

soltectionTM 2021 CATALOG



UL US
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PRODUCT ID
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Product and Service Advantages

These advantages are what make us different, and make Soltection combiner boxes the best choice for your solar project.

Fiberglass is our Standard

Our expertise is fiberglass. We believe that fiberglass sets the standard for durable materials which have a 20-year service life in outdoor light. Resistant to rust, lower weight, and able to provide the best thermal characteristics, fiberglass combiner boxes set the gold standard for any solar project, large or small. Soltection combiner boxes have the lowest O&M costs over the lifetime of the system, ensuring peace-of-mind for investors, owners, and EPCs.

Lightweight and Easy to Install

Lighter boxes make the finished product easier to install, and reduce overall product costs incurred during shipping and transportation. Fiberglass combiner boxes are between 35-50% lighter than their metallic counterparts, making them easier to install and ship, thereby reducing the bottom line cost.

Highest Efficiency Thermal Design

Fiberglass has the highest emissivity value among nonmetallic and metallic components used for solar combiner box construction. This results in more heat escaping the enclosure during operation. Our intelligent and innovative design utilize up to 20% more copper than the average competitor's combiner. We also utilize nonmetallic materials whenever possible for both safety and thermal efficiency. By combining intelligent materials and innovative combiner box design, Soltection combiners enable EPCs to install more efficient systems which outperform the competition and run cooler and more efficiently.

Shortest Lead Times

We streamlined our manufacturing process to be centered around the needs of the installer. We strive to meet the needs of our installers by providing accurate lead times, sometimes as short as 1 week, for most standard configuration orders.

Customizability

Our value-added services enable installers to reduce time spent during construction. From custom labeling, customized holes, custom assembly such as cord grips, whips, or pre-wiring, Soltection products can be customized to the needs of any installer.

Contact us for a quote for your next solar project!

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RJ-1

Residential Transition Box

The Soltection RJ-1 rooftop junction box with flashing provides a safe, secure, and NEMA 4X watertight solution for the Solar installer to penetrate the roof for attic runs and make the proper wire connections. The product is designed to be simple to install, minimize time on the roof, while additionally providing higher levels of protection for the point of penetration in the roof as well as electrical connections inside the junction box.



Key Features

- **Designed specifically for solar installations**
- **Light weight**
- **Non-metallic ---Will NOT rust/corrode**
- **Easy to drill/modify**
- **Captive screws in cover- will not fall out**
- **Minimal design, small footprint**
- **NEMA 4X rated**
- **All roof penetrations cover by Nema 4x enclosure**

Specifications

Enclosure

Material: Polycarb blend w/ UV inhibitors
UV Stabilized: Yes
Impact Resistance: Yes
Weight: 2.73lb
Color: Graphite Black

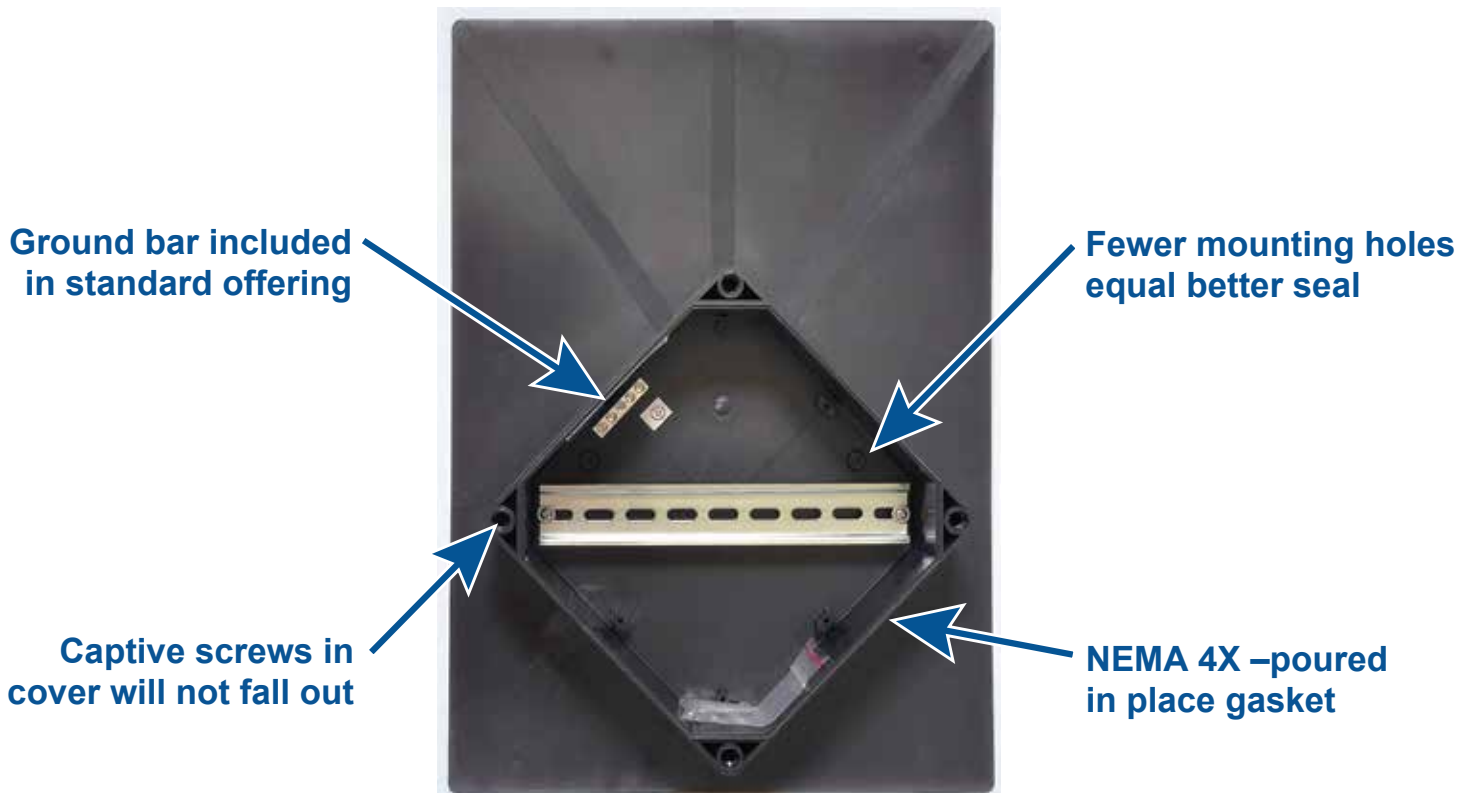
Dimensions

Flashing Dimensions (Approximate): 13" x 18"
Enclosure Dimensions (Approximate): 8" x 8"
Total Product Height: 3.5"
Cubic Inches: 224 Cubic Inches

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RJ-1 Features & Benefits

Soltection's new RJ-1 is a junction box with integrated flashing to be used on residential solar installs with composite shingle roofing.



Key Features

- **Cost effective**
- **Light weight (2.73 lbs)**
- **Dark Graphite color- blends in with any rooftop**
- **Non-metallic: will not rust/corrode**
- **Easy to drill/modify**
- **Designed specifically with solar installer in mind**

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RU-1-LP

Residential AC String Transition Box

The Soltection RU-1-LP Box enables installers to transition up to two microinverter strings to a single conduit, reducing costs by enabling installers to switch to standard building wire. The low profile enclosure is designed to be mounted beneath the array using the optional box bracket accessory or adjacent to the array using racking system accessories and provides a touch-safe and secure means to transition strings.



Key Features

- **Mountable beneath the PV array.**
- **Works with most microinverter brands.**
- **NEMA 4X enclosure with 20 year usable outdoor life.**
- **Reduces overall cable and wire BOS costs.**
- **Simplifies installation and commissioning while reducing labor costs.**
- **More reliable than using wire nuts, U-joints, or wire taps.**

Electrical Specifications

Maximum Voltage: 600V AC / DC
Terminal Wire Size Range (One Conductor) : (1) #6-#24
Wire Size Range (Two Conductors): (2) #20-#12
Connector Type: Screw Clamp
Maximum Current Per Terminal: 57A

Physical Specifications

Enclosure Rating: NEMA 4X
Enclosure Material: VALOX™ Polycarbonate
Outer Dimensions: 6.72" x 3.17" x 3.61"
Shipping Carton Size: 7" x 4" x 4"
Shipping Weight: 1.07lb

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RU-2-LP

Residential DC String Transition Box

The Soltection RU-2-LP Box enables installers to transition and/or combine one to four DC strings to a single conduit, reducing costs by enabling installers to switch to standard building wire and simplifying connections in the enclosure. The low profile enclosure is designed to be mounted beneath the array using the optional box bracket accessory or adjacent to the array using racking system accessories.



Key Features

- **Mountable beneath the PV array.**
- **Works with string inverters and optimizers.**
- **NEMA 4X enclosure with 20 year usable outdoor life.**
- **Reduces overall cable and wire BOS costs.**
- **Simplifies installation and commissioning while reducing labor costs.**
- **More reliable than using wire nuts, U-joints, or wire taps.**

Electrical Specifications

Maximum Voltage: 600V AC / DC
Terminal Wire Size Range (One Conductor) : (1) #6-#24
Wire Size Range (Two Conductors): (2) #20-#12
Connector Type: Screw Clamp
Jumpers: (4) 2-Prong Jumpers
Maximum Current Per Terminal: 57A
Maximum Combined Current Per Terminal: 57A

Physical Specifications

Enclosure Rating: NEMA 4X
Enclosure Material: VALOX™ Polycarbonate
Outer Dimensions: 7.01" x 7.01" x 3.13"
Shipping Carton Size: 7" x 8" x 4"
Shipping Weight: 1.37lb

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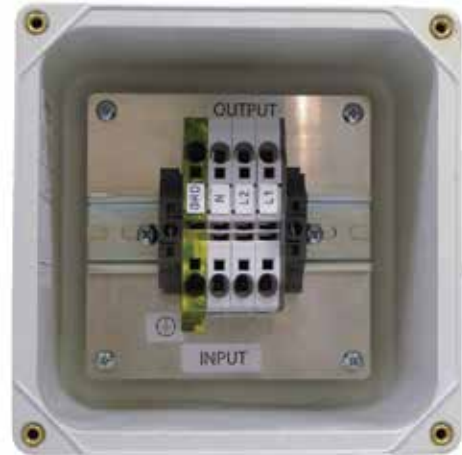


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RU-1

Residential AC String Transition Box

The Soltection RU-1-LP Box enables installers to transition up to two microinverter strings to a single conduit, reducing costs by enabling installers to switch to standard building wire. The low profile enclosure is designed to be mounted adjacent to the array using standard racking system accessories and provides a touch-safe and secure means to transition strings.



Key Features

- **Mountable adjacent to the array.**
- **Works with most microinverter brands.**
- **NEMA 4X enclosure with 20 year usable outdoor life.**
- **Reduces overall cable and wire BOS costs.**
- **Simplifies installation and commissioning while reducing labor costs.**
- **More reliable than using wire nuts, U-joints, or wire taps.**

Electrical Specifications

Maximum Voltage: 600V AC / DC
Terminal Wire Size Range (One Conductor) : (1) #6-#24
Wire Size Range (Two Conductors): (2) #20-#12
Connector Type: Spring Clamp
Maximum Current Per Terminal: 57A

Physical Specifications

Enclosure Rating: NEMA 4X
Enclosure Material: Vyncopreg V5010(f1) Fiberglass
Outer Dimensions: 7.31" x 7.31" x 4.92"
Shipping Carton Size: 8" x 8" x 5"
Shipping Weight: 1.07lb

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RU-2

Residential DC String Transition Box

The Soltection RU-2 Box enables installers to transition and/or combine one to four DC strings to a single conduit, reducing costs by enabling installers to switch to standard building wire and simplifying connections in the enclosure. The low profile enclosure is designed to be mounted beneath the array using the optional box bracket accessory or adjacent to the array using racking system accessories.



Key Features

- **Mountable to rail using standard rail attachments.**
- **Works with string inverters and optimizers.**
- **NEMA 4X enclosure with 20 year usable outdoor life.**
- **Reduces overall cable and wire BOS costs.**
- **Simplifies installation and commissioning while reducing labor costs.**
- **More reliable than using wire nuts, U-joints, or wire taps.**

Electrical Specifications

Maximum Voltage: 600V AC / DC
Terminal Wire Size Range (One Conductor) : (1) #6-#24
Wire Size Range (Two Conductors): (2) #20-#12
Connector Type: Screw Clamp
Jumpers: (4) 2-Prong Jumpers
Maximum Current Per Terminal: 57A
Maximum Combined Current Per Terminal: 57A

Physical Specifications

Enclosure Rating: NEMA 4X
Enclosure Material: Vyncopreg V5010(f1) Fiberglass
Outer Dimensions: 9.31" x 7.31" x 3.13"
Shipping Carton Size: 7" x 8" x 4"
Shipping Weight: 1.37lb

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RF-2-3, RF-2-4, RF-2-6

Residential Ungrounded Combiner Boxes

The Soltection RF-2-3, RF-2-4, and RF-2-6 Combiner Boxes support the combination of up to three, four, or six strings. In ungrounded combiner boxes, fuses are provided for both the positives and negatives. Housed in a Vynckier fiberglass enclosure, the Soltection combiner boxes offer unparalleled protection against the elements and the sun. The large and oversized busbars reduce losses and offer improved efficiency for connections.



Model RF-2-4 Shown

Key Features

- **Mountable on solar rail using brackets.**
- **Works with grounded string inverters.**
- **NEMA 4X fiberglass enclosure with 20 year usable outdoor life.**
- **Touch-Safe fuse holders.**

Electrical Specifications

Maximum Voltage: 1000V AC / DC
Number of Inputs : 3 (RF-2-3), 4 (RF-2-4), 6 (RF-2-6)
Input Wire Size Range: #6 - #14 AWG
Output Wire Size Range: #6 - 250MCM AWG
Connector Type: Screw Clamp
Maximum Current Per Terminal: 24A
Maximum Fuse Size: 30A
Maximum Combined Current (RF-3): 72A
Maximum Combined Current (RF-4): 96A
Maximum Combined Current (RF-6): 144 A

Physical Specifications

Enclosure Rating: NEMA 4X
Enclosure Material: Vynckier V5010(f1) Fiberglass
Outer Dimensions (RF-2-3, RF-2-4): 11.32" x 9.32" x 5.39"
Outer Dimensions (RF-2-6): 13.32" x 11.32" x 5.52"
Shipping Carton Size (RF-2-3, RF-4): 12" x 10" x 6"
Shipping Carton Size (RF-6): 14" x 12" x 6"
Shipping Weight: 5.10 lb (RF-3), 5.25 lb (RF-4)
Shipping Weight: 6.55 lb (RF-6)

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RF-8, RF-12

Large Residential Grounded DC String Combiner Boxes

The Soltection RF-8 and RF-12 Combiner Boxes support the combination of up to eight or twelve strings. Housed in a Vynckier fiberglass enclosure, the Soltection combiner boxes offer unparalleled protection against the elements and the sun. The large and oversized busbars reduce losses and offer improved efficiency for connections.



Model RF-12 Shown

Key Features

- **Mountable on solar rail using brackets.**
- **Works with grounded string inverters.**
- **NEMA 4X fiberglass enclosure with 20 year usable outdoor life.**
- **Touch-Safe fuse holders and negative terminals.**

Electrical Specifications

Maximum Voltage: 1000V AC / DC
Number of Inputs : 8 (RF-8), 12 (RF-12)
Input Wire Size Range: #6 - #14 AWG
Output Wire Size Range: 3/0 - 350MCM AWG
Connector Type: Screw Clamp
Maximum Current Per Terminal: 24A
Maximum Fuse Size: 30A
Maximum Combined Current: 192 A (RF-8), 288 A (RF-12)

Physical Specifications

Enclosure Rating: NEMA 4X
Enclosure Material: Vyncopreg V5010(f1) Fiberglass
Outer Dimensions: 17.32" x 15.32" x 6.65"
Shipping Carton Size: 18" x 16" x 7"
Shipping Weight: 7.10 lb (RF-8), 7.37 lb (RF-12)

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RF-3, RF-4, RF-6

Residential Grounded DC String Combiner Boxes

The Soltection RF-3, RF-4, and RF-6 Combiner Boxes support the combination of up to three, four, or six strings. Housed in a Vynckier fiberglass enclosure, the Soltection combiner boxes offer unparalleled protection against the elements and the sun. The large and oversized busbars reduce losses and offer improved efficiency for connections.



Model RF-4 Shown

Key Features

- **Mountable on solar rail using brackets.**
- **Works with grounded string inverters.**
- **NEMA 4X fiberglass enclosure with 20 year usable outdoor life.**
- **Touch-Safe fuse holders and negative terminals.**

Electrical Specifications

Maximum Voltage: 1000V AC / DC
Number of Inputs : 3 (RF-3), 4 (RF-4), 6 (RF-6)
Input Wire Size Range: #6 - #14 AWG
Output Wire Size Range: #6 - 250MCM AWG
Connector Type: Screw Clamp
Maximum Current Per Terminal: 24A
Maximum Fuse Size: 30A
Maximum Combined Current (RF-3): 72A
Maximum Combined Current (RF-4): 96A
Maximum Combined Current (RF-6): 144 A

Physical Specifications

Enclosure Rating: NEMA 4X
Enclosure Material: Vyncopreg V5010(f1) Fiberglass
Outer Dimensions (RF-3, RF-4): 11.32" x 9.32" x 5.39"
Outer Dimensions (RF-6): 13.32" x 11.32" x 5.52"
Shipping Carton Size (RF-3, RF-4): 12" x 10" x 6"
Shipping Carton Size (RF-6): 14" x 12" x 6"
Shipping Weight: 5.10 lb (RF-3), 5.25 lb (RF-4)
Shipping Weight: 6.55 lb (RF-6)

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Commercial Transition Boxes CUF Series

The CUF Series solar transition boxes (also known as pass through or pass thru boxes) provide a convenient location for transitioning wires in a commercial array when fusing is not required.

Specifications

Electrical

- Maximum Voltage: 1000 V
- Maximum Current: 75 A
- Number of Pairs: 4 - 20
- Wire Size (Input and Output): #24 - #3 AWG
- Max Operating Temperature: 50°C

Enclosure

- Material: Fiberglass Reinforced Polyester (FRP)
- Environmental Rating: NEMA 4X

Ordering Part Numbers

Number of Input Pairs

The number of circuits needed

4 to 20

CUF **xx** 1000V

- Consult Factory for Bulkheads, Cordgrips

Number of Pairs	Vynckier VJ Series Enclosure	Number of Pairs	Vynckier VJ Series Enclosure
4	VJ1008W	13	VJ1816W
5	VJ1008W	14	VJ1816W
6	VJ1210W	15	VJ2016W
7	VJ1412W	16	VJ2016W
8	VJ1412W	17	VJ2016W
9	VJ1614W	18	VJ2016W
10	VJ1816W	19	VJ2016W
11	VJ1816W	20	VJ2016W
12	VJ1816W		

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CDF Series

1000V Grounded Disconnect Combiner Box

The Soltection CDF Series is a 1000V rated grounded disconnect combiner box. In this enclosure, only the positive conductors are fused.

Fiberglass is our standard, and when coupled with our breakthrough thermal design, the Soltection enclosures are the best in class product for weather resistance, lowest losses, and ease of installation.



Key Features

- **NEMA 4X enclosure with 20 year usable outdoor life**
- **Fiberglass material allows for higher heat dissipation out of the box.**
- **Advanced thermal design reduces heat loss along components**
- **Lighter than metallic enclosures and safer and easier to install.**

Electrical Specifications

Maximum Voltage: 1000V DC
Maximum Ampacity: 100 - 400A DC
Maximum Current Per Input Terminal: 24A DC
Number of Fuse holders: 6 - 40
Input Wire Size Range: #6 - #14 AWG
Output Wire Size Range: See Part Configurator
Lug Options: See Part Configurator

Physical Specifications

Enclosure Rating: NEMA 4X
Enclosure Material: Vyncopreg V5010(f1) Fiberglass
Outer Dimensions: See Part Configurator
Shipping Carton Size: See Part Configurator
Shipping Weight: Ranges, See Part Configurator

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CDF-HV Series

1500V Grounded Disconnect Combiner Box

The Soltection CDF-HV Series is a 1500V rated grounded disconnect combiner box. In this enclosure, only the positive conductors are fused.

Fiberglass is our standard, and when coupled with our breakthrough thermal design, the Soltection enclosures are the best in class product for weather resistance, lowest losses, and ease of installation.



Key Features

- **NEMA 4X enclosure with 20 year usable outdoor life**
- **Fiberglass material allows for higher heat dissipation out of the box.**
- **Advanced thermal design reduces heat loss along components**
- **Lighter than metallic enclosures and safer and easier to install.**

Electrical Specifications

Maximum Voltage: 1500V DC
Maximum Ampacity: 250 - 400A DC
Maximum Current Per Input Terminal: 24A DC
Number of Fuse holders: 6 - 40
Input Wire Size Range: #6 - #14 AWG
Output Wire Size Range: See Part Configurator
Lug Options: See Part Configurator

Physical Specifications

Enclosure Rating: NEMA 4X
Enclosure Material: Vyncopreg V5010(f1) Fiberglass
Outer Dimensions: See Part Configurator
Shipping Carton Size: See Part Configurator
Shipping Weight: Ranges, See Part Configurator



Commercial Part Number Format

Whether it's 600V DC, 1000V DC, or 1500V DC, soltection combiner has a product that meets the needs of your system design.

Sample Soltection Part Number: [CDF-U-400-12-30-1-N-N-N-N-N](#)

Series Selection:

Soltection Series	CDF	CDF-U	CDF-AFCI	CDF-U-AFCI	CDF-HV	CDF-U-HV
Voltage		600V DC / 1000V DC			1500V DC	
AFCI		Non-AFCI	AFCI		Non-AFCI	
Topology	Grounded	Ungrounded	Grounded	Ungrounded	Grounded	Ungrounded

Part Number Composition:

Example Value	CDF-U	400	12	30	1	N	N	N	N	N
Assembly Part Number	Soltection Series	Main Disconnect Size [Amps]	Number of Fuses	Fuse Size [Amps]	Lug Option	Surge Protective Device	Drain / Vent	Fuse Holder	Installed Strut	Lexan Dead Front
Acceptable Options	From Above	400, 350*, 320, 250, 200, 100	6 to 40	5, 6, 8, 10, 12, 15, 20, 25, 30	1, 2, 3	1 or N	1 or N	1 or N	1 or N	1 or N
Notes:		1500V: 400, 320, and 250 Only. *350A: is reserved for series ending in "-AFCI" only, 350A denotes contactor ampacity.	600V/1000V: Number can only be even (not odd). Round up to nearest even number. <u>Note:</u> For ungrounded systems, provide number of fuses per polarity (not total).		1: Single Hole Mechanical Lug 2: Double Hole Mechanical Lug 3: Terminal for Compression Lug			1500V: An indicating fuse holder is not available. (i.e. option "1" is not available)		

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