

MINI-KEY



INSTALLATION INSTRUCTIONS

Important Notices

The Mini-Key system contains static sensitive parts: To avoid damage to the static sensitive parts, ground the unit and yourself while handling the board(s).

Incorrect installation also invalidates the system's warranty. Take the time to read these instructions very carefully before attempting to install this system.

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1 – Basic Installation Hints and Rules

GROUND THE SYSTEM AND YOURSELF THOROUGHLY: The Mini-Key system contains a number of static sensitive components that can be damaged by static discharge during installation or regular use. This type of damage is not covered under Sentex's warranty.

Ground the unit according to Figure 1. During the installation, ground shield wires to the ground screw as required. Also, try to discharge any static before handling the circuit boards.

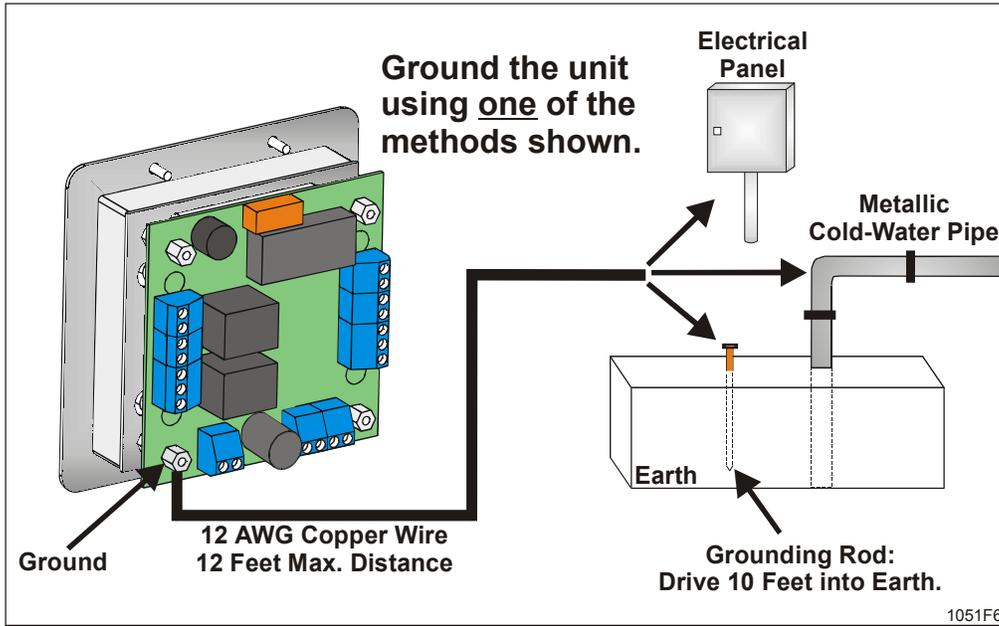


Figure 1: Grounding the Unit

PROVIDE POWER FROM A DEDICATED SOURCE: The outlet into which you will plug the Sentex provided transformer should each be wired to its own circuit breaker. This will prevent two problems:

1. Other equipment cannot introduce spikes, noise, surges, or dips into the power circuit that will affect the Mini-Key system.
2. The Mini-Key's operation will not be affected if any other equipment develops a short circuit across the power line.

DO NOT OVERLOAD THE TERMINAL BLOCKS: To connect wires to a terminal block, remove the "head" from the correct terminal and open the screws. Insert the wire into the correct opening in the front and tighten the screw until the wire is held snugly. Tug slightly on the wire to ensure a secure connection. After inserting all wires into the terminal block, plug it back onto the pins designated for that block.

READ THE BOARD MARKINGS CAREFULLY: The connection points are clearly marked on the boards. Before making any connection, make sure you read the board markings.

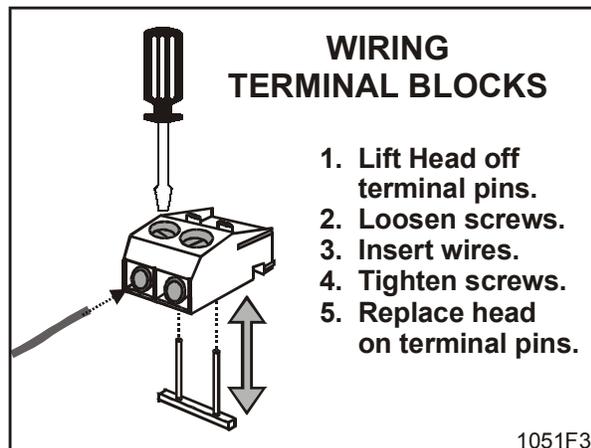


Figure 2: Wiring Terminal Blocks

2 – Mounting the Cabinet

1. Remove the four (4) screws from the Mini-Key's front panel with the provided hex tool. Carefully remove the keypad and the boards from the cabinet and set aside onto a static-free surface.

Discharge any static that you may have built up before handling the board.

2. Use the knockout (back of enclosure) to run wires into the cabinet.

If the installation does not allow you to run the wires through the knockout, drill a 7/8" diameter hole through the bottom of the enclosure to accommodate a 1/2" conduit. Be sure to securely connect the conduit to the unit. **Note:** Wires run through the bottom of the enclosure will be more prone to tampering or vandalism.

3. Securely mount the unit on the wall or pedestal. Mounting hardware is provided if you are using Sentex's pedestal mount post. Do not put the keypad and the circuit board back into the cabinet until all connections are made as described in the following sections.

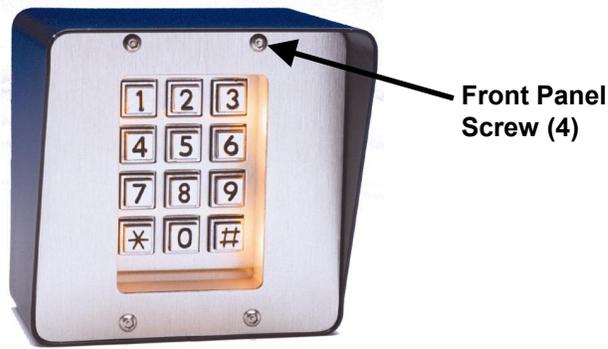


Figure 3: Mini-Key Unit

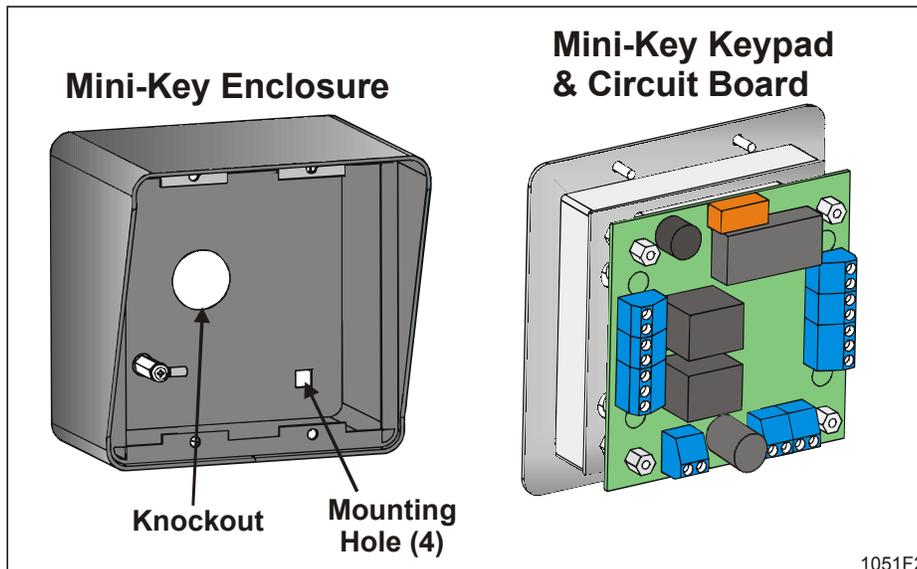


Figure 4: Mini-Key Enclosure and Keypad

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3 - Wiring

SYSTEM POWER

Connect 2 conductor cable (for wire size, see Table 1 below) from TB4 at the Mini-Key unit to the 12VAC, 20 VA transformer supplied by Sentex (or 13.5 VDC power supply that you provide).

Do not connect the power to the system until all connections have been made to the system.

Please Note: If you are using a DC power supply, the Mini-Key system will not trickle charge a battery, so the DC power must be supplied by an uninterruptible power supply (UPS).

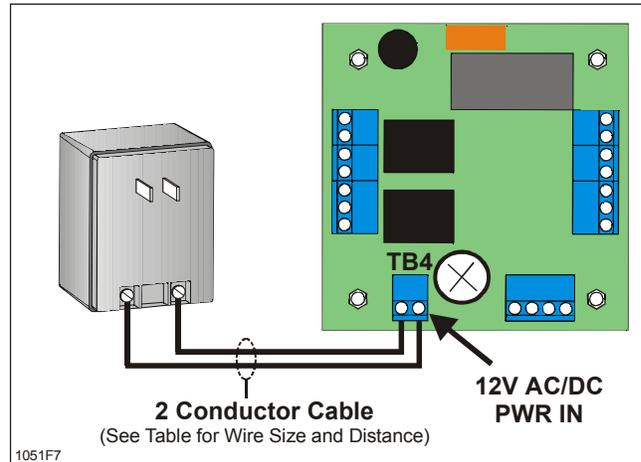


Figure 5: Power Connections

DISTANCE	AC POWER WIRE SIZE	DC POWER WIRE SIZE
30' and under	18 AWG	18 AWG
30'-75'	18 AWG	18 AWG
75'-150'	14 AWG	18 AWG
150'-250'	12 AWG	16 AWG
250'-500'	10 AWG	12 AWG

Table 1: Power Wire Distance

DOOR/GATE CONTROL

Connect the 2 conductor cable from your door strike and door strike power supply or from your gate operator to the relay contacts in area TB1 as follows:

Door Strikes

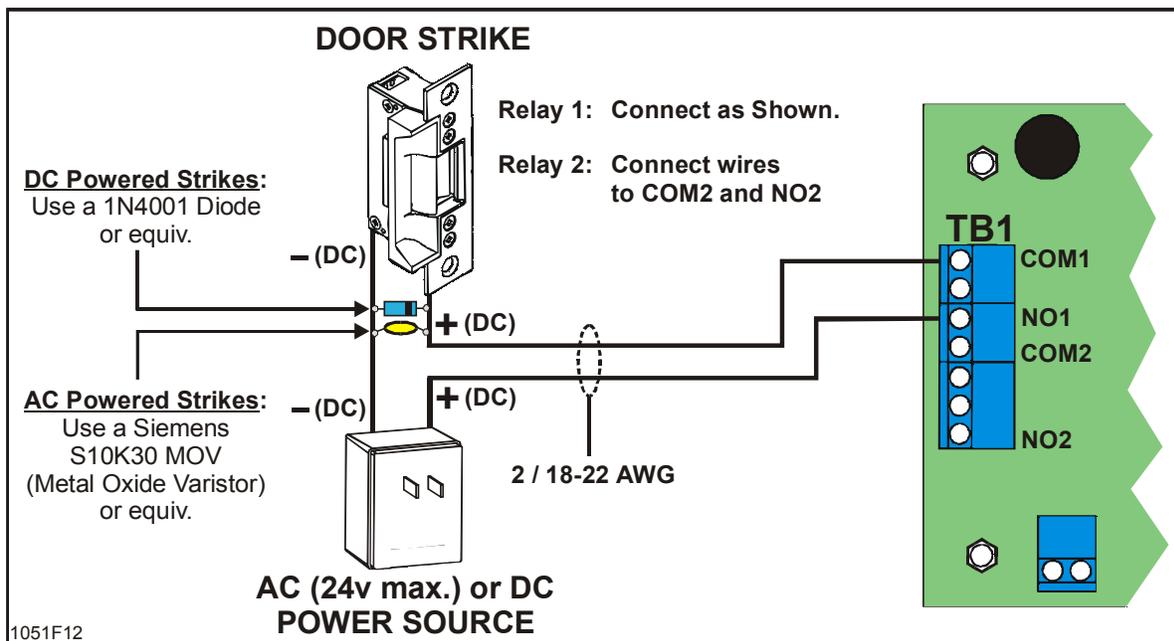


Figure 6: Normally Locked Strikes

Mag Locks

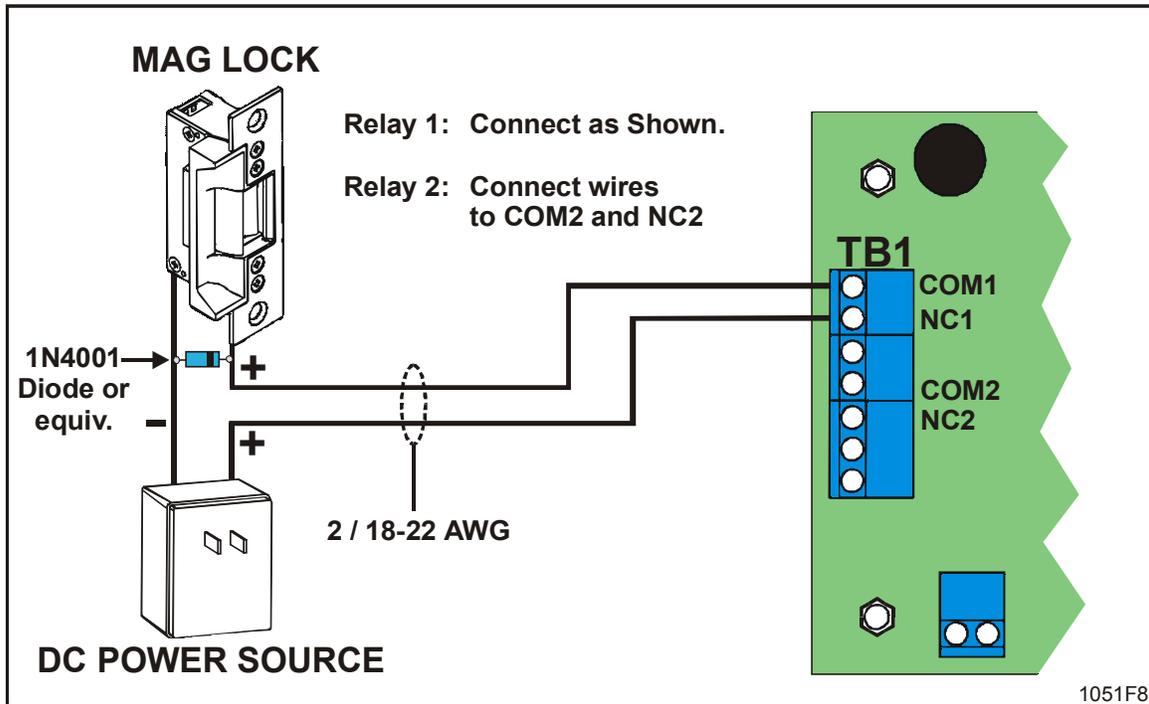


Figure 7: Mag Locks

WARNING: In order to prevent voltage spikes generated by magnetic lock or DC powered strikes from being induced into the system, it is strongly recommended that a 1N4001 diode be installed across the magnetic lock coil, so that the cathode of the diode (the end with the band) is connected to the positive connection of the coil and the anode is connected to the negative connection of the coil.

For Dry Contact Closure (Most Gate Operators)

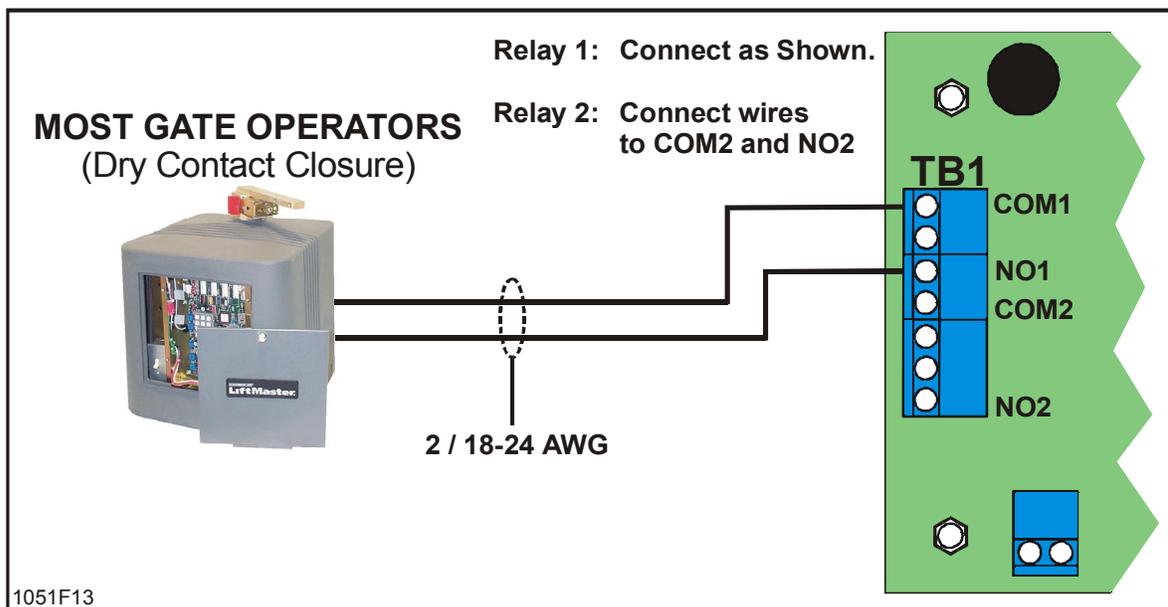


Figure 8: Dry Contact Closure Connections

4 – Installing Additional Features

AUX OPEN/REQUEST FOR ACCESS

Any device (e.g., exit button or Knox box) that provides a contact closure can be hooked up to the Mini-Key unit at:

- "EXIT1" and "COM" (TB3) to activate Relay 1 OR
- "EXIT2" and "COM" (TB3) to activate Relay 2

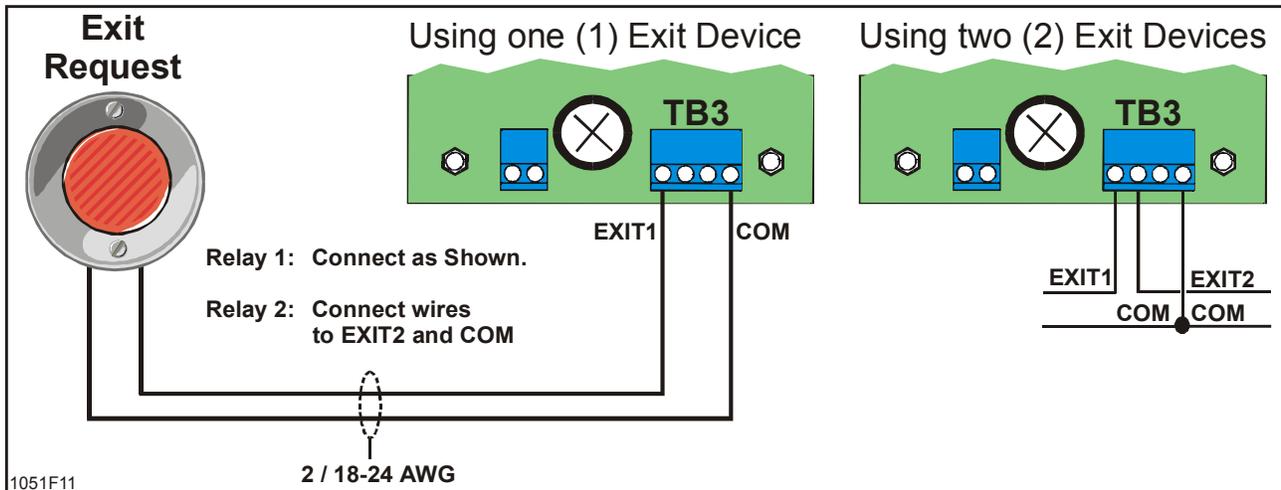


Figure 9: Exit Request Connections

Use shielded cable and connect shield to the ground screw.

When a contact closure occurs, the system will activate the appropriate relay for the programmed period of time.

TIME CLOCK

You may install a timer or clock to the Mini-Key system to be used in conjunction with the time clock feature. This timer or clock must provide a floating contact closure (a floating contact closure is a contact closure that is not grounded). To install a timer or clock, refer to Figure 10.

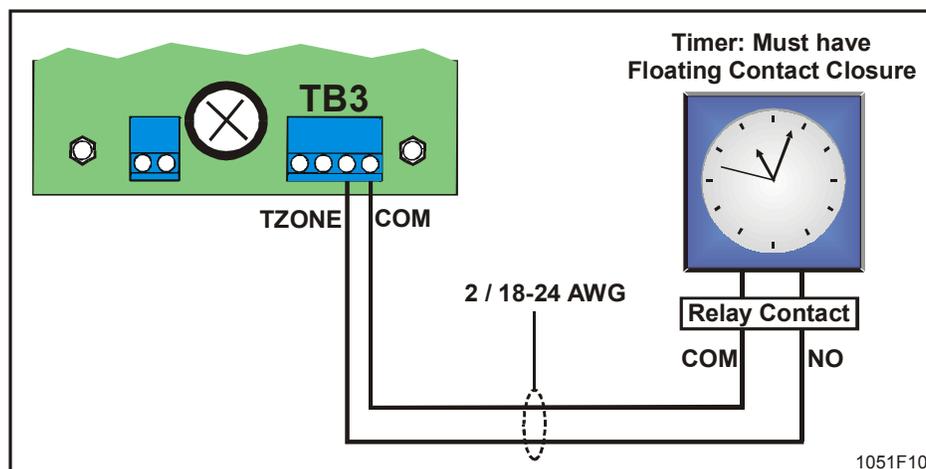


Figure 10: Installing a Timer

WARNING: Any clock or timer that is connected to the Mini-key system must provide a floating contact closure. If the clock or time does not provide a floating contact closure, there is a very strong chance that the clock will "burn-out" the circuit board, and may start a fire. Any use of these devices will also void any Sentex warranty. If your clock or timer plugs directly into an AC power source and it has an AC output terminal, it does not provide a floating contact closure and should not be used with the Mini-Key system.

REMOTE KEYPAD

You may install a remote keypad to work with the Mini-Key. All information programmed into the Mini-Key will be the same information read by the remote keypad (refer to the manual titled "PROGRAMMING AND USE INSTRUCTIONS FOR THE MINI-KEY SYSTEM" for more information). **Please Note:** Run cables in metal conduit (not PVC) and ground them. Do not run power and data wires in the same conduit. **Do not connect the power to the Mini-Key system until all connections have been made.**

1. Install a remote keypad according to Figure 11.
2. Connect the shields to the ground screw on the Mini-Key.

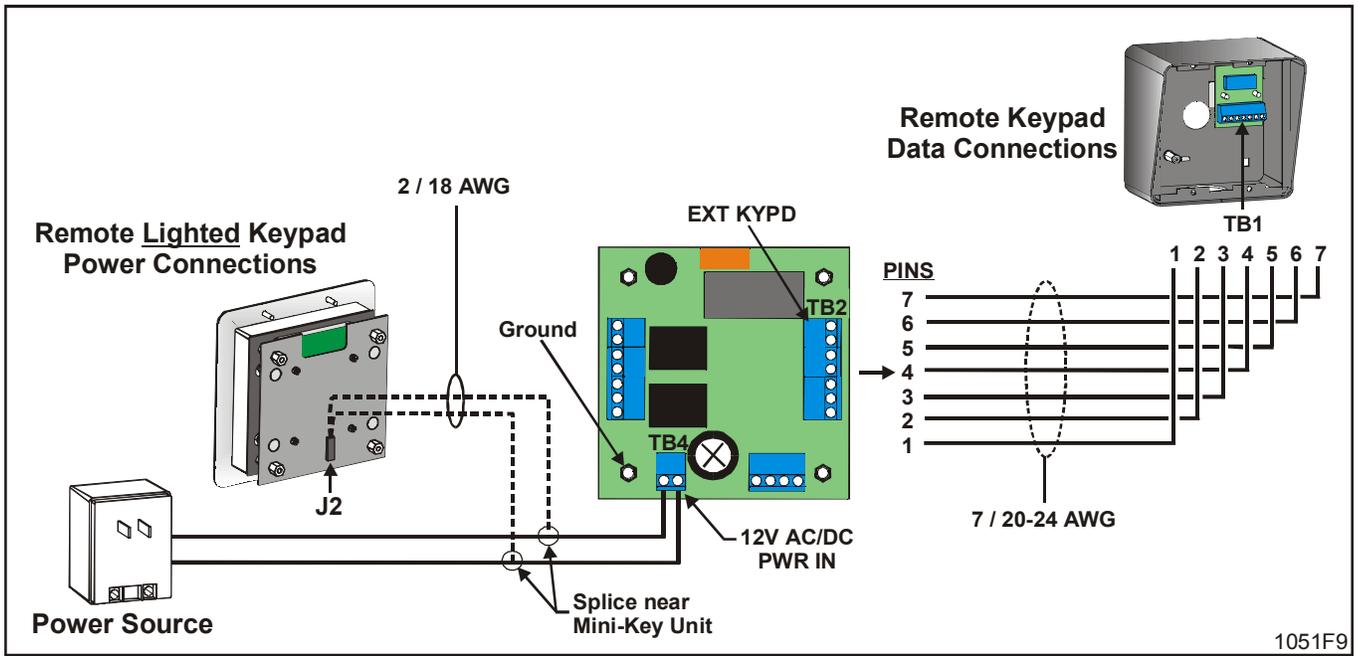


Figure 11: Installing a Remote Keypad

Reference: Main Processor Board

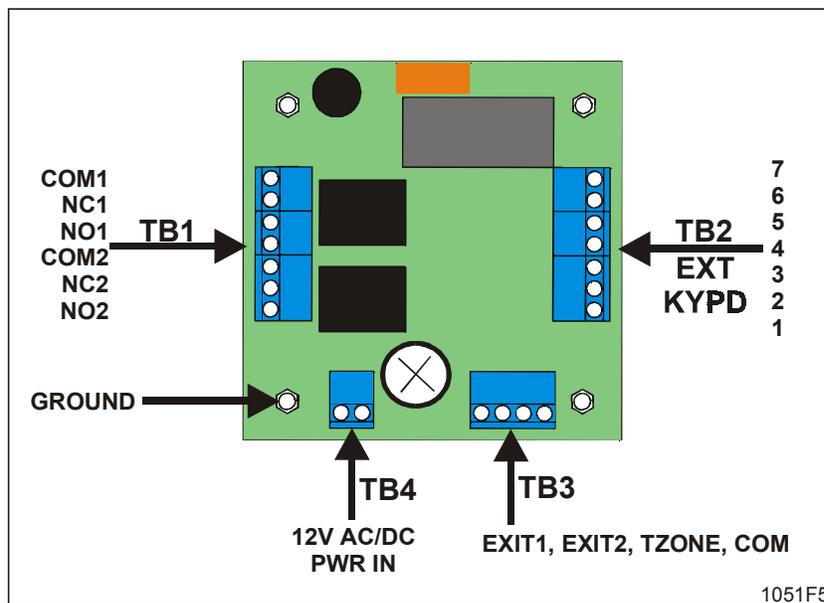


Figure 12: Mini-Key Main Processor Board

FCC Requirements

RADIO FREQUENCY

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the FCC helpful: "How to Identify and Resolve Radio-Television Interface Problems". This booklet is available from the United States Government Printing Office, Washington, D.C., 20402. Stock No. 004-000-00345-4.



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<p style="text-align: center;">FOR TECHNICAL SUPPORT Call our toll free number: (800) 528-2806 Installation and service information is available six days a week (Monday-Saturday).</p>
