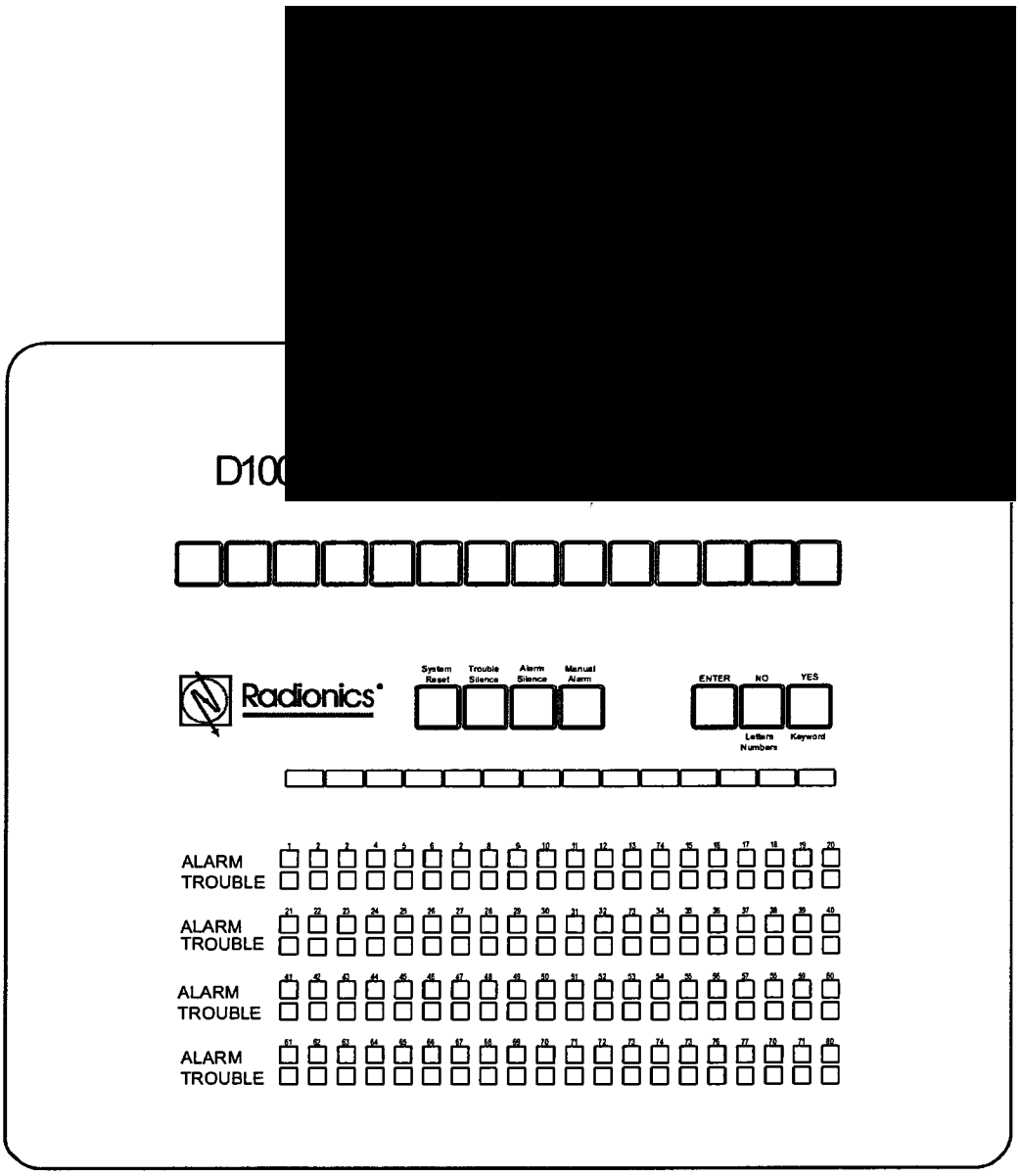
D10024 Analog Fire Alarm Control Panel

Installation Guide



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1.0 Notices

1.1 General Notices

These instructions contain procedures to follow in order to avoid personal injury and/or damage to the equipment.

Any equipment installed is to be done so in accordance with the National Electrical Code (NFPA 70), the National Fire Alarm Code (NFPA 72) and the local Authority Having Jurisdiction (AHJ). Radionics is not responsible for any equipment that is not installed according to these regulations.

NFPA 72 requires a complete system-wide functional test be performed following any modifications, repair, upgrades or adjustments made to the system's components, hardware, wiring, programming and software/ firmware.

The material and instructions covered in this operator's guide have been carefully checked for accuracy and are presumed to be reliable. However, the manufacturer assumes no responsibility for inaccuracies and reserves the right to modify and revise this installation guide without notice.

This installation guide covers the installation of the D10024 Analog Fire Alarm Control Panel (FACP). See the *D10024 Operator's Guide* (P/N: 46521) for instructions on powering up and operating the D10024.

1.2 FCC Notice

1.2.1 Part 15

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses and can radiate radio frequency energy, and, if not installed in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by one or more of the following measures:

1) Reorient or relocate the receiving antenna.
2) Increase the separation between the equipment and the receiver.
3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4) Consult the dealer or an experienced radio/TV technician for help.

1.3 UL/NFPA Notice

Radionics' D10024 Analog Fire Alarm Control Panel is UL Listed for NFPA 72, Central Station and Remote Station.

All references to NFPA and related requirements are based upon compliance with the 1993 edition of NFPA 72, National Fire Alarm Code. Since installation specifications are nearly always based upon a specific edition of a standard which has been legally adopted by the Authority Having Jurisdiction (AHJ), earlier editions of NFPA standards will generally apply. Consult with the appropriate AHJ for confirmation.

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2.0 Overview

2.1 System Overview

Radionics' D10024 Analog Fire Alarm Control Panel (FACP) is an expandable control panel that provides point identification through addressable analog devices. The D10024 has five expansion slots to accommodate plug-in polling circuit modules. Each of these polling circuit modules can support up to 126 analog addresses, giving the D10024 a potential of 630 addressable points. Flexibility in system design allows the option of grouping device points together and identifying them as one location, or zone, in order to simplify system operation.

The D10024 includes the following features:

- Analog design using advanced communications protocol
- 80 character display
- Custom text annunciation
- Up to 630 addresses supported in a stand-alone system
- Can be networked with Radionics' D8024 and D9024 Analog FACPs, as well as other D10024 FACPs
- 24 VDC, 3 A power supply and battery charger
- Programmable sensitivity levels by device
- Programmable "day/night" sensitivity levels
- PC programmable
- Service mode polling
- Fire test mode
- Event activity logger (up to 500 events)
- Optional local printer
- Suitable for ADA applications
- Meets NFPA National Fire Code standards

2.2 D10024 Control Module

Analog reporting devices initiate alarm conditions through the FACP. The analog FACP interacts with its reporting devices in a system that is constantly measuring not only its environment, but also its own ability to report on that environment. The FACP analyzes the measurements, compares them with other measurements, thresholds, the reported contamination of the devices, the time of day, and other programmed standards. Depending on the results of these comparisons, the Analog FACP may initiate an alarm, service, or a trouble condition. The FACP supervises and responds individually to each analog device in the circuit.

When the analog system configures the polling circuits, the control panel downloads a number of parameters, which have been programmed into the panel and are stored in the Central Processing Unit (CPU), to each analog device. These levels can be altered through the front panel or PC programming. Each device is programmed for:

- Alarm Level
- Pre-Alarm Level
- Service Level

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Overview

The D10024 Control Module is the input/output Printed Circuit Board (PCB)/Central Processing Unit (CPU). The control module, the on-board power supply, the transformer, and the input wiring connections are all mounted on a skirt.

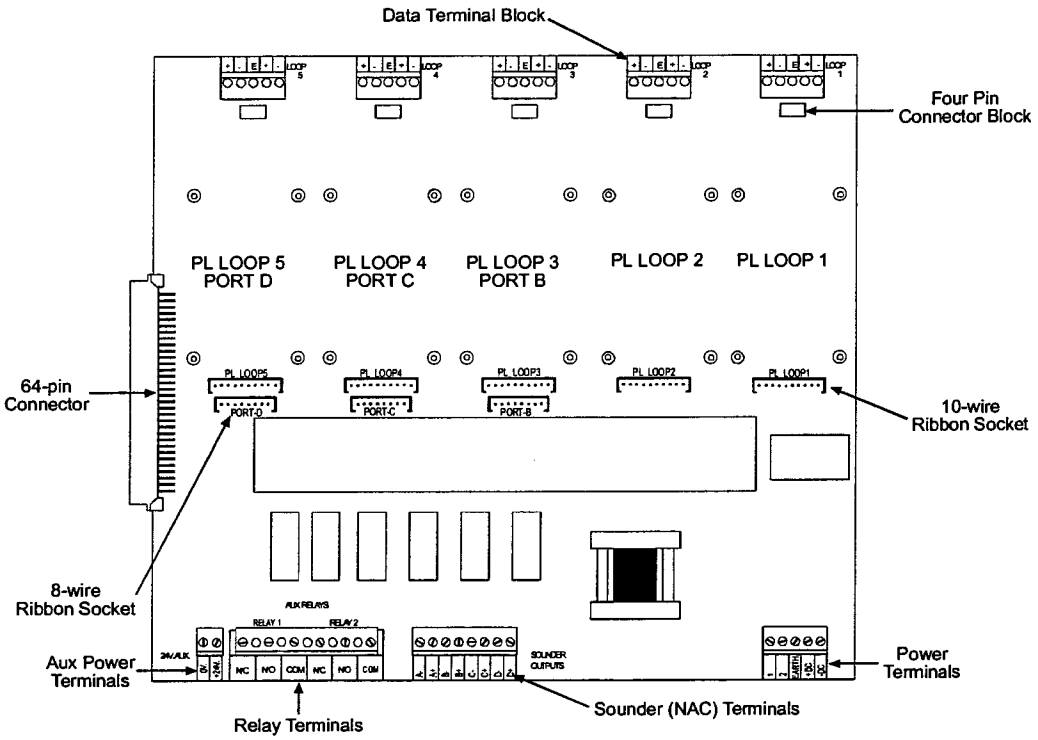

Figure 1: D10024 Control Module

2.3 Specifications

- **Operating Voltage:** 120 VAC
- **Operating Current:** 325 mA (control panel), 30 mA/circuit + sensor load (polling circuit)
- **Power Supply:** 24 VDC nominal at 3 A
- **Operating Temperature:** +32°F to +120°F (0°C to +49°C), non-condensing
- **Notification Appliance Circuit (NAC):** four programmable, 1 A output max; 2.2 k supervised EOL resistor
- **Auxiliary Output Power:** 24 VDC, 340 mA maximum
- **On-board Relays (dry contacts):** two Form "C" contacts rated at 1 A, 24 VDC max/relay
- **Sensor Circuit:** supports up to five D9067 Polling Circuit Modules; up to 7,200 ft. (2,195 m); #16 AWG (1.5 mm) wire; supports Class A wiring
- **Sensor Circuit Wiring Requirements:** 28 pF/ft. nominal capacitance; 3 Ω/1,000 ft. typical cable resistance; 25 Ω maximum loop resistance; recommended maximum loop capacitance should not exceed 0.25 µF
- **Maximum Number of Devices:** 126 per circuit; five circuits maximum
- **Sensor Circuit Protection:** short circuit protection on-board (without isolators in circuit)
- **Sensor Current:** 150 µA typical
- **Display:** 2-line by 40-character LCD; 40 or 80 LED fire zone indicators; 40 or 80 LED zone fault indicators; 10 LED system indicators
- **Keyboard:** membrane with snap dome; 21 key alphanumeric keypad
- **Printer:** optional 40 character local printer
- **Dimensions:** 20.0 x 16.0 x 6.6 in (51 x 41 x 17 cm) (H x W x D)
- **Listings and Approvals:** UL864 Listed (Commercial Fire Alarm, **Type Service:** Local, Remote, Central Station; **Type Initiating:** Automatic, Manual, Sprinkler Supervisory and Waterflow); CSFM, NYC-MEA, FM

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2.4 Standby Battery Selection

Note: *Any device that is connected to the D9067's polling circuit draws its current from the D9067, which is connected to the panel. Since the panel and the D9067 limit the amount of current drawn by the device on the circuit, the device's current draw is already accounted for and does not need to be figured into the standby battery calculations.*

Use Table 1 for standby battery calculations.

1000 µA = 1 mA 1000 mA = 1 A		AC Power ON Normal Current **A**		AC Power OFF Min. Current **B**		Alarm Max. Current **C**	
Model #	**Qty**	**Each Unit**	**Total mA (units x qty)**	**Each Unit**	**Total mA (units x qty)**	**Each Unit**	**Total mA (units x qty)**
D10024	1	325 mA	325 mA	325 mA	325 mA	480 mA	480 mA
D9067		42 mA		42 mA		42 mA	
D9051		59 mA		59 mA		59 mA	
D9052		59 mA		59 mA		59 mA	
D9053*		35 mA		35 mA		200 mA	
D9054*		40 mA		40 mA		100 mA	
D9069		35 mA		35 mA		125 mA	
D9070		35 mA		35 mA		125 mA	
D9072		120 mA		120 mA		220 mA	
D9073		125 mA		125 mA		125 mA	
		Total **A** mA		Total **B** mA		Four in Alarm **	18.9 mA
						Total **C** mA	

Table 1: Current Rating Chart for Standby Battery Calculations

Note: *See page 10 for * and ** references.*

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Overview

* Add 1.5 mA per output when flashing

** The panel latches on to the first four devices in alarm and continues polling the balance of the devices. 4 x 5 mA alarm current = 20 mA. These four devices normally draw a minimum 280 µA each. 20 mA - 1.12 mA (4 x 0.280) = 18.9 mA added to the alarm total.

The D10024 panel supervises and charges the two 12 V sealed lead-acid batteries that are the standby power source. Several batteries are available from Radionics, and battery selection will depend on system design. Use the Current Rating Chart to select the correct batteries.

Use battery ampere hour (Ah) calculations to verify compliance with standby requirements. Central Station or Local systems require 24 hours of standby plus five minutes of alarm operation at the end of that period.

The following formulas convert mA to Amperes, and includes factors for the five minute alarm period and the depletion of battery capacity with age:

Local Systems Ampere Hour Calculation Formula

$$\frac{\text{Total B}}{1000} \times (24 \text{ hours}) + \frac{\text{Total C}}{1000} \times (0.083 \text{ hours}) = \text{Total Ah}$$

Total Ah x 1.1 = Total Ah Requirements

Remote Station Service Ampere Hour Calculation Formula

$$\frac{\text{Total B}}{1000} \times (60 \text{ hours}) + \frac{\text{Total C}}{1000} \times (0.083 \text{ hours}) = \text{Total Ah}$$

Total Ah x 1.1 = Total Ah Requirements

The maximum battery size permitted for connection to the D10024 is 38 Ah. For Remote Station Service, the standby current of the panel x 60 + the alarm current of the panel x the alarm minutes calculation (0.083 x the alarm current). This total x 1.1 must not exceed 38 Ah.

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2.5 Compatible Devices

Below is a list of the devices that are compatible with the D10024. This list offers only brief descriptions of each device. Please consult the specific device's installation guide for complete installation, wiring and programming information.

- **D321A Analog Detector Base:** 6 in. diameter, low profile detector base. Compatible with D322A, D323A, D324A Analog Detector Heads. Can be installed in either a Class A (four-wire) or Class B (two-wire) analog polling circuit. Base security locking tab locks the detector head to the base to allow for ease of wiring and to prevent tampering.
- **D322A Analog Heat Detector:** Communicates with FACP via advanced digital communications protocol. Linear thermistor circuit is reliable and durable without being sensitive to changes in humidity, barometric pressure and air flow. Dual LEDs flash when the detector is polled and latch steady when detector goes into alarm condition. Programmable fixed temperature actuation points (default is 142°F, 61°C).
- **D323A Analog Photoelectric Smoke Detector Head:** Communicates with FACP via advanced digital communications protocol. Photodiode measures particulate levels in detection chamber and transmits measurements digitally to FACP. Unique chamber design prevents external light from affecting photodiode. Sensitivity levels can be modified at FACP. Dual LEDs flash when the detector is polled and latch steady when detector goes into alarm condition.
- **D324A Analog Ionization Smoke Detector Head:** Communicates with FACP via advanced digital communications protocol. Dual ionized chambers (one sealed, one open) measure particulate levels and transmits measurements digitally to FACP. Dual LEDs flash when the detector is polled and latch steady when detector goes into alarm condition.
- **D325A Analog Manual Fire Alarm Pull Station:** Communicates with FACP through its internal point contact module. Die-cast housing mounts to single gang box and conforms to Americans with Disabilities Act for activation force and operation. Key-resettable. Can be converted to double action with the D463 Double Action Cover. Optional glass break rod available.
- **D326A, D334A, D339A Analog Point Contact Modules:** Allow the FACP to supervise Form "A" and Form "B" dry contact devices on polling circuit. Modules allow for alarm trouble and supervisory conditions. D326A mounts to a 4 in. gang box; visible status display LED. D334A is mounted inside plastic casing and attaches inside single gang box allowing initiating device, such as a pull station, to mount over it. D339A can mount inside back box of any size.
- **D327A Analog NAC Module:** Provides connection terminals for a NAC device and auxiliary power to NAC device. Visible polling LED.
- **D328A Analog Relay Module:** Provides connection terminals for auxiliary system controls such as elevator recall systems or HVAC shutdown. Can be programmed to activate a variety of system conditions, such as alarm, trouble and event. Visible polling LED.
- **D336A Analog Detector Base:** 4 in. diameter, low profile detector base. Mounts flush with detector head. Compatible with D322A, D323A, D324A Analog Detector Heads. Can be installed in either a Class A (four-wire) or Class B (two-wire) analog polling circuit. Base security locking tab locks the detector head to the base to allow for ease of wiring and to prevent tampering.
- **D9050 40 Character On-board Printer:** Attaches to inside of enclosure door. Can print in either automatic mode or manual mode. In automatic mode, the printer automatically prints events as they occur and are displayed on the front panel display. In manual mode, the printer only prints on demand.
- **D9051 RS-485 Bus Module:** Provides an optically isolated data interface between FACP and peripheral devices. Depending on which FACP port the D9051 is connected to, it can support a peripheral circuit, an RS-485 panel-to-master data link, a panel-to-graphics data link or an RS-485 output to networked panels.
- **D9052 RS-232 Bus Module:** Provides a two-way, optically isolated RS-232 interface used to connect to peripheral systems. Communicates with serial devices.
- **D9053 40 Zone LED Display Driver:** Output driver board for remote LED display. Outputs are assigned to the first 40 zones on FACP. Outputs operate in tandem with zonal alarm LEDs on the FACP.
- **D9054 LED Extension Card:** Expands the FACP's standard 40 zone LED display to 80 zones.
- **D9055 3 A NAC Booster:** Provides 3 A of 24 VDC power. Supervises the NAC, its power supply and the standby battery supply.
- **D9060 PC Programming Software (Fire 5x):** Allows for complete circuit programming via a remote PC or laptop.
- **D9061 Graphics Display Software:** Dual runtime/graphic display software package. Runtime software enables the user to control and monitor the FACP(s) and detection devices within the system. Graphics software allows a designer to create picture representations of a site or building and its fire system. CAD drawings can be imported and modified inside the program, or the detailed drawing tools can be used to create pictures.

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Overview

- **D9067 Polling Circuit Module:** Functions as the connection point between polling circuit wiring and the FACP.
- **D9069 Fire System Annunciator:** Remote annunciator designed for use in public places to annunciate system events only; no provision for system control.
- **D9070 Fire System Controller:** Combines system annunciator functions with limited system control functions. Designed for use in public places. Keyed switch enables/disables keypad.
- **D9072 Four-Output NAC Module:** Provides connection points for up to four NACs. Supervises NAC s and detects open circuit and ground fault conditions. Trouble conditions reported to FACP. DIP switch addressable.
- **D9073 High Integrity RS-485 Bus Module:** Provides unrestricted, bi-directional RS-485 data communication between devices in a Class A circuit. Supervises the circuit and detects and isolates open circuit and ground fault conditions. DIP switch addressable.
- **D9078 LED Driver:** Graphic annunciator driver board that interprets alarm and trouble data from the FACP. Can be used to provide graphic annunciation or activate remote relays.

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3.0 D9109A Enclosure Installation

Depending on the configuration and the battery selection, The D10024 can weigh more than 75 lbs. (34 kg). When attaching the enclosure to a surface, use mounting hardware (not supplied) capable of supporting this weight and reinforce the wall as necessary.

The enclosure can be ordered separately to conform with construction schedules. The enclosure door, with its internal front panel display, and the system components are packaged separately and can be ordered and shipped at a later date.

CAUTION

Route the 120 VAC wiring into the enclosure at the upper left corner only. Keep AC wiring away from the circuit boards and all other wiring.

Note: *For power limited circuits, use types FPL, FPLR or FPLP wiring, or approved equivalent wiring, as applicable per NEC, Article 760.*

3.1 Semi-flush Mounting

Follow these steps to semi-flush mount the D9109A enclosure:

1) Prepare an opening in the wall 20 x 20 x 5.5 in. (51 x 51 x 14 cm).
2) Remove the knockouts as necessary for wiring conduit fittings.
3) Mount the enclosure in the wall.
4) Run the necessary wiring through the premises and pull the wires into the enclosure. Knockouts are provided at the top of the enclosure. If other holes are necessary, avoid interfering with the component mounting locations.
5) Mount the D9080 Flush Mount Trim Ring to the enclosure.

3.2 Surface Mounting

Follow these steps to surface mount the D9109A enclosure:

1) Remove the necessary knockouts and install conduit fittings.
2) Mount the enclosure in the desired location. Use all four mounting holes.
3) Run the necessary wiring throughout the premises and pull the wires into the enclosure. Knockouts are provided at the top of the enclosure. If you punch other holes, do not let them interfere with the component mounting locations.

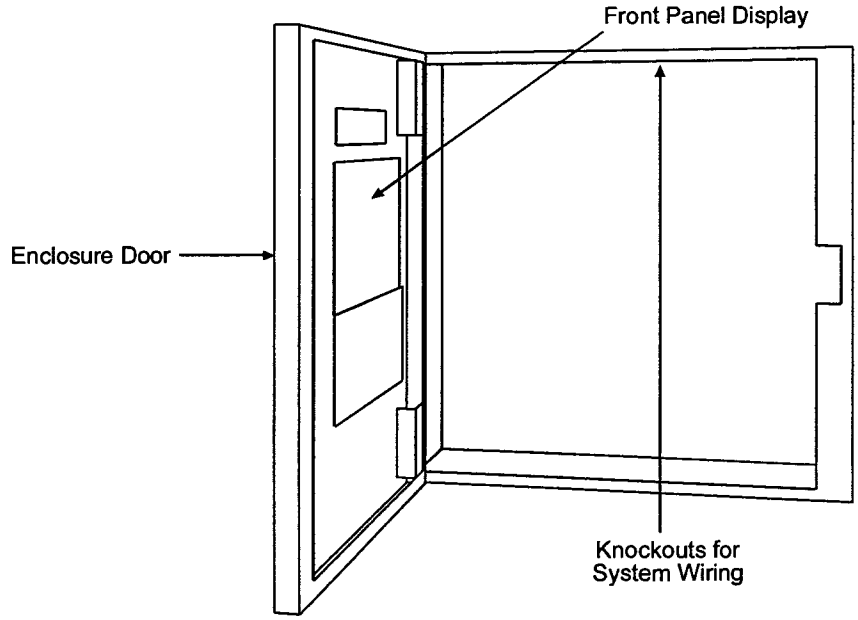

Figure 2: D9109A Enclosure and Removable Door

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4.0 Terminal Connections

WARNING

Remove all power (AC and battery) before making any wiring connections. Failure to do so may result in personal injury and/or damage to equipment.

Note: *For power limited circuits, use types FPL, FPLR or FPLP wiring, or approved equivalent wiring, as applicable per NEC, Article 760.*

4.1 Power Connections

4.1.1 AC Power Connections

The D10024 receives power from a 120 V, 60 Hz, AC power supply through a dedicated breaker. From the breaker, current flows through the input wiring terminals, through a 3 A fuse, through an EMI filter to the transformer, which converts 120 VAC to 24 VAC. All of these components are mounted to the skirt at the factory, and the only field connection is the 120 VAC input connection.

Radionics recommends that only a licensed electrician make 120 VAC connections to the D10024 system. All connections are to conform to NFPA 70/NEC. Connect the D10024 system to a suitable ground.

CAUTION

Maintain separation between 120 VAC and low voltage wiring. Do not route them in the same conduit. Keep them apart inside the enclosure.

Follow these steps when making the AC power connections:

1) Connect the ground wire (green) to the ground input terminal (middle terminal) on the 2 A fuse holder.
2) Connect the 120 VAC neutral wire (white) to the left terminal.
3) Connect the positive line wire (black) to the right terminal.

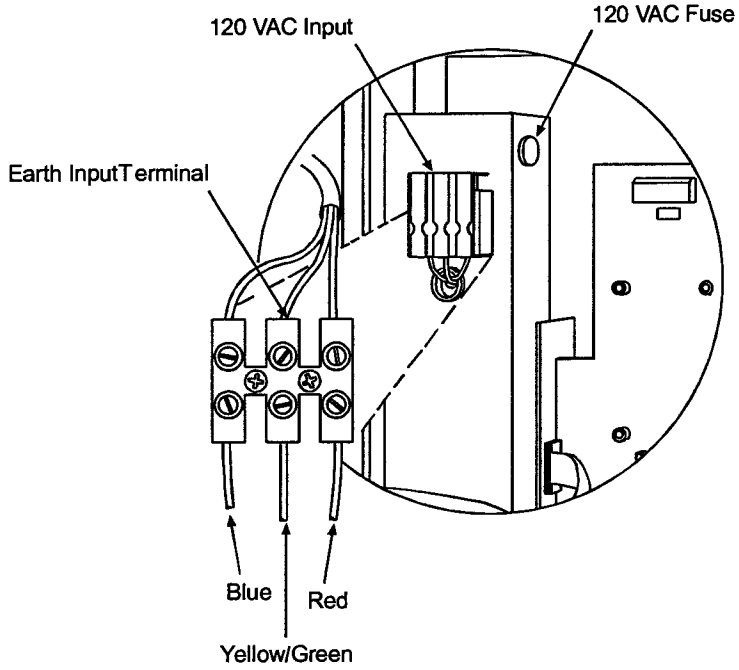

Figure 3: 120 VAC Input Connections

IMPORTANT

The input to the D10024 must be controlled by a dedicated breaker switch ("Isolate Elsewhere"). The minimum cross sectional area of the main supply cables is 0.75 mm. The input cables are fused through a 3 A anti-surge fuse.

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Terminal Connections

4.1.2 Control Module/Power Supply Connections

Panel upgrades and modifications may require the removal of the D10024 Control Module from the panel enclosure. The correct wire connections to terminals at the lower right side of the control module are shown in Figure 4.

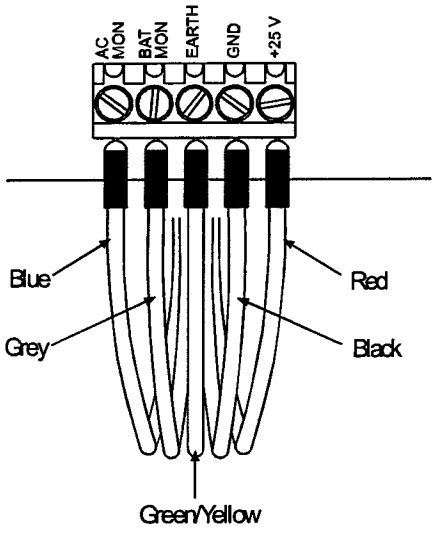

Figure 4: Control Module/Power Supply Connections

4.2 Circuit Connections

The D10024 FACP is an analog system. It exchanges data and may provide power to devices over two-wire circuits.

Data Circuit Length is the distance over the circuit wire from the connection at the control module to the most distant device and back to the control module. Data Circuit Length must include the distance to any device connected to the circuit in a "T" tap. "T" tapping is acceptable in Class B circuits. For specific Class B circuit installation requirements, see NFPA 72.

4.2.1 Polling Circuit

Detection devices in the analog system receive power and communicate with the control panel over a two-wire circuit. This digital communications format resists interference from most types of EMI and RF generated noise. Use shielded cable for all detection circuits. Terminate the shield to the earth ground terminal on the D10024 Control Module (see Figure 9). Mineral insulated copper cable (MICC) provides superior screening.

Ground the drain wire to the earth ground terminal on the D10024 Control Module. See Figure 9.

Radionics recommends shielded single pair twisted cable wiring with a drain wire such as Atlas #218 or West Penn Wire/CDT #D293. West Penn Wire/CDT #D293 has a nominal capacitance of 28 pF/ft between conductors.

Note: *The nominal capacitance for shielded single pair twisted cable wiring must not exceed 29 pF per foot. See Section 2.3 "Specifications" for sensor circuit wiring requirements.*

Polling circuits may be wired as Class A or Class B circuits. Radionics recommends Class A configuration with the wiring returning to the D9067 Polling Circuit Module. This allows the module to poll the circuit in both directions, ensuring circuit operation in the event of a single break in the wiring and allowing the panel to identify the location of the break.

Polling Circuit Length	Wire Gauge
Up to 4,000 ft. (1,219 m)	# 18 AWG (1.2 mm)
4,000 to 7,000 ft. (1,219 to 2,134 m)	# 16 AWG (1.5 mm)

Table 2: Polling Circuit Length/Wire Gauge

Note: *The D10024's Data Terminal Block's screw terminals can accept # 14 AWG (1.8 mm) wire, however this will reduce the allowable length.*

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Any devices in the system that are not analog in design must be connected to a point contact module, such as the D326A, D334A or D339A.

Each analog device is assigned a specific device. Each D9067 Polling Circuit Module can support up to 126 addresses. It is not necessary to wire devices in any particular order in a circuit.

The system is expanded by adding D9067 modules to the control module. The D10024 has slots for five polling circuit modules.

Note: *All analog devices are shipped with a default address of 127. During the installation phase, when addressing the devices, any unaddressed devices can be found by viewing Address 127: 7) View 1) Device. All unaddressed devices will flash their LEDs. To program an unaddressed device, use the D5070 Analog Device Programmer.*

4.2.1.1 D9067 Polling Circuit Module Installation

Note: *For complete installation and operation instructions regarding the D9067, refer to the* D9067 Installation Guide *(P/N: 74-07690-000).*

Analog devices report to the FACP over a polling circuit that connects to a D9067 Polling Circuit Module. The D10024 has five expansion slots for the D9067. See Figure 5.

1) Mount the D9067 Polling Circuit Module on the D10024 Control Module using the hardware provided with the D9067. Begin on the right side of the board in the slot labeled **PL LOOP1**. See Figure 5.

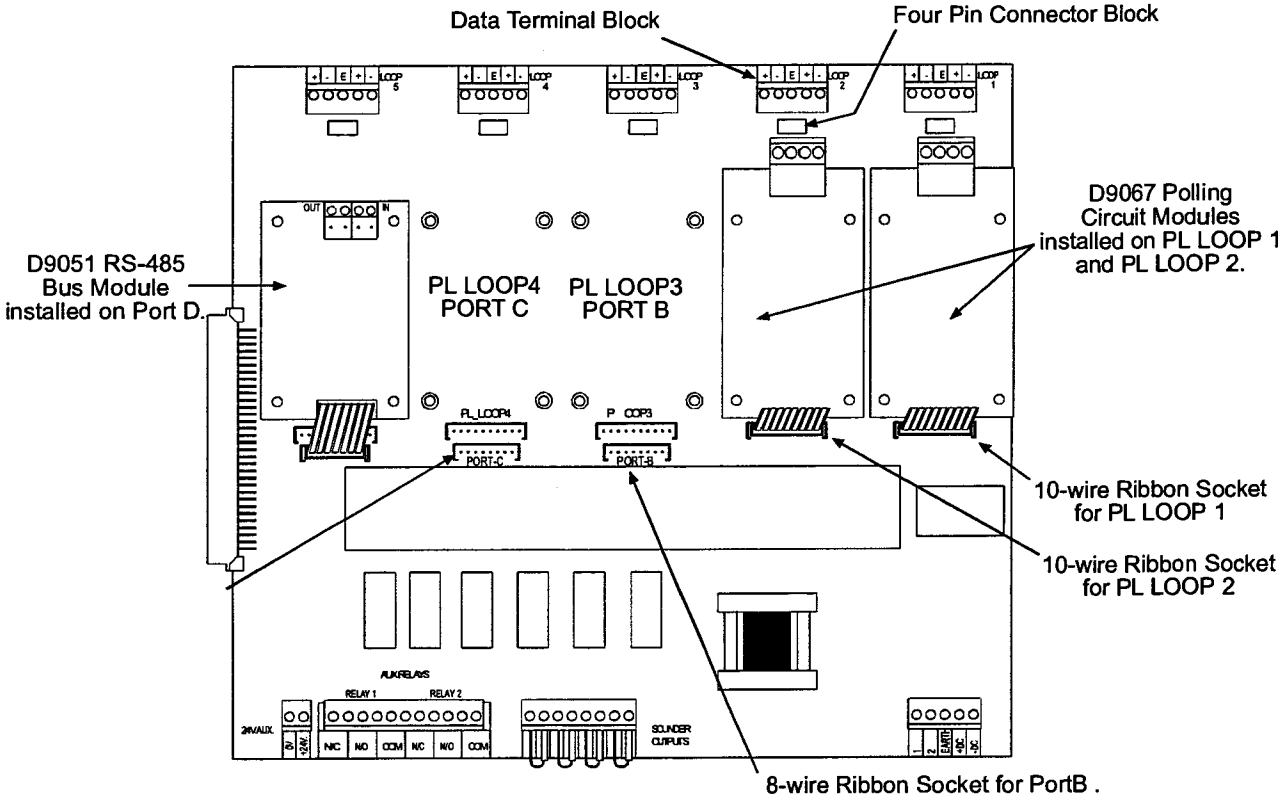

Figure 5: D9067 Installation

Note: *In some configurations, it may be necessary to mount the D9067 Polling Circuit Module together with another module. On the D10024, this can occur above the sockets labeled PL LOOP 3, PL LOOP 4 and PL LOOP 5. In this configuration, the D9067 mounts above the D10024 Control Module and the other module is "stacked" over it on standoff pillars. See Figures 5 and 6.*

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Terminal Connections

2) Connect the D9067's 10-wire ribbon to the 10-pin plug below it. The female four-wire plug at the top of the board plugs into the four-pin block below the dedicated screw terminal blocks. See Figures 5 and 6.

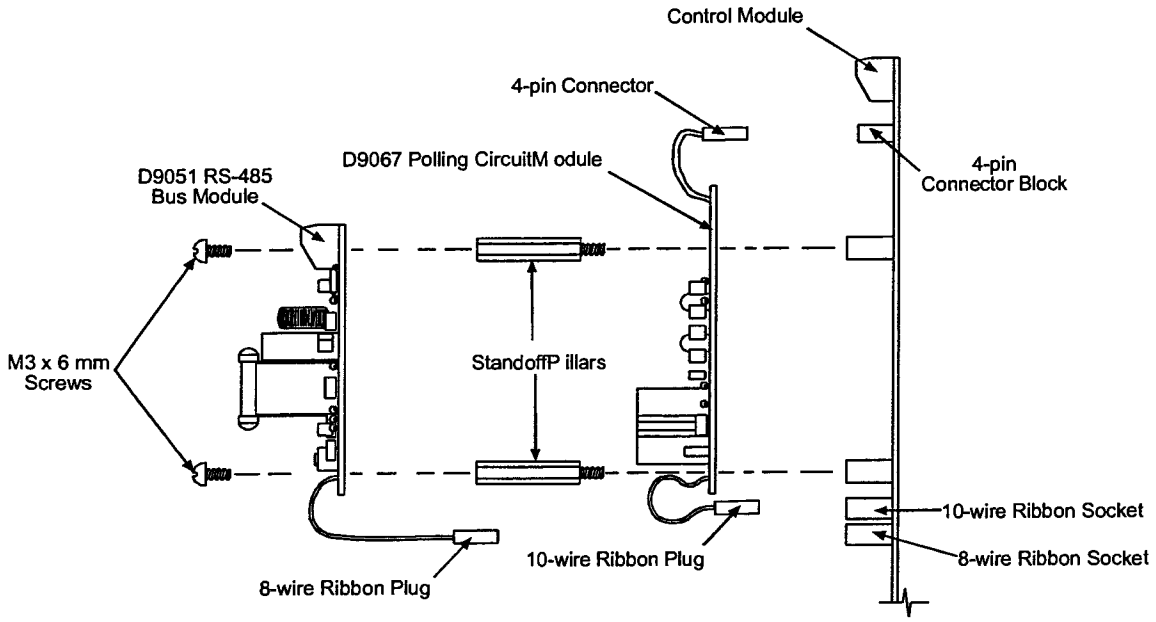

Figure 6: Stack-mounting Modules on the D10024 Control Module

There are two status display LEDs on the D9067 Polling Circuit Module. See Table 3 for LED actions.

LED Action	LED Indication
Alternate blinking	Normal polling operation
Solid	Break on loop (i.e.- Class B jumper missing); trouble message will appear on LCD display
Half intensity	Reversed polarity connection on loop
Out (dark)	Wire-to-wire short across loop

Table 3: D9067 LED Functions

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4.2.1.2 Class B, Style 4 Circuit Connections

Note: *The polling circuit is power limited.*

To wire the polling circuit as Class B (Style 4), follow these steps:

1) Connect the Data/Power Positive (+) wire of the polling circuit to the (+) terminal of the Data Terminal Block at the top of the D10024 Control Module.
2) Connect the Data/Power Common (-) wire of the polling circuit to the (-) terminal of the Data Terminal Block.
3) Connect the (+) and (-) terminals of the data terminal block with jumper wires.

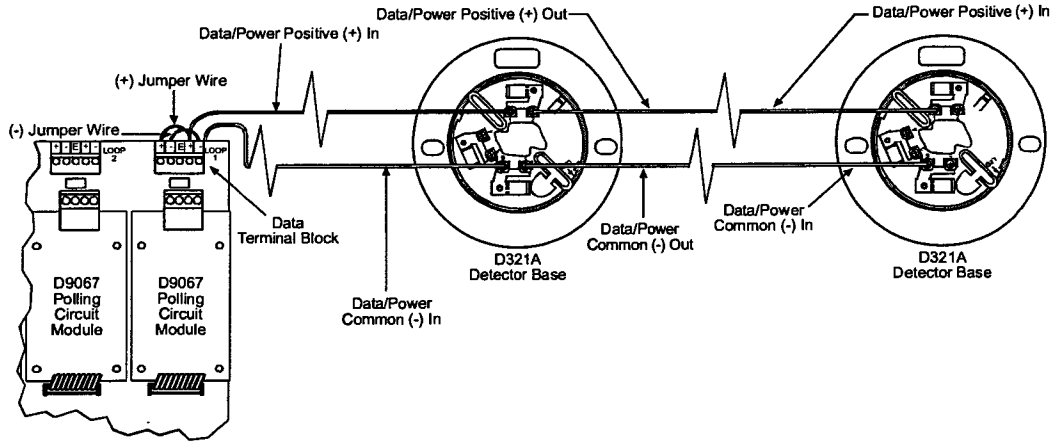

Figure 7: Class B, Style 4 Circuit Connections

4.2.1.3 Class A, Style 6 Circuit Connections

Note: *The polling circuit is power limited.*

To wire the polling circuit as Class A (Style 6), follow these steps:

1) Connect the Data/Power Positive (+) wire of the polling circuit to the (+) terminal of the Data Terminal Block at the top of the D10024 Control Module.
2) Connect the Data/Power Common (-) wire of the polling circuit to the (-) terminal of the Data Terminal Block.
3) Connect the returning Data/Power wires to the respective terminals.
4) Connect the drain wire for shielded cable to the (E) terminal (earth ground) on the Data Terminal Block.

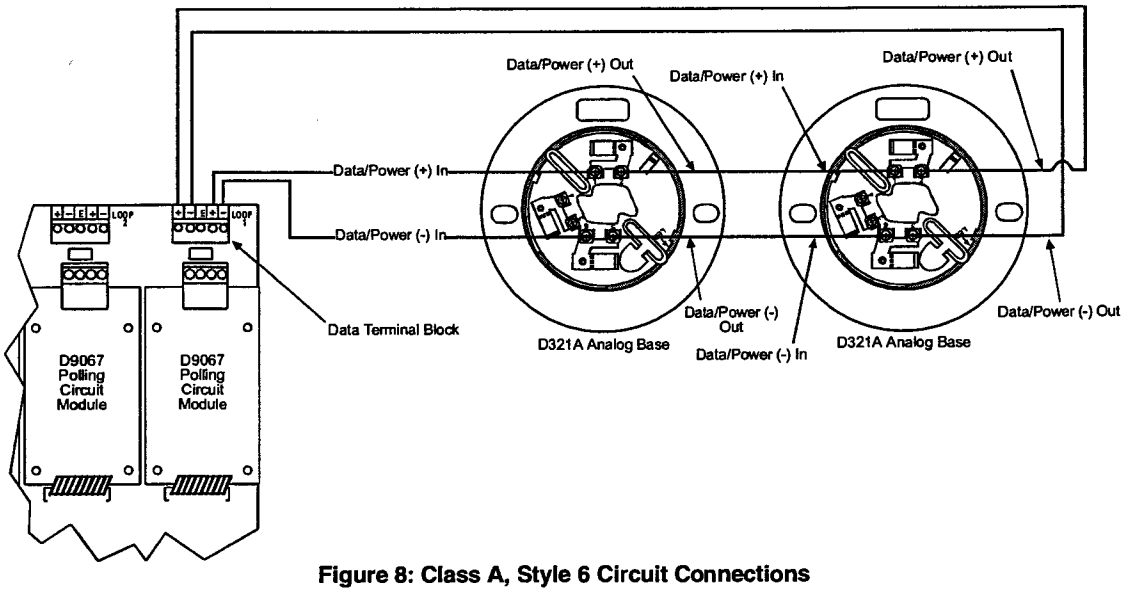

Figure 8: Class A, Style 6 Circuit Connections

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Terminal Connections

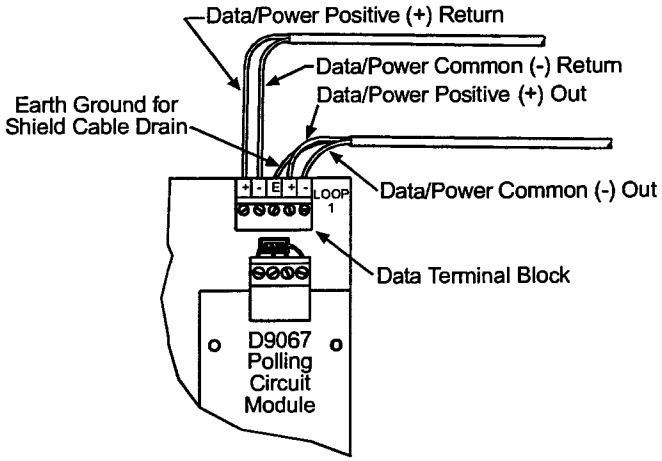

Figure 9: Earth Ground Connections

IMPORTANT

An improperly grounded shielded cable may aggravate rather than eliminate noise problems. Reconnect the shielded cable drain each time the cable is cut to install a device.

4.2.2 Peripheral Circuit

The RS-485 Circuit provides an optically isolated data interface between the control module and command centers and annunciators, networked panels and serial peripherals. A shielded twisted-pair wiring circuit connects to the D9051 RS-485 Bus Module. The two ports on the left side of the control module are mounting points, depending on the application, for the D9051 modules.

Circuit length is the distance over the circuit from the connection at the D9051 Module to the most distant device and back to the D9051 Module. The maximum RS-485 circuit length is 4,920 ft. (1,500 m). Use shielded twisted-pair cable Type 2, UL style 2092, such as Data Grade Cable D293 or its equal.

RS-485 Peripheral Circuit Length	Wire Gauge
Up to 4,920 ft. (1,500 m)	#18 AWG (1.2 mm)

Table 4: RS-485 Peripheral Circuit Length/Wire Gauge

The D9052 RS-232 Bus Module provides an isolated interface between the control module and a computer graphics package, such as Radionics' D9061 Graphics Display Software.

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4.2.2.1 D9051 RS-485 Bus Module Installation

IMPORTANT

Inform the operator and the local Authority Having Jurisdiction (AHJ) before installing this module in an existing system. Disconnect all power to the FACP before installing this module.

Note: *For complete installation and operation instructions regarding the D9051, refer to the* D9051 Installation Guide *(P/N: 34048).*

The D9051 module is an RS-485 Network Expander. It provides an isolated Class B, Style 4 or Class A, Style 6 data interface between the control module and command centers, annunciators, networked panels and serial peripherals.

The D10024 can support up to 31 peripheral communications devices on the RS-485 bus. Each device must be assigned a unique address.

On the D10024, Ports B, C and D are located below the 10-wire ribbon sockets labeled PL LOOP 3, PL LOOP 4 and PL LOOP 5. The D9051 and D9067 modules may be "stack-mounted" together above Ports B, C and D. See Figures 5, 6 and 9 for module installation and port locations. See Table 5 for port assignments.

D9024 Port	Port Assignment
B	Supports panel to PC connection for graphics software.
C	Supports an RS-485output to networked panels. On a stand-alone panel, it supports a PC connection for graphics software.
D	Supports a peripheral circuit for D9069 System Annunciators, D9070 System Controllers, four-way notification appliances, synchronized notification appliances and other serial peripherals.

Table 5: D10024 Port Assignments

When installing the D9051, follow these steps:

1) Remove AC power from the system at the dedicated 120 VAC breaker, "lock out" the breaker and remove the standby battery power before making or breaking any connections to the FACP.

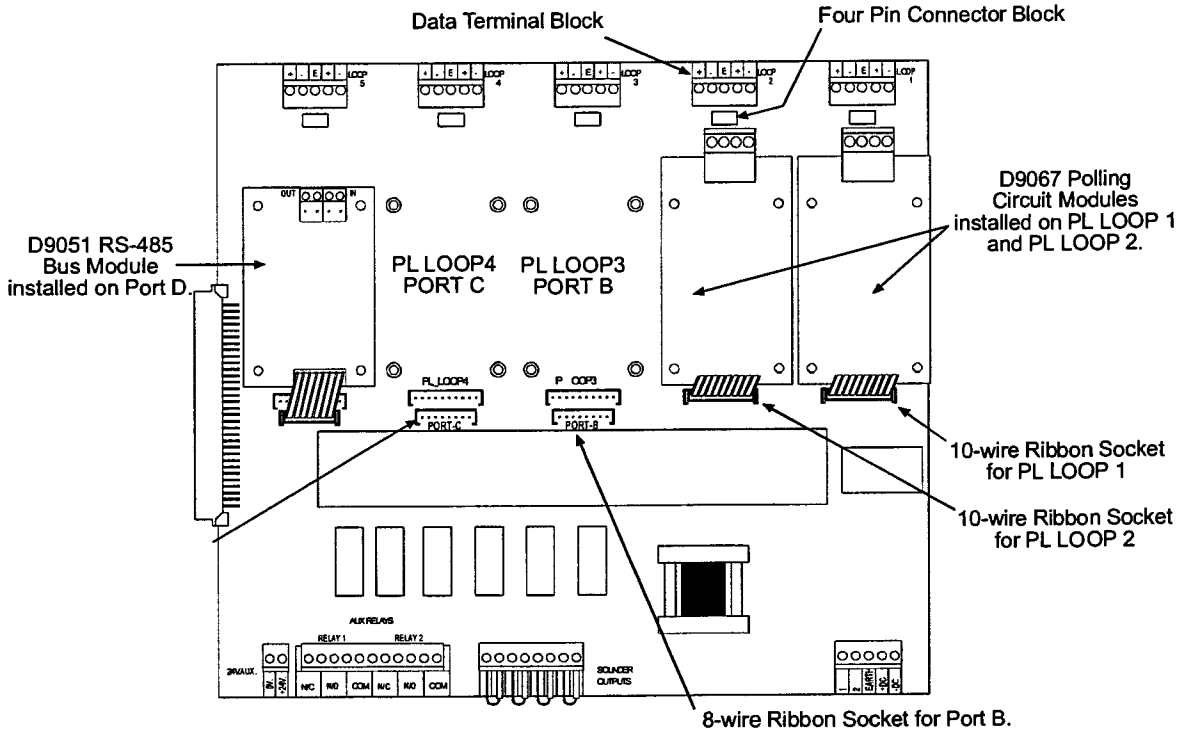

Figure 10: Port Locations for the D9051 RS-485 Bus Module

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Terminal Connections

4.2.2.2 Peripheral Circuit Wiring (Port D)

Port D on the D10024 Control Module supports a peripheral circuit for D9069 Remote Annunciators, D9070 Fire System Controllers, D9072 Four-Output NAC Modules and D9078 LED Driver Modules.

The two-wire RS-485 communication circuit may be connected to either or both sides ("IN or "OUT") of the D9051 terminal block.

1) Connect the "B" wire to the "B" terminal (left-side terminal) of the terminal block on the top of the D9051 module.
2) Connect the "A" wire to the "A" terminal next to it.
3) If shielded cable is used, connect the drain wire(s) to the "E" terminal of the terminal block on the control module.

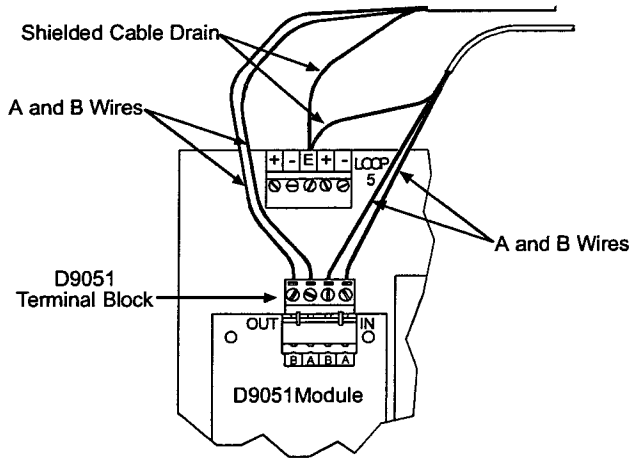

Figure 11: Port D Peripheral Circuit Wiring

IMPORTANT

An improperly grounded shielded cable may aggravate rather than eliminate noise problems. Reconnect the shielded cable drain each time the cable is cut to install a device.

4.2.2.3 Network Circuit Wiring (Port C)

Port C supports an RS-485 panel-to-master data link, or an RS-232 panel-to-graphics data link.

Serial network data communications take place using D9051 RS-485 Bus Modules attached to Serial Port C on the control module.

The panels are wired in series to an NFPA Class B, Style 3.5 Signaling Line Circuit (SLC) on the appropriate RS-485 bus. The RS-485 terminals on the D9051 are polarity sensitive. The channels are marked "A" and "B", and data wires should be connected "A" to "A" and "B" to "B". Cross-wiring between channels will result in corrupted data, but will not damage equipment.

Use shielded twisted pair such as the Data Grade Cable D293, Beldon 8670 two-core twisted pair, or non-shielded #18 AWG (1.2 mm) gauge cable from Atlas, Guardian Sound and Security or their equals. To avoid data corruption, route cables so that they do not run next to other cables.

The total length of the data cables between the two end panels must not exceed 3,935 ft. (1,200 m) per channel.

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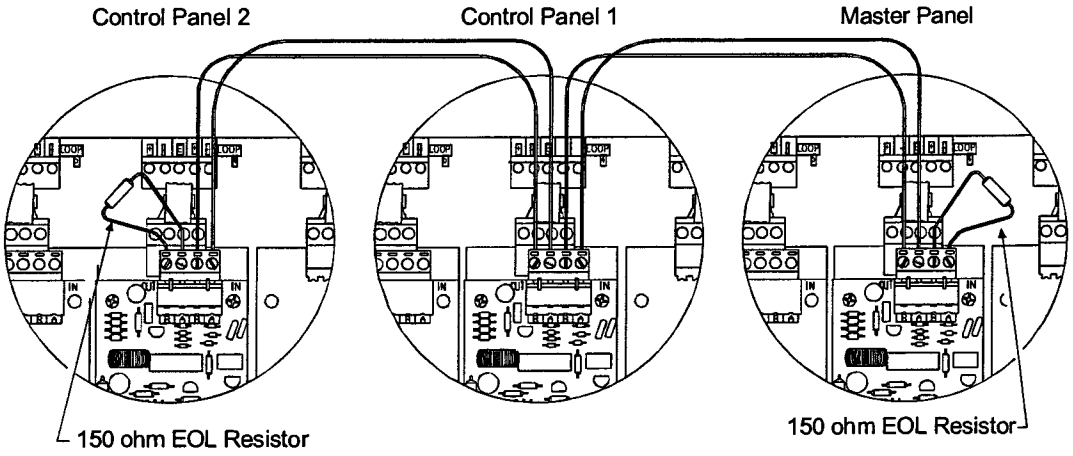

Figure 12: Port C Network Circuit Wiring

4.2.2.4 Panel Network Connections

The D10024 can be connected in two types of network configurations: the Shared Zone Network, in which the panels share common zones and function as one system, and the Report and Control Network, in which individual panels or subsystems are networked for reporting and control purposes only. For more information on both configurations, see the *D8024, D9024, D10024 Networking Guide* (P/N: 34377).

- **Shared Zone Network:** A Shared Zone Network is usually an installation in a single site or building. Up to four panels can be networked together with one panel designated to act as the master panel. The number of zones in this configuration is limited by the panel in the system with the least number of zones. Shared zone networks using the D10024 FACP are limited to 80 zones. This network acts as one large system.
- **Report and Control Network:** The Report and Control Network links the individual panels to a master panel for reporting and control. Up to 10 D8024, D9024 and/or D10024 panels may be networked together in a Report and Control Network with one dedicated panel designated to act as the master panel.

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Terminal Connections

4.2.2.5 D9052 RS-232 Bus Module Installation

IMPORTANT

Inform the operator and the local Authority Having Jurisdiction (AHJ) before installing this module in an existing system. Disconnect all power to the FACP before installing this module.

Note: *For complete installation and operation instructions regarding the D9052, refer to the* D9052 Installation Guide *(P/N: 34096).*

The D9052 RS-232 Bus Module plugs into either Port B or Port C on the D10024 Control Modules, and provides an electrically-isolated serial interface and it is for supplementary use only. It is used for communication with serial devices over #18 AWG (1.2 mm) twisted-pair cable over a distance of up to 50 ft. (15 m).

Ports B and C support serial connections for a panel-to-graphics data link or a modem. Port B is a connection point for a master panel in large network systems.

To install the D9052 on the D10024 Control Module, follow these steps:

1) Remove AC power from the system at the dedicated 120 VAC breaker, "lock out" the breaker and remove the standby battery power before making or breaking any connections to the FACP.
2) Plug the D9052 into either Port B or Port C.
3) Connect the eight-wire ribbon connector into the socket below the port.

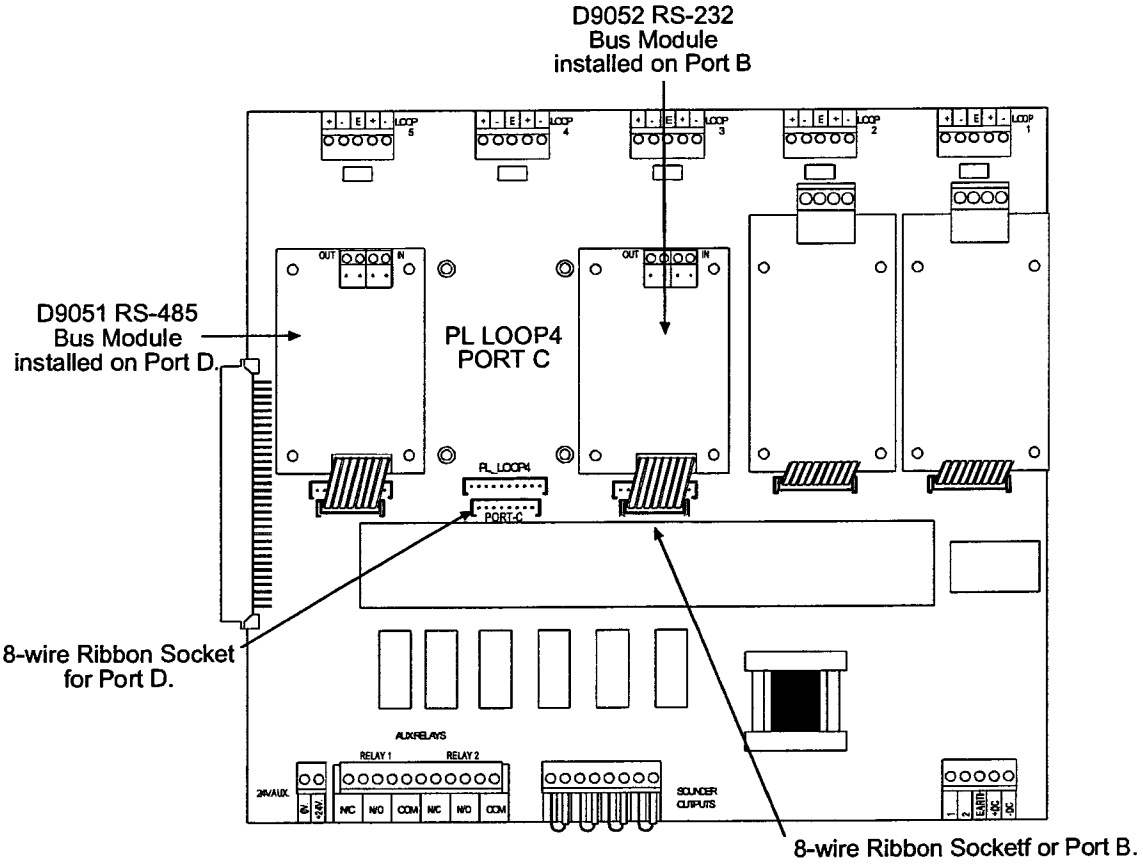

Figure 13: Port Locations for the D9052 RS-232 Bus Module

CAUTION

Do not try to plug the eight-wire ribbon connector into the 10-wire connector socket or vice-versa.

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4) Connect the serial input/output (modem) wiring to the terminal block at the top of the D9052.

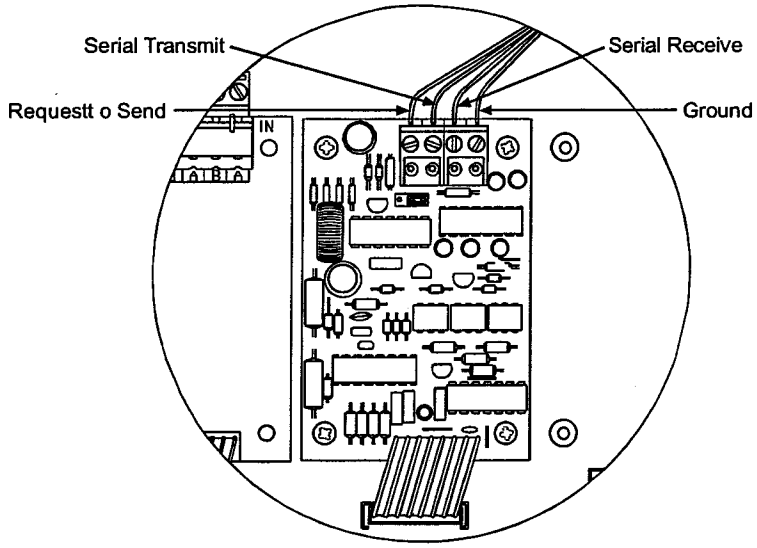

Figure 14: D9052 Serial Input/Output Connections

4.2.3 Notification Appliance Circuit (NAC) and Output Circuit Connections

The D10024 has four power-limited and supervised Class B, Style W NACs. The terminal blocks for these circuits are located at the lower left edge of the control module. Each NAC must be terminated with a 2.2 k Ω EOL resistor. Four resistors for the NACs are included in the D10024's Literature Pack. Each circuit has a maximum rating of 1 A. If the system requires more than four circuits, use the D327A Analog NAC Module to add circuits as required.

The maximum current draw for all four NACs is 1.5 A total.

Use only the devices listed on the *D8024, D9024, D10024 Compatible Device List* (P/N: 73-07674-000) on the D10024's NACs.

The D10024 has terminals for a power-limited auxiliary 24 V circuit at the lower left of the control module. This circuit is rated at 340 mA maximum.

The total current of the five circuits (four NACs (SOUNDER OUTPUTS) plus "24 V AUX") must not exceed 1.8 A.

The D10024 has two programmable relay contacts rated at 24 VDC, 1 A each.

WARNING

Do not connect any wiring that is not power-limited to the relay contacts.

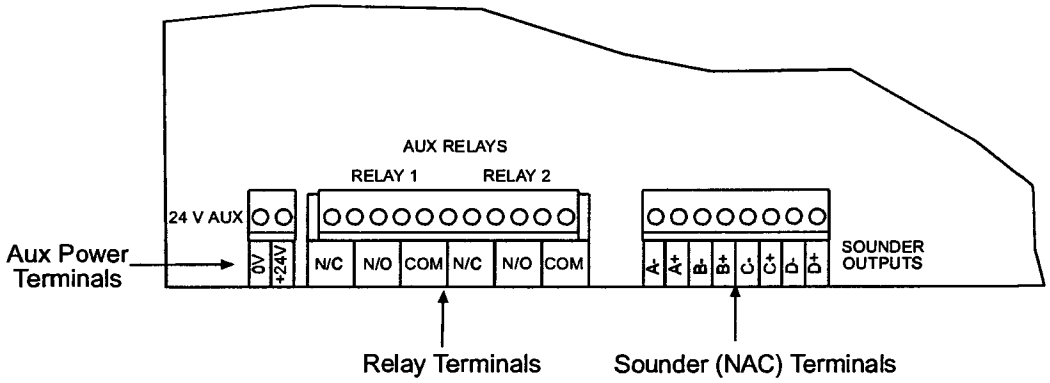

Figure 15: NAC, Auxiliary Power and RelayTerminals

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Terminal Connections

4.2.4 Central Station/Remote Application (D2071A DACT)

IMPORTANT

Inform the operator and the local Authority Having Jurisdiction (AHJ) before installing this module in an existing system. Disconnect all power to the FACP before installing this module.

IMPORTANT

On the D10024, Relay 1 should be programmed for alarm purposes and Relay 2 for trouble conditions.

Note: *For complete installation and operation instructions regarding the D2071A, refer to the* D2071A Installation and Programming Guide *(P/N: 74-06200-000).*

Note: *Due to space constraints inside the D10024 enclosure, use a D2071AC kit when connecting the D10024 to a D2071A. The D2071AC kit includes a D2071A DACT, a D4103R enclosure and a hard-wired transformer. Mount the D2071A in the D4103R and wire it as described in the instructions included with the D2071AC kit.*

The D2071A Fire Control/Communicator (DACT) is a three-zone digital alarm communicator transmitter (DACT) that uses two phone lines to transmit to a receiver for central station and remote applications. A Phone Fail LED and buzzer annunciate phone line failures. In this application, Zone 1 (initiating) monitors the alarm output of the FACP. Zone 2 (supervisory) monitors the trouble output of the FACP. Zone 3 is not used.

Additional settings:

- **12 Volt Mode:** NO
- **Class B Mode:** 3
- **Retard Time:** 0
- **Reset Time:** 0

Use these steps to connect the D2071A to the D10024:

1) Remove AC power from the system at the dedicated 120 VAC breaker, "lock out" the breaker and remove the standby battery power before making or breaking any connections to the FACP.
2) Mount the D2071A directly in the FACP enclosure, or in an accessory enclosure. Refer to the D2071A Installation and Programming Guide for mounting instructions.
3) Connect Terminals 1 and 2 from the D2071A to the 24 V Auxiliary Power Terminal on the D10024 Control Module.
4) Connect Terminals 6 and 7 from the D2071A to **N/O** on Relay 1.
5) Connect 8 and 9 from the D2071A to **COM** on Relay 1.
6) Connect Terminal 10 from the D2071A to **N/C** on Relay 2.
7) Connect Terminal 11 from the D2071A to **COM** on Relay 2.
8) Connect Terminals 11 and 12 from the D2071A with a 1.8 k Ω EOL resistor.

See Figure 16 for details.

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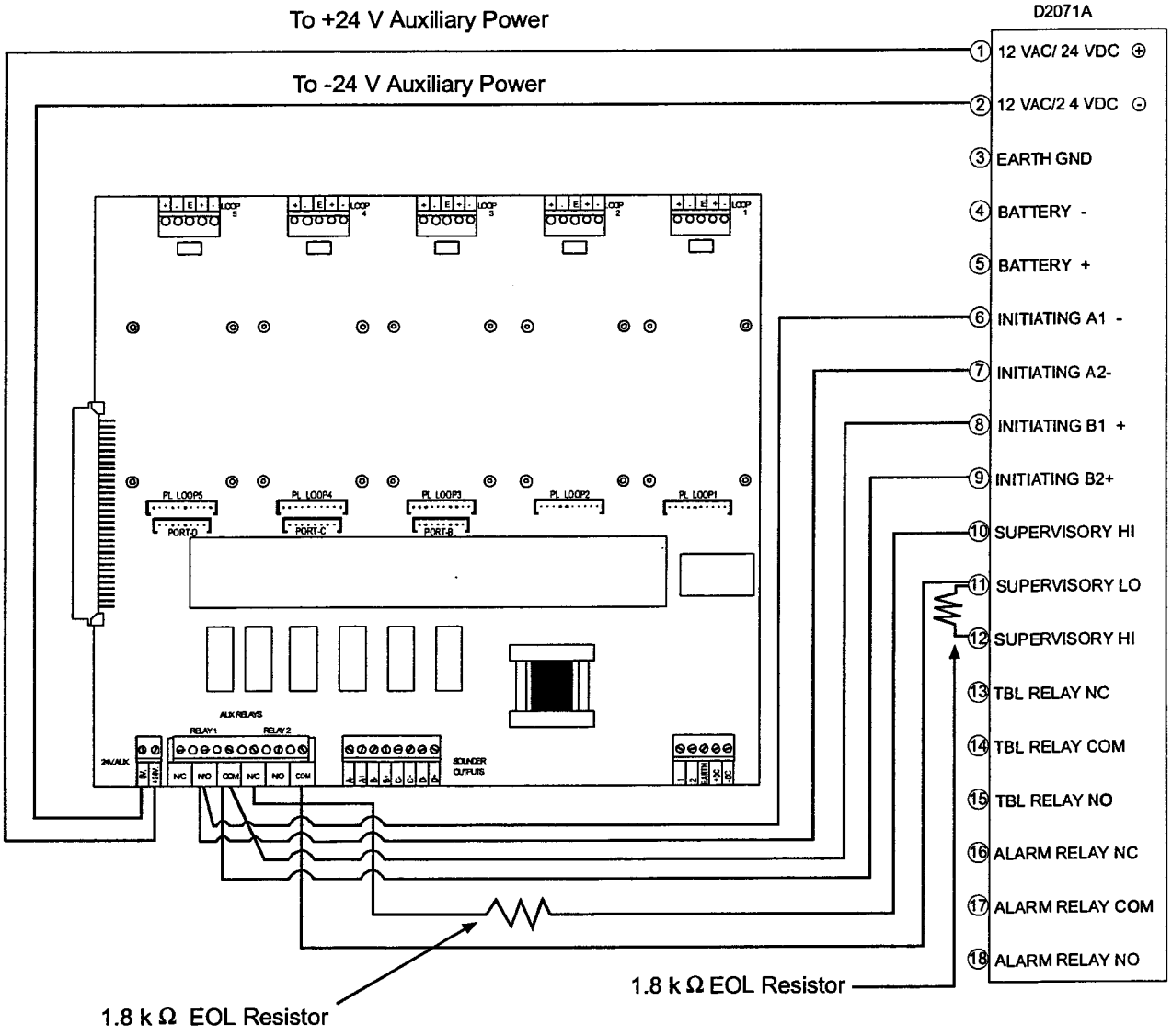

Figure 16: D10024 to D2071A Wiring Connections

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Terminal Connections

1.2.5 Sprinkler Supervision (D2071A DACT)

IMPORTANT

To provide a fire alarm output to the D2071A, a D130 Relay Module is required to obtain the additional necessary output to the D2071A.

IMPORTANT

The Notification Appliance Circuit (NAC) (SOUNDER) connected to the D130 Relay Module must be programmed to activate on all zone alarms.

Note: *For complete installation and operation instructions regarding the D2071A, refer to the* D2071A Installation and Programming Guide *(P/N: 74-06200-000).*

The D10024 can be wired to provides sprinkler supervision. To provide an outlet to the D2071A for sprinkler supervision, follow these steps:

1) Connect Relay 1 on the D10024 to Zone 2 on the D2071A. Relay 1 is programmed to activate on a fault.
2) Connect Relay 2 on the D10024 to Zone 3 on the D2071A. Relay 2 is programmed to activate on Event 100.

When sprinkler supervisory reporting is required, three conditions are required to be signaled from the panel to the D2071A: fire alarm, supervisory alarm and system trouble. Two conditions can be generated by the two relays on the panel (trouble and supervisory alarm, as shown in Figure 16). The fire alarm can then be generated as shown in Figure 17.

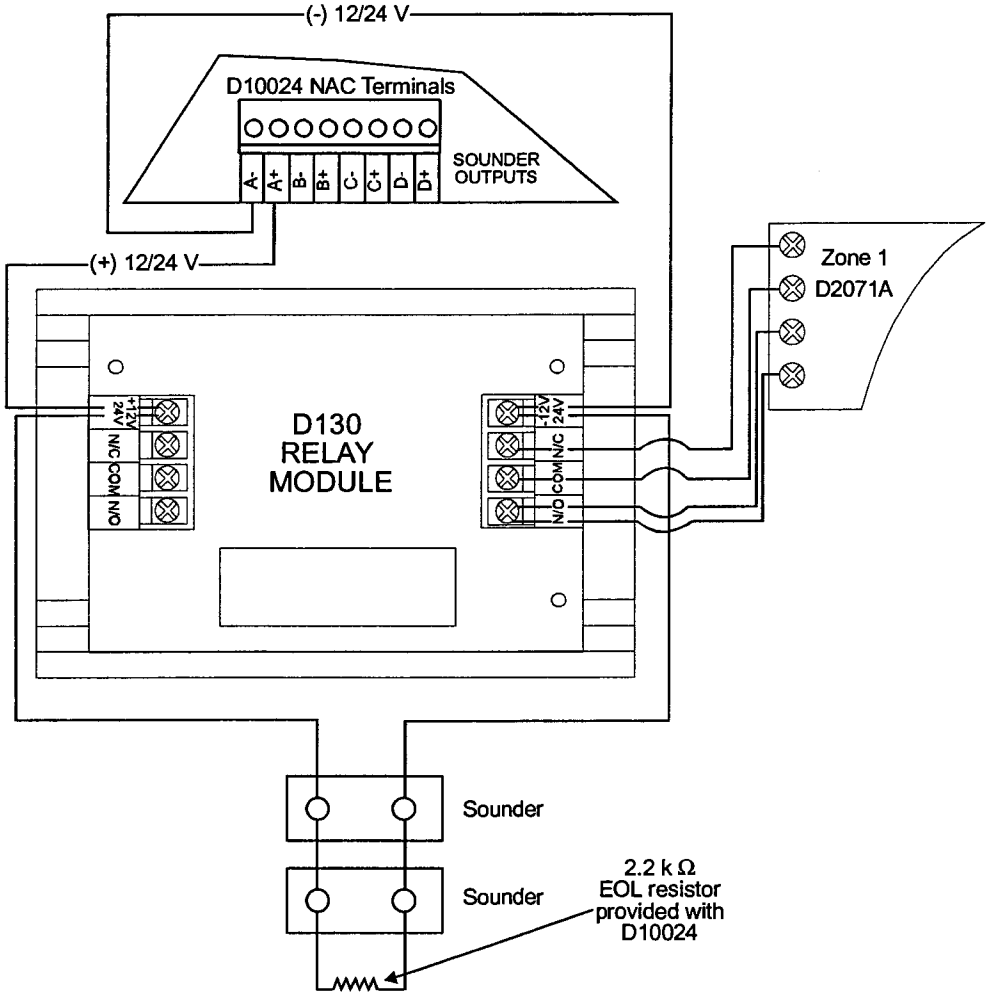

Figure 17: Wiring the D10024 for Sprinkler Supervision

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Care must be taken to program the panel and dialer to generate and report the correct conditions. See Table 6.

Signal	Relay	Panel Programming	D2071A Input	D2071A Report
Alarm	NAC	Program the selected NAC to activate on all fire alarm conditions.	1	01
Trouble	2	Relay 2 Trouble	2	02
Supervisory	1	Relay 1 Supervisory	3	03

Table 6: Sprinkler Supervisory Reporting Conditions

4.2.6 Trouble Annunciation (D2071A DACT)

Note: *For complete installation and operation instructions regarding the D2071A, refer to the* D2071A Installation and Programming Guide *(P/N: 74-06200-000).*

The D2071A can be wired so that a trouble condition on the D2071A will cause a trouble condition on a point implemented by a D334A or D326A Point Contact Module. See Figure 18.

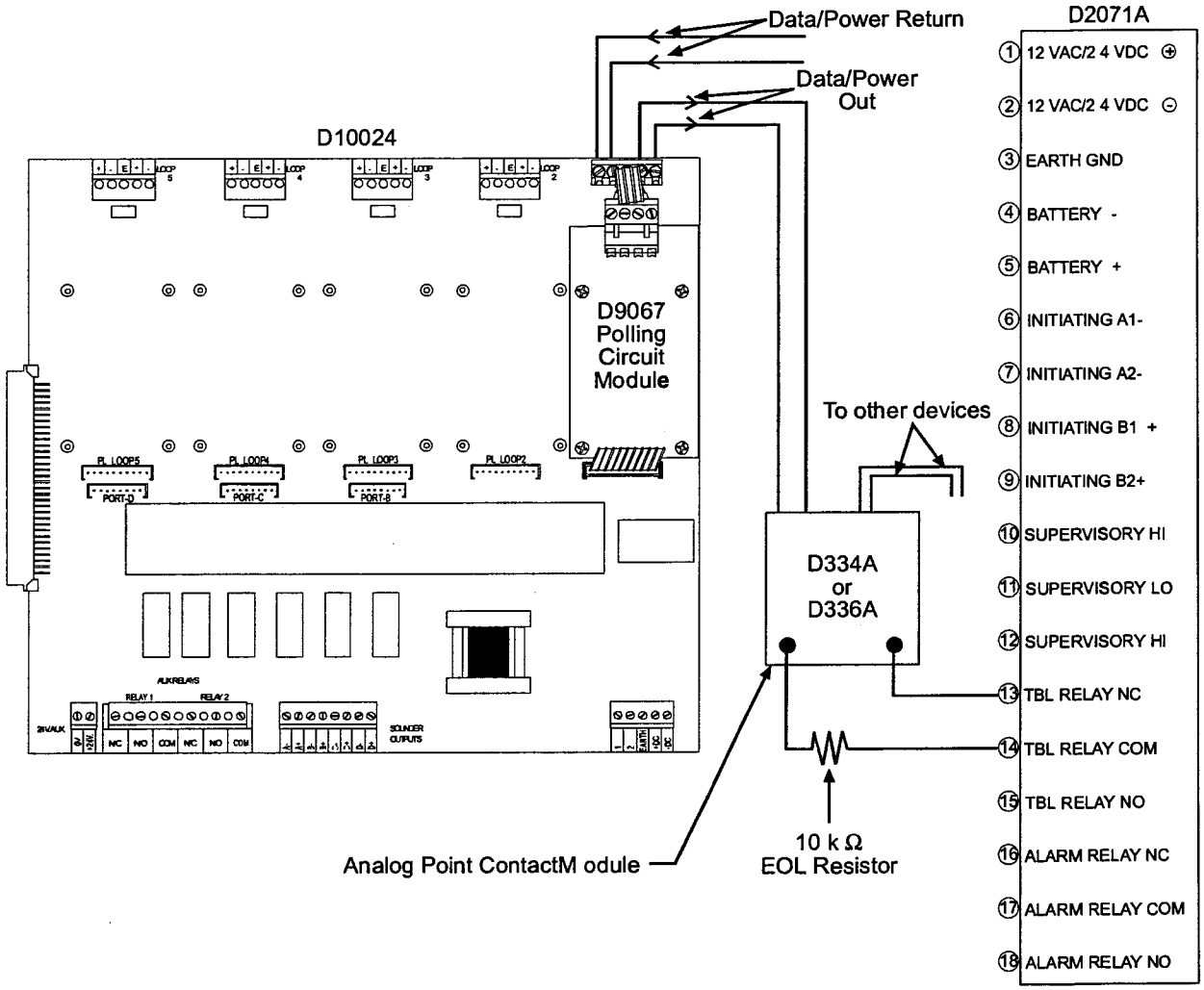

Figure 18: Wiring the D2071A for Trouble Annunciation on the D10024

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Terminal Connections

4.2.7 Remote Signaling (D185 Reverse Polarity Module)

IMPORTANT

Inform the operator and the local Authority Having Jurisdiction (AHJ) before installing this module in an existing system. Disconnect all power to the FACP before installing this module.

Note: *For complete installation and operation instructions regarding the D185, refer to the* D185 Installation Guide *(P/N: 32906).*

Use the following steps to install the D185 Reverse Polarity Module to the D10024 for Remote Station Service, as defined by NFPA 72.

1) Install the D185 in accordance with the installation instructions provided with the module. To accommodate space constraints inside the D10024's enclosure, the D185 should be installed in a suitable enclosure such as Radionics' D8103 Standard Enclosure. Any connections made from the enclosure to the D10024 should be made in conduit.
2) Connect the D185 to the control panel and point contact module as shown in Figure 19.

IMPORTANT

Be sure to connect the supervisory zone input on the D185 to Terminal A of the point contact module.

3) Configure the NAC (SOUNDER) that is connected to the D185 module to sound on alarms on all zones.
4) Configure the point contact module's action to "Fault." This will indicate system trouble on the FACP when the D185 is placed in the test mode.
5) Be sure to calculate the D185 current draw into the Normal Standby and Alarm Conditions for standby battery calculation. NFPA 72 requires 60 hours of standby power for Remote Station Service (see "Remote Station Service Ampere Hour Calculation Formula" in Section 2.4).

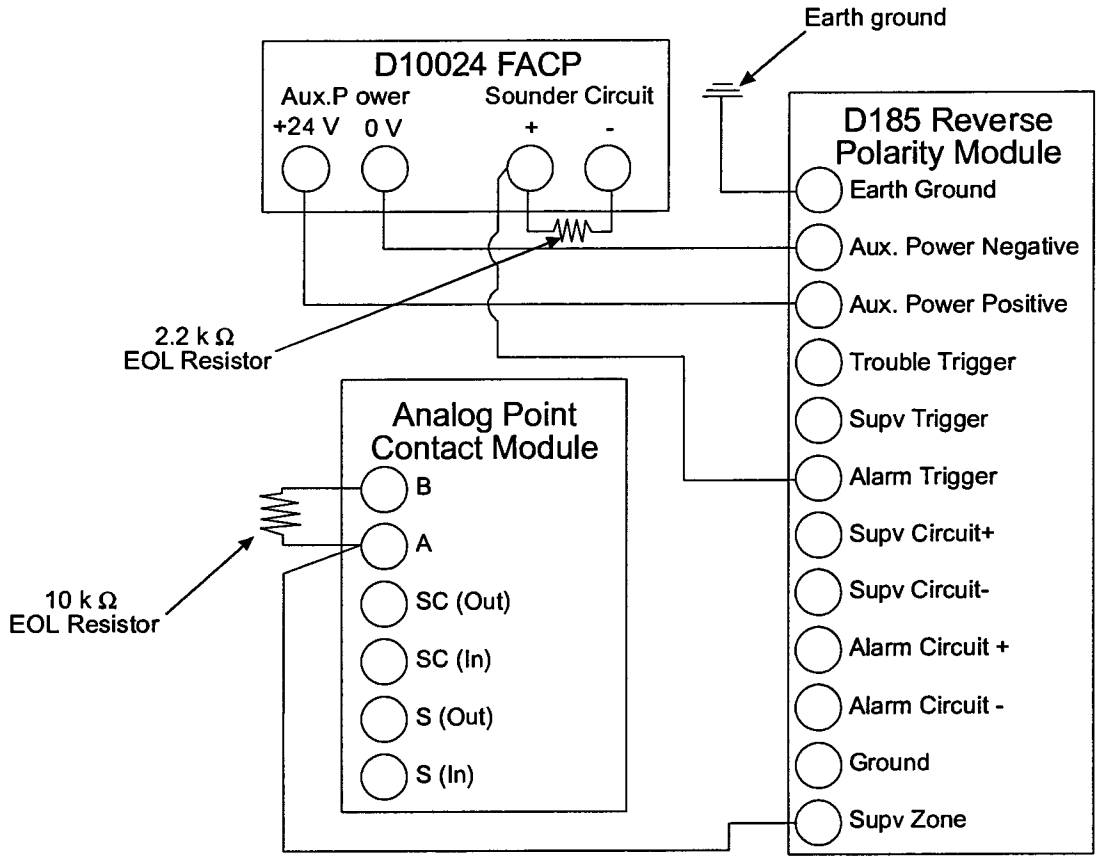

Figure 19: Remote Station Signaling

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Technogram

Radionics Fire Products

Devices Compatible with the D8024/D9024/D10024 Analog Fire Alarm Control Panels

Radionics has found the following devices to be compatible with the D8024, D9024 and D10024 24V DC Analog Fire Alarm Control Panels:

Product	Description
D300	Duct Detector Housing
D321A	6" Detector Base
D322A	Analog Heat Detector Head
D323A	Analog Photoelectric Smoke Head
D324A	Analog Ionization Smoke Head
D325A	Analog Manual Fire Alarm Box
D326A	Addressable Point Contact Module
D327A	Addressable NAC Output Module
D328A	Addressable Relay Module
D334A	Remote Addressable Point Contact Module
D336A	4" Detector Base
D339A	Addressable Point Contact Module
D370	Series Door Holders
D411	2-Wire Synchronization Module
D412	4-Wire Synchronization Module
D422A	Semi-flush Mount Multi-tone Horn/strobe
D423A	Semi-flush Mount Multi-tone Horn/strobe
D424A	Semi-flush Mount Multi-tone Horn/strobe
D432A	Semi-flush Mount Multi-tone Horn/strobe
D441	6" Bell
D443	10" Bell
D447A	3-input Horn/strobe
D449	Mini Horn
D449AW	Mini Horn
D457	Multi-tone Horn
D470	3-input Horn
D526S	24V, Speaker w/ 15cd Sync Strobe, Red
D527S	Speaker w/ 15/75cd Sync Strobe, Red
D529S	Speaker w/ 15cd Sync Strobe, Ceiling Wht
D531S	Speaker w/ 75cd Sync Strobe, Red
D541S	24V, Synchronized Horn
D543S	24V, Synchronized Horn, Weatherproof
D544S	24V, Sync or Remote Strobe, 15cd
D545S	24V, Sync or Remote Strobe, 15/75cd
D546S	24V, Sync or Remote Strobe, 30cd
D547S	24V, Sync or Remote Strobe, 75cd
D548S	24V, Sync or Remote Strobe, 110cd
D552S	24V, Sync or Remote Strobe, 15cd, Ceiling
D553S	24V, Sync or Remote Strobe, 100cd, Ceiling
D554S	24V, Sync or Rem Strobe Retro Plate, 110cd
D555S	24V, Sync or Rem Strobe Retro Plate, 15cd
D556S	24V, Sync or Rem Strobe Retro Plate, 15/75cd
D557S	24V, Sync or Rem Strobe Retro Plate, 75cd
D558S	24V, Mini Sync Horn Strobe, 75cd
D559S	24V, Mini Sync Horn Strobe, 15/75cd
D561S	24V, Mini Sync Horn Strobe, 15cd
D563	Speaker, Square Red
D564	Speaker, Round White
D565S	Speaker w/ 15cd Sync Strobe
D566S	Speaker w/ 15/75cd Sync Strobe
D567S	Speaker w/ 30cd Sync Strobe
D568S	Speaker w/ 75cd Sync Strobe
D569S	Speaker w/ 75cd Sync Strobe, White
D570S	24V, Horn Sync Strobe, 15cd, 2-wire
D571S	24V, Horn Sync Strobe, 15/75cd, 2-wire
D572S	24V, Horn Sync Strobe, 110cd, 2-wire
D573S	24V, Horn Sync Strobe, 30cd, 2-wire
D574S	24V, Horn Sync Strobe, 75cd, 2-wire
D577S	24V, Sync or Rem Strobe Retro Plate, 30cd
D578S	Speaker w/ 15cd Sync Strobe, White
D579S	24V, Horn Sync Strobe, 15cd, Ceiling Wht
D580S	24V, Horn Sync Strobe, 30cd, Ceiling Wht
D581S	24V, Horn Sync Strobe, 75cd, Ceiling Wht
D582S	24V, Horn Sync Strobe, 100cd, Ceiling Wht
D583S	24V, Sync Strobe, 30cd, Ceiling Wht
D584S	24V, Sync Strobe, 75cd, Ceiling Wht
D587S	Speaker w/ 30cd Sync Strobe, Red
D588S	Speaker w/ 75cd Sync Strobe, Red
D589S	Speaker w/ 110cd Sync Strobe, Red
D591S	Speaker w/ 30cd Sync Strobe, Ceiling Wht

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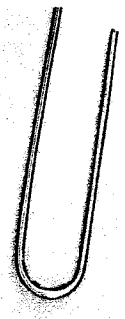
Radionics Price List

		Retail
9000 Access Control Accessories		
D8216	MOUNT BRACKET, GLASS D8201& D8301	72.00
D8217	MOUNT BRACKET, BACKBOX D8201 & D8301	42.00
D8218	MOUNT BRACKET, BACKBOX D8302	51.00
DS150I	REQUEST TO EXIT SNSR GRAY	146.00
DS151I	REQUEST TO EXIT SNSR BLK	146.00
DS160	PIR EXIT SENSOR, LT GRAY	155.00
DS161	PIR EXIT SENSOR, BLACK	155.00
TP160	TRIMPLATE FOR DS150/160	3.00
TP161	TRIMPLATE FOR DS151/161	3.00
9000 Premises RF Accessories		
FA113	KEYCHAIN REMOTE CONTROL	174.00
FA116	EXECUTIVE PROGRAMMER	447.00
FA202	PHOTOELECTRIC SMOKE DETECTOR	270.00
FA203D	DOUBLE BUTTON NECKLACE PENDANT TRANSMITTER	143.00
FA203S	SINGLE BUTTON NECKLACE PENDANT TRANSMITTER	143.00
FA204	PENDANT TRANSMITTER	153.00
FA205D	DOUBLE BUTTON BELT CLIP/LOOP TRANSMITTER	153.00
FA206DS	PIR TRANSMITTER	342.00
FA206I	PIR TRANSMITTER	264.00
FA209	BILLTRAP TRANSMITTER	237.00
FA210	REDUCED-SIZE UNIVERSAL TRANSMITTERS	105.00
FA210W	REDUCED-SIZE "WIDE GAP" DOOR/WINDOW TRANSMITTER	116.00
FA216H	TEMPERATURE TRANSMITTER 135°F	174.00
FA216L	TEMPERATURE TRANSMITTER 43°F	171.00
FA223D	DOUBLE BUTTON WATER RESISTANT PENDANT	159.00
FA223S	SINGLE BUTTON WATER RESISTANT PENDANT	159.00
FA250	HIGH POWER UNIVERSAL TRANSMITTER	246.00
BUILDING AUTOMATION SOFTWARE		
SystemOne	HOME AUTOMATION SOFTWARE PACKAGE	7,497.00
SystemOneAV	HOME AUTOMATION SOFTWARE PACKAGE W/AV	8,994.00
FIRE PRODUCTS AND ACCESSORIES		
ntrol / Communicators (DACT only)		
C900TTL-E	ETHERNET DIALER INTERCEPT	1,248.00
D2071A	FIRE DACT	312.00
D2071AC	FIRE DACT W/WIRED XFRMR	387.00
D2071ACT	FIRE DACT W/PLUG IN XFRMR	387.00
D9068	FIRE DIALER	315.00
D9133TTL-E	SDI-ETHERNET BI DIR	894.00
Conventional Fire Alarm Control Panels		
D7022	2 ZONE 24V FIRE CONTROL	531.00
D7024	4 ZONE 24V FIRE CONT/COMM	957.00
D7024LC	4 ZONE FIRE PANEL WITHOUT MOUNTING SKIRT	768.00
D7025	ALARM / TROUBLE RELAY MODULE	48.00
Conventional Fire Alarm Control Panel Accessories		
D253	HEAT DET BASE 24V	32.00
D254	HEAT DET HEAD, 135 DEG	18.00
D255	HEAT DET HEAD, 190 DEG	18.00
D261AW	SMOKE BASE 12V 2WIRE 8 IN WHT	19.00
D261W	SMOKE BASE 2WIRE 6 IN WHT,12V/24V	19.00
D265AW	SMOKE DET HEAD-PHOTOELECT, 12V/24V	83.00
D270	L SMOKE BASE 12V 4WIRE 4 IN, 12V/24V	42.00
D271S	12V 4W ZNX SMK SINGLE BASE	60.00
D273	SMOKE DET PHOTOELEC 4WIRE12V/24V	76.00
D274	POWER SUPERVISOR MOD 12V	30.00
D280	24V 2 WIRE DET BASE	18.00
D280A	BASE-6INCH,2-WIRE,24V	18.00
D290	DET BASE 24V 4 WIRE	51.00
D294	PWR SPRVISION MOD 24V	30.00
D7014	CLASS A INPUT ADAPTER	63.00
D7015	CLASS B TO A NAC CONVERTR	63.00
D7030X	8 LED ANNUNCIATOR EXPAND	114.00
D7030X-S2	ANNUNCIATOR-2-SUPERVISORY	114.00
D7030X-S8	ANNUNCIATOR-8-SUPERVISORY	114.00
D7031	SILENCE RESET MOD D7030X	120.00
D7032	8 LED EXP BOARD D7030X	120.00
D7033	LCD KEYPAD FOR D7024 / D9068	270.00
D7034	FOUR ZONE EXPANDER, D7024	174.00
D7035	8 RELAY BOARD, D7024	204.00
D7035B	MUX OCTAL RELAY FIRE BOX	219.00
D7[illegible]	LCD-ANNUNCIATOR-D7024	375.00
Addressable Fire Alarm Control Panels		
D70[illegible]	4 ZONE 24V FIRE CONT/COMM	957.00
D7024LC	4 ZONE FIRE PANEL WITHOUT MOUNTING SKIRT	768.00
D7039R	D7039 RETROFIT KIT	333.00

For Terms and Conditions
refer to page 4



lionics Price List — Retail

D7024 Addressable Fire Alarm Control Panel Accessories

D343	DUCT SMK/MUX 4W	198.00
D343P	D7050DH AND D343	318.00
D7014	CLASS A INPUT ADAPTER	63.00
D7015	CLASS B TO A NAC CONVERTR	63.00
D7030X	8 LED ANNUNCIATOR EXPAND	114.00
D7031	SILENCE RESET MOD D7030X	120.00
D7032	8 LED EXP BOARD D7030X	120.00
D7033	LCD KEYPAD FOR D7024	167.00
D7034	FOUR ZONE EXPANDER, D7024	171.00
D7035	8 RELAY BOARD, D7024	204.00
D7035B	MUX OCTAL RELAY FIRE BOX	219.00
D7036	LCD-ANNUNCIATOR-D7024	375.00
D7039	MULTIPLEX EXPANDER, FIRE	315.00
D7042	8-INPUT-MUX-REMOTE	240.00
D7042B	MUX 8 INPUT REMOTE FIRE	255.00
D7044	MUX SINGLE INPUT FIRE	63.00
D7044M	MUX SINGLE INPUT FIRE	60.00
D7045	MUX-PULL-STATION	116.00
D7048	MUX OCTAL DRIVER FIRE	240.00
D7048B	MUX OCTAL DRIVER FIRE.BOX	255.00
D7050	MULTIPLEX P/E SMOKE HEAD	101.00
D7050TH	ULTIPLEX P/E SMK W/HEAT	112.00
D7050-B6	2 WIRE BASE FOR 7050	9.00
D7052	MUX DUAL INPUT FIRE	93.00
D7053	MUX I/O MODULE FIRE	103.00
D7038	POWER SUPPLY ADDRSS CKRT BSTR	813.00

D9124 Control / Communicator

D9124	L FIRE/COMM PKG(W/D9112LTB)	3,396.00

D9124 Addressable FACP Command Centers & Annunciators

D1255R	ALPHA IV COMM CNTR, RED	333.00
D1256	FIRE COMM CNTR, RED	333.00
D1257	REMOTE FIRE ANNCTR, RED	333.00
D720R	LED COMMAND CNTR RED	153.00

~9124 Addressable Fire Alarm Control Panel Zone Expansions

	POPEX ZONE EXPANDER	150.00
MUX	ZONEX TO DUAL MULTI-INFERFACE	120.00
D8128A	OCTOPOPIT, FOR 63 PT BUS	192.00
D8128D	OCTOPOPIT, 63 OR 119 PT BUS W/INDEP. PT DISABLER	192.00
D8129	OCTO-RELAY	216.00
D9127T	POPIT II UL W/TMPR,L CURRENT	69.25
D9127U	POPIT II UL, LOW CURRENT	53.00

D9124 Addressable Fire Alarm Control Panel Accessories

D125B	12/24V DUAL INITIATNG MOD	81.00
D127	REVERSING RELAY MODULE	138.00
D129	DUAL CLASS A FIRE LOOP	150.00
D130	RELAY MODULE 5 AMP	49.00
D136	RELAY (OPTIONAL PLUG-IN)	11.10
D184	AUX LOCAL ENERGY KIT	32.00
D184A	LOCAL-ENERGY-KIT (2.2KEOL)	84.00
D185	REV POLARITY INTRFC MOD	210.00
D192C	BELL SUPRVSN MOD 12V/24V, 1.8A	141.00
D8130	RELEASE MODULE	138.00
DS432	REVERSING RELAY MULTI-USE	73.00

D9124 Addressable FACP Batteries & Accessories

D113	BATTERY LEAD SUPR MODULE	141.00
D122	DUAL BATTERY HARNESS	18.00
D122L	DUAL BTRY HARNESS LNG LDS	24.00
D135A	LOW BATTERY CUTOFF MODULE	33.00
D137	MOUNTING BRACKET	16.00
D138	MODULE BRKT, RGHT ANGL D9124	22.00
D167	EARTH GROUND CLAMP	7.00
D203	ENCLOSURE 3X5 MODULE	28.00
D928	DUAL PHONE LINE SWITCHER	150.00
D9100	D9124 ACCESSORY MODULE CARRIER	1,626.00

Analog / Addressable Fire Alarm Control Panels

D10024A	ANALOG FIRE ALARM PANEL	5,982.00
D8024	ANALOG FIRE ALARM PANEL	3,297.00
D9053	LED DISPLAY, 40 ZONES	981.00
D9054	LED EXPANSION CARD,40ZONE	717.00
D9055	3 AMP BOOSTER SUPPLY	927.00
D9055M	NAC BOOSTER P/S W/SKIRT	2,190.00

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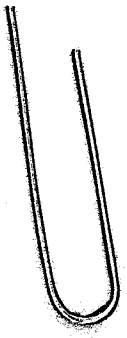

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		Retail
Analog / Addressable FACP Accessory Modules		
D9013	ANALOG MODULES MOUNTING SKIRT	27.00
D9050	FRONT PANEL PRNT, 40CHTR	894.00
D9051	RS485 BUS MODULE	507.00
D9052	RS232 BUS MODULE	633.00
D9054-20	LED 20-ZONE ANNUNCIATOR FOR D10024A	CALL FOR PRICIN
D9054-60	LED 60-ZONE ANNUNCIATOR FOR D10024A	CALL FOR PRICIN
D9058	AUXILIARY PWR SPLY 3 AMP	1,248.00
D9060	PROGRAMING S/W & INTRFC MOD	531.00
D9061	GRAPHICS SOFTWARE PACKAGE	7,497.00
D9067	ANALOG POLLNG CIRCUIT MOD	498.00
D9068	FIRE DIALER	315.00
D9069A	FIRE LCD ANNUNCIATOR	1,749.00
D9070A	FIRE LCD ANN W/CONTROL	1,995.00
D9072	4 WAY SOUNDER CARD	729.00
D9073	RS485 MODULE HIGH INTEGRITY	840.00
D9078	GRAPHICS DISPLAY DRIVER	1,215.00
D9080	FLUSHMOUNT TRIMRING, D10024	237.00
D9081	FLUSHMNT TRIMRNG,D1069/70	108.00
Analog/Addressable Fire Detection Devices		
D321A	ANALOG DET BASE, NO SWITCH	25.00
D322A	ANALOG HEAT DET, NO SWITCH	108.00
D323A	ANALOG PHOTO DET, NO SWITCH	135.00
D323A-DH	DUCT RPLCMNT ANLG SMOKEHD	150.00
D324A	ANALOG ION DET, NO SWITCH	108.00
D325A	ANALOG MANUAL STATION, NO SWITCH	163.00
D326A	ANALOG PT CONTACT MODULE	138.00
D327A	ANALOG NAC MODULE	171.00
D328A	ANALOG ADDRESS RELAY MODULE	138.00
D331A	ANALOG DUCT DETECTOR	360.00
D332A	ANALOG DUCT DET. W/RELAYS	402.00
D333A	ANALOG CIRCUIT FAULT ISOL	102.00
D334A	ANALOG MINI PT CURRENT MODULE	129.00
D336A	ANALOG DET BASE 4 IN	18.00
D339A	ANALOG PT CURRENT MODULE SHRINK	129.00
	PROGRAMMER ANALOG PT, NO SWITCH	447.00
	GLASS DOOR KIT D10024	660.00
Power Supplies, Transformers and Accessories		
D1601	DUAL SECONDARY H/W XFMR	192.00
D161	PHONE CORD-7FT DUAL MODLR	14.00
D162	PHONE CORD-2FT DUAL MODLR	14.00
D1640	TRANSFORMER, 16VAC 40VA	23.00
D1640-32	TRANSFORMER, 16.5V 40VA, 32/PKG	735.00
D166	RJ31X PHONE JACK	12.00
D184	AUX LOCAL ENERGY KIT	32.00
D184A	LOCAL-ENERGY-KIT(2.2KEOL)	84.00
D7015	CLASS B TO A NAC CONVERTR	63.00
D7038	POWER SUPPLY ADDRSS CKRT BSTR	813.00
D8004	TRANSFORMER KIT UL APPROV	96.00
D8121A	S.T.U. 5 ZONE (9,999 ACT)	459.00
D8122	S.T.U. FIVE ZONE (UL)	579.00
D9142F	POWER/SUP STNDLN 24V 4A PKG	753.00
D9142LC	POWER SUPPLY LESS CAN 24V	399.00
D9142M	POWER SUPPLY D9142 W/SKIRT	444.00
D7038	POWER SUPPLY ADDRSS CKRT BSTR	813.00
Battery Boxes and Batteries		
BATB-40	BATTERY BOX 40 AH	183.00
BATB-80	BATTERY BOX 80AH	234.00
BATB-SHELF	BATTERY BOX SHELF	66.00
D1218	BATTERY, 12V, 18 AH	150.00
D1224	BATTERY, 12V 24 AH	243.00
D1238	BATTERY, 12V 38 AH	330.00
D126	BATTERY, 12V 7 AH	53.00
D1273	BATTERY 12V 100Ahr	705.00
Enclosures and Accessories		
D101	LOCK & KEY SET, STANDARD	7.00
D101E	LOCK & KEY SET,ESD SYSTEM	7.00
D101F	LOCK & KEY SET, FIRE	7.00
D102	KEY FOR D101 LOCK STANDRD	2.00
D102E	KEY FOR D101E LOCK, ESD	2.00
D102F	KEY FOR D101F LOCK, FIRE	2.00
D102M	LOCK/KEY FIRE ENCL ANALOG	31.00
D110	TAMPER SWITCH, 2/PKG	12.00
D137	MOUNTING BRACKET	16.00
	MODULE BRKT, RGHT ANGL D9124	22.00
	EARTH GROUND CLAMP	7.00

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Radionics Price List — Retail

D263/D273 Series Photoelecronic Smoke Detectors

D263 (DS282)	SMOKE DET PHOTOELEC 2WIRE, 12V/24V	73.00
D263TH (DS282TH)	PHOTOSMOKE DET W/HEAT 2W, 12V/24V	78.00
D263THC (DS282THC)	SMOKE DET 2 WIRE (DS282THC), 12V/24V	106.00
D263THS (DS282THS)	SMOKE DET 2 WIRE (DS282THS), 12V/24V	106.00
D273	SMOKE DET PHOTOELEC 4WIRE12V/24V	76.00
D273ES (DS284ES)	SMOKE DET 4 WIRE (DS284ES), 12V/24V	117.00
D273IS (DS284IS)	SMOKE DET 4 WIRE (DS284IS)12V/24V	116.00
D273TH (DS284TH)	SMOKE DET PHOTO/HEAT 4W, 12V/24V	81.00
D273THC (DS284THC)	SMOKE DET 4 WIRE (DS284THC), 12V/24V	106.00
D273THCS (DS284THCS)	SMOKE DET 4 WIRE (DS284THCS), 12V/24V	122.00
D273THE (DS284THE)	4W SMK DET (DS284THE), 12V/24V	104.00
D273THR (DS284THR)	4W SMK DET (DS284THR), 12V/24V	110.00
D273THS (DS284THS)	4W SMK DET (DS284THS), 12V/24V	106.00
D273THSR (DS284THSR)	4W SMK DET (DS284THSR), 12V/24V	122.00
DS284	4W PHOTO SMOKE	78.00

D285 and D286 Smoke Detectors

D285 (DS250)	SMOKE DET HEAD PHOTOELEC	77.00
D285TH (DS250TH)	SMOKE DET HEAD PHOTO/HEAT	82.00
D286	ION SPOT SMK HEAD	56.00

D285 and D286 Smoke Detector Bases and Accessories

D275	POWER SUPERVISION MODULE	30.00
D278S	12V 4W ZNX SMK SINGLE BASE (DS)	60.00
D287 (MB2W)	SMOKE DET BASE 2W 5.5 IN	18.00
D288	SMOKE DET BASE 2WIRE 8 IN	21.00
D292 (MB4W)	SMOKE DET BASE 4WIRE 6 IN	27.00
D293A (MB4WA)	SMOKE DET BASE W/RELAY 4W	45.00
D293E (MB4WE)	SMOKE BASE W/PWRSPRVSN 4W	51.00
D293S (MB4WS)	SMOKE BASE W/SOUNDER 4W	48.00
D298M	24V 4W ZNX SMK MASTER BASE (DS)	72.00
D298S	24V 4W ZNX SMK SINGLE BASE (DS)	60.00

D265AW Smoke Detector and Base

D265AW	PHOTOELECTRIC SMOKE DETECTOR HEAD	83.00
D261AW	SMOKE BASE 12V 2WIRE 6 IN WHT	19.00

D281A,D282A, AND D283A Smoke Detectors

D281A	ION HEAD,24V	83.00
D282A	SMOKE DET HEAD PHOTO 24V	83.00
D283A	PHOTO HEAD/HEAT,24V	110.00

D281A,D282A, AND D283A Smoke Detector Bases & Accessories

D250A	DETECTOR BASE, 6INCH	17.00
D280A	BASE-6INCH,2-WIRE,24V	18.00
D291M	24V ZNX ID BASE MASTER	72.00
D291S	24V ZNX ID BASE SINGLE	60.00
D293A (MB4WA)	SMOKE DET BASE W/RELAY 4W	45.00
D293E (MB4WE)	SMOKE BASE W/PWRSPRVSN 4W	51.00
D293S	SMOKE BASE W/SOUNDER 4W	46.00
D299	AUX RELAY MOD D290/291	36.00

Electromechanical Heat Detectors

D601	HEAT DET ROR 135 DEGREE	23.00
D602	HEAT DET, ROR 190 DEGREE	23.00

D603, D604 and D605 Electronic Heat Detectors

D603	RATE OF RISE HEAT DTR	44.00
D604	FIXED TMP 135 HEAT DTR	44.00
D605	FIXED TEMP 190 HEAT DTR	44.00

D603, D604 and D605 Electronic Heat Detector Bases and Accessories

D275	POWER SUPERVISION MODULE	30.00
D278S	12V 4W ZNX SMK SINGLE BASE (DS)	60.00
D287 (MB2W)	SMOKE DET BASE 2W 5.5 IN	1.00
D288	SMOKE DET BASE 2WIRE 6 IN	21.00
D292 (MB4W)	SMOKE DET BASE 4WIRE 6 IN	27.00
D293A (MB4WA)	SMOKE DET BASE W/RELAY 4W	45.00
D293E (MB4WE)	SMOKE BASE W/PWRSPRVSN 4W	51.00
D293S	SMOKE BASE W/SOUNDER 4W	48.00
D298M	24V 4W ZNX SMK MASTER BASE (DS)	72.00
D298S	24V 4W ZNX SMK SINGLE BASE (DS)	60.00

D256A and D257A Heat Detection Devices

D256A	HEAT HEAD RATE/RISE, 135	69.00
D257A	HEAT HEAD RATE/RISE 190	69.00

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D256A and D257A Heat Detector Bases and Accessories

D250A	DETECTOR BASE, 6INCH	16.00
D284	FLAME DET UV/IR 24V	402.00
D291M	24V ZNX ID BASE MASTER	72.00
D291S	24V ZNX ID BASE SINGLE	60.00
D299	AUX RELAY MOD D290/291	36.00
D380	C-MONOXIDE DET,SURFACE MT, 12/24 VAC OR VDC	288.00
D381	AIR QUALITY DET, 12VAC	447.00
D382	COMBUSTIBLE GAS DET, 12VAC/24VAC	234.00

Carbon Monoxide, Gas and Special Application Detection Devices

D380	CARBON MONOXIDE DETECTOR, 12/24 VAC OR VDC	288.00
D381	AIR QUALITY DETECTOR, 24VAC	447.00
D382	COMBUSTIBLE GAS DETECTOR, 12/24 VDC	234.00
D284	24V ULTRA VILET FLAME DETECTOR	402.00

Projected Beam Smoke Detectors

D296 (DS240)	SMOKE PROJECTED BEAM 24V	1,239.00
D297 (DS241)	SMOKE PROJECTED BEAM 12V	1,242.00
D306 (DIS240)	REMOTE ANNCTR PLATE D296/7	63.00
D307	REMOTE TEST/RESET ANNPLATE	231.00
D308 (TK240)	FIELD TEST KIT-D296/D297	276.00
D309 (AL240)	ALIGNMENT STRB-D296/297	93.00

HVAC Duct Smoke Detectors and Accessories

B140	UNIVERSAL MOUNTING BRACKET	11.10
B328	GIMBEL MOUNT BRACKET	20.70
B333	BRACKET	28.00
B334	BRACKET	26.00
B335-3	LOW PROFILE SWIVEL MT 3PK	20.70
B336	UNIVERSAL CEILING BRACKET	13.00
B800	CEILING MOUNT BRACKET	13.00
BE470	BACK/BACK MNTG BRKT	129.00
D285DH	PHOTOELECTRIC SMOKE DETECTOR REPLACEMENT HEAD	83.00
D309 (AL240)	ALIGNMENT STRB-D296/297	93.00
D3[illegible]	DUCT DETECTOR W/HEAD	360.00
[illegible]	DUCT DETECTOR W/HEAD 220V	411.00
[illegible]	SAMPLING TUBE 2.5FT 5/PKG	90.00
D3[illegible]	SAMPLING TUBE 5 FT 5/PKG	114.00
D303	SAMPLING TUBE 10 FT 1/PKG	49.00
D304	REMOTE ANNUNCIATOR PLATE	38.00
D305	REMOTE TEST/INDICAT PLATE	102.00
D312	SAMPLING TUBE 2.5 FT	36.00
D313	SAMPLING TUBE 5 FT	36.00
D314	L SAMPLING TUBE 10FT	42.00
D340	DUCT SMK CONV.2W	166.00
D340I	D286 AND D340	264.00
D340P	D285DH AND D340	243.00
D341	DUCT SMK. 120V	186.00
D341I	D286 AND D341	279.00
D341P	D285DH AND D341	258.00
D342	DUCT SMK ANALOG/MUX 4W	192.00
D342I	D286 AND D342	279.00
D342P	D285DH AND D342	258.00
D343	DUCT SMK/MUX 4W	198.00
D343P	D7050DH AND D343	318.00
D344-1.5	DUCT SAMPLE TUBE 1.5 FEE	13.00
D344-3	DUCT SAMPLE TUBE 3 FEET	16.00
D344-5	DUCT SAMPLE TUBE 5 FEET	16.00
D344-RL	REMOTE LED DISPLAY (DUCT)	47.00
D344-RT	REMOTE TEST STATION DUCT	77.00
D7050DH	MULTI P/E SMK HEAD (DUCT)	98.00
SMK-TM	SMOKE TEST MAGNET	17.00

Smoke Detector Testing Devices

D1000	CALIBRATED SMOKE DET TEST BOX	6,873.00
D1001	CALIBRATED MAGNETIC TEST POLE	792.00
D1001LP	CALIBRATED MAGNETIC TEST HEAD	633.00
D1002	SMOKE TEST POLE	1,779.00
D1003	SMOKE TEST MAGNET	31.00
D1004	REMOVAL/TEST TOOL	93.00
D1005	3 FOOT TEST CABLE	17.00

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dionics Price List		Retail
Manual Stations (Continued)		
D465	GLASS BREAK TUBES 10/PKG	24.00
D466	BACKBOX MANUAL STA. RED	36.00
D466B	BACKBOX MAN STATION BLUE	41.00
D466G	BACKBOX MAN STATION GREEN	41.00
D466Y	BACKBOX MAN STATION YELLOW	41.00
D467	MANUAL STA. WEATHR W/BACKBOX	228.00
D468	MANUAL STA. EXPLOSION PROOF	789.00
Magnetic Door Holders		
D370B	DOORHLDR 24/110V WALL MNT	141.00
D370C	DOORHLDR 24/110V WALL MNT	129.00
D371B	DOORHLDR 24/110V FLR MNT	198.00
D371C	DOORHLDR 24/110V FLR MNT	183.00
D372B	BACKBOX DOORHLDR BRASS	42.00
D372C	BACKBOX DOORHLDR CHROME	39.00
D373B	EXTNSN ROD BRASS 1IN 5/PK	17.00
D373C	EXTNSN ROD CHROME 1IN 5/P	17.00
D374B	EXTNSN ROD BRASS 1.5 IN	19.00
D374C	EXTNSN ROD CHROME 1.5 IN	19.00
D375B	EXTNSN ROD BRASS 2IN 5PKG	23.00
D375C	EXTNSN ROD CHROME 2IN 5PK	23.00
D376B	EXTNSN ROD BRASS 3IN 5PKG	26.00
D376C	EXTNSN ROD CHROME 3IN 5PK	26.00
D377B	EXTNSN ROD BRASS 4 IN 5PK	29.00
D377C	EXTNSN ROD CHROME 4IN 5PK	29.00
D378	EXTNSN ROD WRENCH	14.00
D379	SWIVEL BASE MTG DRILL FXT	399.00
ACCESSORY PRODUCTS		
Batteries, Transformers and Accessories		
D113	BATTERY LEAD SUPR MODULE	141.00
D121	LEAD ACID BATTERY 6V	60.00
D1218	BATTERY, 12V, 18 AH	150.00
D122	DUAL BATTERY HARNESS	18.00
D1224	BATTERY, 12V 24 AH	243.00
122L	DUAL BTRY HARNESS LNG LDS	24.00
38	BATTERY, 12V 38 AH	333.00
0	BATTERY, 12V, 4 AH	37.00
6	BATTERY, 12V 7 AH	53.00
D1273	BATTERY 12V 100Ahr	705.00
D135A	LOW BATTERY CUTOFF MODULE	33.00
D1240-10	BATTERY, 12V, 4AH, 10/PKG	363.00
D1602	TRANSFORMER, 230V 10024/9024	273.00
D1605	TRANSFORMER FOR THE (D10024) OR (D9024)	294.00
D1650	TRANSFORMER 16V 50VA FOR D6500	81.00
TR12	TRANSFORMER 12VAC 0.93 AMPS	9.00
Enclosures and Accessories		
D101	LOCK & KEY SET, STANDARD	7.00
D101E	LOCK & KEY SET,ESD SYSTEM	7.00
D101F	LOCK & KEY SET, FIRE	7.00
D101X	LOCK & KEY SET, D2803 ENCLOSURES	7.00
D102	KEY FOR D101 LOCK STANDRD	2.00
D102E	KEY FOR D101E LOCK, ESD	2.00
D102F	KEY FOR D101F LOCK, FIRE	2.00
D110	TAMPER SWITCH, 2/PKG	12.00
D110X	TAMPER SWITCH, D2803 ENCLOSURES	12.00
D137	MOUNTING BRACKET	16.00
D138	MODULE BRKT, RGHT ANGL D9124	22.00
D167	EARTH GROUND CLAMP	7.00
D2002	MOUNTING SKIRT D4103	23.00
D203	ENCLOSURE 3X5 MODULE	28.00
D2203	ENCLOSURE, D2212B, D2412U	45.00
D2402	MTG SKIRT D2012/D8103	26.00
D2603	ENCLOSURE, D2412UE, D2212BE	45.00
D4103	ENCLOSURE D4112	33.00
D4103R	RED ENCLOSURE, D2071	33.00
D8103	ENCLOSURE FOR D6112	49.00
D7102 L	F/G D7112 MTG SKIRT	41.00
D7103	F/G D7112 ENCL W/PKG	64.00
D8103	UNIV ENCLOSURE (UL APPR)	74.00
D8103-36	UNIVERSAL ENCLOSURE, 36	2,655.00
D8108A	ENCLOSURE ATTACK RES (UL APPR)	159.00
D8109	ENCLOSURE FIRE, RED (UL APPR)	93.00
D8109G	ENCLOSURE FIRE, GREY	93.00
D8109L	ENCLOSURE, LOUVERED, RED	114.00
D8132	D8132 BATTERY CHARGER MODULE	195.00
D9002-5	MTG SKIRT,SIX 3x5, 5/PKG	50.00
9101	D9124 FIRE ENCL W/DOOR	606.00

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Voice Evacuation System Products

D651-40W	SINGLE CRKT VOICE PKG 40W	3,705.00
D651-80W	SINGLE CRKT VOICE PKG 80W	3,900.00
D652	VOICE EVAC ENCL BLACK W/MTH BR, 1 ZN	1,335.00
D653	AMPLIFIER CRD 10 WATT WHLK	882.00
D654	AMPLIFIER CRD 40 WATT WHLK	879.00
D655	AMPLIFIER CRD 80 WATT WHLK	1,269.00
D656	SELF AMP SPEAKER CARD	390.00
D657	REMOTE MICROPHONE RED	627.00
D658	REMOTE MICROPHONE BLACK	597.00
D659	AUTOMATED ANNOUNCEMNT SYS	2,178.00
D660	STANDARD MESSAGE CHIP KIT D659	4,134.00
D661-40W	DUAL CIRCKT VOICE PKG 40W	5,070.00
D662	MINI-MESSAGING UNIT	1,223.00
D665	4-WAY SPLITTER W/D661	507.00
D666	NAC INTERFACE MODULE	156.00
D668	AUXILIARY INPUT MODULE	828.00
PS-AUX	POWER SUPPLY-VOICE EVAC	1,032.00
SUPV-RLY	SUPERVISED RELAY MODULE	192.00
SPKR-SUPV-T	SPEAKER SUPERVISION MODULE	447.00
STRB-SUPV-T	STROBE SUPERVISION MODULE	447.00

High Rise Audio Systems

101-AMP	AUDIO AMPLIFIER, 50 WATT	957.00
101-PS	AUXILIARY POWER SUPPLY	999.00
101-RMT	EVACUATION CONTROL PANEL 1 ZN	3,552.00
101-RMT-MM	EVACUATION PANEL W/MESSAG	5,478.00
101-SPKR	SPEAKER SUPERVISION MODULE	447.00
101-STRB	STROBE SUPERVISION MODULE	447.00
CAB-A	STANDARD ENCLOSURE	855.00
CAB-F	LARGE ENCLOSURE OPTION	570.00
CAB-TRIM-A	SEMI-FLUSH TRIM KIT-CAB-A	240.00
CAB-TRIM-F	SEMI-FLUSH TRIM KIT-CAB-F	240.00
MM-1	RECORDED MESSAGE MODULE	1,890.00
RMT-PG	REMOTE PAGING MICROPHONE	1,233.00
PS-AUX	AUXILLARY POWER SUPPLY	
[illegible]LY	SUPERVISED RELAY MODULE	

[illegible] Evacuation Speakers

D480	SPEAKER SEMI-FLUSH VANDAL RES	86.00
D525	SPEAKER SQUARE RED	50.00
D527S	SPEAKER SYNC STRB 15/75	145.00
D528	SPEAKER, ROUND WHITE	50.00
D529S	SPEAKER SYNC STRB 15 CD	145.00
D531S	SPEAKER STRB 75 CD	145.00
D563	SPEAKER SQUARE RED	74.00
D564	SPEAKER ROUND WHITE	76.00

Synchronized and Non-Synchronized Voice Evacuation Speakers / Strobes

D411		SYNC. MOD, CLASS B 2 WIRE	111.00
D412		SYNC. MOD, CLASS A 4 WIRE	165.00
D488A		SPEAKER STRB 15/75 CD VAND	195.00
D565S	L	SPEAKER W/15 CD SYNC STRB	168.00
D566S		SPEAKER 15/75 CD SYNC STRB	168.00
D567S	L	SPEAKER W/30 CD SYNC STRB	168.00
D568S	L	SPEAKER W/75 CD SYNC STRB	168.00
D569S		SPEAKER W/75CD SYNC STRB WHITE	168.00
D587S	L	SPEAKER,W/30 CD STRB WL	145.00
D588S	L	SPEAKER,W/75 CD STRB WL	145.00
D589S	L	SPEAKER,W/110 CD STRB WL	150.00
D569S		SPEAKER W/75CD SYNC STRB WHITE	168.00
D578S		SPEAKER,W/15 CD STRB CL	168.00
D591S		SPEAKER,W/30 CD STRB CL	145.00
D593S		SPEAKER,W/100 CD STRB CL	150.00
D595S		SPEAKER,W/30 CD STRB CL	168.00
D596S		SPEAKER,W/100 CD STRB CL	177.00
DVS2W-VARC-SWR		SPKR/STRB24VARCNDLWALLRED	143.00
DVS2W-VARC-SWW		SPKR/STRB24VARCNDLWALLWHT	143.00
DVS8W-VARC-SWR		SPKSTRB8WATVARCCDWALLRED	165.00
DVS8W-VARC-SWW		SPKRSTRB8WATVARCCDWALLWHT	165.00

Manual Stations

D400	BACKBOX,RED 4 INCH	20.00
D460	CUSTOM ARTWORK FEE	144.00
D461	MANUALL FIRE ALARM STA. RED	50.00
D461B	EMERGENCY RELEASE STA. BLUE	87.00
D461G	MEDICAL RELEASE STA. GREEN	87.00
D461Y	TORNADO WARNING RELEASE STA. YELLOW	87.00
	MANUAL F/A STA.,ADDRESSABLE	105.00
	DBL ACTION LIFT KIT, RED	19.00
	DBL ACTION LIFT KIT, BLUE	28.00
[illegible]	DBL ACTION LIFT KIT, GREEN	28.00
D464	DBL ACTION LIFT KIT, YELLOW	28.00
	BACKBOX MAN STATION DEEP	36.00

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dionics Price List

		Retail
Audible and Visual Notification Appliances		
DAS24-75-SOR	HRNSTRB24V75CNDLREDOUTDOR	118.00
DAS24-VARC-SWR	HORN/STRB24VARCNDLWALLRED	114.00
DAS24-VARC-SWW	HORN/STRB24VARCNDLWALLWHT	114.00
DCS24-VARC-SWR	CHME/STRB24VARCNDLWALLRED	222.00
DCS24-VARC-SWW	CHME/STRB24VARCNDLWALLWHT	222.00
DMAS24-VARC-SWR	MINIHRNSTR24VARCDLWALLRED	113.00
DMAS24-VARC-SWW	MINIHRNSTR24VARCDLWALLWHT	113.00
DMAS424VARC-SWR	MINIHRNSTR24VARC4WWALLRED	112.00
DMAS424VARC-SWW	MINIHRNSTR24VARC4WWALLWHT	1,112.00
DRS24-VARC-SWR	RETF/STRB24VARCNDLWALLRED	106.00
DS24-VARC-SWR	STROBE-24V-VARCNDLWALLRED	85.00
DS24-VARC-SWW	STROBE-24V-VARCNDLWALLWHT	85.00
Fixed Output Audible and Visual Devices		
D432A	L HORN/STROBE 15 CD 24V	135.00
D448W	HORN, MINI 12V WHITE	20.00
D449	HORN, MINI 24V	20.00
D449W	HORN, MINI 24V WHITE	20.00
D457	HORN, MULTI-TONE 12/24V	46.00
D558S	L STROBE, MINI-SYNC 15/75CD 24V	111.00
D559S	HORN/STROBE,MINI-SYNC 15/75CD 24V	111.00
D560S	L HORN/STROBE, MINI-SYNC 15CD 12V	111.00
D562S	HORN/STROBE, MINI-SYNC 15/75CD 12V	111.00
D571S	24V HORN SYNC STRB 15/75 2W	113.00
D579S	HORN/STROBE 15 CD CEILING	113.00
D580S	HORN/STROBE 30 CD CEILING	113.00
D581S	HORN/STROBE 75 CD CEILING	113.00
D582S	HORN/STROBE 100 CD CEILING	113.00
Sychronized Visual Notification Appliances		
D545S	STROBE,SYNC/REM 15/75 CD 24V	83.00
D552S	STROBE,SYNC/REM 15CD CEL 24V	83.00
D553S	STROBE,SYNC/REM 100CD CEL 24V	91.00
D554S	L SYNC/REM RETRO 110CD 24V	111.00
D555S	L STROBE,SYNC R/PLATE 15 CD 24V	105.00
D556S	STROBE,SYNC/REM R/PT15/75CD 24V	105.00
D557S	L STROBE,SYNC/R R/PLT 75CD 24V	105.00
7S	L STROBE, SYNC/REM R/PLT 30CD 24V	105.00
S	STROBE 30 CD CEILING	83.00
4S	STROBE 75 CD CEILING	83.00
12VDC Notification Appliances		
D448	HORN, MINI 12V	20.00
D452	L HORN, MINI 12V W/STROBE	88.00
D539S	HORN, SYNCHRONIZED 12V	50.00
D541S	HORN, SYNCHRONIZED 24V	50.00
D542S	HORN, SYNCHRONIZED W/PROFF 12V	50.00
D543S	HORN, SYNCHRONIZED W/PROFF 24V	50.00
D547S	L STROBE,SNC/RMTE 75 CD 24V	83.00
D548S	L STROBE, SYNC/REM 10CD 24V	80.00
D551S	STROBE,SYNC/REM 15/75 CD 12V	83.00
D562S	HORN/STOBE,MINI-SYNC 15/75, 12V	111.00
D576S	12V HORN SYNC STB 15/75CD 2W	113.00
D470	12/24 V, SEMI-FLUSH PRIORITIZED INPUT HORN	
Notification Appliance Accessories		
D116	SIREN, 12V 15 WATT	20.00
D117	SIREN, 12V 30 WATT	15.00
D118	SPEAKER, 12V 15 WATT	20.00
D119	SPEAKER, 12V 30 WATT	41.00
D401	PLATE, SEMI-FLUSH	10.00
D402	BACKBOX SURFC IN/OUT DOOR	20.00
D403	BACKBOX, SMT INDOOR	16.00
D404	SURFACE PLATE, INDOOR RED	10.00
D406	BACKBOX SURFACE MOUNT SPEAKERS	30.00
D407	BACKBOX FOR RETROFIT DEVICES	30.00
D411	SYNC. MOD, CLASS B 2 WIRE	111.00
D412	SYNC. MOD, CLASS A 4 WIRE	165.00
D7038	POWER SUPPLY ADDRSS CKRT BSTR	813.00
P2475	HORN STROBE 24V RED	105.00
P2475K	WP HORN STROBE 24V RED	114.00
PC24177	HORN STROBE 177C 24V RED	117.00
S2475	STROBE 24V RED	86.00
S2475K	WP STROBE 24V RED	99.00
SC24177	STROBE 177C 24V RED	9.00
D400	BACK BOX, SURFACE-MOUNT, WEATHER RESISTANT, RED	20.00
Motor Bells		
D440	BELL, RED FIRE 12V 6 INCH	48.00
441	BELL, RED 24V 6 INCH	48.00
142	BELL, RED FIRE 12V 10 IN	62.00
43	BELL, RED 24V 10 INCH	62.00
123	BELL NOISE FILTER	9.00

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