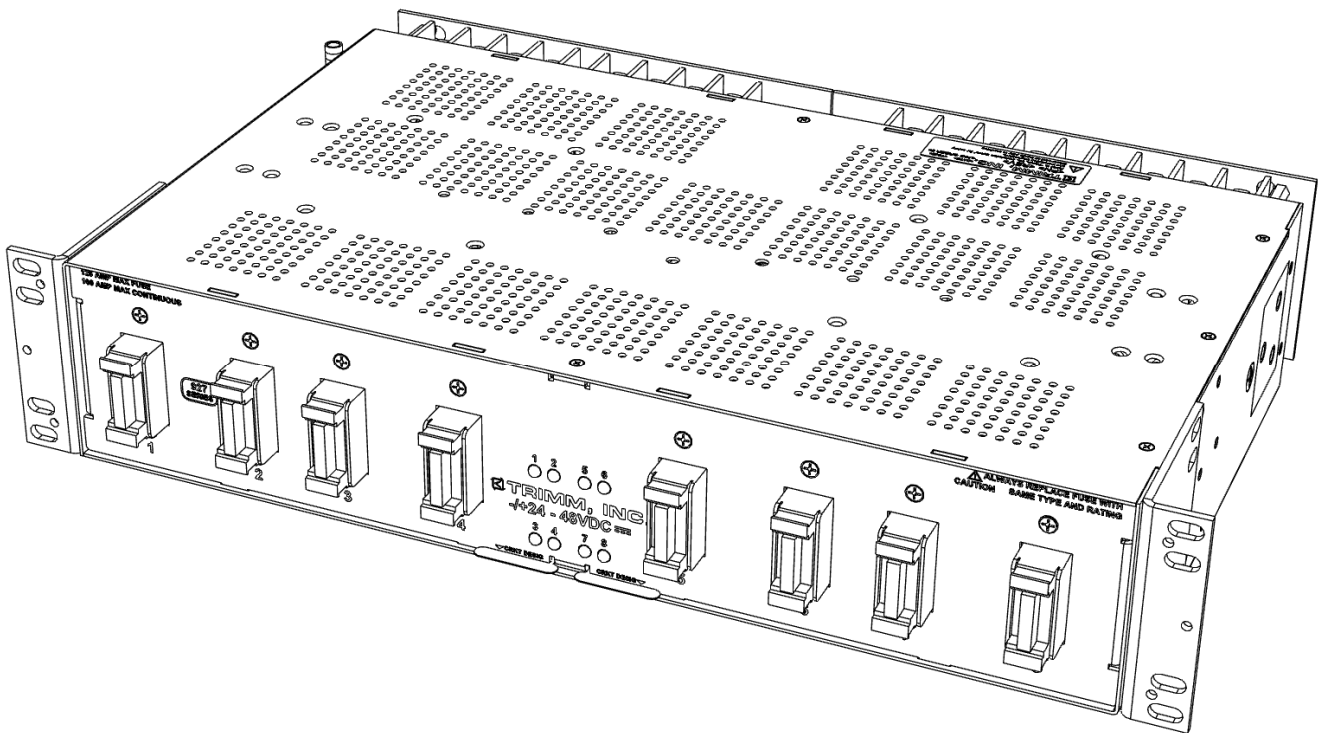




# Demarcation Panel Installation Guide

Document INS-927xxxxxx

This manual covers the following part numbers-  
Trimm **927xxxxxx** Family



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## Section 1- General Information

### **1.1 - Product Description**

Trimm, Inc.'s Demarcation panels offer up to 8 in-line fuse or circuit breaker positions. Unlike traditional fuse or circuit breaker distribution panels that have a single or dual common input bus these units feature a single input and output for each position. This panel is also available with 2 separate buses (A/B) of 5 GMT fuse positions (.18 to 15 Amp fuses) for any lower current equipment. Power and alarm status are displayed locally with relay contacts for remote fuse/breaker failure indication. This product is suitable for central office locations, network telecommunication facilities, data centers and outside plant enclosures. These GMT fuse panels may be installed in GR-3108 Class 3 environments<sup>1</sup>.

<sup>1</sup>Salt fog exposure requirements were not evaluated with these products.

### **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. 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.

- Demarcation fuse/breaker panel (verify part number from sticker on right side of unit.)
- #12-24 x ½" self-tapping mounting screws for rack mounting
- Compression lugs/hardware (For Earthing/grounding connection only.)
- Installation instruction packet
- TFD fuse carriers (if required)

## Section 2 – Before You Begin

### **WARNING**

This panel should be installed in a restricted access area by qualified service personnel only.

No field service is required on the unit

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 may be needed to install this product.

- Multimeter
- Wire cutter/stripper
- No. 2 Phillips head torque screw driver
- 1/8" wide slotted torque screw driver
- Torque wrench with 7/16" socket
- Suitable listed crimp tooling for the field wiring terminals
- Cable ties 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 fuse or circuit breakers may be continuously operated at 80% of their nominal current rating.

## **2.3 - Fuse Replacement Information**

The correct fuses 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 based on the National Electric Code, NFPA 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 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.

## **2.6 - Operating Voltage Ranges**

The following table lists the minimum and maximum voltage that this product has been designed to operate in.

<b>Operating Voltage Information</b>		
<b>Nominal Voltage</b>	<b>Minimum Voltage</b>	<b>Maximum Voltage</b>
5 VDC	4 VDC	7.5 VDC
12 VDC	10 VDC	15 VDC
24 VDC	19 VDC	30 VDC
48 VDC	40 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 crimping tooling should be used. These recommendations are based on the panel's bus amperage rating.

<b>927xxxxxxx Series Suggested Field Wiring Terminal Information</b>				
<b>Connection</b>	<b>Wire Gauge</b>	<b>Stud Size</b>	<b>Hole Spacing</b>	<b>Maximum Width</b>
Demarc Inputs/Outputs	2/0 AWG	1/4"	5/8"	5/8"
GMT Outputs	Up to 10 AWG fork or ring terminal with #6 stud (.325" max. tongue width)			
Chassis Ground	Compression lug included with panel (1/4" stud x 1" spacing)			
Remote Alarm	Wire Wrap .045" square pins (no terminals 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.

### **3.2 – Rack Mounting (Ventillation/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 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 (Earthing)**

This product is suitable for use in either a Common or Isolated (CBN or IBN) Bonding Network. This panel includes a compression lug for grounding. Crimp a ground wire to the terminal provided. Attach the 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 input/output covers and locate the flat washers and locking nuts supplied with this panel. Crimp the battery and return wires to the proper terminals. Attach the wires to the panel using the supplied flat washers and locking nuts. Torque the fasteners to 40 in-lbs.

## Section 5 – Output and Alarm Cabling

### **WARNING**

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

### **ALERT**

Please note the barrier strip connections on the GMT outputs (if included) 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.

### 5.1 - Output Wiring (Demarcation Positions)

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

### 5.2 - Output Wiring Barrier Strip Connection (GMT Fuses)

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 fused 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 - Alarm Wiring

The alarm connector is standard wire wrap pins. Attach the wire to the appropriate pins. Continuity is established at positions C and NC when there is no fuse/breaker failure. Continuity is established at positions C and NO when a fuse/breaker failure has occurred. One set of fuse/breaker fail contacts is provided per position/bus.

## Section 6 – Final Installation

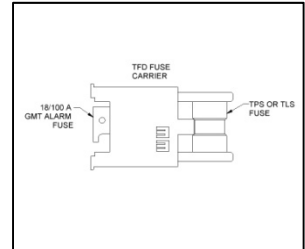
### WARNING

TLS or TPS type fuses are required with TFD type fuse holders.

The TFD type fuse holders incorporate a GMT type fuse on the front of the carrier for fuse fail indication only. This fuse should never be used without a primary TLS or TPS fuse also installed in the fuse carrier. See illustrations below. Only replace the secondary alarming fuse on the front of the fuse holder with a GMT-A alarming fuses (18/100 Amp maximum).

#### 6.1 – Demarc Position Fuse Installation

Orientate and install the correct fuse into its position in the carrier as shown in the illustration to the right, then slide the carrier into the associated fuse holder. The fuse holder is keyed to only allow insertion in the proper orientation. Record the protected equipment identification and location on the supplied designation card.



#### 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 interrupt device to its "ON" position.

## Section 7 – Accessories

TLS Fuses	
Part Number	Description
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
0300097200	Alarming Fuse (GMT-A)

TPS Fuses	
Part Number	Description
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
0300097200	Alarming Fuse (GMT-A)

GMT Fuses	
Part Number	Description
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
0300097100	Dummy Fuse

