# Alarm Splitter Module Installation & Setup

*Description*

The Alarm Splitter Module (P/N 9800-4451) is a central office panel component designed by System Studies Incorporated for use with the Digital Display Panels. Sized for installation in a standard 23" wide equipment rack, the alarm splitter makes it possible to direct the panels' Dual Digital Panel Meter (DDPM)* flow and pressure contact alarms to two separate office monitors: the 289H / 289H-M LSS and a secondary alarm monitor, such as a Dantel. One Alarm Splitter Module will accommodate up to 12 DDPM components, plus one additional contact alarm—for a total of 25 devices.

The front of the Alarm Splitter Module is equipped with 25 LEDs, each of which represents a single contact alarm (Figure 1). When an LED is illuminated, the red diode indicates that the designated contact alarm is activated. LEDs are arranged sequentially left to right, starting with the high flow contact alarm for the DDPM designated as #1, followed by the DDPM's low pressure contact alarm. This sequence is repeated for each DDPM according to its position in the rack.

*DDPM Numbering Sequence*

***Note:*** The correct numbering of the panel assembly's DDPMs—when viewed from the front—should be from top to bottom (and left to right, in the case of Dual Digital Pipe Panels). This is also the pin-out order for the pre-wired dedicated connector block and cable which connects the contact alarm portion of the block (right side) to the Alarm Splitter Module. To help confirm the correct designation of the digital panels' contact alarm devices, numeric decals identifying panel High Resolution Dual Transducers are installed at the back of the panel assembly on the transducers' wire covers. These numbers also represent the correct DDPM sequence.


**Figure 1: Alarm Splitter Module (front view)**

To help you more easily associate alarm splitter LEDs with the various panel contact alarms, a silk-screened white rectangular box is positioned below each pair of LEDs. Once you have identified which panel contact alarms are associated with what pair of LEDs on the alarm splitter, you can use an indelible marker pen to write the number of the DDPM that corresponds to the LEDs in the rectangular box located below them. Then write the same number in the similar box at the designated DDPM on the face of the digital panel.

* The Dual Digital Panel Meter is the flush-mounted panel device which includes the LED displays for flow and pressure, the alarm setup and adjustment buttons, internal wiring circuitry, and the cabling for the power supply and monitoring device pairs (both the High Resolution Dual [pressure /flow] Transducer and the high flow and low pressure contact alarms).

## Power Requirement

Located on the back of the Alarm Splitter Module are cutouts for a 2-pair power module and three 25-pair female amphenol connectors—one for the incoming connector block cable and two for the outgoing monitor cables (Figure 2). Like the Digital Display Panels, the Alarm Splitter Module is intended to be powered by –24VDC. However, if the only available power for the digital panel components is CO battery or a 117V AC to -48V DC power supply, two options are available: 1) use a -48V DC to -24V DC converter, or 2) modify the Alarm Splitter Module's circuit board.

**Figure 2: Alarm Splitter Module (back view)**

*Using DC to DC Converter*

If you are using a -48V DC to -24V DC converter as your power source, run a 20 or 22 gauge pair of wires from the converter to the Alarm Splitter Module as described in the procedure below.

***Procedure:***

1. Turn OFF the power switch at the DC to DC converter.
2. Connect the power pair on one end to an available set of output lugs on the DC to DC Converter. Make sure to identify the –24VDC conductor and the common (ground).

3. Run the pair along the side of the panel and over to the Alarm Splitter Module.


**Figure 3: Power Module**

4. Identify and remove the green power module from the back of the Alarm Splitter Module by pulling it straight out from the unit (Figure 3).
5. Insert a bare end of the –24VDC power lead into the lower left slot. Make sure that it is securely in place.
6. Similarly, insert the common (ground) into the other slot and make sure it is fastened securely.
7. Replace the power module, making sure that it is seated properly.
8. Turn ON the power switch at the DC to DC Converter.

*Modifying Alarm Splitter Module for -48V DC Power*

As mentioned above, another option for supply power to the Alarm Spitter Module is to modify the unit's circuit board to enable direct -48V DC power input. The procedures for performing this simple procedure is described below:

***Procedure:***

1. Turn OFF the power switch at the DC to DC converter.
2. Using a Phillips head screw driver, carefully remove the screws located on top of the Alarm Splitter Module chassis.
3. Slide the chassis cover open to reveal the module's circuit board.
4. Identify the W1 jumper which is located at the bottom left corner of the circuit board near the power module (when viewed from behind and above). Photo 1 identifies this jumber position.

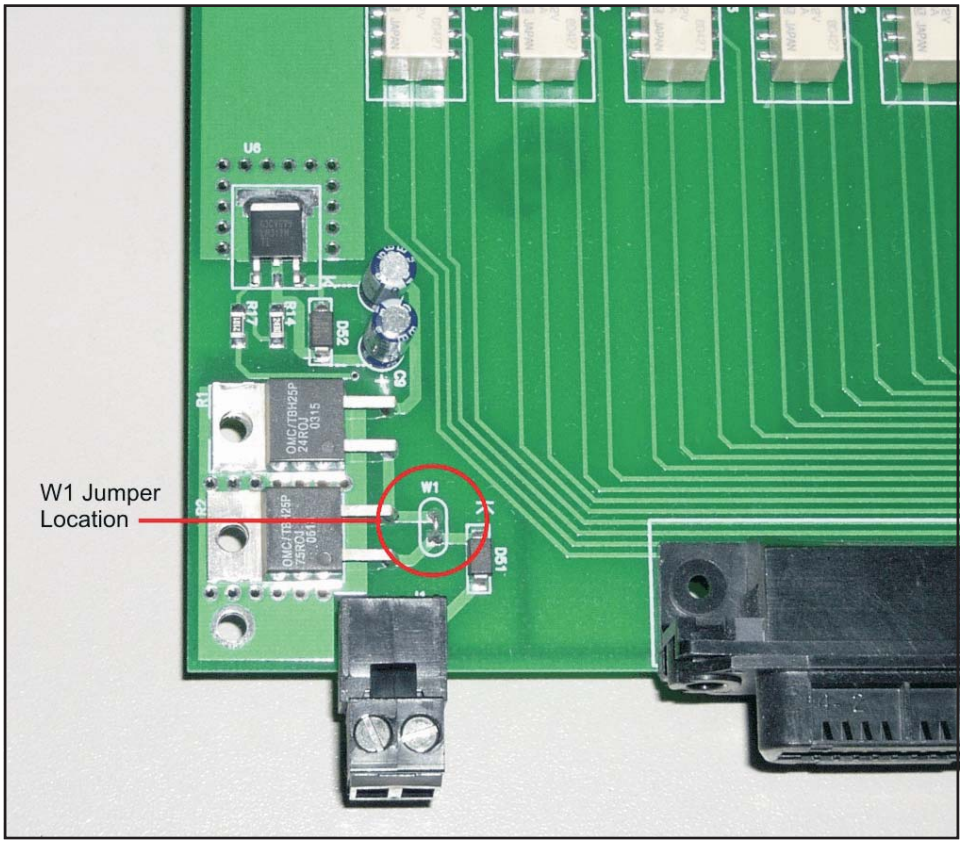


**Photo 1: Circuit Board Power Components**

5. Using a pair of wire snippers, carefully snip the W1 jumper, making sure that the connecting wire is completely severed (Photo 2).

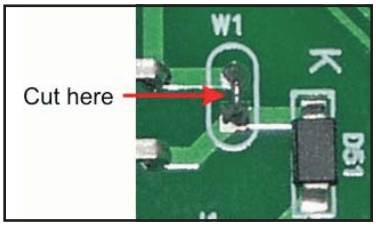


**Photo 2: Cut W1 Jumper**

6. Remove the severed material and replace the chassis cover, making sure that it is secured to the frame with the original Phillips head screws.

7. Connect the power leads from the -48V DC source as described above for the DC to DC Converter wiring and power up the unit as described.

## Cabling

*Input and Output Cable Designations*

The simplest part of installing the Alarm Splitter Module with your digital panel equipment is running the cables. A 25-pair male to male cable is required to complete the cabling between the rack's connector block and the alarm splitter. Please note that the panel assembly's contact alarm pairs are terminated on the right side of the connector block.

1. Insert one end of the male/male cable into the appropriate 25-pair connector located at the bottom of the connector block (third connector from the left).

2. Place the other end of the cable into the single 25-pair INPUT connector located on the left side of the Alarm Splitter Module (next to the power module). Make sure both cables are fastened securely.

3. Next run a male/male cable from the module's OUTPUT 1 connector to the assigned dedicated card in the 289H or 289H-M LSS. Please note that if you are using a 289H-M LSS, you will need to combine transducer pairs and contact alarm pairs on the 289H-M's dedicated card.

4. Another 25-pair male/male cable needs to be placed from the Alarm Splitter Module's OUTPUT 2 connector to the Dantel contact alarm monitor.

Once all powering and cabling requirements have been fulfilled, the Alarm Splitter Module is ready for operation. For optimum performance, please confirm that the contact alarm devices are programmed into the PressureMAP and Dantel databases, as required.

If you have any specific questions regarding the installation or use of this product, please contact System Studies Incorporated.

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