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M6000 Polarity-Reversal Module

WI385A 9/92

UL Listed: Signal System Control Unit Subassembly

GENERAL DESCRIPTION

The M6000 Polarity-Reversal Module is used with a NAPCO MFA6000-Series Fire Alarm Control Panel to form a Remote Station Protected Premises Control Unit; or Auxiliary Protected Premises Control Unit with local energy (series) municipal box connection. Operation is selected by programming the PROM (Programmable Read-Only Memory) inside the control panel. Refer to the installation manual (WI382) furnished with the control panel.

The M6000 allows the control panel to be monitored by a fire or police station over leased telephone lines. When an alarm condition occurs, the module will reverse the normal polarity to the leased lines connected at Terminals 1 and 2. The M6000 also permits triggering of a Gamewell® box local energy trip coil.

SPECIFICATIONS

Input Voltage: 12Vdc (furnished by panel)

Current: *Standby*, determined by receiver; *Alarm*, Standby Current + 45mA

Outputs:

Reversed Polarity: Terminals 1 & 2, 12Vdc/40mA max.

Local Energy: Terminals 5 & 6, 12Vdc at 250mA (momentarily, in alarm)

Local Energy Trip Coil: 14.5Ω, 250mA, momentary

Note: For proper battery standby time, subtract the receiver current from the panel's combined standby current.

MOUNTING

The M6000 is mounted on the control-panel (main) board. Mounting is accomplished using four standoffs (supplied), which are inserted into the main board; the module plugs into J1 on that board. To install the M6000, proceed as follows:

1. Find the four holes on the main board that will accept the standoffs. These holes are located at the upper-right part of the board (two on either side of J1). They are easily identified as each is surrounded by a rectangle.

Remove the standoffs from the plastic bag. Insert the short flanged end into the main board. (Note that the flange matches the rectangle printed on the board). Push in the standoff until it snaps into place. Insert the remaining three

standoffs in a similar manner.

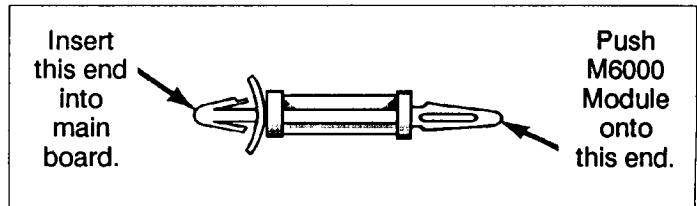


Fig. 1. Proper insertion of standoff.

3. Check that all pins on J1 are properly aligned. Then, place the four holes in the M6000 board over the standoffs on the main board, and push straight in until the module is seated. Check proper installation by sighting down plug P1 on the M6000; the pins in J1 (on the main board) should all be visible in their respective positions. (If any pin seems to be missing, remove the module, check J1 for bent pins and reinstall.)

The module locks into place when fully seated. Thus, should it become necessary to remove the board for any reason, squeeze the ends of the standoffs to slide off the board, one corner at a time.

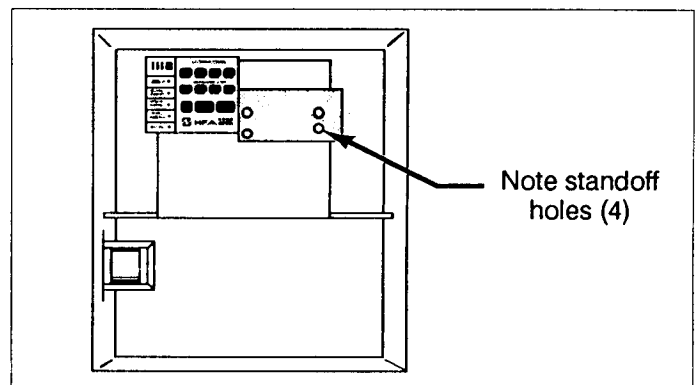


Fig. 2. M6000 installed in panel.

WIRING (Refer to Fig. 4.)

Telephone Lines, Terminals 1 (-) & 2 (+)

Connect leased telephone lines to these terminals. The telephone line connected to Terminal 1 becomes the negative (-) line; the one to Terminal 2 becomes the positive (+)

line. Designated polarities will reverse during an alarm condition.

Resistor, Terminals 3 & 4

Because of varying line lengths and differences in monitoring-station equipment, a resistor must be selected and installed across these terminals to regulate the amount of current supplied by the module.

To determine the correct resistor value for the system, use either of the following methods and the resistors supplied (refer to the accompanying table to identify the resistor values by color code). Also prepare a short length of solid wire to function as a 0Ω resistor.

RESISTORS SUPPLIED	
VALUE (OHMS)	COLOR CODE
1000Ω	brown/black/red
820Ω	gray/red/brown
470Ω	yellow/violet/brown
220Ω	red/red/brown

Resistor-Selection Method

1. Install the M6000 Module as described and connect Terminals 1 and 2 to the leased telephone line.

2. Call the monitoring site and check that their receiver is on line. (*Don't hang up!*)

3. With the control panel in the standby (normal) mode, install the 1000Ω resistor across M6000 Terminals 3 and 4.

4. Check receiver operation with the monitoring station. If their receiver fails to operate, reduce the resistor to 820Ω and try again. Repeat this procedure, reducing the resistor value each time until satisfactory operation is attained.

Current Adjustment Method

1. Contact the receiver manufacturer to ascertain the current requirement for the receiver in use.

2. Connect a milliammeter having a 20mA (or higher) range in series with the leased line as follows. Connect the

positive lead to Terminal 2. Connect the negative lead to one side of the telephone line; connect the other side of the telephone line to Terminal 1.

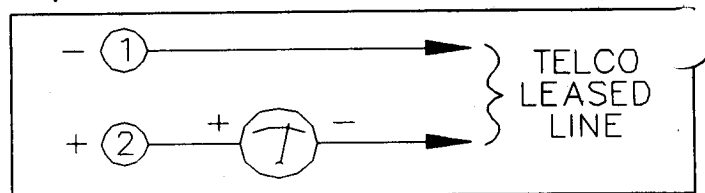


Fig. 3. Meter connection for current adjustment.

3. Call the monitoring station and confirm that the receiver is on line.

4. Starting with 1000Ω across Terminals 3 and 4, select the resistor that causes a milliammeter reading closest to that specified by the receiver manufacturer.

Local Energy Trip, Terminals 5 & 6

Connect Terminals 5 and 6 to a Gamewell Box Trip Coil, 3.6V @ 0.25A (14.5Ω). Total wiring resistance may not exceed 5Ω.

Cut Jumper A for Local Energy Trip Coil supervision.

WIRING DIAGRAM

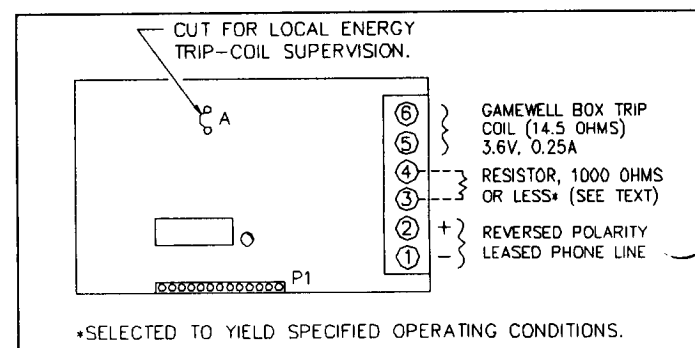


Fig. 4. M6000 Wiring Diagram.

NAPCO LIMITED WARRANTY

NAPCO SECURITY SYSTEMS, INC. (NAPCO) warrants its products to be free from manufacturing defects in materials and workmanship for fifteen months following the date of manufacture. NAPCO will, within said period, at its option, repair or replace any product failing to operate correctly without charge to the original purchaser or user.

This warranty shall not apply to any equipment, or any part thereof, which has been repaired by others, improperly installed, improperly used, abused, altered, damaged, subjected to acts of God, or on which any serial numbers have been altered, defaced or removed. Seller will not be responsible for any dismantling or reinstallation charges.

In case of defect, contact the security professional who installed and maintains your security system. NAPCO shall have no obligation under this warranty, or otherwise, if the product has been repaired by others, improperly installed, improperly used, abused, altered, damaged, subjected to accident, nuisance, flood, fire or acts of God, or on which any serial numbers have been altered, defaced or removed. NAPCO will not be responsible for any dismantling, reassembly or reinstallation charges.

In order to exercise the warranty, the product must be returned by the user or purchaser, shipping costs prepaid and insured to NAPCO. After repair or replacement, NAPCO assumes the cost of returning products under warranty.

There are no warranties, express or implied, which extend beyond the description on the face hereof. There is no express or implied warranty of merchantability or a warranty of fitness for a particular purpose. Additionally, this warranty is in lieu of all other obligations or liabilities on the part of NAPCO.

Any action for breach of warranty, including but not limited to any implied warranty of merchantability, must be brought within the six months following the end of the warranty period. In no case shall NAPCO be liable to anyone for any consequential or incidental damages for breach of this or any other warranty, express or implied, even if the loss or damage is caused by the seller's own negligence or fault.

This warranty contains the entire warranty. It is the sole warranty and any prior agreements or representations, whether oral or written, are either merged herein or are expressly cancelled. NAPCO neither assumes, nor authorizes any other person purporting to act on its behalf to modify, to change, or to assume for it, any other warranty or liability concerning its products.

In no event shall NAPCO be liable for an amount in excess of NAPCO's original selling price of the product, for any loss or damage, whether direct, indirect, incidental, consequential, or

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NAPCO RECOMMENDS THAT THE ENTIRE SYSTEM BE COMPLETELY TESTED WEEKLY.

Warning: Despite frequent testing, and due to, but not limited to, any or all of the following: criminal tampering, electrical or communications disruption, it is possible for the system to fail to perform as expected. NAPCO does not represent that the product/system may not be compromised or circumvented; or that the product or system will prevent any personal injury or property loss by burglary, robbery, fire or otherwise; nor that the product or system will in all cases provide adequate warning or protection. A properly installed and maintained alarm may only reduce risk of burglary, robbery, fire or otherwise but it is not insurance or a guarantee that these events will not occur. CONSEQUENTLY, SELLER SHALL HAVE NO LIABILITY FOR ANY PERSONAL INJURY, PROPERTY DAMAGE, OR OTHER LOSS BASED ON A CLAIM THE PRODUCT FAILED TO GIVE WARNING. Therefore, the installer should in turn advise the consumer to take any and all precautions for his or her safety including, but not limited to, fleeing the premises and calling police or fire department, in order to mitigate the possibilities of harm and/or damage.

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Some states do not allow limitations on how long an implied Warranty lasts or do not allow the exclusion or limitation of incidental or consequential damages, or differentiate in the treatment of limitations of liability for ordinary or gross negligence, so the above limitation or exclusions may not apply to you. This Warranty gives you specific legal rights and you also have other rights which vary from state to state.