

## Installation Instructions

### Notice

These instructions are for the installation of the D326 and D334 point contact modules in an analog system controlled by a Fire Alarm Control Panel (FACP) using Digital Communications Protocol (DCP). These modules provide addressable supervision for normally open (N/O) or normally closed (N/C) form "A" or "B" dry contact alarm indicating devices. They allow the panel to supervise their circuits for contact closure, contact opening, or fault.

Installing detection devices in an analog system consists of:

- A. addressing the devices
- B. wiring the modules to the FACP
- C. wiring the devices to the module
- D. installing the module in a back box.

**CAUTION** is used in these instructions to indicate procedures to follow to avoid damage to equipment

### Installation Standards

Install, test, and maintain these devices according to these instructions, NFPA 72, Local Codes and the Authority Having Jurisdiction. Failure to follow these instructions may result in failure of the detector to initiate an alarm condition. Radionics is not responsible for improperly installed, tested or maintained detectors.

### Point Contact Modules

Model #	Description	Voltage Range	Idle Current	Polling Current	Alarm Current
D326	4" module on plate	17 - 39.5 V DC	300 $\mu$ A	22 mA $\pm$ 20%	28 mA
D334	remote module	17 - 29.5 V DC	300 $\mu$ A	22 mA $\pm$ 20%	28 mA

### Device Descriptions

The D326 and D334 are single ID addressable device input modules. They provide a point for connection of a two wire dry contact closure device input loop with the FACP. Both are UL-listed for initiation and supervision applications. Address is set via dip switches.

The D326 module mounts on a plate that attaches directly to a four-inch square back box having a minimum depth of 2-1/8 inches. A cover plate leaves the status LED visible.

The D334 module is mounted in a plastic enclosure that attaches to the inside of a back box and is normally out of view.

#### A. Device Address

Each detector device or module in an analog system has a specific address that is established by setting dip switches on that device or module. See Figure 1. Each polling circuit can support up to 126 addresses. It is not necessary to wire the devices in any particular order in the circuit.

Switch number one has an address value of one. Switch two has an address value of switch one doubled, or two. Switch three has a value of switch two doubled or four, and so on. . . (1, 2, 4, 8, 16, 32, and 64). To set an address, first set the largest switch that is less than the address desired, and then fill in the lesser values. To set address 019: 19= 16+2+1 or switches 5+2+1.

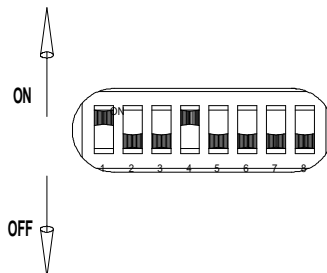


Figure 1: Typical Dip Switch Installation

Set the address on the eight dip switch positions according to the Analog Device Address Table in Appendix A. Pay particular attention to the OFF/ON orientation of the switch. Verify the ON position by noting the small “ON” that is printed above switches one and two. The switch in Figure 1 is set to address 009 (switches one and four are ON).

Note that the eighth dip switch is used to enable line supervision and should remain in the OFF (enabled) position.

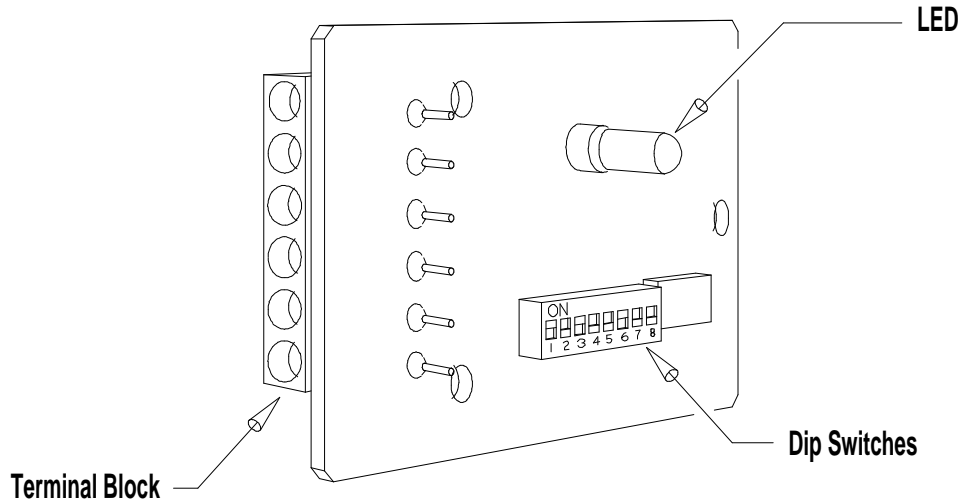


Figure 2: Point Contact Module Board

## B. Wiring the modules to the FACP

Analog Polling Circuits connect to the FACP over two-wire cable. The DCP resists interference from most types of EMI and RF generated noise, and no special wiring requirements are required other than attention to wire gauge. Under extremely noisy conditions, use twisted pair wire to reduce interference.

If EMI is a problem, use shielded cable, being careful to ground the drain wire to the “E” terminal on the FACP Control Module. See the Control Panel Installation Guide for details.

### B.1. Circuit Configuration

Polling circuits connect to the FACP in either a Class “A” or a Class “B” circuit. “T” tapping is acceptable in Class “B” circuits. For specific Class “A” and “B” circuit installation requirements, see NFPA 72.

See the Installation Instruction for the FACP for instruction on connecting the polling circuit to the panel.

### B.2. Device to Circuit Wiring

Wire the D326 or D334 in the polling circuit by connecting the Data/Power Positive (+) and Data/Power Common (-) terminals as shown in Figure 3.

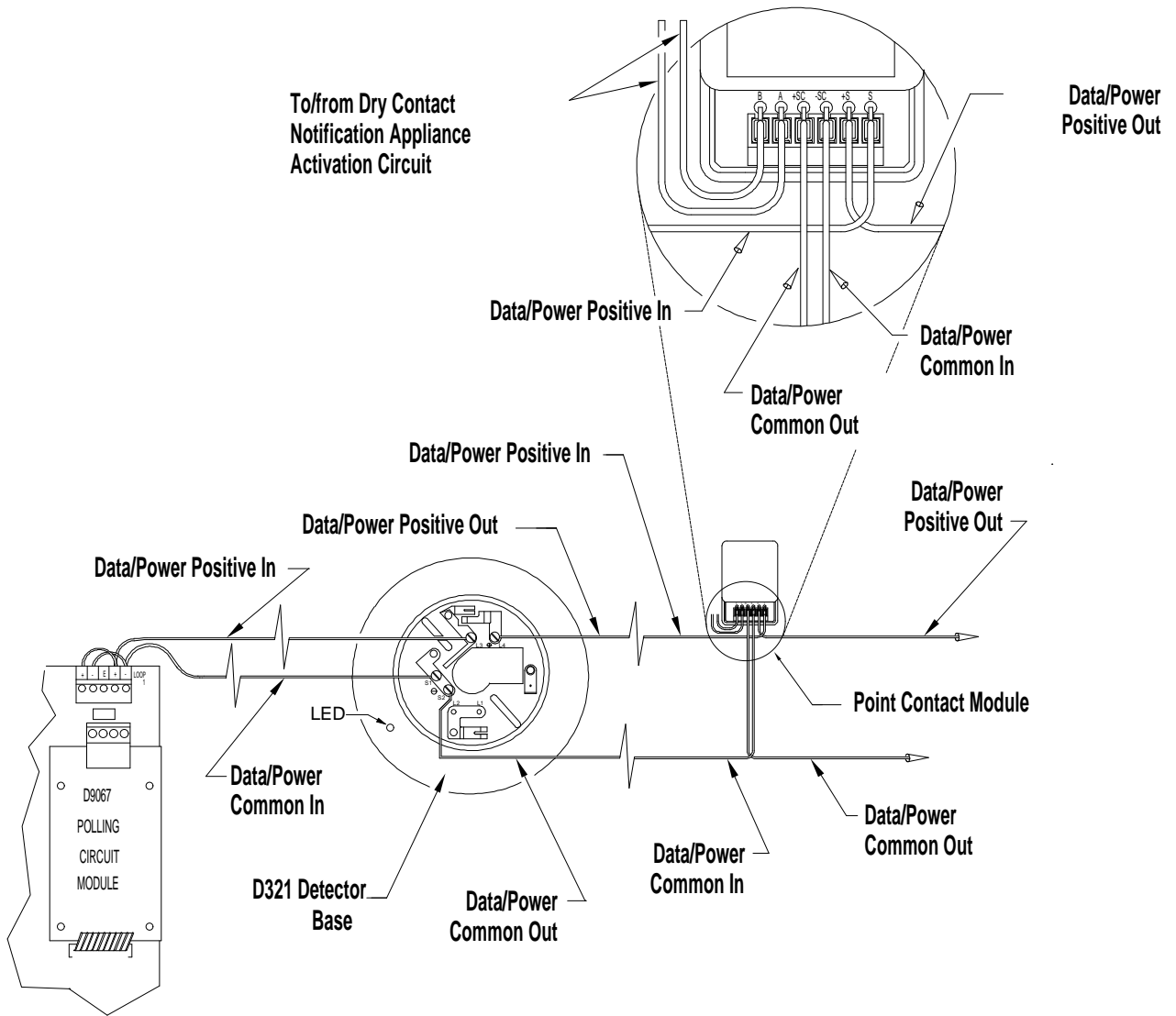


Figure 3: Point Contact Module to Circuit Wiring

Caution: Inform the operator and the local authority before installing this module in an existing system. Disconnect all power to the Fire Alarm Control Panel before installing this module.

### B.3. Circuit Length

Data Circuit Length is the distance over the circuit wire from the connection at the FACP to the most distant device and back to the FACP. Data Circuit Length must include the distance to any device connected to the circuit in a “T” tap.

Polling Circuit Length	Wire Gauge
Up to 4,000 ft.	18
4,000 - 7000 ft.	16

Table 1: Polling Circuit Length/wire Gauge

Note: The screw terminals will accept 14 AWG, but this will reduce the allowable length of the circuit.

### B.4. Shielded Cable

Connect the drain wire for shielded cable to the E terminal of the Data Terminal Block at the FACP. Unless shielded cable is properly grounded, it may aggravate rather than eliminate noise problems. Shielded cable must be reconnected each time the cable is cut to install a device.

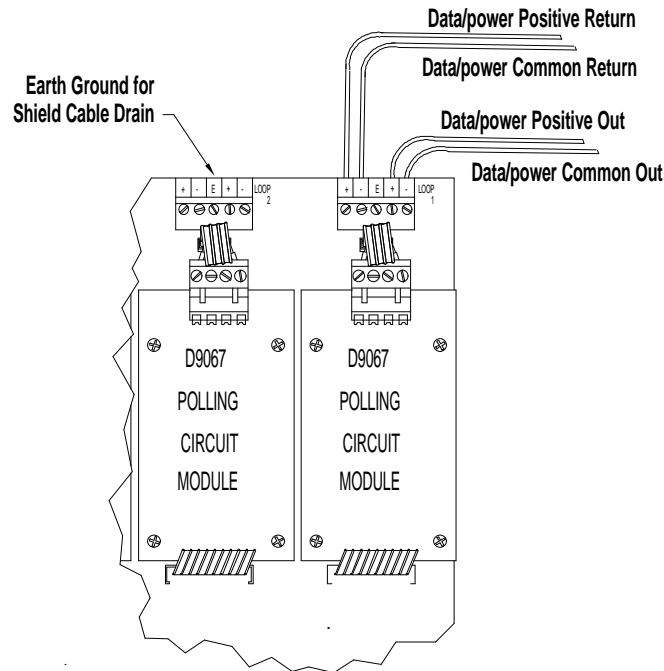


Figure 4: “E” Terminal Location

### C. Wiring Devices to the Point Contact Module (Initiating Device Circuit)

The Initiating Device Circuit may have any number of UL-listed Normally Open (N/O) contact devices. DC wiring shall not exceed 50 ohms. Install contact closure devices according to the manufacturer’s installation instructions.

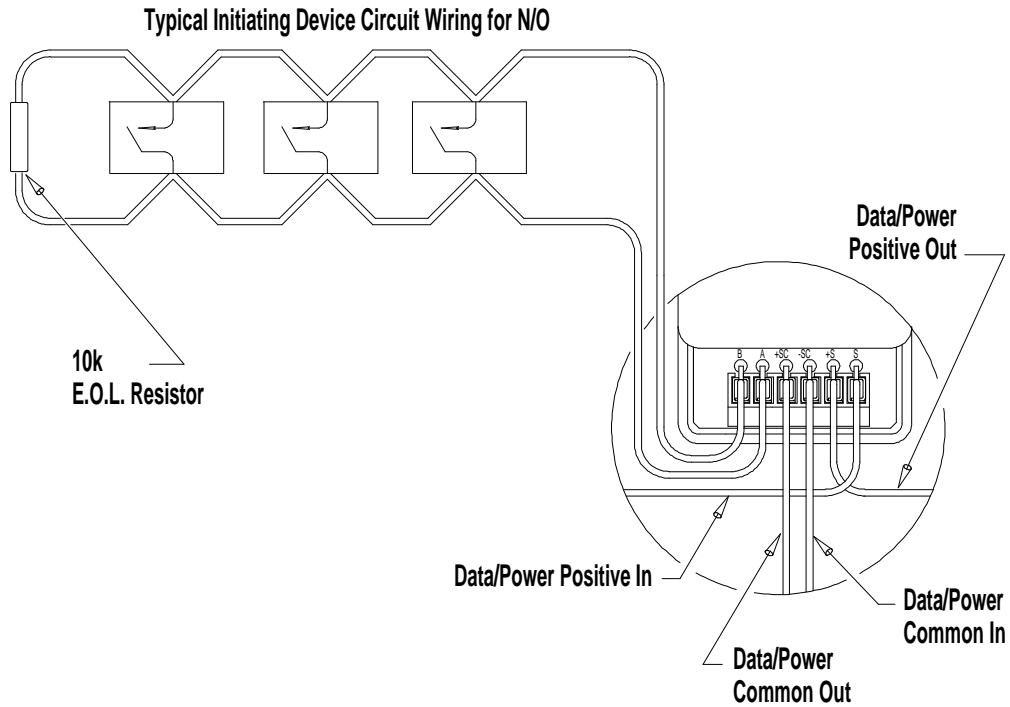


Figure 5: Initiating device circuit

## D. Installing Point Contact Modules in the Back Box

Wiring for the D326 and D334 is identical. The D326 module mounts on a plate which attaches to a 4-inch square electrical box at least 2-1/8" deep. A cover plate conceals the dip switches and leaves the LED visible. The D334 mounts in a single gang back box behind the device and is secured with a velcro patch.

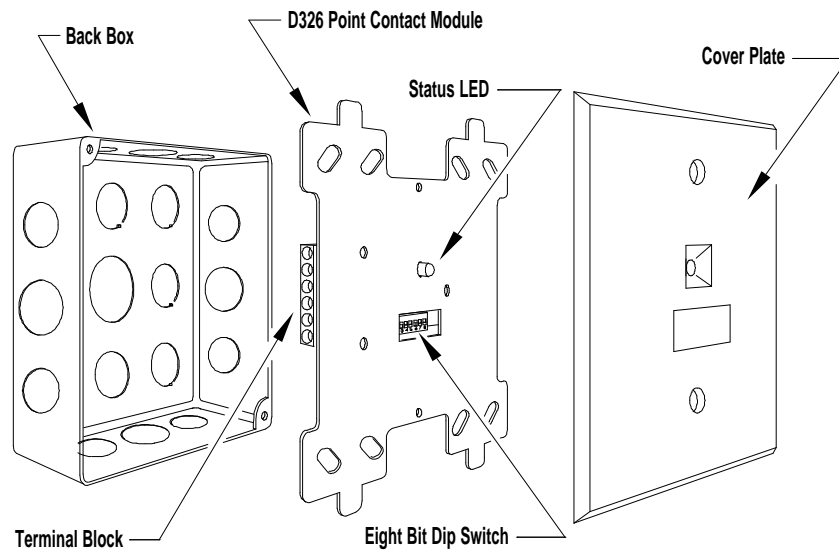


Figure 6: Typical D326 Installation

### D.1. D326 Installation

After wiring the module to the FACP and connecting the initiating device circuitry as shown in Figure 5, attach the Point Contact Module plate to the back box as shown in Figure 6. Inspect the dip switch positions to insure that the address is properly set and install the cover plate.

## D.2. D334 Installation

A typical application for the D334 is the installation of a manual pull station in the analog system. Set the D334 address before wiring the module and installing it in the back box.

Once the D334 is installed in the back box, setting or changing the address will involve removing the device and removing and opening the module case.

Attach a velcro patch to the inside of the back box and to the back of the module case.

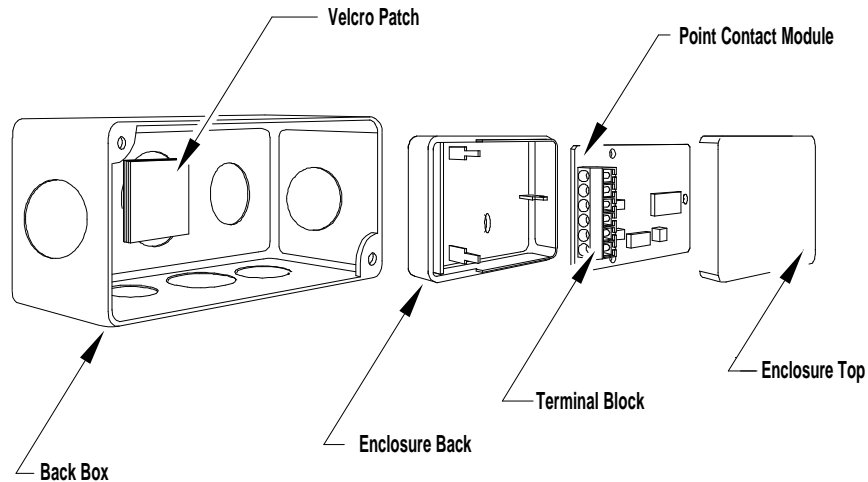


Figure 7: D334 Installation

**Caution:** Remove AC and standby power from the Fire alarm Control Panel before connecting or disconnecting devices.

Connect the module to the FACP and to the initiating device as shown in Figure 8. Set the module in the enclosure back and snap the enclosure top closed over it. Attach the enclosure to the velcro patch in the back. Install the initiating device.

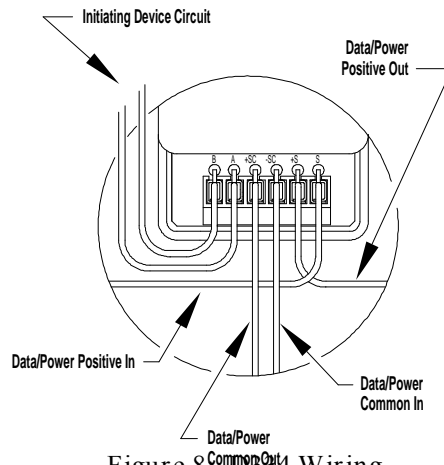


Figure 8: D334 Wiring

A number in the switch column indicates that switch is in ON

Switch									Switch									Switch								
Address Value	1	2	4	8	16	32	64		Address Value	1	2	4	8	16	32	64		Address Value	1	2	4	8	16	32	64	
Address	1	2	3	4	5	6	7	8	Address	1	2	3	4	5	6	7	8	Address	1	2	3	4	5	6	7	8
1	1								43	1	2		4		6			85	1		3		5		7	
2		2							44			3	4		6			86		2	3		5		7	
3	1	2							45	1		3	4		6			87	1	2	3		5		7	
4			3						46		2	3	4		6			88				4	5		7	
5	1		3						47	1	2	3	4		6			89	1			4	5		7	
6		2	3						48					5	6			90		2		4	5		7	
7	1	2	3						49	1				5	6			91	1	2		4	5		7	
8				4					50		2			5	6			92			3	4	5		7	
9	1			4					51	1	2			5	6			93	1		3	4	5		7	
10		2		4					52			3		5	6			94		2	3	4	5		7	
11	1	2		4					53	1		3		5	6			95	1	2	3	4	5		7	
12			3	4					54		2	3		5	6			96						6	7	
13	1		3	4					55	1	2	3		5	6			97	1					6	7	
14		2	3	4					56				4	5	6			98		2				6	7	
15	1	2	3	4					57	1			4	5	6			99	1	2				6	7	
16					5				58		2		4	5	6			100			3			6	7	
17	1				5				59	1	2		4	5	6			101	1		3			6	7	
18		2			5				60			3	4	5	6			102		2	3			6	7	
19	1	2			5				61	1		3	4	5	6			103	1	2	3			6	7	
20			3		5				63		2	3	4	5	6			104				4		6	7	
21	1		3		5				63	1	2	3	4	5	6			105	1			4		6	7	
22		2	3		5				64							7		106		2		4		6	7	
23	1	2	3		5				65	1						7		107	1	2		4		6	7	
24				4	5				66		2					7		108			3	4		6	7	
25	1			4	5				67	1	2					7		109	1		3	4		6	7	
26		2		4	5				68			3				7		110		2	3	4		6	7	
27	1	2		4	5				69	1		3				7		111	1	2	3	4		6	7	
28			3	4	5				70		2	3				7		112					5	6	7	
29	1		3	4	5				71	1	2	3				7		113	1				5	6	7	
30		2	3	4	5				72				4			7		114		2			5	6	7	
31	1	2	3	4	5				73	1			4			7		115	1	2			5	6	7	
32						6			74		2		4			7		116			3		5	6	7	
33	1					6			75	1	2		4			7		117	1		3		5	6	7	
34		2				6			76			3	4			7		118		2	3		5	6	7	
35	1	2				6			77	1		3	4			7		119	1	2	3		5	6	7	
36			3			6			78		2	3	4			7		120				4	5	6	7	
37	1		3			6			79	1	2	3	4			7		121	1			4	5	6	7	
38		2	3			6			80					5		7		122		2		4	5	6	7	
39	1	2	3			6			81	1				5		7		123	1	2		4	5	6	7	
40				4		6			82		2			5		7		124			3	4	5	6	7	
41	1			4		6			83	1	2			5		7		125	1		3	4	5	6	7	
42		2		4		6			84			3		5		7		126		2	3	4	5	6	7	

Address value per switch: 1 = 1, 2 = 2, 3 = 4, 4 = 8, 5 = 16, 6 = 32, 7 = 64. Each switch has twice the value of the previous switch. To set address 37, turn On switches 6, 3, and 1. (32 + 4 + 1 = 37)