B23-41071 ALARM DISPLAY UNIT

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About this Practice:

This practice has been reissued to:

- Minor formating changes. No change to content.

Reissued Practices: Updated and new content can be identified by a banner in the right margin.

UPDATED

Issue date: November 1999

CAUTION

- Install or remove modules from the shelf only when the power is off. If you install a module in the shelf with the power on, the internal circuitry may suffer damage and the product warranty will be void.
- Remove and install circuit boards only in a static-safe environment (use antistatic wrist straps, smocks, footwear, etc.).
- Keep circuit boards in their antistatic bags when they are not in use.
- Do not ship or store circuit boards near strong electrostatic, electromagnetic, magnetic, or radioactive fields.
- For more complete information on electrostatic discharge safety precautions, refer to Bellcore™ Technical Reference # TR-NWT-000870.

ORDERING INFORMATION

NOTE: This section lists the different options available for this product. To order any of the available options, contact Dantel Inside Sales through our toll-free number, **1-800-432-6835.**

OPTION NUMBER	FEATURES
B23-41071-00	Alarm Display Unit
A25-00020-00	Replacement Lamp #48PSB
A25-00021-00	Lens Cap Color Red
A25-00022-00	Lens Cap Color Clear
A25-00023-00	Lens Cap Color Amber
A25-00024-00	Lens Cap Color Green

GENERAL DESCRIPTION

The 41071 Alarm Display Unit provides audible and visual alarm indicators for Dantel's 460 Alarm and Control System.

You can wire the unit for critical, major, and minor alarms. The unit accepts up to 40 ground inputs from the 460 ACS equipment. The inputs are arranged into three groups to activate the different alarms.

Two red lamps on the front of the display box indicate critical and major alarms, and an amber lamp indicates minor alarms.

All alarms also activate an audible alarm, which sounds when the ON/ACO switch on the remote switch box is in the ON position. You can change the alarm volume by adjusting a screw on the right side of the display box.

When the ON/ACO switch is in the ACO (Alarm Cut-Off) position, the audible alarm is disabled and the clear lamp lights on the front of the display box.

A push button on the remote switch box tests the lamps and audible alarm.

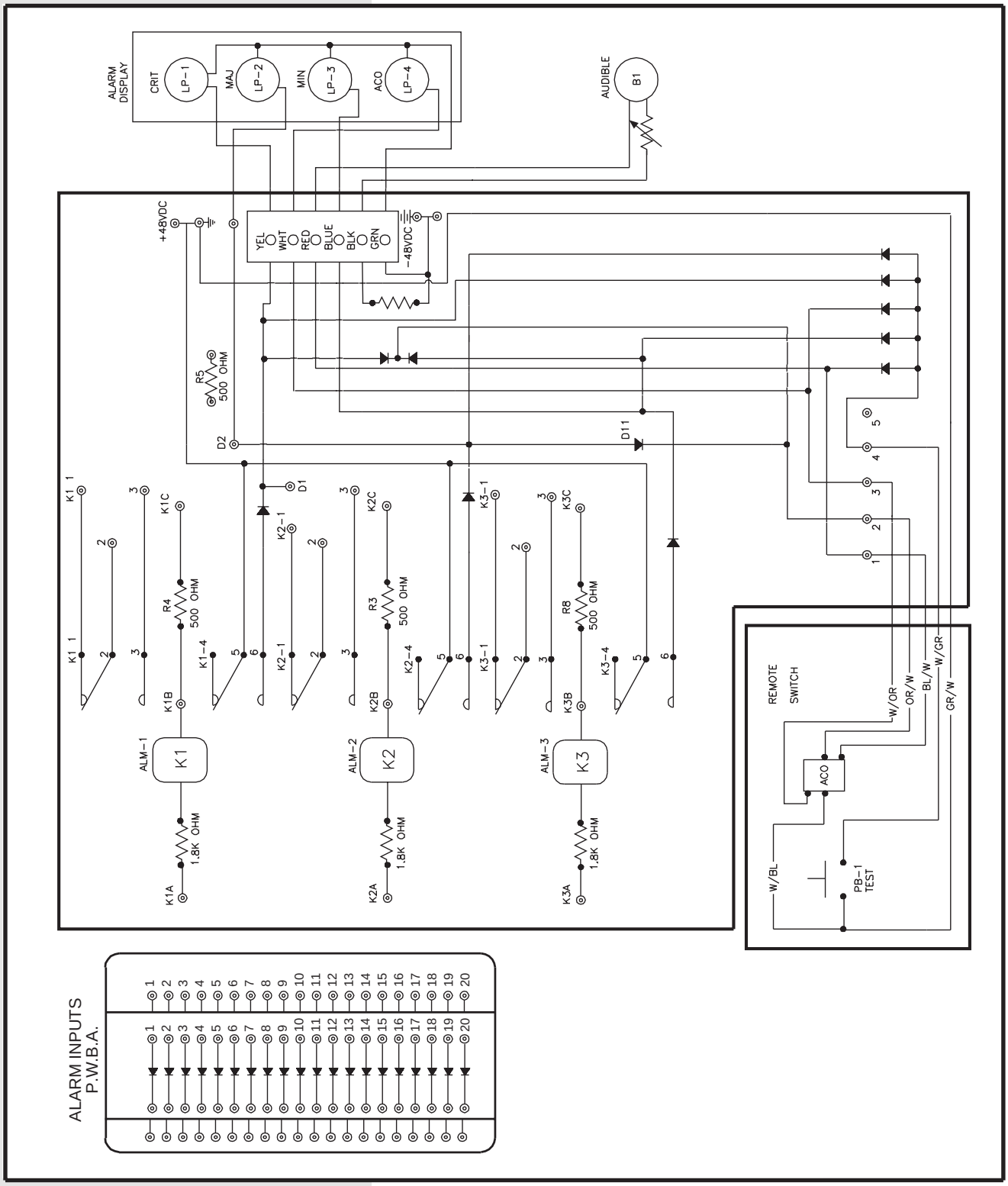
CIRCUIT DESCRIPTION

The schematic diagram for the 41071 Alarm Display Unit is shown in Fig. 1.

- Ground alarm inputs are connected to the three relay coils, K1, K2, and K3 through the two banks of isolation diodes.
- When a relay is energized, the corresponding lamp lights and the audible alarm sounds.
- The audible alarm sounds when there is an alarm if the remote ON/ACO switch is in the ON position. You can change the alarm volume by adjusting a screw on the right side of the display box. When the ON/ACO switch is in the ACO (Alarm Cut-Off) position, the audible alarm is disabled and the clear lamp lights on the front of the display box.
- Each of the relays has a set of contacts for sending remote alarms. A 500-ohm resistor (R5) is furnished to provide optional strapping for any one of the relay outputs, if required.
- A push button on the remote switch box tests the operation of the lamps and audible alarm.

CIRCUIT DESCRIPTION

FIG. 1 - SCHEMATIC, 41071 ALARM DISPLAY UNIT



APPLICATION INFORMATION

The Alarm Display Unit can be installed wherever audible and visual alarm indicators are needed (for example, at the end of an equipment aisle).

The Alarm Display Unit consists of two parts:

- The alarm display box
- A remote switch box with a 12-foot cable

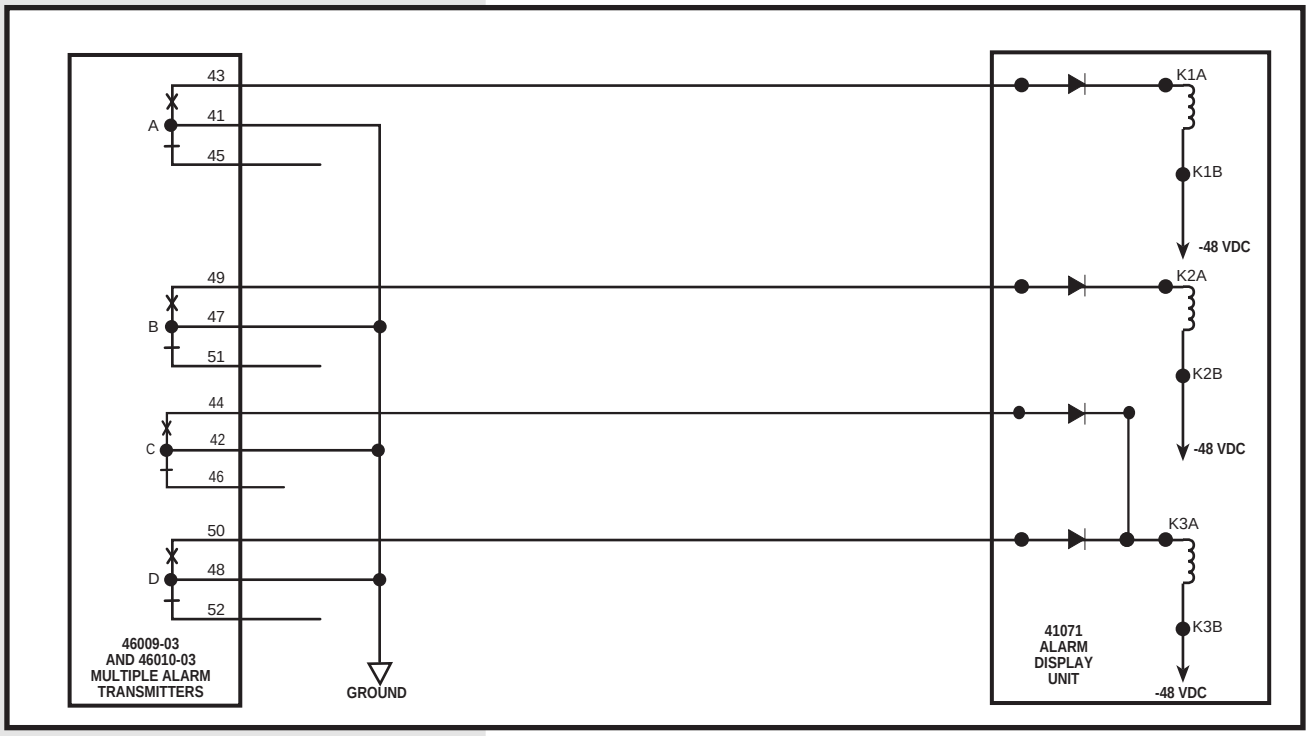
You can mount the display box at ceiling level and the switch box at floor level.

The 41071 Alarm Display Unit can be used with the following devices:

MULTIPLE ALARM TRANSMITTERS (MATS):

Inputs to the Alarm Display Unit can come from the A through D alarm level relay outputs from Dantel's 46009 and 46010 Multiple Alarm Transmitters (MATs). Refer to Fig. 2.

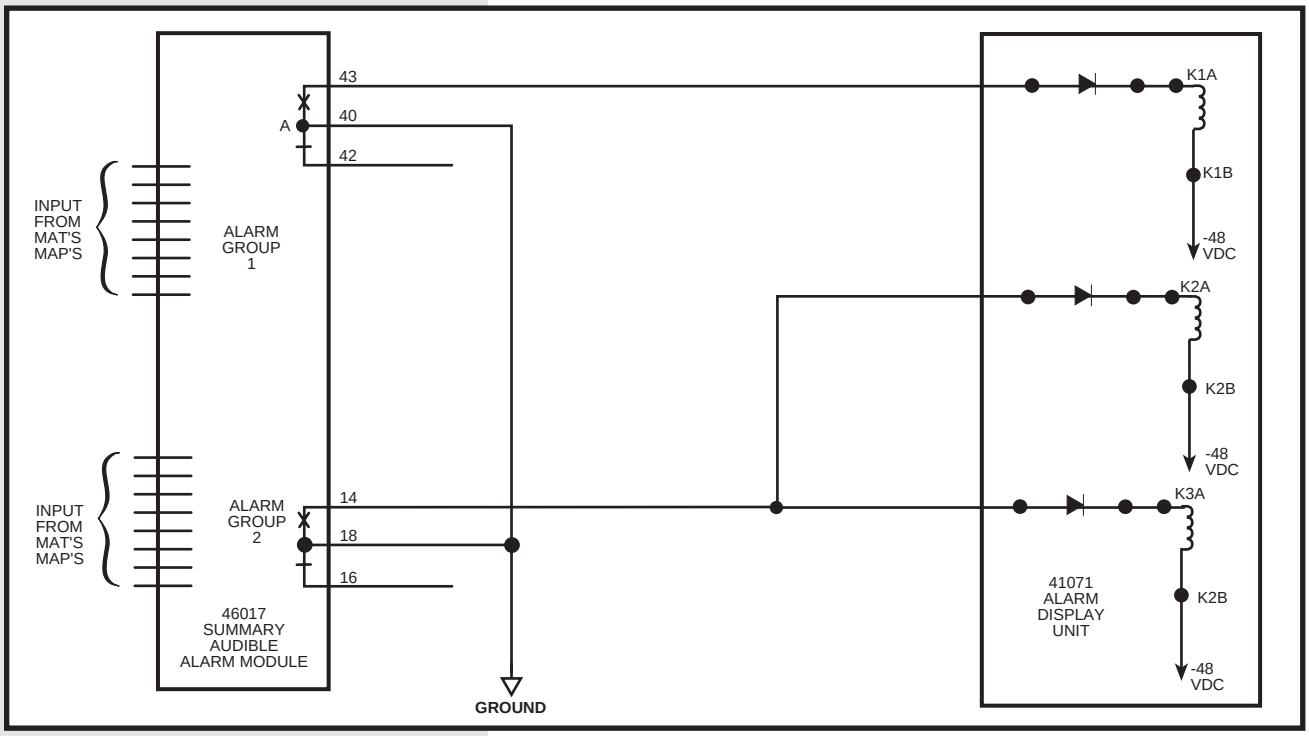
FIG. 2 - TYPICAL RELAY CONNECTIONS, 46009 AND 46010 MULTIPLE ALARM TRANSMITTERS



SUMMARY AUDIBLE ALARM MODULE:

You can tie alarm outputs from the relays of Dantel's 46017 Summary Audible Alarm Module (SAAM) to the Alarm Display Unit's inputs. The SAAM has two groups of alarms. Each group has eight inputs but only one output. As a result, the SAAM can accept only two levels of alarms, which can come from MATs or Dantel's 46020 Multiple Alarm Processor (MAP). To report all four alarm levels (A, B, C, D) you need two SAAMs. Refer to Fig. 3.

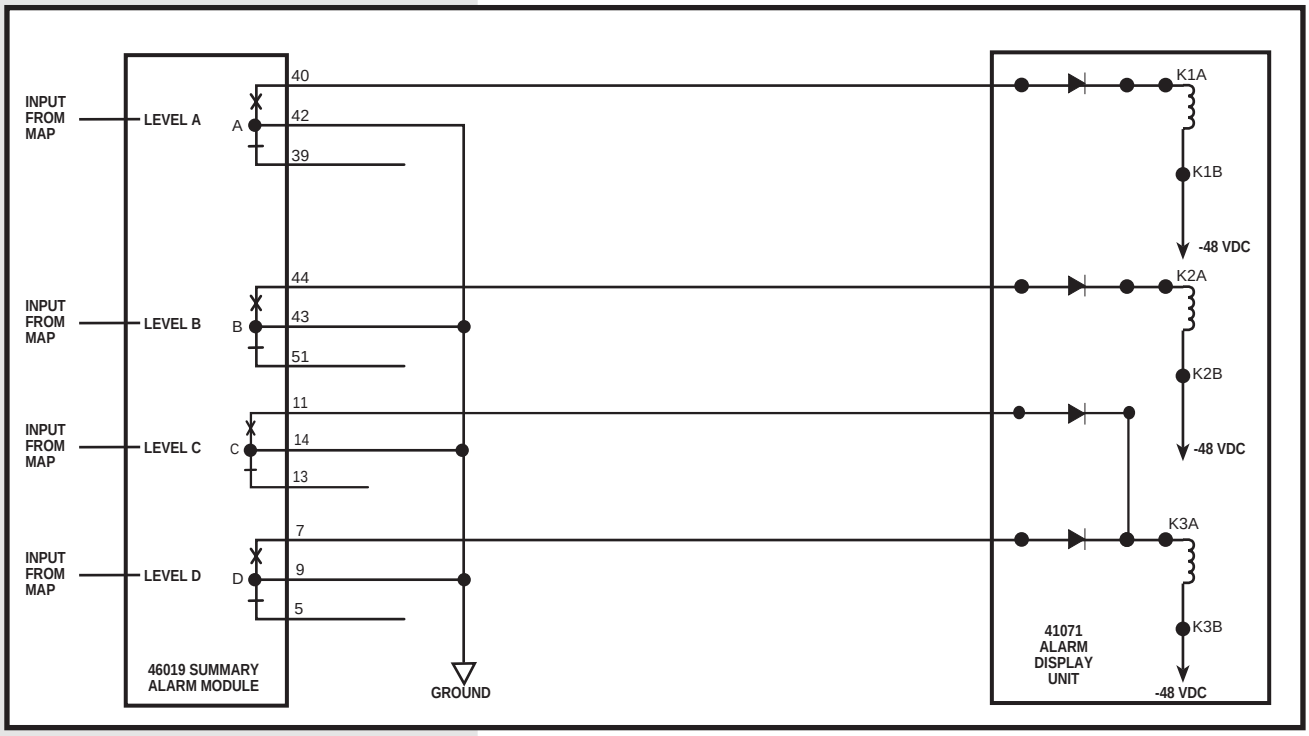
FIG. 3 - TYPICAL RELAY CONNECTIONS, 46017 SUMMARY AUDIBLE ALARM MODULE



SUMMARY ALARM MODULE:

Dantel's 46019 Summary Alarm Module (SAM) has four inputs to accept the A-D alarm outputs of a MAP. The SAM relay outputs are wired to the Alarm Display Unit's inputs. Refer to Fig. 4.

FIG. 4 - TYPICAL RELAY CONNECTIONS, 46019 SUMMARY ALARM MODULE

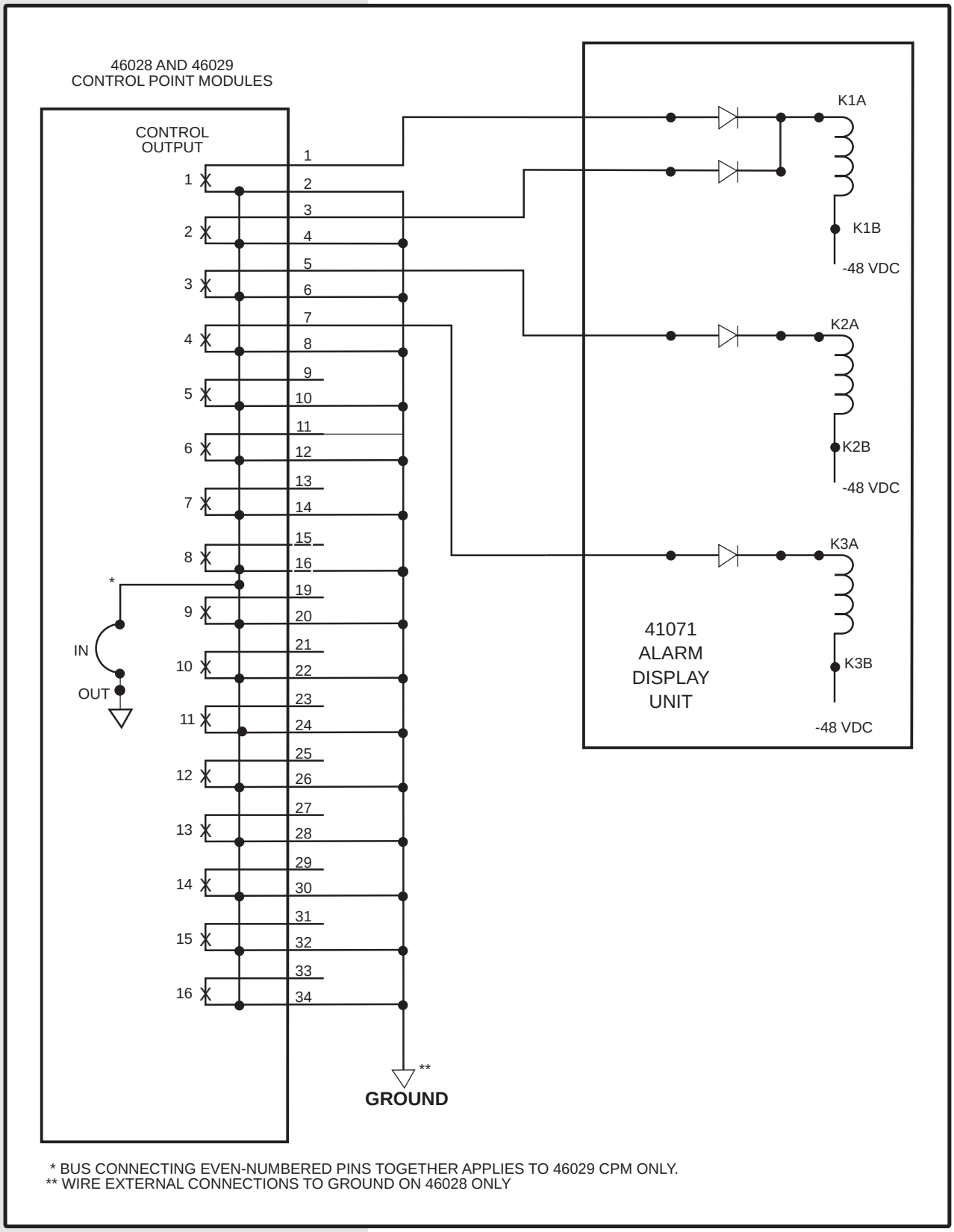


CONTROL POINT MODULES:

Dantel's 46028 and 46029 Control Point Modules (CPMs) can "echo" alarms from MATs. If you use this application, you can connect the outputs of the CPMs to the Alarm Display Unit's inputs for alarm indication. Refer to Fig. 5.

APPLICATION INFORMATION

FIG. 5 - TYPICAL RELAY CONNECTIONS, 46028 AND 46029 CONTROL POINT MODULES

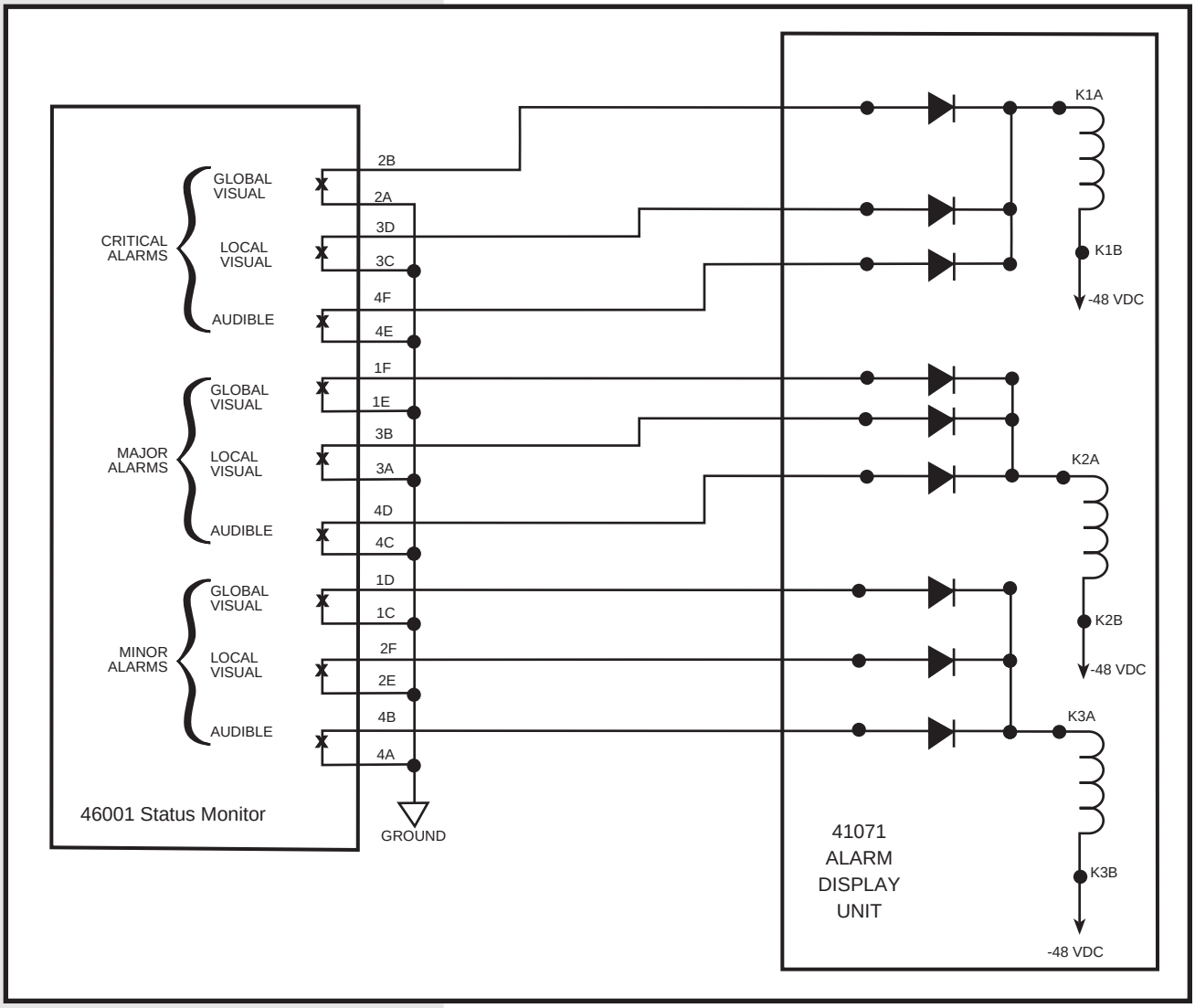


* BUS CONNECTING EVEN-NUMBERED PINS TOGETHER APPLIES TO 46029 CPM ONLY.
** WIRE EXTERNAL CONNECTIONS TO GROUND ON 46028 ONLY

STATUS MONITOR:

The audible and visual alarm outputs from Dantel's 46001 Status Monitor can be wired to the Alarm Display Unit's inputs. Refer to Fig. 6.

FIG. 6 - TYPICAL RELAY CONNECTIONS, 46001 STATUS MONITOR

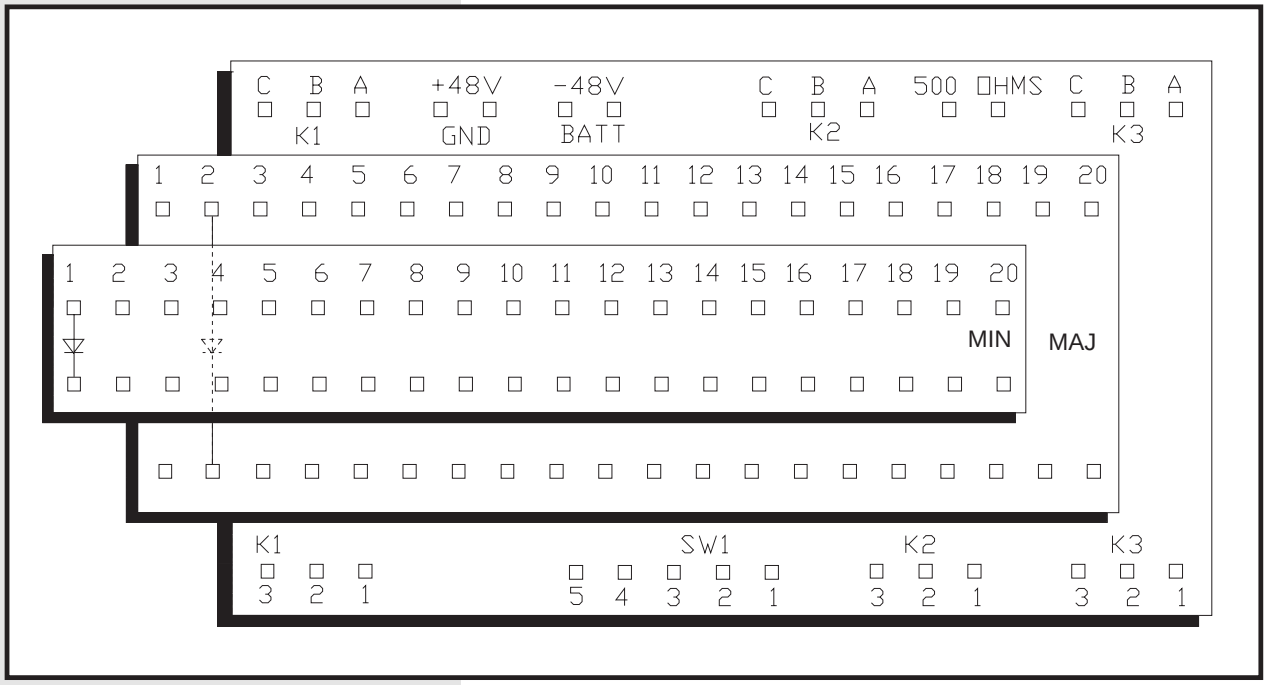


To install the 41071 Alarm Display Unit, refer to Fig. 7, and follow these steps:

1. Remove the cover.

Take the cover off the display box to gain access to the wire wrap pins inside.

FIG. 7 - WIRE WRAP PIN LOCATIONS



2. Complete the cable wiring from the switch box.

Wire the cable from the switch box to the display box as follows, routing the wiring through the small hole in the bottom of the box (refer to Fig. 7).

- Blue/white wire to pin 1 of SW1
- Orange/white wire to pin 2 of SW1
- White/orange wire to pin 3 of SW1
- White/green wire to pin 4 of SW1
- Green/white wire to ground pin (+48V)
- White/blue wire is not used.

RELAY	COLOR	FUNCTION
K1	Red (top)	Critical
K2	Red (middle)	Major
K3	Amber (bottom)	Minor

CONTINUED . . .

3. Wire the ground outputs.

Each relay is connected to a lamp to indicate an alarm level as follows:

- Refer to Fig. 7 for wire-wrap pin locations and Figs. 2-6 for examples of how the wiring can be done.
- Route the wiring through the large hole in the top of the display box.
- Wire the ground outputs from the relays of the MATs, SAAMs, SAMs, or CPMs that will be critical alarms to the anode side (side of diodes with numbers beside them) of the lowest numbered diodes on the top and middle PCBs. For example, 12 critical alarms can be wired to pins 1 through 6 on each PCB.
- Jumper the cathode (non-numbered) side of these diodes together.
- Wire one cathode to K1A on the bottom PCB.
- Wire the ground outputs from the relays of the MATs, SAAMs, SAMs, or CPMs that will be major alarms to the anode side (side of diodes with numbers beside them) of the middle diodes on the top and middle PCBs.
- Jumper the cathode (non-numbered) side of these diodes together.
- Wire one cathode to K2A on the bottom PCB.
- Wire the ground outputs from the relays of the MATs, SAAMs, SAMs, or CPMs that will be minor alarms to the anode side (side of diodes with numbers beside them) of the lowest numbered diodes on the top and middle PCBs.
- Jumper the cathode (non-numbered) side of these diodes together.
- Wire one cathode to K3A on the bottom PCB.
- If you are using a 46029 CPM, install the relay jumper, on the CPM's main board, in the IN position.

4. Wire relay pins to the battery.

- Wire relay pins K1B, K2B, and K3B to the battery (-48V) pin.

Terminals K1C, K2C, and K3C are used when additional resistance is required in the operating path of the relays.

5. Wire the relay outputs, if needed.

- Wire pins 1, 2, and 3 of K1, K2, and K3 as needed for remote alarm sending.

There are two pins labeled "500 ohms" that are across a 500-ohm resistor to provide optional strapping to limit the current of one of the relay outputs, if required.

- Wire the resistor, if needed, in series with the relay output.

CONTINUED . . .

NOTE:

The unit operates at -48 VDC. For -24 VDC operation, contact Dantel's Field Service Department.

6. Connect power.

Connect the power source (power off) to the display box:

- Battery to the -48V pin through a one ampere fuse and ground to the +48V pin.

7. Mount the display box.

- Mount the display box before reinstalling the cover. Use the mounting holes on the back or on the left side of the box. Use # 6 mounting hardware (not supplied).
- Replace the cover on the display box.

8. Mount the switch box.

- Remove the cover from the switch box and mount it, using the mounting holes on the back Use #6 mounting hardware (not supplied).
- Replace the cover on the switch box.

CHECKOUT

To verify the operation of the 41071 Alarm Display Unit, follow these steps.

1. Apply power to the unit. Make sure the ON/ACO switch on the remote switch box is in the ON position.
2. Push the AUDIO-VISUAL TEST button on the remote switch box.

   In proper operation, the four lamps light, and the audible alarm sounds. To adjust the volume of the audible alarm, turn the screw on the right side of the alarm display box.
3. Cause an alarm on each input.

   In proper operation, the appropriate lamp lights and the audible alarm sounds.
4. To disable the audible alarm, put the ON/ACO switch in the ACO position.

   In proper operation, the audible alarm does not sound when an alarm occurs.

LAMP REPLACEMENT PROCEDURE

To replace the lamps on the 41071 Alarm Display Unit, follow the procedure below:

INSTALLATION

1. Slide a knife blade, thin screwdriver, or similiar tool carefully under the lens between the case and the lens. Approximately 1/8" is sufficient.
2. Using a twisting motion, gently pry up on the lens until it pops off.
3. Pull out the defective lamp.
4. Insert new lamp.
5. Press lens back on.

The lamps are type 48PSB and can be ordered from your local electronics store or from Dantel using part number A25-00020-00.

OPERATION

To make sure the lamps and audible alarm are working, push the AUDIO-VISUAL TEST button on the remote switch box.

To enable the audible alarm, put the ON/ACO switch on the remote switch box in the ON position.

To disable the audible alarm, put the ON/ACO switch in the ACO position.

To adjust the volume of the audible alarm, turn the screw on the right side of the alarm display box.

TECHNICAL SPECIFICATIONS

DESCRIPTION	VALUE
Input Voltage	-48 VDC
Relay Coil	
Nominal Power	518 - 580 mW
Resistance	1070 ohms +/-10%
Relay Contact Current Rating	2 Amps (maximum)
Physical Dimensions	
Alarm Display Box	7.9"H x 4.7"D x 3.5"W
Remote Switch Box	2.6"H x 1.4"D x 2"W
Wire Wrap Pin Dimensions	
Diameter	0.045" square
Length	3/4"
Weight	2 lbs.

WARRANTY

LIMITED WARRANTY

The Seller warrants that the standard hardware products sold will be free from defects in material and workmanship and perform to the Seller's applicable published specifications for a period of 18 months for hardware, and 3 months for software, from the date of the original invoice. The liability of the Seller hereunder shall be limited to replacing or repairing, at its option, any defective products which are returned F.O.B. to the Seller's plant, (or, at the Seller's option, refunding the purchase price of such products). In no case are products to be returned without first obtaining permission and a customer return authorization number from the Seller. In no event shall the Seller be liable for any consequential or incidental damages.

Equipment or parts which have been subject to abuse, misuse, accident, alteration, neglect, unauthorized repair or installation are not covered by warranty. The Seller shall make the final determination as to the existence and cause of any alleged defect. No warranty is made with respect to custom equipment or products produced to the Buyer's specifications except as specifically stated in writing by the Seller in the contract for such custom equipment.

This warranty is the only warranty made by the Seller with respect to the goods delivered hereunder, and may be modified or amended only by a written instrument signed by a duly authorized officer of the Seller and accepted by the Buyer.

Warranty and remedies on products not manufactured by the Seller are in accordance with warranty of the respective manufacturer. THE SELLER MAKES NO OTHER WARRANTY OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED; AND ALL IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEEDS THE AFORESAID OBLIGATIONS IS HEREBY DISCLAIMED BY THE SELLER.

IN CASE OF DIFFICULTY

If you experience difficulty with this equipment, check the following, as appropriate:

1. **Switch settings**
2. **Signal levels**
3. **Software configuration**
4. **Connections between Dantel's equipment and your equipment.**

If there is still a problem, substitute equipment that is known to be good. For additional assistance, call Dantel's Technical Field Service Department weekdays, 6 A.M. to 5 P.M. pacific time:

1-800-4DANTEL (1-800-432-6835).

If a thorough checkout shows a piece of equipment has malfunctioned, you may return it to the factory. For repairs and emergency replacements, obtain a Return Material Authorization (RMA) number from the Customer Service Representative at **1-800-4DANTEL** (1-800-432-6835).

To ensure expedient processing of your order, provide a purchase order number and shipping and billing information when requesting an RMA number. Also, when the units are returned to Dantel, include a description of the failure symptoms for each unit returned. Send defective equipment to:

Dantel, Inc. • 2991 North Argyle Avenue • Fresno, California 93727-1388

Dantel

P.O. Box 55013 • Fresno, CA 93747-5013 Phone (559) 292-1111 Fax (559) 292-9355 http://www.dantel.com