

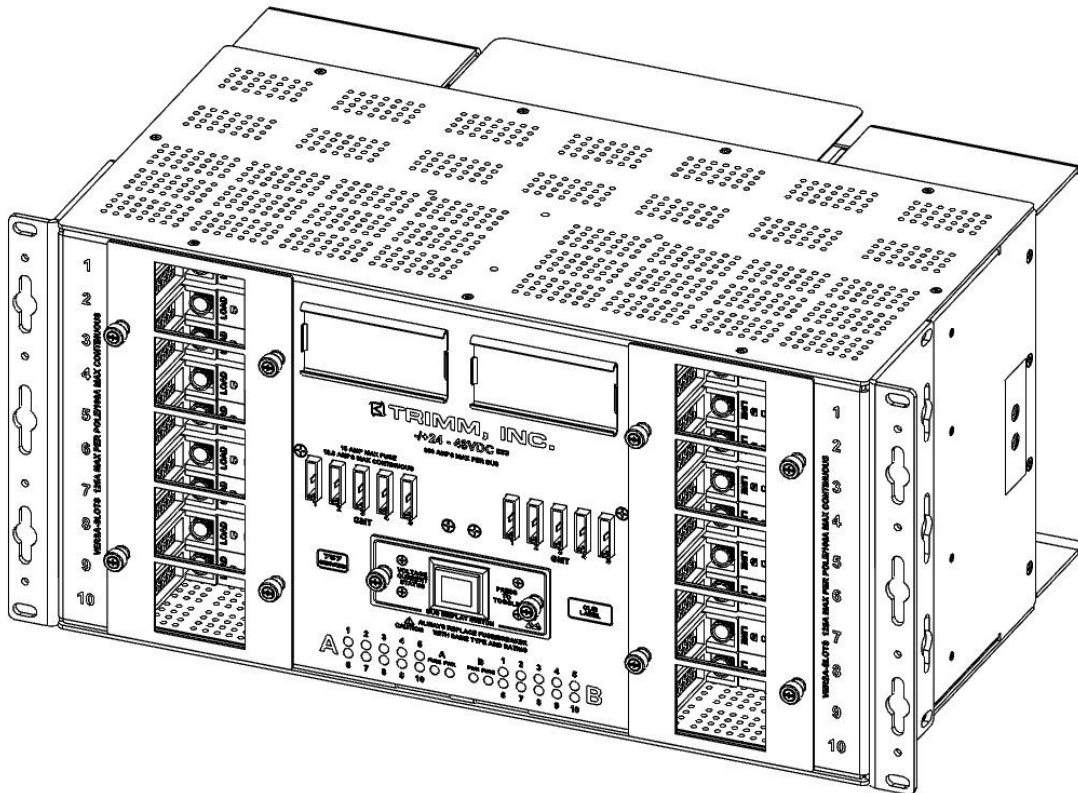
# **TRIMM, INC.**

## Versatile Distribution Panel Installation Guide

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Document INS-787xxxxxxx

This guide covers the following part numbers-  
Trimm 787xxxxxxx Series



## Table of Contents

<b>Section 1 - General Information.....</b>	<b>3</b>
1.1 - Product Description.....	3
1.2 - Inspection.....	3
1.3 - What's Included.....	3
<b>Section 2 - Before You Begin.....</b>	<b>3</b>
2.1 - Tools Required For Installation.....	3
2.2 - Fuse Sizing Information.....	4
2.3 - Fuse Replacement Information.....	4
2.4 - Wiring Temperature Information.....	4
2.5 - General Notes on Terminal Connections.....	4
2.6 - Operating Voltage Ranges.....	4
2.7 - Battery Return Treatment.....	4
2.8 - Terminal Information.....	4
<b>Section 3 - Rack Mounting.....</b>	<b>5</b>
3.1 - Rack Mounting.....	5
3.2 - Rack Mounting (Ventilation/Cooling)	5
3.3 - Additional Rack Mounting Instructions.....	5
<b>Section 4 - Input and Ground Cabling.....</b>	<b>5</b>
4.1 - Chassis Grounding (Earthing).....	5
4.2 - Input Wiring.....	5
<b>Section 5 - Output and Alarm Cabling.....</b>	<b>5</b>
5.1 - Output Wiring (Versa-Slot positions).....	6
5.2 - Output Wiring (GMT W/Barrier Strip Connectors).....	6
5.3 - Output Wiring (GMT W/Set Screw Connectors).....	6
5.4 - Alarm Wiring.....	6
<b>Section 6 - Final Installation.....</b>	<b>6</b>
6.1 - Versa-Slot Fuse/Circuit Breaker Installation.....	6
6.2 - Energizing the Panel.....	6
6.3 - Digital Voltage and Current Meter.....	6
<b>Section 7 - Accessories.....</b>	<b>7</b>
<b>Section 8 - Revision Record.....</b>	<b>9</b>

## Section 1 - General Information

### **1.1 - Product Description**

Trimm, Inc's Versatile Distribution Panel features our specialized "Versa-Slot" modules to allow installation of multiple fuses or circuit breakers types in a single field configurable panel. This panel may also include a local digital voltmeter and current meter with optional alarming thresholds. 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 retain the original packaging in case you need to return the product to Trimm, Inc. Please notify Trimm, Inc. if any problems are found at 1-800-298-7466 or at sales@trimm-inc.com. Products shall not 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.

- Versatile distribution panel (verify part number from sticker on unit)
- Product Kit (includes this installation guide, input and output connection hardware (flat washers and locking nuts), and ground connection hardware (2 x bolts, flat, and lock washers).

## Section 2 - Before You Begin



This panel should be installed in a restricted access area by qualified service personnel only. No field servicing is required on the unit.

All connections/methods should meet all national/local electrical codes as well as any company specific methods/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 of your system.



### **ESD Warning**

This product may be affected by electrostatic discharge. Please follow your company's procedures for ESD mitigation when handling and installing this unit. This might include the use of grounded wrist straps or other grounding devices.

### **2.1 - Tools Required for Installation**

Depending on the part number ordered, the following tools may be needed to install this product.

- Multimeter
- Wire cutter/stripper
- No. 2 Phillips head torque screwdriver
- Torque wrench with 7/16" socket
- Torque wrench with 9/16" socket
- Suitable "listed" crimp tooling for the field wiring terminals
- Cable ties and/or lacing cord
- Writing utensil or label maker for circuit designation
- Wire-Wrap tool for alarming connections (.045" square pins)

## **2.2 - Fuse Sizing Information**

The fuse manufacturer recommends that GMT fuses rated 8 to 15 Amps be continuously operated at no more than 70% of their nominal current rating. All other fuses or circuit breakers may be continuously operated at no more than 80% of their nominal rating.

## **2.3 - Fuse Replacement Information**

The correct fuses or circuit breakers may be ordered from the table at the end of this document. See section 7.

## **2.4 - Wiring Temperature Information**

The wiring for this product should be rated 90° C or better. Wiring protected by GMT fuses shall be at least one size larger than the minimum required wire size based on the National Electrical Code , NPFA 70 ampacity tables.

## **2.5 - 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 points are clean and free of paint.
- Appropriate antioxidant compound should be applied to the mating surfaces of all connections.
- Use only listed terminals and crimp tooling when making connections.

## **2.6 - Operating Voltage Ranges**

<b>Operating Voltage Information</b>		
<b>Nominal Voltage</b>	<b>Minimum Voltage</b>	<b>Maximum Voltage</b>
-/+5-12 VDC	4 VDC	15 VDC
-/+12-24 VDC	10 VDC	30 VDC
-/+24-48 VDC	19 VDC	60 VDC

## **2.7 - Battery Return Treatment**

This product has been designed with the battery return connection isolated from the chassis ground (Earthing) connection. This product is suitable for use with either DC-I or DC-C (Isolated or Common) battery return connection applications.

## **2.8 - Terminal Information**

The following terminals or suitable equivalents may be used for connection to this product. Only listed terminals and their recommended crimp tooling should be used. These recommendations are based on the panels bus amperage rating.

<b>787xxxxxxx Series Suggested Field Wiring Terminals</b>				
<b>Connection</b>	<b>Wire Gauge</b>	<b>Stud Size</b>	<b>Hole Spacing</b>	<b>Max. Width</b>
Input	750 kcmil	3/8" (.375")	1"	1.625"
Versa-Slot Output	2 AWG	1/4" (.250")	5/8" (.625")	.640"
Chassis Ground	Up to 2/0	1/4" (.250")	5/8" (.625")	1.000"
GMT (Barrier Strip)	Up to 10 AWG fork or ring terminal with a #6 stud (.325" max tongue width)			
Remote alarm	Wire Wrap (Non required)			

## Section 3 - Rack Mounting

### **3.1 - Rack Mounting**

Secure the panel to the rack using the self tapping screws provided. For a 23" rack or offset mounting, remove the screws holding the brackets to the chassis, adjust the brackets to allow for optional mounting and torque the screws to 10 in-lbs. max. (1.1 Nm).

### **3.2 - Rack Mounting (Ventilation/Cooling)**

This panel relies on natural convection for cooling through the top and bottom ventilation holes. Do not block or restrict the ventilation holes. It is recommended that the panel be mounted in the upper most position of the rack to ensure adequate cooling and a minimum of 1 rack space below this panel should be left open to allow sufficient inlet airflow. When the panel is not mounted in the upper most position, it is recommended that 1 rack space above and below the panel be left open to allow sufficient inlet and exhaust airflow.

### **3.3 - Additional Rack Mounting Instructions**

If installed in a closed or multi-unit rack assembly, the operating temperature of the rack environment may be greater than the room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the units 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



Before installation, verify that the input power disconnect devices are turned "OFF"

### **4.1 - Chassis Grounding (Earthing)**

This product is suitable for use in a Common (CBN) Bonding Network. Crimp a suitable terminal to each end of the grounding wire, Attach one end of the ground wire to the panel using the supplied fasteners. Torque the fasteners to 24 in-lbs. (2.7 Nm). Attach other end of ground wire to the rack or other suitable grounding location. Reliable grounding of rack-mounted equipment should always be maintained (First On, Last Off).

### **4.2 - Input Wiring**

Remove the combined input/output cover and located the 3/8" flat washers and locking nuts supplied with this panel. Crimp the input battery and return wires to the proper terminals. Attach the wires to the panel using the supplied fasteners. Torque the fasteners to 175 in-lbs. (20 Nm). All wiring should enter/exit the top of the panel.

## Section 5 - Output and Alarm Cabling



Before continuing installation, verify that the input power disconnect devices are turned "OFF".

### **5.1 - Output Wiring (Versa-Slot Positions)**

Located the 1/4" flat washers and locking nuts supplied with this panel. Crimp the output battery and return wires to the proper terminals. Attach the wires to the panel using the supplied fasteners. Torque the fasteners to 40 in-lbs. (4.5 Nm).

## **ALERT**

Please note these barrier strip connections have been designed with a floating contact as a design feature on the output “battery” connections. This floating feature should not be deemed as a loose connection during installation and maintenance so long as the connections were initially tightened to the recommended torque as noted in this installation guide provided with the product.

### **5.2 - Output Wiring (GMT W/Barrier Strip Connectors)**

This panel accepts #10 to #22 AWG wire to feed into the battery and return connections. Strip the wires to the appropriate length and crimp to the terminals. Remove or loosen (for fork terminals) the screws for each fuse position. Attach the terminal onto the corresponding position for both battery and return connections. Torque the screw to 10 in-lbs. (1.1 Nm).

### **5.3 - Output Wiring (GMT W/Set Screw Connectors)**

This panel accepts #12 to #22 AWG copper wires to feed into the battery and return connections. Strip the wires approximately .260” (6.5mm) and insert into the associated output connections for each fused position. Torque the screw to 5 in-lbs. (.5 Nm)

### **5.4 - Alarm Wiring**

The alarm connector is standard wire wrap pins (1 set for power failure and 1 set for fuse failure per bus). Attach the wire to the appropriate pins. Continuity is established at positions C and NC when there is no fuse or power failure. Continuity is established at positions C and NO when a fuse failure or loss of power has occurred.

## Section 6 - Final Installation

### **WARNING**

Before continuing installation, verify that the input power disconnect devices are turned “OFF”.

#### **6.1 - Versa-Slot Fuse/Circuit Breaker Installation**

Loosen the 4 thumb screws and remove the faceplate over the Versa-Slot positions. Ensure that the small auxiliary contact terminal on the rear of the fuse holder or circuit breaker has not been damaged or bent. Match the line and load markings on the fuse holders or circuit breakers to the marking on the Versa-Slot positions and press the fuse holder or circuit breaker into the appropriate position until fully seated. Repeat for all required devices. Re-install the faceplate to secure the fuse holders/circuit breakers.

#### **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 fuse panel by switching the corresponding input power disconnect device to its “ON” position

#### **6.3 - Digital Voltage and Current Meter**

If the unit you are installing includes the optional digital voltage and current meter please see (INS-7800400001) to familiarize yourself with its operation.

## Section 7 - Accessories

GMT Fuses	
Part Number	Ampere Rating
0300097000	18/100 Amp
0300097001	1/4 Amp
0300097016	3/8 Amp
0300097002	1/2 Amp
0300097065	65/100 Amp
0300097003	3/4 Amp
0300097004	1 Amp
0300097005	1-1/3 Amp
0300097006	1-1/2 Amp
0300097007	2 Amp
0300097008	3 Amp
0300097013	3-1/2 Amp
0300097012	4 Amp
0300097009	5 Amp
0300097011	7-1/2 Amp
0300097010	10 Amp
0300097014	12 Amp
0300097015	15 Amp
0300097320	20 Amp*
0300097200	GMT-A (Alarm fuse)
0300097100	Dummy Fuse
0300097209	GMT Fuse Cover

\*20 Amp GMT type fuses may only be installed in panels designed/rated for its use. See product specifications.

TPC Fuses	
<i>Requires TPCDS fuse holder part number 03001081080</i>	
Part Number	Ampere Rating
0300360003	3 Amp
0300360004	4 Amp
0300360005	5 Amp
0300360006	6 Amp
0300360007	7 Amp
0300360008	8 Amp
0300360010	10 Amp
0300360012	12 Amp
0300360015	15 Amp
0300360020	20 Amp
0300260025	25 Amp
0300360030	30 Amp
0300360040	40 Amp
0300360050	50 Amp
0300360060	60 Amp
0300360075	75 Amp
0300360090	90 Amp
0300360100	100 Amp
0300360125	125 Amp

<b>TLS Fuses</b>	
<i>Requires TFD fuse holder part number 0300108380</i>	
<b>Part Number</b>	<b>Ampere Rating</b>
0300390001	1 Amp
0300390003	3 Amp
0300390005	5 Amp
0300390006	6 Amp
0300390010	10 Amp
0300390015	15 Amp
0300390020	20 Amp
0300390025	25 Amp
0300390030	30 Amp
0300390035	35 Amp
0300390040	40 Amp
0300390050	50 Amp
0300390060	60 Amp
0300390070	70 Amp
0300390080	80 Amp
0300390090	90 Amp
0300390100	100 Amp
0300390125	125 Amp

<b>TPW Fuses (2 pole)</b>	
<i>Requires TPWDS fuse holder part number 0300108280</i>	
<b>Part Number</b>	<b>Ampere Rating</b>
0300380150	150 Amp
0300380175	175 Amp
0300380200	200 Amp
0300380225	225 Amp
0300380250	250 Amp

<b>TPS Fuses</b>	
<i>Requires TFD fuse holder part number 0300108380</i>	
<b>Part Number</b>	<b>Ampere Rating</b>
0300350001	1 Amp
0300350002	2 Amp
0300350003	3 Amp
0300350005	5 Amp
0300350006	6 Amp
0300350010	10 Amp
0300350015	15 Amp
0300350020	20 Amp
0300350025	25 Amp
0300350030	30 Amp
0300350035	35 Amp
0300350040	40 Amp
0300350050	50 Amp
0300350060	60 Amp
0300350070	70 Amp

<b>Circuit Breakers</b>	
<b>Part Number</b>	<b>Ampere Rating</b>
030017760A	5 Amp
030017760B	7.5 Amp
030017760C	10 Amp
030017760D	15 Amp
030017760E	20 Amp
030017760F	25 Amp
030017760G	30 Amp
030017760H	40 Amp
030017760I	50 Amp
030017760J	60 Amp
030017760K	70 Amp
030017760L	80 Amp
030017760M	90 Amp
030017760N	100 Amp



