

- 1.0 Product Overview
- 2.0 Ratings Table
- 3.0 Installation
- 4.0 Operating Instructions
- 5.0 Warranty and RMA Instructions

- 6.0 Appendices
- 7.0 UL1741/CSA Certification Letter

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IMPORTANT SAFETY INSTRUCTIONS SAVE THESE INSTRUCTIONS

INSTRUCTIONS IMPORTANTES CONCERNANT LA SÉCURITÉ

Before installing or using the DISCOM 4M String Combiner Box, please read all instructions and caution markings in this manual and on the string combiner, as well as on the PV modules, PV inverter, and Charge Controller.

This manual contains important instructions that shall be followed during installation and operation of DISCOM 4M String Combiner Boxes. To reduce the risk of electrical shock, and to ensure the safe installation and operation of the combiner, the following safety symbols are used to indicate dangerous conditions and important safety instructions.

CONSERVER CES INSTRUCTIONS. CETTE NOTICE CONTIENT DES INSTRUCTIONS IMPORTANTES CONCERNANT LA SÉCURITÉ.

WARNING Could Injure Personnel or Damage Equipment	Instructions for Qualified Personnel Only	Positive Connection Point Symbol	Negative Connection Point Symbol	Ground Connection Point Symbol	DC Electrical Connection Point Symbol



WARNING: The DISCOM 4M fused string combiner contains no user serviceable parts. For maintenance, please contact Yaskawa – Solectria Solar or an authorized installer by visiting <http://www.solectria.com> or by calling +1-978-683-9700.



WARNING: Disconnect all PV modules or completely cover the surface of all PV arrays with opaque (dark) material before wiring. PV arrays produce electrical energy when exposed to light and could create a hazardous condition.



AVERTISSEMENT: Couper Toutes Les Sources d'alimentation Avant Le Dépannage.

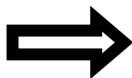


WARNING: Connection of the DISCOM 4M String Combiner Box with PV modules and a PV inverter to the electric utility grid must be done after receiving prior approval from the utility company and performed only by qualified personnel.



WARNING: The DISCOM 4M String Combiner Box is designed to be used with a PV system where one of the two DC source conductors is grounded at the inverter. This guide assumes a negative grounded PV system.

For positive grounded PV systems, consult the full product manual or exchange the terms “negative” and “positive” below.



NOTE: If connecting the DISCOM 4M String Combiner Box to a charge controller, substitute the term “charge controller” for “inverter” throughout this guide.

1.0 Introduction

The DISCOM 4M is a commercial disconnecting fused string combiner for combining multiple strings of Photovoltaic (PV) modules for connection to an inverter. In a large PV array, each string of PV modules must be fused before being paralleled and connected to an inverter. The DISCOM 4M is available in configurations from 8 to 30 PV source circuits and each source circuit is designed to utilize a fuse that is rated at least 156% of its short circuit current rating of the respective PV string source circuit. The fuse value for any source circuit should not exceed the PV module fuse rating. The DISCOM 4M combiner box is rated for a maximum voltage of 1000VDC; it is acceptable to use in systems where the maximum array voltage is 600VDC. Surge arrestor options are available for 600 and 1000VDC. Part numbers for the DISCOM 4M are listed as DISCOM-M.

1.1 Disconnect Switch Operation

The DISCOM 4M String Combiner Box contains a user-operable disconnect switch. When the disconnect switch handle is in the OFF position, the circuit is open between the ungrounded source conductors and the ungrounded output conductor(s). When the disconnect switch is in the ON position, the circuit is closed between the ungrounded source conductors and the ungrounded output conductor(s). The disconnect switch is fully load-break rated and can be safely operated under normal operating conditions when installation is per this guide and all warnings and ratings are observed.

2.0 Ratings Table

MODEL	DISCOM-M-08 – DISCOM-M-12	DISCOM-M-13 – DISCOM-M-20	DISCOM-M-24LT	DISCOM-M-21 – DISCOM-M-24	DISCOM-M-25 – DISCOM-M-30
Number of Fused Inputs	8 – 12 ⁵	13 - 20	24	21 - 24	25-30
Maximum Input Voltage (VDC)	1000 ¹				
Disconnect Switch Rating (ADC)	250			325 or 400	400
Maximum Continuous DC Current (ADC) ²	96 - 144	156 - 240	250 ²	252 - 288	300 - 360
Fuse Range Rating (A)	4A – 15A (Inquire About 20A – 30A)				
Fuse Size Provided	15A (Inquire About 20A – 30A)				
Type Rating	4, 4X ⁴				
Ambient Operating Temperature	-40°F to +122°F (-40°C to +50°C)				
Weight	PS & SS 29lbs (13.1kg) FG 26lbs (11.8kg)	36lbs (16.3kg) 29lbs (13.1kg)		75lbs (34.0kg) 56lbs (25.4kg)	
Dimensions	20 x 16 x 6in ⁵ (508 x 406 x 152mm)	24 x 20 x 6in (610 x 508 x 152mm)		30 X 24 x 8in (762 x 610 x 203mm)	

NOTES: ¹Maximum 600VDC for use in Canada

²Maximum continuous DC current based on rating of provided fuse.

³Maximum source circuits for DISCOM-M-24LT (without temperature derating):

- 24 source circuits for $I_{sc} \leq 8.33A$
- 23 source circuits for $I_{sc} \leq 8.69A$
- 22 source circuits for $I_{sc} \leq 9.08A$



⁴Rating based on enclosure material: 4 for Painted Steel (PS), 4X for Fiberglass (FG) & Stainless Steel (SS)
Model number changes with enclosure, i.e. DISCOM-M-PS-12X, DISCOM-M-FG-12X, or DISCOM-M-SS-12X

⁵8-fuse through 12-fuse versions with the options for customer-supplied compression lugs and MC4 or H4 connected input wires come in the 24 x 20 x 6in enclosure. See Section 3.4.6 and Section 3.4.7 for more information on these options.

3.0 Installation



WARNING: These installation instructions are for use by qualified personnel only. To reduce the risk of electric shock, do not perform any installation unless qualified to do so.



WARNING: This manual contains important instructions for all DISCOM 4M models that shall be followed during installation of the String Combiner Box.

The necessary steps to installing the DISCOM 4M are unpacking, inspecting, mounting, conduit installation, wiring, testing, and commissioning.

3.1 Unpacking and Inspection

The DISCOM 4Ms are thoroughly inspected and rigorously tested before they are shipped. Even though units are delivered in rugged cardboard packaging when shipped individually or on a pallet, it is possible that the units may become damaged during shipping. Inspect the combiner thoroughly after it is unpackaged. If any damage is noticed, document the damage with digital photos and immediately report the damage to the shipping company. If there is any question about potential shipping damage, contact Yaskawa – Solectria Solar. If it is determined that the unit must be returned, an RMA number must be obtained from Yaskawa - Solectria Solar prior to returning the unit. Take care not to set the combiner on a gravel roof or floor that might scratch the paint.

When unpacking, remove the cardboard shipping aids and the tape inside the enclosure.

3.2 Mounting



The DISCOM 4M enclosure is rated either Type 4 or Type 4X and will maintain the rating with appropriate installation methods. “PS” is Type 4, powder-coated steel, “FG” is Type 4X, fiberglass; and “SS” is Type 4X, stainless steel.

The string combiner box can be mounted vertically with the output conductors exiting the bottom of the unit. It can also be mounted flat on the enclosure back such that the back of the unit is parallel to the mounting surface and the door opens upward. The combiner can also be mounted at any angle between vertical and flat. See Diagrams 1 and 2 for string combiner box orientation and mounting positions.

The string combiner box weight is between 29 and 75 lbs for Painted Steel and Stainless (between 26 and 56 lbs for Fiberglass), depending on the model number. Be sure to verify the load capacity of a wall mounting area.

Mounting tabs allow simple mounting to a wall, to array racking, or to posts. Install the combiner in an accessible location following NEC codes for enclosure door and disconnect switch clearances and proximity to other equipment. Although not required, installation at waist or chest height allows easiest access and keeps the unit above potential snow line or drifts. Installers sometimes prefer lower installation heights for aesthetics or wind-loading reasons.

Although not required, the DISCOM 4M String Combiner Box will achieve a maximum lifetime if located in the shade or partial shade.

Mount the combiner using the mounting tabs, shown clearly in Figures 1, 4, and 7.

DIAGRAM 1

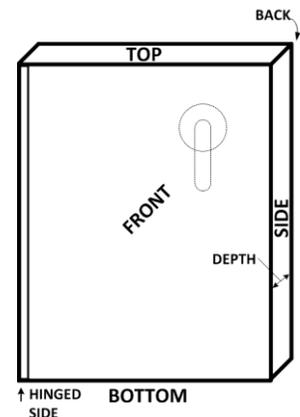
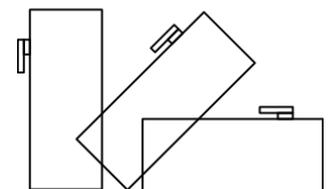


DIAGRAM 2



Vertical, Angled, Horizontal Mounting

3.3 Install Conduits

The use of UL514B or equivalent conduit fittings and UL50 installation methods are required to maintain the Type 4 or Type 4X rating of the enclosure. Failure to follow these standards may result in water intrusion into the unit through conduit connections and may void the warranty. Consult the Figures below for conduit entrances and exits. Output conductor conduits must be installed on the bottom. Source circuit conduits may be installed in any of the shaded regions. If mounted upright, it is not recommended to use the top wall conduit entry.

DISCOM 4M 08-12 Dimensions and Conduit Entry

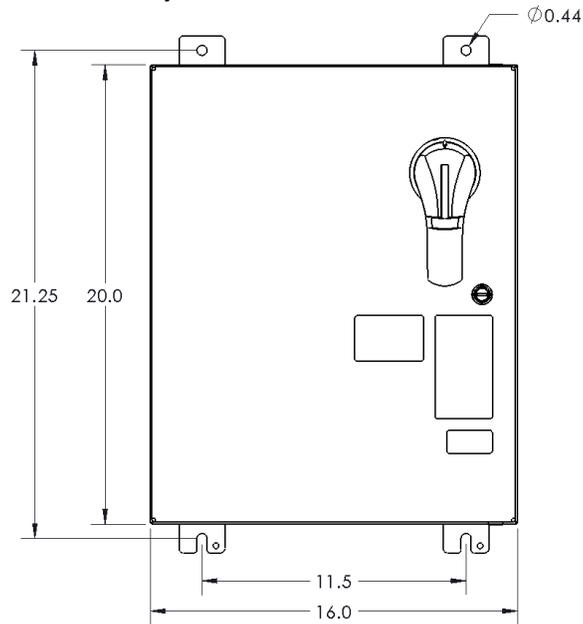


Figure 1—DISCOM 4M 08-12 Dimensions

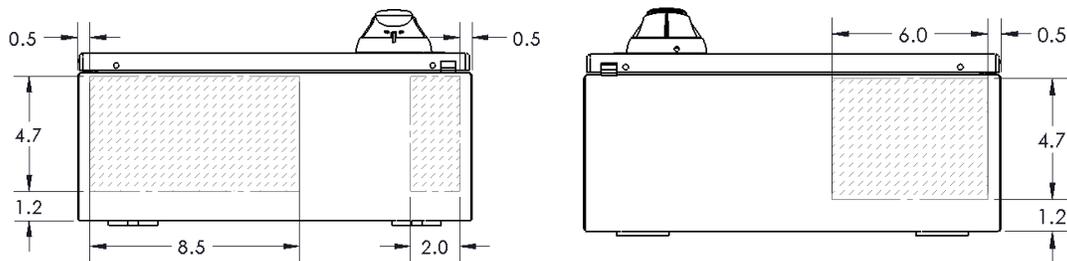


Figure 2—DISCOM 4M 08-12 Conduit Entry Locations, Bottom (Left) and Top (Right)

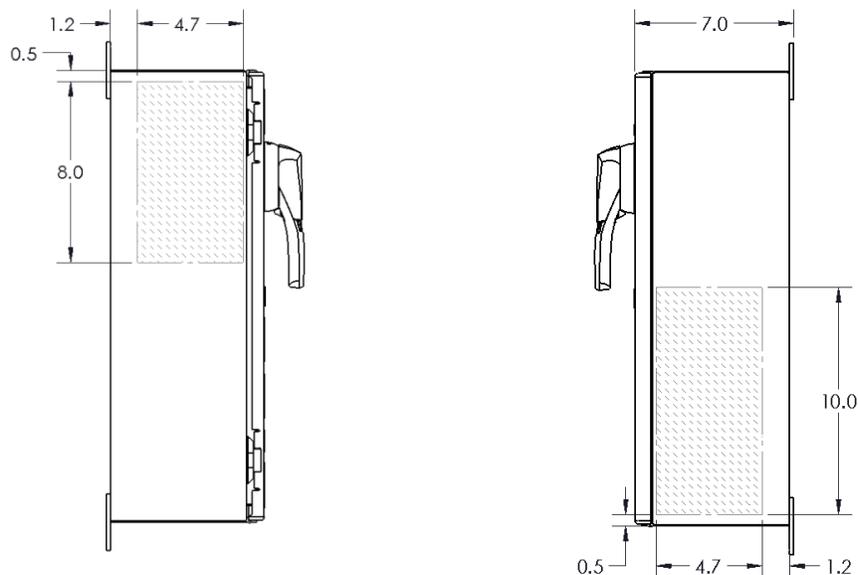


Figure 3—DISCOM 4M 08-12 Conduit Entry Locations, Left (Left) and Right (Right)

DISCOM 4M 13-20 Dimensions and Conduit Entry
(Also for DISCOM 4M 8-12 if Customer Lug Output or Connectorized Input are Included)

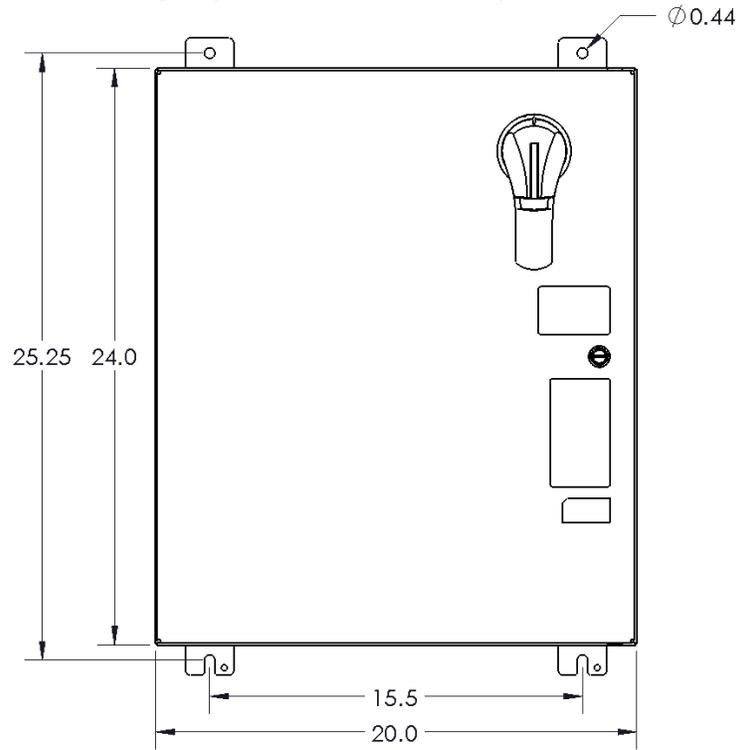


Figure 4—DISCOM 4M 13-20 Dimensions

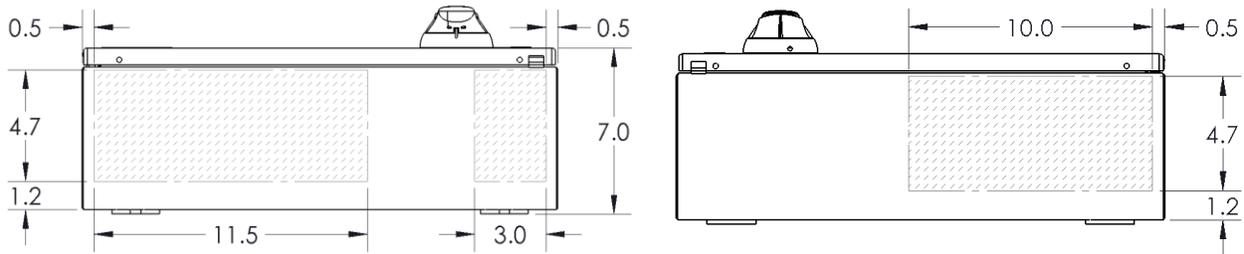


Figure 5—DISCOM 4M 13-20 Conduit Entry Locations, Bottom (Left) and Top (Right)

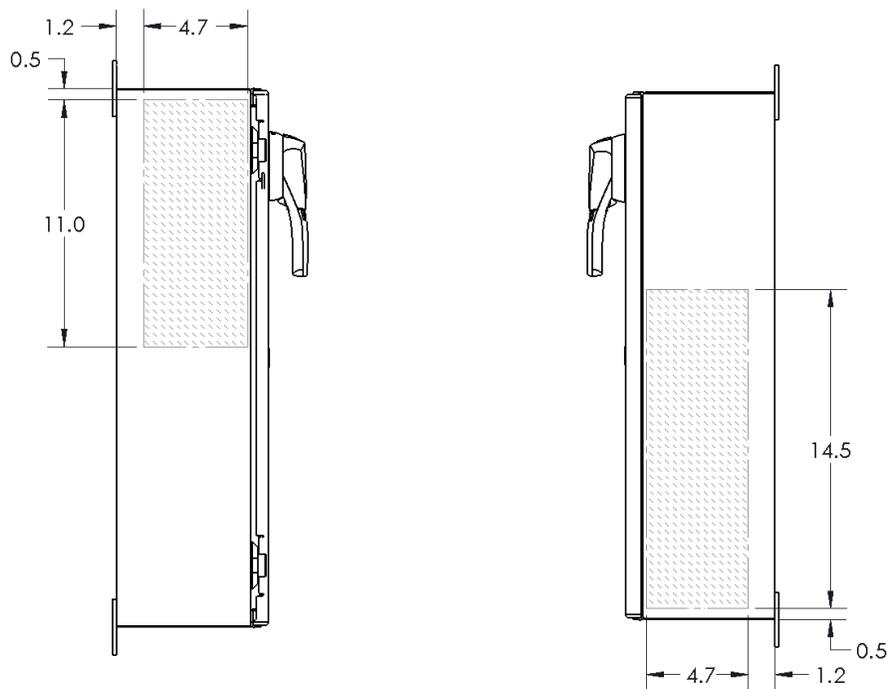


Figure 6—DISCOM 4M 13-20 Conduit Entry Locations, Left (Left) and Right (Right)

DISCOM 4M 21-30 Dimensions and Conduit Entry

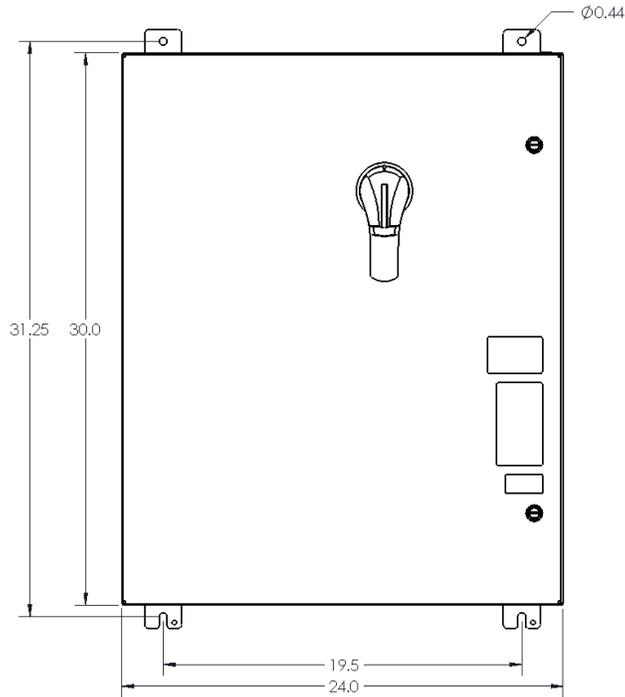


Figure 7—DISCOM 4M 21-30 Dimensions

THIS SHADED AREA IS NOT AVAILABLE FOR CONDUIT ENTRY FOR 24LT ONLY. DISCOM 4M 24-30 USES ENTIRE AREA.

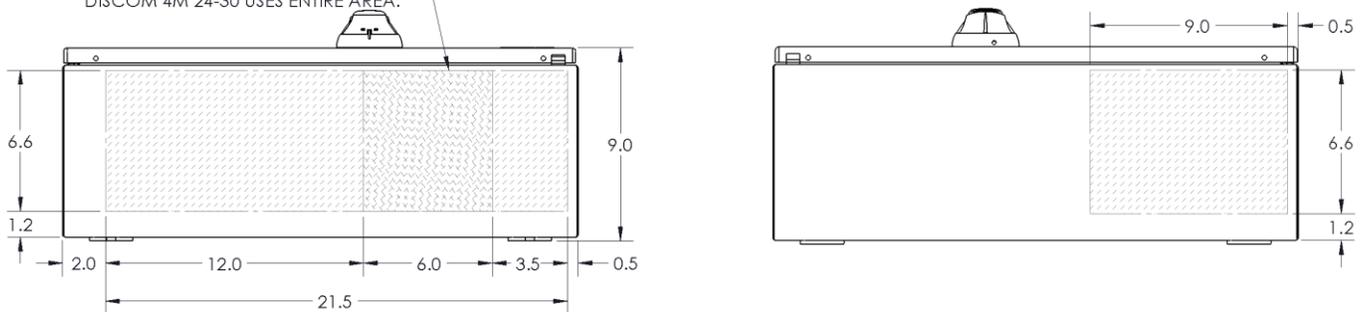


Figure 8—DISCOM 4M 21-30 Conduit Entry Locations, Bottom (Left) and Top (Right)

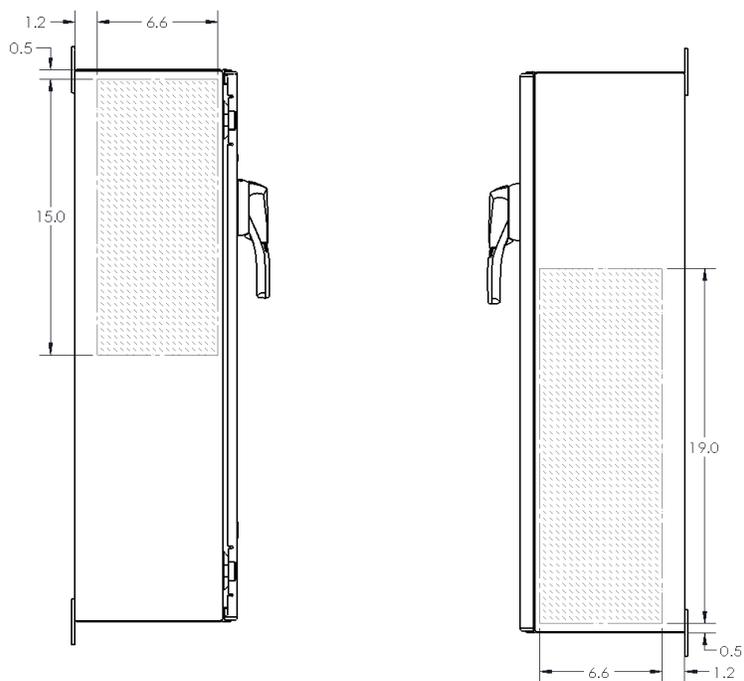


Figure 9—DISCOM 4M 21-30 Conduit Entry Locations, Left (Left) and Right (Right)

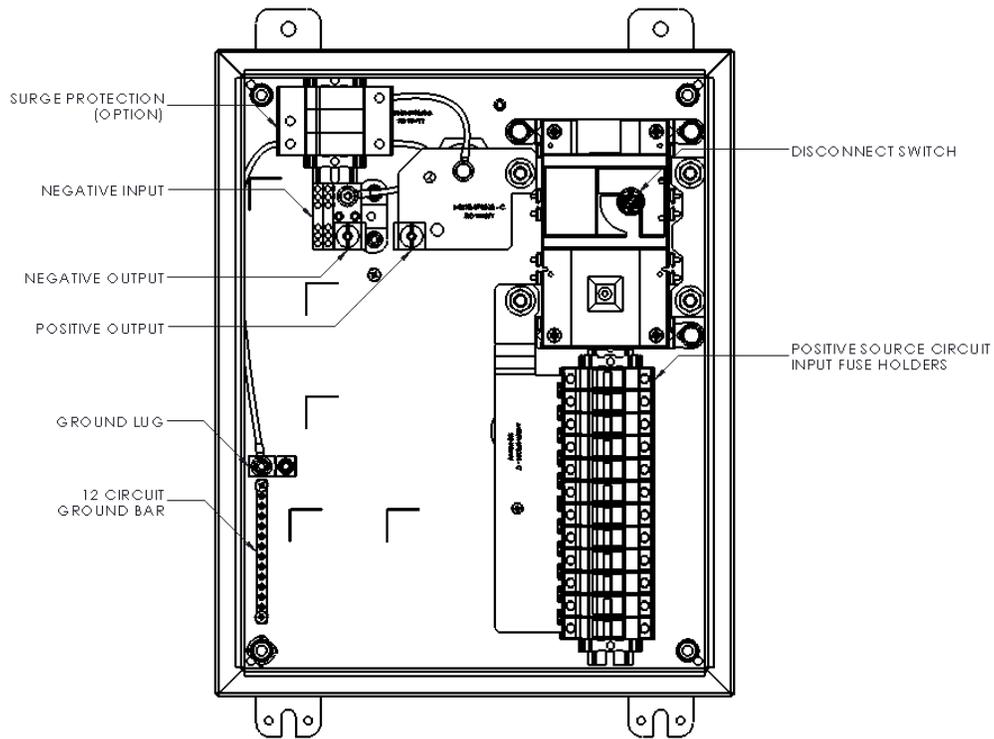


Figure 10—DISCOM 4M 08-12 Internal View (12 Fuse Position Model Shown)

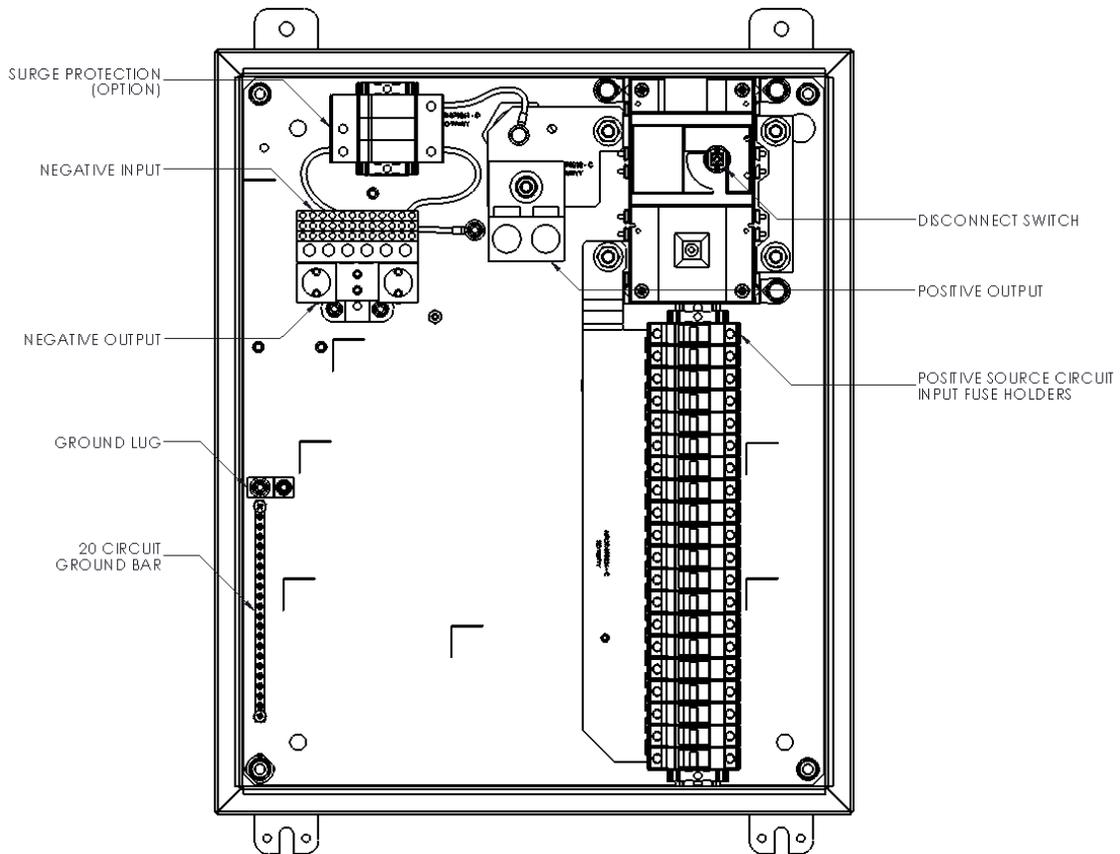


Figure 11—DISCOM 4M 13-20 Internal View (20 Fuse Position Model Shown)

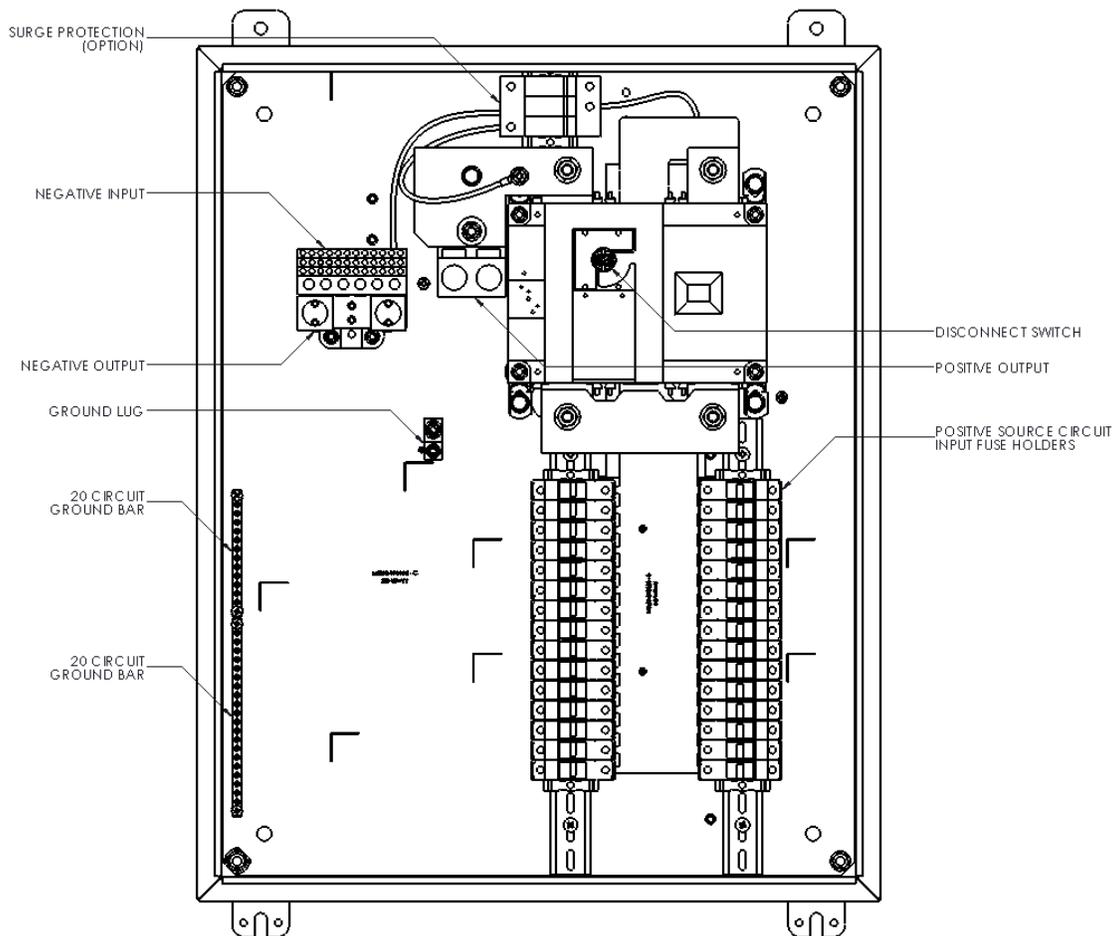


Figure 12—DISCOM 4M 21-30 Internal View (30 Fuse Position Model Shown)

3.4 Wiring

The DISCOM 4M string combiner box must use copper source conductors only. For the PV output circuit feeders, either copper or aluminum conductors may be used, although due to terminal size restrictions, aluminum wiring may not be an option in all cases. As with any aluminum wiring exercise, follow best industry practices to ensure a reliable connection: thoroughly clean the conductor just prior to making the electrical connection and use an oxide inhibitor to prevent the formation of aluminum oxide. The input and output terminations for all models are rated for 90°C except the output terminals of the 8-12 fuse model which has 75°C. All wiring must be in accordance with local and national electrical codes.

3.4.1 Remove Fuses



WARNING: Removing fuses from a live circuit may create dangerous arc-flash and shock hazards.

1. Confirm that the disconnect switch is in the OFF position. The window on the disconnect switch BODY should show the “O” (Off) switch status.
2. Remove each fuse from the touch-safe fuse holder for each source circuit. Store the fuses for later reinstallation (some orders are built with fuses separate, uninstalled).

3.4.2 Guard Removal



WARNING: Removing the plastic guard exposes the installer to dangerous voltage and shock hazards.

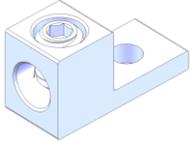


WARNING: Remove all fuses before proceeding with steps 3.4.2 through 3.4.7.

1. Hold the plastic guard.
2. Remove the two #10 screws using a Phillips #2 screw driver.
3. Gently remove plastic guard and store for reinstallation.
4. Store the two screws for reinstallation of the plastic guard.

3.4.3 Grounding

See NEC Article 690 for grounding instructions. A bus bar has been provided for grounding module Equipment Grounding Conductors (EGCs). Torque each module EGC per the Torque table. The DISCOM 4M String Combiner Box has a ground lug that should be used to connect the unit to the inverter EGC circuit. Torque the ground lug(s) per the Ratings Table in Section 2.0.

Equipment Grounding Terminals	PV Output Circuit Equipment Grounding Terminals
	
<p>(DISCOM-M-08 & 12) 12 positions, 14 AWG — 4 AWG (DISCOM-M-16 & 20) 20 positions, 14 AWG — 4 AWG (DISCOM-M-24 & 30) 32 positions, 14 AWG — 4 AWG</p> <p>Torque to 20 in-lb, use Flathead screw driver Cu or Al Conductors</p>	<p>(1) 14 AWG — 1/0 AWG</p> <p>Torque to 50 in-lb, use 3/16" Allen hex Cu or Al Conductors</p>

Under no circumstance is the factory-installed door bonding-wire, nor associated door bonding posts, to be used for any other grounding/bonding purposes.

3.4.4 PV Source Conductors



See NEC Articles 310 and 690 for proper source circuit conductor sizing. Note that the conductor size ranges given here and on the labels in the product are the overall allowed ranges that fit in the terminals but the minimum size conductor that can be used must be determined using NEC and is likely larger than the minimum shown in the ranges.

Acceptable DISCOM 4M inputs are restricted to copper for both ungrounded and grounded source circuit inputs.

<u>Positive Conductor</u>	<u>Negative Conductor</u>
<p>(1) 12 AWG — 8 AWG (2) 14 AWG — 10 AWG Torque to 25 in-lb, use Phillips screw driver 90°C Terminations, Cu Conductors Only</p>	<p>12 AWG — 8 AWG Torque to 20 in-lb, use Flathead screw driver 90°C Terminations, Cu Conductors Only</p>

Connect the ungrounded source circuit conductors to the touch-safe fuse holders, one conductor per fuse holder; torque each source circuit conductor as described above. Route all ungrounded source circuits conductors such that the installation is neat and orderly.

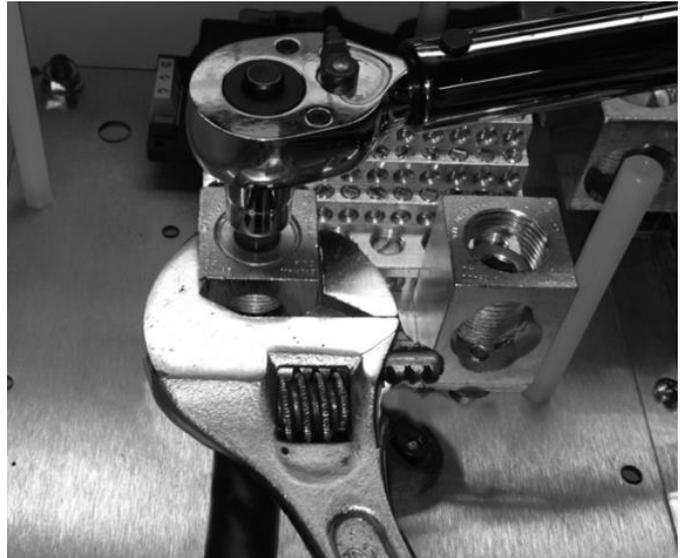
Connect the grounded source circuit conductors to the grounded source circuit terminal block, one conductor per screw terminal; torque each grounded source circuit conductor as described above. Route all grounded source circuit conductors such that the installation is neat and orderly.

3.4.5 PV Output Circuit Conductors for Standard Lugs

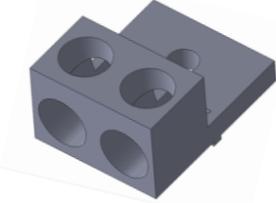
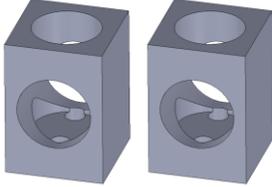
See NEC Articles 310 and 690 for proper output conductor sizing. Yaskawa – Solectria Solar provides output lugs as standard with each DISCOM 4M unit. The use of these lugs is required and changing the lugs in the field will void the warranty. See NEC Articles 310 and 690 for proper output conductor sizing.

For terminating crimp lugs, see the option on the following page.

NOTE: Yaskawa – Solectria Solar requires a backup wrench to hold exterior of lug while tightening center screw to reach the required torque value of 375in-lb. Failure to do so will result in damage to the insulated negative terminal support and will not be covered under warranty. See Picture 1 to right for visual explanation.



Picture 1 – Output Lug with Backup Wrench

Positive Output	Negative Output
	
<p>(DISCOM-M-8 through 12) (not shown) Torque to 325 in-lb, use 3/8" Allen Hex 75°C Terminations, Cu or Al Conductors or 90° C Terminations, Cu or Al Conductors*</p> <p>(DISCOM-M-16 through 30 & 24LT) Torque to 375 in-lb, use 1/2" Allen Hex 90° C Terminations, Cu or Al Conductors</p>	<p>(DISCOM-M-8 through 12) (not shown) Torque to 325 in-lb, use 3/8" Allen Hex 75° C Terminations, Cu or Al Conductors or 90° C Terminations, Cu or Al Conductors*</p> <p>(DISCOM-M-16 through 30 & 24LT) Torque to 375 in-lb, use 1/2" Allen Hex 90° C Terminations, Cu or Al Conductors</p>

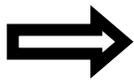
Standard Lugs			
Number of Fused Inputs	Wire Terminal Temperature Rating	Number of Terminals*	Wire Range per Terminal (Copper or Aluminum Conductors)
8 - 12* [†]	75°C	1	6AWG – 350kcmil
13 - 20	90°C	2	4AWG – 600kcmil
21 - 30	90°C	2	4AWG – 600kcmil
24LT	90°C	2	4AWG – 600kcmil
* 1 Wire per Terminal			

*Optional 2x300 Output Lugs available for the DISCOM 4M 8-12 models; 2 positive and negative terminals rated at 90°C.

[†]When Connectorized Input option is selected, refer to the information for 13-20 fused inputs.

3.4.6 PV Output Circuit Conductors for Crimp Lug Option

With this option chosen at the time of order, Yaskawa – Solectria Solar provides stud plates with 3/8in studs for customer supplied compression lugs for both positive and negative output. This option must be ordered from the factory at the time of the DISCOM 4M order. The terminals are rated for 90°C. See NEC Articles 310 and 690 for proper output conductor sizing.



NOTE: Yaskawa – Solectria Solar requires a back-up wrench to hold the negative terminal block while tightening the nut for the crimp lug to reach the required torque value of 280in-lb. Failure to do so will result in damage to the insulated negative terminal support and will not be covered under warranty. See Picture 2 below.

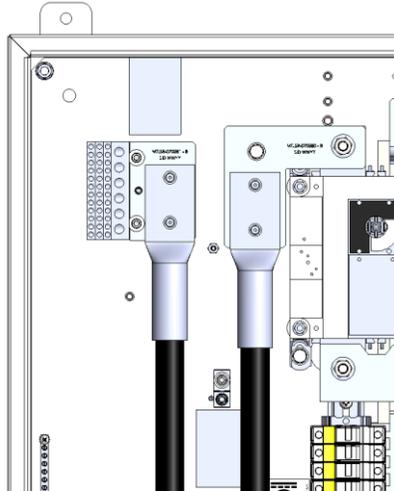
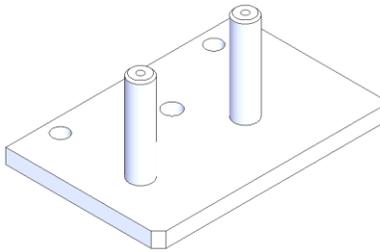
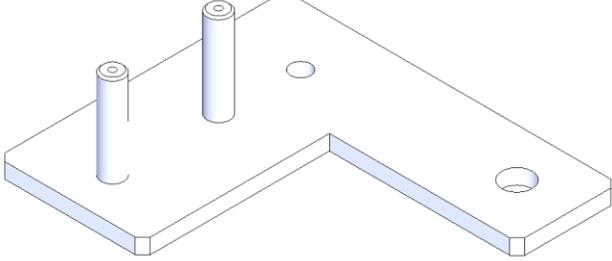


Figure 13 – Crimp Lug Option Locations (21-30 Shown)



Picture 2 – Crimp Lug Option with Backup Wrench

Negative Output Conductors, Crimp Lug Option	Positive Output Conductors, Crimp Lug Option
 <p>(DISCOM 4M 24-30 shown)</p>	 <p>(DISCOM 4M 24-30 shown)</p>
<p>Use Hardware Provided (2 nuts, 2 Belleville washers, 2 flat washers) Hardware may be on the studs or in a plastic bag tie-wrapped to the backplate at lower left corner of combiner Torque to 280in-lb, use 9/16" Socket 90°C Terminations, Cu or Al Conductors</p>	<p>Use Hardware Provided (2 nuts, 2 Belleville washers, 2 flat washers) Hardware may be on the studs or in a plastic bag tie-wrapped to the backplate at lower left corner of combiner Torque to 280in-lb, use 9/16" Socket 90°C Terminations, Cu or Al Conductors</p>

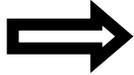
Crimp Lug Option				
Number of Fused Inputs	Wire Terminal Temperature Rating	Number of Terminals	Number of Wires per Terminal Allowed	Max Conductor Size Allowed (Copper or Aluminum Conductors)
8 – 12*	90°C	1	1-2	(2) 600 kcmil
13 - 20	90°C	1	1-2	(2) 600 kcmil
24LT	90°C	1	1-2	(2) 600 kcmil
21 - 30	90°C	1	1-2	(2) 600kcmil or (1) 750 kcmil

*When Customer Lug option is selected, combiner with 8 through 12 fuses use the configuration of the 13-20 fuse models (in the 20" x 24" x 6" enclosure, not the 16" x 20" enclosure used with the standard mechanical lug version 8-12 fuse DISCOM combiner).

No compression lugs are provided with the DISCOM 4M string combiner box unit. The lugs must conform to the specifications given in the table below:

Lug Type	Hole Spacing	Plating	Max. Tongue Width
Two-Hole	1.75in	Tin Plated	1.95in

Recommended lug series for the 1.75" stud spacing is Thomas & Betts 90°C Two Hole Lugs for Aluminum/Copper Code Conductors (Catalog Numbers 60230 through 60284). Note, these lugs may have 1/2" hole sizes.



NOTE: If using aluminum conductors, only use lugs that explicitly listed for use with aluminum conductors. Use wire cleaning and anti-corrosive paste as specified by lug manufacturer.

For the hardware on the crimp lug option, use the following stack-up for each stud: Studs on positive or negative output plate, crimp lug, 1 flat washer, 1 Belleville washer, and 1 nut (negative output shown). The correct orientation of the Belleville washer is with the concave side facing down; failure to meet this could result in loosening over time.

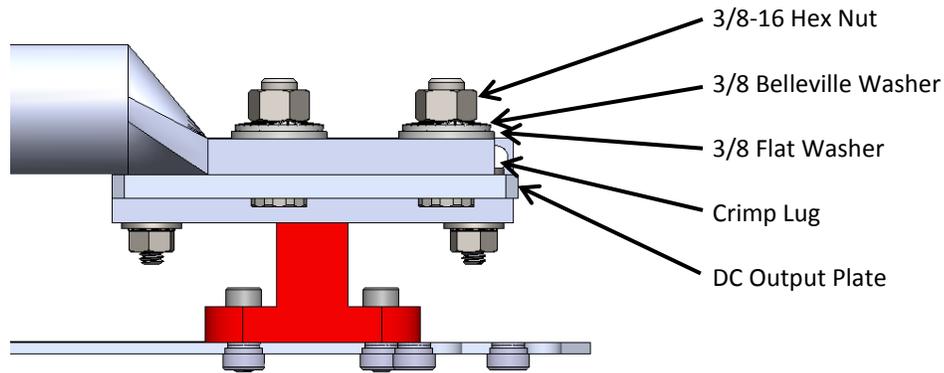


Figure 14 – Compression Lug Hardware Stack-up for Single Conductor

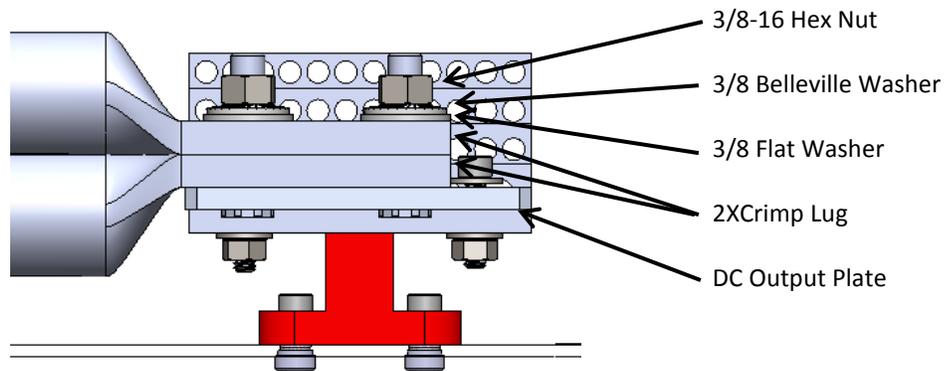


Figure 15 – Compression Lug Hardware Stack-up for Two Parallel Conductors

3.4.7 Connectorized Input Conductors

With this option chosen at the time of order, Yaskawa – Solectria Solar provides wire harnesses into the fuses that penetrate the enclosure with liquid-tight cord grips. The harnesses have either MC4 or Amphenol H4 connectors on the end outside the enclosure, These input wires are 10 AWG PV wire, UL Style 4703, rated to 1000V with a maximum temperature rating of 90°C wet.

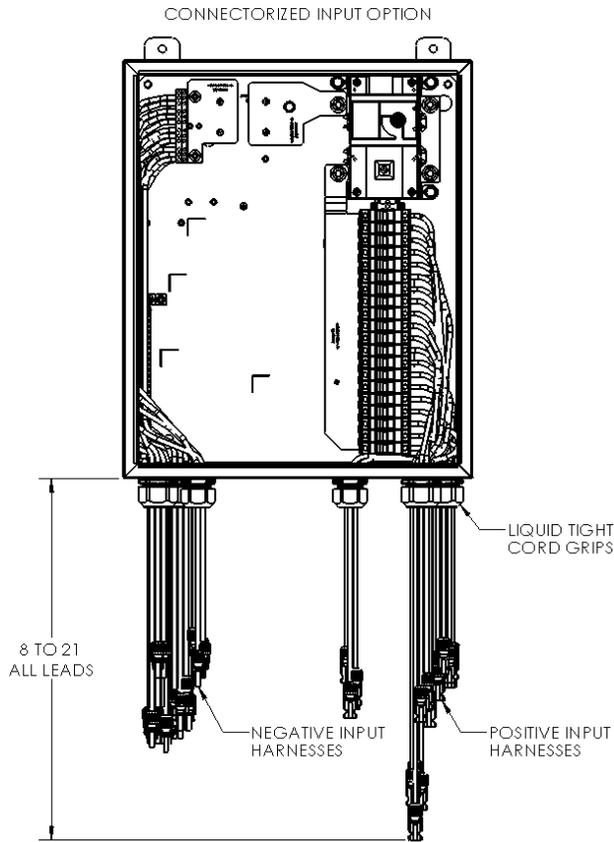


Figure 16 – MC4 or H4 Connectorized Input for Up to 20 Circuits

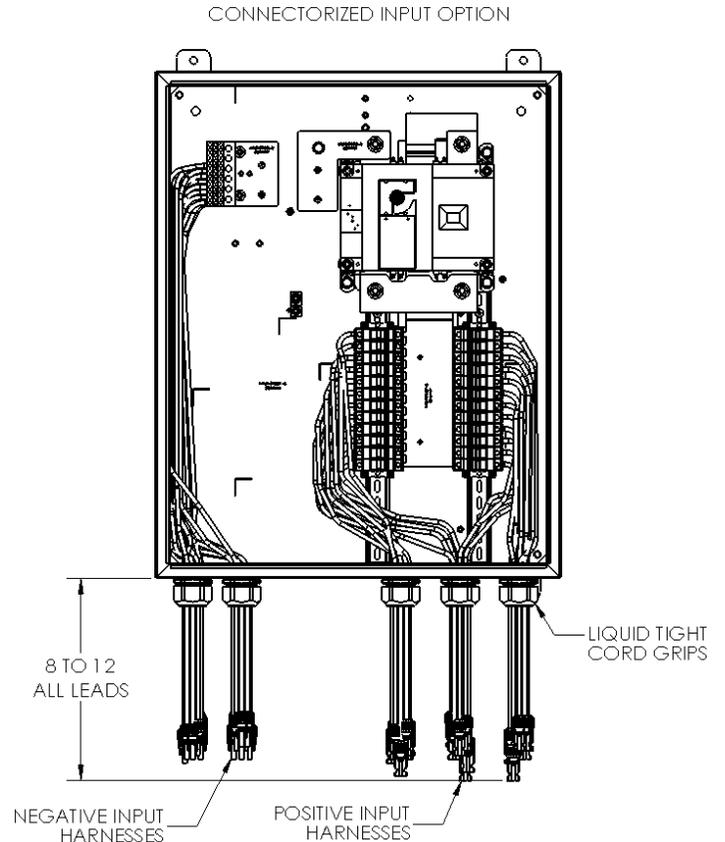


Figure 17 – MC4 or H4 Connectorized Input for Up to 30 Circuits

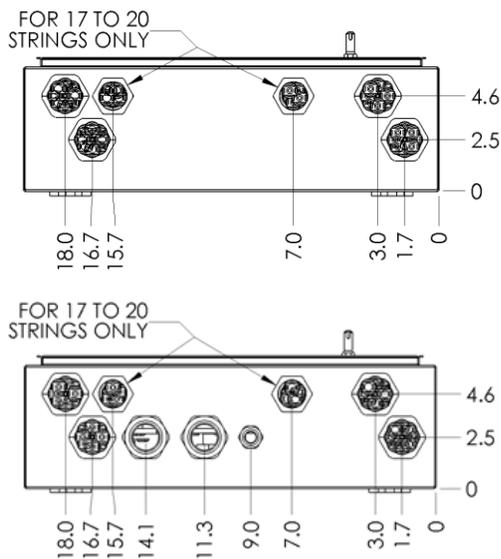


Figure 18 – Cord Grip Locations for Up to 20 Circuits

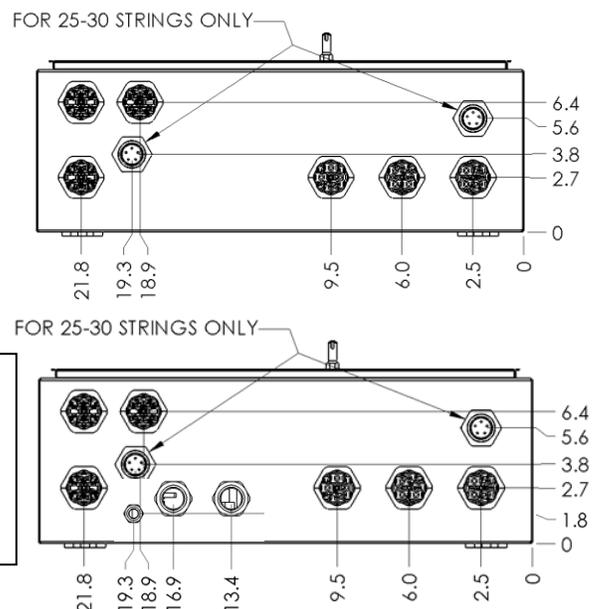


Figure 19 – Cord Grip Locations for Up to 30 Circuits

The connectorized input option can be purchased with either MC4 or H4 connectors. The following table has the part numbers for each that are used in order to match those used in the overall PV system:

		MC4	H4
On Negative Wire (Female)	Part Number	PV-KBT4/6II-UR	H4FC6DC
	Image		
On Positive Wire (Male)	Part Number	PV-KST4/6II-UR	H4CMC6DC
	Image		

NOTE: Polarity markings molded into the connectors are reversed (i.e. the negative connector has “+” molded into it).

3.4.8 Final Steps



WARNING: Verify the proper polarity of each source conductor. Polarity reversal can lead to dangerous arc-flash conditions capable of harming personnel and equipment.



WARNING: Check the string combiner box for tools and ensure the unit is clean and orderly.

1. Verify all connections meet the requirements of this Installation and Operations Guide.
2. Check all source circuit voltages and polarities.
3. Reinstall the plastic guard.
4. Install all fuses.
5. Close the string combiner door, ensuring that the door is securely closed using the enclosure latches.

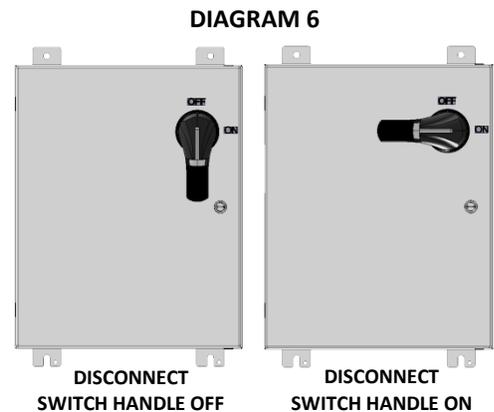
4.0 Operating Instructions



WARNING: Do not operate the disconnect handle switch with the String Combiner Box door open.

The DISCOM 4M String Combiner Box contains a user-operable disconnect switch. When this disconnect switch handle is in the OFF position, the circuit is open between the ungrounded source conductors and the ungrounded output conductor(s). When the disconnect switch is in the ON position, the circuit is closed between the ungrounded source conductors and the ungrounded output conductor(s) (see Diagram 6).

The disconnect switch is fully load-break rated and can be safely operated under normal operating conditions when installation is per this manual and all warnings and ratings are observed.



5.0 Warranty & RMA Instructions

For all warranty information, please visit: <http://solectria.com/support/documentation/warranty-information/grid-tied-inverter-warranty-letter/>

6.0 Appendices

6.1 Appendix A – DISCOM Datasheet

Please visit: <http://solectria.com/support/documentation/string-combiners/discom-3r-discom-4-discom-4m-disconnecting-string-combiner-datasheet/>

6.2 Appendix B – Contact Information

Yaskawa – Solectria Solar
360 Merrimack Street
Building 9, 2nd Floor
Lawrence, Massachusetts 01843
USA

Tel: 978.683.9700
Fax: 978.683.9702

Sales/General Info: inverters@solectria.com
Customer Support: service@solectria.com
Website: www.solectria.com

6.3 Appendix C – Authorized Distributors

See website for complete and updated listing: <http://solectria.com/products/string-combiners/discom-4m/>

7.0 UL1741/CAS Certification Letter



AUTHORIZATION TO MARK

This authorizes the application of the Certification Mark(s) shown below to the models described in the Product(s) Covered section when made in accordance with the conditions set forth in the Certification Agreement and Listing Report. This authorization also applies to multiple listee model(s) identified on the correlation page of the Listing Report.

This document is the property of Intertek Testing Services and is not transferable. The certification mark(s) may be applied only at the location of the Party Authorized To Apply Mark.

Applicant:	Solectria Renewables, LLC	Manufacturer:	Solectria Renewables, LLC
Address:	360 Merrimack Street Bldg 9, Floor 2 LAWRENCE, MA 01843	Address:	360 Merrimack Street Bldg 9, Floor 2 LAWRENCE, MA 01843
Country:	USA	Country:	USA
Contact:	Anthony Marinella(primary) Chinedu Igbokwe(alternate)	Contact:	Anthony Marinella(primary) Chinedu Igbokwe(alternate)
Phone:	(978) 683-9700	Phone:	(978) 683-9700
FAX:	(978) 683-9702	FAX:	(978) 683-9702
Email:	anthony.marinella@solectria.com	Email:	anthony.marinella@solectria.com
Party Authorized To Apply Mark:	Same as Manufacturer		
Report Issuing Office:	CORTLAND, NY		
Control Number:	<u>3058249</u>	Authorized by:	 for Thomas J. Patterson, Certification Manager



This document supersedes all previous Authorizations to Mark for the noted Report Number.

This Authorization to Mark is for the exclusive use of Intertek's Client and is provided pursuant to the Certification agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Authorization to Mark. Only the Client is authorized to permit copying or distribution of this Authorization to Mark and then only in its entirety. Use of Intertek's Certification mark is restricted to the conditions laid out in the agreement and in this Authorization to Mark. Any further use of the Intertek name for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. Initial Factory Assessments and Follow up Services are for the purpose of assuring appropriate usage of the Certification mark in accordance with the agreement, they are not for the purposes of production quality control and do not relieve the Client of their obligations in this respect.

Intertek Testing Services NA Inc.
545 East Algonquin Road, Arlington Heights, IL 60005
Telephone 800-345-3851 or 847-439-5667 Fax 312-283-1672

Standard(s):	UL Standard for Safety for Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources, UL 1741 Second Edition, Dated January 28, 2010. CSA C22.2 #107.1 2001/09/01 Ed:3 General Use Power Supplies - (R2011)
Product:	String Disconnecting PV Combiner Box

Models:	Combiner Box Models: DISCOM-M-XX-YY-With Options Where: XX is the enclosure material (PS - Painted Steel, FG - Fiberglass, SS - Stainless Steel) YY is the number of circuits (8 to 30) Default configuration is: Negatively grounded, No surge arrestor Options include: OPT-SRG-DISCOM-M-XX OPT-2X300LUG OPT-POSGROUND-DISCOM OPT-CL-DISCOM-M-XX Where: XX represents the range of circuits (8-12, 15-20, or 24-30) SRG represents a surge production device option POSGROUND represents positive grounding option CL represents an option with output studs for customer compression lugs
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