

# SpectrAlert®

**Selectable Output P1224MC Horn/Strobes, S1224MC Strobes, and H12/24 Horns**

**FIRE·LITE® ALARMS**  
by Honeywell

**Audio/Visual Devices**

## General

System Sensor® SpectrAlert® Selectable Output Horns, Strobes, and Horn/Strobes offer enhanced features that include the widest range of candela options available and the capability to recognize and self-adjust for either 12- or 24-volt operation. With an overall feature set that combines performance, installation ease, flexibility, and a consistent, aesthetically pleasing appearance, the SpectrAlert Selectable Output devices provide both the innovation and efficiency synonymous with the SpectrAlert name.

**Performance.** SpectrAlert selectable output wall-mount horns, strobes, and horn/strobes offer key performance features long associated with the SpectrAlert name. The selectable-candela strobes and horn/strobes offer average current draws that are not only lower than conventional fixed-candela SpectrAlert products, but also lower than similar selectable-candela products. By consuming less current, the ability to connect even more devices per loop is possible, resulting in a lower installed cost.

**Installation.** SpectrAlert selectable output horns, strobes, and horn/strobes offer the same installation-friendly features synonymous with the SpectrAlert name, such as the option of two- and four-wire operation; the ability to use standard-sized backboxes with no encroachment into the box; and universal mounting incorporating the labor-saving QuickClick™ feature. Such labor-saving features make wire connections simple and fast, further reducing installed cost.

**Flexibility.** SpectrAlert selectable output strobes and horn/strobes offer the broadest range of candela options. In addition, the selectable output strobes and horn/strobes can operate on either 12 V or 24 V, with no setting required; the device recognizes and self-adjusts to the correct current automatically. Temporal 3 or Continuous tone options continue to be available, in either an Electromechanical or 3 kHz pattern.

**Aesthetics.** SpectrAlert selectable output horns, strobes, and horn/strobes incorporate the same stylish, low-profile design of the conventional SpectrAlert products, for a consistent and aesthetically pleasing appearance across the entire product line.

## Features

- Operate on either 12 V or 24 V.
- Widest range of candela options:
- **12 V:** 15 and 15/75 candela.
- **24 V:** 15, 15/75, 30, 75, 110 candela.
- Easy candela selection.
- Lower current draw.
- Easy DIP switch selection for horn options.
- Easy mounting with QuickClick.
- Synchronizable with MDL Sync•Circuit™ module.
- Meets UL 1971, NFPA 72, and ADA signaling requirements.

**NOTE:** All strobe and horn/strobe models incorporate a new patented voltage booster design that has a more consistent flash bulb voltage over the range of candela selections. The benefit to the customer is a high quality strobe device.

## P1224MC Horn/Strobe



**S1224MC Strobe**

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## Engineering Specifications

SpectrAlert horns, strobes and horn/strobes shall be capable of mounting to a standard 4.0" x 4.0" x 1.5" (10.16 x 10.16 x 3.81 cm) backbox or a single-gang 2.0" x 4.0" x 1.875" (5.08 x 10.16 x 4.763 cm) backbox using the universal mounting plate included with each SpectrAlert product. Also, SpectrAlert products, when used in conjunction with the accessory Sync•Circuit Module, shall be powered from a non-coded power supply and shall operate on 12 or 24 volts. 12-volt rated devices shall have an operating voltage range of 9 – 17.5 volts. 24-volt rated devices shall have an operating voltage range of 17 – 33 volts. SpectrAlert products shall have an operating temperature of 32° to 120°F (0°C to 49°C) and operate from a regulated DC or full-wave-rectified, unfiltered power supply.

### STROBE

Strobe shall be a System Sensor SpectrAlert Model \_\_\_\_\_ listed to UL 1971 and be approved for fire protective service. The strobe shall be wired as a primary signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

### HORN/STROBE COMBINATION

Horn/Strobe shall be a System Sensor SpectrAlert Model \_\_\_\_\_ listed to UL 1971 and UL 464 and shall be approved for fire protective service. Horn/strobe shall be wired as a primary signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have two tone options, two audibility options (at 24 volts) and the option to switch between a Temporal 3 pattern and a Non-Temporal Continuous pattern.

Strobes shall be powered independently of the sounder with the removal of factory-installed jumper wires. The horn on horn/strobe models shall operate on a coded or non-coded power supply (the strobe must be powered continuously).

### SYNCHRONIZATION MODULE

Module shall be a System Sensor Sync-Circuit \_\_\_\_\_ listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz and horns at Temporal 3. Also, the module shall silence the horns on horn/strobe models, while operating the strobes, over a single pair of wires. The module shall be capable of mounting to a 4.688" x 4.688" x 2.125" (11.906 x 11.906 x 5.398 cm) back-box and shall control two Style Y (Class B) or one Style Z (Class A) circuit. Module shall be capable of multiple zone synchronization by daisy-chaining multiple modules together and re-synchronizing each other along the chain. The module shall not operate on a coded power supply.

### Operating Specifications

**Walk test:** SpectrAlert horn/strobe and horn-only work on "walk tests" with time durations of 4 seconds or greater.

**Input terminals:** 12 to 18 AWG (3.31 to 0.821 mm<sup>2</sup>).

**Dimensions: strobe and horn/strobe with universal plate:** 5.0" x 5.625" x 2.938" (12.7 x 14.288 x 7.461 cm); **strobe and horn/strobe with small-footprint plate:** 3.375" x 5.625" x 2.313" (8.573 x 14.288 x 5.874 cm); **horn with universal mounting plate:** 5.0" x 5.625" x 1.313" (12.7 x 14.288 x 3.334 cm); **horn without mounting plate:** 2.938" x 5.313" x 1.313" (7.461 x 13.494 x 3.334 cm).

**Weight, horn only:** 7.2 oz. (204.117 g).

**Weight, strobe and horn/strobe:** 8.8 oz. (249.476 g).

**Mounting:** standard boxes 4.0" x 4.0" x 1.5" (10.16 x 10.16 x 3.81 cm) or 2.0" x 4.0" x 1.875" (5.08 x 10.16 x 4.763 cm).

**Operating temperature (indoor):** 32°F to 120°F (0°C to 49°C).

**Maximum humidity (indoor):** 95% as tested per UL 464.

**Operating temperature (K Series, outdoor):** -40°F to 151°F (-40°C to 66°C).

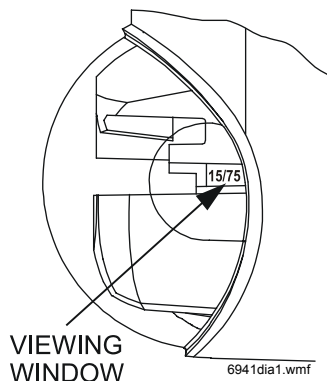
### SpectrAlert Strobe Candela Selections

For strobe candela selection, adjust slide switch located on the rear of the product while watching the viewing window on the side of the reflector.

**Permissible candela settings:**

**For 12 V operating voltage:** 15 or 15/75.

**For 24 V operating voltage:** 15, 15/75, 30, 75, 110.



**Outdoor rating:** NEMA 3R (per UL 50).

**Voltages:** 12 or 24 VDC and FWR unfiltered. **NOTE:** Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.

**Operating voltage range:** 12 V: 8 – 17.5 V; 24 V: 16 – 33 V.

**Operating voltage range with Sync-Circuit module MDL:** 12 V: 9 – 17.5 V; 24 V: 17 – 33 V. **NOTE:** The MDL causes a one-volt voltage drop in the notification appliance circuit.

**Explanation of published voltage, current, and SPL specifications:** In May 2004, Underwriters Laboratories changed standard UL 1971 to require that operating current measurements are made using RMS (root mean square) instead of peak or average values. RMS measurements more accurately predict the power consumption of a device since they take into account the entire current draw profile including surge, repetitive surge, and peak values. The published RMS current is the maximum operating current of that device within its operating voltage range. This current maximum may or may not occur at the endpoints of the voltage range. Similarly, UL tests the audibility of devices in accordance with UL 464 by measuring them across the operating voltage range to determine the minimum sound pressure level produced at any particular setting.

During May 2004, UL also changed the way they list the voltage range of a device. All 12 V products will be listed between 8 – 17.5 V and all 24 V products will be listed between 16 – 33 V. Those devices are considered "regulated." Any product that does not operate within these ranges will be listed as a "special application" with its operating voltage specified on the device.

**U.S. Patent numbers:** 5,593,569. 5,914,665. 6,049,446.

### Current Draw Tables

**NOTE:** 1) Current draw for **strobe-only** products is shown in Table 1-A. 2) Current draw for **horn-only** products is shown in Table 1-B. 3) **12 VDC two-wire horn/strobe** current is shown in Table 1-C. 4) **24 VDC two-wire horn/strobe** current draw is shown in Table 1-D. 5) Current draw for **other horn/strobe power supplies** can be calculated by adding the strobe current in Table 1-A to the horn current in Table 1-B from the chosen settings.

**Current Draw Table 1-A:  
STROBE, UL Maximum (mA RMS)**

Candela Setting	FWR Operating Current, STROBE (mA RMS)		DC Operating Current, STROBE (mA RMS)	
	8 – 17.5 V	16 – 33 V	8 – 17.5 V	16 – 33 V
15	112	64	127	59
15/75	135	74	127	69
30		93		90
75		158		160
110		208		209

**Current draw tables continued on next page.**

**Current Draw Table 1-B:  
HORN, UL Maximum (mA RMS)**

Selectable Horn Tones		DC 8-17.5V	DC 16-33V	FWR 8-17.5V	FWR 16-33V
Temporal, LOW Volume	Electromechanical	15	23	13	23
	3000 Hz Interrupted	15	33	13	23
Temporal, HIGH Volume	Electromechanical	36	53	20	44
	3000 Hz Interrupted	43	57	21	40
Non-Temporal, LOW Volume	Electromechanical	16	37	19	29
	3000 Hz Interrupted	16	32	18	33
Non-Temporal, HIGH Volume	Electromechanical	38	49	46	49
	3000 Hz Interrupted	44	56	42	58

**Current Draw Table 1-C:  
12 VDC HORN/STROBE,  
UL Maximum (mA RMS)**

Candela Setting	LOW Volume		HIGH Volume	
	Electro- mech.	3000 Hz	Electro- mech.	3000 Hz
<b>TEMPORAL</b>				
15	111	111	112	112
15/75	127	127	126	129
<b>NON-TEMPORAL</b>				
15	113	112	114	115
15/75	128	128	130	134

**Current Draw Table 1-D:  
24 VDC HORN/STROBE,  
UL Maximum (mA RMS)**

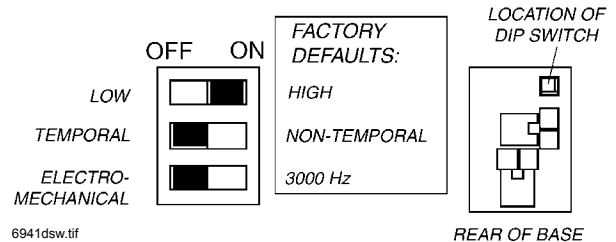
Candela Setting	LOW Volume		HIGH Volume	
	Electro- mech.	3000 Hz	Electro- mech.	3000 Hz
<b>TEMPORAL</b>				
15	71	70	73	75
15/75	86	85	87	88
30	99	98	100	100
75	166	166	167	170
110	209	209	210	213
<b>NON-TEMPORAL</b>				
15	74	74	79	82
15/75	86	88	93	96
30	101	101	107	110
75	167	167	173	176
110	213	213	218	222

**Agency Listings and Approvals**

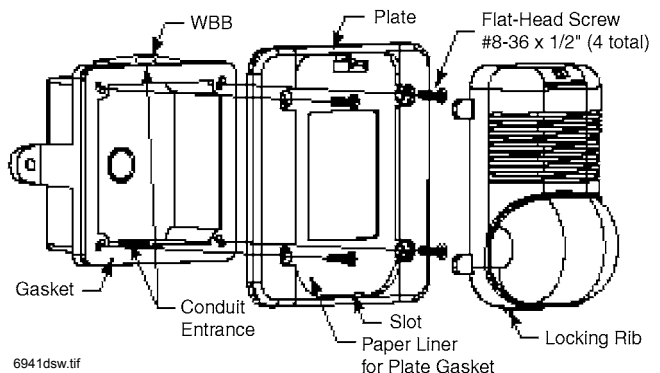
The listings and approvals below apply to SpectrAlert Selectable Output Strobe, Horn, and Horn/Strobes. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL** Listed: files S5512, S4011.
- **ULC** Listed: file C5549, C5548.
- **MEA** approved: files 122-02-E, 126-02-E.
- **CSFM** approved: files 7125-1209:222, 7135-1209:223.
- **FM** approved.

**DIP Switch Operation on P1224MC**



**Typical Weatherproof Mounting with Universal Plate**



**Table 2: HORN Sound Measurements (dBA)**

Selectable Horn Tones		8 – 17.5 V	16 – 33 V
Temporal, LOW Volume	Electromechanical	67	75
	3000 Hz Interrupted	68	75
Temporal, HIGH Volume	Electromechanical	71	80
	3000 Hz Interrupted	72	81
Non-Temporal, LOW Volume	Electromechanical	71	79
	3000 Hz Interrupted	72	79
Non-Temporal, HIGH Volume	Electromechanical	76	84
	3000 Hz Interrupted	77	86

**Ordering Information**

Model	Description	Model	Description
<b>HORN/STROBES</b>		<b>STROBES</b>	
<b>P1224MC</b>	Selectable output horn/strobe, 12/24 volt, red.	<b>S1224MC</b>	Selectable output strobe, 12/24 volt, red.
<b>P1224MCW</b>	Selectable output horn/strobe, 12/24 volt, white.	<b>S1224MCW</b>	Selectable output strobe, 12/24 volt, white.
<b>P1224MCP</b>	Selectable output horn/strobe, 12/24 volt, red, plain housing.	<b>S1224MCP</b>	Selectable output strobe, 12/24 volt, red, plain housing.
<b>P1224MCPW</b>	Selectable output horn/strobe, 12/24 volt, white, plain housing.	<b>S1224MCPW</b>	Selectable output strobe, 12/24 volt, white, plain housing.
<b>P1224MCK</b>	Selectable output horn/strobe, 12/24 volt, red, outdoor.	<b>S1224MCK</b>	Selectable output strobe, 12/24 volt, red, outdoor.
<b>P1224MCSP</b>	Selectable output horn/strobe, 12/24 volt, red, "FUEGO" housing.	<b>S1224MCSP</b>	Selectable output strobe, 12/24 volt, red, "FUEGO" housing.
<b>HORNS</b>		<b>MOUNTING ACCESSORIES</b>	
<b>H12/24</b>	Horn, 12/24 volt, red.	<b>S-MP</b>	Small-footprint mounting plate, red, for single-gang backbox.
<b>H12/24W</b>	Horn, 12/24 volt, white.	<b>S-MPW</b>	Small-footprint mounting plate, white, for single-gang backbox.
<b>H12/24K</b>	Horn, 12/24 volt, red, outdoor.	<b>BBS</b>	Surface-mount backbox skirt, red.
<b>SYNC MODULES</b>		<b>BBSW</b>	Surface-mount backbox skirt, white.
<b>MDL</b>	Sync•Circuit module, red.	<b>D-MP</b>	Universal mounting plate (replacement), red.
<b>MDLW</b>	Sync•Circuit module, white.	<b>D-MPW</b>	Universal mounting plate (replacement), white.
<b>MDLWA</b>	Sync•Circuit module, white, Canadian model.	<b>WBB</b>	Weatherproof backbox.

**NOTE:** 1) All of these SpectrAlert products are designed for wall-mounting only. 2) All outdoor models MUST use weatherproof backbox model WBB. 3) Installation of less than 75 candela strobes may be permissible under the equivalent facilitation clause of the ADAAG (Sec. 2.2). However, it is the responsibility of the person or entity designing the fire alarm system to determine the acceptability of less than 75 candela strobes. 4) All 15/75 candela strobes or horn/strobes are recommended for 20' x 20' (6.096 m x 6.096 m) rooms or less.

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