



Installation manual for models 0799 Series and 0766-41AD

Table of Contents

| | |
|---|----------|
| Safety and warnings | 2 |
| General wiring | 3 |
| Base plate and base dimple locations | 3 |
| Installation instructions | 4 |
| Requirements and torque data | 5 |
| Typical SolaDeck features | 6 |
| Typical components used | 7 |
| SolaDeck with components installed | 7 |
| PV example | 8 |
| Warranty | 8 |

2nd Edition – October 2017

**RSTC Enterprises, Inc.
2214 Heimstead Road
Eau Claire, WI 54703
866-367-7782**

www.soladeck.com

Read the entire installation manual before installing a SolaDeck

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. Protégez 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.

Tools and Hardware List

Utility knife - 1/4" nut driver - #2 Phillips head drive bit - Pry bar – Roof sealant – Drill

0799 Series: (5) # 10 – 1" Phillips screws; (5) # 10 bonded seal washers; (5) 8x32-1/4" self thread hex screws

0766-41AD: (7) # 10 – 1" Phillips screws; (5) # 10 bonded seal washers; (5) 8x32-1/4" self thread hex screws

IMPORTANT SAFETY INSTRUCTIONS

Save this manual - It contains important instructions for models 0799 Series and 0766-41 AD that should be followed during the installation of this product.

SolaDeck products are listed by ETL to the UL standards: UL 1741; CSA C22.2 No. 290

These enclosures are rated for up to 1000 VDC 180 amp, 480 VAC 60 amp max

Grounding Instructions- The system should be connected to a grounded, permanent wiring system.

System wiring and 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:



Note: Solar panels produce electrical current when light is present and 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

Acceptable UL recognized components are found in UL Report # 3171411PRT-002

Remove any necessary knockouts before securing the SolaDeck to the roof or other surface.

Follow the mounting instructions page 4

Install components onto the din rail and lock in place.

When combining, secure the bus bar to the fuse holders or breakers.

Install neutral mounted power block on din rail where designated PV neutral or negative and lock in place.

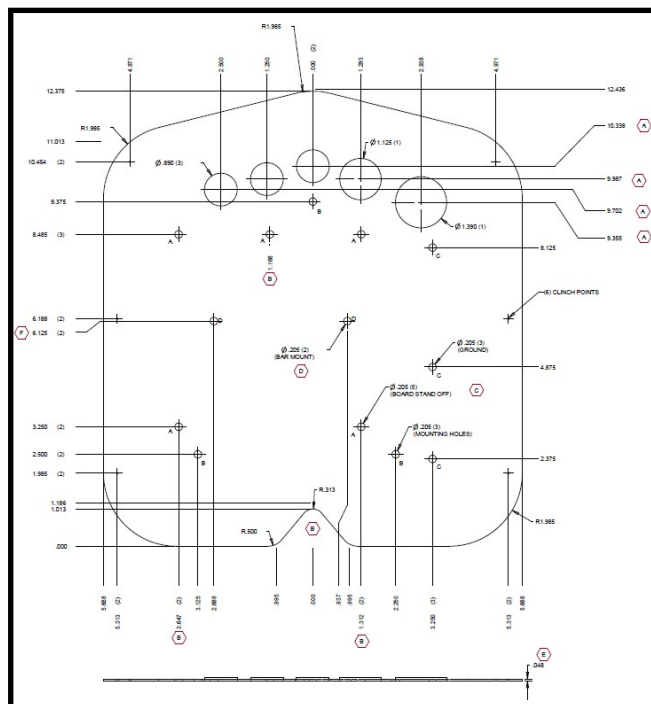
Torque values are listed in the table on page 5.



SolaDeck Base showing dimple locations

The 2 corner dimples support .5", .75" or 1" fittings or conduit

The 3 center dimples support .5" fittings or conduit



Base plate drawing for knockout sizes and locations

SolaDeck Installation Instructions

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

Figure 1

- Determine the location for the SolaDeck on the roof surface.
- Use the template from the bottom of the SolaDeck carton to trace the SolaDeck on the shingles.

Figure 2

- Use a pry bar to loosen the shingles, then remove any nails that would interfere with the SolaDeck flashing. *The flashing will slide beneath the shingles.
- Cut the roofing material to the shape of the template.
- Remove the knockouts needed to penetrate the roof deck.

Figure 3

- Slide the SolaDeck into place beneath the shingles and mark the knockout locations.
- Remove the SolaDeck and drill a hole through the roof deck 1/3 larger than the knockout holes.
- Determine the size and number of fittings or conduit needed to bring the circuit or string wiring into the SolaDeck. The corner dimples allow up to 1" fittings, the center dimples allow .5" fittings. Use a knockout tool or drill to cut the fitting holes where the base dimples are located.
- Install the fittings, reposition the SolaDeck and using the 1" truss head screws provided fasten the Soladeck to the roof deck from inside the enclosure (locations shown).
- Use roof cement to seal the shingles to the flashing & replace roof nails.

Figure 4

- Install components needed to connect the solar panel circuits.

Figure 5

- When connections are complete, finish by installing the cover using the 8/32 x 3/8" hex head screws provided.



Figure 1



Figure 2

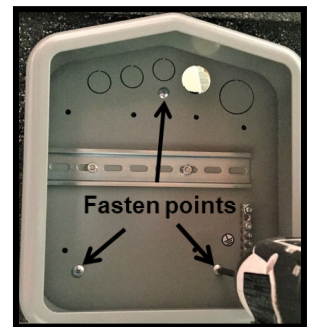


Figure 3

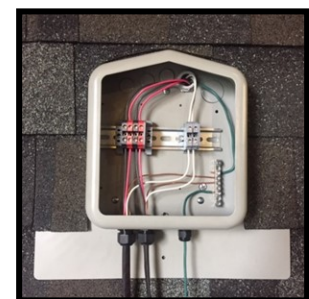


Figure 4



Figure 5

Requirements: 75 C copper wire

Use only code approved, appropriately UL listed or recognized components

Ratings for 0799 model series and 0766-41AD

1000VDC / 180amps 10Ka short circuit; 480 VAC / 60 amps 10Ka Short circuit

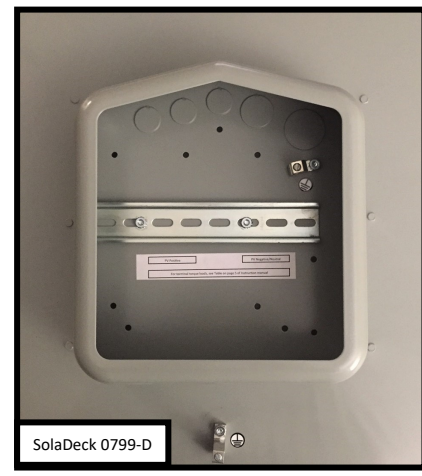
Typical wire size, torque loads and ratings

| | 1 Conductor | 2 Conductors | Torque | | | | |
|---|--------------------|------------------|----------------|----------------|--------------------|-----------------|------------------------|
| | | | Type | NM | Inch Lbs | Voltage | Current |
| ABB ZS6 terminal block | 24-10 awg | 24-16 awg | Sol/Str | 0.5-0.7 | 6.2-8.85 | 600V | 30 amp |
| ABB ZS10 terminal block | 24-6 awg | 20-12 awg | Sol/Str | 1.0-1.6 | 8.85-14.16 | 600V | 40 amp |
| ABB ZS16 terminal block | 24-4 awg | 20-10 awg | Sol/Str | 1.6-2.4 | 14.6-21.24 | 600V | 60 amp |
| ABB ZS50 terminal block | 18-0 awg | 18-4 awg | Sol/Str | 3 | 26.55 | 1000V | 140 amp |
| ABB M6/8 terminal block | 22-8 awg | | Sol/Str | .08-1 | 8.85 | 600V | 50 amp |
| ABB M10 terminal block | 35-16 awg | | Sol/Str | 1.2-1.4 | 10.62-12.39 | 600V | 65 amp |
| ABB DBL 80 primary | 4 awg | | Sol/Str | 1.5-2 | 13.5-18 | 1000V | 80 amp |
| ABB DBL80 secondary | 14-10 awg | | Sol/Str | .08-1.2 | 7.2-10.8 | 1000V | 80 Amp |
| ABB BDL 125 primary | 8-2 awg | | Sol/Str | 2-3 | 18 - 26.5 | 1000 VAC | 125 amp |
| ABB BDL 125 primary | 8-2 awg | | Sol/Str | 2-3 | 18 - 26.5 | 1500VDC | 125 amp |
| Abb DBL 125 secondary | 14-6 awg | | Sol/Str | 2 - 3 | 18 - 26.5 | 1000VAC | 125 amp |
| Abb DBL 125 secondary | 14-6 awg | | Sol/Str | 2 - 3 | 18 - 26.5 | 1500VDC | 125 amp |
| Little fuse LPHV series | 8 - 14 awg | | STR | 2 | 17.7 | 1000VDC | 30 amp |
| Little fuse LPHV series | 10-14 awg | | Sol | 2 | 17.7 | 1000VDC | 30 amp |
| Little fuse LPSM CH series | 10 - 14 awg | | Sol | 2 | 17.7 | 600V | 30 amp |
| Little fuse LPSM CH series | 8 - 14 awg | | Str | 2 | 17.7 | 600V | 30 amp |
| Bussmann CHPV series | 14 - 10 awg | | Sol/Str | 2.3 | 20 | 1000VDC | 30 amp |
| Bussmann CHPV series | 14 - 10 awg | | Sol/Str | 2.3 | 20 | 600VDC | 30 amp |
| ABB Breaker SU200 m series | 18 - 4 awg | | Sol/Str | 2.8 | 13.3 - 39.8 | 480VAC | 15 & 20 amp |
| International Hydraulics 2S2/0 | 14-10 awg | | Sol/Str | 4 | 35 | | |
| | 8 awg | | Sol/Str | 4.5 | 40 | | |
| | 4 awg | | Sol/Str | 5.1 | 45 | | |
| | 2 awg | | Sol/Str | 5.7 | 50 | | |
| Brumall 4-9,1,2,89-RS | 4-6 awg | | Sol/Str | | 45 | 2000V | |
| | 8 awg | | Sol/Str | | 40 | | |
| | 10 - 14 awg | | Sol/Str | | 35 | | |
| Blackburn LL414 | 4 14 awg | | Sol/Str | | | | |

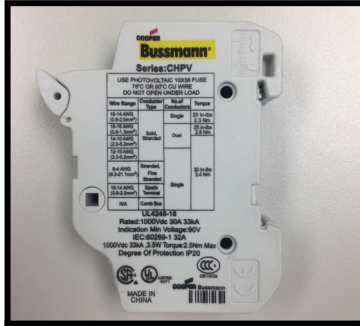
Typical SolaDeck Combiner Features

- Typical SolaDeck Combiner Features
- Stamped seamless galvanized steel or Stainless
- Powder coated surfaces (1,100 salt spray hours)
- Models available grey, black or stainless steel
- Flashes into the roof deck
- Two, five or single position ground lug
- 8" din rail installed
- 5 Roof deck knockouts (3) @ .5", (1) @ .75", (1) @ 1"
- 5 dimples for gland fitting or conduit entry
- Mounting hardware included

0799 Series SolaDecks



Common Component & Kit Examples



1 Pole Fuse Holder



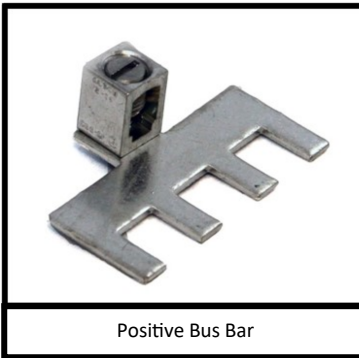
2 Pole AC Breaker



Power Distribution Block



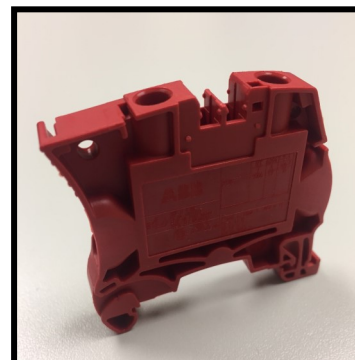
3/4" Fitting



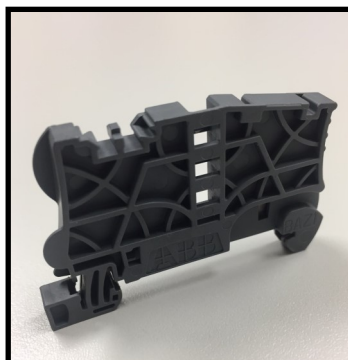
Positive Bus Bar



Midget Fuse



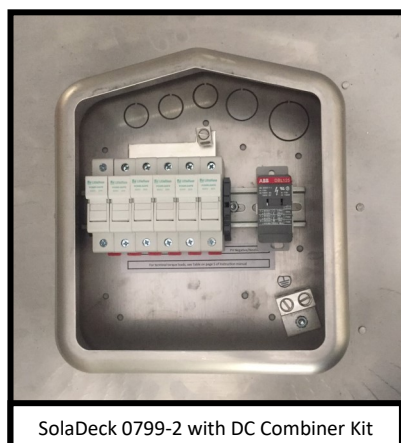
Terminal blocks, available in red, grey or black;
4mm, 8mm, 10mm



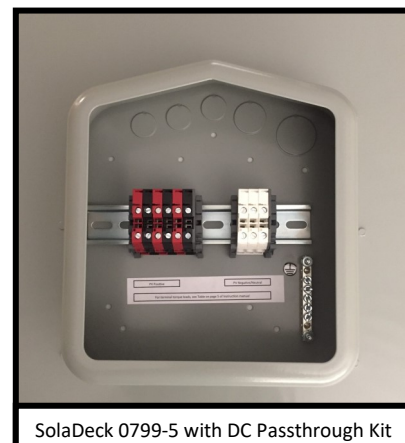
Rail Stop



End Plate



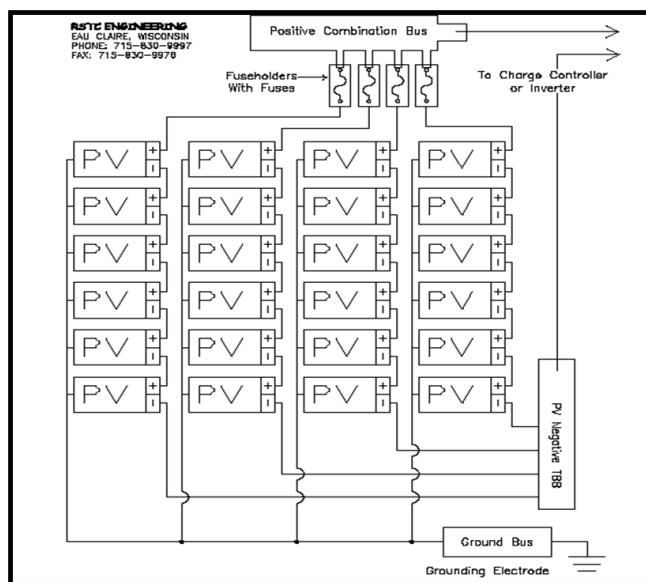
SolaDeck 0799-2 with DC Combiner Kit



SolaDeck 0799-5 with DC Passthrough Kit

*SolaDeck enclosures include din rail and ground blocks. All other internal parts are sold separately.

Typical DC Wiring Schematic



Warranty Information

Warranty repairs must conform to warranty terms.

As with all manufactured devices, replacement may be needed due to damage, unauthorized use, or defect.

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 for 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.

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
2214 HEIMSTEAD ROAD
EAU CLAIRE, WI 54703
 1-866-367-7782 or www.soladeck.com