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## INSTALLATION INSTRUCTIONS

# GEM-EZM4 and GEM-EZM8 ZONE EXPANSION MODULES

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### DESCRIPTION

The capacity of the MA3000 and GEM-Series control panels may be expanded with the use of GEM-EZM modules. The GEM-EZM4 provides four additional zones; the GEM-EZM8 provides 8 additional zones with the option to be configured for only 4 zones. The 4-zone and 8-zone modules as well as GEM-RP1CAe2 4-zone EZM 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.

### COMPATIBLE CONTROL PANELS

See the individual control panel installation instructions to verify compatibility.

### SPECIFICATIONS

Current Draw: .....50mA (not including PGM output)  
Dimensions:.....6¼" x 3⅝" x 1½" (W x H x D)  
Operating Temperature:..... 0 - 49°C (32-120°F)

### 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 2.2KΩ 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 standby current available at the control panel's Auxiliary Power Output terminals.

### 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 the *EZM TYPE* to enable the module. Starting in the first location and proceeding in succession, program "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 "1" in *the first and second* locations *right* "nibble". Similarly, if a 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.

### 4-ZONE/8-ZONE JUMPER

JP6, the 4-Zone/8-Zone Jumper determines the number of zones to be supported by the EZM-8 module. If JP6 is installed, the EZM8 will provide 8 zones. If JP6 is removed, it will provide 4 zones (module zones 1-4).

### LOOP RESPONSE

Loop response times for Zones 1 through 8 (1-4 for the GEM-EZM4) are programmed in the control panel. Normal loop response for all expansion zones is 750mS. The loop response for individual zones of the module may be reduced to 50mS by cutting the respective Loop-Response Jumper (1-4 for the GEM-EZM4 or 1-8 for the GEM-EZM8). For example, to reduce the loop response of module zones 4 & 5, cut Loop Response Jumpers 4 & 5. Refer to the wiring diagram for the location of the Loop-Response Jumpers.

### STATUS LED

The Status LED displays the condition of the zone module. The following is a list of conditions for the LED:

- OFF** = Module has no power applied.
- ONE FLASH** = first 4 zones of module have been polled.
- TWO FLASHES** = second 4 zones of module have been polled.
- ON STEADY** = Module has power applied but the panel is not polling because:
  - a. the panel is in "CONFIG";
  - b. the panel is not programmed correctly to poll the address of the EZM;
  - c. the GRN wire is not connected correctly.

### PGM TERMINAL

The PGM terminal (Terminal 6) may be used to provide an Area-Armed indication. It will go low (drop to less than 1 volt) when active. 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.

## MODULE ASSIGNMENT

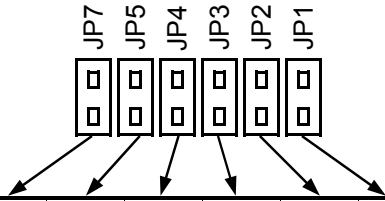
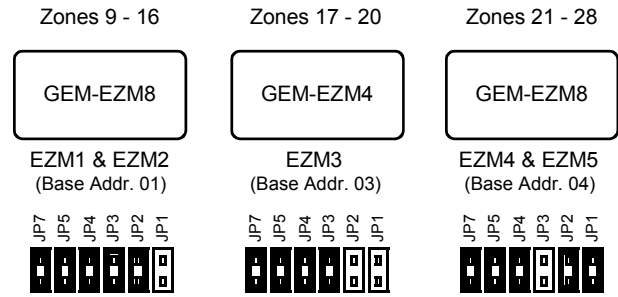
Regardless of how the modules are arranged, the expansion zones are divided into consecutively-numbered groups of four. Each 4-zone module comprises one group of zones; each 8-zone module comprises two groups.

Every module must be assigned a unique base address. In the case of a 4-zone module (as in the GEM-RP1CAe2 expansion 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.

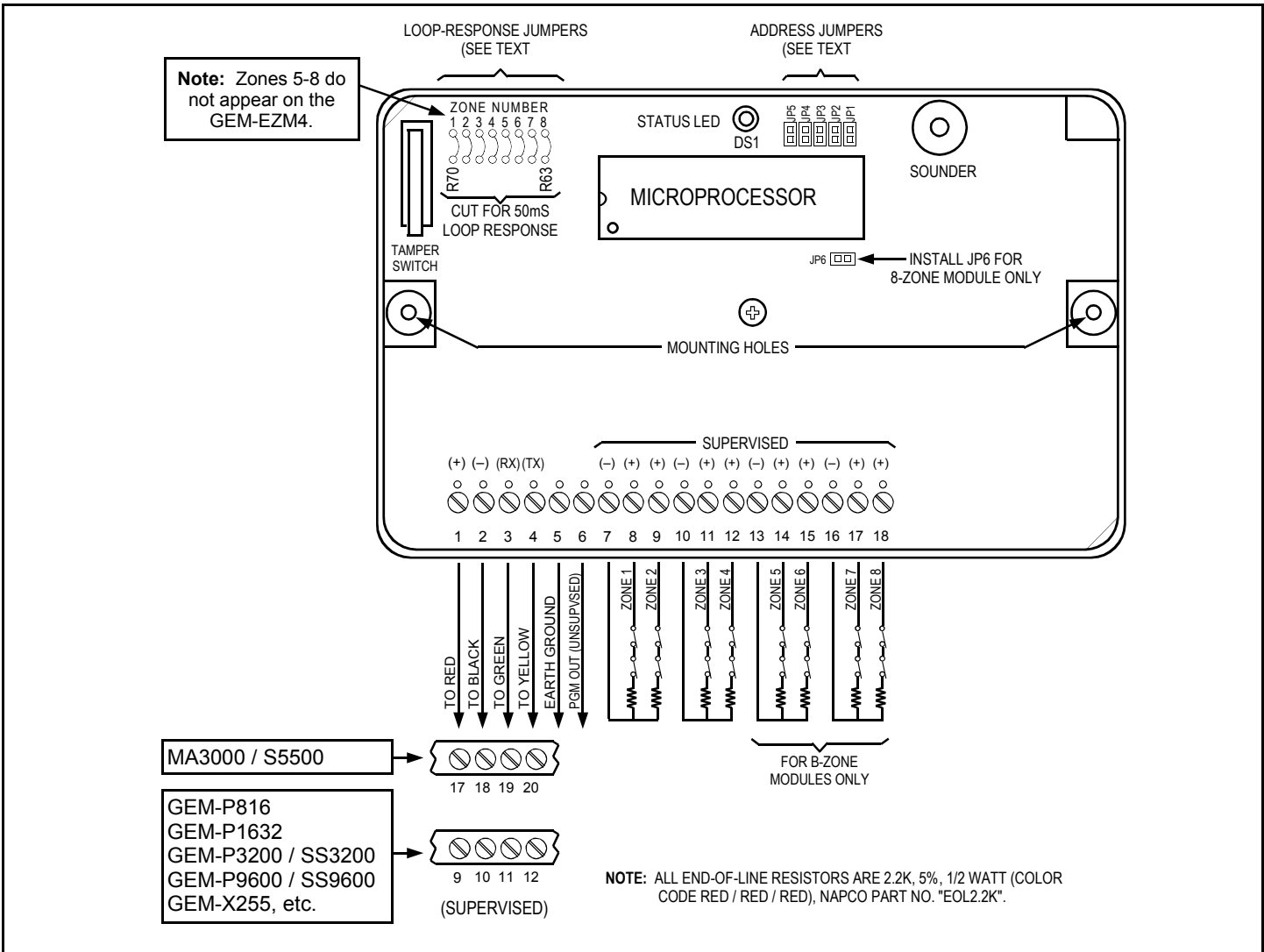
Refer to the table below for the address jumper settings for eh GEM-EZM-8 module.

*Example.* Two GEM-EZM8 and one GEM-EZM4 are used to provide a 28 zone system:

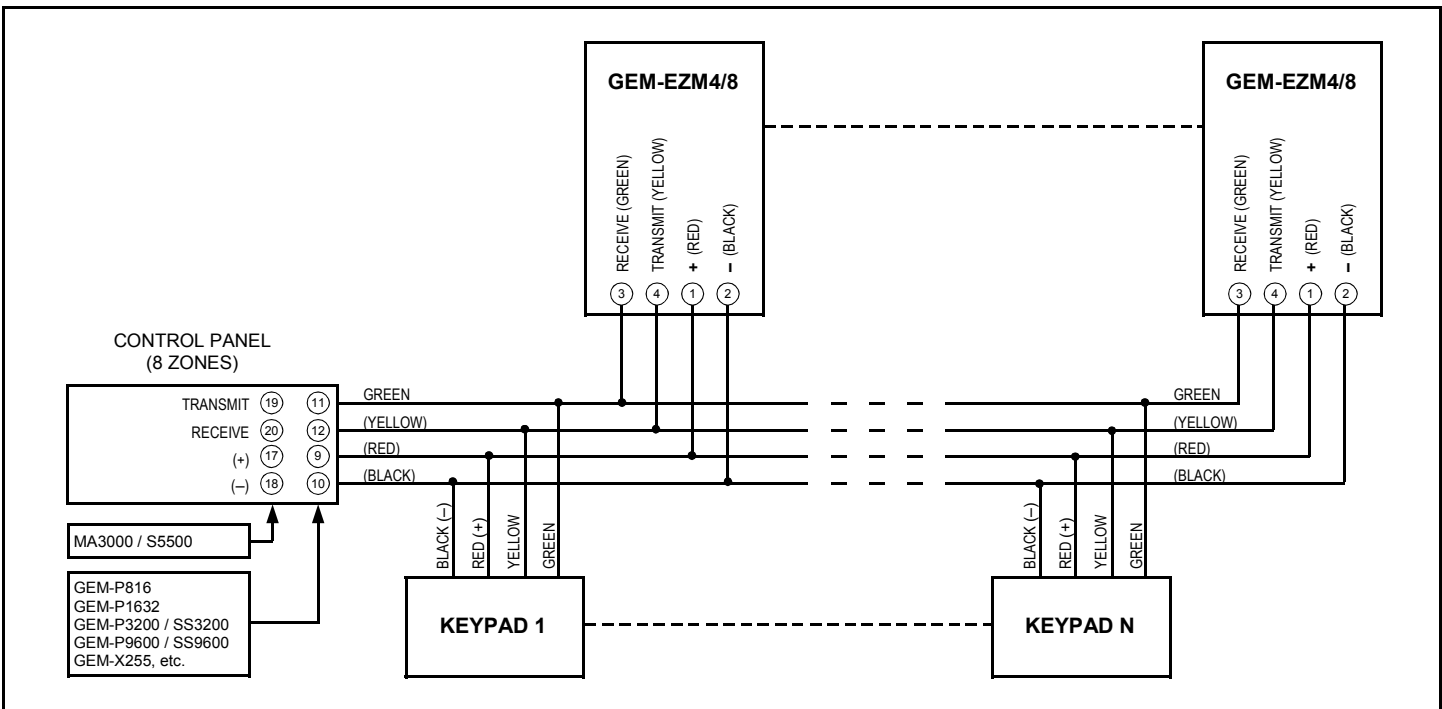


ADDR	ZONES	JP7	JP5	JP4	JP3	JP2	JP1
01	09 - 12	ON	ON	ON	ON	ON	off
02	13 - 16	ON	ON	ON	ON	off	ON
03	17 - 20	ON	ON	ON	ON	off	off
04	21 - 24	ON	ON	ON	off	ON	ON
05	25 - 28	ON	ON	ON	off	ON	off
06	29 - 32	ON	ON	ON	off	off	ON
07	33 - 36	ON	ON	ON	off	off	off
08	37 - 40	ON	ON	off	ON	ON	ON
09	41 - 44	ON	ON	off	ON	ON	off
10	45 - 48	ON	ON	off	ON	off	ON
11	49 - 52	ON	ON	off	ON	off	off
12	53 - 56	ON	ON	off	off	ON	ON
13	57 - 60	ON	ON	off	off	ON	off
14	61 - 64	ON	ON	off	off	off	ON
15	65 - 68	ON	ON	off	off	off	off
16	69 - 72	ON	off	ON	ON	ON	ON
17	73 - 76	ON	off	ON	ON	ON	off
18	77 - 80	ON	off	ON	ON	off	ON
19	81 - 84	ON	off	ON	ON	off	off
20	85 - 88	ON	off	ON	off	ON	ON
21	89 - 92	ON	off	ON	off	ON	off
22	93 - 96	ON	off	ON	off	off	ON
23	97 - 100	ON	off	ON	off	off	off
24	101 - 104	ON	off	off	ON	ON	ON
25	105 - 108	ON	off	off	ON	ON	off
26	109 - 112	ON	off	off	ON	off	ON
27	113 - 116	ON	off	off	ON	off	off
28	117 - 120	ON	off	off	off	ON	ON
29	121 - 124	ON	off	off	off	ON	off
30	125 - 128	ON	off	off	off	off	ON
31	129 - 132	ON	off	off	off	off	off

ADDR	ZONES	JP7	JP5	JP4	JP3	JP2	JP1
32	133 - 136	off	ON	ON	ON	ON	ON
33	137 - 140	off	ON	ON	ON	ON	off
34	141 - 144	off	ON	ON	ON	off	ON
35	145 - 148	off	ON	ON	ON	off	off
36	149 - 152	off	ON	ON	off	ON	ON
37	153 - 156	off	ON	ON	off	ON	off
38	157 - 160	off	ON	ON	off	off	ON
39	161 - 164	off	ON	ON	off	off	off
40	165 - 168	off	ON	off	ON	ON	ON
41	169 - 172	off	ON	off	ON	ON	off
42	173 - 176	off	ON	off	ON	off	ON
43	177 - 180	off	ON	off	ON	off	off
44	181 - 184	off	ON	off	off	ON	ON
45	185 - 188	off	ON	off	off	ON	off
46	189 - 192	off	ON	off	off	off	ON
47	193 - 196	off	ON	off	off	off	off
48	197 - 200	off	off	ON	ON	ON	ON
49	201 - 204	off	off	ON	ON	ON	off
50	205 - 208	off	off	ON	ON	off	ON
51	209 - 212	off	off	ON	ON	off	off
52	213 - 216	off	off	ON	off	ON	ON
53	217 - 220	off	off	ON	off	ON	off
54	221 - 224	off	off	ON	off	off	ON
55	225 - 228	off	off	ON	off	off	off
56	229 - 232	off	off	off	ON	ON	ON
57	233 - 236	off	off	off	ON	ON	off
58	237 - 240	off	off	off	ON	off	ON
59	241 - 244	off	off	off	ON	off	off
60	245 - 248	off	off	off	off	ON	ON
61	249 - 252	off	off	off	off	ON	off
62	253 - 255	off	off	off	off	off	ON



**Zone Wiring Diagram**



**System Wiring Diagram**

## NAPCO LIMITED WARRANTY

NAPCO SECURITY SYSTEMS, INC. (NAPCO) warrants its products to be free from manufacturing defects in materials and workmanship for *thirty-six 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.

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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.

In case of defect, contact the security professional who installed and maintains your security system. In order to exercise the warranty, the product must be returned by the security professional, shipping costs prepaid and insured to NAPCO. After repair or replacement, NAPCO assumes the cost of returning products under warranty. 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.

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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.

NAPCO is not an insurer of either the property or safety of the user's family or employees, and limits its liability for any loss or damage including incidental or consequential damages to NAPCO's original selling price of the product regardless of the cause of such loss or damage.

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