

# DC DISTRIBUTION EQUIPMENT

## BE SAFE

*Any connections to or from a battery bank should have some sort of fusing. A battery bank, or even just one battery stores a large amount of energy. Releasing all this energy instantly—as in a short circuit—can be very dangerous! The high currents involved in a short circuit can instantly melt wire insulation and start fires. The heat involved in a short circuit can cause nasty burns. Be sure to fuse any and all connections to your bank.*

## Prewired DC Distribution Panels



The prewired DC distribution panel consists of 15 amp DC circuit breakers, mounted in a MidNite Solar array combiner box. A ten foot, 6 ga. cable with lugs is wired in to connect to your battery bank. You or your electrician will connect two lugs to the battery bank and run your DC circuits into the circuit breaker box. The circuit breaker box accepts normal house wire (non-metallic sheathed cable) using standard non-metallic cable connectors. Your electrician or wiring inspector will be happy with this UL listed equipment. It is much easier to use and much higher quality than RV load centers.

Dimensions: Box 12.75" x 8" x 3.25"

### Prewired DC Distribution Panel #1

**751-104 Four Circuit Breakers \$219**

This prewired panel has four DC circuit breakers in a six breaker box and a 10 foot, 6 ga. cable with lugs on the end to connect to your battery bank. Boxes are prewired and ready to accept your DC circuits.

### Prewired DC Distribution Panel #2

**751-106 Six Circuit Breakers \$249**

This prewired panel has six DC circuit breakers in a six breaker box and a 10 foot, 6 ga. cable with lugs on the end to connect to your battery bank. Boxes are prewired and ready to accept your DC circuits.



## DC Circuit Breaker Boxes

These small circuit breaker boxes are manufactured by MidNite Solar. They are ideal for small cabin DC distribution systems. They can also be used for Array and Controller disconnects. They require the DIN rail type circuit breakers.



**757-011 Baby Box \$39**

This box holds four DIN rail mount DC breakers. It has a 3/4" or 1" knockout at each end. Dimensions: 7" x 3" x 2.5"



**757-013 Big Baby Box \$48**

This box holds four DIN rail mount DC breakers. It has two 3/4" or 1" knockouts and a 1/2" knockout at each end. Mounted inside is a ground lug and provisions for a short bus-bar. We use this box for our combo array and charge controller disconnect. Dimensions: 8" x 5" x 2.5"

## DIN Rail Mount DC Breakers

**343-0xx DIN Rail Circuit Breakers \$15**  
10, 15, 20, 30, 40, 50, 63 Amps  
10,000A interrupt current

Use these DC circuit breakers in the Baby Box and Big baby boxes listed above. They also fit in our pre-wired DC disconnect boxes as well as all of our pre-wired inverter systems. Because these breakers are rated for 10,000 amps interrupt current, you do not have to use a series fuse with them. They are rated for 150 VDC.



**757-014 Quad Box \$58**

This enclosure holds up to four panel mount DC circuit breakers. You would use this box when higher than 63 amp circuit breakers are required.

Dimensions: 8" x 5" x 4"



**Panel Mount DC Breakers**  
**746-1xx Panel Mount \$25**  
10, 15, 30, 40, 50, 60, 80, 100 Amps

For use in the Quad box or E-Panels. 150VDC, 10,000A interrupt current  
Dimensions: 3/4" x 1 1/2" opening, 1/4" studs



# DC FUSES and BUS BARS

## ATC Fuse Box

- 354-007 ATC Fuse Box, 6 Positions \$18.00**  
1.5" x 5.5" x 4.5" Plastic
- 354-009 ATC Fuse Box, 9 Positions \$35.00**  
1.75" x 4.5" x 7" Metal

These fuse boxes use ATC automotive type fuses for DC distribution. They can be used in a camp or small cottage where a large DC distribution system isn't required. They have lugs to receive up to #4 ga. input wires. They have either a 6 or a 9 circuit fuse block and a negative bus both which will accept up to #10 ga. wires.



## ATC Fuse Block

- 354-006 ATC Fuse Block \$12.00**

This 6 position fuse block will accept #10 ga. wire in its distribution terminals. The main power lug accepts #4 ga. wire. The negative bus bar has 11 holes which accept #10 ga. or smaller wire and 4 holes which accept #2 ga. or smaller wire. Use this fuse block along with the negative bus bar to make your own DC distribution panel.



## ATC Fuse Holders

- 354-001 18 Ga. 3" Pigtails \$2.00**  
Cover Included
- 354-002 12 Ga. 4" Pigtails \$2.50**  
Cover Included

These ATC fuse holders can be used for that instance when only one fuse may be needed. They are effective and safe, and certainly better than no fuse at all. See below for fuses.



## ATC Fuses

- 345-002,005,-010,-015,-020,-025,-030 \$0.35 each**  
2 thru 30 amps respectively

Use these fuses in the ATC fuse boxes, fuse block or fuse holders described above.



## Maxi Fuse Holders

- 354-004 6 Ga. Maxi Fuse Holder \$13.00**  
Cover Included

Use the Maxi Fuse and fuse holder when a



larger than 30A fuse is required.

## Maxi Fuses

- 347-020,-030,-040,-050,-060 \$2.00**  
20 through 60  
amps respectively

Use the Maxi fuses in the fuse holders described above.



## Fuse Blocks

- 354-030 30 A Fuse Block \$15**
- 354-060 60 A Fuse Block \$19**

These are fuse holders for RK5 cartridge fuses. They can be used in situations where safety is desired, but code may not be required. They should be installed in an inaccessible place; or you should manufacture a cover for them. Fuses are available at most "big box" stores.



## MidNite Solar Bus Bars

- 757-006 White Bus Bar \$17**
- 757-007 Red Bus Bar \$17**
- 757-008 Black Bus Bar \$17**
- 757-019 Ground Bus Bar \$13**

These bus bars are mounted in plastic end-cap insulators for use in all kinds of AC and DC wiring. The bar has four 1/0 and eleven #6 useable wire slots. Two 10-32 mounting screws are provided. The ground bar omits the end-cap insulators. Dimensions: 4.75"L x 7/8"W x 1.75H



## Terminal Block

- 325-004 \$11**

This is a four position terminal block rated for 85 amps. It will accept up to 4 AWG wire. It can be used to facilitate wiring between your array and charge controller.

L 2-3/8" D 1-1/4" H 1-1/8"

## Terminal Block

- 325-006 \$8**

This is a six position terminal block rated for 63 amps. It will accept up to 6 AWG wire. It can be used to facilitate wiring between your array and charge controller.

L 3-3/8" D 1-1/16" H 1-1/16"



# DC WIRING DEVICES

## 12 or 24 volt Receptacles and Plugs

We recommend using a 240 volt type, duplex receptacle and a matching plug for your 12 or 24 volt circuits. These are heavy duty and a different configuration than the 120 volt plugs in your home, so the wrong plug cannot be plugged into either system. The plugs are three pronged so one also cannot turn them upside down and reverse the polarity of an appliance such as a DC fluorescent light. This duplex receptacle takes the same cover plate and wall box as a regular 120 volt duplex receptacle.

<b>341-240</b>	<b>Duplex Receptacle</b>	<b>\$5.00</b>
	<b>Box of Ten</b>	<b>\$40.00</b>
<b>340-240</b>	<b>Plug to Match</b>	<b>\$7.49</b>
	<b>Box of Ten</b>	<b>\$69.00</b>

## Lighter Plug Wall Plate Receptacle

**341-012 \$4.00**

Nice for a cabin or wherever one or two DC outlets are needed.

## Lighter Plug

**340-012 \$2.50**

A plug for the above outlet. Fits in your auto cigar lighter as well.

## Lighter Plug and Socket Extension

**340-013 \$9**

This cord set can be used as an extension cord for a fixture with a lighter plug. It can also be used as a female adapter from your battery bank. Simply remove the plug and directly wire the socket to your bank using a fuse in the positive line. The cord is 10' long.

## Tray Cable

<b>304-012</b>	<b>12 AWG Tray Cable</b>	<b>\$0.69/ft.</b>
<b>304-010</b>	<b>10 AWG Tray cable</b>	<b>\$0.99/ft.</b>

Tray cable consists of two THHN conductors covered by an outer PVC jacket. It is sunlight resistant and approved for direct burial in wet or dry locations. It can be used for module interconnects and sub-array wiring. We stock 12 AWG and 10 AWG.



About DC Switches: The DC rated switch we used to carry is no longer manufactured. As far as we know, a DC-rated wall switch is not being made at this time. We feel a Leviton Pro-Grade 20A wall switch (available from an electrical supplier or a big box store) will perform as well as, if not better, than the switches we used to carry. However, it is NOT UL rated for DC use. Use for 12 VDC or 24 VDC only.

## Wire by the Foot

### Hook-Up Wire

Single THHN Wire, stranded copper.



<b>300-101</b>	<b>10 AWG Black</b>	<b>\$0.39 /ft</b>
<b>300-102</b>	<b>10 AWG Red</b>	<b>\$0.39 /ft.</b>
<b>300-061</b>	<b>6 AWG Black</b>	<b>\$0.99 /ft.</b>
<b>300-062</b>	<b>6 AWG Red</b>	<b>\$0.99 /ft</b>
<b>300-081</b>	<b>8 AWG Black</b>	<b>\$0.66 /ft</b>
<b>300-082</b>	<b>8 AWG Red</b>	<b>\$0.66 /ft</b>

### UF Grade Cable

UF wire is direct burial, sunlight resistant cable with 1 black, 1 white, 1 bare ground, all covered with sunlight and water resistant second insulation. For outside wiring, especially as an array down lead.

<b>301-101</b>	<b>10 ga. UF Cable</b>	<b>\$1.39 /ft</b>
<b>301-102</b>	<b>8 ga. UF Cable</b>	<b>\$2.19 /ft</b>

### UL Listed Battery Cable



This is UL listed Type AWM/TEW/THW X-Flex battery cable. It is composed of many small strands of copper wire. This makes it flexible and easy to use in the large wire sizes.

<b>303-004</b>	<b>4 ga. Battery Cable</b>	<b>\$2.19 /ft</b>
<b>303-002</b>	<b>2 ga. Battery Cable</b>	<b>\$3.49 /ft</b>
<b>303-210</b>	<b>2/0 ga. Battery Cable</b>	<b>\$5.99 /ft</b>
<b>303-410</b>	<b>4/0 ga. Battery Cable</b>	<b>\$9.99 /ft</b>

Pre-made Battery Cables (See Batteries pg.56)  
Pre-made Inverter Cables (See Inverters pg. 52)



### USE Wire

This is a direct burial, sunlight resistant, outside grade, single conductor copper, stranded wire. We use 12 ga. to make our module interconnect cables. It should also be used for wiring between sub-arrays and array mounted junction boxes. We stock it in black or red and in both 10 and 12 gauge. Use 10 ga. for wiring between sub-arrays and 12 ga. for module interconnects.

<b>302-101</b>	<b>USE 10 ga. Wire, Black</b>	<b>\$0.99/ft.</b>
<b>302-102</b>	<b>USE 10 ga. Wire, Red</b>	<b>\$0.99/ft.</b>
<b>302-121</b>	<b>USE 12 ga. Wire, Black</b>	<b>\$0.70/ft.</b>
<b>302-122</b>	<b>USE 12 ga. Wire, Red</b>	<b>\$0.70/ft.</b>