

TRIMM, INC.

TPM/GMT Panel Installation Guide

Document INS-837xxxxxx

This manual covers the following part numbers-
Trimm **837xxxxxx** Family

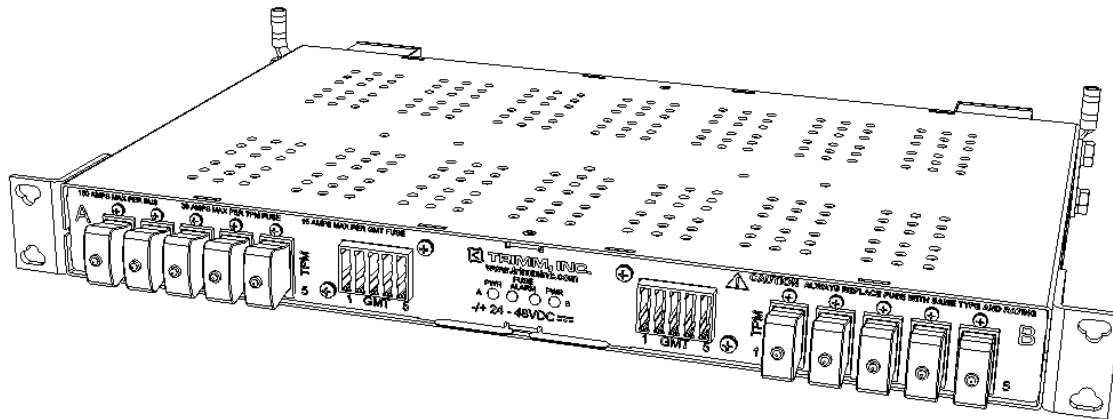


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Section 1- General Information

1.1 - Product Description

Trimm, Inc.'s GMT/TPM series of power distribution fuse panels offers two types of fusing for both higher and lower current equipment. GMT fuses offer protection from .18 to 15 Amps per position while TPM fuses offer protection from 3 to 30 Amps per position. Power and alarm status are displayed locally with relay contacts for remote fuse fail and power loss indication. This product is suitable for 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. 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.

- TPM/GMT fuse 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

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
- 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 - Input Bus Amperage Rating

This product was designed to be used at its input bus amperage rating of 150 Amps, fed by 2/0 AWG wire and protected by a 187.5 Amp maximum overcurrent device.

2.3 - 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 fuse types/amperages may be continuously operated at 80% of their nominal current rating.

2.4 - Fuse Replacement Information

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

2.5 - 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.

2.6 - Operating Voltage Ranges

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

Operating Voltage Information		
Nominal Voltage	Minimum Voltage	Maximum Voltage
5 VDC	4 VDC	7.5 VDC
12 VDC	10 VDC	15.0 VDC
24 VDC	19 VDC	28.3 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.

837xxxxxxx Family Suggested Field Wiring Terminals						
Connection	Trimm Part Number ¹		Wire Gauge	Stud Size	Hole Spacing	Max. Width
	Standard Conductor	Flex Conductor				
Input	6502021241	6502021242	2/0 AWG	1/4"	5/8"	5/8"
TPM/GMT Outputs	Up to 10 AWG fork or ring terminal with a #6 stud (.312 max. tongue width)					
Chassis Ground	Compression lugs included (1 per bus)					
Remote Alarm	Wire Wrap (Non required)					
<i>†The above list is only a suggestion. Equivalent terminals may be used provided they are listed and crimped with the appropriately listed crimp tooling.</i>						

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 - 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 covers and locate the flat washers and #1/4-20 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).

4.3 - Power Verification Test

This test is to verify proper function of the panel prior to the connection of loads. Turn on the over current protection/disconnect device supplying power to the A side bus. Use a multi meter to verify that voltage and polarity are correct at the input connection. Verify that the PWR LED is illuminated "green" and FUSE ALARM LED is not illuminated. Verify that continuity is present between C and NC alarm contacts. Install a failed fuse if possible and verify that the FUSE ALARM LED changes to "red". With the failed fuse in place verify that continuity is present between C and NO fuse 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"

ALERT

Please note these fuse connections or terminals have been designed with a floating contact as a design feature on the output 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 (TPM/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)

5.2 - Alarm Wiring

The alarm connections use standard wire wrap pins or set screw connectors depending on the part number ordered. To connect the panel to an alarm system, attach the alarm wires to the appropriate pins (C-NC or C-NO) as outlined below.

Continuity at the fuse fail alarm connector is established at positions C and NC when all the fuses are good (not failed). Continuity is established at positions C and NO when any fuse has blown (failed).

If equipped with a power fail alarm, continuity is established at positions C and NC when the panel is energized or at C and NO when the panel is not energized or a loss of power for that bus has occurred.

If equipped with Major/Minor alarming for external monitoring, the C,NC,NO contacts function as above when you provide a battery (B pin) and return (R pin) signal to the alarm circuitry. This voltage will enable the panels appropriate LED indicator and switches continuity on the alarm pins. The pin labeled X is not used. The voltage supplied to the B and R connections shall be the same as the input voltage to the panel. (I.e. if your input voltage is -48VDC then you shall supply -48VDC signal to the B and R Major pins to enable a Major alarm). When voltage is not present at the B and R pins the associated LED is not illuminated and the remote alarm contacts show continuity between C and NC.

Section 6 – Final Installation

6.1 - Fuse Installation

Orientate and install the correct fuse into its position. 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

TPM FUSES	
PART NUMBER	FUSE AMPERAGE
7500192703	3 AMP
7500192704	4 AMP
7500192705	5 AMP
7500192706	6 AMP
7500192707	7 AMP
7500192708	8 AMP
7500192710	10 AMP
7500192712	12 AMP
7500192715	15 AMP
7500192720	20 AMP
7500192725	25 AMP
7500192730	30 AMP

