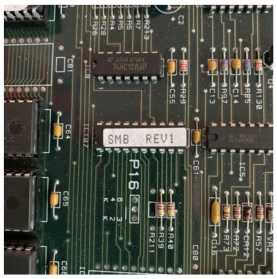


SIEMENS ZCI-8B Zone Control Card Module Instruction Manual

SIEMENS

ZCI-8B Zone Control Card Module
Installation Instructions
Model ZC1-8B Zone
Control Card Module

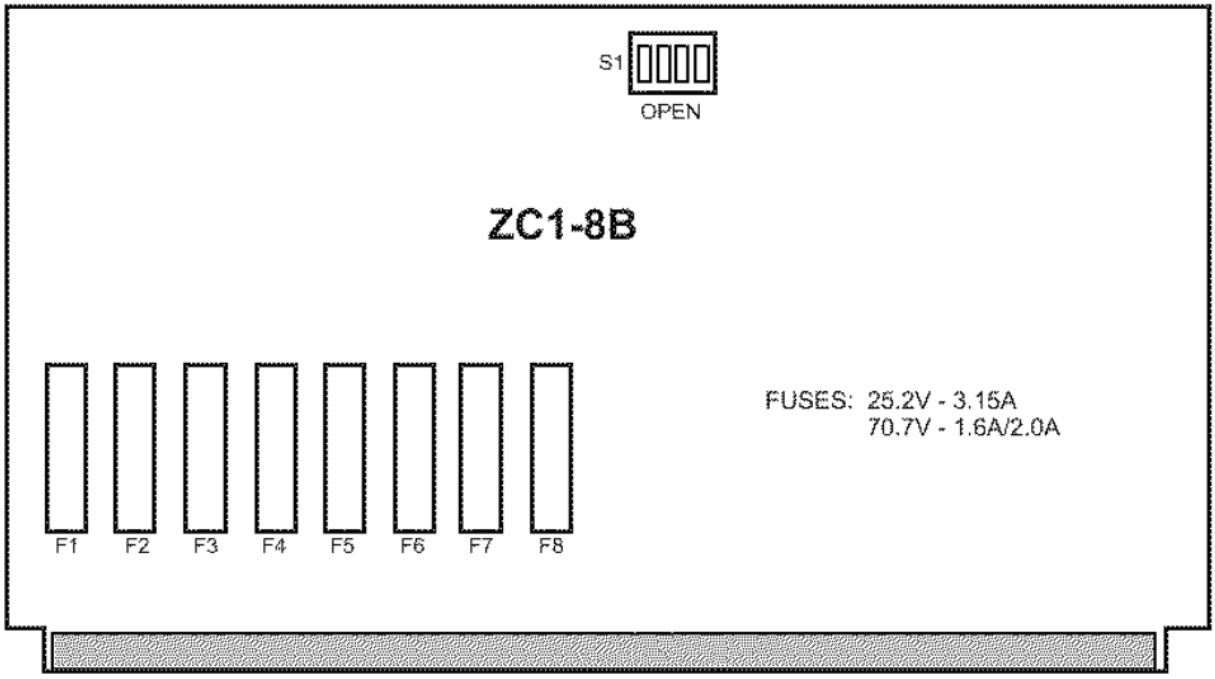
Contents

INTRODUCTION

The Model ZC1-8B Zone Control Card from Siemens Industry, Inc. has one channel of audio input and eight audio zone outputs. The module name indicates the following information:
ZC1 — Zone Card with one audio input
8B — 8 Zone Class B (Style Y) outputs
The one channel of either 25.2V or 70.7V RMS amplified audio input connects to this card through the OMM-1/-2 screw terminals next to the OMM-11-2 edge connector.
All ZC1-8B output zone circuits are supervised, protected by fuses, and used for Class B (Style Y) operation only. Use the ZC1-8B module with 3.15A fuses, P/N 545-696401, for 25V speaker and strobe circuits. The eight available zones may be all speaker, all strobe, or a mix of the two types. The eight zones may be divided into groups of 3, 3, and 2, with each group used as either speaker or strobe circuits. A separate amplifier may feed each group for speaker application. Refer to Figure 6 for more information.

TABLE 1					
MODULE	AUDIO CHA NNELS	AUDIO OUTPUTS	ZONE ST YLE	AUDIO INPUT/ OUTPUTRATING	USE
ZCI-8B with 3.1 SA rusts	1	8	Class B(St yle Y)	25V RMS	Speaker andlor sfrobc
2C1.86 wall I GA..2 OA Imes	1	8/3	CBss B{S W*Y)	70.7V RMS	Speaker only

Use the ZC1-8B with 1.6A fuses, P/N 105-250703, or 2.0A fuses, P/N 545-696402, for 70V speaker circuits only. The ZC1-8B occupies one of eleven subaddresses of the OCC-1 Output Control Card module. When installing a zone control module, use the CSG-M (AccuLINK) configuration printout to locate the address of each zone control card. Use switch S1 to set the unique address for up to 11 zone control cards as described in Table 2.
Refer to the PLC-4 Instructions, P/N 315-093312, for additional wiring information.
For additional information on the Voice Sys-tem, refer to the MXLV Manual, P/N 315-092036.



INSTALLATION

Remove all system power before installa-tion, first battery and then AC. (To power up, connect the AC first and then the battery.)

1. Remove the card from its protective bag. Do not touch the gold edge of the board.
2. Refer to the function section of the CSG-M configuration printout for the address of the module.
3. Set the card address on switch Si using dipswitches SW1—SW4. (SW5 is not used at this time.)
   a. Refer to Figure 1 for the location of S1.
   b. Refer to Table 2 for switch settings (See Note below).
4. The ZC1-8B comes with 1.6A fuses, P/N 105-250703, installed at the factory.

For 25V installations, remove the 1.6A fuses, Fl — F8, and install the 3.15A fuses. P/N 545-696401, found in the installation kit with the user key and the end-of-line resistors.

TABLE 2											
ADDR	5	4	3	2	1	ADDR	5	4	3	2	1
ILLEGAL	O	O	O	O	O	8	O	X	O	O	O
1	O	O	O	O	X	9	O	X	O	O	X
2	O	O	O	X	O	10	O	X	O	X	0
3	O	O	O	X	X	11	O	X	O	X	X
4	O	O	X	O	O	ILLEGAL	O	X	X	O	O
5	O	O	X	O	X	ILLEGAL	O	X	X	O	X
6	O	O	X	X	O	ILLEGAL	O	X	X	X	O
7	O	O	X	X	X	ILLEGAL	O	X	X	X	X

X = SWITCH CLOSED OR ON, **0** = SWITCH OPEN OR OFF

NOTE: To open a dipswitch, press down on the side of the dipswitch marked OPEN. To close a dipswitch, press down on the side of the dipswitch opposite the side marked OPEN.

To open a slide switch, push the slide to the side opposite the side marked ON. To close a slide switch, push the slide to the side marked ON.

Do NOT install the card in its edge connector until ALL OMM-1/-2 field wiring is completed and checked for shorts, opens, and other faults. Refer to the Wiring Checkout Chart. Replace the card in its protective bag if the wiring is not complete. Find the user key provided in the installation kit with the ZC1-8B board. Place the user key in the OMM-1/-2 edge connector for the ZC1-8B as shown in Figure 2. See Figure 3 for the exact location of the key for this module. This prevents installation of any other card type in the ZC1-88 slot. Two other keys already installed in the OMM-1/-2 prevent reverse installation of the card in the OMM-1/-2 edge connectors. (See Figure 3.) Place the card in its card edge connector correctly. The components on the board must face the 22-position terminal block where the wiring is termi-nated. Press the card firmly in place to be sure it is seated properly in the edge connector.

CAUTION At all times handle all plug-in cards with extreme care. When inserting or removing a card, be sure the position of the card is kept at right angles to the OMM-1 /-2 hoard. Otherwise, the plug-in card can damage or displace other components.

Figure 2 Installing the User Key in the OMM Card Edge Connector

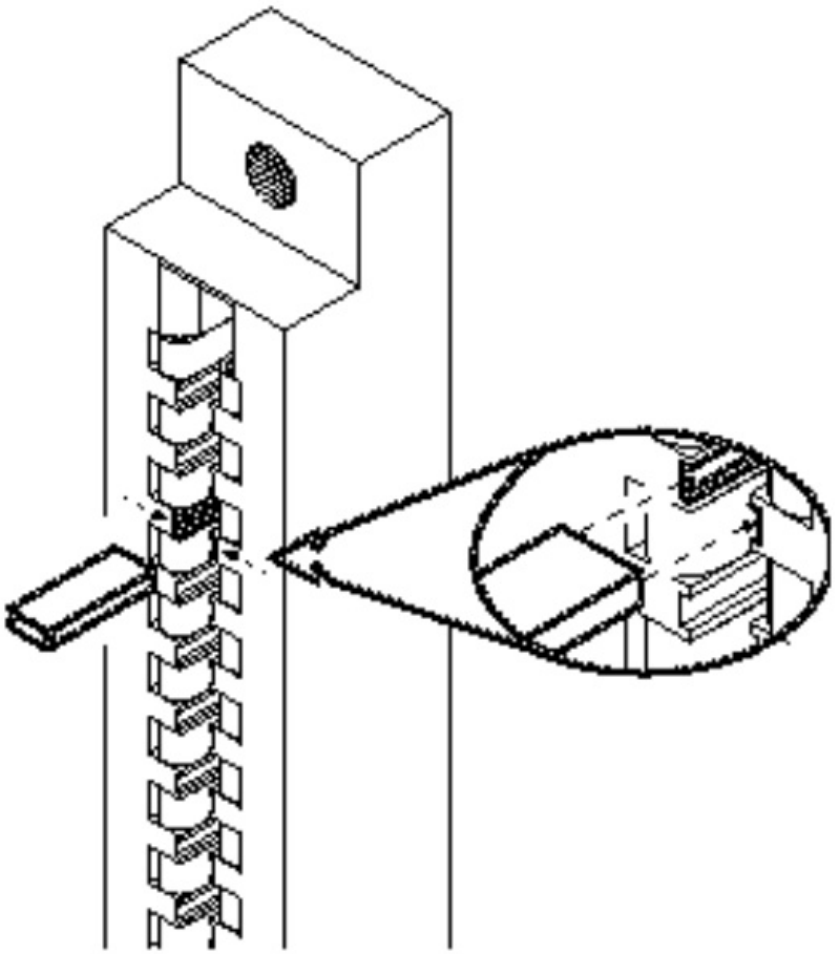
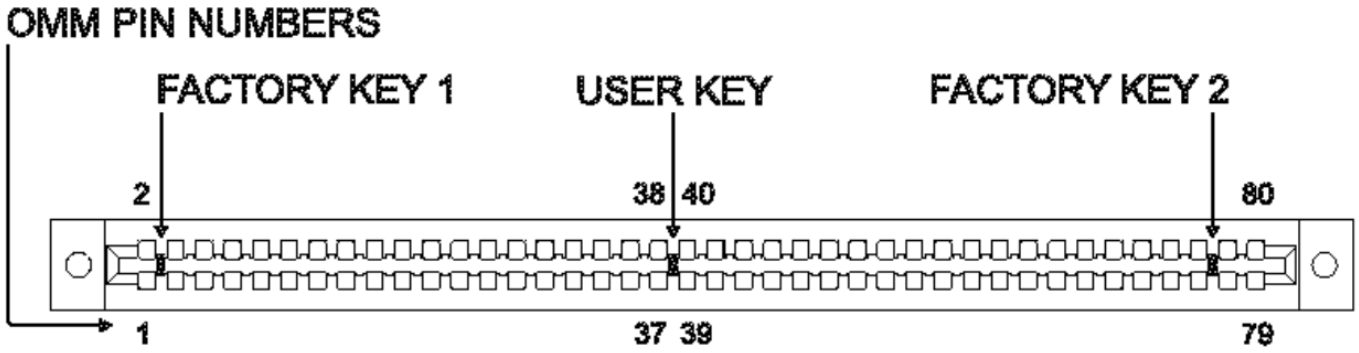


Figure 3 Location of User Key for 2C1-8B



ELECTRICAL RATINGS

Active 5VDC Module Current	5mA
Active 24VDC Module Current	22mA per active output
Standby 24VDC Module Current	2mA

Refer to Figure 1 for fuse locations

1. Maximum wire size: 14 AWG twisted pair*

*Use shielded wiring on strobe circuits when they are in the same raceway as audio wiring.

2. Minimum wire size: 18 AWG twisted pair*

3. Maximum loop resistance: Total Resistance for Each Zone

Speaker 70.7V

RMS: 6.5 ohms max, 25W (0.35A)

3.25 ohms max, 50W (0.71A)

2.28 ohms max, 70W (1.0A)
1.63 ohms max, 100W (1.4A)
25.2V RMS: 3 ohms max. 37.5W (1.5A)
2.5 ohms max, 45W (1.8A)
Strobe 3 ohms max, (1.5A)
2.5 ohms mas, (1.8A)
4. Inputs: Speaker 25.2 or 70.7V RMS
Strobe 24V unfiltered, full wave rectified
5. Outputs: Supervisory 1.5 VDC, 0.06mA Activated
Speaker 25.2V RMS. 45W max, 1.8A max
Strobe 16-32V unfiltered, full wave rectified special application 45W, 1.8 A
70.7V RMS. 70W max, 1.0A max (with 1.6A fuse)
70.7V RMS. 100W max, 1.4A max (with 2.0A use)
6. Fuses: 25.2V 3.15A, 250V (PIN 545.696401)
70.7V 1.6A, 250V (PIN 105-250703)
70.7V 2.0A, 250V (PIN 545-696402)
7. End of line resistor: 24K, 1/2W, ±5% (P/N 140-820405)
8. Max card output?:
Speaker 25.2V RMS, 3.9A, 100W
70.7V RMS. 1.4A, 100W
Strobe 14.4& non-power limited 11.6A, power limited
For separate sources for each of the three inputs, ref or to the appropriate wiring diagram.
WIRING
Refer io Figures 4, 5, and 6.
All wiring must comply with national and local codes.
Terminate all unused outputs with an EOL resistor. Some signal is lost in the zone wires due to line resistance. Refer to the Speaker Application Guide (**http://www.buildingtechnologies.usa.siemens.com/Supporti?languagecode=en**.
Then click on Application Guide in Fire Safety) for further information. A reduc-tion in load reduces the loss. Use the largest wire size possible for the minimum loss.

25/70.7V RMS SPEAKER UNITS:

Any UL listed Fire Protective Signaling Speaker rated 25/70.7V RMS may be connected to this cir-cuit. See P/N 315-096363 for compatible combina-tion speaker strobe models.

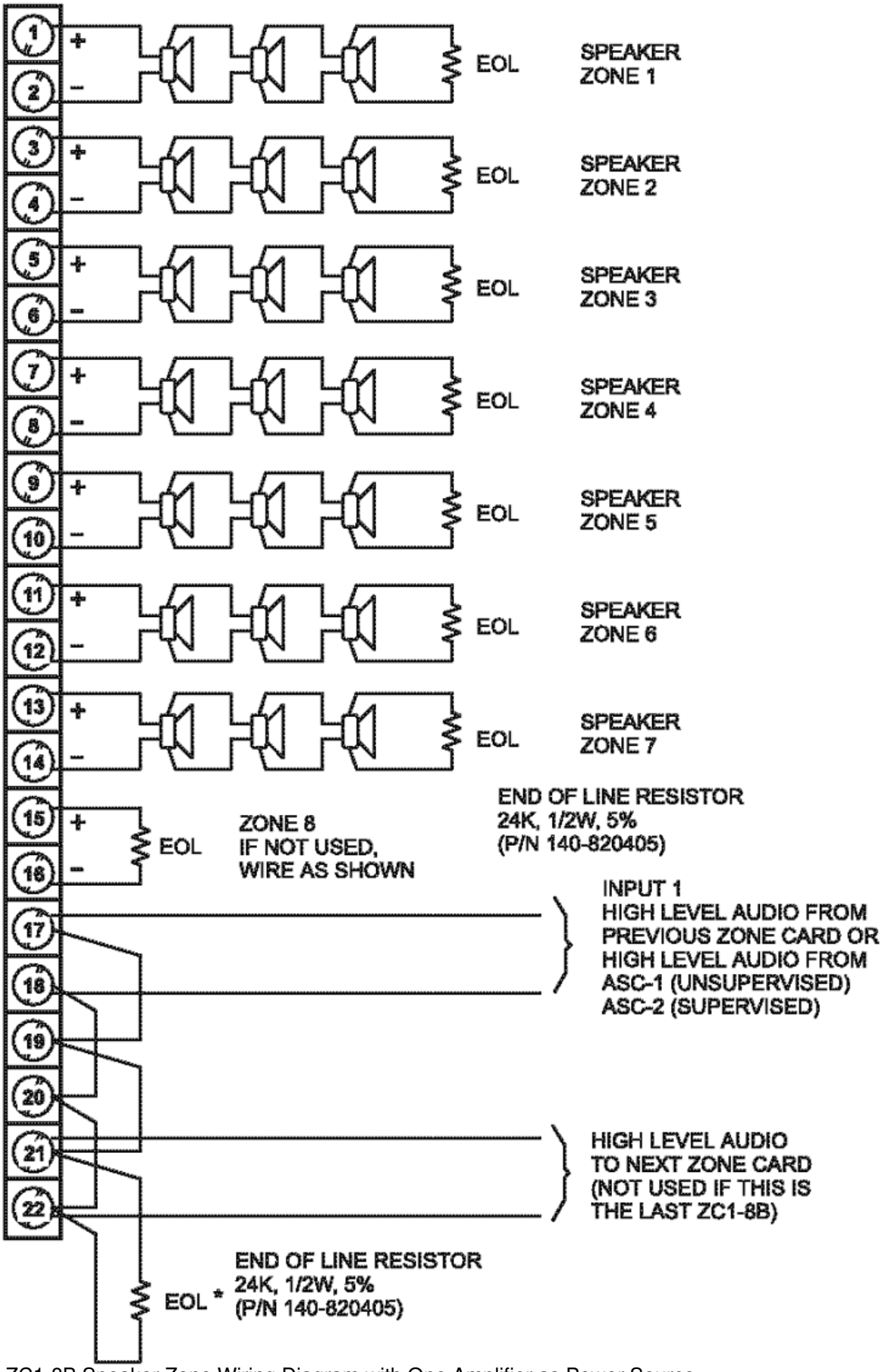


Figure 4 ZC1-8B Speaker Zone Wiring Diagram with One Amplifier as Power Source

ALL ZONES SUPERVISED, POWER LIMITED*

*Power Limiting is accomplished using the PLC-4 and PL864-25A, -70A, or -25S as required

All wiring must comply with Article 760 of the NEC or the local building codes.

Maximum Loop Resistance:

70.7V RMS. 6.5 ohms max, 25W

25.2V RMS, 3 ohms max, 37.5W
25.2V RMS, 2.5 ohms max, 45W
Minimum Wire Size: 18 AWG
Maximum Wire Size: 14 AWG
Supervisory Speaker Zone Connections
Supervisory: 1.5 VDC, 0.06mA
Activated: 252V RMS, 45 watts max (1.8A)
70.7V RMS, 70 watts max (1.0A) with 1.6A fuse
70.7V RMS,100 watts max (1.4A) with 2.0A fuse
Maximum Total Load:
25.2V, 3.9A, 100W
70.7V, 1.4A, 100W
Positive and negative ground fault detected at <50K ohms for terminals 1-16.
Refer to Wiring Specification for MXL, MXL-IQ and MXLV Systems, P/N 315-092772 revision 6 or higher, for additional wiring information.
NOTE: Three 2A, 250V fuses (P/N 545-696402) are in-cluded in the fuse kit for applications where zones of up to 100W at 70.7V are required. With a single amplifier for all three inputs. only one zone can be used for this purpose. Place a fuse in the clips for the desired zone and connect the zone wires to the appropriate terminals. When a fuse is installed, the EL-410C/I3 amplifier that connects to this zone can not be used for any other zones.

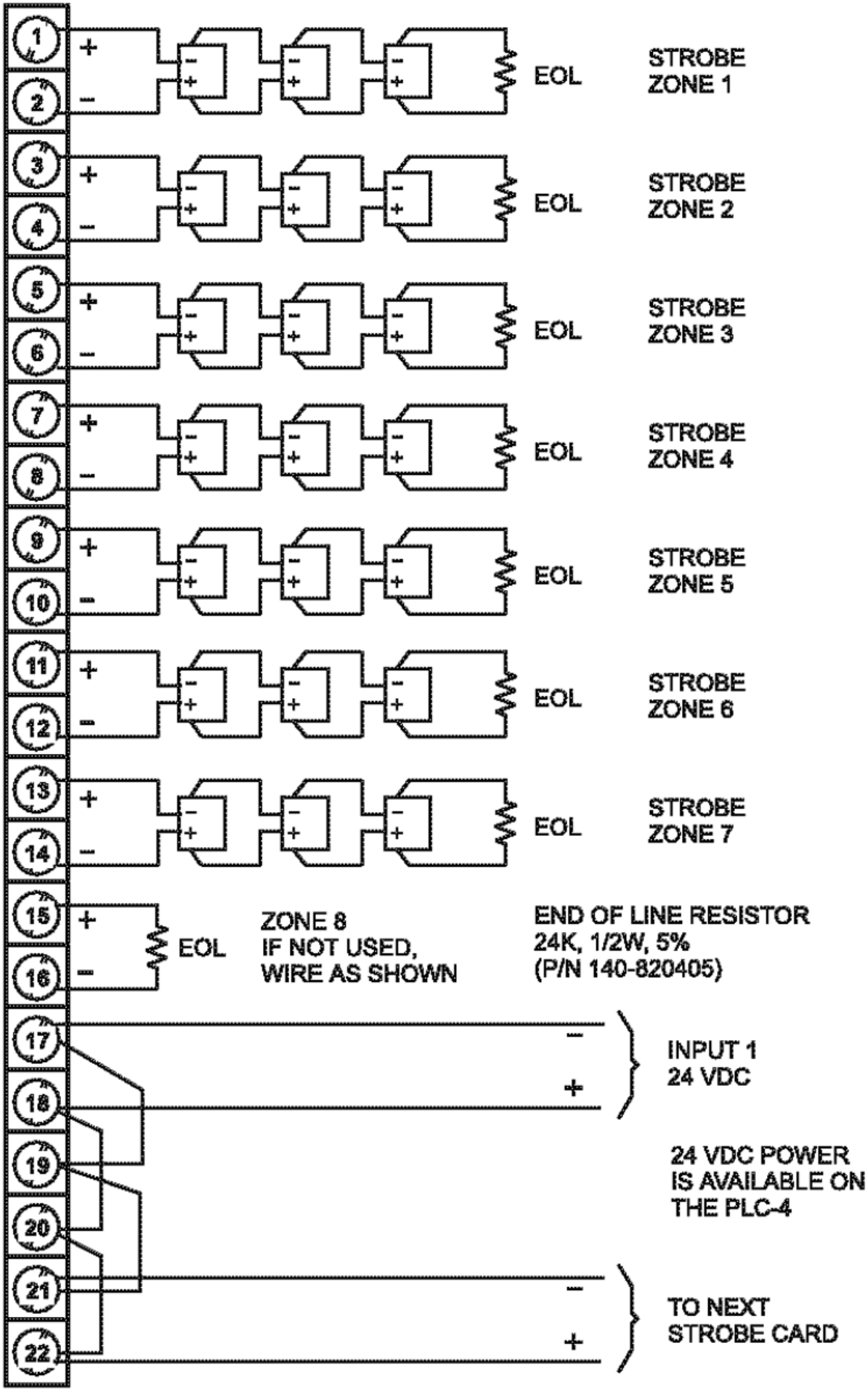


Figure 5 ZC1-813 Strobe Zone Wiring Diagram with a Single DC Power Source

NOTE: ALL STROBE ZONE POLARITIES ARE SHOWN IN STAND-BY CONDITION.

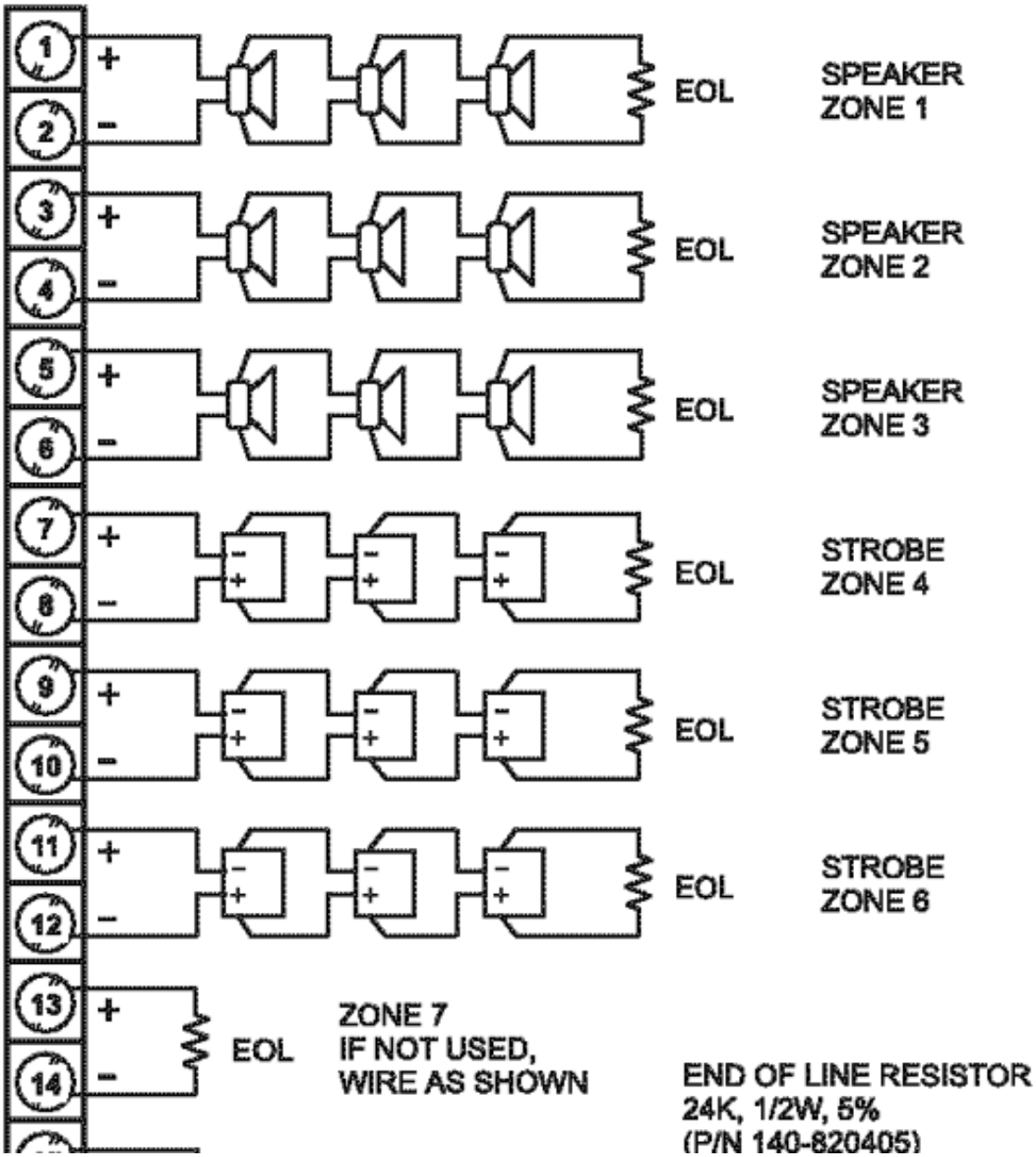
Note: Strobe devices are not polarity supervised and should be tested in compliance with NF PA Standards.

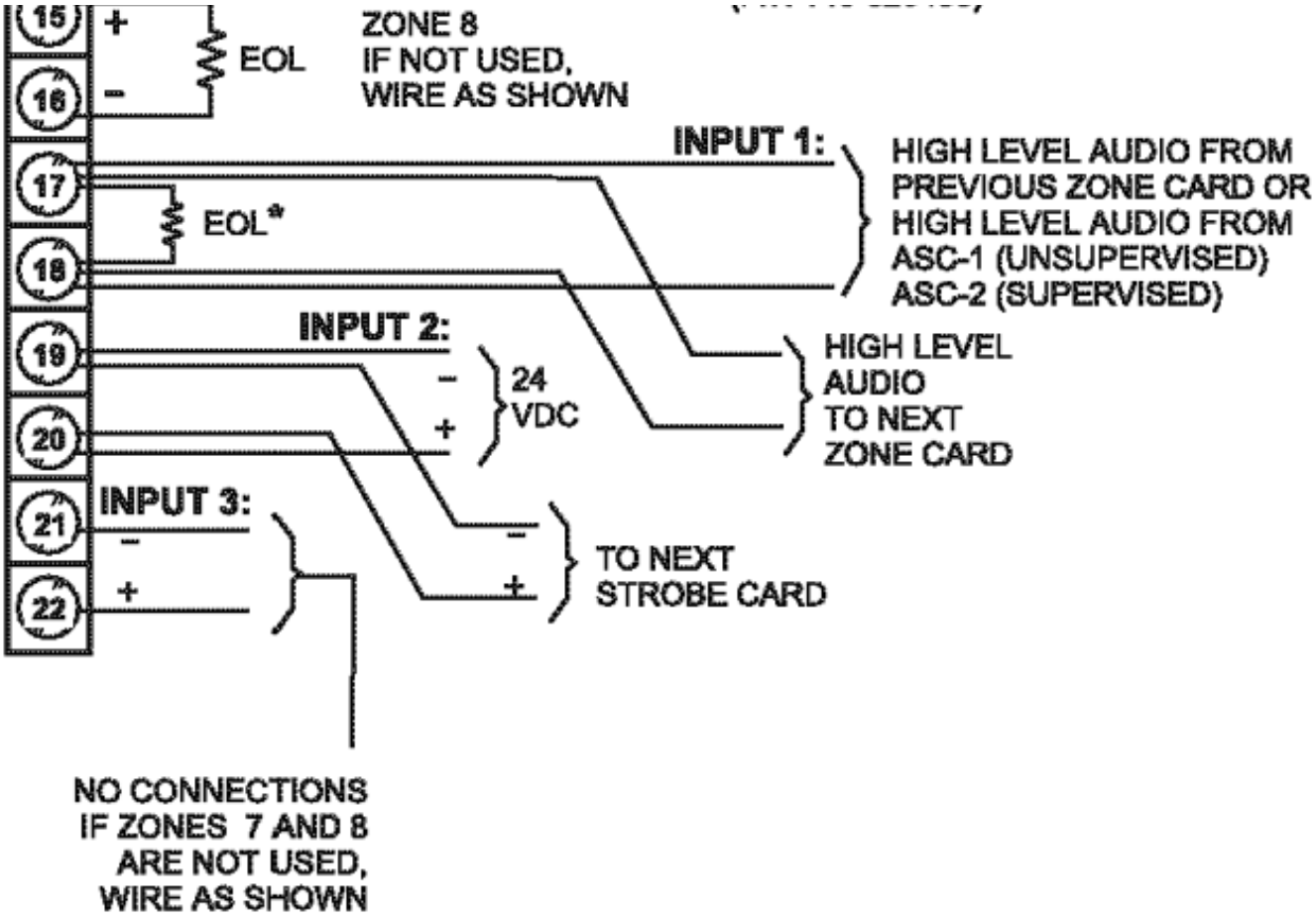
ALL ZONES SUPERVISED, POWER LIMITED*

*Power Limiting is accomplished using the PLC-4 and PL864-25A, -70A, or -25S as required.
All wiring must comply with Article 760 of the NEC or the local building codes.
Maximum Loop Resistance: 3 ohms max, 1.5A 2.5 ohms max, 1.8A
Minimum Wire Size: 18 AWG
Maximum Wire Size: 14 AWG
Electrical Ratings: Special Application 16-32V unfiltered full wave rectified
Supervisory Strobe Zone Connections
Supervisory: 1.5 VDC, 0.06mA
Activated: 16-32V unfiltered, full wave rectified 45 watts max (1.8A)
Maximum Total Load: 4.0A power limited 14.4A non-power limited
NOTES:

1. Refer to Wiring Specification for MXL, MXL-IQ and MXLV Systems, P/N 315-092772 revision 6 or higher, for additional wiring information.
2. Refer to P/N 315-096363 for compatible UL listed notification appliances.
3. For sychronized notification applicances, use of either a DSC, DSC-W, or PAD-3 is required.
4. Positive and negative ground fault detected at <50K ohms for terminals 1-16.
5. Only synchronization across zones of the individual zone card, per system, is allowed.

ALL STROBE ZONE POLARITIES ARE SHOWN IN STAND-BY CONDITION.
Note: Strobe devices are not polarity supervised and should be tested in compliance with NFPA Standards.





CONNECT AN EOL ONLY IF THIS IS THE LAST ZONE CARD CONNECTED TO AN ASC-2 CARD WHICH IS WIRED CLASS B (STYLE ?)

Figure 6 ZC1-813 Combined Speaker Zone and Strobe Zone Wiring Diagram with a Separate Power Source for Each Input (1, 2, and 3)

NOTES:

1. Refer to Wiring Specification for MXL, MXL-IQ and MXLV Systems, P/N 315-092772 revision 6 or higher, for additional wiring information.
2. Refer to P/N 315-096363 for compatible UL listed notification appliances.
3. For sychronized notification applicances, use of either a DSC, DSC-W, or PAD-3 is required.

25/70.7V RMS SPEAKER UNITS and 24 VDC STROBE UNITS:
Any Ul. listed Fire Protective Signaling Speaker rated 25/70.7V RMS may be connected to this circuit. See PIN 315-096363 for compatible combination speaker strobe models.
NOTE: In combination models, the speakers must be connected to separate circuits from the strobes.
ALL ZONES SUPERVISED, POWER LIMITED*
Power Limiting is accomplished using the PLC-4 and PL864-25A, -70A, or -25S as required.
24 VDC power is available on the PLC-4.
All wiring must comply with Article 760 of the NEC or the local building codes.
Maximum Loop Resistance:
Speaker: 25.2V RMS 3 ohms max, 37.5 watts (1.5A)
2.5 ohms max, 45 watts (1.8A)
Strobe: 3 ohms max. (1.5A)
2.5 ohms max. (1.8A)
Minimum Wire Size: 18 AWG
Maximum Wire Size: 14 AWG
Supervisory Speaker/Strobe Zone Connections
Supervisory 1.5 VDC, 0.06mA
Activated Speaker:
25.2V RMS, 45 watts max (1.8A)

70.7V RMS, 70 watts max (1.0A) MI)1.6A fuse
70.7V RMS,100 watts max (IAA) with 2.0A fuse

Strobe:

16-32V unfiltered, full wave rectified special application 45 watts max (1.8A)

Maximum Total Load:

For Input 1 (Outputs 1, 2, 3) and Input 2 (Outputs 4, 5, 6)
Speaker: 25.2V, 3.9A, 100 watts 70.7V, 1.4A, 100 watts
Strobe: 5.4A, 135 watts
For Input 3 (Outputs 7, 8)
Speaker: 25.2V, 3.6A, 90 watts 70.7V, 1.4A, 100 watts
Strobe: 3.75A, 90 watts
Input 1 connects to outputs 1, 2, and 3
Input 2 connects to outputs 4, 5, and 6
Input 3 conects to outputs 7 and 8

NOTE: Three 2A, 250V fuses (P/N 545-696402) are in-cluded in the fuse kit for applications where zones of up to 100W at 70.7V are required. With separate amplifiers for each input, one zone per input can be used for this purpose. Place fuses in the clips for the desired zones and connect the zone wires to the appropriate terminals. When these fusesare installed, the EL-410C/0 amplifiers that connect to these zones can not be used for any other zones.

ZC1-8B WIRING CHECKOUT CHART

RESISTANCE BETWEEN ERMINALS	RESISTANCE DESIRED	POSSIBLE CAUSE OF PROBLEM
1 to 2 3 to 4 5 to 6 7 to 8 9 to 10 11 to 12 13 to 14 15 to 16	24K +1- 5%	Line shorted; Line open: No EOL; Wrong EOL
1 through 22 to chassis	> 1 Meg	Short in wiring
2 to 3 4 to 5 6 to 7 8 to 9 10 to 11 12 to 13 14 to 15	> 1 Meg	Short in wiring
17 to 18 19 to 20 21 to 22	> 1 Meg (ASC-1) 24K +/- 5% (ASC-2)	Line shorted Line shorted; Line open; No EOL; Wrong EOL
16 to 17 18 to 19 20 to 21	> 1 Meg	Line shorted

= is greater than, < = is less than.

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Documents / Resources

	SIEMENS ZCI-8B Zone Control Card Module [pdf] Instruction Manual ZCI-8B Zone Control Card Module, ZCI-8B, Zone Control Card Module, Control Card Module, Card Module

References

- Fire Alarm Resources | Download fire alarm documents