





395W Class leading power output -0 to +3%

True American Quality True American Brand

Mission Solar Energy is headquartered in San Antonio, Texas where we manufacture our modules. We produce American, high-quality solar modules ensuring the highest-in-class power output and best-in-class reliability.

Demand the best. Demand Mission Solar Energy.

- Certified Reliability
- Tested to UL 61730 & IEC Standards
- PID resistant
- Resistance to salt mist corrosion

- Advanced Technology
- 9 Busbar
- Passivated Emitter Rear Contact
- Ideal for all applications

- Extreme Weather Resilience
- Up to 5,400 Pa front load & 3,600 Pa back load
- Tested to UL 61730
- 40 mm frame

- BAA Compliant for Government Projects
- Buy American Act
- American Recovery & Reinvestment Act

FRAME-TO-FRAME WARRANTY

Degradation guaranteed not to exceed 2% in year one and 0.58% annually from years two to 30 with 84.08% capacity guaranteed in year 25.

CERTIFICATIONS



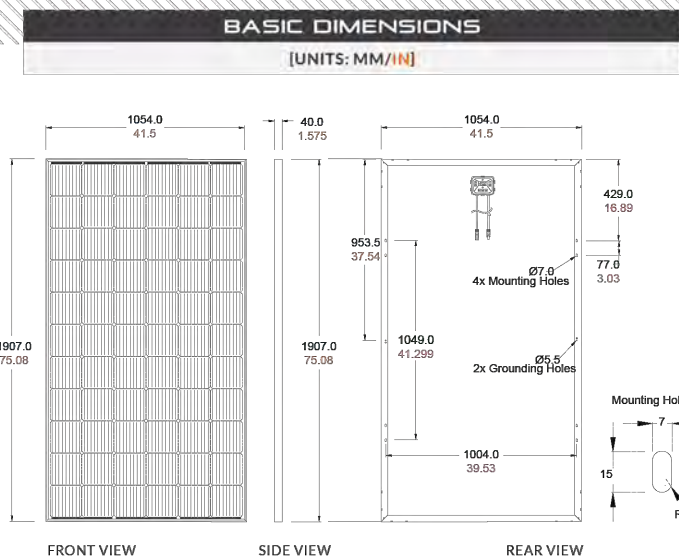
If you have questions or concerns about our products in your area, please contact Mission Solar Energy.

UL 61730 / IEC 61215 / IEC 61730 / IEC 61701

C-SA2-MKTG-0027 REV 4 03/18/2022

www.missionsolar.com | info@missionsolar.com

Class Leading 390-400W MSE PERC 66



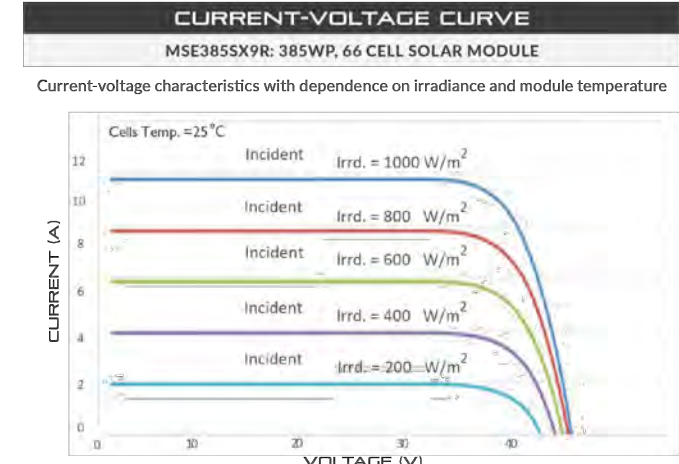
ELECTRICAL SPECIFICATION table with columns for parameter, value, and unit. Includes Power Output, Module Efficiency, Short Circuit Current, etc.

TEMPERATURE COEFFICIENTS table showing Normal Operating Cell Temperature (NOCT), Temperature Coefficient of Pmax, etc.

OPERATING CONDITIONS table showing Maximum System Voltage, Operating Temperature Range, Maximum Series Fuse Rating, etc.

MECHANICAL DATA table showing Solar Cells, Cell Orientation, Module Dimension, Weight, etc.

SHIPPING INFORMATION table showing Container Feet, Ship to, Pallet, Panels, etc.



Mission Solar Energy 8303 S. New Braunfels Ave., San Antonio, Texas 78235

Mission Solar Energy reserves the right to make specification changes without notice. C-SA2-MKTG-0027 REV 4 03/18/2022

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IQ8 Series 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.



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

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IQ8 Series Microinverters

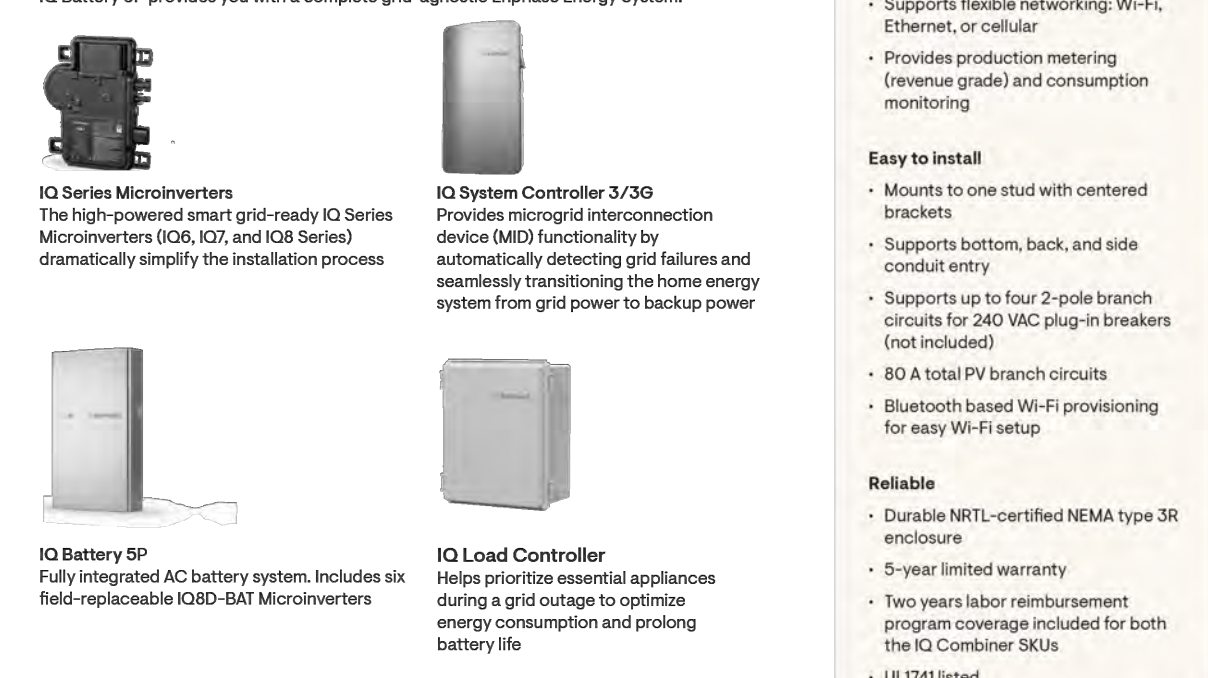
Large technical table for IQ8 Series Microinverters with columns for input data, output data, and mechanical data. Includes peak output power, max continuous output power, and ambient temperature range.

(1) The IQ8-208 variant will be operating in grid-tied mode only at 208V AC. (2) No enforced DC/AC ratio. See the compatibility calculator at https://mfi.enphase.com/module-compatibility (3) Maximum continuous input DC current is 10.8A (4) Nominal voltage range can be extended beyond nominal if required by the utility. (5) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.



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.



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IQ Combiner 5/5C

Technical table for IQ Combiner 5/5C with columns for model number, what's in the box, accessories and replacement parts, and electrical specifications. Includes details on the IQ Gateway printed circuit board and various components.

\* All sizes are for standard grid-tied mode for systems to 10 microinverters. (Available in the US, Canada, Mexico, Puerto Rico, and the US Virgin Islands, where there is adequate outdoor service to the installation area.) IQC-5-IC-DSH-00007-2.0-EN-US-2023-09-27

MECHANICAL DATA table with columns for parameter and value. Includes Dimensions (HxWxD), Weight, Ambient temperature range, Cooling, Enclosure environmental rating, Wire sizes, and Communication (In-premise connectivity).

COMPLIANCE table with columns for category and value. Includes IQ Combiner, IQ Gateway, IQ System Controller 3/3G, IQ Battery 5P, and Microinverter.

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Accessories



Table listing accessories and replacement parts with columns for item name and description. Includes CELLMODEM-MI-06-SP-05, IA-SOLARSHIELD-ES, and various circuit breakers.

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L.C. TRUCKING ROOF MOUNT SOLAR PV & BATTERY SYSTEM 3452 SW CR 242A Lake City, FL 32024 DATA SHEETS



ENGINEER: David Brueck, P.E. SC LICENSE # 29008 Certified NABCEP PV Installer # 042013-17

DRAFTER: DAVID BRUECK

PROJECT #: 2024-05

SHEET: 002

SCALE: N/A

Table with columns for NO, DATE, BY, FOR CONSTRUCTION, and REVISION DESCRIPTION. Includes a revision entry for 2024/07/24.



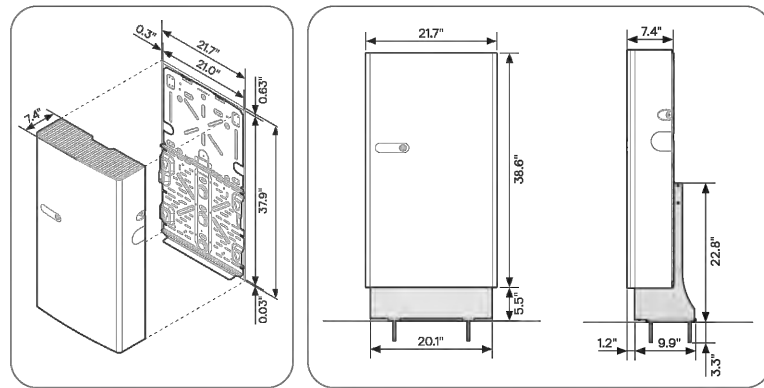
DATASHEET 5A



## IQ Battery 5P

The IQ Battery 5P all-in-one AC-coupled system is powerful, reliable, simple, and safe. It has a total usable energy capacity of 5.0 kWh and includes six embedded grid-forming microinverters with a 3.84 kVA continuous power rating. It provides backup capability, and installers can quickly design the right system size to meet the customer needs.

Dimensions in inches



Wall mounted

Floor mounted with pedestal (sold separately)



**Powerful**

- Provides 3.84 kVA continuous and 7.68 kVA peak power
- Doubles the available power per kWh of prior generations of IQ Battery
- Includes six embedded IQBD-BAT Microinverters

**Reliable**

- 15 years limited warranty
- Cools passively with no moving parts or fans
- Uses wired communication for fast and consistent connection
- Updates software and firmware remotely

**Simple**

- Fully integrated AC battery system
- Installs and commissions easily
- Supports Backup, Self-Consumption, and time-of-use (TOU) modes
- Offers homeowners remote monitoring and control from the Enphase App
- Field replaceable components

**Safe**

- Evaluated to UL 9540A for large scale fire testing and reduced separation distance as required in 2021 IRC R328.3.1, 2021 FFC 1207.1.5, and 2023 NFPA 855 15.3.1 and 9.1.5.<sup>1</sup>
- Uses lithium iron phosphate (LFP) chemistry for maximum safety and longevity

<sup>1</sup>Follow all installation instructions and local codes and measurements of the Authority Having Jurisdiction (AHJ) when installing Enphase ESS.

IQB-5P-05H-00000-4-0-EN-US-2023-01-07

## IQ Battery 5P

BATTERY	
Total capacity	5.0 kWh
Usable capacity	5.0 kWh
DC round-trip efficiency	96%
Nominal DC voltage	76.8 V
Maximum DC voltage	86.4 V
Ambient operating temperature range (charging)	-20°C to 50°C (-4°F to 122°F) non-condensing
Ambient operating temperature range (discharging)	-20°C to 50°C (-4°F to 122°F) non-condensing
Optimum operating temperature range	0°C to 30°C (32°F to 86°F)
Chemistry	Lithium iron phosphate (LFP)
MECHANICAL DATA	
Dimensions (HxWxD)	980 mm x 500 mm x 188 mm (38.6 in x 21.7 in x 7.4 in)
Lifting weight	68.3 kg (148.3 lbs)
Total installed weight	78.9 kg (174 lbs)
Enclosure	Outdoor-NEMA 3R
IQBD-BAT Microinverter enclosure	NEMA type 6
Cooling	Natural convection
Altitude	Up to 2,500 meters (8,202 feet)
Mounting	Wall-mount or pedestal-mount (sold separately)
FEATURES AND COMPLIANCE	
Compatibility	Compatible with IQ and M Series Microinverters, IQ System Controller 3/3G, IQ Combiner 5/5C, and IQ Gateway for grid-tied and backup operation
Communication	Wired control communication
Service	Backup, Self-Consumption, TOU, and NEM integrity
Monitoring	Enphase Installer Platform and Enphase App monitoring options; API integration
Compliance	CA Rule 21 (UL 1741 SA), IEEE 1547-2018 (UL 1741-SB, 3rd Ed.), UL 1741 PCS CR0, UL1 998, UL 869A, UL 675, UL 508, UL 507, CSA 22.2 No. 1071, 47 CFR Part 15 Class B, ICES 003, ICC-ES AC108, The IQ System Controller 3/3G is approved for use as service equipment in the United States
CEC module: UL 9540A, UN 38.3, UL 998, UL 991, NEMA Type 3R, AC156	
EMC: 47 CFR Part 15, Class B, ICES 003	
Cell module: UL 973, UN 38.3	
Inverter: UL 62109-1, IEC 62109-2	
LIMITED WARRANTY	
Limited warranty	>50% capacity, up to 15 years or 6,000 cycles*

<sup>1</sup> Following local standards, choose a well-ventilated, non-habitable, indoor location (8 in x 2-in gap) or in an outdoor location, which is out of direct sunlight and where the ambient temperature and humidity are within -4°F to 137°F (-20°C to 45°C) and 5% to 95% RH, non-condensing.

\*Warranty occurs first. Restrictions apply.

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IQB-5P-05H-00000-4-0-EN-US-2023-01-07

## IQ Battery 5P

MODEL NUMBER	
IQBATTERY-5P-5P-NA	The IQ Battery 5P system with integrated IQ Microinverters and battery management system (BMS) with battery controller
WHAT'S IN THE BOX	
IQ Battery 5P unit	IQ Battery 5P Unit (B00-T02-US00-1-3)
id cover and conduit cover	IQ Battery 5P cover with two conduit covers for the left and right sides of the unit
Bottom mounting bracket and top shield	Bottom mounting bracket for mounting the battery on the wall. One top shield is required for UL9540A.
M5 seismic screws	Two M5 seismic screws for securing the battery unit on the bottom mounting bracket
M4 grounding screws	Two M4 grounding screws for securing the top shield on the bottom mounting bracket
M5 ID cover grounding screws	Two M5 ID cover grounding screws for the EM/EMC requirement
Cable ties	Six cable ties for securing field cables to the unit
Control (CTRL) connector	Spare CTRL connector without resistor for CTRL wiring
Control (CTRL) connector with resistor	Spare CTRL connector with resistor for CTRL wiring
Quick Install Guide (QIG)	QIG for IQ Battery unit installation instructions
OPTIONAL ACCESSORIES AND REPLACEMENT PARTS	
IQBD-BAT-RMA	IQBD-BAT Microinverter for field replacement
B00-T02-US00-1-3-RMA	IQ Battery 5P Battery unit for field replacement
B00-CX-0550-O	IQ Battery 5P cover for field replacement
B00-FI-0550-O	IQ Battery 5P pedestal mount
B00-CP-096-O	IQ Battery 5P conduit plates for field replacement. Includes one left-side and one right-side conduit plate
B00-WB-0543-O	IQ Battery 5P wall bracket for field replacement. Includes one bottom mounting bracket and one top shield
IQBATTERY-HNDL-S	IQ Battery 5P lifting handles. Includes one left-side and one right-side lifting handle
B00-ACFB-080-O	IQ Battery 5P AC filter board for field replacement
B00-BMSNA-0490-O	IQ Battery 5P BMS board for field replacement
B00-CANB-063-O	IQ Battery 5P control communication board for field replacement
B00-NICS-0824-O, B00-NICS-0824-O	IQ Battery 5P control switch is preinstalled on the wiring cover for field replacement
OUTPUT (AC)	
Rated (continuous) output power	3.84 kVA
Peak output power	7.68 kVA (3 seconds), 6.14 kVA (10 seconds)
Nominal voltage/range	240/231-264 VAC
Nominal frequency/range	60/57-63 Hz
Rated output current (B240 VAC)	16 A
Peak output current (B240 VAC)	32 A (3 seconds), 25.6 A (10 seconds)
Power start capability	Up to 48 A (3A)
Power factor (adjustable)	0.85 leading...0.85 lagging
Maximum units per 20 A branch circuit	One unit (single-phase)
Maximum conductor size supported	3 AWG
Overcurrent protection device (OCPD) for 3 AWG cable	80 A
Interconnection	Single-phase
AC round-trip efficiency <sup>2</sup>	90%

<sup>2</sup>Supported in both grid-connected and backup/off-grid operation.

<sup>3</sup>Power start capability may vary.

<sup>4</sup>AC to the battery to AC at 50% power rating.

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IQB-5P-05H-00000-4-0-EN-US-2023-01-07



DATASHEET



## IQ System Controller 3/3G

The Enphase IQ System Controller 3/3G connects the home to grid power, the IQ Battery system, and solar PV. It provides microgrid interconnect device (MID) functionality by automatically detecting and seamlessly transitioning the home energy system from grid power to backup power in the event of a grid failure. It consolidates interconnection equipment into a single enclosure and streamlines grid-independent capabilities of PV and storage installations by providing a consistent, pre-wired solution for residential applications.



**IQ Series Microinverters**  
The high-powered smart grid-ready IQ Series Microinverters (M Series, IQB, IQZ, and IQB Series) dramatically simplify the installation process



**IQ Battery 5P**  
Fully integrated AC battery system. Includes six field-replaceable IQBD-BAT microinverters



**IQ Combiner 5/5C**  
Consolidates PV 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 Load Controller**  
Helps prioritize essential appliances during a grid outage to optimize energy consumption and prolong battery life



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IQ System Controller 3G not suitable for use as service equipment in Canada.

IQSC-3-05H-00021-3-0-EN-US-2023-08-08

## IQ System Controller 3/3G

DATASHEET

MODEL NUMBER	DESCRIPTION
SC2000HIC240U01	IQ System Controller 3 streamlines the grid-independent capabilities of PV and storage installations. Integrates hold-down capability. Supports IQ Battery 5P units up to 40 kWh (without PCS <sup>1</sup> ) and 80 kWh (with PCS <sup>1</sup> ). Does not support generator integration.
SC2000GITC240U01	IQ System Controller 3G streamlines the grid-independent capabilities of PV and storage installations. Integrates hold-down capability. Supports IQ Battery 5P units up to 20 kWh (without PCS <sup>1</sup> ) and 40 kWh (with PCS <sup>1</sup> ). Supports generator integration.
WHAT'S IN THE BOX	
IQ System Controller 3/3G	Includes neutral-forming transformer (NFT) and microgrid interconnect device (MID)
System Shutdown Switch	Includes pre-wired red, black, orange, and purple 12 AWG wire (EP2000-NA-02-RS)
Wall-mounting bracket	Screws provided in the accessories kit for mounting
4-pole circuit breaker	Pre-installed Quad breaker (BRK-20440A-4P-240V), 20-A 40-A 10 kAIC, Eaton BQC220240 <sup>2</sup>
Accessories kit	IQ System Controller 3/3G literature kit, including labels, CTRL headers, screws, filler plates, and Quick Install Guide (QIG) (EP2000-LTKIT)
OPTIONAL ACCESSORIES AND REPLACEMENT PARTS	
CT-200-SPLIT	200 A split core current transformers for metering (accuracy: ±2.5%) <sup>3</sup>
CT-200-CLAMP	200 A clamp-type current transformers for metering (accuracy: ±2.5%) <sup>3</sup>
Main or load circuit breakers (order separately, as needed) <sup>4</sup>	<ul style="list-style-type: none"> <li>BRK-100A-2P-240V: 2-pole, 100A, 25kAIC, CSR2100N or CSR2100</li> <li>BRK-125A-2P-240V: 2-pole, 125A, 25kAIC, CSR2125N</li> <li>BRK-150A-2P-240V: 2-pole, 150A, 25kAIC, CSR2150N</li> <li>BRK-175A-2P-240V: 2-pole, 175A, 25kAIC, CSR2175N</li> <li>BRK-200A-2P-240V: 2-pole, 200A, 25kAIC, CSR2200N</li> <li>BRK-20A-2P-240V-B: 2-pole, 20 A, 10 kAIC, BR220B/BR220</li> <li>BRK-30A-2P-240V-B: 2-pole, 30 A, 10 kAIC, BR220</li> <li>BRK-40A-2P-240V-B: 2-pole, 40 A, 10 kAIC, BR240B/BR240</li> <li>BRK-60A-2P-240V: 2-pole, 60 A, 10 kAIC, BR260</li> <li>BRK-80A-2P-240V: 2-pole, 80 A, 10 kAIC, BR280</li> </ul>
Distributed energy resource (DER) circuit breakers (order separately, as needed) <sup>5</sup>	<ul style="list-style-type: none"> <li>BRK-20A-2P-240V-B: 2-pole, 20 A, 10 kAIC, BR220B/BR220</li> <li>BRK-30A-2P-240V-B: 2-pole, 30 A, 10 kAIC, BR220</li> <li>BRK-40A-2P-240V-B: 2-pole, 40 A, 10 kAIC, BR240B/BR240</li> <li>BRK-60A-2P-240V: 2-pole, 60 A, 10 kAIC, BR260</li> <li>BRK-80A-2P-240V: 2-pole, 80 A, 10 kAIC, BR280</li> </ul>
EP2000-HNDL-R1	IQ System Controller 3/3G installation handle kit (order separately)
CTRL-SC3-NA-01	Control cable, 500 ft. spool (order separately)
ALTERNATE DER CIRCUIT BREAKERS	
GE/ABB	THL21H (200/40/60/80 A)
Siemens	02u (20/40/60/80 A)
Siemens (quad breaker)	Q240QD72 (20/40 A)
ELECTRICAL SPECIFICATIONS	
Nominal voltage/Range (L-L)	240 V <sup>1</sup> /±20%
Voltage measurement accuracy	±1% V nominal (±1.2V L-N and ±2.4V L-L)
Auxiliary (dry) contact for load control, excess PV control, and generator two-way control	24 V, 1A
Nominal frequency/Range	60 Hz/56-63 Hz
Frequency measurement accuracy	±0.1 Hz
Maximum continuous current rating	160 A
Maximum input overcurrent protection device	200 A
Maximum output overcurrent protection device	200 A
Maximum overcurrent protection device rating for generator circuit	80 A (IQ System Controller 3G only - SC2000HIC240U01)
Maximum overcurrent protection device rating for storage circuit	2 x 80 A (IQ System Controller 3G - SC2000GITC240U01), 1 x 80 A (IQ System Controller 3G - SC2000HIC240U01)

(2) Factory installed quad breaker (Siemens or Eaton). NFT pre-wired to 40 A terminal of the quad breaker.

(3) Two units of CT-200-SPLIT or CT-200-CLAMP must be bought separately for generator integration.

(4) The IQ System Controller 3G rated at 32 kAIC.

(5) Integrated hold-down kit support breakers (BRK20/BRK30/BRK40) without pre-wired hole.

Integrates hold-down kit also supports GE/ABB and Siemens as mentioned under section alternate DER circuit breakers.

(6) "-" indicates alternating current (AC) supply.

(7) Power Control System.

IQSC-3-05H-00021-3-0-EN-US-2023-08-08



229 W. General Screven Way  
Hinesville, GA 31313

**L.C. TRUCKING**  
**ROOF MOUNT SOLAR PV & BATTERY SYSTEM**  
**3452 SW CR 242A**  
**Lake City, FL 32024**  
**DATA SHEETS**

PE STAMP:



ENGINEER:

David Brueck, P.E.  
SC LICENSE # 29008  
Certified NABCEP  
PV Installer# 042013-17

DRAFTER:

DAVID BRUECK

PROJECT #:

2024-05

SHEET:

003

SCALE:

N/A

NO	DATE	BY	FOR CONSTRUCTION	REVISION DESCRIPTION
0	2/07/2024	D. BRUECK	BY	
			D. BRUECK	APRVD