

# Generation 2 Solar Combiner Boxes



*Powering Business Worldwide*

# Agenda

- Introduction
- Generation 2 Improvements
- Design
- Things to know
- Crouse- Hinds BOS Product Depth
- Launch Materials
- Competition
- Eaton/Cooper Solar Portfolio Summary
- Sales Strategy



Solar Combiner Solutions

**COOPER** Crouse-Hinds

# Introduction – Gen 2 Solar Combiner Boxes

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- Improved components & optimized layout
- Busbar design
- Consolidated catalog numbers & pricing
- 3D solid works sales drawings
- Improved order visibility on C3
- Up to 24 circuits, 600VDC & 1000VDC, with disconnects, surge protection, and fuse options.
- Improves the staple product of our broad BOS offering including Combiner Boxes, Recombiner Boxes, Pass through Boxes, Disconnect Boxes, & accessories.

# Generation 2 Improvements

Feature	Solution	Benefit to Customer	Measurable Value
Optimized and Standardized Components	Combiner box input size ranges utilize standard enclosures, busbar, disconnects, hardware, etc.	Optimized on-hand component inventory & increased production speed reduces delivery lead times	Helps ensure solar installers can meet tight delivery schedule requirements and project deadlines
Consolidated Catalog Numbers & Pricing	Consolidated integral disconnecting combiner box catalog numbers driven by input and amperage requirements	Logical and simple product selection meets wide range of customer application requirements and preferences	Simplified ordering and receiving from the manufacturer they have come to know and trust
Improved Sales Drawings	3D Solidworks Drawings for standard models available online via Contractor Corner. (Custom drawings will continue to be provided in as necessary)	Increased component dimensional detail eases customer specification validation.	Saves time
Improved Packaging (see packaging photo in technical guide)	Engineered UPS drop-tested cartons with honeycomb corner protection	Minimize risk of damage during transit and ensures product integrity upon delivery	Prevents potential installation delays
Online Order visibility	Customer orders and shipments can be tracked online via C3	Customer orders and shipments can be tracked online via C3	Saves time

# Design

## 1. Busbar construction

- Increases efficiency & ease of installation
- Reduces of critical connections

## 2. Increased fuse holder spacing

- Improved heat dissipation

## 3. Disconnect orientation

- Saves space & allows for ease of feeder installation

## 4. Lexan shields & standoffs

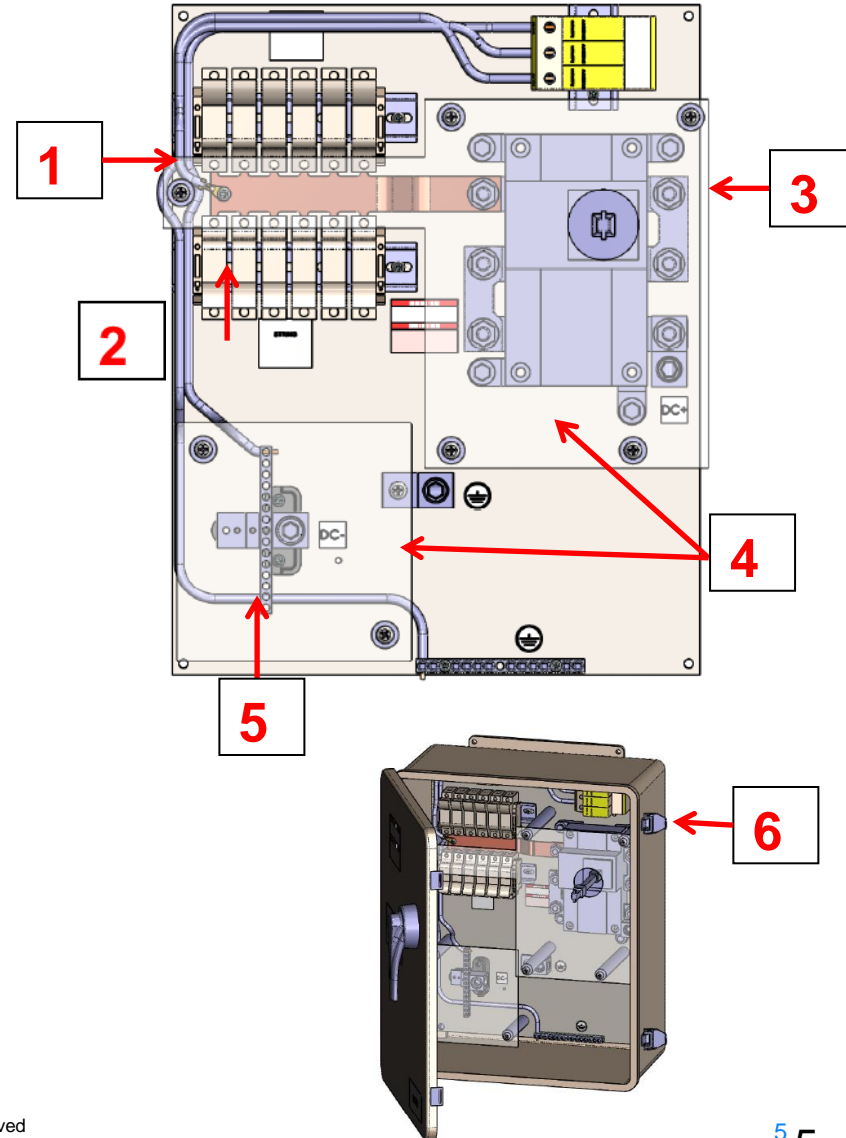
- Protects live components
- Aids in wire management

## 5. New design negative bar

- Eliminates need to dual-terminate inputs

## 6. Fiberglass enclosures with latched covers

- Reduces potential stripping of screws
- Lowers installation and maintenance costs



# Things to know

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- Previous generation catalog numbers with 200A disconnects are being discontinued and replaced by 250A –
  - Better rating, same price and product group, new UPC
- Catalog numbers above 6 strings with 100A integral disconnects and below 7 strings with 200A disconnects are being discontinued
- 1000VDC base combiners have been added to product group 098
- 1000VDC Integral disconnect combiners have been added to product group 099
- Same group discounts apply to new catalog numbers
- Availability – Gen 2 combiners are available now and constructed from component stock
- All custom configurations will be of busbar construction

# CC-H BOS Product Depth

## Solar Combiner Solutions

Providing the most complete offering of combiners, smart combiners, recombiners, disconnects and pass through boxes for your grid-tied solar applications.



With Cable Whips & Connectors



Rated for continuous operation at 60°C!



Pass Through Boxes, Accessories, & Cable Assemblies



Combiners with Options



Compact Combiners

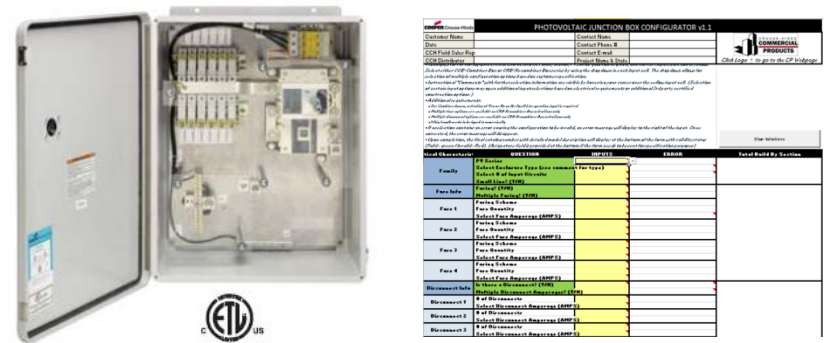
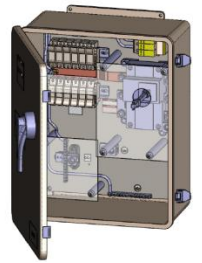
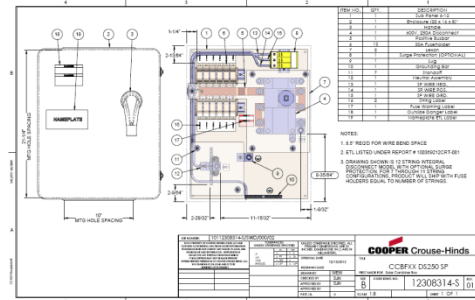


Recombiners & Disconnect Boxes



# Launch Materials

- Generation 2 Solar Combiner Product Line
- Updated Solar Brochure
- Updated ETL Listing Brochure
- Updated Solar Capabilities PPT
- Gen 2 launch PPT
- Price list
- Solar Reference Guide
- 3D Solid works drawings
- Solar Combiner Suggested Specification
- Selection Tool (Combiner & Recombiner)
- Accessories Brochure
- Samples



Customer Name	Customer Ref	Customer Notes
COOP Field Sales		
COOP Region	Customer Region	Customer Name
COOP Division	Customer Division	Customer Address

Panel #	Panel Type	Panel Voltage	Panel Current	Panel Power	Panel Amps
Panel 1	Panel 1	600V	10A	6000W	10A
Panel 2	Panel 2	600V	10A	6000W	10A
Panel 3	Panel 3	600V	10A	6000W	10A
Panel 4	Panel 4	600V	10A	6000W	10A
Panel 5	Panel 5	600V	10A	6000W	10A
Panel 6	Panel 6	600V	10A	6000W	10A
Panel 7	Panel 7	600V	10A	6000W	10A
Panel 8	Panel 8	600V	10A	6000W	10A
Panel 9	Panel 9	600V	10A	6000W	10A
Panel 10	Panel 10	600V	10A	6000W	10A



# Competition

Competitor / Series		Avoid Price War by Focusing On
Shoals Technologies	Offers similar line of balance of systems products with strength in bundled combiners and cable harness products. Global presence. Typically sell contractor direct.	<ul style="list-style-type: none"> <li>• Strength and bankability of Crouse-Hinds and Eaton</li> <li>• Breadth of Crouse-Hinds solar, commercial, and industrial offering, options &amp; BOS accessories to match customer specific needs</li> <li>• Our years of experience in manufacturing products for tough, demanding environmental conditions.</li> <li>• Cooper Connection</li> <li>• Depth &amp; resources</li> <li>• Local representation</li> <li>• Inventory (East and west)</li> <li>• Dual Production facilities</li> </ul>
SolarBOS	Offers wide range of balance of systems products including combiners & recombiners. They do not offer cable harnesses or combiner boxes with cable. Presence in US. Typically sell contractor direct and are usually the low cost competitor.	
AMtec solar	Similar line of BOS products. Sell contractor direct. Presence in US.	
Bentek	Similar line of BOS products. Line contains utility scale recombiners with “inverter specific” design. Presence in US and Canada. Typically sell contractor direct.	



# Eaton/Cooper – Solar Product Portfolio

## **COOPER** Power Systems



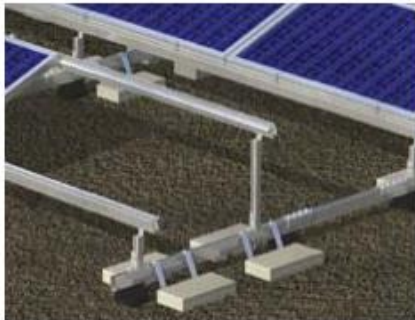
## **COOPER** Crouse-Hinds



## **EATON** Powering Business Worldwide



## **COOPER** B-Line



## **COOPER** Interconnect



## **COOPER** Bussmann



# Summary / Sales Strategy

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- Optimized, improved product designed with the voice of the customer in mind.
- We've given you all the tools!
- The US PV market continues to see double digit growth.
- Target new, existing, and former customers!
- Sell the total Eaton/Crouse Solar package