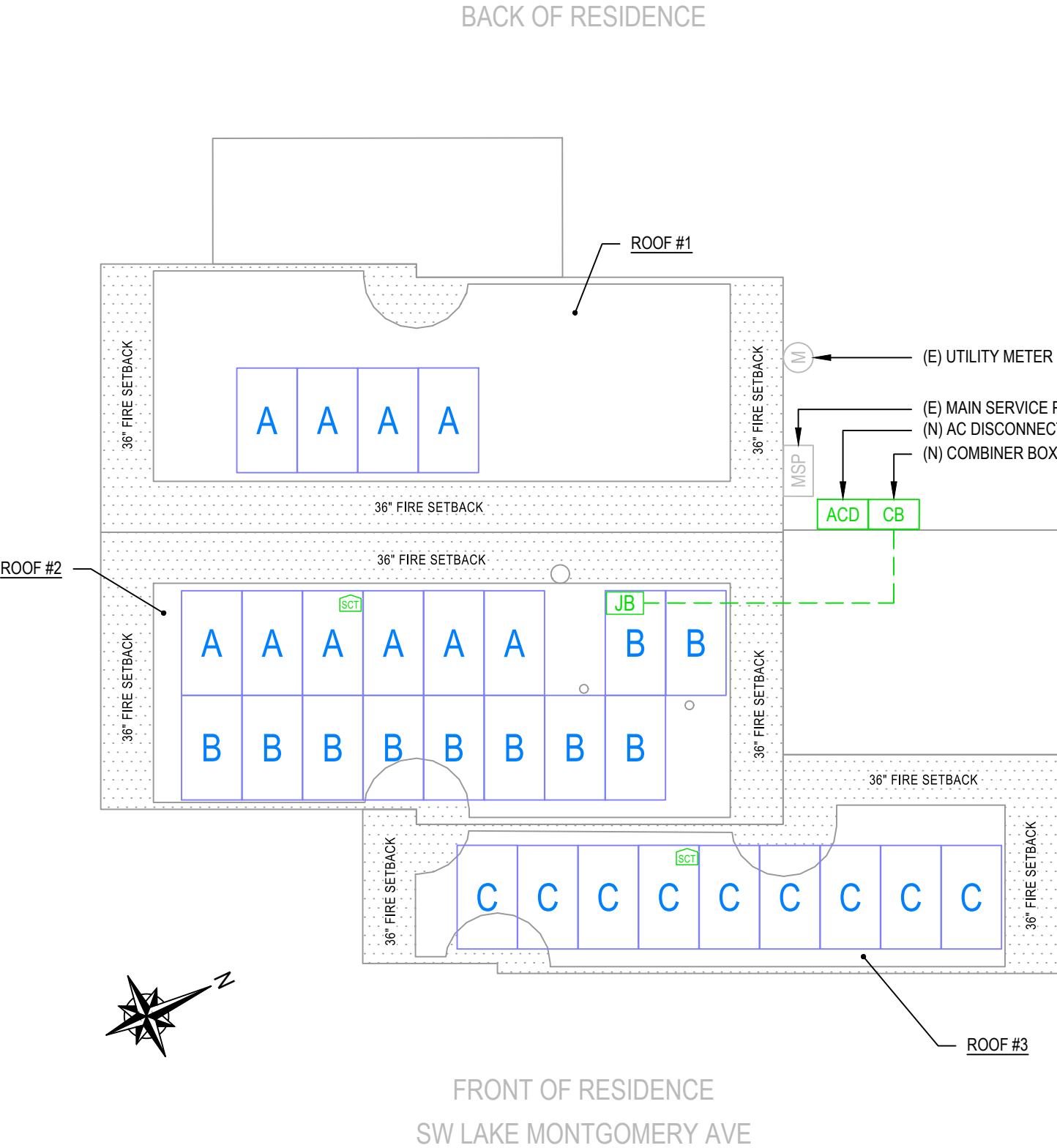
DUAL POWER SOURCE

SOURCES: UTILITY GRID AND  
PV SOLAR ELECTRIC SYSTEM

LABEL LOCATION:  
POINT OF INTERCONNECTION  
PER CODE: NEC 2017, 705.12(B)



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AKE  
SOLAR

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SHEET NAME

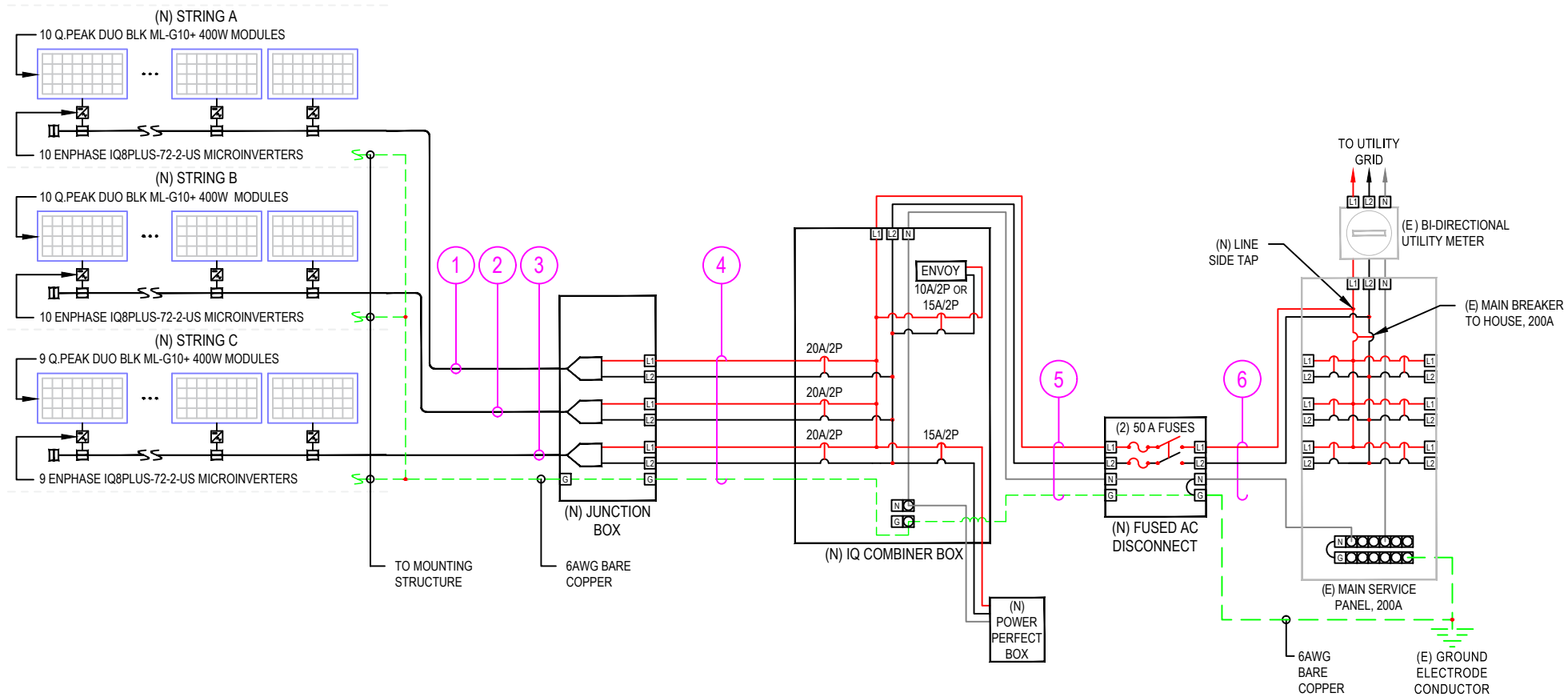
STRING LAYOUT &  
SIGNAGE

SHEET NUMBER

E-1

| ID | INITIAL CONDUCTOR LOCATION | FINAL CONDUCTOR LOCATION | MIN. CONDUCTOR SIZE (AWG) |               | MIN. DIA CONDUIT SIZE (IN.) | # OF PARALLEL CIRCUITS | CURRENT-CARRYING CONDUCTORS IN CONDUIT | OCPD (A) | MIN. EGC SIZE (AWG) |               | TEMP. CORR. FACTOR |      | CONDUIT FILL FACTOR | CONT. CURRENT (A) | MAX. CURRENT (A) | BASE AMP. (A) | DERATED AMP. (A) | TERM. AMP. RATING (A) | LENGTH (FT) | VOLTAGE DROP (%) |
|----|----------------------------|--------------------------|---------------------------|---------------|-----------------------------|------------------------|--|----------|---------------------|---------------|--------------------|------|---------------------|-------------------|------------------|---------------|------------------|-----------------------|-------------|------------------|
| 1  | STRING A                   | JUNCTION BOX             | 12                        | Q CABLE       | N/A                         | 1                      | 2                                      | N/A      | 6                   | BARE COPPER   | 0.76               | 55°C | N/A                 | 12.1              | 15.13            | 30            | N/A              | N/A                   | 47.00       | 0.94             |
| 2  | STRING B                   | JUNCTION BOX             | 12                        | Q CABLE       | N/A                         | 1                      | 2                                      | N/A      | 6                   | BARE COPPER   | 0.76               | 55°C | N/A                 | 12.1              | 15.13            | 30            | N/A              | N/A                   | 37.00       | 0.74             |
| 3  | STRING C                   | JUNCTION BOX             | 12                        | Q CABLE       | N/A                         | 1                      | 2                                      | N/A      | 6                   | BARE COPPER   | 0.76               | 55°C | N/A                 | 10.89             | 13.61            | 30            | N/A              | N/A                   | 56.00       | 0.41             |
| 4  | JUNCTION BOX               | IQ COMBINER              | 10                        | THWN-2 COPPER | 0.75 LTNM                   | 3                      | 6                                      | 20       | 10                  | THWN-2 COPPER | 0.76               | 55°C | 0.8                 | 12.1              | 15.13            | 40            | 24.3             | 35                    | 39.00       | 0.49             |
| 5  | IQ COMBINER                | AC DISCONNECT            | 8                         | THWN-2 COPPER | 0.75 LTNM                   | 1                      | 3                                      | 50       | 10                  | THWN-2 COPPER | 0.96               | 34°C | 1                   | 35.09             | 43.86            | 55            | 52.8             | 50                    | 5.00        | 0.11             |
| 6  | AC DISCONNECT              | MSP                      | 6                         | THWN-2 COPPER | 0.75 LTNM                   | 1                      | 3                                      | N/A      | -                   | -             | 0.96               | 34°C | 1                   | 35.09             | 43.86            | 75            | 72.0             | 65                    | 5.00        | 0.07             |

NOTE: LTNM OR EQUIVALENT TYPE CONDUIT



LEGEND

(E) - EXISTING  
(N) - NEW

DESIGN TEMPERATURE SPECIFICATIONS

|                                   |      |
|-----------------------------------|------|
| RECORD LOW TEMP                   | -5°C |
| AMBIENT TEMP (HIGH TEMP 2%)       | 34°C |
| CONDUIT HEIGHT                    | 1.0" |
| CONDUCTOR TEMPERATURE RATE (ROOF) | 55°C |



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1 ELECTRICAL LINE DIAGRAM

E-2 SCALE: NTS

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ELECTRICAL LINE  
DIAGRAM & CALCS.

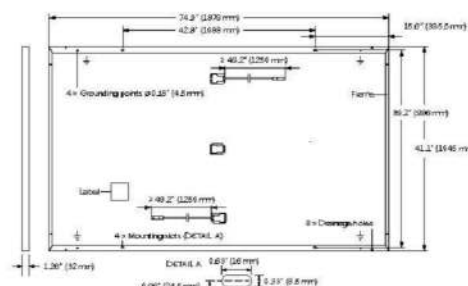
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E-2



## MECHANICAL SPECIFICATION

|              |   |
|--------------|---|
| Format       | 74.6 in x 41.1 in x 1.26 in (including frame)<br>(1879 mm x 1045 mm x 32 mm)                              |
| Weight       | 48.5 lbs (22.0 kg)  |
| Front Cover  | 0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology                             |
| Back Cover   | Composite film  |
| Frame        | Black anodized aluminum   |
| Cell         | 6 x 22 monocrystalline Q-ANTUM solar half cells   |
| Junction Box | 2.09-3.98 in x 1.26-2.36 in x 0.59-0.71 in<br>(53-101 mm x 32-60 mm x 15-18 mm), IP67, with bypass diodes |
| Cable        | 4 mm <sup>2</sup> Solar cable, (+) ≥ 49.2 in (1250 mm), (-) ≥ 49.2 in (1250 mm)                           |
| Connector    | Stäubli MC4, IP68   |



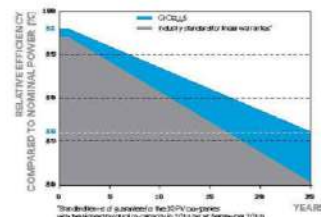
## ELECTRICAL CHARACTERISTICS

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

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

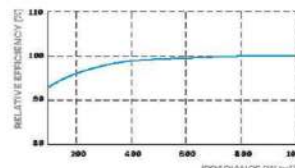
## Q CELLS PERFORMANCE WARRANTY

## PERFORMANCE AT LOW IRRADIANCE



At least 98% of nominal power during first year. Thereafter max. 0.5% degradation per year. At least 93.5% of nominal power up to 10 years. At least 96% of nominal power up to 25 years.

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



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

## TEMPERATURE COEFFICIENTS

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

## PROPERTIES FOR SYSTEM DESIGN

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

<sup>2</sup> See Installation Manual

## QUALIFICATIONS AND CERTIFICATES

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



## PACKAGING INFORMATION

|                      |                    |                    |                    |                      |               |               |               |
|----------------------|--------------------|--------------------|--------------------|----------------------|---------------|---------------|---------------|
| Horizontal packaging | 76.4 in<br>1940 mm | 43.3 in<br>1100 mm | 48.0 in<br>1220 mm | 16.56 lbs<br>7.51 kg | 24<br>pellets | 24<br>pellets | 32<br>modules |
|----------------------|--------------------|--------------------|--------------------|----------------------|---------------|---------------|---------------|

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

**Hanwha Q CELLS America Inc.**

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## 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 I <sub>sc</sub> ] | 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  | 10  | 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. 1071-01   |   |
| 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.

IQ8SP-DS-0002-01-EN-US-2021-10-19



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Drawn by: R.H.

Checked by: O.T.

Date: 7/29/22

## SHEET NAME

EQUIPMENT  
SPECIFICATIONS

## SHEET NUMBER

E-3

Enphase IQ Combiner 4/4C


| MODEL NUMBER  |  |
|---|--|
| IQ Combiner 4 (X-IQ-AM1-240-4)  | IQ Combiner 4 with Enphase IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 +/- 0.5%) and consumption monitoring (+/- 2.5%). Includes a silver solar shield to match the IQ Battery system and IQ System Controller 2 and to deflect heat.  |
| IQ Combiner 4C (X-IQ-AM1-240-4C)  | IQ Combiner 4C with Enphase IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 +/- 0.5%) and consumption monitoring (+/- 2.5%). Includes Enphase Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05), a plug-and-play industrial-grade cell modem for systems up to 60 microinverters. (Available in the US, Canada, Mexico, Puerto Rico, and the US Virgin Islands, where there is adequate cellular service in the installation area.) Includes a silver solar shield to match the IQ Battery and IQ System Controller and to deflect heat. |
| ACCESSORIES AND REPLACEMENT PARTS (not included, order separately)  |  |
| Ensemble Communications Kit<br>COMMS-CELLMODEM-M1-06<br>CELLMODEM-M1-06-SP-05<br>CELLMODEM-M1-06-AT-05            | - Includes COMMS-KIT-01 and CELLMODEM-M1-06-SP-05 with 5-year Sprint data plan for Ensemble sites<br>- 4G based LTE-M1 cellular modem with 5-year Sprint data plan<br>- 4G based LTE-M1 cellular modem with 5-year AT&T data plan  |
| Circuit Breakers<br>BRK-10A-2-240V<br>BRK-15A-2-240V<br>BRK-20A-2P-240V<br>BRK-15A-2P-240V-B<br>BRK-20A-2P-240V-B | Supports Eaton BR210, BR215, BR220, BR230, BR240, BR250, and BR260 circuit breakers.<br>Circuit breaker, 2 pole, 10A, Eaton BR210<br>Circuit breaker, 2 pole, 15A, Eaton BR215<br>Circuit breaker, 2 pole, 20A, Eaton BR220<br>Circuit breaker, 2 pole, 15A, Eaton BR215B with hold down kit support<br>Circuit breaker, 2 pole, 20A, Eaton BR220B with hold down kit support  |
| EPLC-01   | Power line carrier (communication bridge pair), quantity - one pair  |
| XA-SOLARSHIELD-ES   | Replacement solar shield for IQ Combiner 4/4C  |
| XA-PLUG-120-3   | Accessory receptacle for Power Line Carrier in IQ Combiner 4/4C (required for EPLC-01)   |
| XA-ENV-PCBA-3   | Replacement IQ Gateway printed circuit board (PCB) for Combiner 4/4C   |
| X-IQ-NA-HD-125A   | Hold down kit for Eaton circuit breaker with screws.   |
| ELECTRICAL SPECIFICATIONS   |  |
| Rating  | Continuous duty  |
| System voltage  | 120/240 VAC, 60 Hz   |
| Eaton BR series busbar rating   | 125 A  |
| Max. continuous current rating  | 65 A   |
| Max. continuous current rating (input from PV/storage)  | 64 A   |
| Max. fuse/circuit rating (output)   | 90 A   |
| Branch circuits (solar and/or storage)  | Up to four 2-pole Eaton BR series Distributed Generation (DG) breakers only (not included)   |
| Max. total branch circuit breaker rating (input)  | 80A of distributed generation / 95A with IQ Gateway breaker included   |
| Production metering CT  | 200 A solid core pre-installed and wired to IQ Gateway   |
| Consumption monitoring CT (CT-200-SPLIT)  | A pair of 200 A split core current transformers  |
| MECHANICAL DATA   |  |
| Dimensions (WxHxD)  | 37.5 x 49.5 x 16.8 cm (14.75" x 19.5" x 6.63"). Height is 21.06" (53.5 cm) with mounting brackets.   |
| Weight  | 7.5 kg (16.5 lbs)  |
| Ambient temperature range   | -40° C to +46° C (-40° to 115° F)  |
| Cooling   | Natural convection, plus heat shield   |
| Enclosure environmental rating  | Outdoor, NRTL-certified, NEMA type 3R, polycarbonate construction  |
| Wire sizes  | • 20 A to 50 A breaker inputs: 14 to 4 AWG copper conductors<br>• 60 A breaker branch input: 4 to 1/0 AWG copper conductors<br>• Main lug combined output: 10 to 2/0 AWG copper conductors<br>• Neutral and ground: 14 to 1/0 copper conductors<br>Always follow local code requirements for conductor sizing.   |
| Altitude  | To 2000 meters (6,560 feet)  |
| INTERNET CONNECTION OPTIONS   |  |
| Integrated Wi-Fi  | 802.11b/g/n  |
| Cellular  | CELLMODEM-M1-06-SP-05, CELLMODEM-M1-06-AT-05 (4G based LTE-M1 cellular modem). Note that an Enphase Mobile Connect cellular modem is required for all Ensemble installations.  |
| Ethernet  | Optional, 802.3, Cat5E (or Cat 6) UTP Ethernet cable (not included)  |
| COMPLIANCE  |  |
| Compliance, IQ Combiner   | UL 1741, CAN/CSA C22.2 No. 107.1, 47 CFR, Part 15, Class B, ICES 003<br>Production metering: ANSI C12.20 accuracy class 0.5 (PV production)<br>Consumption metering: accuracy class 2.5  |
| Compliance, IQ Gateway  | UL 60601-1/CANCSA 22.2 No. 61010-1   |

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

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PROJECT NAME & ADDRESS

SIGNATURE WITH SEAL

| REVISIONS   |      |     |
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| DESCRIPTION | DATE | REV |
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Drawn by: R.H.  
Checked by: O.T.  
Date: 7/29/22

SHEET NAME  
EQUIPMENT SPECIFICATIONS  
SHEET NUMBER  
E-4