



INSTALLATION INSTRUCTIONS

**GEM-EZM4, GEM-EZM8
ZONE EXPANSION MODULES
for MA3000, GEM-Series,
Signature S5500 & SS-P Series
Control Panels**

DESCRIPTION

The capacity of the MA3000, GEM-Series and Signature 5500 and SS-P Series control panels may be expanded through the use of GEM-EZM zone expansion modules. GEM-EZM4 modules provide up to four additional zones; GEM-EZM8 modules, up to 8 additional zones. Four-zone and 8-zone modules may be combined as necessary to supply the required number of zones. Refer to the installation instructions for the control panel in use for wiring requirements for UL-listed applications.

WIRING

Wire the expansion zones to the module and the module to the control panel in accordance with the wiring diagrams using wire no thinner than #22AWG. Install end-of-line resistors on all zones even if one or more zones are not used.

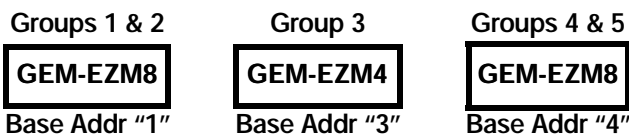
Note: The addition of Zone Expansion Modules will reduce the amount of current available at the control panel's Auxiliary Power Output terminals.

MODULE ASSIGNMENT

Regardless of how the modules are arranged, the expansion zones are divided into consecutively-numbered groups of four. Each 4-zone module comprises one group of zones; each 8-zone module comprises two groups.

Every module must be assigned a unique "base address". In the case of a 4-zone module, the base address number is the same as its group number. For the 8-zone module, the base address number will be the lower of its two group numbers. Note that (a) groups must be numbered consecutively (that is, missing numbers are not permitted); and (b) no two modules may be numbered alike.

Example. Two GEM-EZM8s and one GEM-EZM4 are used to provide 20 expansion zones:



The base address is assigned to the module by proper selection of Address Jumpers JP1-JP5 (to the right of the LED) in accordance with Table 1. Also refer to the Zone Wiring Diagram.

Base Address	Address Jumpers				
	JP5	JP4	JP3	JP2	JP1
1	ON	ON	ON	ON	OFF
2	ON	ON	ON	OFF	ON
3	ON	ON	ON	OFF	OFF
4	ON	ON	OFF	ON	ON
5	ON	ON	OFF	ON	OFF
6	ON	ON	OFF	OFF	ON
7	ON	ON	OFF	OFF	OFF
8	ON	OFF	ON	ON	ON
9	ON	OFF	ON	ON	OFF
10	ON	OFF	ON	OFF	ON
11	ON	OFF	ON	OFF	OFF
12	ON	OFF	OFF	ON	ON
13	ON	OFF	OFF	ON	OFF
14	ON	OFF	OFF	OFF	ON
15	ON	OFF	OFF	OFF	OFF
16	OFF	ON	ON	ON	ON
17	OFF	ON	ON	ON	OFF
18	OFF	ON	ON	OFF	ON
19	OFF	ON	ON	OFF	OFF
20	OFF	ON	OFF	ON	ON
21	OFF	ON	OFF	ON	OFF
22	OFF	ON	OFF	OFF	ON

Table 1. Jumper emplacement as a function of Base Address. Shaded area is not applicable to GEM-P3200 or SS-P3200.

PROGRAMMING

The control panel must be programmed with regard to the modules (4-zone or 8-zone) in use. Referring to the respective Programming Workbook, program *EZM TYPE* to enable the module. Starting in the first location and proceeding in succession, program a "1" for each 4-zone group of expansion zones in the system. For example, if one GEM-EZM8 is used for Zones 9 through 16 (two groups of 4), program a "1" in the *first* and *second* locations (*right "nibble"*). Similarly, if an GEM-EZM4 is used for Zones 17 through 20 (1 group), program a "1" in the *third* location (*right "nibble"*). Thus, each GEM-EZM4 will require a "1" in only one location whereas each GEM-EZM8 will require a

"1" in two consecutive locations.

TAMPER

If the cover is removed, the keypad sounder will pulse and the display will indicate a zone-module tamper condition along with the module number. Press [RESET] to silence the sounder.

LOOP RESPONSE

Loop response times for Zones 1 through 8 are programmed in the control panel. Normal loop response for all expansion zones is 750mS. To reduce the response time of an expansion zone to 50mS, cut the respective resistor at the upper-left corner of the board. Refer to the Wiring Diagram.

STATUS LED

The Status LED displays the condition of the zone module. The LED will blink every few seconds to indicate that each 4-zone group is operating normally. The LED in the 4-zone module will blink once; the LED in the 8-zone module will blink once for the first group, then double-blink shortly thereafter for the second. See *TROUBLESHOOT-*

ING for other indications.

PGM TERMINAL

The PGM terminal (Terminal 6) will go low when the area is armed. This terminal may be used to light an LED or trip auxiliary equipment. **Note:** This terminal is programmed in the control panel; it may be selected to trip when *any* one area is armed (not necessarily its own). Refer to the installation instructions for the control panel for programmable options.

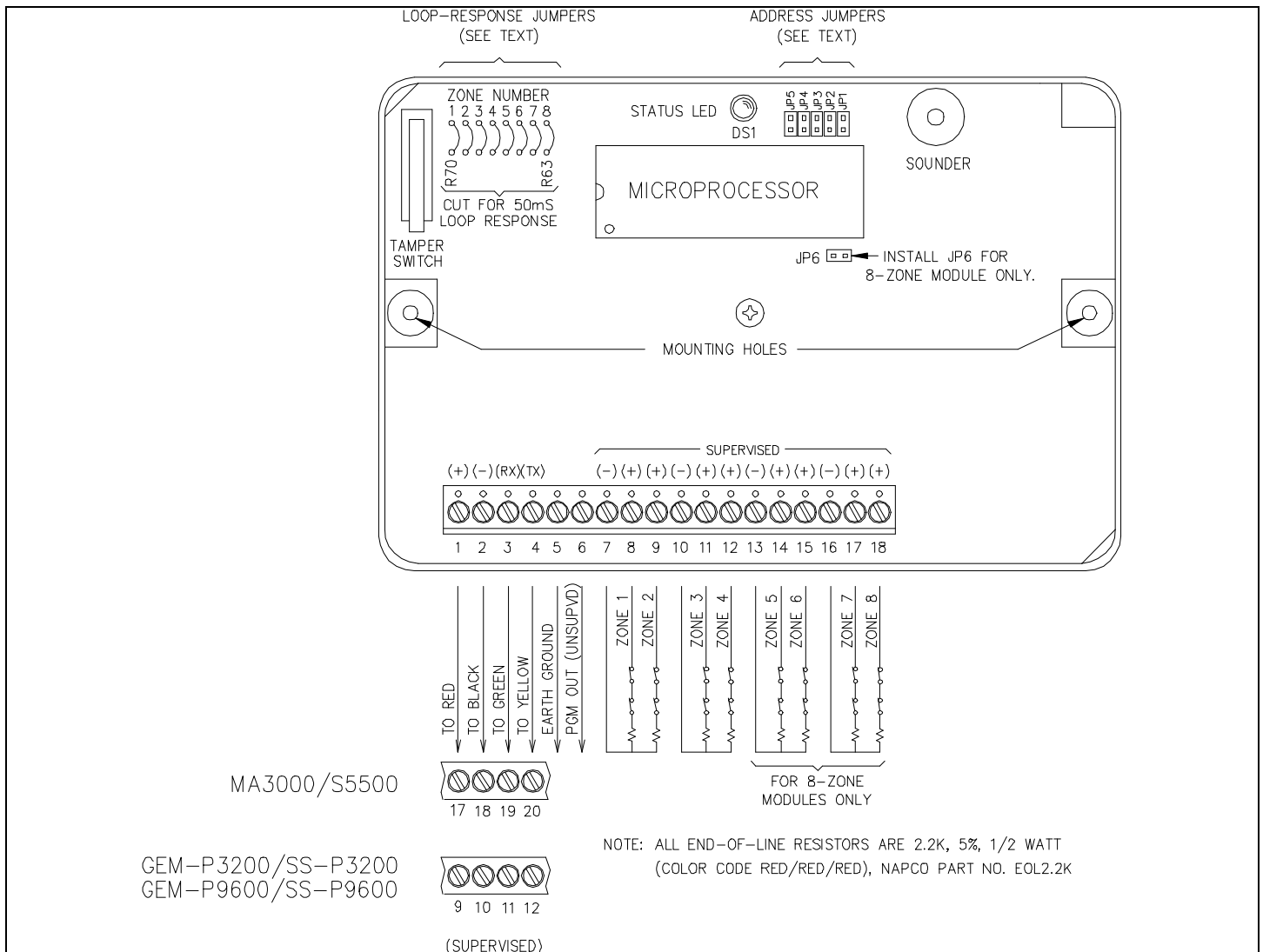
4Z/8Z ZONE JUMPER

To convert an 8-zone module for use with only 4-zones, remove the jumper just below the large microprocessor IC on the circuit board.

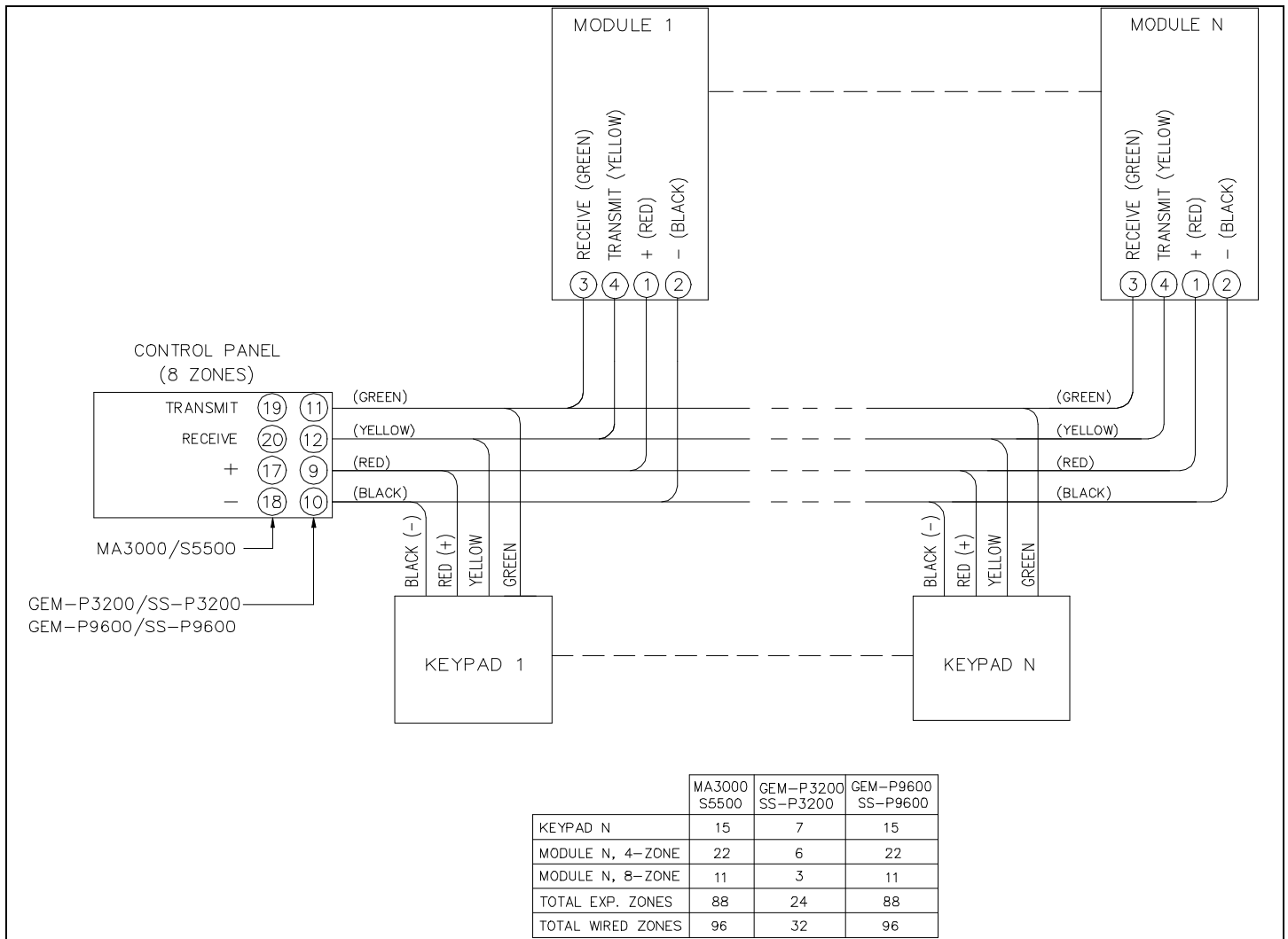
TROUBLESHOOTING

- A steady Status LED is most likely caused by loss of data reception from the control panel at the module's Terminal 3.
- No illumination is most likely due to a loss of power at Terminals 1 and/or 2.

WIRING DIAGRAMS



Zone Wiring Diagram.



System Wiring Diagram.

NOTES