Dantel

A17-44931-02 HEARTBEAT TIMER KIT

Y2K Compliant

About this Practice:

This is a new document.

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

UPDATED

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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
A17-44931-02	Heartbeat Timer Kit

GENERAL DESCRIPTION

The A17-44931-02 Heartbeat Timer Kit (A17-44931) is made up of a 44931-00 Relay Timer Module and a small assortment of parts. (Refer to Table A.) Its purpose is to output a periodic ground pulse to verify the integrity of a Dantel alarm system.

Dantel alarm systems, whether they are made up of 460ACS equipment, Smart Blocks, or newer PointMasters and RemoteMasters, are part of a polled system. That is, they report their events upon interrogation. In this kind of system, there can be some concern as to whether that system is working properly or not. If no alarms are received by the Alarm Center, does that mean that there are no alarms, or that the system is not reported those alarms?

The A17-44931 provides a cycling ground pulse of 1/2 second on, 5 minutes off. This pulse can then be connected to the input of any Dantel discrete alarm collection device, such as Smart Blocks, PointMasters, RemoteMasters, or Multiple Alarm Transmitters (MATS). This provides a way to monitor the integrity of the alarm system because the Alarm Center should now see a specific alarm occur and then clear immediately every 5 minutes.

TABLE A - HEARTBEAT TIMER KIT PARTS LIST

COMPONENT	PART NUMBER	QUANTITY
Dual Relay Timer Module	A11-44931-00	1
High-Speed Switching Diode	401-00148-00	1
Electrolytic Capacitor	207-03477-00	1
1/4 Watt Resistor	130-00663-00	1
Standoff Beads	10-00177	2

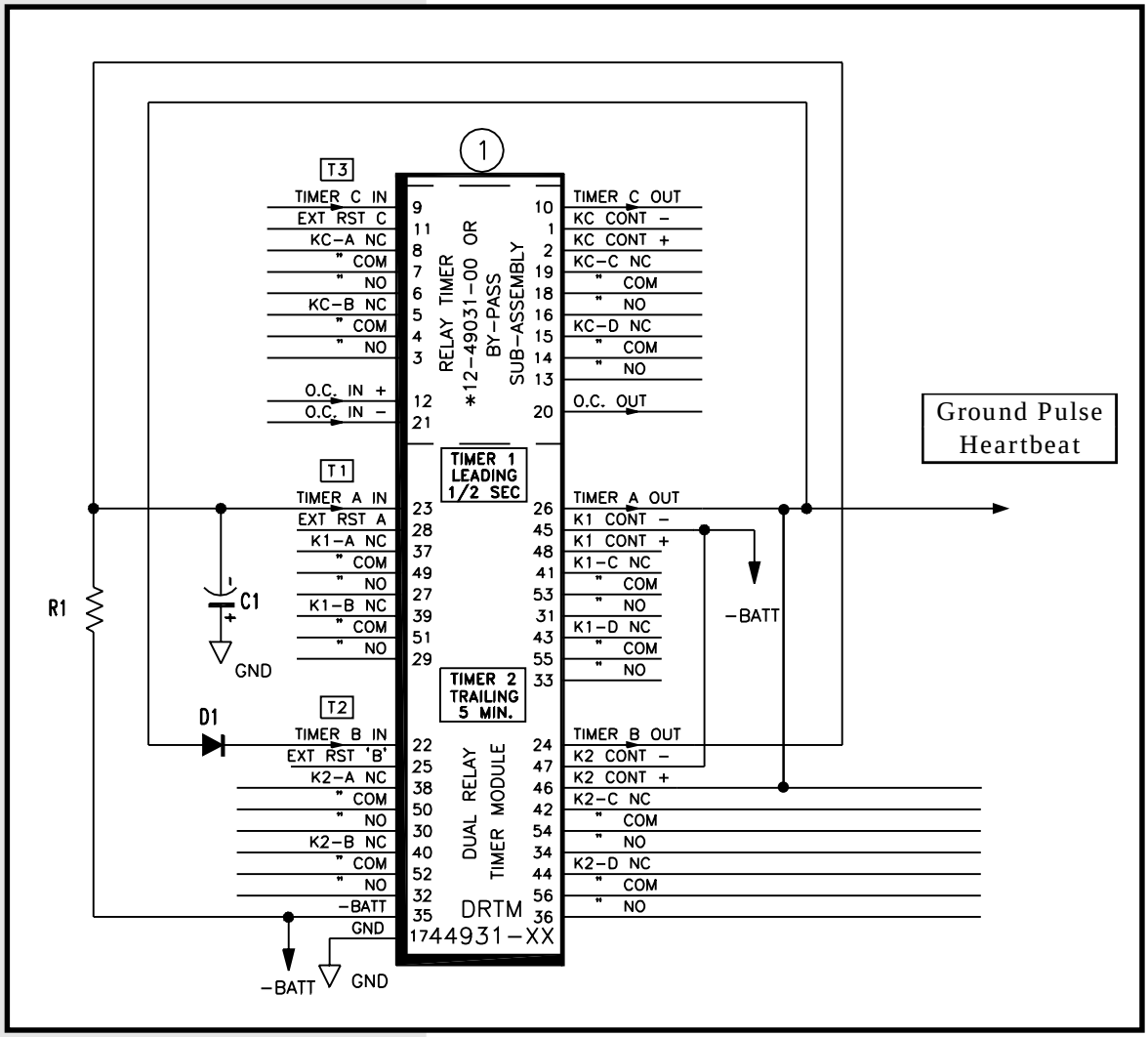
KIT INSTALLATION

The A17-44931-02 Heartbeat Timer Kit can be used in any 400-type mounting with an unwired slot. The procedure described below requires:

- Soldering Iron and solder
- Wirewrap tool
- #24 gauge, solid core wire (suggested colors: one length violet, one length brown)

Refer to Fig. 1.

FIG. 1 - A17-44931-02 HEARTBEAT TIMER KIT (INSTALLED)



KIT INSTALLATION

KIT INSTALLATION PROCEDURE

There are several assumptions that need to be made for the purpose of this procedure:

- There is ample access to the edge connector pins on the rear of the shelf being used,
- The 400-type housing has a slot that has not been wired previously for any other module. If it has, remove all wires **EXCEPT** pins 35 (-battery) and 17 (ground),
- If the slot has not been wired previously, use #22 solid core wire (violet) to connect pin 35 to -battery. Use #22 solid core wire (black) to connect pin 17 to ground.

Installation of Wiring

1. Install a brown wire jumper (#24 gauge, solid) from pin 23 to pin 24.
2. Install a brown wire jumper (#24 gauge, solid) from pin 26 to pin 46.
3. Install a violet wire jumper (#24 gauge, solid) from pin 35 to pin 45.
4. Install a violet wire jumper (#24 gauge, solid) from pin 45 to pin 47.

Installation of Switching Diode

The diode is installed between edge connector pins 26 and 22. Before soldering, bend and trim the leads to best fit between pins 26 and 22.

1. Cut a length of tubing to fit over each leg of the diode.
2. Solder the **anode** end of the diode to pin 26.

***NOTE**: The diode has a stripe at one end. That is the **cathode** end.*

3. Solder the **cathode** end of the diode to pin 22.

Installation of Resistor

The resistor is installed between edge connector pins 24 and 35. Before soldering, bend and trim the leads to best fit between pins 24 and 35.

1. Cut a length of tubing to fit over each leg of the resistor.
2. Solder one end of the resistor to pin 24.
3. Solder the other end of the resistor to pin 35.

KIT INSTALLATION

Installation of Capacitor

The capacitor is installed between edge connector pins 17 and 23. Before soldering, bend and trim the leads to best fit between pins 17 and 23.

1. Cut a length of tubing to fit over each leg of the capacitor.
2. Solder the **positive** end of the cap to pin 17.

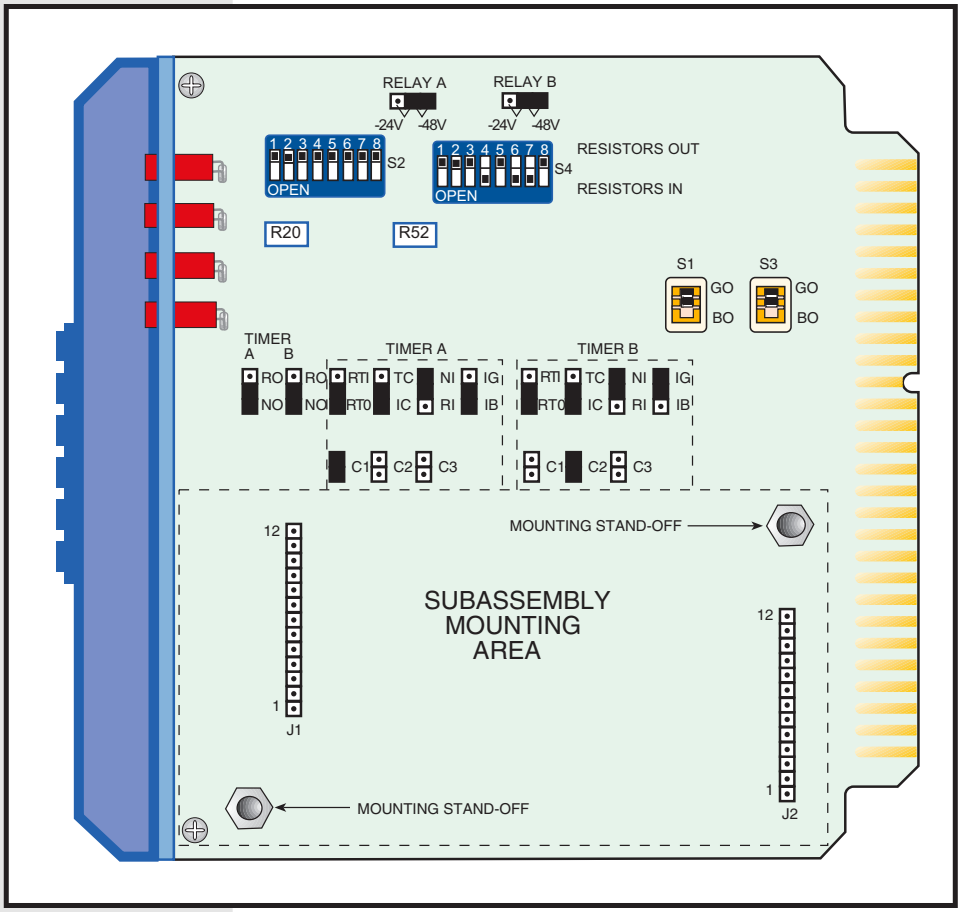
NOTE: *The capacitor must not be installed backwards. The **arrow** on the side of the capacitor points to the **negative** end of the capacitor.*

3. Solder the **negative** end of the capacitor to pin 23.

SWITCH AND STRAP SETTINGS

Set the switches and straps on the 44931 Dual Relay Timer as shown in Fig. 2.

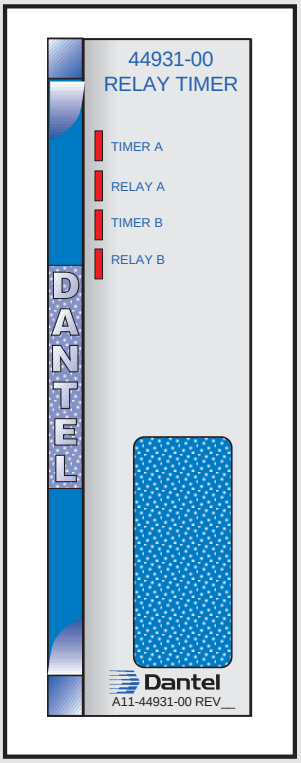
FIG. 2 - SWITCH AND STRAP SETTINGS; 44931 DUAL RELAY TIMER



CHECKOUT PROCEDURE

Once installation and configuration has been completed, verification of the Heartbeat Timer is simple. Follow the procedure described below. Refer to Fig. 3 for the location of the LEDs mentioned in the checkout procedure.

FIG. 3 - 44931 FRONT PANEL



1. Apply power to the shelf.
   - ♦ As soon as power is applied, Timer A will come on for 1/2 second and go off. When Timer A goes off, Timer B will turn on.
   - ♦ Timer B will remain on for approximately 5 minutes. After 5 minutes, Timer B will turn off and Timer A will turn on for 1/2 second.
   - ♦ This cycle will repeat for as long as power is applied to the shelf.

NOTE: *To adjust Timer A for 500ms (1/2 second), adjust R20. Refer to Fig. 2.*

2. Place an voltmeter between pin 26 of the 44931 module and -battery. Every 5 minutes, while Timer A is on, verify a ground on pin 26.
3. Remove power from the shelf and reapply it. The timers should restart and cycle as described above.

TECHNICAL SPECIFICATIONS

DESCRIPTION	TABLE HEAD
TIMERS	
INPUT SPECIFICATIONS	
Trigger Input	0 (GND) to -Battery (-56V), strappable for positive or negative trigger. (Must cross threshold). CMOS compatible.
Trigger Threshold	-5 VDC ±10%
Minimum Trigger Duration	25 msec. @ -10 VDC Trigger Level. (Higher voltage = less time duration.)
External Reset	Ground to reset.
Minimum Reset Duration	C1 (1 microfarad) = 1 msec. C2 (10 microfarads) = 10 msec. C3 (100 microfarads) = 100 msec.
OUTPUT SPECIFICATIONS	
Output Type	Open collector, strappable to GND or -Battery (same voltage as input supply).
Maximum Collector Voltage	-56 VDC
Maximum Collector Current	100 mA
TIMING SPECIFICATIONS	
Timing Range Continuously Variable Fixed	 50 msec. to 500 msec. 0.6 to 57 seconds in 0.6 second steps, 6 to 570 seconds in 6 second steps, or up to 95 minutes in unspecified steps.
Accuracy	±10%, up to 570 seconds
RELAYS	
COILS	
Minimum Operating Voltage @ -24V Battery Supply Option @ -48V Battery Supply Option	 -19 VDC -36 VDC
Maximum Release Voltage @ -24V Battery Supply Option @ -48V Battery Supply Option	 -2.5 VDC -5 VDC
Maximum Overvoltage (continuous) @ -24V Battery Supply Option @ -48V Battery Supply Option	 -36 VDC -69 VDC
Coil Resistance	1200 ohms ±15% @ -24 VDC; 2400 ohms ±15% @ -48 VDC
CONTACTS	
U.L. Rating	2A @ 30 VDC; 0.5A @ 125 VAC
Resistance	0.05 ohms (max.)
POWER REQUIREMENTS (TIMERS ONLY)	
Voltage Input	-21 to -56 VDC
Current Requirements	20 mA (min.); 100 mA (max.)
Heat Dissipation (Btu/Hr) @ -24VDC @ -48VDC	 1.7 @ -24 VDC; 3.4 @ -48 VDC 8.2 @ -24 VDC; 16.4 @ -48 VDC
Operating Temperature Range	0° to 60° C.
Physical Dimensions	1.4" x 6.0" x 5.6"
Weight	7 oz.

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

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