SIEMENS

Fire Safety

Installation Instructions

Model ZC2-8B

Zone Control Card Module

INTRODUCTION

The **SIEMENS** Model ZC2-8B Zone Control Card has two audio input channels and eight audio zone outputs. The module name indicates the following information:

ZC2 – Zone Card with two audio inputs
8B – 8 Zone Style Y outputs

The two channels of either 25.2V or 70.7V RMS amplified audio input connect to this card through the OMM-1/-2 screw terminals next to the OMM-1/-2 edge connector. The ZC2-8B may be used as a single channel of audio input by connecting input 1 only.

All ZC2-8B output zone circuits are supervised, protected by fuses, and used for Zone Style Y operation only.

Use the ZC2-8B module with 25V fuses, P/N 105-291200, for Zone Style Y speaker and strobe circuits. All eight available zones must be used for the same purpose.

TABLE 1

MODULE	AUDIO CHANNEL	AUDIO OUTPUTS	ZONE STYLE	AUDIO INPUT/ OUTPUT RATING	USE
ZC2-8B with 25V fuses	1 or 2	8	Style Y	25.2V RMS	Speaker or strobe
ZC2-8B with 70V fuses	1 or 2	8	Style Y	70.7V RMS	Speaker only

Use the ZC2-8B with 70V fuses, P/N 105-291202, for speaker circuits only.

The ZC2-8B 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 a 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 System, refer to the MXLV Manual, P/N 315-092036.

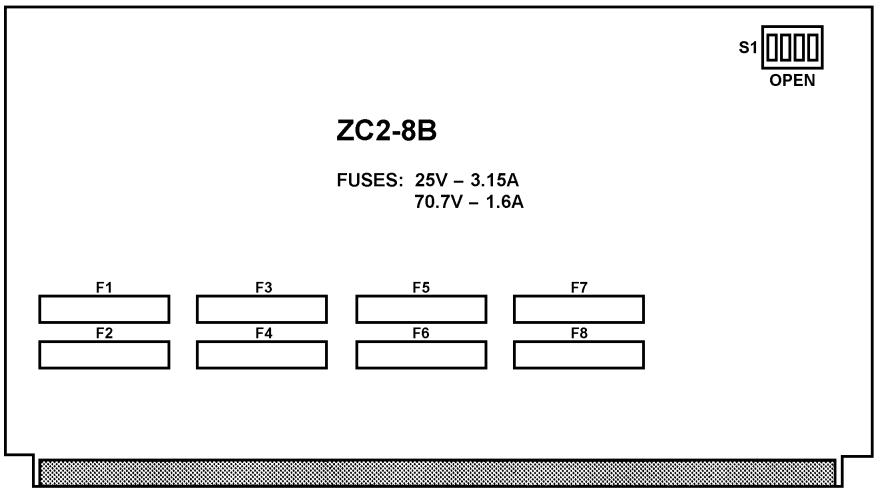

Figure 1
ZC2-8B Module Board

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Florham Park, New Jersey 07932

Siemens Building Technologies, Ltd.
2 Kenview Boulevard
Brampton, Ontario L6T 5E4 CN

P/N 315-092116-11

INSTALLATION

Remove all system power before installation, 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 S1 using dipswitches SW1–SW4.
   a. Refer to Figure 1 for the location of S1.
   b. Refer to Table 2 for switch settings (See Note below).
4. The ZC2-8B comes with 70V fuses, P/N 105-291202, installed at the factory.

   For 25V installations, remove the 70V fuses, F1 – F8, and install the 25V fuses, P/N 105-291200, found in the installation kit with the user key and the end-of-line resistors.

TABLE 2

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

X = SWITCH CLOSED OR ***ON,*** O = 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** on page 6. Replace the card in its protective bag if the wiring is not complete.

Find the user key provided in the installation kit with the ZC2-8B board. Place the user key in the OMM-1/-2 edge connector for the ZC2-8B 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 ZC2-8B 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 terminated. 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 board. Otherwise, the plug-in card can damage or displace other components.

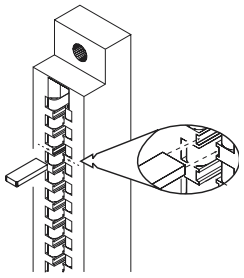


Figure 2
Installing the User Key in the OMM Card Edge Connector

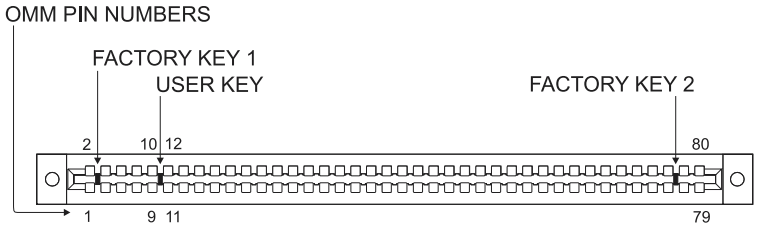


Figure 3
Location of User Key for ZC2-8B

ELECTRICAL CHARACTERISTICS

1. Maximum wire size: 14 AWG twisted pair*
2. Minimum wire size: 18 AWG twisted pair*

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

3. Maximum loop resistance: Total Resistance for Each Zone
   - 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)
4. Inputs:
   - Speaker: 25.2 or 70.7V RMS
   - Strobe: 24 VDC, 3 ohms max, (1.5A)
     2.5 ohms max, (1.8A)
5. Outputs:
   - Supervisory: 1.5 VDC, 0.06mA
   - Activated: 25.2V RMS/24 VDC, 45W max, 1.8A max
     70.7V RMS, 70W max, 1.0A max
6. Fuses:
   - 25V: 3.15A, 250V (P/N 105-291200)
   - 70V: 1.6A, 250V (P/N 105-291202)
7. End of line resistor: 24K, 1/2W, ±5% (P/N 140-820405)
8. Max card output: 25.2V RMS, 3.9A, 100W max
   70.7V RMS, 1.4A, 100W max

Refer to Figure 1 for fuse locations.

WIRING

Refer to Figures 4 and 5.

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. Table 3 shows the losses for a 25.2V RMS, 35W load in three wire sizes at various lengths. Table 4 shows the losses for a 70.7V RMS, 25W load in two wire sizes at various lengths. A reduction in load reduces the loss. Use the largest wire size possible for the minimum loss.

TABLE 3

SPEAKER ZONE DECIBEL LOSS 25 VOLT

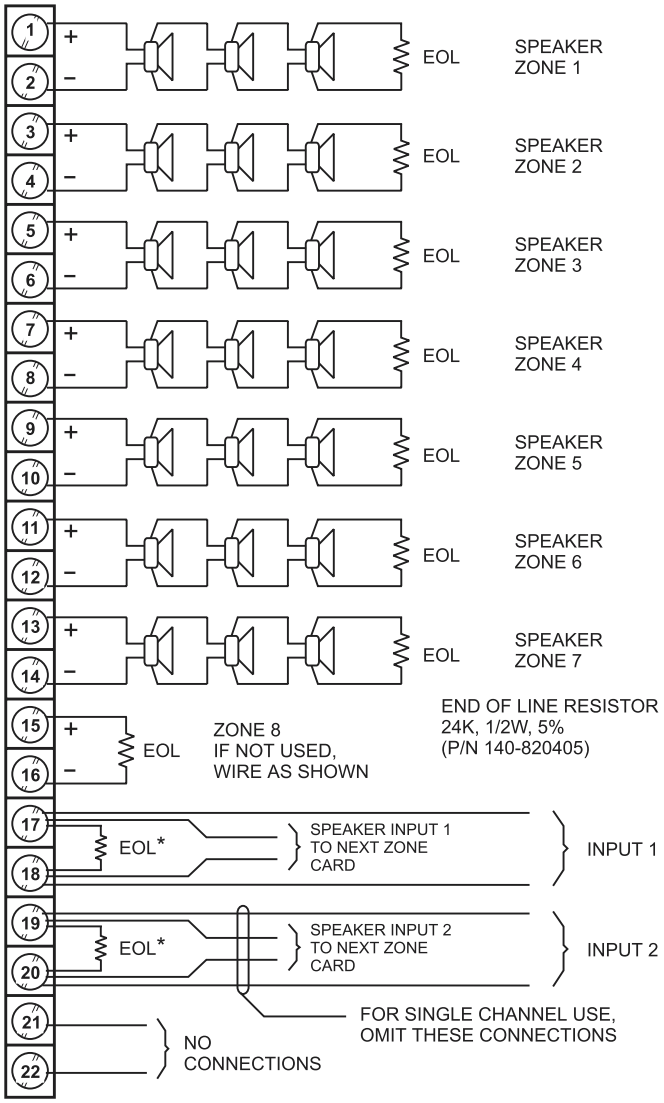
	Gauge		
Length	14 AWG	16 AWG	18 AWG
(feet)	(loss in decibels)		
200	0.2	0.3	0.6
400	0.5	0.7	1.1
600	0.7	1.1	1.6
800	0.9	1.5	2.2
1000	1.2	1.8	2.7

TABLE 4

SPEAKER ZONE DECIBEL LOSS 70 VOLT

	Gauge	
Length	16 AWG	18 AWG
(feet)	(loss in decibels)	
200	0.04	0.06
400	0.07	0.11
600	0.11	0.17
800	0.14	0.22
1000	0.18	0.27

25/70.7V RMS SPEAKER UNITS:
Any UL listed Fire Protective Signaling Speaker rated 25/70.7V RMS may be connected to this circuit. See P/N 315-096363 for compatible combination speaker strobe models.



AUDIO INPUTS FROM PREVIOUS ZONE CARD
OR
AUDIO INPUTS FROM ASC-1 (UNSUPERVISED)
ASC-2 (SUPERVISED)

* CONNECT AN EOL (P/N 140-820405) ONLY IF THIS IS THE LAST ZONE CARD CONNECTED TO AN ASC-2 CARD WHICH IS WIRED STYLE Y (CLASS B)

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 National and Local Codes

Maximum Loop Resistance:
70.7V RMS, 6.5 ohms max, 25 watts (0.35A)
25.2V RMS, 3 ohms max, 37.5 watts (1.5A)
2.5 ohms max, 45 watts (1.8A)

Minimum Wire Size: 18 AWG
Maximum Wire Size: 14 AWG

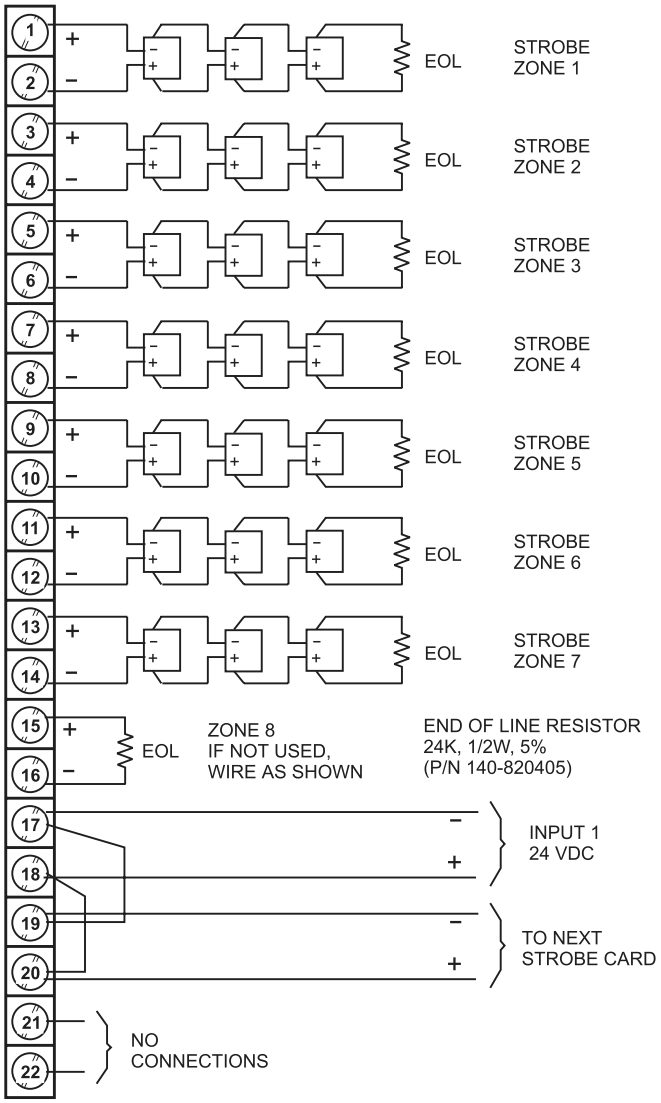
Supervisory Speaker Zone Connections
Supervisory: 1.5 VDC, 0.06mA
Activated: 25.2V RMS, 45 watts max (1.8A)
70.7V RMS, 70 watts max (1.0A)

Maximum Total Load: 25.2V, 3.9A, 100W
70.7V, 1.4A, 100W

Refer to Wiring Specification for MXL, MXL-IQ and MXLV Systems, P/N 315-092772 revision 6 or higher, for additional wiring information.

NOTE:
A 2A, 250V fuse (P/N 105-292199) is included in the fuse kit for applications where a single zone of up to 100W at 70.7V is required. Place this fuse in the clips for the desired zone and connect the zone wires to the appropriate terminals. *When this fuse is installed, the EL-410C/D amplifier that connects to this zone can not be used for any other zones.*

Figure 4
ZC2-8B Speaker Zone Wiring Diagram



NOTE: ALL STROBE ZONE POLARITIES ARE SHOWN IN SUPERVISORY CONDITION.

24 VDC STROBE UNITS: See P/N 315-096363 for compatible appliances.

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 National and Local Codes

Maximum Loop Resistance: **3 ohms max, 1.5A**
2.5 ohms max, 1.8A

Minimum Wire Size: **14 AWG**

Supervisory Strobe Zone Connections
Supervisory: 1.5 VDC, 0.06mA
Activated: 24 VDC, 45 watts max, (1.8A)

Maximum Total Load: 24 VDC, 7.2A

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

Refer to Wiring Specification for MXL, MXL-IQ and MXLV Systems, P/N 315-092772 revision 6 or higher, for additional wiring information.

Figure 5
ZC2-8B Strobe Zone Wiring Diagram

ZC2-8B WIRING CHECKOUT CHART

RESISTANCE BETWEEN TERMINALS	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 +/- 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	> 1 Meg (ASC-1) 24K +/- 5% (ASC-2)	Line shorted Line shorted; Line open; No EOL; Wrong EOL
16 to 17 18 to 19	> 1 Meg	Line shorted

> = greater than, < = less than.

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