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21-3618v1.1 MONITOR ISM™ / AFx™ Suite Security 4 Zone Keypad Installation

!🕮! Do's & Don'ts !🕮!

- Static can destroy IC chips! Always take proper precautions when handling or transporting circuit boards.
- Remove all power (AC and back-up battery) before servicing this unit.
- Always conform to local fire and building regulations (if unsure, find out).
- Refer to the system commissioning guide, and follow the details therein regarding:
  + General installation guidelines;
  + Upgrading an existing system;
  + Standards and emissions issues;
  + Input-point circuit-wiring reference;
  + Setting up a new system.
- Then, be sure to follow the details in this document, pertaining to: **Page**

①②③ Typical Steps ①②③

1) Read "Do's & Don'ts" above, & ensure all installation instructions are present.

2) Unpack and check all items. (Ensure you have all necessary items including: Director software, main panel, all modules and peripherals, sensors, all cabling, and all related documentation).

3) Plan device and sensor locations, and run all cables as required. To prevent damage, run cables before mounting the specific modules.

4) Install sensors in desired locations. Be sure to distance all cables from sources of electromagnetic interference (arc welders, motors, ballasts, etc.).

5) Mount these units and supplementary power supplies (see Power Requirements, page 3).

6) Complete the wiring. Refer to the illustration(s) that follow, in addition to the input-point circuit details in the system-commissioning guide.

7) Power up and test as necessary.

8) Install other modules, peripherals, etc. Refer to the instructions for each item. **Tip: Record five digit serial numbers on each keypad to program into the system during Suite Security programming.**

9) Install your software and set up the system. Refer to the on-line help or user's guide provided with your system software, or the commissioning reference guide for your system.

These instructions describe the hardware installation of the MONITOR ISM/AFx 4 Zone Suite Security Keypad. This keypad can only be configured through the Monitor ISM/AFx Director Software in "Suite Security" programming (software and main panel firmware version 4.58E or greater is required). For details, refer to the Director software on-line help or latest Monitor ISM/AFx Director Software User's Guide.
For 4 zone keypad command entries, keypad tones and light display descriptions, please refer to the Multi-Tenant Apartment Security System User Guide, P/N 21-3615.

System Overview

The 4 zone keypad provides suite security for a wide range of applications from a simple strip plaza to a multi-tower residential apartment. When using suite security keypads only, each main control panel can support a maximum of 60 keypads.

10) When finished, ensure all wires are clear, and secure the cover (or door).

11) Hand over to the customer, answer questions and perform training and tests as necessary.

🕮 System Grounding 🕮

Cabinet Grounding: Each metal cabinet in the system must be connected to a locally-approved earth ground, using at least 18 AWG (stranded) cable.

Cable Shield Grounding: The module bus cable shield is to be earth-grounded only at the main panel, and connected together at each module.

Module Logical Grounding: The module bus (–) connection provides a common ground reference for all controller modules. Do **not** connect this to the cabinet earth ground.

Power Supply Grounding: For any supplementary power supplies, the 0V / Ref. Gnd. line must NOT be earth grounded.

🕮 Warning 🕮

Changes or Modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment.

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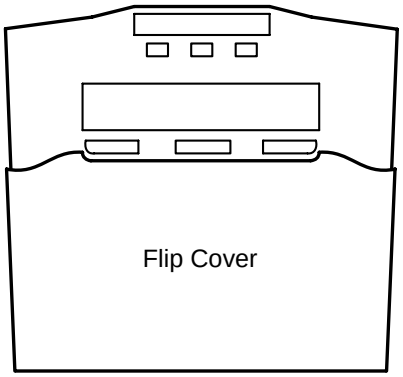
Mounting and Wiring Reference:



Ratings:
LCD Keypad with Reader
Input: 12 – 13.8VDC, 110mA
Output: 12VDC, 1x10mA
Temp : -10°C to +55°C (14°F to 131°F) @ 93%

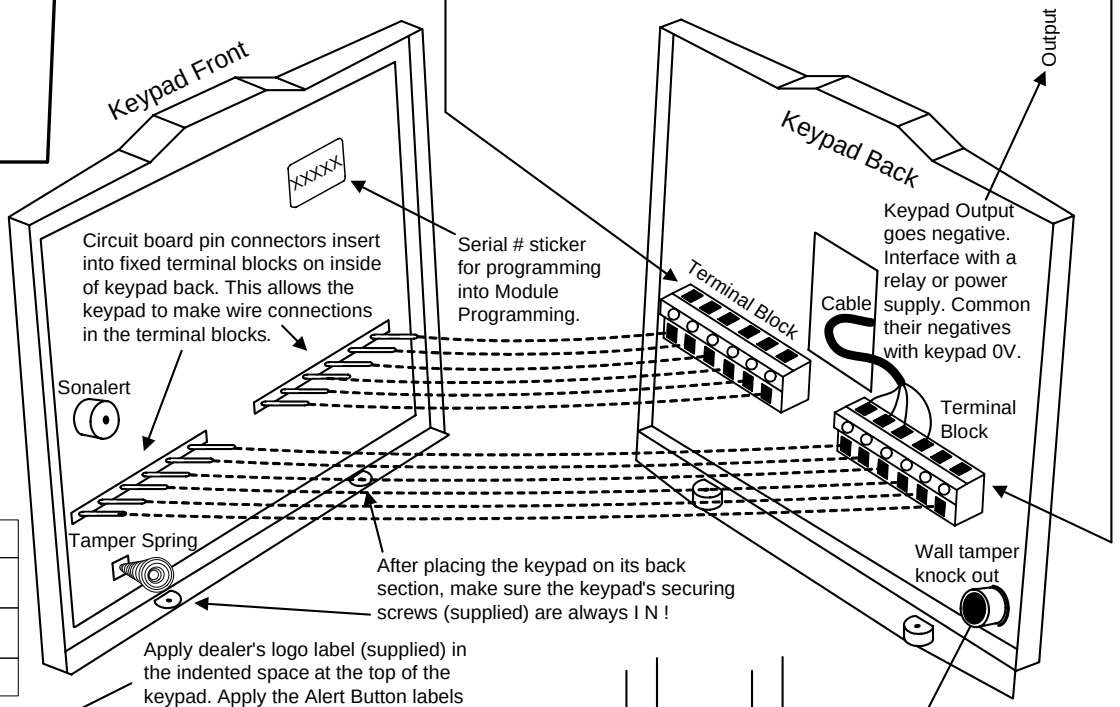
Keypad Terminal Block Wiring
Standard and G-ProxII

Point 1 – 4

1	2	3	4	5	6
PT1	0V	PT2	PT3	0V	PT4
Input 1	Common	Input 2	Input 3	Common	Input 4

Module Bus

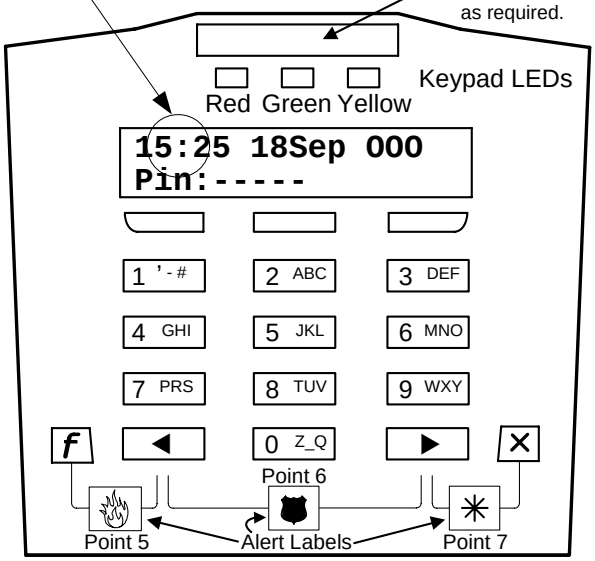
1	2	3	4	5	6
+12V	A	B	0V	Future	OUT



Module Point Assignment:
7 points total.
Points 1 – 4 are hard wire inputs.
Point 5: Fire Alert buttons
Point 6: Panic (Hold-Up) buttons
Point 7: Auxiliary Alert buttons

Bus Status Indicator	
:	Online
;	Unit not enrolled
—	No comms on SNAPP bus

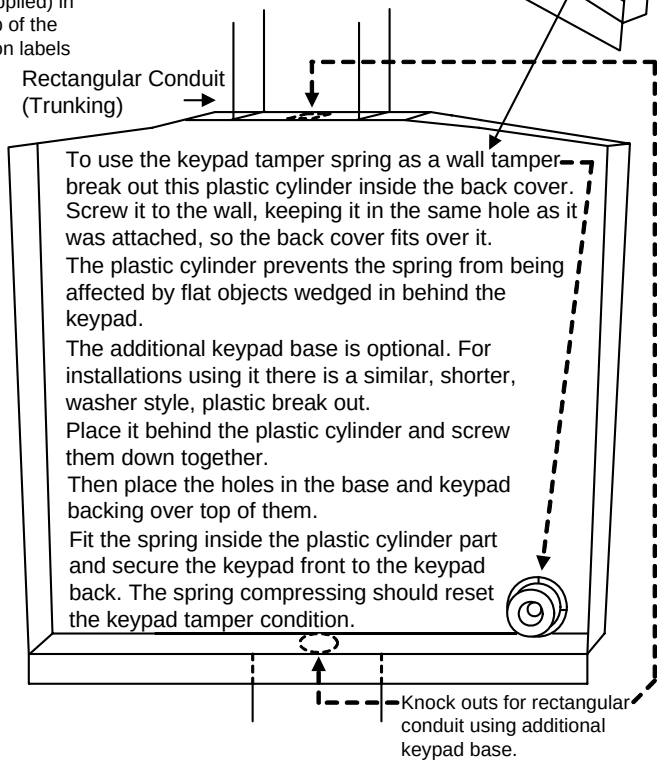
Apply dealer's logo label (supplied) in the indented space at the top of the keypad. Apply the Alert Button labels as required.



Red Flashing: Protection ON
Solid: Partial protection (STAY)

Green On Solid with power present.

Yellow On Solid when points not normal or when point in tamper.



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Power and Cable Requirements:

Power Requirements

- Each 4 zone keypad's current draw is 110 mA. Multiple modules cannot be powered direct from the module bus. A local power supply must be used.
- Power supplies must be located very locally to their 4 zone keypads.
- All power supply negatives must be common and connected to the ISM panel module bus negative.
- Power supply wiring has to be of a gauge large enough to provide correct voltage at the last module in a run, belonging to that power supply. Typically 18 gauge or larger. 18 gauge power cable: Guardall P/N 947-3400.
- In a multiple floor, riser installation with a height of 10 feet (3.1 meters)/floor, using 18 gauge power cable with a lead in of up to 100 feet (30.5 meters) from power supply to the first module, the power supply will be limited to powering seven modules, only. This will ensure 12V at the last module of the group. The next group of 7 modules up in a vertical formation, would then need their own power supply, located within 100 feet (30.5 meters) of that next group's first module.
- Seven modules will require a minimum 1 AMP power supply. A larger capacity power supply can be used, however, it is still limited to seven modules, due to the power loss in the cable.
- A 4 zone keypad requires 12 to 13.8 volts DC to function normally. However, under extreme conditions (e.g. primary power loss) it can still process activities marginally at 10VDC.
- The module communication cable must not carry the power supply current because of the smaller wire gauge.
- Both wires in the power cable must be of the same gauge (e.g. 18AWG).
- However, the spare wire pair of the communication cable can be used to common the negatives of the various power supplies with each other and the ISM module bus 0V negative, which, is required.

Cable Requirements for Module Bus Data A and B

- 24AWG, 2 twisted stranded pair, shielded, with an impedance value of 120 ohm, low capacitance: 12.5-pF/1 foot (41-pF/1 meter), e.g. Belden 9842. Guardall P/N 947-3401 communication cable meets these specifications.
- The communication cable shield is grounded at the ISM main panel end (e.g. panel ground lug). "B" connected together at each module interconnection and cut off, not connected to anything, at the last module in the group.
- The maximum module cable distance is 2000 ft (610 meters) per ISM main panel module bus 1 or 2 at the main control unit motherboard. Module star wiring configurations cannot be used. Module connections must run on a straight trunk, with no straight out, branch offs to another module. You must go out to the module and come back with the cable to go to the next module.
- For ISM main panel module Bus 1 and 2 should be evenly balanced with up to 30 Suite Security keypads each to equal the system capacity of 60.
- If more than 30 modules are required to be on a single bus, a SNAPP Expander module should be placed in series with the SNAPP bus to split the modules into approximately two equal groups along the length of the SNAPP bus. The SNAPP Expander module should be located near a power supply to provide power to the expander as well as the 4 zone modules.

Special Installation and Servicing 4 Zone Keypad Command Features:

Display a 4 Zone Keypad's 5-Digit Programming Serial Number:

Prevents the need to remove the keypad housing from its base to review the Suite Security programming serial number label on the back of the keypad's printed circuit board.

1. **Number is displayed for 4 seconds after the 7 second power up delay.**
2. If unit is already powered then

- enter a valid 'PIN',
- select "Status"
- select "Other"
- Display will show the F/W version and unit serial number.

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View 4 Zone Keypad Module Bus Data Communications

3. Observe the time display on the LCD screen of the module. The character used to separate the hours from the minutes is used to display the communication status according to the following table:

Character	Meaning	Possible Causes
:	Online	All is OK
;	Module does not see messages addressed to itself on SNAPP bus, (not enrolled)	Module serial # may have been incorrectly entered at the main control
_	No bus communications at all	cable, connections, or module fault

Specifications:

System Architecture

RS485 communications from Module to MONITOR main panel.

Single Output

Switches to negative when activated. This is not a positive “voltage going high” output.

4 Programmable Protection Point Input Types:

- Normally Closed
- Normally open with 2.2K End of Line resistor.

Enclosure Dimensions and Mounting:

4.6” (117 mm) wide, 5.4” (137mm) high, 1.125” (29 mm) deep , (1.29” (33 mm) deep with optional trunking spacer plate)

Suitable for mounting over North American single gang electrical box or surface mount on drywall etc.

Material:

Moulded Plastic, White.

Environmental:

-10°C to 55°C (14°F to 131°F)

Humidity Range:

10% to 93%

FCC Compliance Statement:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:(1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to 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 in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, 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 the 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.

Changes or modifications not expressly approved by GUARDALL could void the user's authority to operate this equipment.

Canadian Compliance Statement:

This Class B digital apparatus complies with Canadian ICES-003.