Installation Manual: EVAX EVX-ZM Zone Splitter

NOTICE TO THE INSTALLER

This manual provides an overview and the installation instructions for the EVAX EVX-ZM Zone Splitter. All terminals are power limited and should be wired in accordance with the requirements of NFPA 70 (NEC), NFPA 101 (Life Safety Code) and NFPA 72 (National Fire Alarm Code). Failure to follow the wiring diagrams in the following pages will cause the system to not operate as intended. For further information, refer to the control panel installation instructions.

The module shall only be installed with listed control panels. Refer to the control panel installation manual for proper system operation.

Description

The EVX-ZM Zone Splitter Module is intended for use with the EVAX 25/50/100. Its purpose is to enable the output of the EVAX 25/50/100 to be split into multiple circuits for audio power distribution. The modules accept input from the EVAX 25/50/100 speaker output and utilize output relays to distribute the power to separate circuits. The modules may be cascaded to increase the number of circuits. The modules provide supervision of the individual circuits for either open or short conditions. Indicator LEDs display active or fault condition for the individual circuits. Fault condition is reported to the EVAX 25/50/100 via the I2C communication port. The EVX-ZM may also be used with legacy EVAX 25/50/100 models, but supervision must now employ TB2 Terminals 10-11 as a supervisory input. Consult factory for connection details.

If Manual control of the circuits is required an EVX-SL8 must be employed. Zones may then be selected manually by switches or through pull-down inputs. In the event of an alarm condition, module defaults to an All-Call. All-Call feature may only be overridden if accompanying panel has zone control features

Installation and Operation

Install equipment in a clean, dry environment, avoid installation where equipment could be subjected to vibration. Remove electronic assemblies from the enclosure prior to any drilling or punching of the enclosure. Where possible, make all cable entries from the rear or sides. Before making any modifications to the enclosure, be certain that they will not interfere with assemblies or batteries.

In normal standby the EVX-ZM will supervise each speaker zone wire loop. The EVX-ZM will provide 4 Class B (Style Y) or 2 Class A (Style Z) speaker circuits. This is field selectable via SW1. Upon an open or short condition the Amber LED for that zone will light. This Fault will report through the EVAX 25/50/100 to the supervising FACP.

If manual Zone selection is employed, select the corresponding EVX-SL8 switch. It's Red LED will light, and the EVX-ZM output relay activation will be enabled. On activation of the PTT signal from the EVAX 25/50/100, the output relay will connect the zone to the EVAX 25/50/100 speaker output.

In an Alarm condition the EVX-ZM defaults to an All-Call. On activation of the EVAX 25/50/100 V+ Alarm output, all zones are automatically selected, enabling evac tone and message to play. Modules will have field selectable option for alarm zone activation only if the FACP has the ability to provide separate pull-down inputs.

Speaker output may be 25 or 70 Vrms. This is field selectable by SW1-2. Output circuits are limited to 50W per zone at 70 Vrms and 40W at 25 Vrms. Total speaker load combined is not to exceed output rating of the EVAX 25/50/100 driving the Zone Module. Upon a short condition, the shorted zone will open excluding that zone from output and enable the other zones to continue operating. Speaker circuits must be terminated with a 10K EOLR device. The end of line value is not adjustable or programmable. Speaker circuits will indicate a Fault if the circuit impedance falls to 5K or increases to 15K Ohms.

EVX-ZM Connections

TB1:

Ter. 1 - 8 Speaker Output 25/70 Vrms
70V - 50W Max speaker load per zone.
25V - 40W Max speaker load per zone.

TB2:

Ter. 1 & 2 - Speaker Input (25 or 70VRMS)

Ter. 3 - PTT (Push To Talk signal)
+24VDC when main system microphone active

Ter. 4 - V+ (24V DC 0.10A)

Ter. 5 - Alarm Active
+24VDC when programmed event active at main
amplifier (Bell, secondary message, etc.)

Ter. 6 - Circuit Negative

Ter. 7 / 8 / 9 - Aux. Trouble Common Relay
7 - N.O. / 8 - C / 9 - N.C.

Contact Ratings: 1A @30VDC
Connect to Resistive Load, Class II Power or Power
Limited Sources Only. Interconnected Equipment
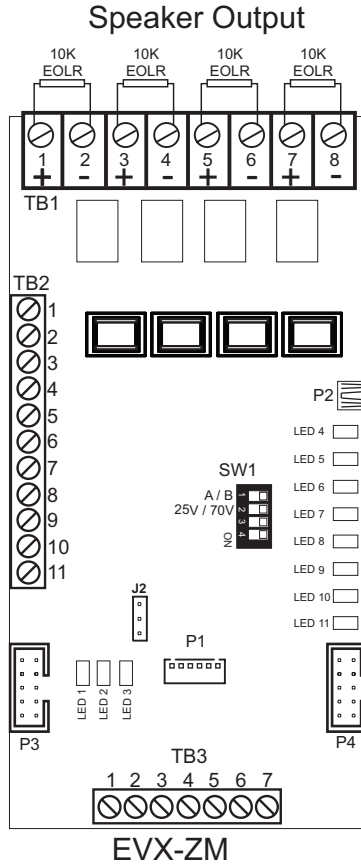Must be in Same Room and Mounted Within 20'.

Ter. 10 & 11 - Supv. Circuit Input

TB3:

Ter. 1& 2 - Do Not Use

Ter. 3 - 7 - Aux. Zone Activate (Pull Down)
Connect point to ckt neg for external zone selection

3 - ALL CALL / **4** - Zone 4
5 - Zone 3 / **6** - Zone 2 **7** -Zone 1

Speaker Output

10K EOLR   10K EOLR   10K EOLR   10K EOLR

TB1

TB2

P2

SW1
A / B
25V / 70V

LED 4
LED 5
LED 6
LED 7
LED 8
LED 9
LED 10
LED 11

J2

P1

LED 1 LED 2 LED 3

P3   P4

TB3
1 2 3 4 5 6 7

EVX-ZM

Field wiring connections:
#6-32 wire clamp screw 14-18AWG
#8-32 wire clamp screw 12-18AWG
Horizontal wire entry terminal 18-26 AWG
Wire gauge determined by circuit load

SW1:Power Selection

SW1-1 Select class "A" or "B" Speaker circuit
On for Class "A" Off Class "B"
SW1-2 Select 25v or 70v speaker voltage
SW1-3
SW1-4

LED1 Power On
LED 2 Status
LED 3 Fault

LED 4 (red) - Zone 1 Selected
LED 5 (yel) - Zone 1 Fault
LED 6 (red) - Zone 2 Selected
LED 7 (yel) - Zone 2 Fault
LED 8 (red) - Zone 3 Selected
LED 9 (yel) - Zone 3 Fault
LED 10 (red) - Zone 4 Selected
LED 11 (yel) - Zone 4 Fault

JUMPER J2:

1-2 Jumped when used with Legacy DMR,
enables 5 volts to P4 to power additional
I2C devices.
2-3 Jumped when used with new
Generation DMR enables 5 volts from
P3 to P4 to power additional I2C devices.

P1: Programming Port
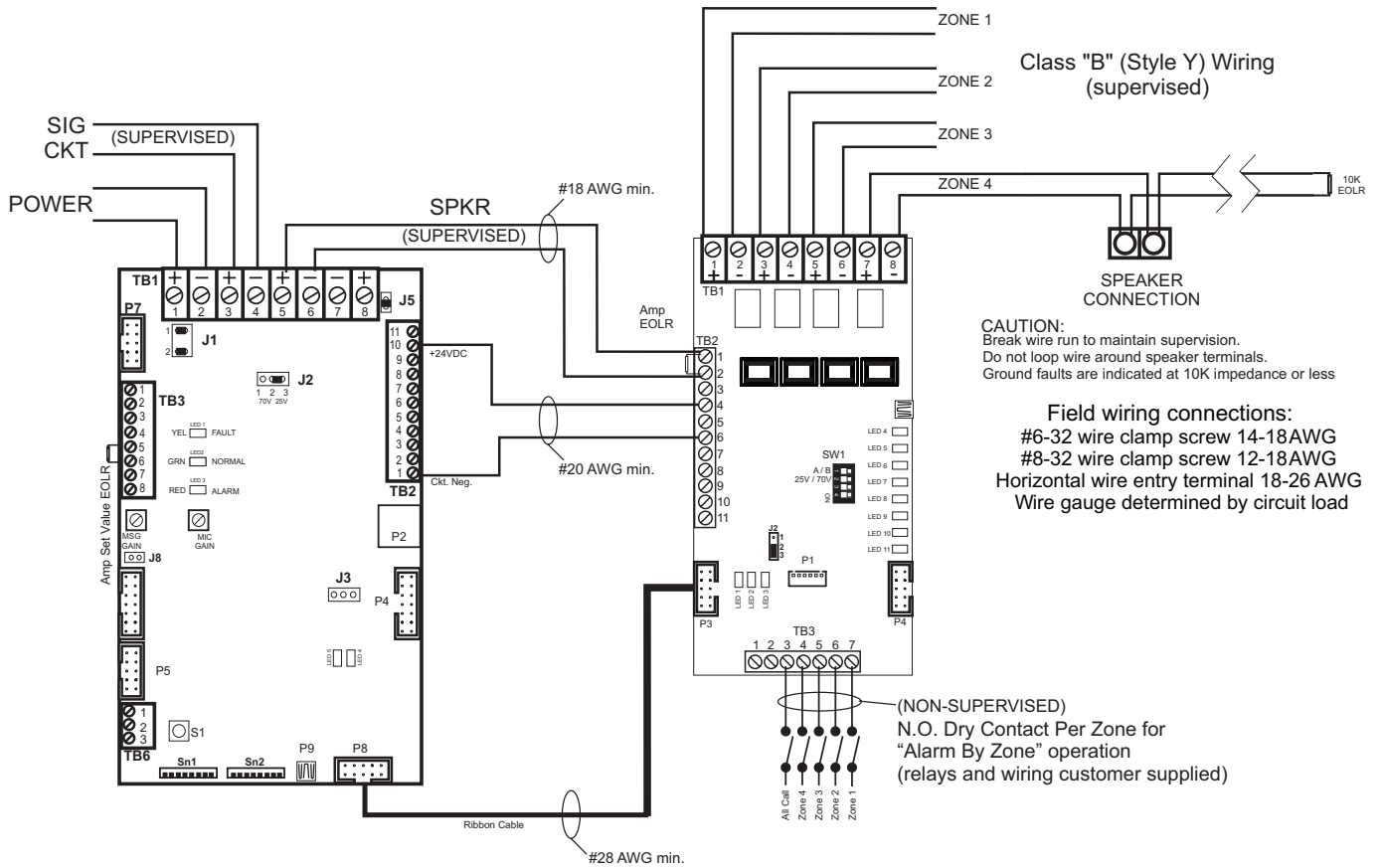**P3: I2C Port In**
P4: I2C Port Out
10 Pin Ribbon Connector
P2: Diagnostic Port

The I2C Port from the EVX-25/50/100
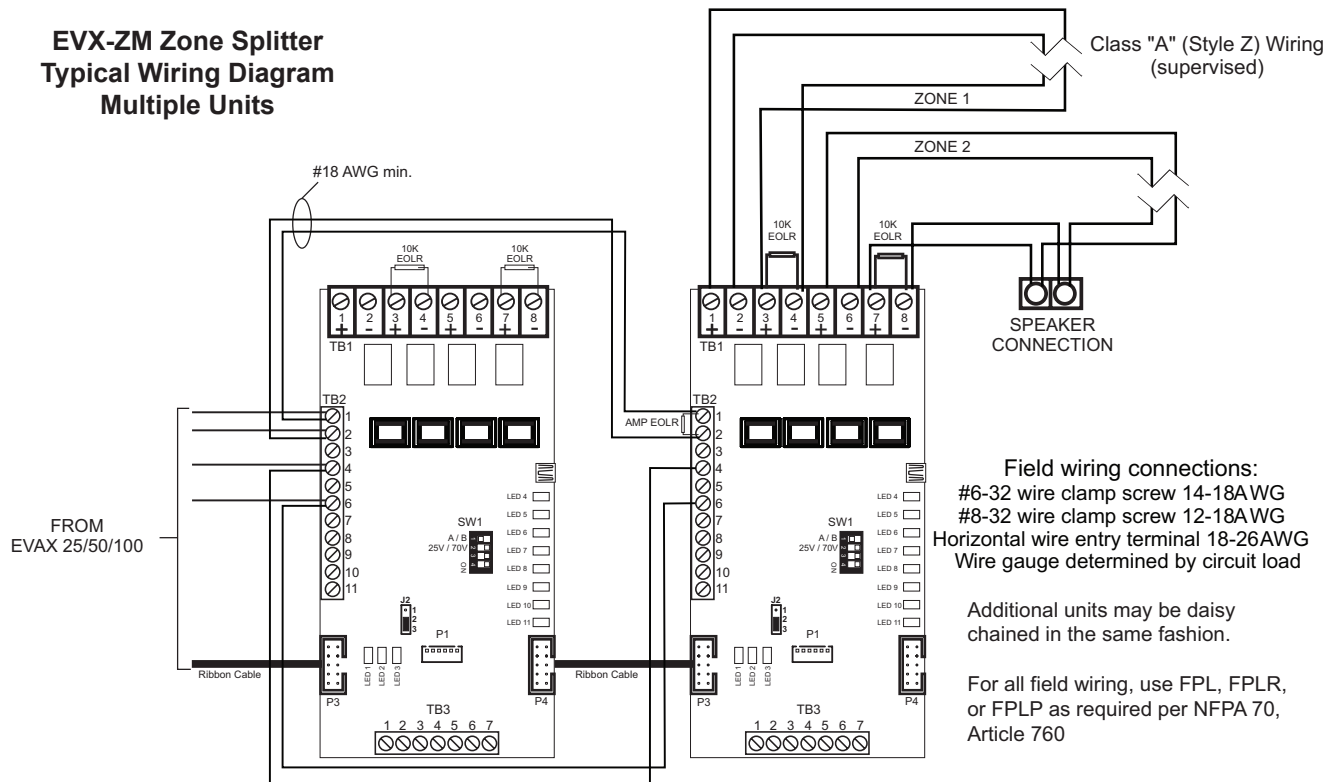will support a maximum of 16 devices total

SPECIFICATIONS:
Power: 24 VDC
0.051A Standby

EVX-ZM Zone Splitter
Typical Wiring Diagram

ZONE 1

ZONE 2

ZONE 3

ZONE 4

Class "B" (Style Y) Wiring
(supervised)

10K
EOLR

SIG
CKT (SUPERVISED)

POWER

SPKR
(SUPERVISED)

#18 AWG min.

SPEAKER
CONNECTION

Amp
EOLR

CAUTION:
Break wire run to maintain supervision.
Do not loop wire around speaker terminals.
Ground faults are indicated at 10K impedance or less

Field wiring connections:
#6-32 wire clamp screw 14-18AWG
#8-32 wire clamp screw 12-18AWG
Horizontal wire entry terminal 18-26 AWG
Wire gauge determined by circuit load

+24VDC

#20 AWG min.

Ckt. Neg.

(NON-SUPERVISED)
N.O. Dry Contact Per Zone for
"Alarm By Zone" operation
(relays and wiring customer supplied)

All Call Zone 4 Zone 3 Zone 2 Zone 1

Ribbon Cable

#28 AWG min.

EVX-ZM Zone Splitter
Typical Wiring Diagram
Multiple Units

Class "A" (Style Z) Wiring
(supervised)

ZONE 1

ZONE 2

10K
EOLR

10K
EOLR

SPEAKER
CONNECTION

#18 AWG min.

10K
EOLR

10K
EOLR

AMP EOLR

FROM
EVAX 25/50/100

Ribbon Cable

Ribbon Cable

Field wiring connections:
#6-32 wire clamp screw 14-18AWG
#8-32 wire clamp screw 12-18AWG
Horizontal wire entry terminal 18-26AWG
Wire gauge determined by circuit load

Additional units may be daisy
chained in the same fashion.

For all field wiring, use FPL, FPLR,
or FPLP as required per NFPA 70,
Article 760

Class "A" configuration selected by
putting SW1-1 in the On position