



DETCON MODEL AV1/AV2-C1D2M

Hazardous Duty Class I. Div 2, Multitone Alarm Station



Operator's Installation and Instruction Manual

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1.0 Description

Detcon Model AV2-C1D2M audiovisual alarm stations are designed for installation and use in hazardous duty, corrosive work environments. The Strobes are UL listed and CSA Certified for Class I, Division 2, Groups A, B, C and D; Class II, Division I, Groups E, F, and G; and Class III. The siren is UL listed for Class I, Groups B, C and D; Class II, Groups E, F, and G. The AV1-C1D2M alarm station consists of one strobe light and a siren. The AV2-C1D2M alarm station consists of two strobe lights and a siren.

The station can be wired to control circuit alarm devices for the purpose of warning personnel of hazardous conditions. When used in conjunction with Detcon controllers, the alarm station is typically used to provide a low alarm (strobe) and high alarm (strobe/horn) for pre-determined hazardous environmental gas levels (toxic or flammable) as indicated by remote mount sensors.

1.1 Strobe

The alarm station strobe lights are configured with any combination of dome colors such as amber, blue, clear, green, magenta, or red. Dome guards are included. The rugged warning light is specifically designed for hazardous locations or corrosive environments where a very bright visual signal is required.

Hazardous location strobes are available in voltage ratings of 120VAC or 240VAC. The strobe light provides 80 high-intensity flashes per minute. UL listed and CSA certified for Class I, Division 2, Groups A, B, C and D; Class II, Division I, Groups E, F, and G; and Class III.

The light meets Type 4X watertight, dust-tight, and corrosion resistant requirements; constructed to IP66. It has an aluminum base coated for corrosion-resistance. The dome guard fits over the plastic dome to protect it against accidental collision with moving equipment.



Figure 1 Strobe

Specification

| | |
|-------------------------------|--|
| Voltage | 12-24VDC, 120VAC 50/60HZ, 240VAC 50/60HZ |
| Mount | 3/4" Pipe |
| Operating Current | 0.60 Amps at 24VDC; 0.32 Amps at 120VAC, 0.16 Amps at 240VAC |
| Dome Colors | Amber / Blue / Clear / Green / Magenta / Red |
| Dome Guard | Included |
| Operating Temperature Minimum | -31°F |

| | |
|-------------------------------|---------------|
| Operating Temperature Maximum | 150°F |
| Flash Rate/Minute | 80 |
| Effective Candle Power | 165 |
| Enclosure Rating | Type 4X, IP66 |
| Height | 8.75in |
| Diameter | 5.5in. |

1.2 Siren



Figure 2 SSTX-MV Siren

The alarm station Explosion Proof Power Alarm® siren is a rain-tight solid-state audible alarm that features four field selectable sounds: Wail, Yelp, Horn, and Temporal Slow Whoop.

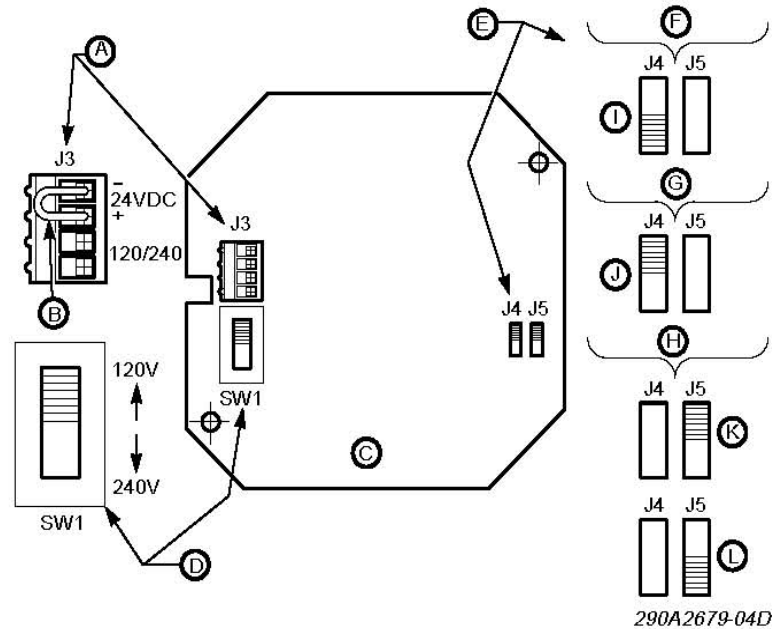
The siren is weatherproof constructed with a cast aluminum housing and spun Aluminum horn. It produces a noise level of a 98dbA @ 10 feet in a wide angle sound dispersion pattern.

The explosion proof power alarm siren is available in voltage ratings of 24VDC, 120VAC or 240VAC @ 50/60Hz. and mounts on a unidirectional mounting bracket with ½” conduit access. UL listed for Class I, Groups B, C and D

Specifications

| | |
|---------------------|---|
| Voltage | 24VDC, 120 VAC 50/60 HZ, 240 VAC 50/60 HZ |
| Mount | Omni Directional Mounting Bracket |
| Operating Current | 0.6Amps at 24 VDC 0.21Amps at 120 VAC 0.12Amps at 240 VAC |
| Temperature Rating | -35°C to +72°C; -31°F to +161°F |
| Sound Output | DB (A) @ 10' on Axis |
| Wail | 108 |
| Yelp | 108 |
| Horn | 102 |
| Temporal Slow Whoop | 102 |
| Enclosure Rating | Type 3R, IP44 |

| | |
|----------------------------|--------------------|
| Height | 14.75in. |
| Width | 8.88in. |
| Long | 14.75in |
| Sound Selectable Positions | Listed in Figure 3 |



English

- A. Power connector plug, J2
- B. Jumper
- C. SSTX-MV Printed circuit board
- D. AC Voltage selector switch, SW1
- E. Tone selector jumpers, J4 & J5
- F. For yelp tone
- G. For wail tone
- H. For horn tone
- I. Yelp
- J. Wail
- K. Horn
- L. Temporal Slow Whoop

Figure 3 SSTX-MV printed circuit board

2.0 Installation

The assembly is mounted on a T-shaped Aluminum bracket with holes pre-drilled to accommodate (2) U-bolt attachments on a 2.5" maximum diameter pipe. U-bolt size is 3/8-16 x 3 inches. Overall Dimensions are 33"H x 16.5"W x 18.5"D (Figure 4).

The tone for the siren is set using tone selector jumpers, J4 & J5. Each jumper consists of three pins and the selection of appropriate tone is made by placing a jumper on two of the three pins as shown in Figure 3.

The alarm comes pre-wired for the voltage ordered from the factory (110/220VAC or 24VDC). Wiring is installed through the opening at bottom of junction box. Connect wiring in accordance with the appropriate wiring diagram (Figure 6 or Figure 7), AV1-C1D2M being wired for Strobe 1 only. Use only 12 to 18 AWG wire for power connections. Strip no more than 0.25-inch of insulation from the ends of the power leads.

Ground can be connected either to the Condulet Ground Screw or to the Plug on the terminal board. Optionally, each annunciator can be powered independently by removing the jumper between terminal points 5, 6, and 7, and wiring directly to the return path of the annunciator.

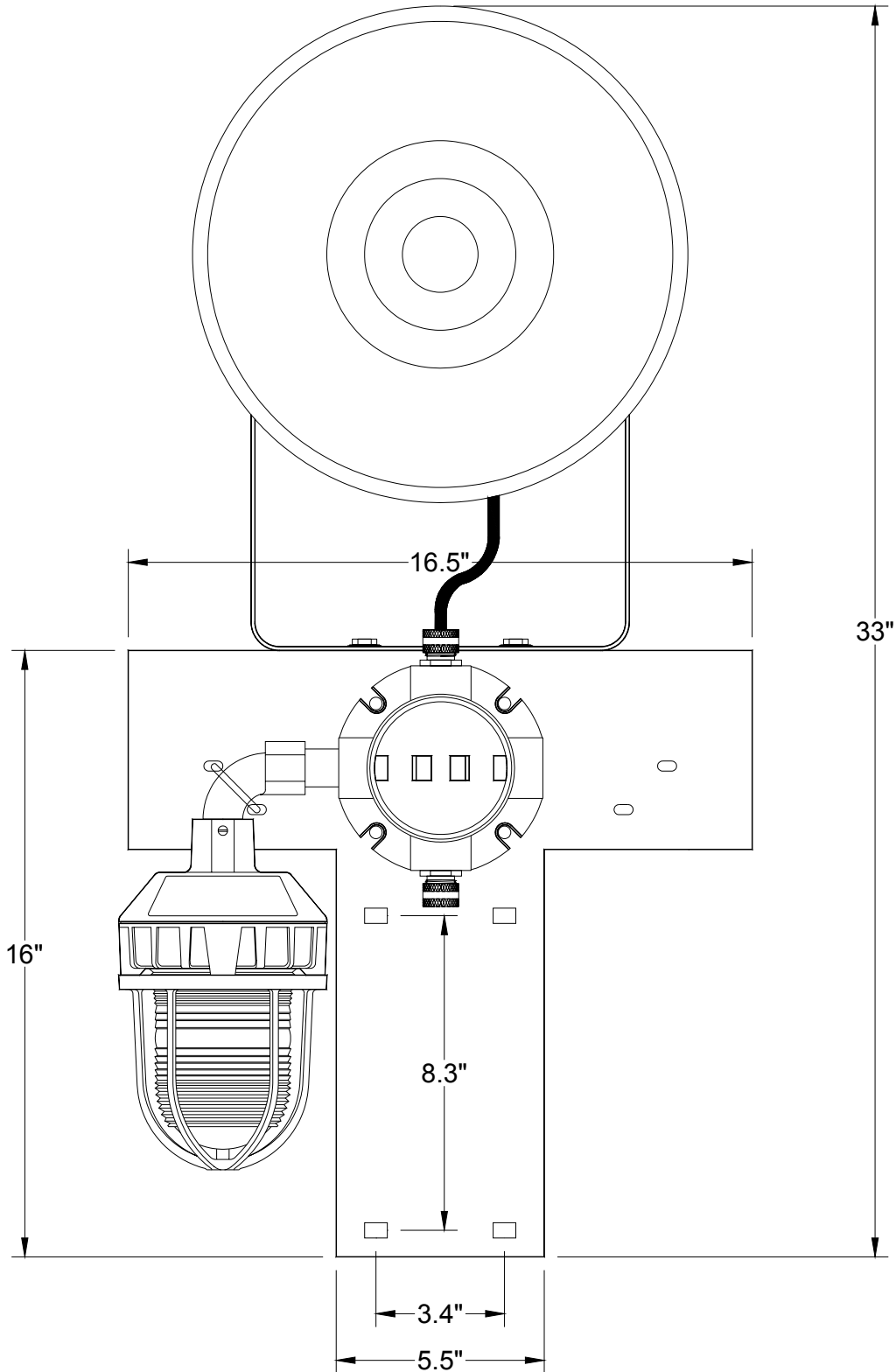


Figure 4 AV1-C1D2M Dimensional

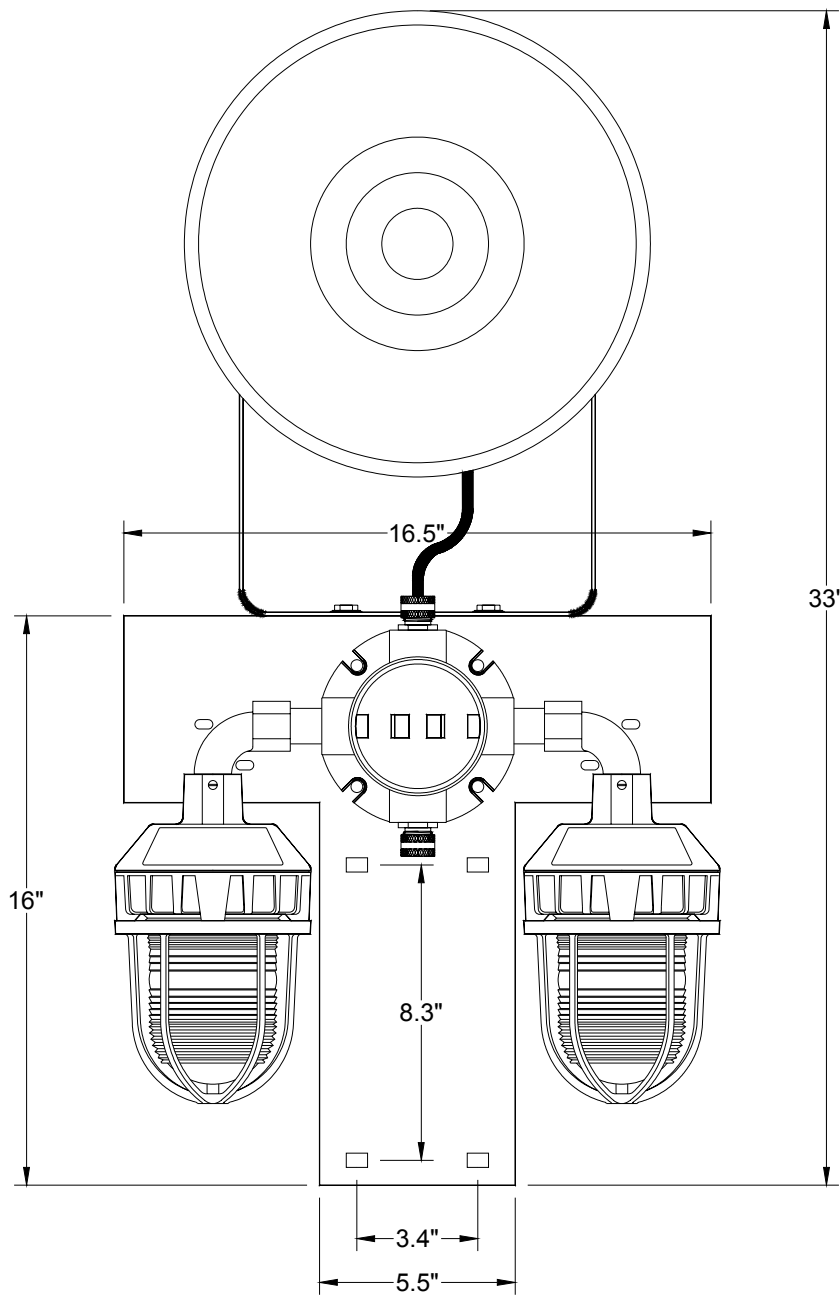


Figure 5 AV2-C1D2M Dimensional

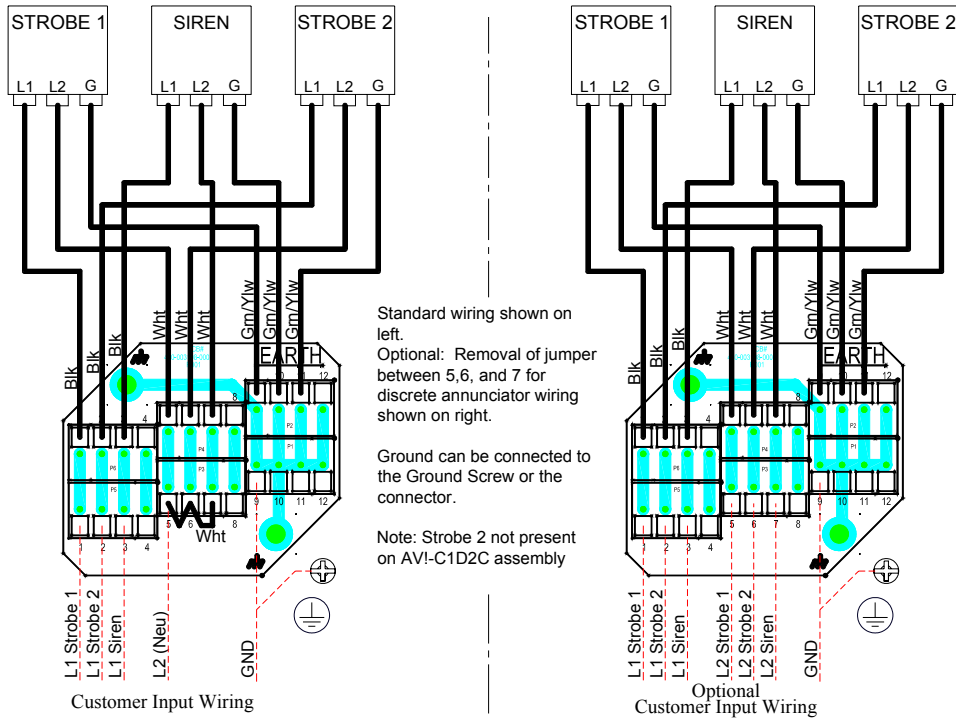


Figure 6 120/240VAC wiring diagram

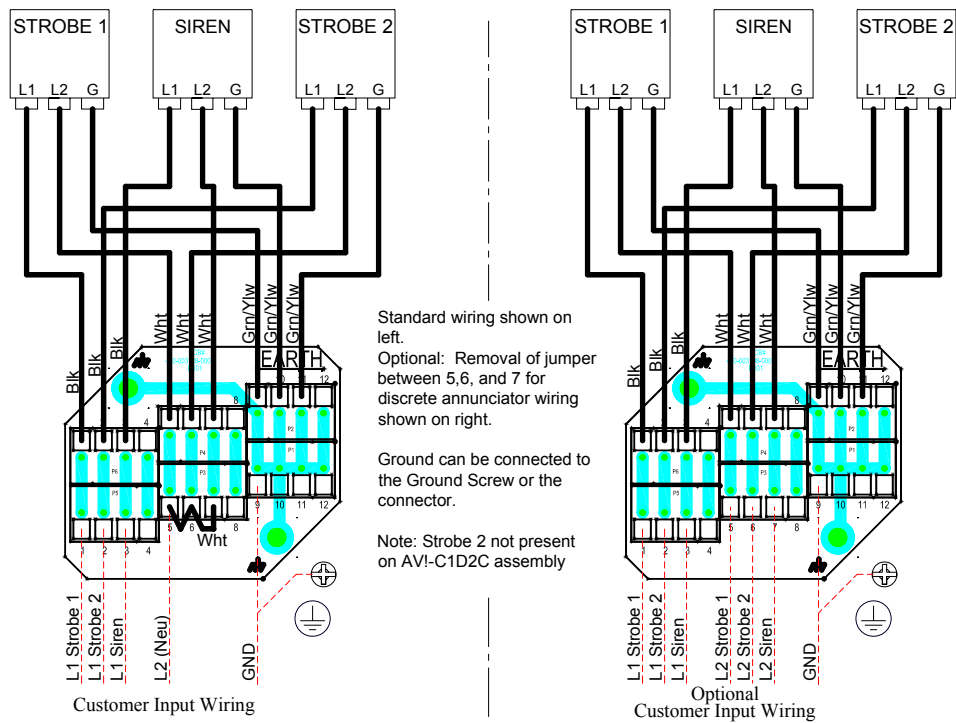


Figure 7 24 VDC Wiring

3.0 Parts List

| Detcon Part # | Description |
|----------------------|--|
| 500-003198-000 | Alarm System Terminal Board |
| 356-889321-MV0 | 24 VDC / 120VAC / 240VAC Hazardous Location Siren |
| 354-1516X6-024 | 151XST – 24VDC Strobe, Ext Ground (X represents color of lamp) |
| 354-1516X6-120 | 151XST – 120VAC Strobe, Ext Ground (X represents color of lamp) |
| 354-1516X6-240 | 151XST – 240VAC Strobe, Ext Ground (X represents color of lamp) |
| | Strobe colors: Red (2), Amber (4), Green (5), Blue (6), Magenta (7), and Clear (9) |

4.0 Warranty

Detcon Inc., as manufacturer, warrants under intended normal use each new AV1/AV2-C1D2M Alarm station to be free from defects in material and workmanship for a period of one year. The warranty period begins from the date of shipment to the original purchaser and ends one year thereafter. All warranties and service policies are FOB the Detcon Inc. facility located in The Woodlands, Texas.

5.0 Appendix

5.1 Revision Log

| Revision | Date | Changes made |
|----------|-------------------|---|
| 1.2 | March 6, 2006 | Using Tomar WEP1002 siren |
| 1.4 | September 7, 2007 | Changed to Federal Signal SSTX-MV siren, addition of spare parts for the Siren |
| 2.0 | May 20, 2008 | Modified wiring drawings to show common return and individual activation of siren(s) and horn. Removed Federal Signal spare parts |
| 2.1 | November 6, 2009 | Change to title of AV1/AV2-C1D2M, addition of picture and drawings relating to AV1-C1D2M alarm station, addition of Revision log |