

PERTRONIC INDUSTRIES LTD

PS1 Sounder - Installation Instructions



Overview:

The **PS1** Sounders are two of a range of sounders manufactured by Pertronic Industries. The **PS1** generates the 'Evacuation' and 'Alert' tones compliant to AS2220. The **PS1** can also be used to generate an 'Alert' signal acceptable to NZS4512:1997 (Amendment Two) by giving an 'Evacuation' tone sweep every 15 seconds.

The **PS1 Sounders** have a maximum sound pressure level of 98dBA with a sound distribution pattern shown below. The sound level may be adjusted by a Volume control. The **PS1 Sounders** are normally connected to the monitored Bell or sounder circuit of a Fire Alarm Panel and are activated when the sounder circuit voltage polarity is reversed in the 'Alarm' state.

The **PS1 Sounders** may be mounted in a standard single-gang electrical flush-box fitting, and are supplied with a protective plastic cover for installation and building construction use.

Specification:

Dimensions: 117 x 74 x 12 H x W x D mm - depth above flush-box.
- designed to fit into a standard electrical flush-box fitting.

Colour Options: Red or White.

Sound Level Output: Sound pressure level at 1m (peak \pm 3dB)
Evacuation, Alert: 95dBA (@12Vdc)
98dBA (@24Vdc)

Power Requirements: **BELL IN** terminal (Supplied from the Bell circuit):
Operating Voltage 9.5Vdc to 30Vdc

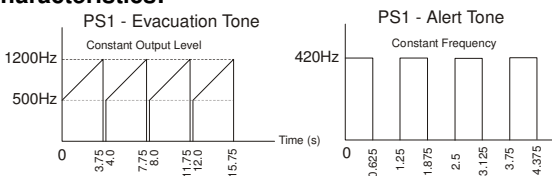
Quiescent current (Non-Alarm state) 0.2 μ A (@12Vdc)
0.4 μ A (@24Vdc)

Operating current (Alarm state) 8mA average, 12mA peak (@12Vdc)
14mA average, 22mA peak (@24Vdc)

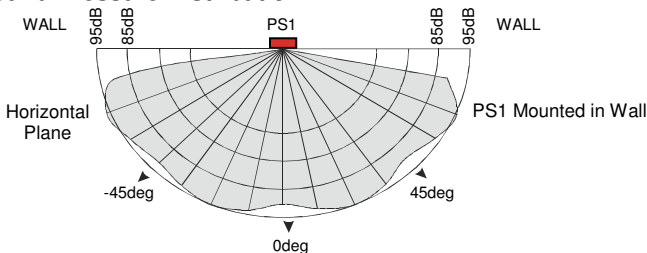
Controls: Third wire for 'Alert' / 'Evacuation' tone control.
- 0V for the 'Alert' tone.

Volume Control: Potentiometer to adjust sound output level – range = 20dB.

AS2220 Tone Characteristics:



Sound Pressure Distribution:



PS1 Terminal:

Connector Layout



Operation:

The panel Bell circuit connects to the **PS1** Sounder as shown below.

Bell terminals '+' and '-' connect to the corresponding Sounder '+' and '-' terminals.

If the Bells are not active, the panel monitors the Bell circuit by applying a negative voltage to the **PS1** '+' terminal. The quiescent current drawn by the **PS1** under this condition is less than 0.4µA.

When the panel Bell circuit activates, the panel Bell circuit voltage reverses (applying positive voltage to the **PS1** '+' terminal), sounding the **PS1**. The 'Evacuation' tone is generated if the 'Alert' terminal is open. If the 'Alert' terminal of the **PS1** is connected to 0V (negative), the 'Alert' tone is generated instead.

PS1 Operation

Panel Bell Circuit	Alert Terminal	Tone Generated
Monitor mode	Don't care	None
Active	Open	Evacuate
Active	0V	Alert

Some bell driver circuits provide a pulsed signal to the **PS1** to give an alternative 'Alert' signal using the 'Evacuation' tone.

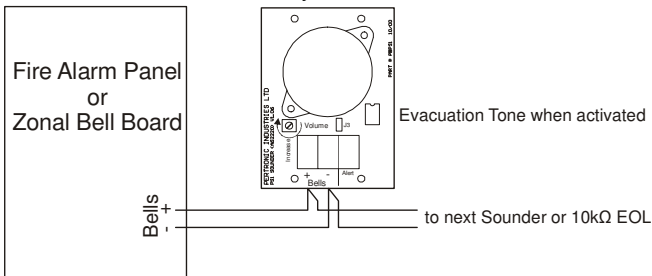
The sequence is:

- 3.75 seconds – Evacuation tone (one cycle)
- 12 seconds – silence
- 3.75 seconds – Evacuation tone
- 12 seconds – silence (repeated).

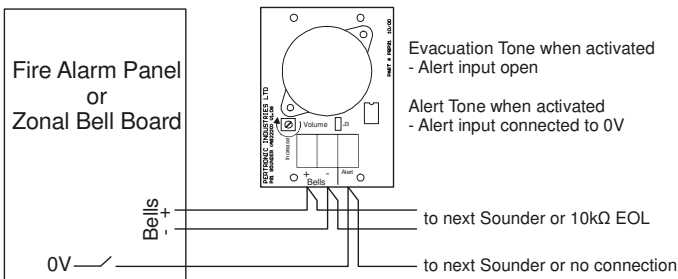
This alternative 'Alert' signal complies with NZS4512:1997 (Amendment Two).

Connection Diagrams:

Basic Connection: Evacuation only on Bell Circuit reversal



Three-Wire Connection: Evacuation or Alert on Bell Circuit reversal



Product Codes:

Description	Red	White
PS1	PS1-R	PS1-W