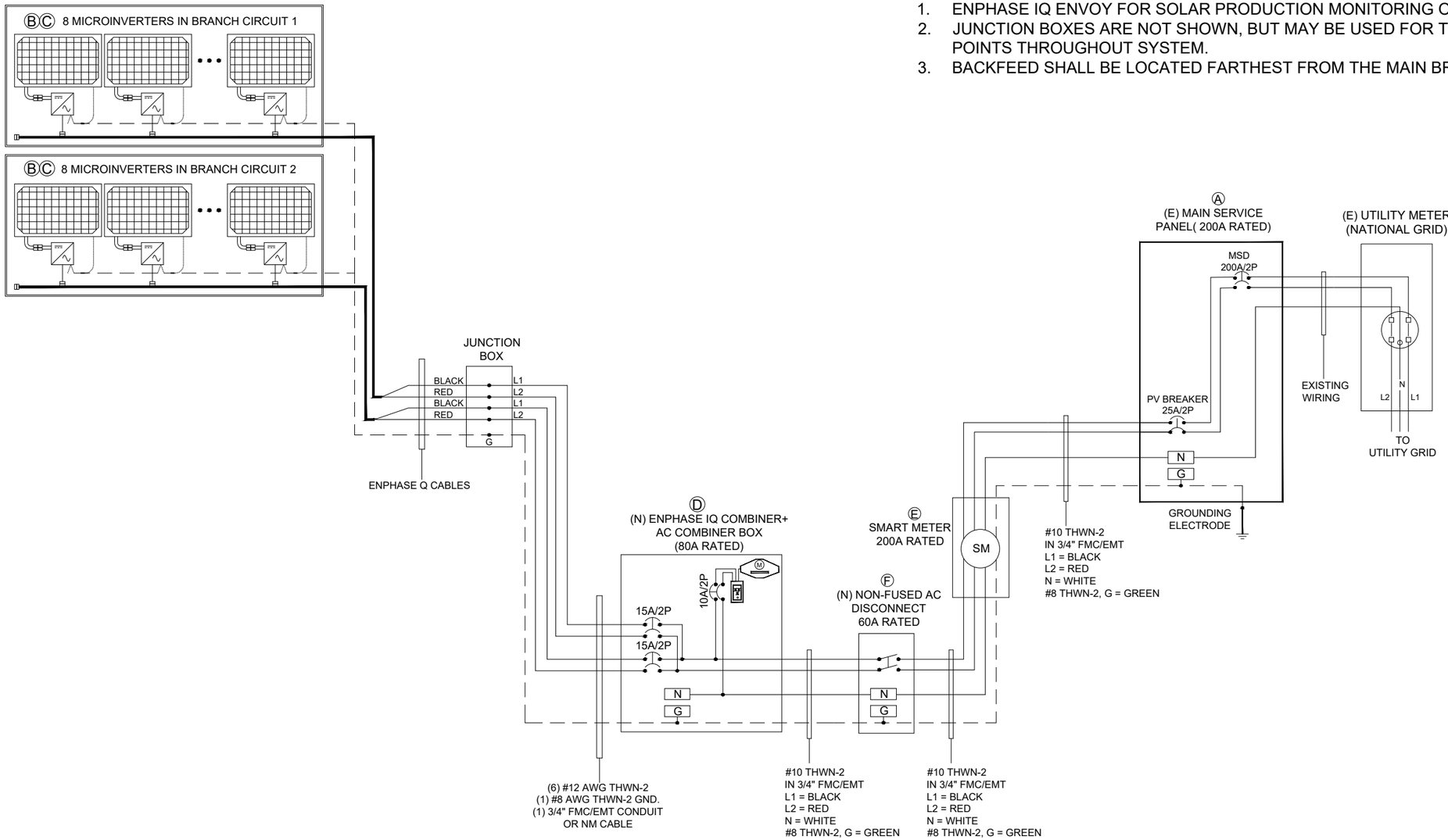
ELECTRICAL DIAGRAM:

KEY	EQUIPMENT	QTY.
A	(E) MAIN SERVICE PANEL 200A RATED WITH 200A MAIN BREAKER	1
B	(N) INVERTER - ENPHASE IQ7PLUS -72-2-US	16
C	(N) MODULE - SOLARIA POWER XT-370R-PD	16
D	(N) AC COMBINER BOX - ENPHASE IQ COMBINER 80A RATED WITH (2) 15A/2P BREAKERS	1
E	(N) SMART METER 200A RATED	1
F	(N)NON FUSED AC DISCONNECT 60A RATED	1

NOTES:
1. ENPHASE IQ ENVOY FOR SOLAR PRODUCTION MONITORING ONLY.
2. JUNCTION BOXES ARE NOT SHOWN, BUT MAY BE USED FOR TRANSITION POINTS THROUGHOUT SYSTEM.
3. BACKFEED SHALL BE LOCATED FARTHEST FROM THE MAIN BREAKER.



REGISTERED PROFESSIONAL ENGINEER
YOUR NAME HERE
No. XXXXX
Exp:_____
CIVIL
STATE OF CALIFORNIA
Professional Engineer

SYSTEM SIZE: 5920W

MODULES:
(16) SOLARIA POWER XT-370R-PD

INVERTER:
ENPHASE IQ7PLUS-72-2-US

SURFACE TYPE: ROOF

AHJ: CITY OF GLOUCESTER

CONTRACTOR:

IRONRIDGE

PROJECT NAME:

PROJECT ADDRESS:

TEL. #:

JOB NUMBER:

DRAFTER:

REVISION HISTORY

REV	DESCRIPTION	DRW	DATE
0	DRAFT REVIEW	DG	09-28-20
1			
2			
3			
4			
5			
6			
7			

SHEET
ELECTRICAL DIAGRAM

REV: 0

PAGE
PV- 4.0

DESCRIPTION	CONDUCTOR SIZE	APPROXIMATE AREA OF CONDUCTOR (NEC CHAPTER-9 TABLE-5)	# OF CONDUCTORS PER CONDUIT	CONDUIT SIZE	NOMINAL INTERNAL AREA OF CONDUIT IN SQ.INCH (NEC CHAPTER-9 TABLE-4)	CONDUIT/ WIRE FILL PERCENT	FILL FACTOR (CEC 2016 TABLE 310.15(B)(3)(a))	AMBIENT TEMP. IN DEGREE CELCIUS	TEMP.ADDER (CEC 2016 Table 310.15(B)(3)(c))	TOTAL TEMP IN DEGREE CELCIUS	TEMP CORR. FACTOR (CEC-2016 TABLE-310.15 (B)(2)(a))	CONDUCTOR RATING IN AMPERE (CEC-2016 TABLE-310.15 (B)(16))	DERATED CURRENT RATING IN AMPERE	OCPD (CEC-2016 ARTICLE-690.8)
JUNCTION BOX TO AC COMBINER BOX	12 AWG	0.0133	4	3/4"EMT	0.533	9.98%	0.8	32	22	54	0.76	30	18.24	15A
AC COMBINER BOX TO POINT OF INTERCONNECTION	10 AWG	0.0211	3	3/4"EMT	0.533	11.88%	1	32	0	32	0.96	40	38.40	25A

CONDUCTOR AMPACITY CALC'S:

JUNCTION BOX TO AC COMBINER BOX:

EXPECTED WIRE TEMP. (C): 54
AMBIENT TEMP. CORRECTION PER NEC 310.15(B)(2)(a): 0.76

CIRCUIT CONDUCTOR SIZE: 12 AWG
CIRCUIT CONDUCTOR AMPACITY PER NEC 310.15(B)(16): 30A
OF CURRENT CARRYING CONDUCTORS IN CONDUIT: 4
CONDUIT FILL CORRECTION PER NEC 310.15(B)(3)(a): 0.8
REQUIRED CIRCUIT CONDUCTOR AMPACITY PER NEC 690.8 (B):
1.25 X MAX CIRCUIT OUTPUT CURRENT=
1.25 X 1.21 A X 8 = 12.1A

DERATED AMPACITY OF CIRCUIT CONDUCTOR PER NEC TABLES
TEMP. CORR. PER NEC 310.15(B)(2)(a) X
CONDUIT FILL CORR. PER NEC 310.15(B)(3)(a) X
CIRCUIT CONDUCTOR AMPACITY PER NEC 310.15(B)(16) =
0.76 X 0.8 X 30A = 18.24A

AC COMBINER BOX TO POINT OF INTERCONNECTION:

EXPECTED WIRE TEMP. (C): 32
AMBIENT TEMP. CORRECTION PER NEC 310.15(B)(2)(a): 0.96

CIRCUIT CONDUCTOR SIZE: 10 AWG
CIRCUIT CONDUCTOR AMPACITY PER NEC 310.15(B)(16): 40A
OF CURRENT CARRYING CONDUCTORS IN CONDUIT: 3
CONDUIT FILL CORRECTION PER NEC 310.15(B)(3)(a): 1

REQUIRED CIRCUIT CONDUCTOR AMPACITY PER NEC 690.8 (B):
1.25 X MAX. INVERTER OUTPUT CURRENT=
1.25 X 1.21A X 16 = 24.2A

DERATED AMPACITY OF CIRCUIT CONDUCTOR PER NEC TABLES
TEMP. CORR. PER NEC 310.15(B)(2)(a) X
CONDUIT FILL CORR. PER NEC 310.15(B)(3)(a) X
CIRCUIT CONDUCTOR AMPACITY PER NEC 310.15(B)(16) =
0.96 X 1 X 40A = 38.4A

CONDUIT SIZING:

JUNCTION BOX TO AC COMBINER BOX:

CIRCUIT CONDUIT SIZE: 3/4" FMC/EMT
TOTAL INTERNAL AREA OF CONDUIT: 0.533 SQ.INCH

CIRCUIT CONDUCTOR SIZE: 12 AWG THWN-2
APPROXIMATE AREA OF CONDUCTOR: 0.0133 SQ.INCH

AS PER NEC TABLE-1, CHAPTER 9:
OF CONDUCTOR X AREA OF CONDUCTOR =< 40% OF AREA OF CONDUIT
4 X 0.0133 SQ.INCH < 0.4 X 0.533 SQ.INCH
0.0532 < 0.2132

AC COMBINER BOX TO POINT OF INTERCONNECTION:

CIRCUIT CONDUIT SIZE: 3/4" FMC/EMT
TOTAL INTERNAL AREA OF CONDUIT: 0.533 SQ.INCH

CIRCUIT CONDUCTOR SIZE: 8 AWG THWN-2
APPROXIMATE AREA OF CONDUCTOR: 0.0211 SQ.INCH

AS PER NEC TABLE-1, CHAPTER 9:
OF CONDUCTOR X AREA OF CONDUCTOR =< 40% OF AREA OF CONDUIT
3 X 0.0211 SQ.INCH < 0.4 X 0.533 SQ.INCH
0.0633 < 0.2132

Inverter Specifications										
	Branch 1								Total	
	(8) ENPHASE IQ7PLUS-72-2-US		(8) ENPHASE IQ7PLUS-72-2-US							
Max AC Power	2320	W	2320	W					4640	W
Max AC Current	9.68	A	9.68	A					19.36	A
Max AC Current X 1.25	12.10	A	12.10	A					24.20	A
Solar Breaker Size	15.00	A	15.00	A					30.00	A

Main Panel Connection		
Main Bus Rating	200	A
Main Bus X 120%	240	A
Main Breaker Rating	200	A
Maximum Solar Feed	40	A

Main Solar Breaker Size		
Main Solar Breaker size	25	A
Breaker less than max feed?	OK	

REGISTERED PROFESSIONAL ENGINEER
YOUR NAME HERE
No. XXXXX
Professional Engineer
Exp:_____
CIVIL
STATE OF CALIFORNIA

SYSTEM SIZE: 5920W

MODULES:
(16) SOLARIA POWER XT-370R-PD

INVERTER:
ENPHASE IQ7PLUS-72-2-US

SURFACE TYPE: ROOF

AHJ: CITY OF GLOUCESTER

CONTRACTOR:

IRONRIDGE

PROJECT NAME:
MOSKAL, JOHN

PROJECT ADDRESS:

TEL. #:

JOB NUMBER:

DRAFTER:

REVISION HISTORY

REV	DESCRIPTION	DRW	DATE
0	DRAFT REVIEW	DG	09-28-20
1			
2			
3			
4			
5			
6			
7			

SHEET
ELECTRICAL CALCS

REV: 0

PAGE
PV- 5.0

REQUIRED SIGNAGE:

⚠ WARNING ⚠
ELECTRIC SHOCK HAZARD
DO NOT TOUCH TERMINALS.
TERMINALS ON BOTH LINE AND LOAD SIDE MAY BE ENERGIZED IN THE OPEN POSITION
— 1

⚠ WARNING ⚠
ELECTRIC SHOCK HAZARD
THE DC CONDUCTOR OF THE PV SYSTEM ARE UNGROUNDED AND MAY BE ENERGIZED
— 2

⚠ WARNING ⚠
ELECTRIC SHOCK HAZARD
IF A GROUND FAULT IS INDICATED, NORMALLY GROUNDED CONDUCTORS MAY BE UNGROUNDED AND ENERGIZED
— 3

⚠ WARNING
INVERTER OUTPUT CONNECTION
DO NOT RELOCATE THIS OVERCURRENT DEVICE
— 4

⚠ WARNING
DUAL POWER SUPPLY
SOURCES: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM
— 5

PHOTOVOLTAIC DC DISCONNECT
RATED MAXIMUM POWER-POINT CURRENT:
RATED MAXIMUM POWER-POINT VOLTAGE:
MAXIMUM SYSTEM VOLTAGE:
MAXIMUM CIRCUIT CURRENT:
— 6

PHOTOVOLTAIC AC DISCONNECT
MAXIMUM AC OPERATING CURRENT: 19.36A
NOMINAL AC OPERATING VOLTAGE: 240V
— 7

PHOTOVOLTAIC DC DISCONNECT — 8

SOLAR DISCONNECT — 9

WARNING:
PHOTOVOLTAIC POWER SOURCE — 10
NOTE: REFLECTIVE LABEL REQUIRED EVERY 10FT.

PHOTOVOLTAIC SYSTEM EQUIPPED WITH RAPID SHUTDOWN SYSTEM — 11

PHOTOVOLTAIC SYSTEM
kWh METER — 12

SIGNAGE REQUIREMENTS
1. RED BACKGROUND
2. WHITE LETTERING
3. MIN. 3/8" LETTER HEIGHT
4. ALL CAPITAL LETTERS
5. ARIAL OR SIMILAR FONT
6. WEATHER RESISTANT PER UL 969

	DC SIDE					AC SIDE						
LABEL NUMBER	DC COMBINER BOX	DC ENCLOSURES	DC DISCONNECT	RACEWAYS/CONDUIT	INVERTER	AC DISCONNECT (IF PRESENT)	COMBINER BOX	PRODUCTION METER (IF PRESENT)	MAIN SERVICE	POINT OF CONNECTION	UTILITY METER	CODE REFERENCES (NEC)
1	X		X			X	X					690.17(E)
2	X	X	X									690.35(F)
3					X							690.5(C)
4					X				X	X		705.12(D)(2)(b)
5										X	X	705.12(D)(3)
6			X									690.53
7						X	X			X		690.54
8			X		X							690.13(B), IFC 605.11.3
9						X	X					690.13(B), IFC 605.11.3
10				X								690.31(G)(3), IFC 605.11.1.2
11					X					X		690.56(C)
12												

REGISTERED PROFESSIONAL ENGINEER
YOUR NAME HERE
No. XXXXX
Exp:
CIVIL
STATE OF CALIFORNIA
Professional Engineer

SYSTEM SIZE: 5920W

MODULES:
(16) SOLARIA POWER XT-370R-PD

INVERTER:
ENPHASE IQ7PLUS-72-2-US

SURFACE TYPE: ROOF

AHJ: CITY OF GLOUCESTER

CONTRACTOR:

IRONRIDGE

PROJECT NAME:

PROJECT ADDRESS:

TEL. #:

JOB NUMBER:

DRAFTER:

REVISION HISTORY

REV	DESCRIPTION	DRW	DATE
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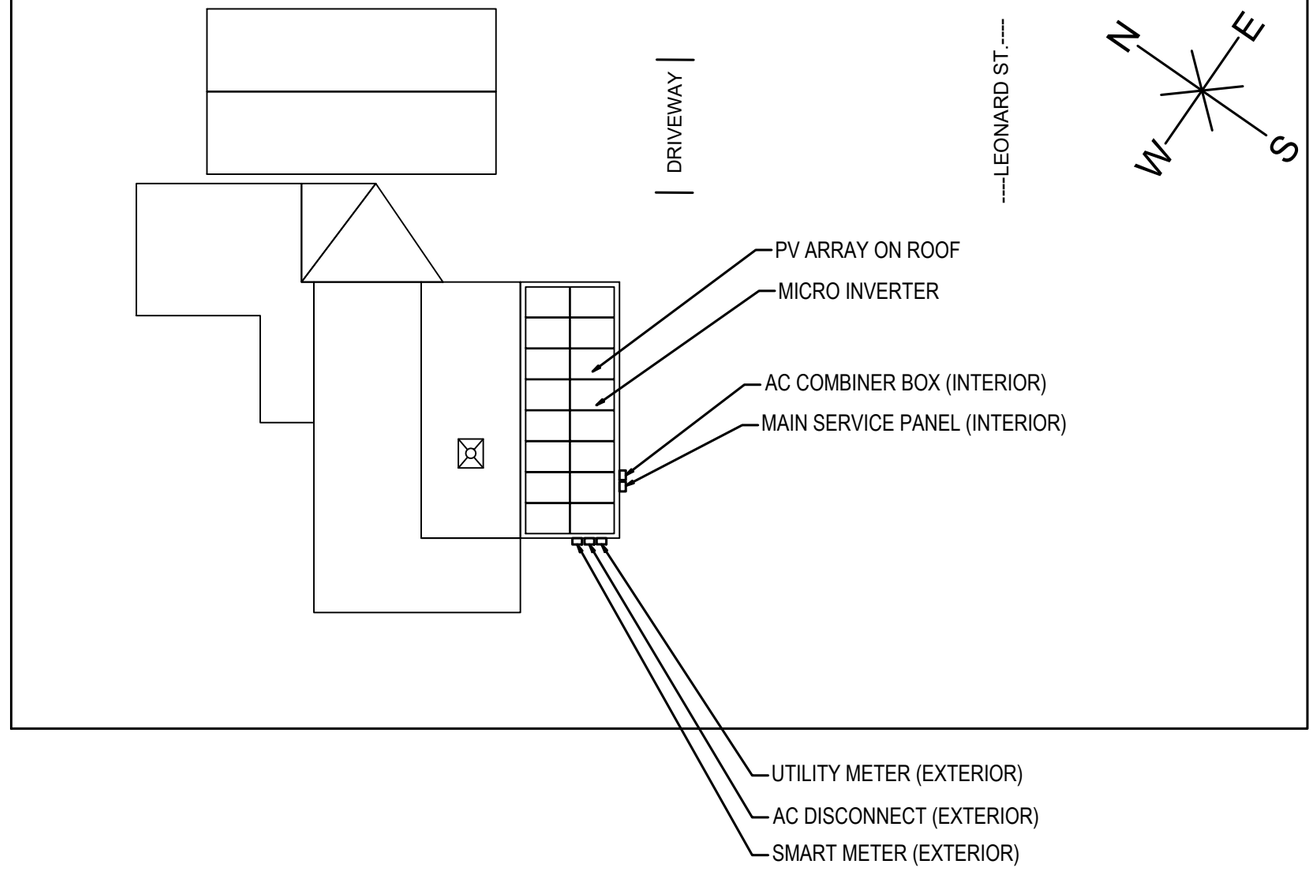
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SIGNAGE

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PAGE
PV- 6.0

CAUTION

POWER TO THIS BUILDING IS ALSO SUPPLIED FROM THE FOLLOWING SOURCES WITH DISCONNECTS LOCATED AS SHOWN:



REGISTERED PROFESSIONAL ENGINEER
YOUR NAME HERE
No. XXXXX
Exp:
CIVIL
STATE OF CALIFORNIA
Professional Engineer

SYSTEM SIZE: 5920W

MODULES:
(16) SOLARIA POWER XT-370R-PD

INVERTER:
ENPHASE IQ7PLUS-72-2-US

SURFACE TYPE: ROOF

AHJ: CITY OF GLOUCESTER

CONTRACTOR:

IRONRIDGE

PROJECT NAME:

PROJECT ADDRESS:

TEL. #:

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1			
2			
3			
4			
5			
6			
7			

SHEET
PLACARD

REV: 0

PAGE
PV- 6.1

SOLARIA®

Solaria PowerXT® | DC Panel



Solaria PowerXT®-370R-PD

Achieving 20% efficiency, Solaria PowerXT solar panels are one of the highest power panels in the residential and commercial solar market. Compared to conventional panels, Solaria PowerXT panels have fewer gaps between the solar cells; this leads to higher power and superior aesthetics. Solaria PowerXT Pure Black™ panels are manufactured with black backsheet and frames, enhancing a home or building's architectural beauty.

Developed in California, Solaria's patented cell cutting and panel assembly takes processed solar wafers and turns them into PowerXT solar panels. The process starts by creating a highly reliable PowerXT cell where busbars and ribbon interconnections are eliminated. Solaria then packages the cells into the PowerXT solar panel, reducing inactive space between the cells. This process leads to an exceptionally cost effective and efficient solar panel.



Higher Efficiency, Higher Power

Solaria PowerXT panels achieve up to 20% efficiency; conventional panels achieve 15% – 17% efficiency. Solaria PowerXT panels are one of the highest power panels available.

Lower System Costs

Solaria PowerXT panels produce more power per square meter area. This reduces installation costs due to fewer balance of system components.

Improved Shading Tolerance

Sub-strings are interconnected in parallel, within each of the four panel quadrants, which dramatically lowers the shading losses and boosts energy yield.

Improved Aesthetics

Compared to conventional panels, Solaria PowerXT panels have a more uniform appearance and superior aesthetics.

Durability and Reliability

Solder-less cell interconnections are highly reliable and designed to far exceed the industry leading 25 year warranty.

About Solaria

Established in 2000, The Solaria Corporation has created one of the industry's most respected IP portfolios, with over 65 patents encompassing materials, processes, applications, products, manufacturing automation and equipment. Headquartered in Oakland, CA, Solaria has developed a technology platform that unlocks the potential of solar energy.

TOP PERFORMER 2018 DNV·GL PV MODULE RELIABILITY SCORECARD

TÜVRheinland® Precisely Right.

The Solaria Corporation 1700 Broadway, Oakland, CA 94612 P: (510) 270-2500 www.solaria.com
Product specifications are subject to change without notice.

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Rev 3C 08-15-2019

SOLARIA®

Solaria PowerXT®-370R-PD

Performance at STC (1000W/m², 25° C, AM 1.5)

Solaria PowerXT-		360R-PD	370R-PD
Max Power (P_{max})	[W]	360	370
Efficiency	[%]	19.9	20.5
Open Circuit Voltage (V_{oc})	[V]	47.7	48.3
Short Circuit Current (I_{sc})	[A]	9.56	9.60
Max Power Voltage (V_{mp})	[V]	39.5	40.2
Max Power Current (I_{mp})	[A]	9.13	9.20
Power Tolerance	[%]	-0/+3	-0/+3

Performance at NOCT (800W/m², 20°C Amb, Wind 1 m/s, AM 1.5)

Max Power (Pmax)	[W]	265	272
Open Circuit Voltage (V_{oc})	[V]	44.8	45.4
Short Circuit Current (I_{sc})	[A]	7.71	7.74
Max Power Voltage (V_{mp})	[V]	36.3	37.0
Max Power Current (I_{mp})	[A]	7.30	7.35

Temperature Characteristics

NOCT	[°C]	45 +/-2
Temp. Coeff. of P_{max}	[% / °C]	-0.39
Temp. Coeff. of V_{oc}	[% / °C]	-0.29
Temp. Coeff. of Isc	[% / °C]	0.04

Design Parameters

Operating temperature	[°C]	-40 to +85
Max System Voltage	[V]	1000
Max Fuse Rating	[A]	15
Bypass Diodes	[#]	4

Mechanical Characteristics

Cell Type	Monocrystalline Silicon
Dimensions (L x W x H)	1621mm x 1116mm x 40mm
Weight	21 kg / 46 lbs
Glass Type / Thickness	AR Coated, Tempered / 3.2mm
Frame Type	Black Anodized Aluminum
Cable Type / Length	12 AWG PV Wire (UL) / 1000mm
Connector Type	MC4
Junction Box	IP67 / 4 diodes
Front Load	5400 Pa / 113 psf*
Rear Load	3600 Pa / 75 psf*

* Refer to Solaria Installation Manual for details

Certifications / Warranty

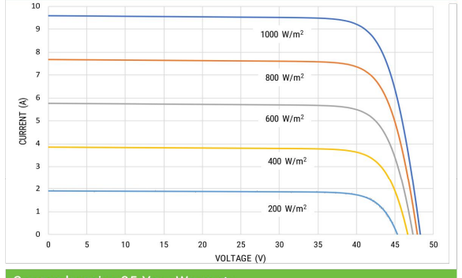
Certifications	UL 1703/IEC 61215/IEC 61730/CEC CAN/CSA-C22.2
Fire Type (UL 1703)	1
Power & Product Warranty	25 years*

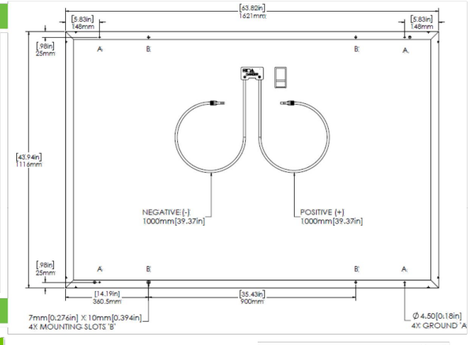
* Warranty details at www.solaria.com

Packaging

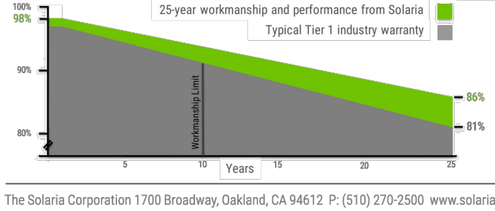
Stacking Method	Horizontal / Palletized
Pcs / Pallet	25
Pallet Dims	1668 x 1150 x 1230 mm
Pallet Weight	590 kg / 1300 lbs
Pallets / 40-ft Container	28
Pcs / 40-ft Container	700

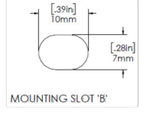
IV Curves vs. Irradiance (370W Panel)

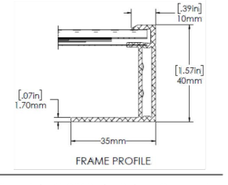




Comprehensive 25-Year Warranty







The Solaria Corporation 1700 Broadway, Oakland, CA 94612 P: (510) 270-2500 www.solaria.com
Product specifications are subject to change without notice.

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Rev 3C 08-15-2019

SYSTEM SIZE: 5920W

MODULES:
(16) SOLARIA POWER XT-370R-PD

INVERTER:
ENPHASE IQ7PLUS-72-2-US

SURFACE TYPE: ROOF

AHJ: CITY OF GLOUCESTER

CONTRACTOR:

IRONRIDGE

PROJECT NAME:

PROJECT ADDRESS:

TEL. #:

JOB NUMBER:

DRAFTER:

REVISION HISTORY

REV	DESCRIPTION	DRW	DATE
0	DRAFT REVIEW	DG	09-28-20
1			
2			
3			
4			
5			
6			
7			

SHEET
MODULE DATASHEET

REV: 0

PAGE
PV- 7.0

Data Sheet
Enphase Microinverters
Region: AMERICAS

Enphase IQ 7 and IQ 7+ Microinverters

The high-powered smart grid-ready **Enphase IQ 7 Micro™** and **Enphase IQ 7+ Micro™** dramatically simplify the installation process while achieving the highest system efficiency.

Part of the Enphase IQ System, the IQ 7 and IQ 7+ Microinverters integrate with the Enphase IQ Envoy™, Enphase IQ Battery™, and the Enphase Enlighten™ monitoring and analysis software.

IQ Series Microinverters 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 of up to 25 years.



Easy to Install

- Lightweight and simple
- Faster installation with improved, lighter two-wire cabling
- Built-in rapid shutdown compliant (NEC 2014 & 2017)

Productive and Reliable

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

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
- Meets CA Rule 21 (UL 1741-SA)

* The IQ 7+ Micro is required to support 72-cell modules.

UL CERTIFIED SAFETY US-CA E341165

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

ENPHASE.

Enphase IQ 7 and IQ 7+ Microinverters

INPUT DATA (DC)	IQ7-60-2-US / IQ7-60-B-US	IQ7PLUS-72-2-US / IQ7PLUS-72-B-US
Commonly used module pairings[1]	235 W - 350 W +	235 W - 440 W +
Module compatibility	60-cell PV modules only	60-cell and 72-cell PV modules
Maximum input DC voltage	48 V	60 V
Peak power tracking voltage	27 V - 37 V	27 V - 45 V
Operating range	16 V - 48 V	16 V - 60 V
Min/Max start voltage	22 V / 48 V	22 V / 60 V
Max DC short circuit current (module Isc)	15 A	15 A
Overvoltage class DC port	II	II
DC port backfeed current	0 A	0 A
PV array configuration	1 x 1 ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit	

OUTPUT DATA (AC)	IQ 7 Microinverter		IQ 7+ Microinverter	
Peak output power	250 VA		295 VA	
Maximum continuous output power	240 VA		290 VA	
Nominal (L-L) voltage/range[2]	240 V / 211-264 V	208 V / 183-229 V	240 V / 211-264 V	208 V / 183-229 V
Maximum continuous output current	1.0 A (240 V)	1.15 A (208 V)	1.21 A (240 V)	1.39 A (208 V)
Nominal frequency	60 Hz		60 Hz	
Extended frequency range	47 - 68 Hz		47 - 68 Hz	
AC short circuit fault current over 3 cycles	5.8 Arms		5.8 Arms	
Maximum units per 20 A (L-L) branch circuit[3]	16 (240 VAC)	13 (208 VAC)	13 (240 VAC)	11 (208 VAC)
Overvoltage class AC port	III		III	
AC port backfeed current	0 A		0 A	
Power factor setting	1.0		1.0	
Power factor (adjustable)	0.7 leading ... 0.7 lagging		0.7 leading ... 0.7 lagging	

EFFICIENCY	@240 V	@208 V	@240 V	@208 V
Peak CEC efficiency	97.6 %	97.6 %	97.5 %	97.3 %
CEC weighted efficiency	97.0 %	97.0 %	97.0 %	97.0 %

MECHANICAL DATA	
Ambient temperature range	-40°C to +65°C
Relative humidity range	4% to 100% (condensing)
Connector type (IQ7-60-2-US & IQ7PLUS-72-2-US)	MC4 (or Amphenol H4 UTX with additional Q-DCC-5 adapter)
Connector type (IQ7-60-B-US & IQ7PLUS-72-B-US)	Friends PV2 (MC4 intermateable). Adaptors for modules with MC4 or UTX connectors: - PV2 to MC4: order ECA-S20-S22 - PV2 to UTX: order ECA-S20-S25
Dimensions (WxHxD)	212 mm x 175 mm x 30.2 mm (without bracket)
Weight	1.08 kg (2.38 lbs)
Cooling	Natural convection - No fans
Approved for wet locations	Yes
Pollution degree	PD3
Enclosure	Class II double-insulated, corrosion resistant polymeric enclosure
Environmental category / UV exposure rating	NEMA Type 6 / outdoor

FEATURES	
Communication	Power Line Communication (PLC)
Monitoring	Enlighten Manager and MyEnlighten monitoring options. Both options require installation of an Enphase IQ Envoy.
Disconnecting means	The AC and DC connectors have been evaluated and approved by UL for use as the load-break disconnect required by NEC 690.
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 This product is UL Listed as PV Rapid Shut Down Equipment and conforms with NEC-2014 and NEC-2017 section 690.12 and C22.1-2015 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, when installed according manufacturer's instructions.

1. No enforced DC/AC ratio. See the compatibility calculator at https://enphase.com/en-us/support/module-compatibility.
2. Nominal voltage range can be extended beyond nominal if required by the utility.
3. Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

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

ENPHASE.

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2018-05-24

SYSTEM SIZE: 5920W

MODULES:
(16) SOLARIA POWER XT-370R-PD

INVERTER:
ENPHASE IQ7PLUS-72-2-US

SURFACE TYPE: ROOF

AHJ: CITY OF GLOUCESTER

CONTRACTOR:

IRONRIDGE

PROJECT NAME:

PROJECT ADDRESS:

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DRAFTER:

REVISION HISTORY

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INVERTER DATASHEET

REV: 0

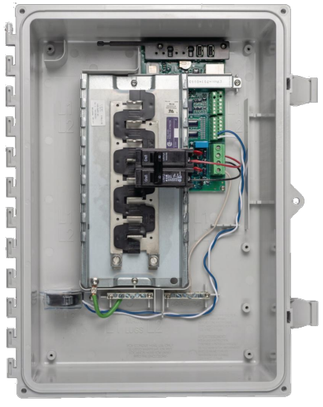
PAGE
PV- 7.1

Data Sheet
Enphase Networking

Enphase IQ Combiner 3

(X-IQ-AM1-240-3)

The **Enphase IQ Combiner 3™** with Enphase IQ Envoy™ consolidates interconnection equipment into a single enclosure and streamlines PV and storage installations by providing a consistent, pre-wired solution for residential applications. It offers up to four 2-pole input circuits and Eaton BR series busbar assembly.



Smart

- Includes IQ Envoy for communication and control
- Flexible networking supports Wi-Fi, Ethernet, or cellular
- Optional AC receptacle available for PLC bridge
- Provides production metering and optional consumption monitoring

Simple

- Reduced size from previous combiner
- Centered mounting brackets support single stud mounting
- Supports back and side conduit entry
- Up to four 2-pole branch circuits for 240 VAC plug-in breakers (not included)
- 80 A total PV or storage branch circuits

Reliable

- Durable NRTL-certified NEMA type 3R enclosure
- Five-year warranty
- UL listed

LISTED

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

ENPHASE.

Enphase IQ Combiner 3

MODEL NUMBER	
IQ Combiner 3 X-IQ-AM1-240-3	IQ Combiner 3 with Enphase IQ Envoy™ printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 +/- 0.5%) and optional* consumption monitoring (+/- 2.5%).
ACCESSORIES and **REPLACEMENT PARTS** (not included, order separately)	
Enphase Mobile Connect™ CELLMODEM-03 (4G / 12-year data plan) CELLMODEM-01 (3G / 5-year data plan) CELLMODEM-M1 (4G based LTE-M / 5-year data plan)	Plug and play industrial grade cellular modem with data plan for systems up to 60 microinverters. (Available in the US, Canada, Mexico, Puerto Rico, and the US Virgin Islands, where there is adequate cellular service in the installation area.)
Consumption Monitoring* CT CT-200-SPLIT	Split core current transformers enable whole home consumption metering (+/- 2.5%).
Circuit Breakers BRK-10A-2-240 BRK-15A-2-240 BRK-20A-2P-240	Supports Eaton BR210, BR215, BR220, BR230, BR240, BR250, and BR260 circuit breakers. Circuit breaker, 2 pole, 10A, Eaton BR210 Circuit breaker, 2 pole, 15A, Eaton BR215 Circuit breaker, 2 pole, 20A, Eaton BR220
EPLC-01	Power line carrier (communication bridge pair), quantity 2
XA-PLUG-120-3	Accessory receptacle for Power Line Carrier in IQ Combiner 3 (required for EPLC-01)
XA-ENV-PCBA-3	Replacement IQ Envoy printed circuit board (PCB) for Combiner 3
ELECTRICAL SPECIFICATIONS	
Rating	Continuous duty
System voltage	120/240 VAC, 60 Hz
Eaton BR series busbar rating	125 A
Max. continuous current rating (output to grid)	65 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. continuous current rating (input from PV)	64 A
Max. total branch circuit breaker rating (input)	80A of distributed generation / 90A with IQ Envoy breaker included
Production Metering CT	200 A solid core pre-installed and wired to IQ Envoy
MECHANICAL DATA	
Dimensions (WxHxD)	49.5 x 37.5 x 16.8 cm (19.5" x 14.75" 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 • 60 A breaker branch input: 4 to 1/0 AWG copper conductors • Main lug combined output: 10 to 2/0 AWG copper conductors • Neutral and ground: 14 to 1/0 copper conductors 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
Ethernet	Optional, 802.3, Cat5E (or Cat 6) UTP Ethernet cable (not included)
Cellular	Optional, CELLMODEM-01 (3G) or CELLMODEM-03 (4G) or CELLMODEM-M1 (4G based LTE-M) (not included)
COMPLIANCE	
Compliance, Combiner	UL 1741 CAN/CSA C22.2 No. 107.1 47 CFR, Part 15, Class B, ICES 003 Production metering: ANSI C12.20 accuracy class 0.5 (PV production)
Compliance, IQ Envoy	UL 60601-1/CANCSA 22.2 No. 61010-1

* Consumption monitoring is required for Enphase Storage Systems.

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

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2018-09-13

ENPHASE.

SYSTEM SIZE: 5920W

MODULES:
(16) SOLARIA POWER XT-370R-PD

INVERTER:
ENPHASE IQ7PLUS-72-2-US

SURFACE TYPE: ROOF

AHJ: CITY OF GLOUCESTER

CONTRACTOR:

IRONRIDGE

PROJECT NAME:

PROJECT ADDRESS:

TEL. #:

JOB NUMBER:

DRAFTER:

REVISION HISTORY

REV	DESCRIPTION	DRW	DATE
0	DRAFT REVIEW	DG	09-28-20
1			
2			
3			
4			
5			
6			
7			

SHEET ENPHASE IQ ENVOY DATASHEET

REV: 0

PAGE PV- 7.3

Data Sheet
Enphase Q Cable Accessories
REGION: Americas

Enphase Q Aggregator and Q Cable Accessories

The **Enphase Q Aggregator™** and **Enphase Q Cable™** are part of the sixth generation Enphase IQ System™. These accessories provide simplicity, reliability, and faster installation times.



Enphase Q Cable

- Two-wire, double-insulated Enphase Q Cable is 50% lighter than the previous generation Enphase cable
- New cable numbering and plug and play connectors speed up installation and simplify wire management
- Link connectors eliminate cable waste



Field-Wireable Connectors

- Easily connect Q cables on the roof without complex wiring
- Make connections from any open connector and center feed any section of cable within branch limits
- Available in male and female connector types

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

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Enphase Q Cable Accessories

CONDUCTOR SPECIFICATIONS	
Certification	UL3003 (raw cable), UL 9703 (cable assemblies), DG cable
Flame test rating	FT4
Compliance	RoHS, OIL RES I, CE, UV resistant, combined UL for the United States
Conductor type	THHN/THWN-2 dry/wet
Disconnecting means	The AC and DC bulkhead connectors have been evaluated and approved by UL for use as the load-break disconnect required by NEC 690.

Q CABLE TYPES / ORDERING OPTIONS				
Connectorized Models	**Size / Max Nominal Voltage**	**Connector Spacing**	**PV Module Orientation**	**Connector Count per Box**
Q-12-10-240	12 AWG / 277 VAC	1.3 m (4.2 ft)	Portrait	240
Q-12-17-240	12 AWG / 277 VAC	2.0 m (6.5 ft)	Landscape (60-cell)	240
Q-12-20-200	12 AWG / 277 VAC	2.3 m (7.5 ft)	Landscape (72-cell)	200

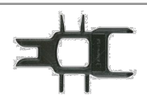
ENPHASE Q CABLE ACCESSORIES		
Name	**Model Number**	**Description**
Raw Q Cable	Q-12-RAW-200	300 meters of 12 AWG cable with no connectors
Field-wireable connector (male)	Q-CONN-10M	Make connections from any Q Aggregator open connector
Field-wireable connector (female)	Q-CONN-10F	Make connections from any Q Cable open connector
Cable Clip	Q-CLIP-100	Used to fasten cabling to the racking or to secure looped cabling
Disconnect tool	Q-DISC-10	Disconnect tool for Q Cable connectors, DC connectors, and AC module mount
Q Cable sealing caps (female)	Q-SEAL-10	One needed to cover each unused connector on the cabling
Terminator	Q-TERM-10	Terminator cap for unused cable ends
Replacement DC Adaptor (MC4)	Q-DCC-2	DC adaptor to MC4 (max voltage 100 VDC)
Replacement DC Adaptor (UTX)	Q-DCC-5	DC adaptor to UTX (max voltage 100 VDC)



TERMINATOR
Terminator cap for unused cable ends, sold in packs of ten (Q-TERM-10)



SEALING CAPS
Sealing caps for unused aggregator and cable connections (Q-BA-CAP-10 and Q-SEAL-10)



DISCONNECT TOOL
Plan to use at least one per installation, sold in packs of ten (Q-DISC-10)



CABLE CLIP
Used to fasten cabling to the racking or to secure looped cabling, sold in packs of one hundred (Q-CLIP-100)

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

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2018-05-14

ENPHASE.

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1			
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SHEET ENPHASE Q CABLES

REV: 0

PAGE PV- 7.4