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PDD-FT

Fire Panel Interface With EOL Trigger

Installation and Specifications Manual

Details

The PDD-FT board is a fire panel control interface. This board can be used to control DC output based on a fire alarm control panel. Two outputs switch state on alarm.

Features

- Non Latching or Latching mode
- Universal 12VDC or 24VDC Operation
- Reverse polarity protected
- Normally ON & Normally OFF Output
- Output LED's indicate condition
- Outputs can be Triggered with:
    1) N/O or N/C Switch with Supervised (EOL)
    2) N/C Switch with (OVR) over ride
    3) N/C Switch with AUX-IN auxiliary
    4) Ground on any trigger input when (GRN) Jumper is enabled
- Form C Contacts Indicates Trigger Status
- 12 Amp Transfer Relay Contacts

Installation Instructions

1. Mount the PDD-FT board in a suitable location in close proximity to the power supply.
   Note:
    a) Ground fault detection will only work if conductive stand offs are used and power supply enclosure is properly grounded.
    b) As this device is used to power multiple devices ensure that all wiring is of an appropriate gauge for the devices being installed.
    c) The RCI PDD-FT board is for use in a controlled environment. Installation must be in accordance with local building and fire codes. Check with Authority Having Jurisdiction (AHJ) for details prior to installing.
    d) All power limited wiring must be a minimum of .25" from non-power limited wiring.

2. Connect "INPUT" terminals to output of DC supply, paying close attention to polarity of DC output from power supply.

3. Connect devices to be powered to output terminals of PDD-FT control board, paying close attention to polarity requirements.

4. Set jumpers (RST, OVR, AUX, and GRN) as required for proper installation.

5. Connect fire alarm control panel to EOL input terminals, ensure that the 2.2K resistor is installed at the terminals in the fire alarm panel.

   a) See fire alarm control panel installation and operation manual for details about signaling requirements.

   b) Fig's 2-6 in this installation guide will provide details on wiring to the fire alarm control panel.

6. Connect any required monitoring equipment to the trouble and trigger relays using appropriate cabling.

7. The unit is to be powered from the 10 Series power supply or a UL listed power limited power supply.

8. Apply power to power supply to activate control board and test all connected devices.

Specifications

Note: For UL listed power supply

Input
- Input Voltage: 10.4-13.7 @ 12VDC or 22.7-25.2 @ 24VDC
- Typical Current Draw with no Output Load: 70mA

Output
- 12 VDC nominal, 10.4-13.7 VDC, 5A
  24 VDC nominal, 22.7-25.2 VDC, 3A
- 2 Continuous Duty rating: 5A @ 12VDC, 3A @ 24VDC

Note: Total output not to exceed 5A @ 12VDC, 3A @ 24VDC

Monitor Inputs
- EOL (End of Line) Trigger: Trigger at + or – 50% of 2.2K
- OVR Trigger
- AUX Trigger
- Reset Input
- Ground Fault Trigger (see note 1a)

Monitor Outputs
- Trigger Relay Rating: 3A

Environmental
- Product is not for use in outdoor environments

Warning: Improper wiring connections may result in damage to this product.
Mise en garde: Un mauvais raccordement des câbles risque d'endommager ce produit.

Description of PDD-FT Connections

See Fig. 1

Input Power
"-INPUT+": 2 Pos. Terminal block with self clamping screws will accept multiple 12awg wires Universal input 10-29VDC. The input current is 70ma to control relays plus whatever output load is. The positive side of the power is connected to the swing arm of the transfer relay which directs the power to the proper output.

Output Power
4 Pos. Terminal block Self clamping screws will accept multiple 12awg wires. "-N/ON+" are normally ON output power. This output is ON when the PDD-FT is not triggered.
"-N/OFF+" is normally OFF. This output is ON when this unit is triggered. The transfer relay is rated at 15A @ 12VDC and 12A @ 24VDC.

Power LED's
A red led above each output indicates which output is active.

Input Trigger EOL
2 Pos. Terminal block – Will accept 14-28awg wire. This input must see the 2.2K ohm end of line resistor to be in the normal set condition. A change in resistance of + or – 60% will cause the trigger relays to drop out in the Triggered mode. This change in resistance is caused by the supervised wire between the EOL at the fire panel and the PDD-FT being shorted or opened. The EOL supervises the pair of wires.

Input Trigger OVR
2 Pos. Terminal block - Will accept 14-28awg wire. This pair is normally closed and can be connected to an override switch. When OVR is open, unit will trigger.

Input Trigger AUX-IN
2 Pos. Terminal block - Will accept 14-28awg wire. This pair is normally closed and can be connected to an auxiliary device. When AUX-IN is open, unit will trigger.

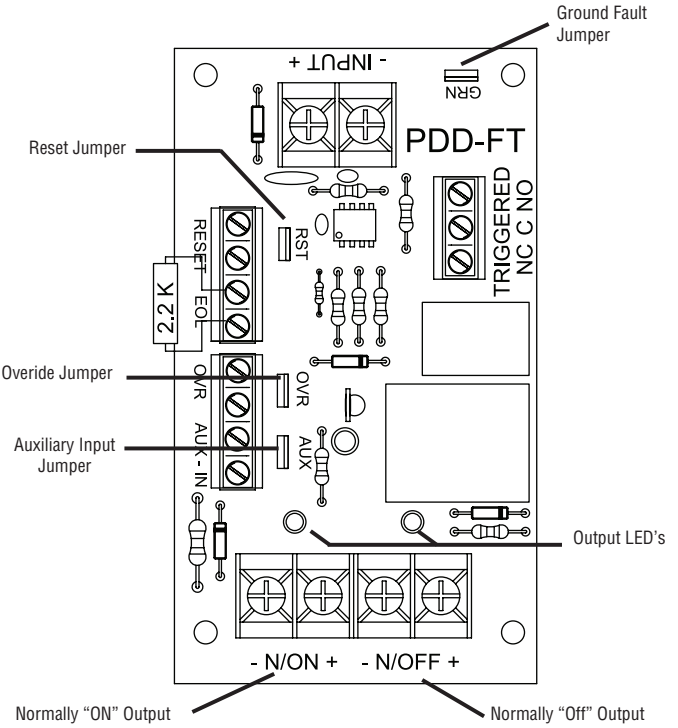
Reset 2 Pos. Terminal block
Will accept 14-28awg wire. When this pair is shorted, input triggers do not latch. If pair is open, the input triggers will latch until alarm is corrected and RESET is momentary closed to reset trigger.

Jumpers RST - OVR - AUX
Are jumpers with handles to short adjacent terminal blocks that are not used. You may move the jumper to one header to open short to enable adjacent terminals.

Jumpers GRN
This jumper is used to enable ground supervision in the inputs. If the jumper is connected to both headers, and the mounting hole adjacent to jumper is connected to ground, a ground on any of the input triggers will cause a trigger.

Trigger Status Terminal block
Will accept 14-28awg wire. Form C Contact with a 3 Amp rating will indicate the condition of trigger. C and NO are normally open in the normal energize not triggered state. C and NC are normally closed in the normal energized not triggered state. These contacts may be used to provide feedback to the FACP or other annunciating devices.

FIG. 1



Application Diagrams

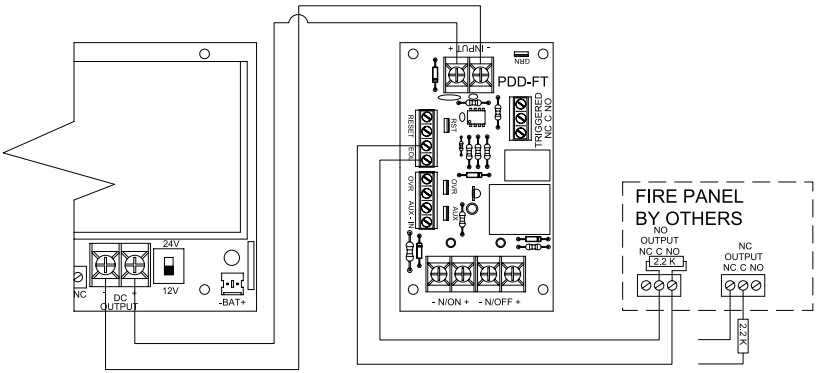


FIG. 2 - Fire Panel Connections for Non-Latching Automatic Reset Operation

This application illustrates how to connect the PDD-FT to a power supply for main input as well as a fire alarm control panel. If wired in this manner, outputs will change state only as long as the fire alarm relay is active. When the fire alarm resets the PDD-FT outputs will also reset.

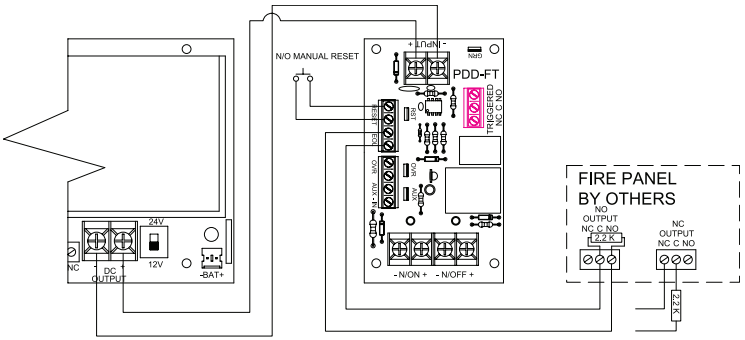


FIG. 3 - Fire Panel Connections for Latching Release with N/O Manual Reset

This application illustrates how to connect the PDD-FT to a power supply for main input as well as a fire alarm control panel.
If wired in this manner, outputs will change state whenever the fire alarm relay activates and remain latched in the triggered state until reset by activating the N/O switch.

Note: Remove RST jumper for manual reset operation.

Remarque: Retirez la bretelle RST pour effectuer une réinitialisation manuelle.

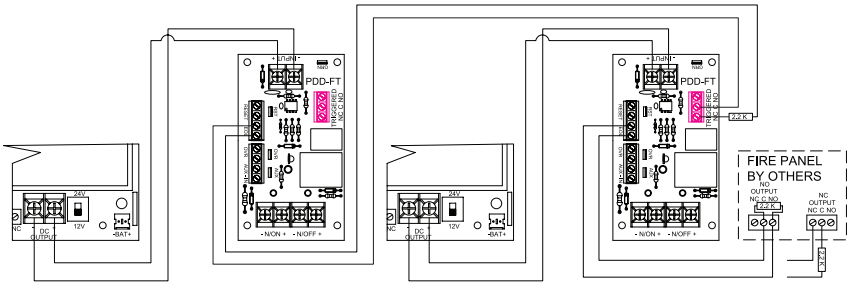


FIG. 4 - Connections for Non-Latching release reset using multiple PDD-FT boards

This application illustrates how to connect the PDD-FT to a power supply for main input as well as a fire alarm control panel. If wired in this manner, outputs will change state only as long as the fire alarm relay is active. When the fire alarm resets the PDD-FT outputs will also reset. Connecting the EOL input of one board to the trigger relay of the next board as shown will allow for override and reset of multiple boards.

Note: The RST jumper must be left in place on all boards for automatic reset operation**.**

Remarque: La bretelle RST doit être laissée en place sur tous les panneaux pour effectuer une réinitialisation automatique.

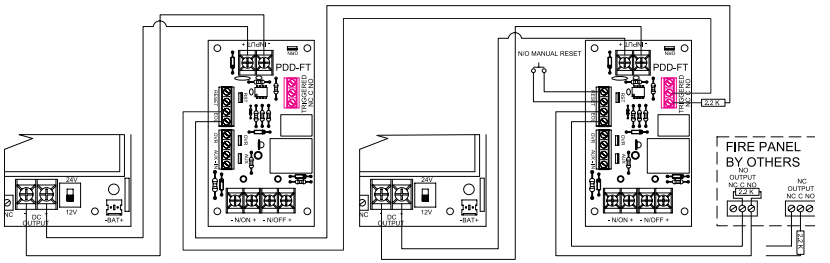


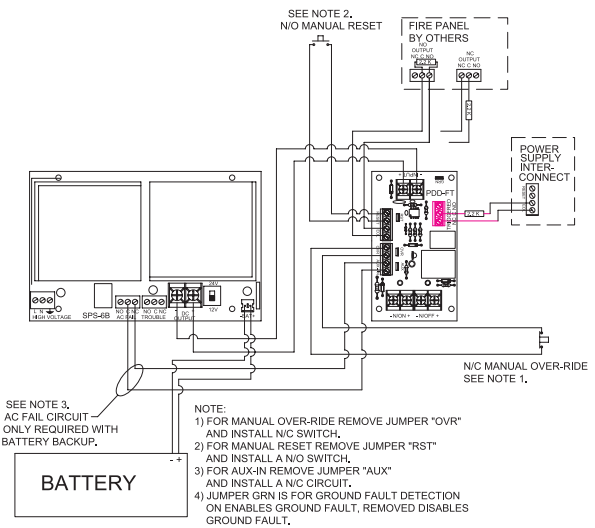
FIG. 5 - Connections for latching release with N/O manual reset using multiple PDD-FT boards (Master & Slave)

This application illustrates how to connect the PDD-FT to a power supply for main input as well as a fire alarm control panel. If wired in this manner, outputs will change state whenever the fire alarm relay activates and remain latched in the triggered state until the Master is reset by activating the N/O switch. Connecting the EOL input of one board to the trigger relay of the next board as shown will allow for override and reset of multiple boards.

Note: The RST jumper must be left in place on all slave boards except the one that is directly connected to the fire alarm Master, along with reset and override switches.

Remarque: La bretelle RST doit être laissée en place sur tous les panneaux asservis, sauf celui qui est directement connecté à l'alarme de feu (d'exploitation), situé près des boutons de réinitialisation et d'annulation.

FIG. 6 - Fire Panel Connections for Latching Trigger with N/O Manual Reset with Battery Backup



This application illustrates how to connect the PDD-FT to an RCI 10-5 for main input, AC failure as well as a fire alarm control panel. If wired in this manner, trigger outputs will change state whenever the fire alarm, or AC failure relays activate. The PDD-FT outputs will remain in the triggered state until both relays have been reset and the N/O manual reset is triggered.

Note: Ensure jumpers for RST, OVR, and AUX IN are removed to allow terminals to operate correctly.

Remarque: Assurez-vous que les bretelles RST, OVR et AUX IN sont retirées afin de permettre aux terminaux de fonctionner correctement.

PDD-FT Series Troubleshooting Guide

Problem	Solution
No DC output from terminals.	- Check AC Power. - Check Power Supply for voltage output. - Check devices connected to outputs for a short circuit. (PTC's may require short to be removed for several minutes before automatically resetting). - Check trigger jumpers. Output LED should be lit if output is active.
Trigger is active and will not reset.	- Check for proper wiring connections on trigger connections. - Ensure that 2.2K resistor is installed at End of Line position in the wiring.
Trouble output relay is de-energized. (Relay terminals are labeled shown in the Normal, energized, "no trouble" condition. Relays are energized when no trouble is detected.)	- Check devices connected to outputs for a short circuit. (PTC's may require short to be removed for several minutes before automatically resetting.)

Notes

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For Technical Support:

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