

TRIMM, INC.

Document
INS-907xxxxxxx

Optimum Value Circuit Breaker Panel Installation Guide

This manual covers the following part numbers-
907xxxxxxx Family

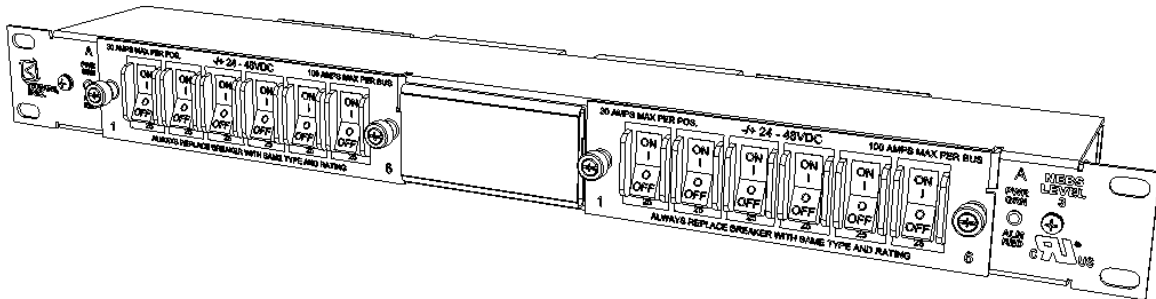


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Section 1- General Information

1.1 - Product Description

Trimm, Inc.'s Optimum Value Series of power distribution panels offer a cost effective design for those needing circuit breaker protection from 1/2 Amp to 30 Amps per position (100 Amps maximum per bus). This panel might also include 2 high current positions for battery or load disconnect applications up to 250 Amps. Power and alarm status are displayed locally with relay contacts for remote breaker trip indication. A removable faceplate and quick change circuit breakers allow this panel to be easily configured to meet your requirements. This product is suitable for use in central office locations, network telecommunication facilities and data centers.

1.2 - Inspection

Inspect the panel for any noticeable defects, missing parts (See "What's Included" below), or shipping damage. Please notify Trimm, Inc. if any problems are found at 1-800-298-7466. No products may be returned to Trimm, Inc. without the proper Return Material Authorization (RMA) number.

1.3 - What's Included

This unit should be packaged with the following items. Please notify Trimm, Inc. if any of these items are not included so a replacement can be sent out right away.

- OV circuit breaker panel (verify part number from sticker on right side of unit.)
- 4 x #12-24 x 1/2" self-tapping mounting screws
- Input and output fasteners (wire terminals not included)
- Installation instruction packet

Other items in shipping box may include

- Extra circuit breakers or fuses.
- 23" rack adapter brackets

Section 2 – Before You Begin



- This panel should be installed in a restricted access area by qualified service personnel only.
- All connections/methods should meet all national/local electrical codes as well as company specific methods or procedures. Failure to do so may result in damage to the equipment, and or personal injury.
- A readily accessible disconnect device must be incorporated into the supply wiring for this product. This disconnect device must be capable of interrupting the maximum available fault current determined by analysis for your system.

2.1 - Tools Required For Installation

Depending on the part number ordered the following tools are needed to install this product.

- Multimeter
- No. 2 Phillips head screw driver
- Small slotted screw driver
- Cable ties or lacing cord
- Writing utensil or label maker for circuit designation
- Wire cutter/stripper

2.2 - Input Bus Amperage Rating (6/8 position)

This product was designed to be used at its input bus amperage rating of 100 Amps, fed by a 2 AWG wire and protected by a 125 Amp maximum overcurrent device. If your circuit rating is below that, you may size the input wire and interrupt/overcurrent device according to your needs per the National Electrical Code NFPA 70 ampacity tables or your local/company methods and procedures. In the event that this product and its associated wiring/overcurrent device are under the minimum rating, you should re-label over the panel's input bus rating to prevent accidental circuit overloading in the future.

2.3 - Input Bus Amperage Rating (2 position)

This product was designed to be used at its input bus amperage rating of 250 Amps, fed by a 400 kcmil wire and protected by a 300 Amp maximum overcurrent device. If your circuit rating is below that, you may size the input wire and interrupt/overcurrent device according to your needs per the National Electrical Code NFPA 70 ampacity tables or your local/company methods and procedures. In the event that this product and its associated wiring/overcurrent device are under the minimum rating, you should re-label over the panel's input bus rating to prevent accidental circuit overloading in the future.

2.4 - Circuit Breaker/Fuse Replacement Information

The correct circuit breakers or fuses may be ordered from the table at the end of this document.

2.5 - Wiring Temperature Information

The wiring for this product should be rated 90° C or better.

2.6 - General Notes on Terminal Connections

- Bare conductors should be coated with appropriate antioxidant compound before crimp connections are made.
- Use appropriate shrink tubing over un-insulated terminal barrels.
- Ensure that the mating surface of both the terminals and their connection point are clean and free of paint.
- Appropriate antioxidant should be applied to the mating surfaces of all connections.
- Use only listed terminals and crimp tooling when making connections.

2.7 - Terminal Information

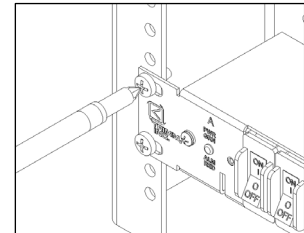
The following terminals or suitable equivalents may be used for connection to this product. Only listed terminals and their recommended crimping tooling should be used. This recommendation is based on the panel's bus amperage rating.

907xxxxxxx Family Suggested Field Wiring Terminals (Code wire)						
Connection	Manufacturer†	Manf. Part Number	Wire Gauge	Stud Size	Hole Spacing	Max. Width
Input (6 or 8 position modules) 90 deg.	Panduit	LCD2-14AF	2 AWG	1/4"	5/8"	.625"
Input (2 position module)	Panduit	LCD400-38D	400 kcmil	3/8"	1"	1.25"
Output (6 or 8 position modules)	Panduit	PV10-8RX	10 AWG	#8	Single Hole	.320"
Output (2 position module)	Panduit	LCD2-14A	2 AWG	1/4"	5/8"	.625"
Chassis Ground (6 or 8 position modules)	Panduit	LCD6-14AF	6 AWG	1/4"	5/8"	.625"
Chassis Ground (2 position module)	Panduit	LCD2-14A	2 AWG	1/4"	5/8"	1"
Remote Alarm	Set Screw (Non required)					
†The above list is only a suggestion. Equivalent terminals may be used provided they are listed and crimped with the appropriately listed crimp tooling.						

Section 3 – Rack Mounting

3.1 - Rack Mounting

Secure the panel to the rack using the #12-24 self tapping screws provided. If you have purchased a 19" panel and the application is for a 23" rack, be sure that you have ordered/received Trimm, Inc's part number 7500116741 (23" mounting kit).



3.2 - Additional Rack Mounting Instructions

If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the unit's maximum operating temperature. Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

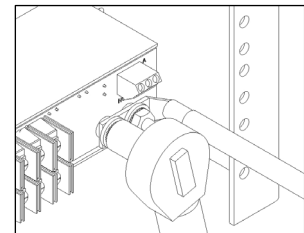
Section 4 – Input and Grounding Cabling

WARNING

Before installation, verify that the input power disconnect device is turned "OFF"

4.1 - Chassis Grounding (6/8 position bus)

This product is suitable for use in either a Common or Isolated (CBN or IBN) Bonding Network. Crimp the ground wire to a suitable terminal. Attach the wires to the panel using the supplied locking nuts. Torque fasteners to 24 in-lbs. Attach other end of ground pigtail to the rack or other suitable grounding location. Reliable Earthing of rack-mounted equipment should be maintained.



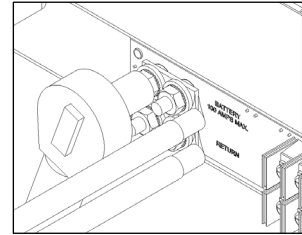
4.2 - Chassis Grounding (2 position bus)

This product is suitable for use in either a Common or Isolated (CBN or IBN) Bonding Network.

Crimp the ground wire to a suitable terminal. Attach the wires to the panel using the supplied bolts and lock washers. Torque fasteners to 24 in-lbs. Attach other end of ground pigtail to the rack or other suitable grounding location. Reliable Earthing of rack-mounted equipment should be maintained.

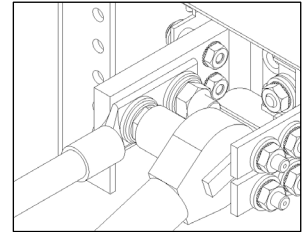
4.3 - Input Wiring (6/8 position bus)

This panel requires 90 deg. Compression lugs crimped to your battery and return wires for the A bus. Remove orange input covers by simply pulling them away from the panel. Locate the #1/4-20 locking nuts supplied with this panel. Crimp the battery and return wires to the proper compression lug. Attach the wires to the panel using the supplied locking nuts. Torque the fasteners to 24 in-lbs.



4.4 - Input Wiring (2 position bus)

Remove orange input cover by simply pulling it away from the panel. Locate the #3/8 flat washers and #3/8-16 locking nuts supplied with this panel. Crimp the battery and return wires to the proper compression lug. Attach the wires to the panel using the supplied flat washers and locking nuts. Torque the fasteners to 75 in-lbs.



4.5 - Power Verification Test

This test is to verify proper function of the panel prior to the connection of loads. Turn on the overcurrent protection/disconnect device supplying power to the A side bus. Use a multimeter to verify that voltage and polarity are correct at the input connection. Verify that the PWR LED is illuminated "green". (Note: with circuit breakers installed and in the "OFF" position the LED should be red until all breakers are in the "ON" position.) Verify that continuity is present between C and NC alarm contacts. Install a circuit breaker in it's "OFF" position and verify that the ALARM LED changes to "red". With the "OFF" breaker in place verify that continuity is present between C and NO alarm contacts. Repeat these steps for the B side bus if applicable.

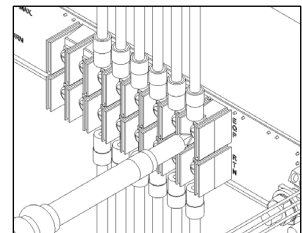
Section 5 – Output and Alarm Cabling

WARNING

Before continuing installation, verify that the overcurrent protection/disconnect device is turned "OFF"

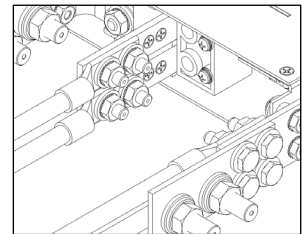
5.1 - Output Wiring (6/8 position bus)

This panel accepts #10-22 AWG wire/terminals to feed into the equipment and return connections. Crimp the wire to the appropriate terminal. Loosen/remove the screws for each position. If using ring terminals use caution when completely removing the screws to avoid dropping them. Attach the terminal to the corresponding position for both equipment and return connections. Torque screw to 9 in-lbs. Label the supplied designation card for each circuit you install.



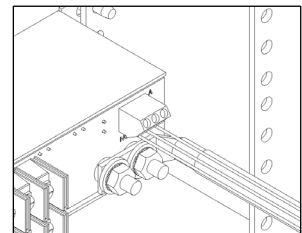
5.2 - Output Wiring (2 position bus)

This panel accepts up to 2 AWG wire/terminals to feed into the equipment and return connections. Locate the #1/4-20 locking nuts supplied with this panel. Crimp the battery and return wires to the proper compression lug. Attach the wires to the panel using the supplied locking nuts. Torque the fasteners to 24 in-lbs.



5.3 - Alarm Wiring

The alarm connector accepts #12-26 AWG stranded/solid wire. Strip end of wire approximately .375", insert into "C", "NC" and "NO" positions of the alarm connector. Torque screw to 3.5 in-lbs. Typical for both busses.



Section 6 – Final Installation

6.1 - Fuse/Breaker Installation

Orientate and install the correct fuse/circuit breaker into its position. Label the supplied designation card for each circuit you install.

6.2 - Energizing the Panel

Once all steps have been completed above, and a final inspection of the installation has been completed, you may energize the panel by switching the corresponding interrupt device to its "ON" position.

Section 7 – Accessories

907 FAMILY FUSE PANEL ACCEPTED FUSE AND CIRCUIT BREAKER TYPES					
6 OR 8 POSITION BREAKER BUS CIRCUIT BREAKERS					
PART NUMBER	DESCRIPTION	PART NUMBER	DESCRIPTION	PART NUMBER	DESCRIPTION
030017750A	1/2 AMP	030017750E	5 AMP	030017750I	20 AMP
030017750B	1 AMP	030017750F	7.5 AMP	030017750J	25 AMP
030017750C	2 AMP	030017750G	10 AMP	030017750K	30 AMP
030017750D	3 AMP	030017750H	15 AMP	9000200001	BLANK*
2 POSITION DISCONNECT BUS FUSES/CIRCUIT BREAKERS					
TPC FUSES		TPS FUSES		TLS FUSES	
Uses TPCDS fuse holder part number 0300108180 (order separately)		Uses TFD fuse holder part number 0300108380 (order separately)		Uses TFD fuse holder part number 0300108380 (order separately)	
PART NUMBER	DESCRIPTION	PART NUMBER	DESCRIPTION	PART NUMBER	DESCRIPTION
0300360003	3 AMP	0300350001	1 AMP	0300390001	1 AMP
0300360004	4 AMP	0300350002	2 AMP	0300390003	3 AMP
0300360005	5 AMP	0300350003	3 AMP	0300390005	5 AMP
0300360006	6 AMP	0300350005	5 AMP	0300390006	6 AMP
0300360007	7 AMP	0300350006	6 AMP	0300390010	10 AMP
0300360008	8 AMP	0300350010	10 AMP	0300390015	15 AMP
0300360010	10 AMP	0300350015	15 AMP	0300390020	20 AMP
0300360012	12 AMP	0300350020	20 AMP	0300390025	25 AMP
0300360015	15 AMP	0300350025	25 AMP	0300390030	30 AMP
0300360020	20 AMP	0300350030	30 AMP	0300390035	35 AMP
0300360025	25 AMP	0300350035	35 AMP	0300390040	40 AMP
0300360030	30 AMP	0300350040	40 AMP	0300390050	50 AMP
0300360040	40 AMP	0300350050	50 AMP	0300390060	60 AMP
0300360050	50 AMP	0300350060	60 AMP	0300390070	70 AMP
0300360060	60 AMP	0300350070	70 AMP	0300390080	80 AMP
0300360075	75 AMP	CIRCUIT BREAKERS		0300390090	90 AMP
0300360090	90 AMP	PART NUMBER	DESCRIPTION	0300390100	100 AMP
0300360100	100 AMP	030017760A	5 AMP	0300390125	125 AMP
0300360125	125 AMP	030017760B	7.5 AMP	2 POLE BREAKERS*	
2 POLE TPW FUSES*		030017760C	10 AMP	PART NUMBER	DESCRIPTION
Uses TPW fuse adapter kit part number 7600108281 (order separately) ¹		030017760D	15 AMP	038017770A	110 AMP
		030017760E	20 AMP	038017770B	120 AMP
		030017760F	25 AMP	038017770C	130 AMP
		030017760G	30 AMP	038017770D	140 AMP
		030017760H	40 AMP	038017770E	150 AMP
0300380150	150 AMP	030017760I	50 AMP	* INCLUDES CIRCUIT BREAKER, 2 POLE ADAPTER KIT AND 2 POLE OUTPUT COVER	
0300380175	175 AMP	030017760J	60 AMP		
0300380200	200 AMP	030017760K	70 AMP		
0300380225	225 AMP	030017760L	80 AMP	BLANK PLUG*	
0300380250	250 AMP	030017760M	90 AMP	7600161501	
¹ .TPW FUSE ADAPTER KIT INCLUDES HOLDER, 2 POLE ADAPTER AND 2 POLE OUTPUT COVER		030017760N	100 AMP		
*BLANK PLUGS PROTECT UNFILLED POSITIONS					