



Photovoltaic System Approval Certificate

EU-13-0101A

Awarded to:

EDS-USA

113 South Monroe Street
Tallahassee, FL 32301

For the Stand Alone System Designated:

Liberty Solar Box

PV Modules and Array

PV Module Manufacturer: Helios USA
PV Module Model Number: 9T6 400
FSEC Module Registration Number: HE12-NT90-0113
Listing to UL 1703 Verified: Yes

Array Configuration

Total Number of PV Modules: 4
Number in Each Series String/Branch Circuit: 4
Number of Series Strings/Branch Circuits: 1
Array Nameplate Power Rating: 1,600 W

Power Conditioning Equipment (Inverter)

Inverter Manufacturer: EDS-USA
Inverter Model Number: LB2012-1
Listing to UL 1471 Verified: Yes

Inverter DC Voltage Window: 40 V to 65 V
AC Power Rating: 1,000 W
AC Nominal Voltage Output: 120 V
Max Allowable PV Array Power To Each Inverter: 1,200 W

Charge Controller and Batteries

Charge Controller Manufacturer: N/A
Charge Controller Model Number: N/A
Listing to UL 1741 Verified: N/A

Battery Manufacturer: N/A
Battery Model Number: N/A
Battery Type: N/A
Battery Capacity (C/20 rate): N/A

Battery Bank Configuration

Number in Each Series String: N/A

Total Number of Batteries: N/A
Number of Series Strings: N/A

Comments

Electrical Design (Verify the following items for agreement between the installed components and the supplied electrical schematic.)

- Size, type and location of all conductors in the PV system;
Conduit, raceways, junction boxes, and combiner boxes;
Size, current rating, voltage ratings, and location of all over-current protection devices;
Rating and location of all disconnects;
Point of connection to the utility;
PV module and equipment grounding system (including conductor size);
PV DC circuit and system grounding (including grounding electrode conductor size);
Ground fault detection & interrupter (GFDI) rating and location;
Battery wiring and cable sizes (if applicable).

Inspection

Inspector Name (printed)

Inspector Signature

Date

Installer Information and Certification

Company Name: Website:
Address 1:
Address 2:
City: State: Zip:
Phone Number: Fax Number:
Florida Contractor License Number:
Florida Contractor License Type: Solar Electrical Other, please specify:

I hereby certify that this PV system has been installed in full accordance with the National Electrical Code.

Installer Name (printed)

Installer Signature

Date

Note: FSEC approvals do not replace or exempt any requirements of electrical utilities or local jurisdiction authorities in matters such as permitting, inspections, or utility interconnection agreements as required for PV system installations.

The photovoltaic system design described in this manual, when properly installed and maintained, meets the minimum recommended practices established by the Florida Solar Energy Center. This approval does not imply endorsement or warranty of this product by the Florida Solar Energy Center or the State of Florida.

Approved By:

David Click

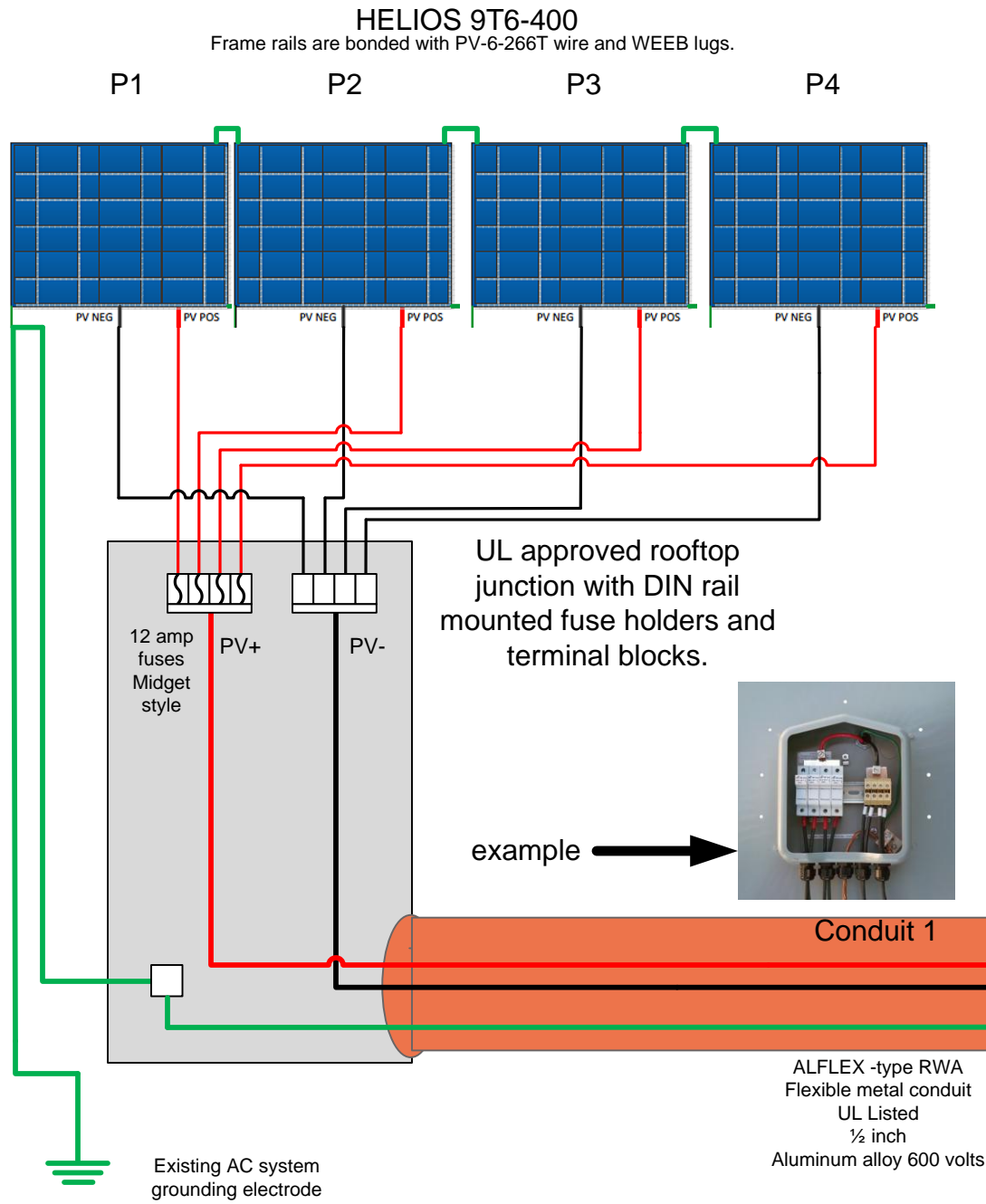
Reviewer Name (printed)

Reviewer Signature

2013-06-10

Date

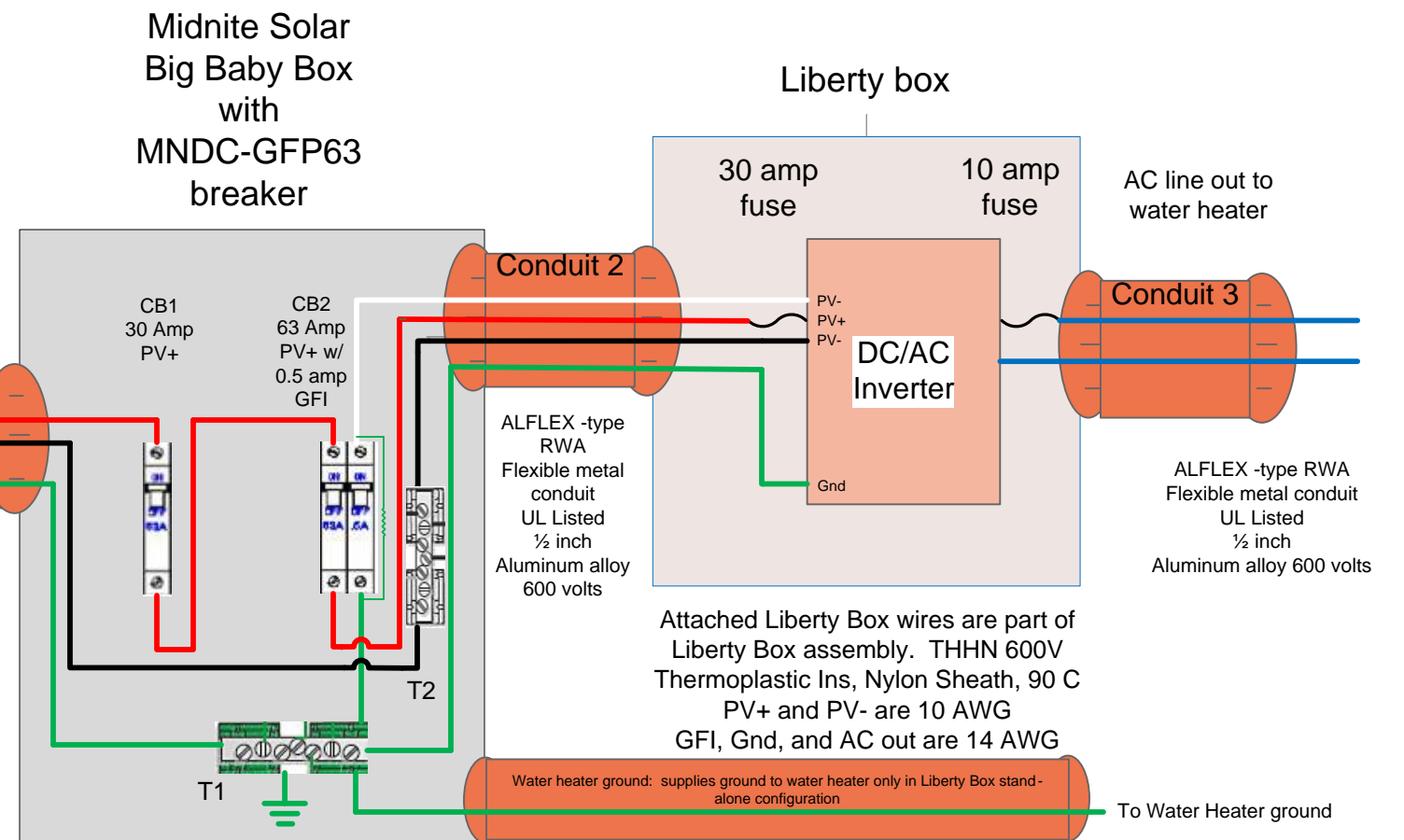
Liberty Box PV Solar Water Heating System



Notes

- PV-08-168T 8 AWG UL style 4703/PV 90 degrees C, Jacket material PVC 2000 volts, conductor stranding 168/30: used for PV+ and PV- from junction box to Big Baby Box.
- The positive lead from the panels are pre-wired with 120 cm long PV-12-65T wire
- The negative lead from the panels are pre-wired with 120 cm long PV-12-65T wire
- Ground conductors are all 6 AWG unless otherwise noted

Ref Des	Description	PN	MFG	Data Sheet Link
P1,P2,P3,P4	Helios 400 Watt, 9T6 Series Monocrystalline Solar Panel	9T6-400	Helios	http://www.heliossolarworks.com/Portals/132436/Sales/9t6.pdf
Breaker Box	General use enclosure - holds up to 4 13mm wide dinrail breakers from 1-63 amps	Big Baby Box	Midnite Solar	http://www.midnitesolar.com/pdfs/Big%20baby.pdf
CB1				
CB2	63 amp 150VDC din rail mount DC ground fault protector	MNDC-GFP63	Midnite Solar	http://www.midnitesolar.com/productPhoto.php?product_ID=185&productCatName=Breakers&productCat_ID=16&sortOrder=1
T1	Breaker Box ground bar			Any UL listed part
T2	Negative terminal bus			Any UL listed part
Liberty Box	Photovoltaic Stand-Alone Inverter	EDS0001	EDS-USA	
Conduit 1, Conduit 2, Conduit 3	1/2 In Flexible Aluminum Conduit	55082122	Southwire	http://www.southwire.com/ProductCatalog/XTEInterfaceServlet?contentKey=prodcatSheet226
Junction Box	UL Approved rooftop junction box			
Solar Panel fuses	12 amp Midget style			



RESPONSIBLE DEPT.	TECHNICAL REFERENCE	DOCUMENT TYPE	DOCUMENT STATUS
ENG		WIRING DIAGRAM	RELEASED
LEGAL OWNER	CREATED BY	TITLE, SUPPLEMENTARY TITLE	IDENTIFICATION NUMBER
EDS-USA INC	HARRIS	1600 WATT PV SYSTEM LIBERTY BOX	EDS-1600-LB1
	APPROVED BY		REV. DATE OF ISSUE LANG. SHEET
	ASHKENAZY		4 2013-05-27 EN 1/2