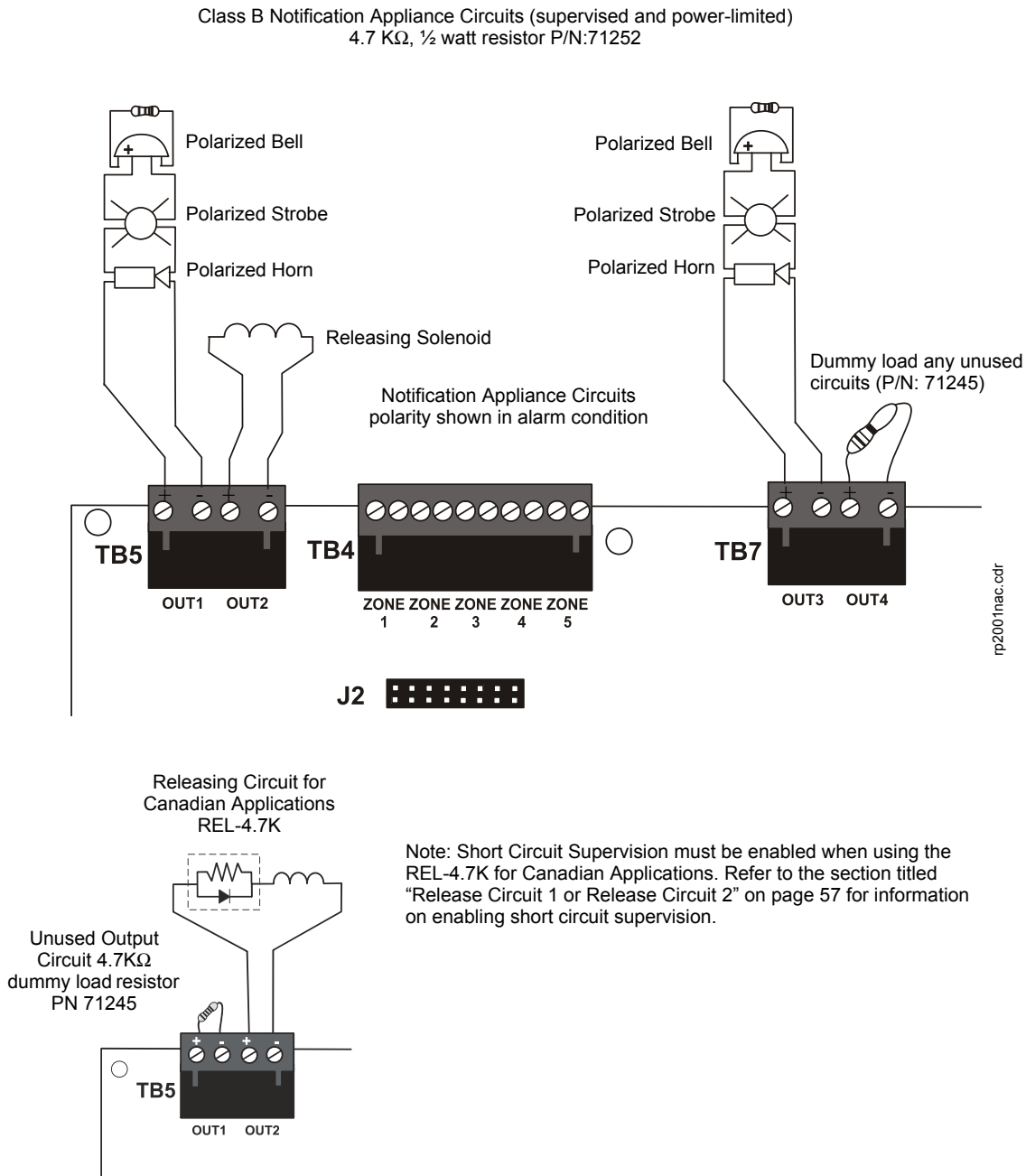


## 2.4 Output Circuits

### 2.4.1 Outputs/Notification Appliance/Releasing Circuits

Each of the four Style Y (Class B) Notification Appliance Circuits can output a maximum of 3.0 amps of current. Total current drawn from these as well as other DC power outputs cannot exceed 7.0 amps (refer to battery calculations section). Each circuit is supervised, power-limited and provides special application power. Refer to the Device Compatibility Document for a listing of compatible notification appliances.

The NACs can be converted to Style Z (Class A) by installing two optional Class A Converter module. Refer to “N-CAC-5X Class A Converter Module” on page 29.



**Figure 2.7 NAC/Output Connections**

## 2.4.2 Special Application DC Power Output Connections

Special Application Resettable and Nonresettable 24 VDC power is available on the RP-2001 control panel.

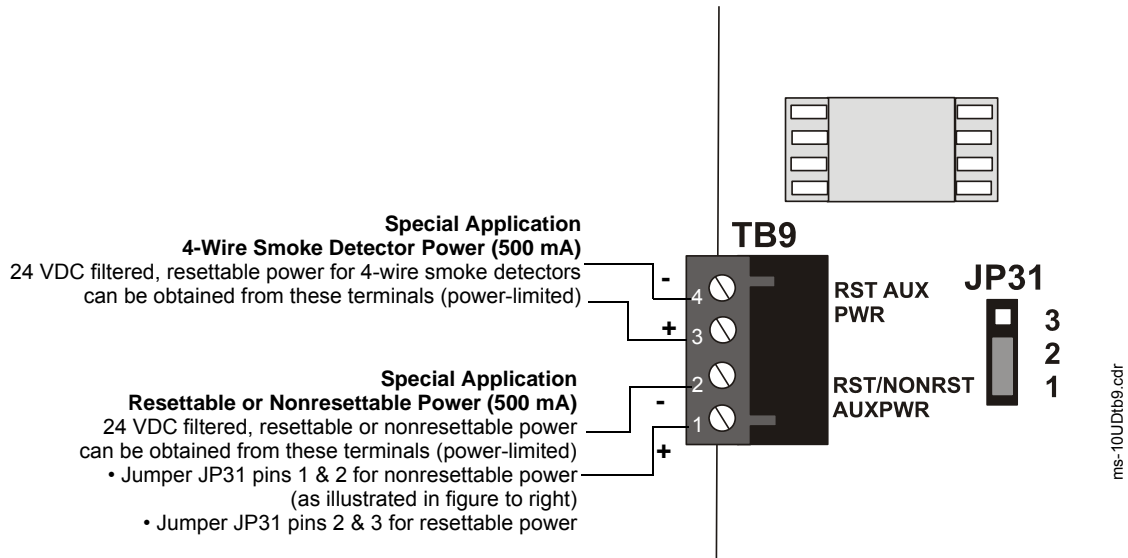


Figure 2.8 Special Application Auxiliary Power

## 2.4.3 Relays - Programmable

The RP-2001 control panel provides a factory default programmed alarm relay, fail-safe trouble relay and supervisory relay. Each relay can be programmed to activate for other conditions (refer to “On-Board Relays” on page 60). Each Form-C relay is rated for 2 amps @ 30VDC (resistive) and 0.5 amps @ 30 VAC (resistive).

*Note that relay connections must be power-limited.*

**Note:** Relay contacts are shown with power applied to the panel and no active troubles, alarms or supervisories. The Trouble Relay is a fail-safe relay which will transfer on any trouble or total power failure.

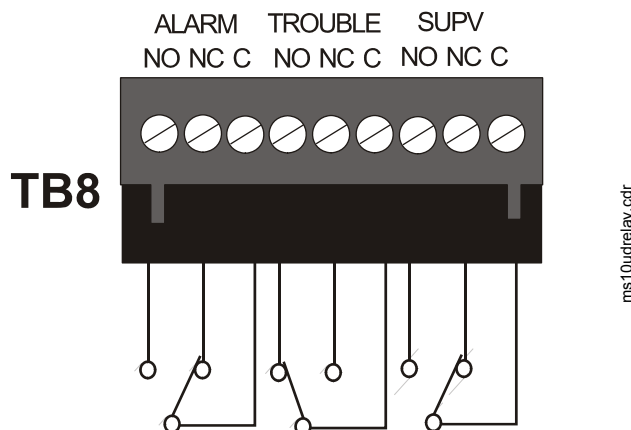


Figure 2.9 Relay Terminals

## 2.5 Power-limited Wiring Requirements

Power-limited and nonpower-limited circuit wiring must remain separated in the cabinet. All power-limited circuit wiring must remain at least 0.25” (6.35 mm) away from any nonpower-limited circuit wiring. Furthermore, all power-limited and nonpower-limited circuit wiring must enter and exit the cabinet through different knockouts and/or conduits. A typical wiring diagram is illustrated below.

**\*Note:** In certain applications, an NAC (power-limited circuit) could be adjacent to a releasing circuit (nonpower-limited without supervision kit REL-4.7K)

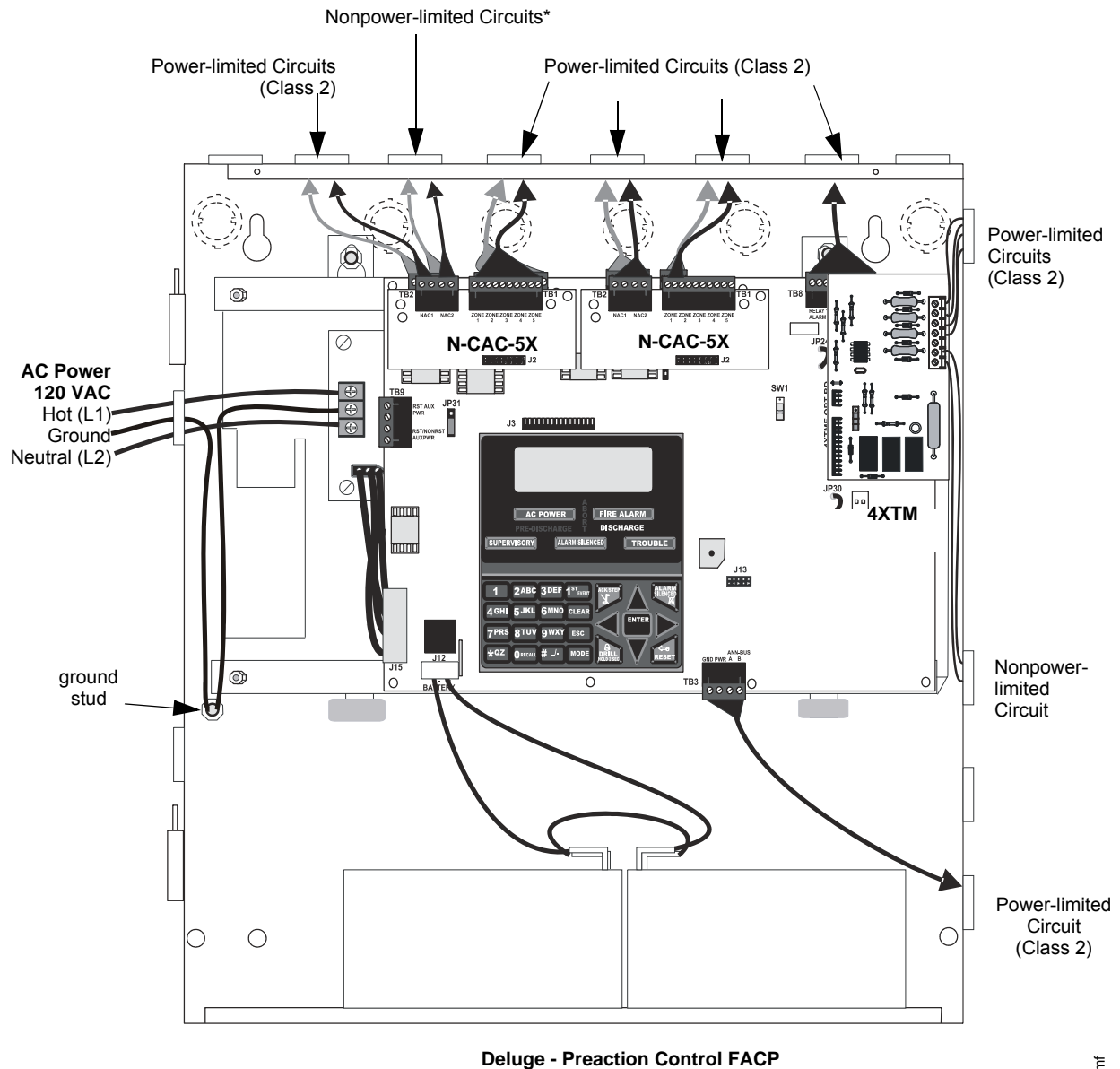


Figure 2.10 Typical UL Power-limited Wiring Requirements

RP2001cULwire.wmf

## 2.6 Installation of Optional Modules



**CAUTION: REMOVE ALL SOURCES OF POWER**  
 REMOVE ALL POWER (AC AND DC) BEFORE INSTALLING OR REMOVING MODULES OR WIRING.

### 2.6.1 N-CAC-5X Class A Converter Module

#### Installation

The N-CAC-5X Module can be used to convert five Style B (Class B) Initiating Device Circuits to Style D (Class A) and the two Style Y (Class B) Notification Appliance Circuits to Style Z (Class A). Two N-CAC-5X Modules are required to convert all Output Circuits and/or Initiating Device Circuits to Class A. The modules plug into connector J2 which is located at the top left of the main circuit board and J7 which is located at the top center of the main circuit board.

To install the N-CAC-5X, remove the two main circuit board mounting screws referenced in the following illustration and replace with the two supplied male/female standoffs in the locations indicated in the following figure. Carefully align the connector on the N-CAC-5X with J2 on the FACP main circuit board and press the module securely into place. Make certain the pins are properly aligned to prevent bending or breaking of any connector pins. Secure the N-CAC-5X to the standoffs with the screws that were just removed.

To install the second N-CAC-5X on J7, remove the main circuit board mounting screw referenced in the following illustration and replace with the supplied male/female standoff. Insert the supplied plastic standoff in the location indicated in the following illustration. Carefully align the connector on the N-CAC-5X with J7 and press the module securely into place. Make certain the pins are properly aligned to prevent bending or breaking of any connector pins. Secure the N-CAC-5X to the metal standoff with the screw that was just removed.

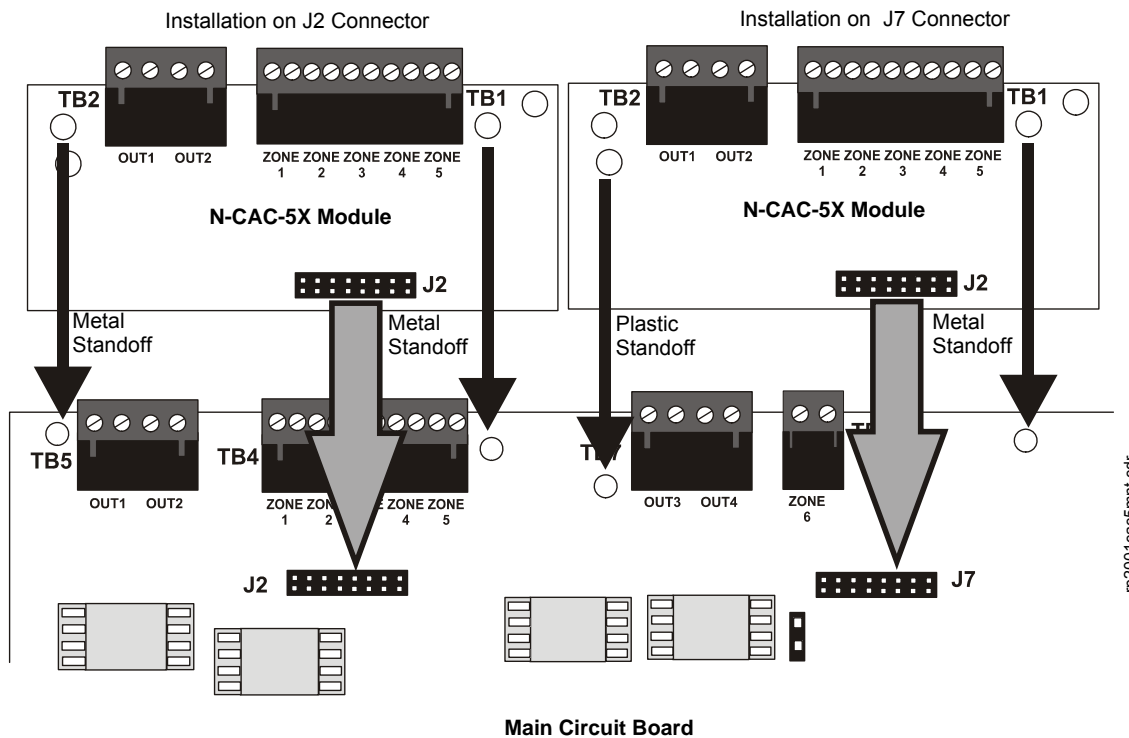


Figure 2.11 N-CAC-5X Module Installation

### Wiring NACs and IDCs for Class A

Wire the Style Z (Class A) Notification Appliance Circuits using TB5 of the FACP main circuit board and TB2 of the N-CAC-5X module. Wire the Style D (Class A) Initiating Device Circuits using TB4 of the FACP main circuit board and TB1 of the N-CAC-5X. Note that the wiring will be identical when using TB7 NAC and TB6 IDC of the FACP. Make certain to observe polarity when connecting the devices to the circuits. The B+ and A+ terminals must comprise the feed and return for the positive side of a device and the B- and A- terminals must comprise the feed and return for the negative side of a device. To configure any of the zones for Class B when the N-CAC-5X is installed, simply wire to the B+ and B- input on the FACP terminal(s) and install the End-of-Line Resistor after the last device on the circuit. Do not wire to the corresponding A+ and A- terminals on the N-CAC-5X module.

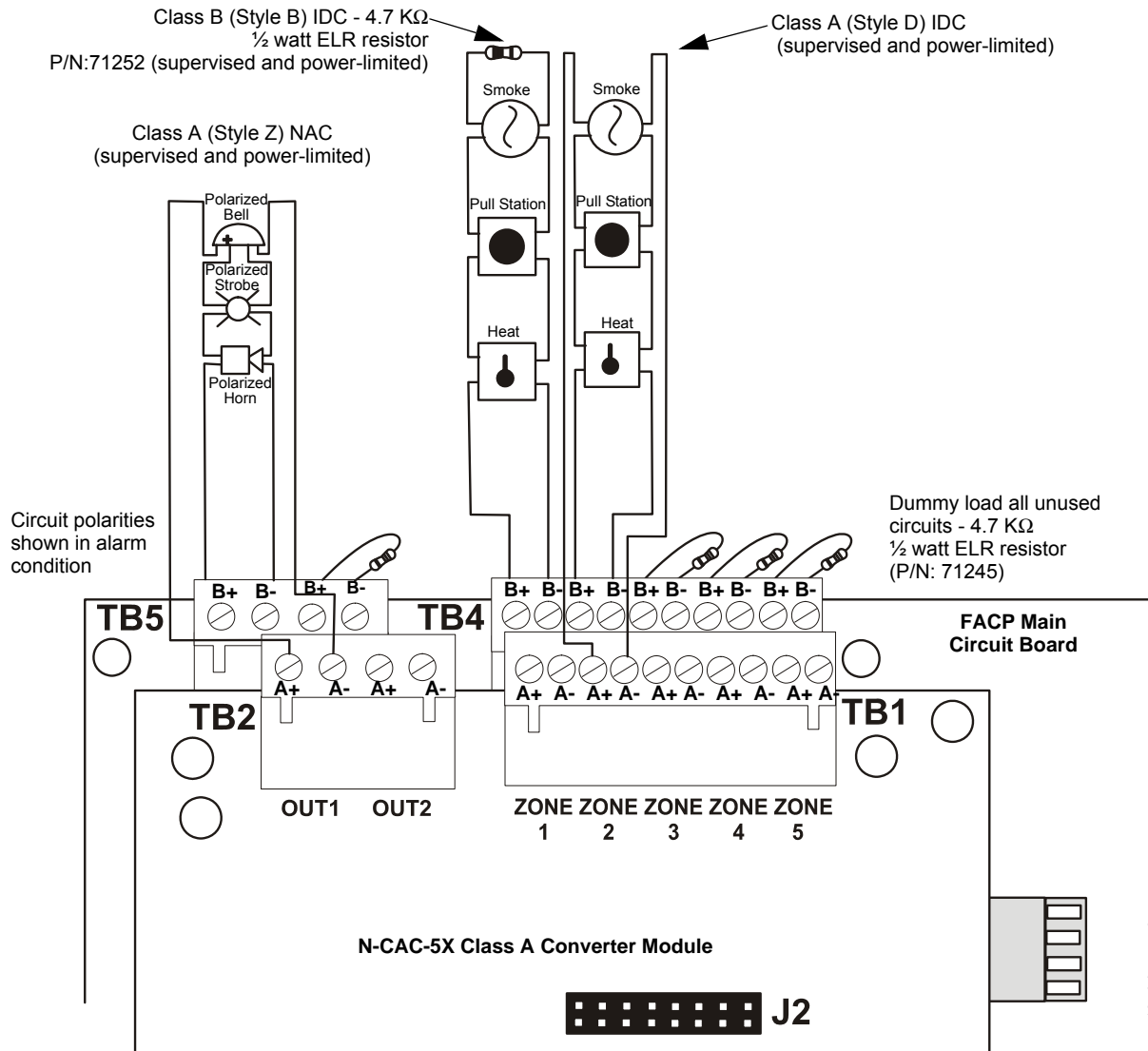


Figure 2.12 Wiring NACs and IDCs for Class A Operation

## 2.6.2 4XTM Municipal Box Transmitter Option Module

The 4XTM module can be plugged into connectors J4 and J5 on the main circuit board.

The following steps must be followed when installing the 4XTM module:

1. Remove all power (AC and DC) from the FACP before installing the modules
2. Cut jumper JP30 on the main circuit board to allow the control panel to supervise the placement of the 4XTM option module
3. Install the two supplied metal standoffs in the locations indicated. These standoffs provide the required earth ground protection
4. Carefully plug the connectors on the option module into connectors J4 and J5 on the FACP main circuit board, being careful not to bend any pins
5. Secure the option module to the standoff on the main circuit board with the supplied screws
6. When the installation has been completed, connect the wiring to the modules as indicated in the following sections
7. Test system for proper operation

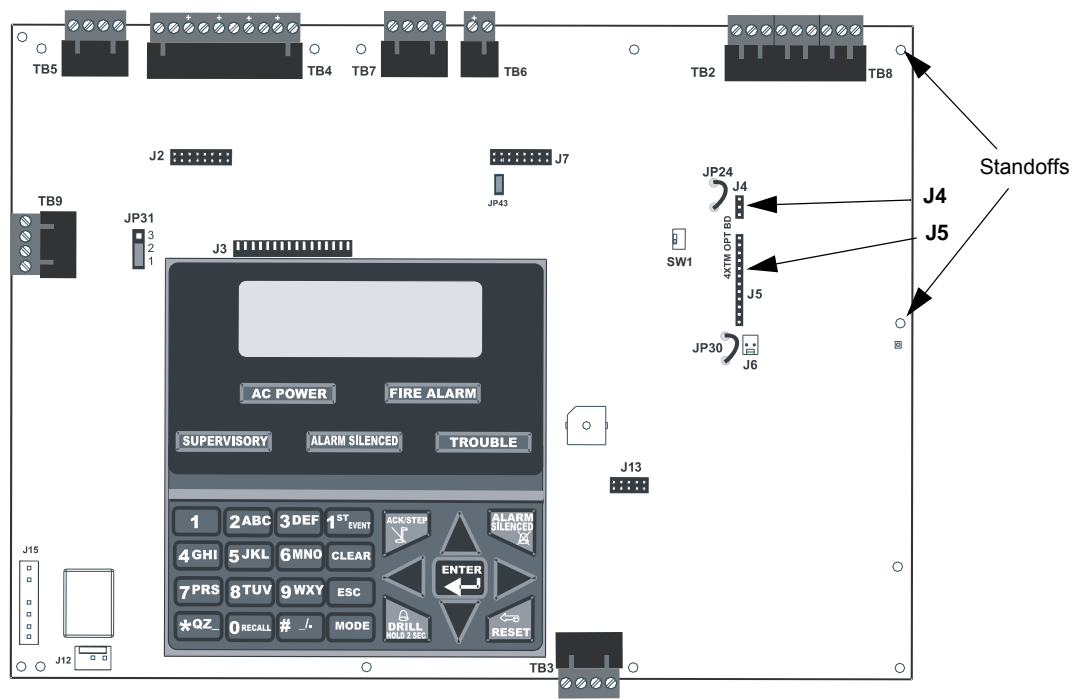


Figure 2.13 4XTM Option Module Connection

### 4XTM Transmitter Module Installation

The 4XTM provides a supervised output for a local energy municipal box transmitter in addition to alarm and trouble reverse polarity. A jumper option allows the reverse polarity circuit to open with a system trouble condition if no alarm condition exists. A disable switch allows disabling of the transmitter output during testing to prevent accidental calling of the monitoring service.

#### Local Energy Municipal Box Service (NFPA 72 Auxiliary Fire Alarm Systems):

Supervisory Current: 5.0 mA

Trip Current: 350 mA (subtracted from notification appliance power)

Coil Voltage: 3.65 VDC