



# AIMS Power Solar Array Combiner Box

COM3IN-60AO & COM6IN-120AO



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## DESCRIPTION

The AIMS Power Solar Array Combiner Box provides a convenient solution for large PV solar array installations. The Combiner Box is exactly that... a box that serves as a central location for multiple input to a single output load. At 63KW/125KW output and 1000Vdc input, this pre-wired box, with MC4 input and output connectors and a NEMA waterproof case is a must have for off-grid and grid tied systems. It is ideal for larger solar arrays/high current systems, easing the hassle of dealing with several wires and combines all wires into one place for simple installation and maintenance. The combiner box eliminates the need for extra equipment such as output breakers and disconnect switches. The convenient MC4 connectors eliminate the need to hardwire, allowing for a quick plug and use solution.



### CAUTION SAFETY INFORMATION

**Warning: The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product and must be supplied by operator. Guard against electric shock.**

1. To avoid risk of fire and electronic shock, make sure that existing wiring is in good electrical condition and that the wire is not undersized. Do not operate the combiner box with substandard wiring.
2. This equipment contains components which may produce arcs and/or sparks. To prevent fire and/or explosion do not install in compartments containing batteries or flammable materials including any space containing gasoline-powered machinery, fuel tanks, or joints, fittings, or other connection between components of the fuel system.
3. To reduce the risk of electrical shock, disconnect both AC and DC power from the box before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.
4. Never smoke or allow sparks or flames close to the box or solar system.
5. Remove personal metal items such as rings, bracelets, necklaces, and watches when working with this product.
6. Do not operate the box if under the influence of alcohol or drugs. Read warning labels on prescriptions to determine if your judgement or reflexes are impaired while taking drugs. If there is any doubt, do not operate the box.
7. People with pacemakers should consult their physician(s) before using this product. Electromagnetic fields near a pacemaker could cause interference to or failure of the pacemaker.
8. Keep box away from children. Don't install the box where it is accessible to children.
9. Properly maintain all equipment in your solar system. Check all wiring, batteries, inverters and charge controllers.
10. Do not install combiner box alone. Ensure someone is within close range when working with any type of electrical equipment.



**WARNING:** All electrical installation must be done in accordance with the National Electrical Code ANSI/NFPA 70, local building codes, and the requirements of the authority having jurisdiction.



**WARNING:** To prevent electrical shock or injury, all wiring and commissioning procedures must be performed by qualified personnel.



**WARNING:** Before installing or using the disconnect combiner box, read all of the instructions and warnings on the combiner box and in this *Installation Guide*.



**WARNING:** PV arrays produce electrical energy when exposed to light and thus is an electrical shock hazard.



**WARNING:** The disconnect combiners use integrated disconnect switches, yet both the line and load side of the switch may still be energized in the OFF position. Always test both sides of the disconnect before servicing the disconnect combiner.



**WARNING:** Never open a fuse holder while it is under load. Electrical arcing and damage to the fuse holder will occur if a fuse holder is opened under load.

## FEATURES

- Pre-wired
- 1000V DC max input
- 125A resettable output breaker
- 3 string 50A 6KV | 6 string 100A 12KV
- Replaceable fuses
- Diode protected
- Lightning protected
- MC4 input and out connections
- Flexible mounting options; mount on a support bracket, plinth or racking system
- Connect 3-6 PV strings and 2 DC outputs per polarity
- Waterproof PG9 DC output and ground protection
- Optimal cooling
- NEMA & IP65 rated case with lock
- Touch safe fuse holder
- 10 Year warranty

## INSTALLATION

The pre-wired box is relatively straight forward and easy to use. First, select the installation location for your box. It is recommended to install north facing or in a shaded area to eliminate excess heat but not required. The box includes pre-drilled mounting holes.

### Recommend Wire Size

4 AWG for COM6IN-120AO

8 AWG for COM3IN-60AO

\*Length of output wire must be calculated with voltage as to not get significant voltage drop.

### Connections

PV output breaker must be in the OFF position before making any connections to combiner box. Connect earth ground before any other connection

Make sure all output connections are properly fastened to the combiner box and device. PV input connection should be made last. **Before turning output breaker to the ON position, voltage must be tested on input side of breaker to be within specification of connected device.** After PV voltage is confirmed to not exceed the device's input rating the breaker is safe to turn on.

# SPECIFICATIONS

Part Number	COM3IN-60A	COM6IN-120A
<b>DC Input</b>		
Number of Inputs	3	6
Max Voltage in Open Circuit	1000Vdc	1000Vdc
Max Input Current in Short Circuit	30A	30A
<b>DC Output</b>		
Max Output Current in Short Circuit	63A	125A
Output Power	6KW	12KW
DC Fuse	1000Vdc/30A	1000Vdc/30A
Output Breaker	125A	125A
Diode Protection	Yes	Yes
DC Switch	1000Vdc/40KA	1000Vdc/40KA
Connector	1000Vdc/150A	1000Vdc/150A
Protection Grade	NEMA 3R	NEMA 3R
Surge Lightning Protection	Yes	Yes
<b>Environmental Specifications</b>		
Ambient Temperature	-13°F to 104°F w/o derating	-13°F to 104°F w/o derating
Relative Humidity	0 to 100% Condensing	0 to 100% Condensing
Altitude	0 to 6560 ft w/o Derating	0 to 6560 ft w/o Derating
<b>Product Specifications</b>		
Type	Outdoor	Outdoor
Color	White	White
Mounting	Pre-drilled holes	Pre-drilled holes
Dimensions	17 3/8" X 14 5/8" X 7 5/8"	20 3/8" X 17 3/8" X 7 5/8"
Weight	23.5 lb	35 lb
UPC	840271007250	840271007267

IEC/EN 61439-1 and 61439-2

# INTERNAL FUNCTIONS

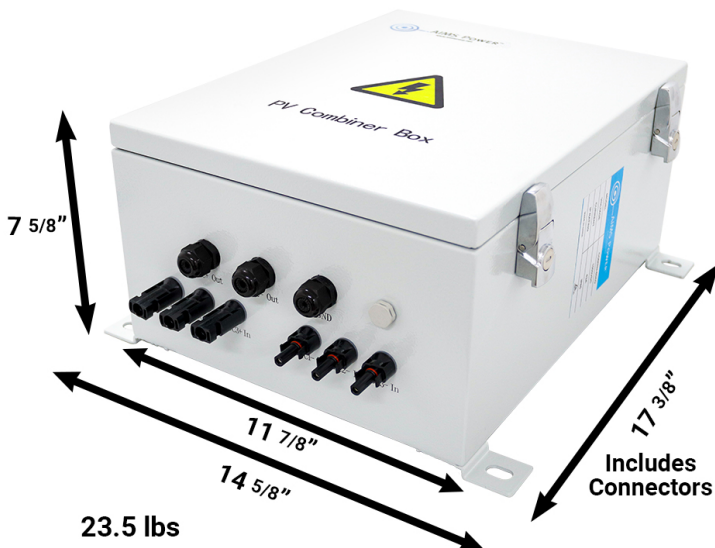
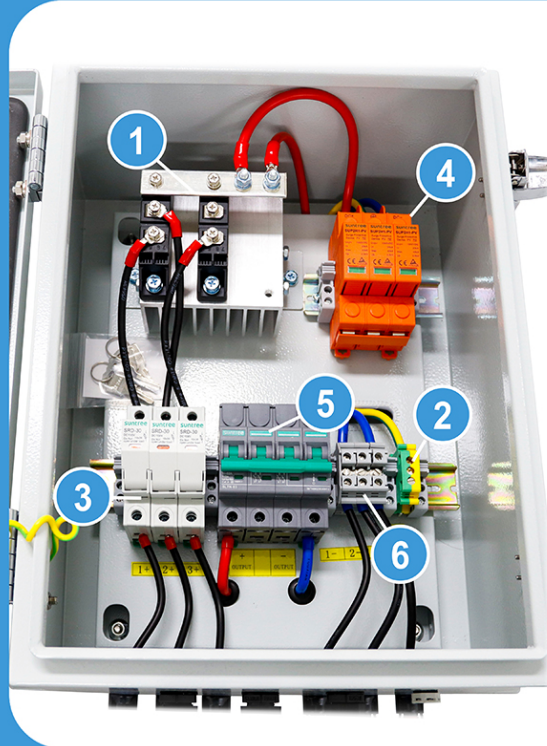
60 AMP - COM3IN60AO



## FEATURES

3 String  
125A

1. Diode Protection
2. Ground Connection
3. PV Input Fuse Protection
4. Lightning Protection
5. 125A Output Breaker
6. Negative BUS Terminal



# 120 AMP - COM6IN120AO



## FEATURES

6 String  
125A

1. Diode Protection
2. Ground Connection
3. PV Input Fuse Protection
4. Lightning Protection
5. 125A Output Breaker
6. Negative BUS Terminal

