Technical Services Bulletin

Using a ReadyWatt™ Pass Thru Wiring Box, Rail Mount, Large for PV Installations

Recommended Practices & Code Compliant Installation
Current Parts Selection

Intended Use

The ETL listed ReadyWatt™ Pass Thru Wiring Box (PTWB) is intended to provided a robust, secure, and code compliant method of transferring the MultiContact USE-2 type conductor coming from the PV array to THHN/THWN-2 type conductor. The PTWB also provides a convenient location to begin the necessary conduit run from the PV array to the power conditioning equipment. The terminal blocks in the large PTWB are not paralleled, therefore each string remains independent of the others. (Energy Outfitters Part # 600ENCLPTBOXRML)

Provided Components

Included with each PTWB are the following components:

- NEMA 3R enclosure (grounded)
- (3) cord grips w/ (2) two hole, (1) three hole insert, and (2) blank inserts
- (7) terminal blocks w/ end block, separator, and labels
- 2" x 15" aluminum bar
- (2) 3/8" x 1" stainless steel bolts and hex flange nuts
- (1) 1 1/8" hole allowing for the installation of 3/4" conduit fittings

Recommended Installation Method

To securely mount the PTWB to the PV array racking structure, begin by determining a desirable location that will be easily accessible. The PTWB is designed to be mounted directly on the mounting rail. Use the supplied 3/8" bolt on the mounting bar to attach the PTWB in the channel of the rail by sliding the bolt head in from the end.

In order for the PTWB to maintain a NEMA 3R rating, a 1/8" to 1/4" hole must be drilled into the bottom of the box. This must be done in the field since the orientation of the box will be determined at the installation location.

Multi-Contact cable extensions from the PV array enter the PTWB through the provided cord grips. The three-hole inserts accept (2) #10 AWG USE-2 type conductors and (1) #6 AWG bare conductor (ground conductor). The two-hole inserts are for (2) #10 AWG USE-2 conductors. Strip and attach the conductors to the appropriate terminal blocks. The PV input sides (bottom) of the terminal blocks are clearly labeled PV1-, PV2-, PV3-, PV1+, PV2+, PV3+ and GND. Each block is independent from each other, thus each string extending from the array must also be run to the power center.

The output sides of the terminal blocks are labeled INV1-, INV2-, INV3-, INV1+, INV2+, INV3+ and GND. Strip and attach #10 AWG or #12 AWG THHN/THWN-2 conductors to the appropriate terminal blocks and exit through 3/4" conduit. Complete the wiring by attaching the conduit to the 3/4" knockout supplied and run the THWN-2 conductor through the conduit to the DC disconnect and power center.

All terminal block screws MUST be tightened to a torque specification of 15 in-lbs.

Applicable Code Sections

The PTB complies with NEC requirements concerning outdoor enclosures. See Sections 314.17, 314.23, and 314.40 of the 2002 National Electric Code.

Large PTWB Configuration