In Fig. 3, Cat. Nos. 5210-TM and 5277-TM should only be used for the 3 Phase. 4 wire with Ground. Wiring configuration. DO NOT use with a Delta configuration.

In Method 2, Fig. 8, the SPD Panel is connected through dedicated circuit breakers of 30 amps. For maximum surge protection the SPD Panel should be mounted as close as possible (no more than 18 inches) from the circuit breaker panel. Use wire size #10 to #3 AWG stranded. In a variation of this connection, the panel circuit breakers can also be used to connect the SPD panel to the circuit within an approved connection enclosure. In this case, the circuit breakers must be rated for the maximum phase current. The SPD Panel is connected to the circuit breaker panel using 3-pole disconnect switch. This facilitates SPD disconnection for inspection or maintenance without disconnection of power to the circuit.

5. **Conduit attachment**: A 2-inch hole in the enclosure is recommended to be used for in conduit mounting of the panel.

**CAUTION**: THE ENCLOSURE MUST BE PROPERLY GROUNDED BY USE OF #10 AWG MINIMUM SIZE COPPER WIRE ROUTED TO THE "G" TERMINAL LUG.

6. **Attaching the connection leads - SPD to power lines**

**CAUTION**: THE FOLLOWING INSTALLATION SHOULD BE PERFORMED WITH THE POWER OFF: ALWAYS TURN POWER OFF BEFORE WORKING ON THE SPD PANEL. SUCH CAN CHANGING FUSES OR REPLACING THE 52000 MODULES. DO NOT OIL OR GREASE ANY PARTS OR MOVING PARTS.

The ground terminal within the SPD Panel is connected to the metal enclosure. For isolated ground systems, the insulated ground wire should not be connected to the In-Out ground terminals. However, if indicated in step 6, the enclosure must be grounded via a ground conductor to the ground terminal. With the power OFF, connect phase leads to L1, L2, and L3 as indicated in step 4. Connect the neutral, for WYSE systems, to the neutral terminal. Connect ground to ground terminal. Figs. 7 and 8 illustrate alternate connection systems which use circuit breakers (either dedicated or load sharing, or a disconnect switch). Connection leads should be cut to length and wired to Terminals. Lead wire insulation should not be cut or damaged except to expose ends for connection.

**7. Reconnect connection**: Relay status circuit and contacts rated at 7 Amps. The voltage rating is 240VAC or 30VDC. Contacts accommodate 20-12 AWG wire secured to terminals using 3.5 in.-lbs. of torque. Wiring must be done to meet NEC/CEC, AS APPLICABLE.

**NOTE**: IF SURGE SUPPRESSION FAILURE HAS OCCURRED, A TRANSIENT SENSE CIRCUIT HAS BEEN TRIPPED.

8. **Activate the system by turning AC power ON**: The Green Module Status lights should be monitored and verified through the LCD panel and the Green LED(s) must be lit. In the event where the Green LED is turned OFF, it would indicate a problem with the isometric circuitry so as to alert the user that there is a problem. When this occurs, the Flashing Green LED, audible beep tone, and remote transmitter are activated. When multiple LEDs are flashed, it is recommended that the unit is replaced. When only one LED is flashing OFF, it is probable that the unit’s circuitry is being powered from the battery. In order to conserve battery life, it is recommended that the user press the disable switch to return the flash signal and audible tone to OFF. When this occurs, the Red LED will turn OFF. Press the press disable switch in order to reactivate the diagnostic warning tone.

**Battery Function**: In the unlikely event that more than one fuse has blown, a 9-volt alkaline battery is utilized to power the diagnostic circuitry so as to alert the user that there is a problem. When this occurs, the Flashing Red LED, audible beep tone, and remote transmitter are activated. When multiple Red LEDs are flashed, it is recommended that the module is replaced. When only one Red LED is flashing OFF, it is probable that the unit’s circuitry is being powered from the battery. In order to conserve battery life, it is recommended that the user press the disable switch to return OFF. When this occurs, the Red LED will turn OFF. Press the disable switch in order to reactivate the diagnostic warning tone.

**Battery Backup**: The unit is shipped with the battery disable switch in the disable position so the battery is not utilized until necessary. When the 9-volt battery is power to the modules. This can be due to the absence of main phase power, or a blown fuse caused by module failure due to over-temperature (a condition which causes the Fault indication). It also transmits the occurrence to a remote indicator (an accessory item) via an optically isolated Class II wire pair.

**Low Battery Indication**: An Illuminated Yellow LED indicates an abnormally low battery condition. This can be due to low battery voltage or a missing battery. When this happens the Red LED will flash, the audible beep will sound, and the remote indicator will be enabled. When the user is alerted to the condition, the user is recommended to check the battery and replace it if needed. The module diagnostic warning indicator, if wired in, will cause the Red LED to flash, the Low Battery LED to illuminate, and the High Battery LED to turn OFF. When the low battery warning is enabled, the remote indicator will be enabled. When the low battery warning is enabled, the remote indicator will be enabled. When the user replaces the battery, the Disable Battery switch should be momentarily pressed. A fresh battery, when replacing, will cause the Red LED to turn OFF and will re-enable the Low Battery warning function after pressing the battery disable switch.

**Battery Replacement**: Press battery holder and slide battery out. Be sure to follow the battery polarity markings on the battery compartment.

**Test Switch**: A "Press to Test Switch" enables the user to test for proper operation of all the functions described above. When the test switch is held down, the following functions will occur:

- The Yellow low battery LED will illuminate.
- The Red warning LED will flash.
- The Red audible tone will occur.
- The Remote Supervisor Panel warning indicator (an accessory item), if wired in, will be activated, also testing the Remote Supervisor Panel.
- The Remote Supervisor Panel warning indicator is located on the inside panel or door for the panel of the Green LED indicators and their designated function.

**Fault Indication**: A flashing Red warning LED, in addition to an audible beep tone, indicates loss of power to the module. This can be due to the absence of main phase power, or a blown fuse caused by module failure due to over-temperature (a condition which causes the Fault indication). It also transmits the occurrence to a remote indicator (an accessory item) via an optically isolated Class II wire pair.
Table 1 - Diagnostic Indicator Functions:

<table>
<thead>
<tr>
<th>Mode</th>
<th>Fault LED (Red)</th>
<th>Beepers (Audio Alarm)</th>
<th>Remote</th>
<th>Module LEDs (Green)</th>
<th>Battery Status LED (Yellow)</th>
<th>Battery Disable (Low Battery)</th>
<th>Self Test (&quot;Test&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>Module Fault</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>Low Battery</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>No AC Power</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
</tr>
</tbody>
</table>

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