EDWARDS

ANSZS2A and ANSZS4B Zone Splitter Installation Sheet

Product description

The ANSZS2A and ANSZS4B Zone Splitter modules are intended for use with the ANS25, ANS50, and ANS100 Audio Notification Systems. Their purpose is to enable the output of the ANS to be split into multiple zones for paging and alarm selection.

The modules accept input from the ANS speaker output and use selectable output relays to distribute the output to the individual zones. The modules can be cascaded to increase the number of zones.

The modules provide supervision of the individual zones for open and short conditions. Indicator LEDs display active or fault conditions for the individual zones. A fault condition is reported to the FACP through the same supervisory path as the ANS25, ANS50, or ANS100.

Zones can be selected manually by switches or through pull-down inputs. In the event of an alarm condition, the module defaults to All Call operation. The All Call feature can only be overridden if the accompanying panel has zone control features.

Each zone is limited to no more than 25 W and the total speaker load must not to exceed the output rating of the ANS. Speaker output can be set to 25 or 70 Vrms, selected by a jumper position on the ANS25, ANS50, or ANS100.

Operation

In normal standby, the ANSZS2A and ANSZS4B supervise each speaker zone wire loop. The ANSZS2A provides Style Y supervision, and the ANSZS4B provides Style Z supervision.

When an open or short fault is detected in a zone, the yellow LED for that zone turns on. A NC relay contact opens to present a corresponding fault signal to the FACP providing supervision of the ANS.

Ground faults in zone circuits are *not* reported by the ANSZS2A or ANSZS4B, but are detected and reported by the ANS25, ANS50, or ANS100.

To manually select a zone, the operator turns on the corresponding zone switch. The red LED for the switch lights, and output relay activation is enabled. On activation of the PTT signal from the ANS the output relay connects the zone to the ANS speaker output. While the zone is selected, supervision is suspended.

Caution: Do not leave a zone switch turned on when unattended, as this leaves the zone unsupervised.

In an alarm state, the ANSZS2A and ANSZS4B default to All Call operation. On activation of the ANS "Alarm voltage" output, all zones are automatically selected, and receive the EVAC tone and message. Modules have a field-selectable option for alarm zone activation only if the FACP has the ability to provide separate pull-down inputs.

If a zone has a short fault, a PTC thermistor for the zone opens, excluding the zone from output and allowing the other zones to continue operation. Once the short is removed, the speaker line must be disconnected for 30 seconds to reset the PTC.

Specifications

Voltage: 24 Vdc

Current
Standby: 45 mA
Active (All Call): 130 mA

Aux. trouble relay (TB2-7, -8, and -9)
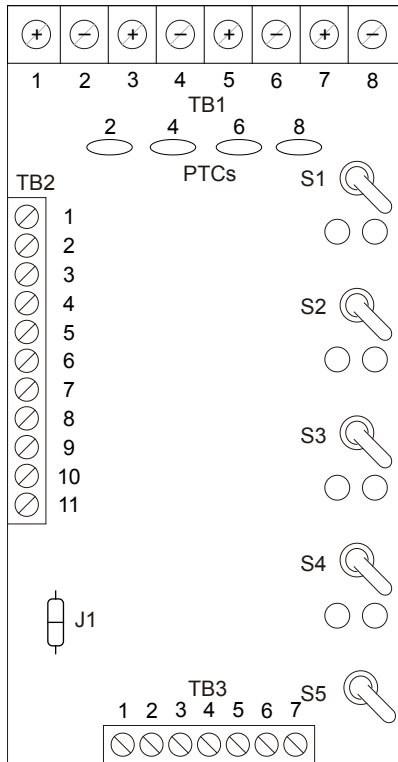Contact rating: 1 A at 30 Vdc (resistive load)
Connections: Restricted to Class II or power-limited sources. Interconnected equipment is unsupervised so it must be in the same room and mounted within 20 feet of the module.

Speaker circuit EOL: 10 kΩ

Features and functions

Figure 1 shows the location of the terminal blocks, zone selection switches, configuration jumpers, and PTCs. This topic describes the functions of each component.

Figure 1: Features of the ANSZS2A and ANSZS4B cards

Terminals

Table 1: Terminal descriptions

Terminal	Description		
TB1	Speaker output terminals, at either 25 or 70 Vrms, per PTC setting.		
	ANSZS4B: Output terminals for four zones. (Class B, Style Z.)		
	ANSZS2A: Output and return terminals for two zones. (Class A, Style Y.)		
	Polarity	ANSZS4B	ANSZS2A
TB1-1	+	Zone 1 output	Zone 1 output
TB1-2	−	Zone 1 output	Zone 1 output
TB1-3	+	Zone 2 output	Zone 1 return
TB1-4	−	Zone 2 output	Zone 1 return
TB1-5	+	Zone 3 output	Zone 2 output
TB1-6	−	Zone 3 output	Zone 2 output
TB1-7	+	Zone 4 output	Zone 2 return
TB1-8	−	Zone 4 output	Zone 2 return
TB2-1	Signal source +		
TB2-2	Signal source −		
TB2-3	PTT (push to talk) signal		

Terminal	Description
TB2-4	24 Vdc power supply +
TB2-5	Alarm active signal
TB2-6	Circuit negative
TB2-7	Aux. trouble relay N.O. [1]
TB2-8	Aux. trouble relay C.
TB2-9	Aux. trouble relay N.C.
TB2-10	Supervisory circuit input
TB2-11	Supervisory circuit input
TB3-1	Supervisory circuit output or EOLR
TB3-2	Supervisory circuit output or EOLR
TB3-3 to 7	Optional zone activation (pull-down) [2]
TB3-3	All Call activation
TB3-4	Zone 4 activation
TB3-5	Zone 3 activation
TB3-6	Zone 2 activation
TB3-7	Zone 1 activation

[1] See "Specifications" for more information on the Aux. trouble relay
[2] See J1 settings under "Jumpers" for optional zone activation

Switches

Switches S1 through S4 provide manual zone activation when an operator is in attendance. Switch S5 activates all zones (All Call) on all interconnected ANSZS2A or ANSZS4B zone splitters. Switching S5 on *any* zone splitter generates an all call for *all* zone splitters in the system.

Caution: Do not leave a zone switch turned on when unattended, as this leaves the zone unsupervised.

Table 2: Switch descriptions

Switch	Description
S1	Zone 1 activation
S2	Zone 2 activation
S3	Zone 3 activation
S4	Zone 4 activation
S5	All Call activation

Jumpers

Table 3: Jumper settings

Jumper	Setting
J1	Determines zone activation on alarm active (0 Ω jumper)
Installed	All Call operation on alarm active
Removed	Zone-by-zone activation using pull-down inputs on TB3

PTC thermistors

Figure 1 shows the locations of the PTCs. PTC 2, 4, 6, and 8 provide output protection for speaker zones 1, 2, 3, and 4, respectively. Each PTC is installed in a socket for easy replacement.

The ANSZS2A and ANSZS4B are shipped with PTCs for 25 Vrms operation. These are labeled "XF 075." For 25 Vrms operation, leave these PTCs installed.

To configure the module for 70 Vrms operation, replace all four PTCs with the optional PTCs provided. These are labeled "XF 040."

Installation instructions

Ensure that all wiring and devices installed in the system meet the following standards:

- NFPA 70 *National Electrical Code*
- NFPA 72 *National Fire Alarm and Signaling Code*
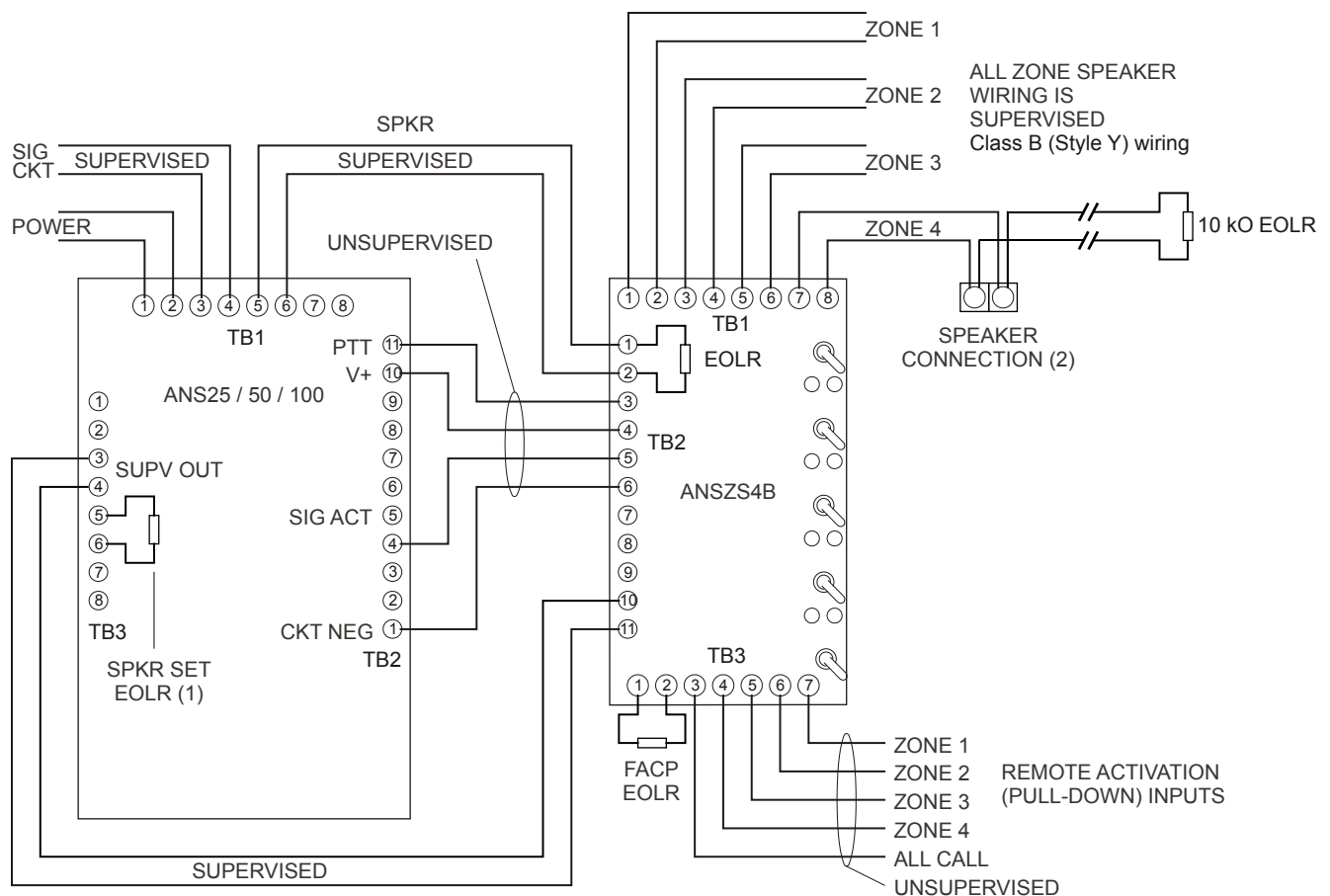- NFPA 101 *Life Safety Code*
- Applicable state and local codes

Install this equipment in a clean, dry environment. Avoid installation where the equipment could be subjected to vibration. Remove all electronic assemblies from the enclosure *before* drilling or punching 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 the assemblies or batteries.

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

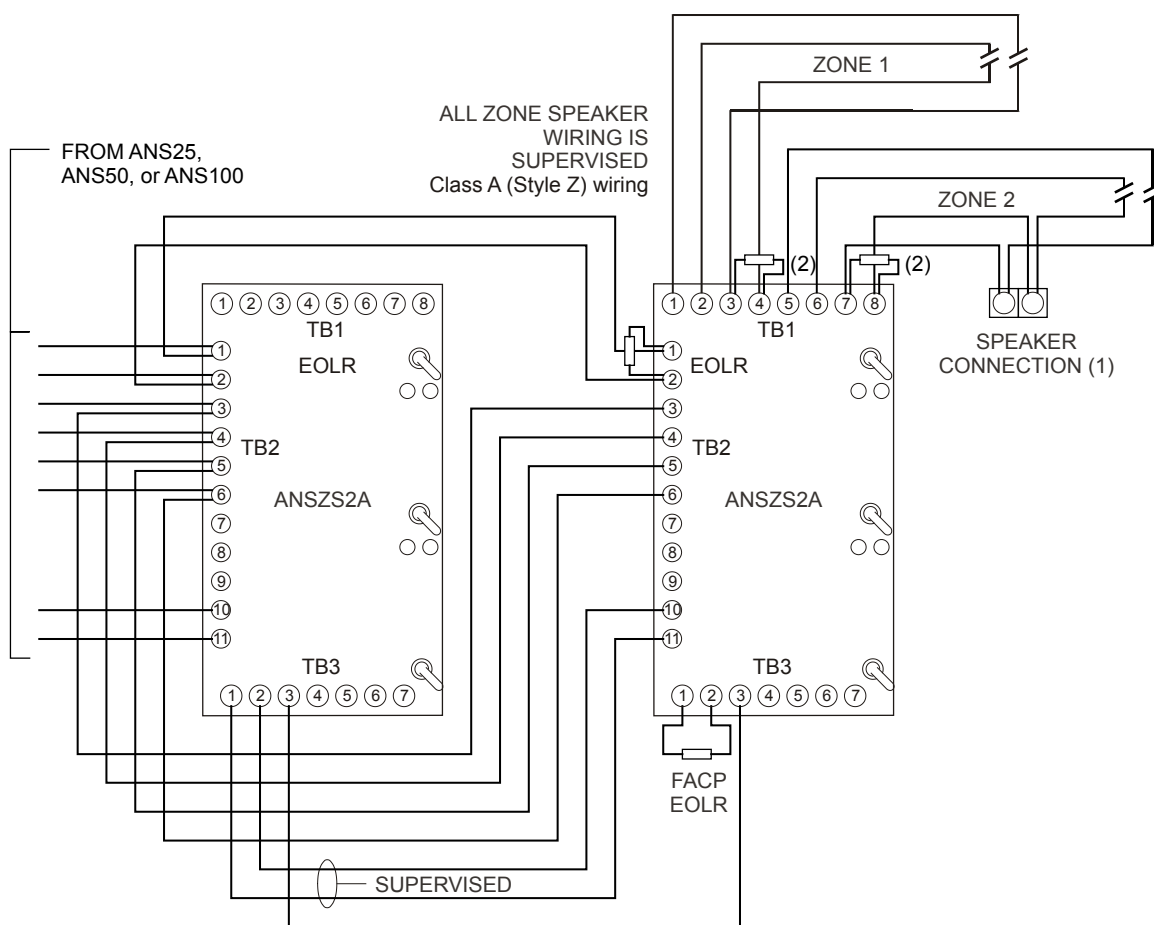All wiring shown in "Wiring diagrams" is power-limited.

Wiring diagrams

Figure 2: ANSZS4B typical wiring

(1) This resistor sets the amplifier end-of-line value only. The ANSZS2A and ANSZS4B must use 10 kΩ EOLRs.
(2) Break the wire run at each terminal to maintain supervision. Do not loop the wire around the speaker terminal.

Figure 3: ANSZS2A typical wiring for multiple units

(1) Break the wire run at each terminal to maintain supervision. Do not loop the wire around the speaker terminal.
(2) 10 kΩ EOLR
(3) Additional units can be daisy chained in the same fashion. Ensure that EOLRs are installed at the last Zone Splitter to maintain supervision.