



# The KID Clipper Instruction Manual



## MNKID CLIPPER

Works with the Wind KID and many other charge controllers.  
Designed and built in the U.S.A.

MidNite Solar  
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Arlington, Wa 98223  
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# The KID Clipper Instructions

## IMPORTANT SAFETY INSTRUCTIONS

**SAVE THESE INSTRUCTIONS** - THESE INSTRUCTIONS CONTAIN IMPORTANT SAFETY AND OPERATING INSTRUCTIONS FOR THE KID CLIPPER MODEL NUMBERS MNKIDCLIPPER-0.4, MNKIDCLIPPER-1.0, MNKIDCLIPPER-1.6, MNKIDCLIPPER-4.0.

If you do not fully understand any of the concepts, terminology, or hazards outlined in these instructions, please refer installation to a qualified dealer, electrician or installer. These instructions are not meant to be a complete explanation of a renewable energy system. All installations must comply with national and local electrical codes. Professional installation is recommended.

### GENERAL PRECAUTIONS:

**WORKING WITH OR IN THE VICINITY OF A LEAD ACID BATTERY, SEALED OR VENTED IS DANGEROUS. VENTED BATTERIES GENERATE EXPLOSIVE GASES DURING NORMAL OPERATION. FOR THIS REASON, IT IS VERY IMPORTANT THAT BEFORE SERVICING EQUIPMENT IN THE VICINITY OF LEAD-ACID BATTERIES YOU REVIEW AND FOLLOW THESE INSTRUCTIONS CAREFULLY.**

If service or repair should become necessary, contact MidNite Solar Inc. Improper servicing may result in a risk of shock, fire or explosion. To reduce these risks, disconnect all wiring before attempting any maintenance or cleaning. Turning off the inverter will not reduce these risks. Solar modules produce power when exposed to light. When it is not possible to disconnect the power coming from the Photovoltaics by an external means such as a combiner, cover the modules with an opaque material before servicing any connected equipment.

Do Not expose to rain or snow. NEVER attempt to charge a frozen battery. Do not smoke around batteries.

When it is necessary to remove a battery, make sure that the battery bank disconnect breaker is in the off position and that the PV breakers, grid breakers and any other sources of power to the inverter are in the off position. Then **remove the negative terminal from the battery first.**

To reduce risk of battery explosion follow these instructions and those published by the battery manufacturer as well as the manufacturer of any additional equipment used in the vicinity of the batteries.

Avoid producing sparks in the vicinity of the batteries when using vented batteries. Provide ventilation to clear the area of explosive gases. Sealed AGM and Gel batteries do not under normal conditions create explosive gases. Refer to the battery manufacturer's documentation. Be especially cautious when using metal tools. Dropping a metal tool onto batteries can short circuit them. The resulting spark can lead to personal injury or damage to the equipment. Provide ventilation to outdoors from the battery compartment when installing vented batteries such as golf cart T-105 batteries. The addition of a spill tray is also a good idea.

Clean all battery terminals. Very high currents are drawn from the batteries; even a small amount of electrical resistance can result in overheating, poor performance, premature failure or even fire.

Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing or eyes. Wear complete eye and clothing protection. Always avoid touching eyes while working near batteries. If battery acid or battery terminal corrosion contacts skin or clothing, wash immediately with soap and water. If acid enters the eyes, immediately flood with cool running water for at least 15 minutes and get medical attention immediately. Baking soda neutralizes battery acid electrolyte. Keep a supply near the batteries

Do not work alone. Someone should be in the range of your voice or close enough to come to your aid when you work with or near electrical equipment. Remove rings, bracelets, necklaces, watches etc. when working with batteries, photovoltaic modules or other electrical equipment. Power from an illuminated photovoltaic array makes a very effective arc welder with dire consequences if one of the welded pieces is on your person.

To reduce the risk of injury, connect only deep cycle lead acid type rechargeable batteries. Other types of batteries may leak or burst, causing personal injury or damage.

Wiring methods used shall be in accordance with the Canadian Electrical Code, Part I.

Wiring must be done in accordance with the National Electrical Code Article 690 ANSI/NFPA 70. Use Class 1 wiring methods for field wiring connections to terminals of a Class 2 circuit. Use only 14-10 gauge AWM wire. Select the wire gauge used based on the protection provided by the circuit breakers/fuses. Overcurrent protection must be installed as part of the system installation. Refer to the wiring diagrams provided in this manual for breaker/fuse/GFDI sizes and model numbers.

**WARNING:** This unit is not provided with a GFDI device. This inverter or charge controller must be used with an external GFDI device as required by the Article 690 of the National Electrical Code for the installation location.

Use of attachments or accessories not approved by MidNite Solar could result in damage or injury.

Before making any connections verify that the circuit breakers are in the off position including the inverter breaker. Double check all wiring before applying power.



## INSTRUCTIONS DE SÉCURITÉ IMPORTANTES

**CONSERVER CES INSTRUCTIONS** - CES INSTRUCTIONS CONTIENNENT DES INFORMATIONS IMPORTANTES POUR UTILISER THE KID CLIPPER MODEL NUMBERS MNKIDCLIPPER-0.4, MNKIDCLIPPER-1.0, MNKIDCLIPPER-1.6, MNKIDCLIPPER-4.0. EN TOUTE SÉCURITÉ.

Avant l'utilisez cet appareil lis et comprends toutes les instructions et avertissements.

Si vous ne comprenez pas l'une des concepts ou des instructions contenu dans cette manuel consulter un agent spécialisé.

Si des réparations sont nécessaires contactez MidNite Solar pour plus des informations. Danger de choc électrique et de risque de brulure. Rien à dépanner à l'intérieure du cette appareil. Ne pas ouvrir le couver. Pour toute réparation ou service d'entretien, consulter un agent spécialisé. Il y'a peut-être plusieurs sources d'alimentation dans cette system. Débrancher toutes les interrupteurs avant toute d'entretien où nettoyage.

Ne travaillez pas seul. Quelqu'un devrait toujours être à proximité pour aider en cas d'une situation d'urgence.

Retirer bagues, bracelets, colliers, montres, et quelles choses comme ça. Il y'a risque des blessures graves s'il y'a un court-circuit. Cela pourrait ruiner votre journée entière.

Cette appareil n'avoir pas un détecteur des fautes de terre. C'est nécessaire de emploi la protection contre des fautes de terre a l'extérieure de cette appareil en conformité avec le National Electrical Code.

Les méthodes de câblage utilisés doivent être conformes au Code canadien de l'électricité, Partie I.

Le câblage doit être fait en conformité avec le National Electrical Code Article 690 ANSI / NFPA 70. Utiliser des méthodes de câblage de catégorie 1 pour les connexions de câblage sur .des terminaux d'un circuit de classe 2. Utilisez uniquement des fils de AWM de calibre 14-1/0. Sélectionnez le type de câble utilisé sur la base de la protection prévue par les disjoncteurs / fusibles.



# The KID Clipper Instructions

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### Before you begin:

Make sure that you have the correct KID Clipper for your system. They are available in 0.4, 1.0, 1.6 and 4.0 Ohm versions. This determines the amount of dump load presented to the turbine.

The Kid Clipper is controlled by the Wind/Hydro Kid according to the mode selected and settings programmed into the Kid. There are no settings on the KID Clipper. For more information please refer to the Wind/Hydro Kid manual.

### Mounting the MNKID Clipper.

#### You will need:

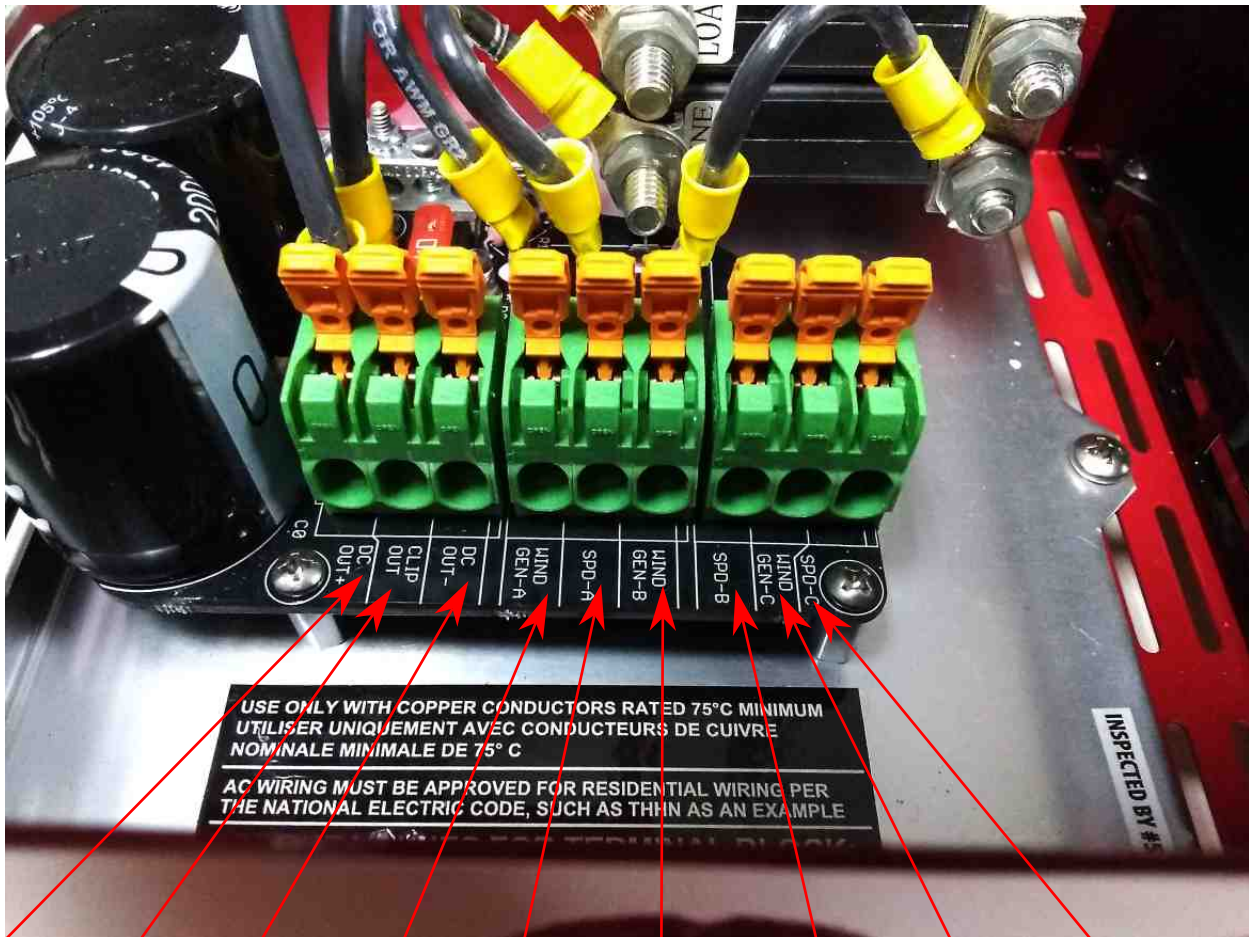
- A mounting surface.
- Drill for pilot holes.
- #10 Mounting Hardware long enough to secure chassis to wall.
- Appropriate wall anchors if needed.
- Screwdriver for mounting hardware. Most likely a #2 Phillips.

#### Mounting considerations:

- The KID Clipper generates heat. Select a heat resistant mounting surface.
- Mount the kid vertically with the resistors at the top (heat rises).
- Provide 18" (46cm) free space on all sides and 24" (61cm) above the KID Clipper.
- The KID Clipper has a type 1 enclosure. It is for indoor use only.
- Mount the KID Clipper in a low traffic area to reduce the chance of unintended contact.

#### Mounting the KID Clipper:

- After selecting a location for mounting. Hold the MNKID Clipper in position with a small bubble level on top. Mark the top two holes with the KID Clipper level. Pre-drill the two holes and install wall anchors if needed. Hold the KID Clipper in position and secure with two screws.
- Carefully pre-drill the other two holes and install wall anchors if needed. Finish the installation by securing the bottom two screws.



USE ONLY WITH COPPER CONDUCTORS RATED 75°C MINIMUM  
 UTILISER UNIQUEMENT AVEC CONDUCTEURS DE CUIVRE  
 NOMINALE MINIMALE DE 75° C

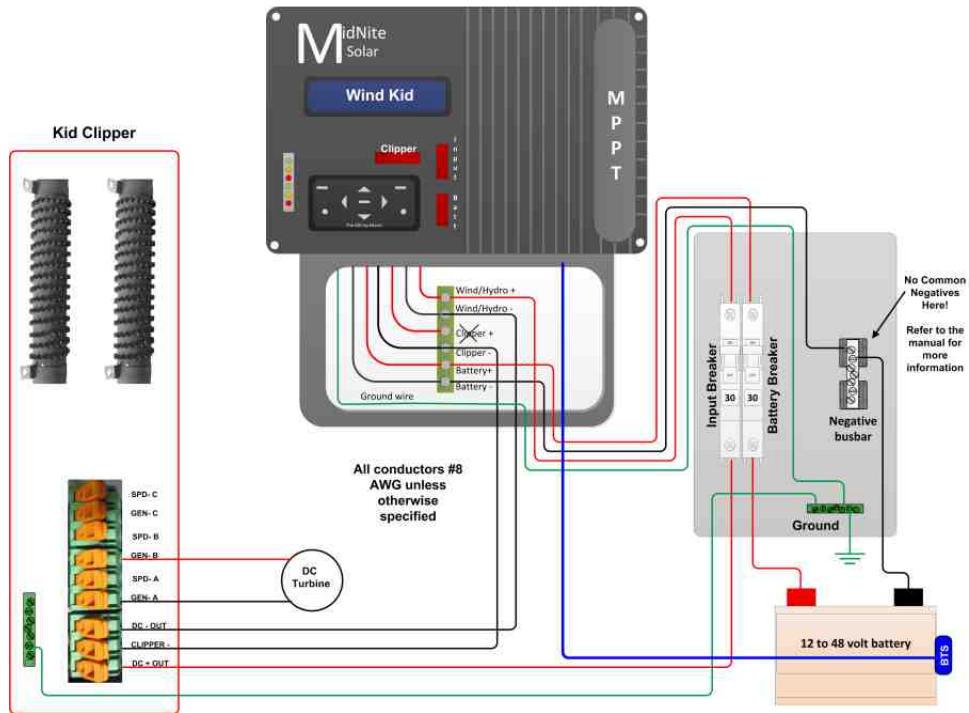
AC WIRING MUST BE APPROVED FOR RESIDENTIAL WIRING PER  
 THE NATIONAL ELECTRIC CODE, SUCH AS THHN AS AN EXAMPLE

DC OUT +    CLIP OUT    DC OUT -    WIND GEN-A    SPD-A    WIND GEN-B    SPD-B    WIND GEN-C    SPD-C

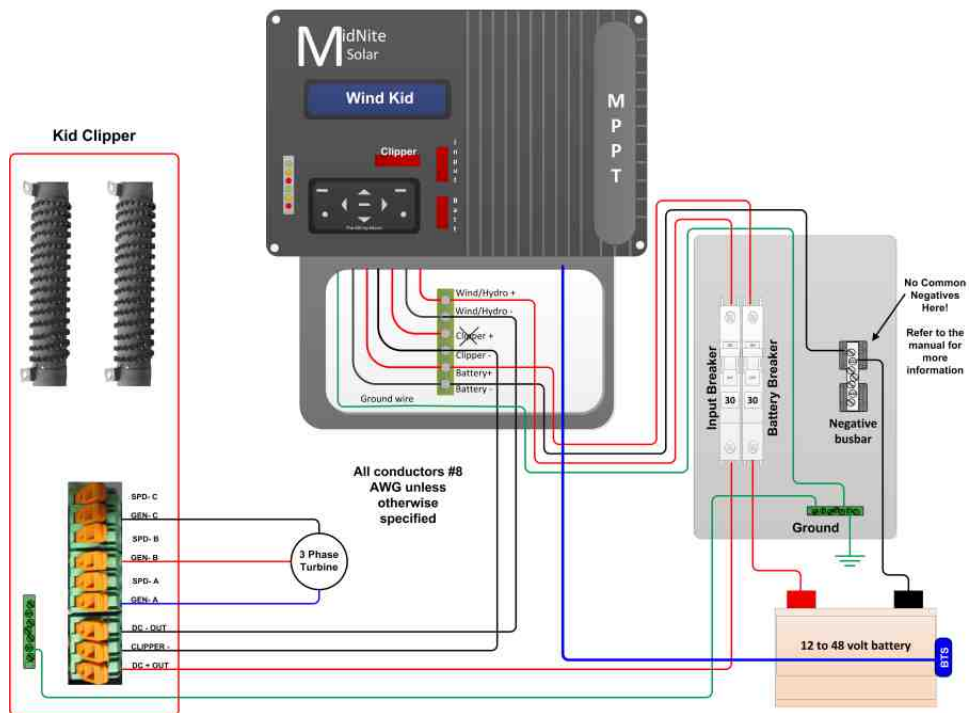
## The KID Clipper terminal block

- DC OUT+** DC Positive out to charge controller. Use appropriate disconnect breaker.
- CLIP OUT** Clipper control. Connects to MNKID Terminal block Clipper Negative.
- DC OUT-** Negative connection to charge controller.
- WIND GEN-A** Negative input from DC turbine or Phase A input from three phase turbine.
- SPD-A** Connect one lead from an MNSPD (Sold Separately) here.
- WIND GEN-B** Positive input from DC turbine or Phase B input from three phase turbine.
- SPD-B** Connect second lead from an MNSPD here (Sold Separately).
- WIND GEN-C** Phase C input from three phase turbine.
- SPD-C** Connect one lead from a second MNSPD here (Sold Separately).  
Refer to three phase AC SPD wiring diagram on page 7.

# The KID Clipper Instructions



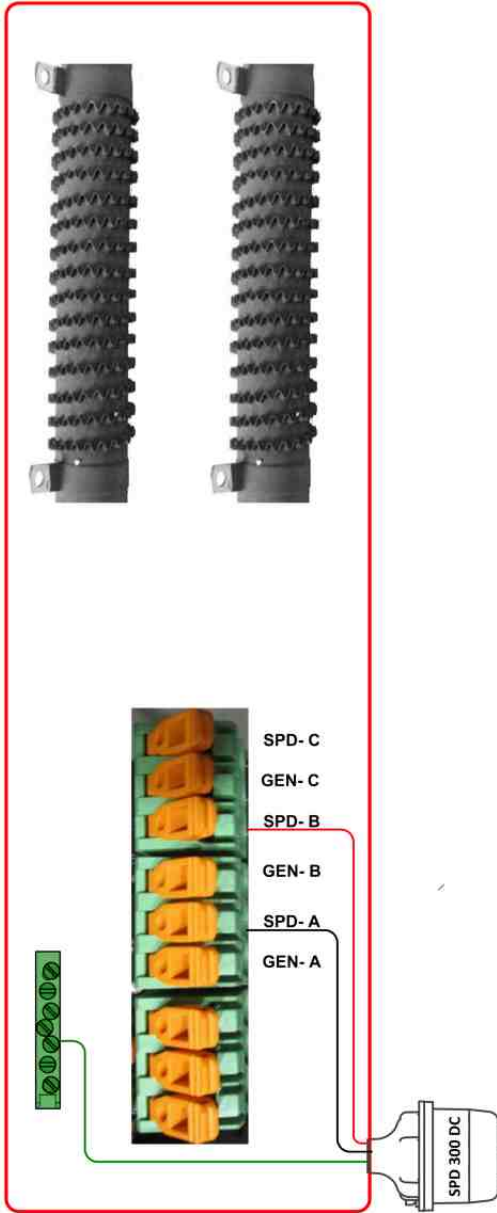
KID Clipper wiring with DC Turbine



KID Clipper wiring with Three Phase Turbine

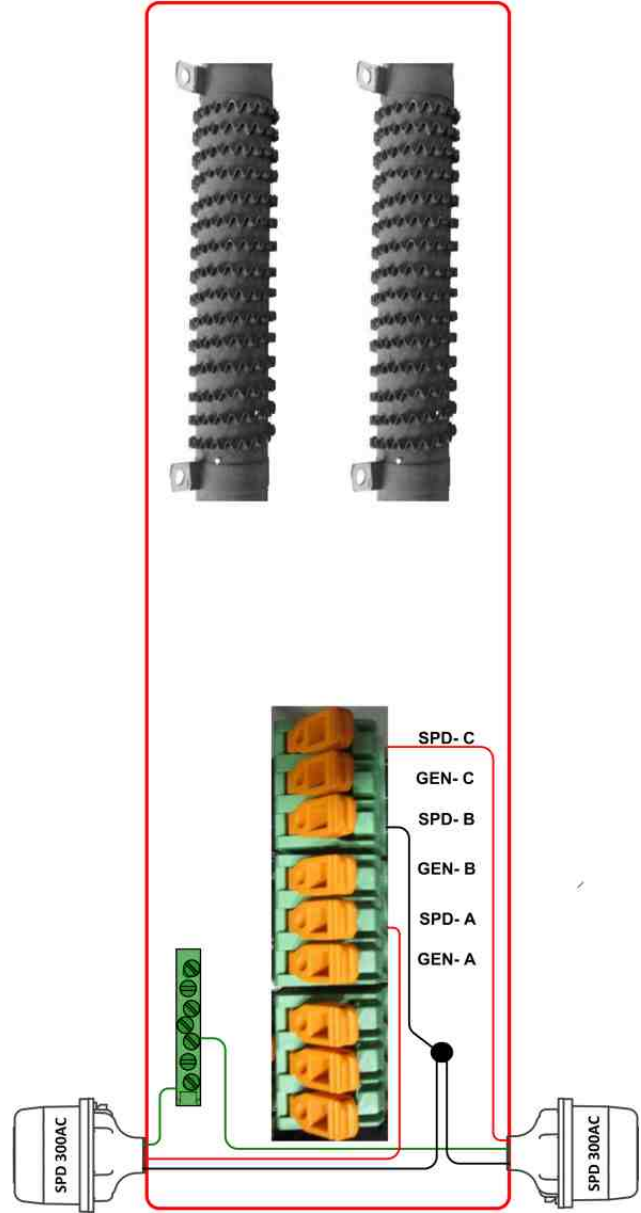
## Wiring a single SPD for DC generator input

Kid Clipper



## Wiring 2 SPDs for 3 phase generator input

Kid Clipper

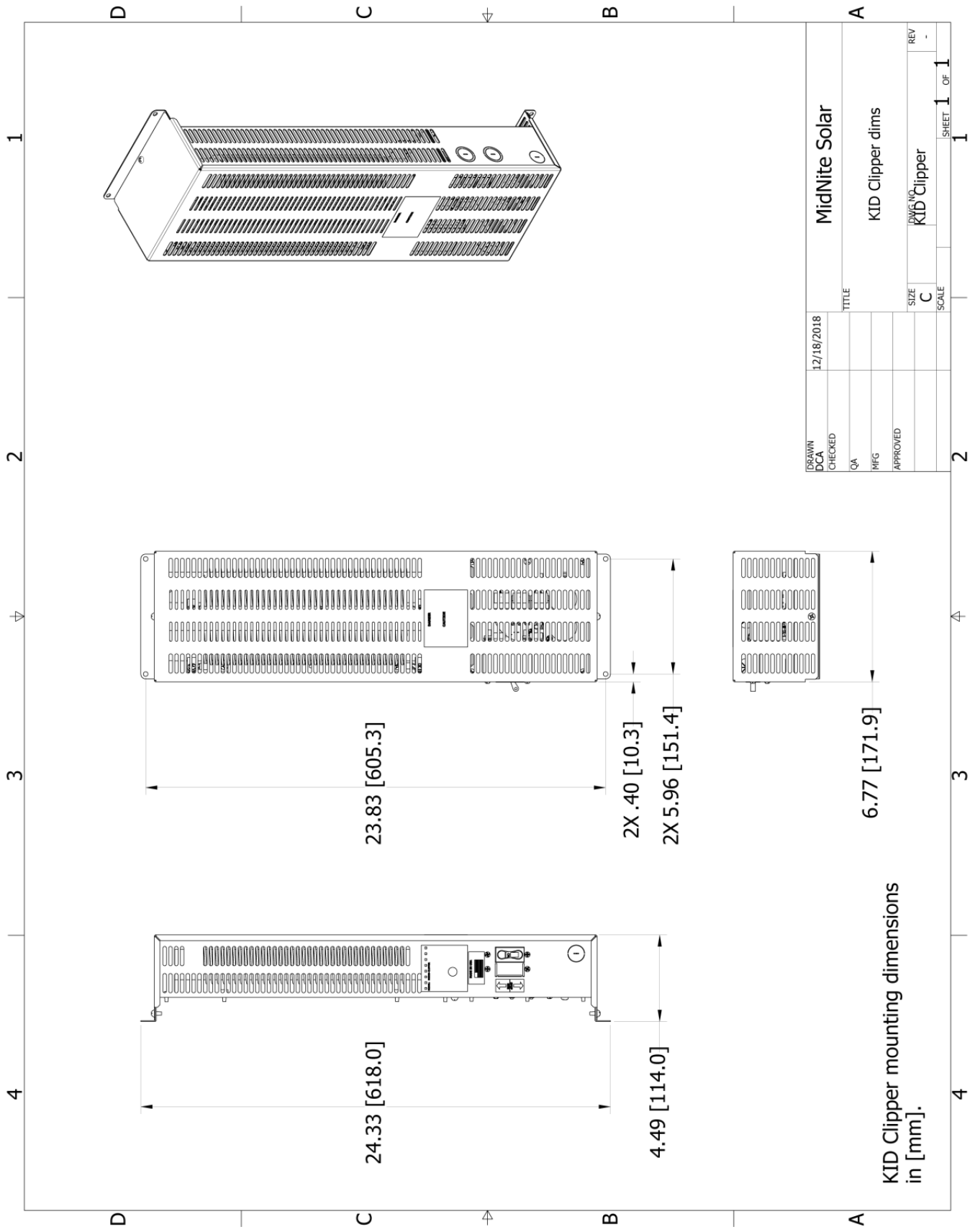


### Specifications:

- Maximum Input Voltage - 150 VDC
- Maximum Continuous current - 20 Amps.
- Maximum Surge Current 30 Amps.
- Ambient Temperature Range - -40°C to 50°C.



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DATE	12/18/2018	TITLE	MidNite Solar
DRAWN	DCA		KID Clipper dims
CHECKED			
QA		SIZE	C
MFG		DWG. NO.	KID Clipper
APPROVED		REV	-
		SCALE	1 OF 1
			SHEET 1

KID Clipper mounting dimensions in [mm].





# The KID Clipper Instructions

## MIDNITE SOLAR INC. LIMITED WARRANTY

MidNite Solar Power electronics, sheet metal enclosures and accessories

MidNite Solar Inc. warrants to the original customer that its products shall be free from defects in materials and workmanship. This warranty will be valid for a period of five (5) years for all products except the MNBRAT Charge Controller along with the MNBIRDHOUSE1 batteries, these will be two (2) years. MidNite Solar will not warranty third party inverter components used in MidNites pre-wired systems. Those components are warranted by the original manufacturer. MidNite Solar offers an extended warranty for all the Classic MPPT charge controllers. Six months prior to the end of the warranty period customers can ship their Classic back to MidNite Solar with a check for \$147 dollars plus shipping and we will replace any wearable parts and do a general tune-up. This will extend the warranty by 2 additional years.

At its option, MidNite Solar will repair or replace at no charge any MidNite product that proves to be defective within such warranty period. This warranty shall not apply if the MidNite Solar product has been damaged by unreasonable use, accident, negligence, service or modification by anyone other than MidNite Solar, or by any other causes unrelated to materials and workmanship. The original consumer purchaser must retain original purchase receipt for proof of purchase as a condition precedent to warranty coverage. To receive in-warranty service, the defective product must be received no later than two (2) weeks after the end of the warranty period. The product must be accompanied by proof of purchase and Return Authorization (RA) number issued by MidNite Solar.

For an RMA number contact MidNite Solar Inc., 17722 67th Ave NE, Arlington, WA 98223 (360) 403-7207. Purchasers must prepay all delivery costs or shipping charges to return any defective MidNite Solar product under this warranty policy. Except for the warranty that the products are made in accordance with, the specifications therefore supplied or agreed to by customer:

**MIDNITE SOLAR MAKES NO WARRANTY EXPRESSED OR IMPLIED, AND ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEEDS THE FOREGOING WARRANTY IS HEREBY DISCLAIMED BY MIDNITE SOLAR AND EXCLUDED FROM ANY AGREEMENT MADE BY ACCEPTANCE OF ANY ORDER PURSUANT TO THIS QUOTATION. MIDNITE SOLAR WILL NOT BE LIABLE FOR ANY CONSEQUENTIAL DAMAGES, LOSS OR EXPENSE ARISING IN CONNECTION WITH THE USE OF OR THE INABILITY TO USE ITS GOODS FOR ANY PURPOSE WHATSOEVER. MIDNITE SOLAR'S MAXIMUM LIABILITY SHALL NOT IN ANY CASE EXCEED THE CONTRACT PRICE FOR THE GOODS CLAIMED TO BE DEFECTIVE OR UNSUITABLE.**

Products will be considered accepted by customer unless written notice to the contrary is given to MidNite Solar within ten (10) days of such delivery to customer. MIDNITE SOLAR is not responsible for loss or damage to products owned by customer and located on MIDNITE SOLAR'S premises caused by fire or other casualties beyond MIDNITE SOLAR'S control. This warranty is in lieu of all other warranties expressed or implied.

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