Technical Services Bulletin

ReadyWatt™ 12 Circuit High Voltage Combiner Box for PV Installations

- Intended Use
- Provided Components
- Code Compliant Installation

Intended Use

The ETL listed ReadyWatt™ Combiner Box is intended to provided a secure, economical and code compliant method of combining multiple PV source circuits into one source circuit. The combiner box also provides a convenient location to begin the necessary conduit run from the PV array to the power conditioning equipment for up to 12 high voltage circuits.

EO Part#: 600COMB16X16HV

Components

Includes the following components:

- NEMA 3R 16"x16" enclosure (grounded)
- (12) cord grips with inserts
- DIN rail with up to (12) Touchsafe™ fuse holders
- (1) positive terminal bus bar
- (1) negative terminal bus bar
- (1) ground terminal bus bar

Optional components specified at purchase:

- Touchsafe™ Fuses—10A, 15A or 20A

Special Features

The ReadyWatt™ Combiner Box is an elegant, professional solution to the need for combining and staging your photovoltaic array wire runs. It features:

- Comes with liquid tight cord grips
- Pre-drilled for 1.5" conduit
- Easy wire terminations
- ETL listed to UL 508A standard

Applicable Code Sections

The ReadyWatt™ Combiner Box complies with NEC requirements including but not limited to: 690.8, 314.40 and 690.9.

Code Compliant Installation

The PV combiner NEMA 3R enclosure must be mounted in an upright orientation since a 1/4″ weep hole is pre-drilled in the bottom to drain any moisture that may accumulate inside. Mount the combiner on a flat wall, strut frame or on the side-of-pole.

Each PV source circuit has a dedicated cord grip sized for up to #10 insulated wire. Two of the cord grips come with a three hole insert to allow 6 AWG bare copper ground wires to enter the enclosure. The remaining ten cord grips have two hole inserts for positive and negative conductors only.

Insert the conductors through the cord grips into the box and strip back enough insulation for proper contact with the terminals. The positive conductors shall be connected to the left side of the fuse holder. The negative conductors shall be connected to the PV NEGATIVE BUS BAR and the ground conductors shall be connected to the EQUIPMENT GROUND BUS BAR. Connect the output conductors (14 AWG up to 1/0 cable) to the appropriate bus bars. The output conductors exit the enclosure through the provided 2″ hole which is sized for 1.5″ conduit fittings.

Use the torque table below to correctly torque all connections.

The fuses shall be sized according to the following calculation: 1.56 * [I_{sc} of module]. Choose the next highest fuse. For example, if the module I_{sc}=8A then the fuse size should be 1.56*8A=12.48A. Here the appropriate size fuse would be 15A.

This combiner box is intended for source circuits with $I_{sc} \leq 9.08$ amps. Use of modules with $I_{sc} > 9.08$A will limit the number of circuits that can be combined.

Terminal Torque Specs	
Positive/Negative/ Ground bus bars, small lug	35 in-lbs
Positive/Negative/ Ground bus bars, large lug	50 in-lbs
Fuse Holder	35 in-lbs