



AIMS POWER COM3IN-60A Solar Array Combiner Box Instruction Manual

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**AIMS Power Solar Array Combiner Box
COM3IN-60A & COM6IN-120A
Instruction Manual**



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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 10KW/20KW output and 200Vdc 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 combining 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 that cannot be built into this product and must be supplied by the 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 that 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 connections 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 judgment 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 the 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
- 3-25A (COM3IN) 6-25A (COM6IN) replaceable fuses
- Diode protected
- Lightning protected
- MC4 input and out connections
- DC input 3 or 6 set 60/120A output
- 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 straightforward 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 external mounting brackets.

Recommend Wire Size

4 AWG for COM6IN-120A

8 AWG for COM3IN-60A

*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 the 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 the output breaker to the ON position, the voltage must be tested on the input side of the breaker to be within the specification of the 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
DC Input		
Number of Inputs	3	6
Max Voltage in Open Circuit	200Vdc	200Vdc
Max Input Current in Short Circuit	25A	25A
DC Output		
Max Output Current in Short Circuit	60A	120A
Output Power	10KW	20KW
DC Fuse	200Vdc/25A	200Vdc/25A
Output Breaker	125A	125A
Diode Protection	Yes	Yes
DC Switch	500Vdc/40KA	500Vdc/40KA
Connector	200Vdc/150A	200Vdc/150A
Protection Grade	NEMA 3R / IP65	NEMA 3R / IP65
Surge Lightning Protection	Yes	Yes
Environmental Specifications		
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
Product Specifications		
Type	Outdoor – Full Insulated Cabinet	Outdoor – Full Insulated Cabinet
Color	Black	Black
Mounting	External Mounting Bracket	External Mounting Bracket
Dimensions	17.5" X 12.5 " X 7.38"	17.5" X 12.5 " X 7.38"
Weight	16 lb	18 lb
UPC	840271004686	840271004693

INTERNAL FUNCTIONS

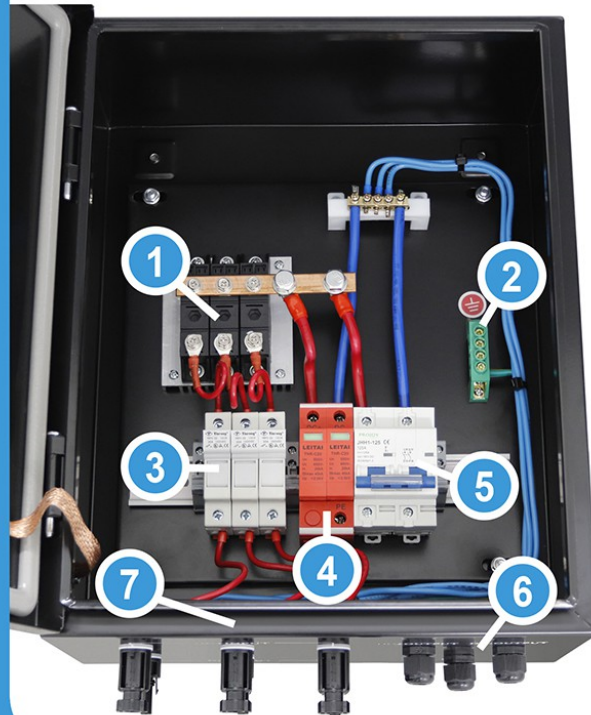
60 AMP – COM3IN60A



FEATURES

3-IN
60A

1. Diode Protection
2. Ground Connection
3. PV Input Fuse Protection
4. Lightning Protection
5. 125A Output Breaker
6. DC Output
7. MC4 PC Input



COM3IN60A



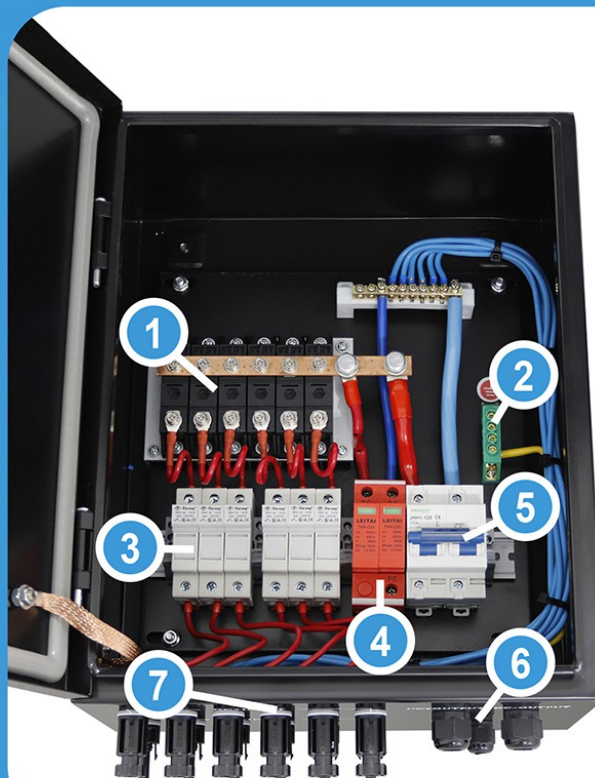
COM3IN60A



FEATURES

6 - IN
120A

1. Diode Protection
2. Ground Connection
3. PV Input Fuse Protection
4. Lightning Protection
5. 125A Output Breaker
6. DC Output
7. MC4 PC Input



COM6IN120A



COM6IN120A

WARRANTY

We offer a 10 Year limited manufacturer's defect warranty. The following situations are not covered under warranty.

1. Reverse polarity.
2. Wrong input voltage.
3. Wrong AC wiring.
4. Operation in a moist environment.
5. Operating in extreme / hazardous environments.

AIMS Power Warranty Instructions:

This product is designed using the most modern technology and under very strict quality control and testing guidelines. If, however you feel this product is not performing as it should, please contact us: techsupport@aimscorp.net or (775)359-6703.

We will do our best to resolve your concerns. If the product needs repair or replacement, make sure to keep your receipt/invoice, as that will need to be sent back along with the package and RA# prepaid to AIMS. You have a limited 10-year warranty from the date of purchase.

This warranty is valid worldwide with the exception that freight and duty charges incurred outside the contiguous 48 United States will be prepaid by the customer.

Except as provided above, AIMS makes no warranty of any kind, express or implied, including without limitation the implied warranties of merchantability and fitness for a particular purpose. In no event shall AIMS be liable for indirect, special or consequential damages. This warranty only applies to AIMS Power branded products. All other name brand products are warranted by and according to their respective manufacturer. Please do not attempt to return non-AIMS Power branded products to AIMS Power.

For additional products such as:


- Modified sine wave inverters
- Pure sine wave inverters
- Solar Charge Controllers
- Solar Kits
- Inverter Chargers
- Custom cut cables
- Batteries
- Solar Panels

Please visit our web site: www.aimscorp.net

To find out where to buy any of our products, you may also e-mail: sales@aimscorp.net or call (775)359-6703

NOTES:

Documents / Resources

	<p>AIMS POWER COM3IN-60A Solar Array Combiner Box [pdf] Instruction Manual COM3IN-60A, COM6IN-120A, COM3IN-60A Solar Array Combiner Box, Solar Array Combiner Box, Array Combiner Box, Combiner Box</p>
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References

- [Power Inverters, DC To AC Inverters & Solar Panels | AIMS Power](#)