

20 Watt Amplifier

EVAC20W24V

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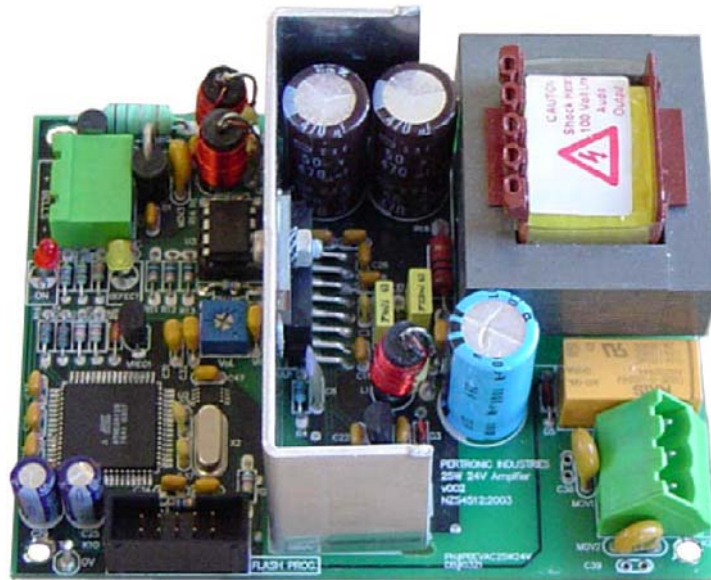
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Product Overview:

The **EVAC20W24V** is one of a range of 100V-Line Amplifiers manufactured by Pertronic Industries

Features:

- Generates the 'Evacuation' tone with verbal message as specified by ISO8201 (T3)
- Designed for connection to the monitored warning system output of an F16e, F100 or F120 Fire Alarm Panel and is activated when the circuit voltage polarity reverses in the 'Alarm' state
- In the 'Normal' state, the amplifier draws practically no current (less than 0.2 μ A) and appears transparent to the Fire Alarm panel
- The 100Vrms line is internally connected to, and monitored by, the panel's warning system circuit
- The amplifier's 100Vrms line is short-circuit protected and is capable of driving up to 20W (27.4Vdc supply) into connected 100Vrms loudspeakers



Specifications:

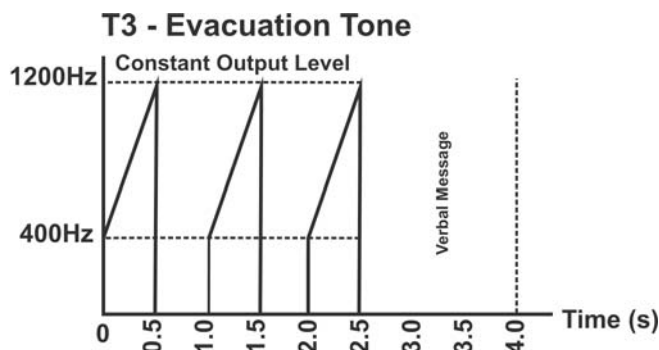
Recommended Panel: F16e, F100 or F120 Fire Alarm Panels

Mechanical:

- Board Dimensions: 100mm x 77mm x 35mm (L x W x H)
- Mounting Hole Spacing: 93mm x 69mm - compatible with existing mounting plate

Electrical:

- Operating Voltage: 20-30Vdc, nominal 27.4V
- Operating Current: 1.2A @ 27.4V nominal with 20Wrms load
- Power Output: 20Wrms @ 100Vrms line : 27.4Vdc Supply
- Monitoring: Short and open circuit monitored with 10k Ω , 1W EOL resistor
- Tone: Evacuation tone and verbal message, compliant to ISO8201 (T3)



Operation:

The Amplifier is connected to the Fire Alarm panel warning system circuit output. The Warning System terminals '+' and '-' are connected to the corresponding '+' and '-' terminals on the amplifier.

In the 'Normal' state, the panel monitors the 100V line EOL (10kΩ, 1W) resistor by applying an inverted voltage to the amplifier input terminals. In this state the amplifier connects the EOL resistor to the warning system circuit. A 10kΩ, 1W EOL resistor must be used across the 100Vrms line for correct operation of the amplifier monitoring circuit.

In the 'Alarm' state, the Fire Alarm panel reverses the Warning System voltage causing the amplifier to activate and output a repeating 'Evacuation Tone, interspersed with a voiced Evacuation Message' onto the 100Vrms loudspeaker circuit. The amplifier is NOT monitored during the 'Alarm' state.

If the amplifier output is overloaded, or the supply voltage becomes 'Off-Normal', the amplifier will signal a fault by turning the Fault LED ON (refer to Table 1).

ON LED	Fault LED	Defect Description
Off	Off	Amplifier inactive
Steady	Off	Amplifier active
Flashing	Steady	Supply Voltage below 20V or above 30V
Steady	Flashing	Amplifier output is overloaded

Table 1. LED Decoding

The 100Vrms Line may have a maximum of three spurs. For these configurations an EOL resistor of the appropriate value must be installed at the end of each spur (refer to Table 2).

Number of Spurs	EOL Resistor Value for Each Spur
1	1 x 10kΩ, 1W
2	1 x 22kΩ, 1W on each spur
3	1 x 33kΩ, 1W on each spur

Table 2. Spurs

Capacitively-coupled 100Vrms Loudspeakers must be used with the 20W, 24V Amplifier. The capacitor must be bipolar and able to withstand 250V peak line voltage. The value should be approximately 1μF per watt of power for each speaker.

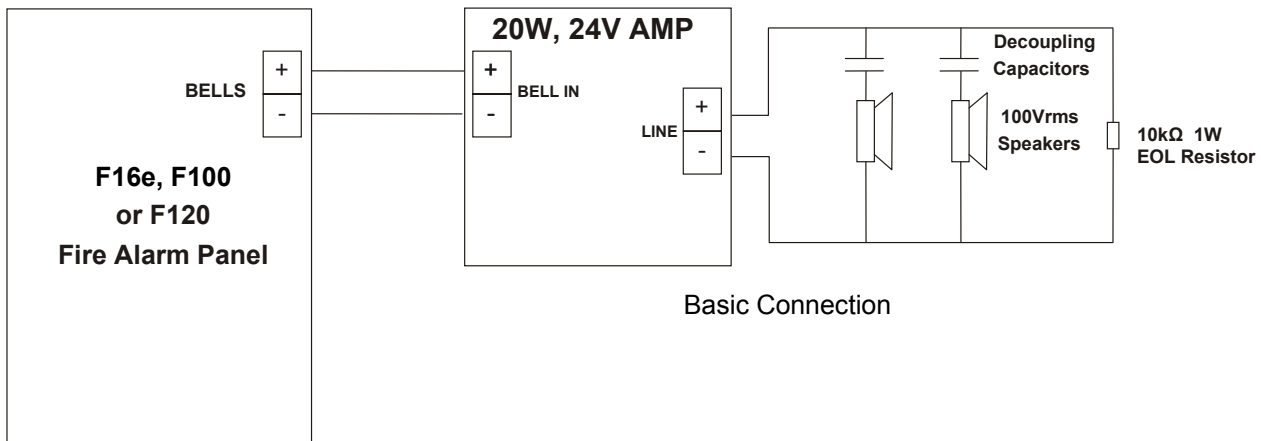
The 100Vrms speaker wiring must be separated from ELV (Extra Low Voltage) wiring to prevent interference from cross-talk.

Loading of the 100Vrms line must not exceed 20W.

An excessive load will cause the Amplifier to current limit and shutdown. The symptoms for this may be interruptions in the audio output and two or more amplifiers broadcasting out of synchronization.

Loading of the Warning System output must not exceed the maximum fuse or relay ratings

Connection Diagram:



Ordering Information:

Description

EVAC Amplifier, 20W 24V

Part Number

EVAC20W24V

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