

# **Listing Constructional Data Report (CDR)**

1.0 Reference and Address							
Report Number	3171411PRT-002	Original Issued:	30-Jan-2009	Revised: 7-May-2018			
	Inverters, Converters	, Controllers And	Interconnection S	ystem Equipment For Use With			
Standard(s)	Distributed Energy R	esources [UL 174	ources [UL 1741:2010 Ed.2 +R:07Sep2016]				
	Photovoltaic Combin	ers [CSA C22.2#2	90:2015 Ed.1]				
Applicant	RSTC Enterprises, Inc.		Manufacturer 1	RSTC Enterprises, Inc.			
Address	2214 Heimstead Road		Address	2214 Heimstead Road			
Address	Eau Claire, WI 54703		Address	Eau Claire, WI 54703			
Country	USA		Country	USA			
Contact	Steve Capozzi		Contact	Steve Capozzi			
Phone	(715) 830-9997		Phone	(715) 830-9997			
FAX	(715) 830-9976		FAX	(715) 830-9976			
Email	scapozzi@rstcenterp	rises.com	Email	scapozzi@rstcenterprises.com			

Other Ratings

2.0 Product Description Product **Electrical Combiner Box** RSTC Enterprises Brand name The products covered by this report are a Combiner box (DC and AC power applications) for use with a up to four photovoltaic array inputs, and an output of a single DC/AC source. Description Product has been tested and found compliant for installation at 14 degrees and above. The product is intended for installation on composite, metal, or rubber roofing. 0783-41, 0786-41, 0760-41AD, 0766-41AD. Models 0799- followed by 2, 5, D, E or EP; followed by B, G or S. Models 0783-41 and 0786-41 are similar except for the use of the negative terminal block in unit. The 0783-41 model has its negative terminal block mounted to the enclosure in a standalone fashion with up to four inputs and one lug output, while the 0786-41 model has its negative terminals mounted to the DIN rail. Models 0760-41AD and 0766-41AD are identical except that Model 0766-41AD has a 6" deep base for installation on tile and slate roofs. Models 0760-41AD and 0766-41AD are similar to Models 0783-41 and 0786-41 except for component configuration (see section 4.0 for details) Model Similarity All models in the 0799 series are similar in design and construction except for the internal components. The configuration of the models are as follows: "2" is for a two position ground lug, "5" is for a five position ground lug, "D" is for a one position ground lug, "E" is for Enphase bulkheads and a supplementary protection device, "EP" is for Enphase bulkheads, "B" is for a black powder coated enclosure, "G" is for a grey powder coated enclosure, and "S" is for stainless steel enclosure Models 0783-41, 0786-41: 600VDC, 120A Ratings Models 0760-41AD, 0766-41AD: 600VDC, 120A / 240VAC, 60A Models 0799: 1000VDC, 180A / 480VAC, 60A

Maximum Fuse Short Circuit Current = 10kA, Type 3R

Issued: 30-Jan-2009

# 3.0 Product Photographs

Photo 1 - External View of Model 0783. Also Represents Model 0786.



Photo 2 - Internal View of Model 0783



# 3.0 Product Photographs

Photo 3 - Internal View of Model 0786

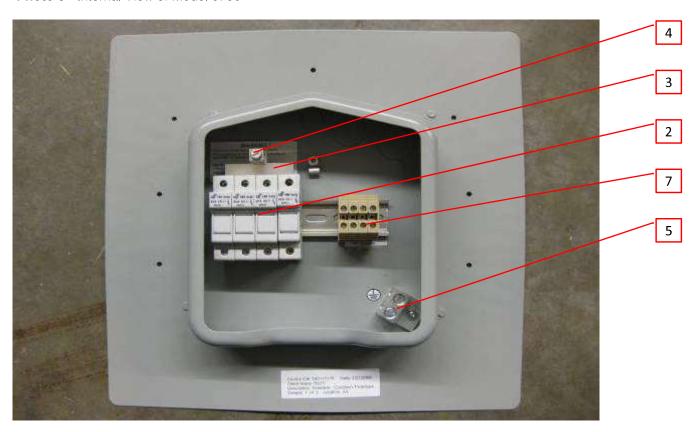
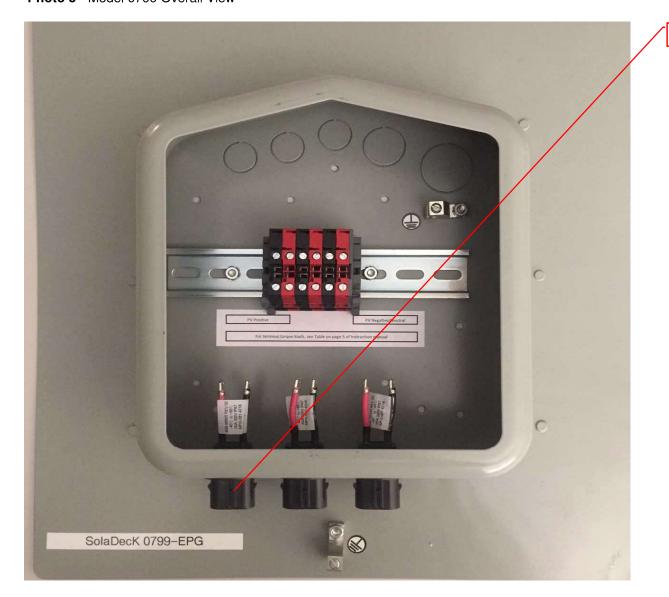


Photo 4 - Grounding Bar



# 3.0 Product Photographs

Photo 5 - Model 0799 Overall View



16

4.0 (	Critic	al Components				
Photo #	Item no.1	Name	Manufacturer/ trademark <sup>2</sup>	Type / model <sup>2</sup>	Technical data and securement means	Mark(s) of conformity
1			RSTC	Galvanized Steel	ETL listed, 18 gauge, 0.055" thick, 15" square at base, 8.75" wide by 10.75" long on cover. Labels adhered to enclosure to comply with UL 969	cETLus
, 	'	Emologaro		Stainless Steel	0.0478" thick sheet. 15.752" wide by 17.25" long base. 9.454" wide by 10.963" long compartment. Bare or powder coated.	NR
			DF	480032	Rated 600V, 30A, 110°C. Up to 10AWG. 10×38 PMF fuse holder. Secured to DIN rail.	UR, CSA
			Littelfuse	LPSM CH	Rated 600V, 30A. 14-8AWG stranded / 14-10AWG solid. 10×38 fuse.	UR, CSA
				LPSC	Rated 600V, 30A. 14-8AWG stranded/solid. 10×38 fuse.	UR, CSA
	2,3 2 Fuse Holders	Pugaman	СНМ	Rated 600V, 30A. 18-4AWG stranded/solid. 10×38 fuse.	UR, CSA	
2,3		Bussman	CHPV	Rated 1000V, 30A. 18-4AWG stranded/solid. 10×38 fuse.	UR, CSA	
			Marathon	6Sm30AX-C	Rated 600V, 30A. 18-8AWG stranded / 14-10AWG solid. 10×38 fuse.	UR, CSA
			Ferraz	FRZ USM 1	Rated 800Vac, 1000Vdc, 30A. 14-6AWG stranded/solid. 10×38 fuse.	UR, CSA
			Mersen	USM 1	Rated 800Vac, 1000Vdc, 30A. 14-6AWG stranded/solid. 10×38 fuse.	UR, CSA
2,3	3	Positive Bus Bar	Storm Copper	C110	Tin plated copper. Approximately 0.08" thick. Each positive input to terminal 0.25" wide by 0.49" long. Common bus 0.51" wide by 2.35" long. Provision for terminal lug approximately 0.53" square.	NR
2,3	4	Terminal Lug	Ilsco	CA4SP	14-2AWG Cu wire. Rated 600V, 75°C.	UR, CSA
			Electric Motion	2-2/0T	14-2/0AWG. Secured to enclosure by stud.	UL, CSA
		Grounding	Electric Motion	EM 4250-5- SSO	14-6AWG. Secured to enclosure by stud.	UL, CSA
2,3	5	Terminal	IHI Connectors	2S2/0	14-2/0AWG Cu9Al. Secured to enclosure by stud.	UL, CSA
			Thomas & Betts Corp	LL414	14-4AWG. Rated 90°C.	UR, CSA

4.0 (	Critic	al Components					
Photo #	Item no.1	Name	Manufacturer/ trademark <sup>2</sup>	Type / model <sup>2</sup>	Technical data and securement means	Mark(s) of conformity	
			Ilsco	PDC-14-2/0-1	14-2/0AWG primary wire, 14-4AWG secondary wire. Rated 600V, 175A per pole, 90°C.	UR, CSA	
2	6	Negative Terminal	Bussmann	DBFS220	4-2/0AWG primary wire, 8-4AWG secondary wire. Rated 600V, 175A per pole.	UR, CSA	
		BIOCK	Various	Various	8-2/0AWG primary wire, 14-4AWG secondary wire. Rated 600V, 175A per pole. Construction similar to Bussmann DBFS220.	UL	
				ER6	26-8AWG Cu wire range. Rated 600V, 50A.	UR, CSA	
			IMO Precision Controls	ER10	16-6AWG Cu wire range. Rated 600V, 65A. Used in construction with bus bar attached for single lug output.	UR, CSA	
				ER16PV	12-4AWG Cu wire range. Rated 1000V, 85A, 105°C.	UR, CSA	
			ER35PV	12-2AWG Cu wire range. Rated 1000V, 115A, 105°C.	UR, CSA		
3	7	7 Negative Terminal Block		M6/8	24-8AWG Cu wire range. Rated 600V, 50A.	UR, CSA	
				M10/10	22-6AWG Cu wire range. Rated 600V, 65A.	UR, CSA	
				ABB	ZS6	24-10AWG wire range. Rated 600V, 30A, 105°C.	cURus
					ZS10	24-6AWG wire range. Rated 600V, 42A, 105°C.	cURus
				ZS16	24-4AWG wire range. Rated 600V, 67A, 105°C.	cURus	
				ZS50	18-0AWG wire range. Rated 1000V, 140A, 105°C.	cURus	
2,3	9	Negative Bus Bar (not shown)	Storm Copper	C110	Tin plated copper. Approximately 0.08" thick. Each tang to negative terminal 0.187" wide by 0.875" long.	NR	
				BRU 80	Rated 600V, 80A. DIN rail mounted distribution blocks.	UR, CSA	
	10	Single Pole	ADD France	BRU 125 A	Rated 600V, 125A. DIN rail mounted distribution blocks.	UR, CSA	
3		Distribution Blocks (not shown)	ABB France	DBL 80	14-4AWG wire range. Rated 1000V, 80A.	UR, CSA	
				DBL 125	8-2AWG wire range. Rated 1000V, 115A.	UR, CSA	
				S202U-Z20	Rated 240Vac, 20A. DIN rail mounted 2 pole circuit breaker.	UR, CSA	
3		AC Circuit Breakers	ABB Germany	S202U-Z15	Rated 240Vac, 15A. DIN rail mounted 2 pole circuit breaker.	UR, CSA	
		(not shown)		SU202M-C20	Rated 480Y/277Vac, 96Vdc, 20A.	cULus	
				SU202M-Z15	Rated 480Y/277Vac, 96Vdc, 15A.	cULus	

Issued: 30-Jan-2009

4.0 Critical Components Mark(s) of Photo Manufacturer/ Item Technical data and securement conformity Name Type / model<sup>2</sup> no.1 trademark<sup>2</sup> means # Rated 500Vdc, 16A, DIN rail Supplemetary UR, CSA 3 12 Protectors (DC) ABB Germany S280UC-K mounted dc supplementry (not shown) protectors. Rated 40kA, 1.5kV (L/PE), 0.9kV AC Surge (L/N). DIN rail mounted surge 3 13 Protective Device Citel America DS42-120 protective device. For use on cURus 120V, single phase, TN power (not shown) system. Rated 600Vdc, max. 40kA. DIN DC Surge rail mounted surge protective 3 Protective Device Citel America DS50PV cURus device. For use on a DC power (not shown) system. Brumall Mfg. 4-14 (4-9, 1, 9) Grounding Bar 14-4 AWG Cu9Al wire range. UR, CSA 4 15 Corp. RS **Enphase Energy** 5 830-00320 16 Bulkhead Rated 277Vac, 20A, -40° to 79°C. cURus nc Cooper PVM-15 UL, CSA Rated 600Vdc, 15A. Fuse Bussmann LLC 5 17 (not shown) KLKD015 Rated 600Vdc. 15A. UL, CSA Littelfuse Inc SPF020 Rated 1000Vdc, 20A. UL, CSA 2-poles, 8mm spacing. Rated JB8-2 cURus 600V, 42A, 110°C, V-0, 3-poles, 8mm spacing. Rated JB8-3 cURus 600V, 42A, 110°C, V-0. Terminal Block 4-poles, 8mm spacing. Rated 5 18 Jumper Bar ABB France JB8-4 cURus 600V, 42A, 110°C, V-0, (not shown) 5-poles, 8mm spacing, Rated cURus JB8-5 600V, 42A, 110°C, V-0. 10-poles, 8mm spacing, Rated JB8-10 cURus 600V, 42A, 110°C, V-0, 0.105 - 0.315 cable diameter LTCG 3/8 cULus range, Rated V-2, -40° - 115°C, Gland Fitting Heyco Products 0.170 - 0.450 cable diameter 5 19 LTCG 1/2 cULus (not shown) nc range. Rated V-2, -40° - 115°C. 0.260 - 0.545 cable diameter LTCG LL 1/2 cULus range. Rated V-2, -40° to 115°C. ABB Stotz-Kontakt PS2/6/16BP Busbar Rated 600V, 115A. cULus 5 20 (not shown) GmbH cULus PS2/56/25BP-C Rated 600V, 100A. Busbar Terminal ABB Stotz-Kontakt 5 21 Block SZ-ESK BP 14-1AWG. Rated 1000V, 115A. cULus GmbH (not shown)

#### NOTES:

- 1) Not all item numbers are indicated (called out) in the photos, as their location is obvious.
- 2) "Various" means any type, from any manufacturer that complies with the "Technical data and securement means" and meets the "Mark(s) of conformity" can be used.
- 3) Indicates specific marks to be verified, which assures the agreed level of surveillance for the component. "NR" indicates Unlisted and only visual examination is necessary. "See 5.0" indicates Unlisted components or assemblies to be evaluated periodically refer to section 5.0 for details.

Issued: 30-Jan-2009

Report No. 3171411PRT-002 RSTC Enterprises, Inc. Page 9 of 30

Issued: 30-Jan-2009 Revised: 7-May-2018

# **5.0 CEC Components**

No Unlisted CEC components are used in this report.

#### 6.0 Critical Features

<u>Recognized Component</u> - A component part, which has been previously evaluated by an accredited certification body with restrictions and must be evaluated as part of the basic product considering the restrictions as specified by the Conditions of Acceptability.

<u>Listed Component</u> - A component part, which has been previously Listed or Certified by an accredited Certification Organization with no restrictions and is used in the intended application within its ratings.

<u>Unlisted Component</u> - A part that has not been previously evaluated to the appropriate designated component standard. It may also be a Listed or Recognized component that is being used outside of its evaluated Listing or component recognition.

<u>Critical Features/Components</u> - An essential part, material, subassembly, system, software, or accessory of a product that has a direct bearing on the product's conformance to applicable requirements of the product standard.

<u>Construction Details</u> - For specific construction details, reference should be made to the photographs and descriptions. All dimensions are approximate unless specified as exact or within a tolerance. In addition to the specific construction details described in this Report, the following general requirements also apply.

- 1. <u>Spacing</u> In primary circuits, 58 mm minimum spacing are maintained through air and over surfaces of insulating material between current-carrying parts of opposite polarity and 9.7 mm minimum between such current-carrying parts and dead-metal parts. Refer to Illustration 1 for areas to verify. Standard requires spacing of 9.5 mm through air, 9.7 mm was measured between negative terminal block metal and the exposed metal of the mounting stud on model 0783-41only.
- 2. <u>Mechanical Assembly</u> Components such as switches, fuse holders, connectors, wiring terminals and display lamps are mounted and prevented from shifting or rotating by the use of lock washers, star washers, or other mounting format that prevents turning of the component.
- 3. <u>Corrosion Protection</u> All ferrous metal parts are protected against corrosion by painting, plating or the equivalent.
- 4. <u>Accessibility of Live Parts</u> All uninsulated live parts in primary circuitry are housed within a metal enclosure constructed with no openings other than those specifically described in Sections 4 and 5.
- 5. <u>Grounding</u> All exposed dead-metal parts and all dead-metal parts within the enclosure that are exposed are connected to the equipment grounding terminal. The grounding terminal is secured and bonded to the enclosure, properly grounding all exposed metal parts.
- 6. <u>Internal Wiring</u> Field installed wiring shall comply with the minimum wiring bending space requirements of Table 17.2. No internal wiring installed as part of Listing evaluation. All wiring to be conducted at time of installation and shall comply with minimum space requirements.
- 7. Schematics No schematics required, unit does not have component interconnection.
- 8. <u>Markings</u> The product is marked as described as follows: manufacturer's name, model number, date of manufacturer, electrical ratings, and short circuit ratings (10 kA), enclosure type designation, use of copper conductors, tightening torque reference, and appropriate terminal markings. Refer to illustration 2 for nameplate example.

The following markings in French are required: See Illustrations 2, 4.

- 9. Cautionary Markings The following are required: Refer to Illustration 2, 4 for marking examples.
- 10. <u>Installation, Operating and Safety Instructions</u> Instructions for installation and use of this product are provided by the manufacturer. Refer to Illustration No(s). 3, 3a, 5 9 for details.

## 7.0 Illustrations

## **Illustration 1** - Spacings

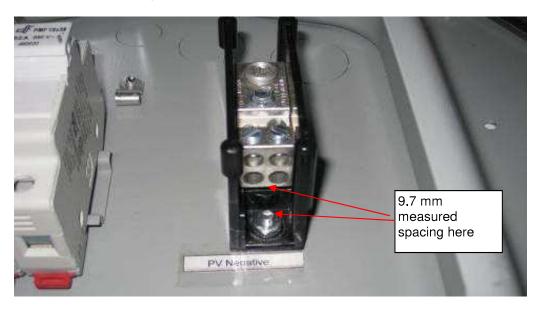


Illustration 2 - Nameplate Example

## SOLADECK Photovoltaic Combiner / Enclosure

## ☐ Q1 ☐ Q2 ☐ Q3 ☐ Q4 ☐ 69 ☐ 15 ☐ 11 ☐ 12 Model 0783-41 ☐ Model 0786-41 ☐ Maximum Ratings: 600VDC, 120 AMPS Frequency DC Warning! For continued protection against risk of fire, replace only with the same type and ratings of fuse with equal or greater interrupt. Caution Risk of Electric Shock - DC voltage sources are terminated inside this equipment. Each circuit must be individually disconnected before servicing. When the Photovotaic array is exposed to light, it supplies DC voltage to this equipment. Do not remove cover. Refer servicing to qualified service personnel Attention! risque de choc électrique - sont sources de tension DC résillé à l'intérieur de cet équipement. Chaque orcuit doit être individuelle déconnectée avant l'entrefien. Lorsque le générateur photovoltaique est exposés à la lumière, elle fournit la fersion continue à crit équipement. Ne pas enlever le couvercle. Confliez l'entretien à un personnel qualité. Avertissement Four une protection continue contre les risques d'incendie. remplacez seulement avec le type et la même cote de mêche avec une égale ou supérieure interrompre. Combinateur de caisse doit être situé lorsqu'elle est accessible par un personnel qualifié seules les personn Fuse holders and terminal blocks added in the field must be ULlisted or recognized and meet 600 VDC 30 AMP 110C for fuse holders, 600V 50 AMP 90C for Rail mounted terminal blocks and 600 V 175 AMP 90C for Power Distribution Blocks. Use Copper Wire Conductors Combiner box shall be located where accessible by qualified persons only RSTC Enterprises, Incorporated

2219 Heimstead Road

Eau Claire, WI 54703

1-866-367-7782

## SOLADECK Photovoltaic Combiner / Enclosure

□ Q1 □ Q2 □ Q3 □ Q4 □ 09 □ 10 □ 11 □ 12 Model 0760-41AD Model 0766-41AD Maximum Ratings: 600VDC / 120 AMPS, 240VAC/60 Amps Warning! For continued protection against risk of fire, replace only with the same type and ratings of fuse with equal or greater interrupt. Caution Risk of Electric Shock - DC voltage sources are terminated inside this equipment. Each circuit must be individually disconnected before servicing. When the Photovoltaic array is exposed to light, it supplies DC voltage to this equipment. Do not remove cover Refer servicing to qualified service personnel Attention! risque de choc électrique - sont sources de tension DC résité à l'intérieur de cet équipement. Chaque circuit doit être individuellement déconnectée avant l'entretien. Lorsque le généraleur photovoltaique est exposés à la lumière, elle foumit la tension continue à cet équipement. Ne pas enlever le couverde. Conflez l'entretien à un personnel qualifié. Avertissement Pour une protection continue contre les risques d'incendie, remplacez seulement avec le type et la même cote de mêche avec une égale ou supérieure internompre. Combinateur de caisse doit être situé lorsqu'elle est

Fuse holders, breakers, terminal blocks added in the field must be ULlisted or recognized and meet 600 VDC 110C for fuse holders, 600V 50 AMP 90C terminal blocks and 600 V 90C for Power Distribution Blocks, 500 VDC 16 amp breakers, 120/208 VAC 20 amp breakers. Copper wire conductors. Locate enclosure where accessible by qualified persons only

accessible par un personnel qualifié seules les personnes

RSTC Enterprises, Incorporated 2219 Heimstead Road Eau Claire, WI 54703 1-896-367-7782

## 7.0 Illustrations

**Illustration 3** - Warning in Instruction Manual

# WARNING! STOP

DO NOT WORK ON ROOF IF SURFACE IS WET, FROSTED, ICE OR SNOW COVERED. USE LADDERS SAFELY USE HAND & EYE PROTECTION WHEN WORKING WITH POWER TOOLS USE EXTREME CAUTION TO AVOID CONTACT WITH POWER LINES, ELECTRIC LIGHTS OR POWER CIRCUITS MAY BE FATAL

Installation of this product should be attempted only by individuals skilled in the use of the tools and equipment necessary for installation. Protect you and all persons and property during installation. If you have any doubt concerning your competence or expertise, consult a qualified expert to perform the installation. R.S.T.C. Enterprises Incorporated assumes no responsibility for the failure of an architect, contractor, installer, or building owner to comply with all applicable laws, building codes and requirements, and adequate safety precautions.

Illustration 3a - French Warning in Instruction Manual

# ATTENTION! STOP

NE FONCTIONNE PAS SUR LE TOIT Si la surface est mouillée, dépolie, la glace ou couvert de neige.

Utiliser les échelles TOUTE SÉCURITÉ
UTILISATION DES MAINS ET DES LUNETTES DE
PROTECTION LORS DE TRAVAILLER AVEC LES
OUTILS DE PUISSANCE
UTILISATION EXTRÊME PRUDENCE POUR
ÉVITER LE CONTACT AVEC DES LIGNES DE
PUISSANCE, CONTACT AVEC DES LIGNES DE
PUISSANCE, lumières électriques circuits
électriques ou PEUT ÉTRE MORTEL

L'installation de ce produit devrait être tertifie que par des personnes. formées à l'utilisation des cuttis et équipements nécessaires pour l'estallation. Protégéz vous et les personnes et les biens persont finistallation. Si vous avec un doute concernant votre compétence ou l'expertise, consulter un expert qualité pour effectuer l'entallation. RISTIC Enterprises incorporaties décline toute responsabilité de l'échec d'un architecte, entrepriseur, installatiour ou propriétaire d'enneuble pour se conformer à toutes les loss, les codes du bâtiment et des enigences, et les précautions de sécurité adéliquaties.

## 7.0 Illustrations

Illustration 4 - Warning on Interior of Product

### WARNING!

This product has been designed by RSTC Enterprises, Inc. to exceed the requirements of applicable UL standards. Use of components not meeting the UL 1741test criteria for this part and stated on the product label may affect user safety, system reliability and may void the UL listing.

### ATTENTION!

Ce produit a été conçu par RSTCEnterprises, Inc de dépasser les exigences des normes applicables en UL. Utilisation de composants ne répondant pas aux UL 1741 critères de test pour cette partie et mentionné sur le l'étiquette du produit mai affecter la sécurité des usagers, le système fiabilité et mai void la liste UL.

## 7.0 Illustrations

Illustration 5 - Installation Instructions (Covers All Models in this Report)

# **SolaDeck Installation Instructions**

- Determine the location for the SolaDeck on the roof surface.
- Use the template from the SolaDeck Carton and position it ¾" below the shingle line. Trace the outline on the roof (Fig. 1).



- Use a pry bar to loosen the shingles and remove any nails that will interfere with the flashing sliding beneath the shingles (Fig. 2).
- Cut the roofing material to the template shape.



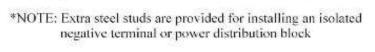
- Inside of the base there are three knockout sizes. Remove the one (s) needed for the conduit fitting (s).
- Slide the SolaDeck with flashing beneath the shingles into place and trace the knockout hole (s) (Fig. 3).
- 7. Drill out the traced knockout hole (s) 1/3 larger than the knockout.



- Slide the SolaDeck base back into place and fasten it to the roof deck with the 1" truss head screws provided, (Fig. 4).
- Use a quality roof sealant to seal the shingles to the SolaDeck flashing.
- 10. With the base installed, you have several options to wire the SolaDeck enclosure. Use either the sump built into the base or the predetermined centering dimples to knock out a hole for the fitting or conduit size you choose.
  - . Dimples at the corners of the base allow for 1/2" or 1/4" fittings.
  - Dimples below the sump allow for ½" fittings.
  - These dimple positions accept conduit, liquid tight or strain relief fittings.



- Peel off the tape on the foam Gasket and position it on the inside of the cover where it will contact the base sump.
- When connections are complete, finish by fastening the cover to the base using the 8-32 screws with bonded scal washers provided.







## 7.0 Illustrations

### **Illustration 6** - Installation Instructions (Continued)

### Warranty Information:

Thank you for your purchase. As with all manufactured devices repairs may be needed due to damage, unauthorized use, or defect.

- Warranty repairs must conform to warranty terms.
- · Equipment must be installed according to the instructions and manuals provided.
- · Products returned must be packaged, properly addressed and shipped prepaid.
- There is no additional allowance or reimbursement for installer or user labor or travel time required to disconnect, service or reinstall the damaged component(s).
- RSTC will ship a replacement product prepaid to addresses in the continental United States.
- In the event of a product malfunction, RSTC will not bear any responsibility for resulting losses, expenses, or damage to other components.

DO NOT PROCEED WITH INSTALLATION UNTIL YOU HAVE READ ENTIRE INSTRUCTIONS INCLUDING WARNINGS

### WARNING! STOP

DO NOT WORK ON ROOF IF SURFACE IS WET, FROSTED, ICE OR SNOW COVERED.
USE LADDERS SAFELY
USE HAND & EYE PROTECTION WHEN WORKING WITH POWER TOOLS
USE EXTREME CAUTION TO AVOID CONTACT WITH POWER LINES. CONTACT WITH POWER LINES, ELECTRIC LIGHTS OR POWER CIRCUITS MAY BE FATAL

Installation of this product should be attempted only by individuals skilled in the use of the tools and equipment necessary for installation. Protect you and all persons and property during installation. If you have any doubt concerning your competence or expertise, consult a qualified expert to perform the installation. R.S.T.C. Enterprises Incorporated assumes no responsibility for the failure of an architect, contractor, installer, or building owner to comply with all applicable laws, building codes and requirements, and adequate safety precautions.

### ATTENTION! STOP

NE FONCTIONNE PAS SUR LE TOIT Si la surface est mouillée, dépolie, la glace ou couvert de neige.

Utiliser les échelles TOUTE SÉCURITÉ
UTILISATION DES MAINS ET DES LUNETTES DE
PROTECTION LORS DE TRAVAILLER AVEC LES
OUTILS DE PUISSANCE
UTILISATION EXTRÊME PRUDENCE POUR
ÉVITER LE CONTACT AVEC DES LIGNES DE
PUISSANCE, CONTACT AVEC DES LIGNES DE
PUISSANCE, lumières électriques circuits
électriques ou PEUT ÊTRE MORTEL

L'installation de ce produit devrait être tentée que par des personnes formées à l'utilisation des outils et équipements nécessaires pour l'installation. Protégaz vous et les personnes et les biens pendant l'installation. Si vous avez un doute concernant votre compétence ou l'expertise, consulter un expert qualifié pour effectuer l'installation. RSTC Enterprises Incorporated décline toute responsabilité de l'échec d'un architecte, entrepreneur, installateur ou propriétaire d'immeuble pour se conformer à toutes les lois, les codes du bâtiment et des exigences, et les précautions de sécurité adéquates.

#### One Year Limited Warranty

Important: Evidence of original purchase is required for warranty service.

WARRANTOR: RSTC Enterprises Incorporated ELEMENTS OF WARRANTY: RSTC warrants for one year to the original retail owner, this product is free from defects in materials and craftsmanship with only the limitations or exclusions set out

and craftsmanship with only the limitations or exclusions set out below.

WHAT IS NOT COVERED: This warranty covers only defects in materials and workmanship provided by RSTC Enterprises, and does not cover equipment damage or malfunction from misuse, abuse, accident, and act of God, Installation must be in accordance.

does not cover equipment damage or malfunction from misuse, abuse, accident, and act of God. Installation must be in accordance with our written instructions. RSTC Enterprises will not be liable for any installation charges associated with replacement, incidental or consequential damages resulting from your use of or inability to use this product.

REMEDY: Your only remedy under this warranty is the exchange or replacement in the event that the product does not conform to this warranty. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

CLAIMS PROCESS: To make a claim under this warranty, the product should be shipped postage paid, with original purchase receipt to:

RSTC ENTERPRISES 2219 HEIMSTEAD ROAD EAU CLAIRE, WI 54703 1-866-367-7782 or www.soladeck.com

## 7.0 Illustrations

**Illustration 7** - Installation Instructions (Continued)

### IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS- This manual contains important instructions for models 0760-41AD and 0766-41AD that shall be followed during installation of the combiner.

SolaDeck models are listed by ETL as PV Combiners under the standard:

UL 1741, First Edition, CSA 29, CSA C22.2#107.1 ED:3

SolaDeck models meet UL 50 Type 3R rainproof requirements.

This enclosure is rated for up to 600 V fuses, 500VDC Breakers, 240 AC Breakers

**Grounding Instructions**- Each system should be connected to a grounded, permanent wiring system. All system wiring and system grounding must comply with NEC Code, ANSI/NFPA 70-1996, or other appropriate codes and is the responsibility of the installer.



The equipment ground on SolaDeck is marked with the symbol:

Note: Solar panels produce electrical current when lighting is present, even during overcast weather. Do not wire from the array to the SolaDeck combiner. Complete all connections inside the SolaDeck combiner first and then connect the array.

#### General Wiring Installation Instructions

- Remove the necessary knockouts before securing the SolaDeck to the roof or other surface.
- Follow the mounting instructions page 3
- . Slide the fuse holders / breakers onto the din rail and lock in place.
- Secure the bus bar to the fuse holders / breakers.
- Install the rail mount power distribution block or individual terminal blocks in the location designated for the negative / neutral terminal.
- Connect all wires to fuse holders / breakers, bus bar lug and negative terminals, securing them
  according to the listed torque values from table on page 5 and 6.
- · Conduit and Strain relief fittings and hubs must comply with UL 514B

# 7.0 Illustrations

## **Illustration 8** - Installation Instructions (Continued)

Requirements:

Use minimum 75 C copper
Use only code approved, appropriately listed fuse holders and Fuses

Maximum Fuse Rating	30 AMP , 600 Volt		
Total Maximum Current Rating	783-41 / 786-41 120 AMPS DC		
Maximum Fuse Short Circuit Current	10ka		
Fuse Holder Torque	13.6 in lb Flat or Phillips Head Driver		
Din Rail Mounted Terminal Block Torque	9 - 14 in lb Flat Head Driver		

Torque Data\* for Box Lug

Wire Size		Tor	que
AWG	mm2	in lbs	Nm
14-10	2.1-5.3	35	4
8	8.4	40	4.5
6-4	13.3-21.2	45	5.1
2	13.3-21.2	50	5.7

Torque Data\* for Negative Power Distribution Blocks

Wire Size			Torque				
Stud Mo	ounted	Screw Driver	External Drive Wrench				
AWG	mm2	in	lbs	Nm			
14-10	2.1-5.3	35	75	4			
8	8.4	40	75	4.5			
6-4	13.3-21.2	45	110	5.1			
Main 2/0-14	13.3-21.2	0	120	5.7			
Rail Mounte	d BRU80A	Screw Driver	External Drive Wrench				
AWG	mm2	in	lbs	Nm			
14-10	2.5-6	7		0.8			
Main 4-14	2.5-16	13.5		1.5			
Rail Mounted	BRU125A	Screw Driver	External Drive Wrench				
AWG	mm2	in	lbs	Nm			
14-6	2.5-16	17.6		2			
Main Left 8-2	10-35	31		3.5			
Main Right 10-6	6-16	31		3.5			

Torque Data\* for Ground Lug

Wire Size		Torque		
AWG	mm2	in lbs	Nm	
14-10	2.1-5.3	35	4	
8	8.4	40	4.5	
6-4	13.3-21.2	45	5.1	
2-2/0	13.3-21.2	50	5.7	

## 7.0 Illustrations

**Illustration 9** - Installation Instructions (Continued)

## DO NOT PROCEED WITH INSTALLATION UNTIL YOU HAVE READ ENTIRE INSTRUCTIONS INCLUDING WARNINGS

## WARNING! STOP

DO NOT WORK ON ROOF IF SURFACE IS WET, FROSTED, ICE OR SNOW COVERED.

**USE LADDERS SAFELY** 

USE HAND & EYE PROTECTION WHEN WORKING WITH POWER TOOLS

USE EXTREME CAUTION TO AVOID CONTACT WITH POWER LINES. CONTACT WITH POWER LINES, ELECTRIC LIGHTS OR POWER CIRCUITS MAY BE FATAL

Installation of this product should be attempted only by individuals skilled in the use of the tools and equipment necessary for installation. Protect you and all persons and property during installation. If you have any doubt concerning your competence or expertise, consult a qualified expert to perform the installation.

R.S.T.C. Enterprises Incorporated assumes no responsibility for the failure of an architect, contractor, installer, or building owner to comply with all applicable laws, building codes and requirements, and adequate safety precautions.

#### ATTENTION! STOP

NE FONCTIONNE PAS SUR LE TOIT Si la surface est mouillée, dépolie, la glace ou couvert de neige. Utiliser les échelles TOUTE SÉCURITÉ

UTILISATION DES MAINS ET DES LUNETTES DE PROTECTION LORS DE TRAVAILLER AVEC LES **OUTILS DE PUISSANCE** 

UTILISATION EXTRÊME PRUDENCE POUR ÉVITER LE CONTACT AVEC DES LIGNES DE PUISSANCE. CONTACT AVEC DES LIGNES DE PUISSANCE, lumières électriques circuits électriques ou PEUT ÊTRE MORTEL

#### One Year Limited Warranty

Important: Evidence of original purchase is required for

warranty service

WARRANTOR: RSTC Enterprises Incorporated

ELEMENTS OF WARRANTY: RSTC warrants for one year to the original retail owner, this product is free from defects in materials and

craftsmanship with only the limitations or exclusions set out below.

WHAT IS NOT COVERED: This warranty covers only defects in materials and workmanship provided by RSTC Enterprises, and does not cover equipment damage or malfunction from misuse, abuse, accident, and act of God. Installation must be in accordance with our written instructions. RSTC Enterprises will not be liable for any installation charges associated with replacement incidental or consequential damages resulting from your use of or inability to use the product.

REMEDY: Your only remedy under this warranty is the

exchange or replacement in the event that the product does not conform to this warranty. This warranty gives you specific legal rights, and

you may also have other rights, which vary from state to state.

CLAIMS PROCESS: To make a claim under this warranty, the product should be shipped postage paid, with original purchase receipt to:

RSTC ENTERPRISES 2219 HEIMSTEAD ROAD EAU CLAIRE, WI 54703 1-866-367-7782 or www.soladeck.com

## **Hardware List**

A - (7) # 10 - 1" Phillips head wood screws

D - (2) 10-32 - 1/2" Steel studs

B - (4) 8-32 - 1/2" Phillips head threading machine screws

E - (2) # 10 Star nuts

C - (4) #10 - Bonded seal washers

ETL Listed and Labeled to UL50 Type 3R, CSA C22.2#94 ED4

SolaDeck Models 0783-3R and 0786-3R www.soladeck.com

# 7.0 Illustrations

Illustration 10 - Minimum Wire Bending Space: Table 17.2

Table 17.2

Minimum wire-bending space and width of gutter for conductors through a wall not opposite terminals in mm (inches)

Table 17.2 revised January 17, 2001

			Wires per terminal (pole)								
Size of wire,	AWG or kcmil	1 2		3			4	5			
(m	m <sup>2</sup> )	mm	(inch)	mm	(inch)	mm	(inch)	mm	(inch)	mm	(inch)
14 – 10	(2.1 - 5.3)	Not specified	-	-	-	-	-		_		-
8 – 6	(8.4 - 13.3)	38.1	(1-1/2)	-	-	-	-				
4 – 3	(21.1 - 26.7)	50.8	(2)	-	-	-	-	-	-		-
2	(33.6)	63.5	(2-1/2)	1=	-	-	-		_		_
1	(42.4)	76.2	(3)	1	-	-	-			12	-
1/0 - 2/0	(53.5 - 7.4)	88.9	(3-1/2)	127	(5)	178	(7)		-		
3/0 - 4/0	(85.0 - 107)	102	(4)	152	(6)	203	(8)		-		_
250	(127)	114	(4-1/2)	152	(6)	203	(8)	254	(10)		-
300 - 350	(152 - 177)	127	(5)	203	(8)	254	(10)	305	(12)		_
400 - 500	(203 - 253)	152	(6)	203	(8)	254	(10)	305	(12)	356	(14)
600 - 700	(304 - 355)	203	(8)	254	(10)	305	(12)	356	(14)	406	(16)
750 – 900	(380 - 456)	8	(203)	305	(12)	356	(14)	406	(14)	457	(18)
1000 - 1250	(507 - 633)	254	(10)	-	-	-	-		-		_
1500 - 2000	(760 - 1010)	305	(12)	-	-	-	-		_		-

Note – This table includes only those multiple-conductor combinations that are commonly used. Combinations not specified shall be further investigated.

8.0 Test Summary 01/26/09-01/29/09 **Evaluation Period** Project No. 3171411 Sample Rec. Date 1/26/2009 Condition Prototype Sample ID. 1,2 Test Location Intertek, 2595 SW 153rd Dr. Beaverton, OR 97006 Test Procedure Testing Lab Determination of the result includes consideration of measurement uncertainty from the test equipment and methods. The product was tested as indicated below with results in conformance to the relevant test criteria. The following tests were performed: UL 1741 11/05 Test Description Clause Dielectric Voltage-Withstand Test 44 Grounding Impedance Test 48 Static Load Test 59 Rain Test 61

Evaluation Period	3/29/2010			Pro	ject No. G1000	)65282
Sample Rec. Date	3/29/2010	Condition	Prototype	San	nple ID. N/A	
Test Location	Intertek, 2595 SW 153rd Dr. Beaverton, OR 97006					
Test Procedure	Testing Lab					
Determination of the re	esult includes c	onsideration of meas	surement unce	rtainty from th	e test equipme	nt and
methods. The product was tested as indicated below with results in conformance to the relevant test criteria.						
No tests were deemed necessary to Add Models 0760-41AD and 0766-41AD based on similarity to originally						
						<b>~</b> !!

No tests were deemed necessary to Add Models 0760-41AD and 0766-41AD based on similarity to originally evaluated Models 0783-41 and 0786-41. Also CSA C22.2 No. 107.1-01. General Use Power Supplies (Reaffirmed 2006) was added to the Listing covered under this report. No tests were deemed necessary based on Engineering judgement and tests covered under original evaluation of UL 1741.

	Is a stand of						
Evaluation Period	March 19th, 20	)12		Project No.	G100683439		
Sample Rec. Date	2/9/2012	Condition	Production	Sample ID.	PRT1202091044- 001		
Test Location	Intertek, 22887	NE Townsend Wa	y, Fairview, OR 970	024			
Test Procedure	Intertek Testin	<u> </u>					
Determination of the re	esult includes c	onsideration of mea	surement uncertain	ity from the test e	quipment and		
methods. The product	t was tested as	indicated below with	n results in conform	ance to the releva	ant test criteria.		
The following tests we	re performed:						
Test Description			UL 1741 Clause	CSA C22.2 No. 107.1-01 Clause			
Rain Test			61.2				
Evaluation Period	Evaluation Period 11/14/2016 Project No. G102803874SV						
Due to previous testing performed and reported above no additional testing was necessary for Inverters,							

Due to previous testing performed and reported above no additional testing was necessary for Inverters, Converters, Controllers And Interconnection System Equipment For Use With Distributed Energy Resources [UL 1741:2010 Ed.2 +R:07Sep2016]. CSA C22.2#107.1 Issued: 2001/09/01 Ed: 3 (R2011) General Use Power Supplies.

Issued: 30-Jan-2009

Determination of the result includes consideration of measurement uncertainty from the test equipment and methods. The product was tested as indicated below with results in conformance to the relevant test criteria. Due to the testing performed and reported above on the following tests were performed for the addition of the 0799 Series models and the standard update to Photovoltaic Combiners [CSA C22,2#290:2015 Ed,1]:

·			-
			UL 50E
	UL 1741	CSA C22.2#290	CSA C22.2#94.2
Test Description	Clause	Clause	Clause
Grounding Impedance	48	4.17	
Static Load	59		
Temperature		6.1	
Dielectric Strength		6.2	
Rain			8.3
External Icing			8.5
	CSA C22.2#0.4		
Test Description	Clause		
Impedance	5.1		

8.1 Signatures							
A representative sample of the product covered by this report has been evaluated and found to comply with the applicable requirements of the standards indicated in Section 1.0.							
			Russell Ransom /				
Completed by:	Matthew Wood	Reviewed by:	Radhe Patel				
			Senior Project Engineer /				
Title:	Associate Engineer	Title:	Senior Staff Engineer				
	Wathen Wood		Russell Ransom Radle. Rodel				
Signature:	Marinen a soci	Signature:	of cours				

Issued: 30-Jan-2009

9.0 Correlation Page For Multiple Listings The following products, which are identical to those identified in this report except for model number and Listee name, are authorized to bear the ETL label under provisions of the Intertek Multiple Listing Program. **BASIC LISTEE** RSTC Enterprises, Inc. 2214 Heimstead Road Address Eau Claire, WI 54703 Country USA **Electrical Combiner Box** Product MULTIPLE LISTEE 1 None Address Country **Brand Name** ASSOCIATED **MANUFACTURER** Address Country MULTIPLE LISTEE 1 MODELS **BASIC LISTEE MODELS** MULTIPLE LISTEE 2 None Address Country **Brand Name** ASSOCIATED **MANUFACTURER** Address Country MULTIPLE LISTEE 2 MODELS **BASIC LISTEE MODELS** MULTIPLE LISTEE 3 None Address Country **Brand Name ASSOCIATED MANUFACTURER** Address Country MULTIPLE LISTEE 3 MODELS **BASIC LISTEE MODELS** 

Issued: 30-Jan-2009

## 10.0 General Information

The Applicant and Manufacturer have agreed to produce, test and label ETL Listed products in accordance with the requirements of this Report. The Manufacturer has also agreed to notify Intertek and to request authorization prior to using alternate parts, components or materials.

#### COMPONENTS

Components used shall be those itemized in this Intertek report covering the product, including any amendments

## LISTING MARK

The ETL Listing mark applied to the products shall either be separable in form, such as labels purchased from Intertek, or on a product nameplate or other media only as specifically authorized by Intertek. Use of the mark is subject to the control of Intertek.

The mark must include the following four items:

- 1) applicable country identifiers "US" and/or "C" or "US", "C" and "EU"
- 2) the word "Listed" or "Classified" or "Recognized Component" (whichever is appropriate)
- 3) a control number issued by Intertek
- 4) a product descriptor that identifies the standards used for certification. Example:

**For US standards**, the words, "Conforms to" shall appear with the standard number along with the word, "Standard" or "Std." Example: "Conforms to ANSI/UL Std. XX."

**For Canadian standards**, the words "Certified to CAN/CSA Standard CXX No. XX." shall be used, or abbreviated, "Cert, to CAN/CSA Std, CXX No. XX."

Can be used together when both standards are used.

Note: A facsimile must be submitted to Intertek, Attn: Follow-up Services for approval prior to use. The facsimile need not have a control number. A control number will be issued after signed Certification Agreements have been received by the Follow-up Services office, approval of the facsimile of your proposed Listing Mark. satisfactory completion of the Listing Report. and scheduling of a factory

#### MANUFACTURING AND PRODUCTION TESTS

Manufacturing and Production Tests shall be performed as required in this Report.

## FOLLOW-UP SERVICE

Periodic unannounced audits of the manufacturing facility (and any locations authorized to apply the mark) shall be scheduled by Intertek. An audit report shall be issued after each visit. Special attention will be given to the

- 1. Conformance of the manufactured product to the descriptions in this Report.
- 2. Conformance of the use of the ETL mark with the requirements of this Report and the Certification Agreement.
- 3. Manufacturing changes.
- 4. Performance of specified Manufacturing and Production Tests.

In the event that the Intertek representative identifies non-conformance(s) to any provision of this Report, the Applicant shall take one or more of the following actions:

- 1. Correct the non-conformance.
- 2. Remove the ETL Mark from non-conforming product.
- 3. Contact the issuing product safety evaluation center for instructions.

## **10.1 Evaluation of Unlisted Components**

Because Unlisted Components are uncontrolled, and they do not fall under a third party follow up program, Intertek may require these components to be tested and/or evaluated at least once annually, more often for certain components, as part of the independent certification process. The Unlisted Components in Section 5.0

Note to Intertek Follow Up Inspector: The Component Evaluation Center, CEC, will notify you in writing when these components must be selected and sent to the CEC for re-evaluation

Ship the samples to: Intertek Testing Services NA Inc. ETL Component Evaluation Center 45000 Helm Street, Suite 150 Plymouth Twp., MI 48170 USA Attn: Component Evaluation Center

Sample Disposition: Due to the destructive nature of the testing, all samples will be discarded at the conclusion of testing unless, the manufacturer specifically requests the return of the samples. The request for return must accompany the initial component

Report No. 3171411PRT-002 RSTC Enterprises, Inc. Page 25 of 30

Issued: 30-Jan-2009 Revised: 7-May-2018

# 11.0 Manufacturing and Production Tests

The manufacturer agrees to conduct the following Manufacturing and Production Tests as specified:

## **Required Tests**

None

12.0 Revision Summary The following changes are incompliance with the declaration of Section 8.1: Project Handler/ Date/ Section Item Description of Change Proj # Site ID Reviewer Updated model similarity to describe both configurations of 16-Mar-2009 J. Gregory 2.0 Soladeck 0786-41 3173730PRT T. Dorta 4.0 Corrected error with page number/item number mismatch 4.0 8 Added alternate component for negative terminal blocks Added bus bar for construction with alternate negative 9 4.0 terminal block. Removed Dielectric Withstand test from applicable 11.0 Production Tests. Added new standard reference (CSA C22.2 # 107.1) 1-Apr-2010 S. Coy 1.0 Added two new models (0760-41AD and 0766-41AD). updated model similarity description and updated electrical G100065282PRT T. Gambrell 2.0 --10,11, 4.0 12,13, Added description of new critical components 14 9.10. 6.0 Updated references to Illustrations in section 7.0 11 Replaced Illustration no. 2 with new Illustration that has French language and two new models (0760-41AD and 0766-7.0 2 Added new illustration 3a for required UL 1741 and CSA 7.0 3A C22.2 No. 107.1 markings Replaced installation manual with new one with the required 4 7.0 French markings. 7.0 Deleted this Illustration and included with ILL. 4 5 8.0 Added Test Summary to support revisions under this project. Administrative change updating standard UL 1741 from 1st Ed. To 2nd Ed. Issued 1/28/10 - Product listed is not 12-Aug-2010 J. Gonzalez 1.0 affected. 3171411 SVN T. Dorta Administrative change of applicant and manufacturing M. Sher address from 2219 Heimstead Road to 2214 Heimstead 31-Mar-2011 1.0 Administrative change of applicant and manufacturing address from 2219 Heimstead Road to 2214 Heimstead G100371451MIN V. Dreytser 9.0 Road. Added line "Product has been tested and found compliant for installation at 14 degrees and above," to clarify that product 27-Mar-2012 D. Koll 2.0 is okay to use at 14 degrees and above. T. Gambrell Added Test Summary to support revisions under this project. G100683439PRT 8.0 Added various Fuse Holder, having model number LPSM CH, CHM, 6S,30AX-c, FRZ USM-1, CHPV, CHM1DI 25-Nov-2014 M. Rana 4.0 2 respactively Added various Neative terminal block, having model number G101901779CRT S. Pasternack 6 4.0 PDBFS220 and PDB220-1 respactively Added Various Negative terminal block, having model 7 number M6/8 600V-50A and M10/10 model number 600V-4.0 Typo error removed for Type/Model from 'B110C' to correct 15-Jan-2015 M. Rana 4.0 model number 'C110'

Issued: 30-Jan-2009

12.0 Revision Summary The following changes are incompliance with the declaration of Section 8.1: Project Handler/ Date/ Section Item Description of Change Proj # Site ID Reviewer Alternate Grounding terminal added with model numbr 'EM 5 G101974219CRT S. Pasternack 4.0 4250-5-SSO' Manufacturer updated from 'Bussman' to 'Various' and Model/type also updated from 'PDB220-1 to 'Various' for 4.0 6 component description of 2/0-8, Wire range secondary: 4-14. Rated, 600V, 175 A/pole Construction similar to Bussmann example above Type /Model number updated from S200U-Z to S202U-Z20 for 20A Breaker. 4.0 11 Alternate component added from the same manufacturer with model number S200U-Z15 whuch is 15A Breaker. 22-Jul-2016 M. Wood 1.0 Updated CSA C22.2 No. 107.1 standard to match GSSQ. G102633181CRT S. Pasternack 3.0 4 Added grounding bar photo. Added alternate ground terminal model number 2S2/0 5 4.0 manufactured by IHI Connectors. Added grounding bar model number 4-14 (4-9, 1, 9) RS 15 4.0 manufactured by Brumall Mfg. Corp. Removed table. 6.0 6 Added "The following markings in French are required: See 6.0 8 Cautionary Markings." 9 Illustration 4 reference was 3a (typographical error). 6.0 7.0 10 Added illustration (table removed from Section 6.0 Item 6). Technical change to update standard UL 1741 From: UL 1741: Standard for Safety for Inverters, Converters. Controllers and Interconnection System Equipment for Use With Distributed Energy Resources, Second Edition, Issued 14-Nov-2016 D. Robb 01/28/10. 1.0 To: Inverters, Converters, Controllers And Interconnection System Equipment For Use With Distributed Energy Resources [UL 1741:2010 Ed.2 +R:07Sep2016]. Product listed is not affected. Reformatted standard title to match GSSQ for standard IDs: CSA C22.2#107.1. From: CSA C22.2#107.1: General Use Power Supplies, Third Edition, Issued: 2001/09/01 (R2011). G102803874SVN D. Tesfaye 1.0 To: CSA C22.2#107.1 Issued: 2001/09/01 Ed: 3 (R2011) General Use Power Supplies. No version changes made. 7.0 Added Illustration 3a - French Warning in Instruction Manual. 8.0 Added new test block. 8.1 Added new signatures.

Issued: 30-Jan-2009

12.0 Revision Summary The following changes are incompliance with the declaration of Section 8.1: Project Handler/ Date/ Section Item Description of Change Proj # Site ID Reviewer Updated CSA standard from "CSA C22.2#107.1 Issued: M. Wood MW 7-May-2018 1.0 2001/09/01 Ed: 3 (R2011) General Use Power Supplies" to "Photovoltaic Combiners [CSA C22.2#290:2015 Ed.1]". Updated description from "The products covered by this report are a Combiner box (DC and AC power applications) for use with a up to four photovoltaic array inputs, and an output of a single DC/AC source. Product has been tested and found compliant for installation at 14 degrees and R. Ransom above." to "The products covered by this report are a 2.0 G103260700CRT Combiner box (DC and AC power applications) for use with a R. Patel up to four photovoltaic array inputs, and an output of a single Radhe. Padel DC/AC source. Product has been tested and found compliant for installation at 14 degrees and above. The product is intended for installation on composite, metal, or rubber roofing.". Added Models "0799- followed by 2, 5, D, E or EP; followed 2.0 by B, G or S." Updated Model Similarity from "Similar except for the use of the negative terminal block in unit. The 0783-41 model has its negative terminal block mounted to the enclosure in a stand-alone fashion with up to four inputs and one lug output, while the 0786-41 model has its negative terminals mounted to the DIN rail. Models 0760-41AD and 0766-41AD are identical except that Model 0766-41AD has a 6" deep base for installation on tile and slate roofs. Models 0760-41AD and 0766-41AD are similar to Models 0783-41 and 0786-41 except for component configuration (see section 4.0 for details)" to "Models 0783-41 and 0786-41 are similar except for the use of the negative terminal block in unit. The 0783-41 model has its negative terminal block mounted to the enclosure in a stand-alone fashion with up to four inputs and 2.0 one lug output, while the 0786-41 model has its negative terminals mounted to the DIN rail. Models 0760-41AD and 0766-41AD are identical except that Model 0766-41AD has a 6" deep base for installation on tile and slate roofs. Models 0760-41AD and 0766-41AD are similar to Models 0783-41 and 0786-41 except for component configuration (see section 4.0 for details). All models in the 0799 series are similar in design and construction except for the internal components. The configuration of the models are as follows: "2" is for a two position ground lug, "5" is for a five position ground lug, "D" is for a one position ground lug, "E" is for Enphase bulkheads and a supplementary protection device, "EP" is for Enphase bulkheads, "B" is for a black powder coated enclosure, "G" is for a grey powder coated enclosure, and "S" is for stainless steel enclosure.". Updated Ratings from "Models 0783-41 and 0786-41: 600 VDC, 120 A total. Models 0760-41AD and 0766-41AD: 600 VDC, 120 A total / 240 VAC, 60 A" to "Models 0783-41, 0786-2.0 41: 600VDC, 120A, Models 0760-41AD, 0766-41AD: 600VDC, 120A / 240VAC, 60A. Models 0799: 1000VDC, 180A / 480VAC, 60A".

Issued: 30-Jan-2009

12.0 Revision Summary The following changes are incompliance with the declaration of Section 8.1: Project Handler/ Date/ Section Item Description of Change Proj # Site ID Reviewer 5 3.0 Added photo of Model 0799. Added enclosure stainless steel manufactured by RSTC 1 4.0 Enterprises. 2 4.0 Added fuse holder LPSC manufactured by Littelfuse. Added grounding terminal LL414 manufactured by Thomas & 5 4.0 Betts Corp. Corrected technical data and securement means for negative terminal block ER10 manufactured by IMO Precision Controls from "16-6AWG Cu wire range. Rated 600V, 65A. 4.0 7 Used in alternate construction with bus bar attached for single lug output." to "16-6AWG Cu wire range. Rated 600V, 65A. Used in construction with bus bar attached for single lug output.". Added negative terminal block ER16PV manufactured by 7 4.0 IMO Precision Controls. 7 Added negative terminal block ER35PV manufactured by 4.0 4.0 7 Added negative terminal block ZS6 manufactured by ABB. 7 Added negative terminal block ZS10 manufactured by ABB. 4.0 7 Added negative terminal block ZS16 manufactured by ABB. 4.0 7 4.0 Added negative terminal block ZS50 manufactured by ABB. Added single pole distribution block DBL 80 manufactured by 4.0 10 ABB France. Added single pole distribution block DBL 125 manufactured 4.0 10 by ABB France. Added ac circuit breaker SU202M-C20 manufactured by ABB 4.0 11 Germany. Added ac circuit breaker SU202M-Z15 manufactured by ABB 4.0 11 Germany. Added bulkhead 830-00320 manufactured by Enphase 16 4.0 Energy Inc. Added fuse PVM-15 manufactured by Cooper Bussmann 4.0 17 LLC. 4.0 17 Added fuse KLKD015 manufactured by Littelfuse Inc. Added fuse SPF020 manufactured by Littelfuse Inc. 17 4.0 Added terminal block jumper bar JB8-2 manufactured by 18 4.0 ABB France. Added terminal block jumper bar JB8-3 manufactured by 4.0 18 ABB France. Added terminal block jumper bar JB8-4 manufactured by 4.0 18 ABB France. Added terminal block jumper bar JB8-5 manufactured by 18 4.0 ABB France. Added terminal block jumper bar JB8-10 manufactured by 4.0 18 ABB France. Added gland fitting LTCG 3/8 manufactured by Heyco 4.0 19 Products Inc. Added gland fitting LTCG 1/2 manufactured by Heyco 4.0 19 Products Inc. Added gland fitting LTCG LL 1/2 manufactured by Heyco 19 4.0 Products Inc. Added busbar PS2/6/16BP manufactured by ABB Stotz-4.0 20 Kontakt GmbH.

Issued: 30-Jan-2009

12.0 Revision Summary The following changes are incompliance with the declaration of Section 8.1: Date/ Project Handler/ Section Item Description of Change Proj # Site ID Reviewer Added busbar PS2/56/25BP-C manufactured by ABB Stotz-20 4.0 Kontakt GmbH. Added busbar terminal block SZ-ESK BP manufactured by 21 4.0 ABB Stotz-Kontakt GmbH. 8.0 Added new test summary for this project. --Re-signed. Replaced D. Robb/D. Tesfaye. 8.1

Issued: 30-Jan-2009