

Installation Guide**1.0 Notice**

These instructions cover the installation of the D9067 Analog Polling Circuit Module in an analog system controlled by a Radionics D8024 or D10024 Analog Fire Alarm Control Panel (FACP).

Install, test and maintain the D9067 according to these instructions, NFPA 72, Local Codes and the Authority Having Jurisdiction. Failure to follow these instructions may result in failure of the device to operate properly. Radionics is not responsible for improperly installed, tested or maintained devices.



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

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.

2.0 Device Description

Radionics' D9067 Analog Polling Circuit Module is the connection point between the polling circuit wiring and the FACP. Each D9067 added to a system adds a polling circuit capable of supporting up to 126 addressable points. The D9067 is a plug-in module compatible with Radionics' D8024 and D10024 Analog FACPs.

3.0 Analog Polling Circuits

Data circuit length is the distance over the circuit 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.

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 control module. Mineral insulated copper cable (MICC) provides superior screening.

Ground the drain wire to the earth ground terminal on the control module.

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.*

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.



D9067

Mounting the D9067

4.0 Mounting the D9067



Inform the operator before installing this device in an existing system. Remove all power (AC and battery) to the Fire Alarm Control Panel (FACP) before installing this device. Failure to do so may result in personal injury and/or damage to the equipment.



Do not attempt to plug the eight-wire ribbon plug into the ten-wire ribbon socket, or vice-versa.

4.1 D8024 Control Module Mounting Instructions

The D8024 has two expansion slots for the D9067. They are PL LOOP 1 and PL LOOP 2.

- 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 D9067 on the D8024 Control Module using the provided standoff pillars. Begin on the right side of the board in the slot labeled PL LOOP 1. See Figure 1.
- 3) Connect the D9067's ten-wire ribbon plug into the ten-wire ribbon socket on the D8024 Control Module. The female four-wire plug at the top of the D9067 plugs into the four-pin block below the dedicated screw terminal block on the D8024 Control Module. See Figure 1.

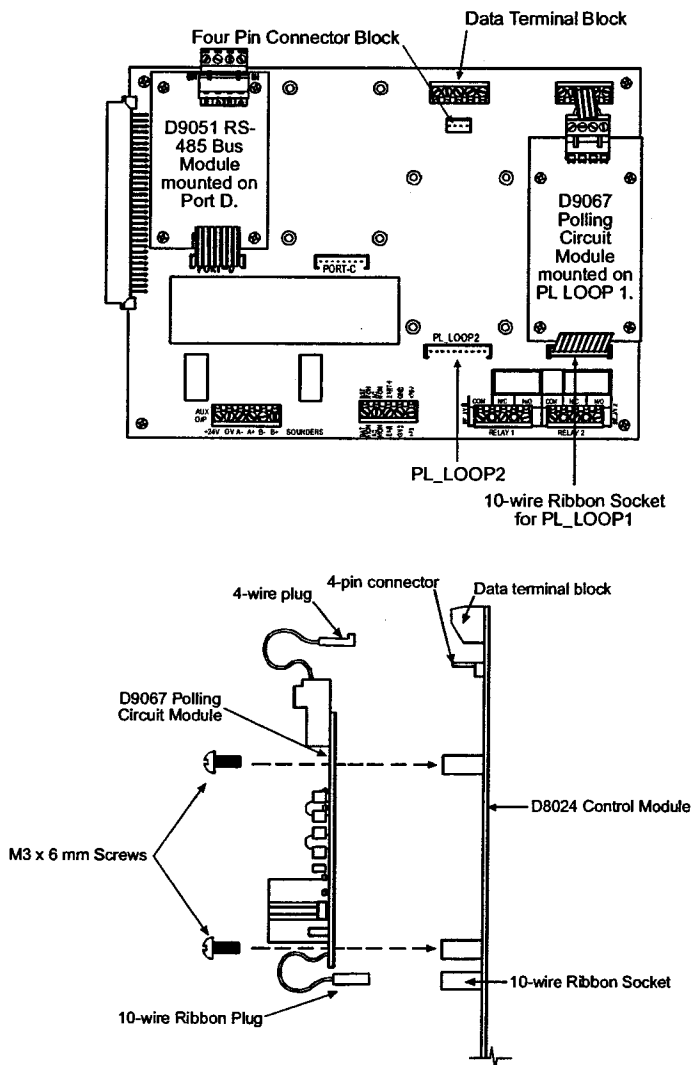


Figure 1: D9067 - D8024 Mounting

Mounting the D9067

4.2 D10024 Control Module Mounting Instructions

The D10024 has five expansion slots for the D9067. They are PL LOOP 1, PL LOOP 2, PL LOOP 3, PL LOOP 4 and PL LOOP 5.

- 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 D9067 on the D10024 Control Module using the provided standoff pillars. Begin on the right side of the board in the slot labeled PL LOOP 1. See Figure 2.
- 3) If the D9067 must be "stack-mounted" under a D9051 RS-485 Bus Module due to the system configuration, use PL LOOP 3, 4 or 5 for "stack-mounting" purposes. Mount the D9067 to the D10024 Control Module. Then "stack" the D9051 over the D9067 with standoff pillars. See Figure 2.
- 4) Connect the ten-wire ribbon plug from the D9067 Polling Circuit Module.

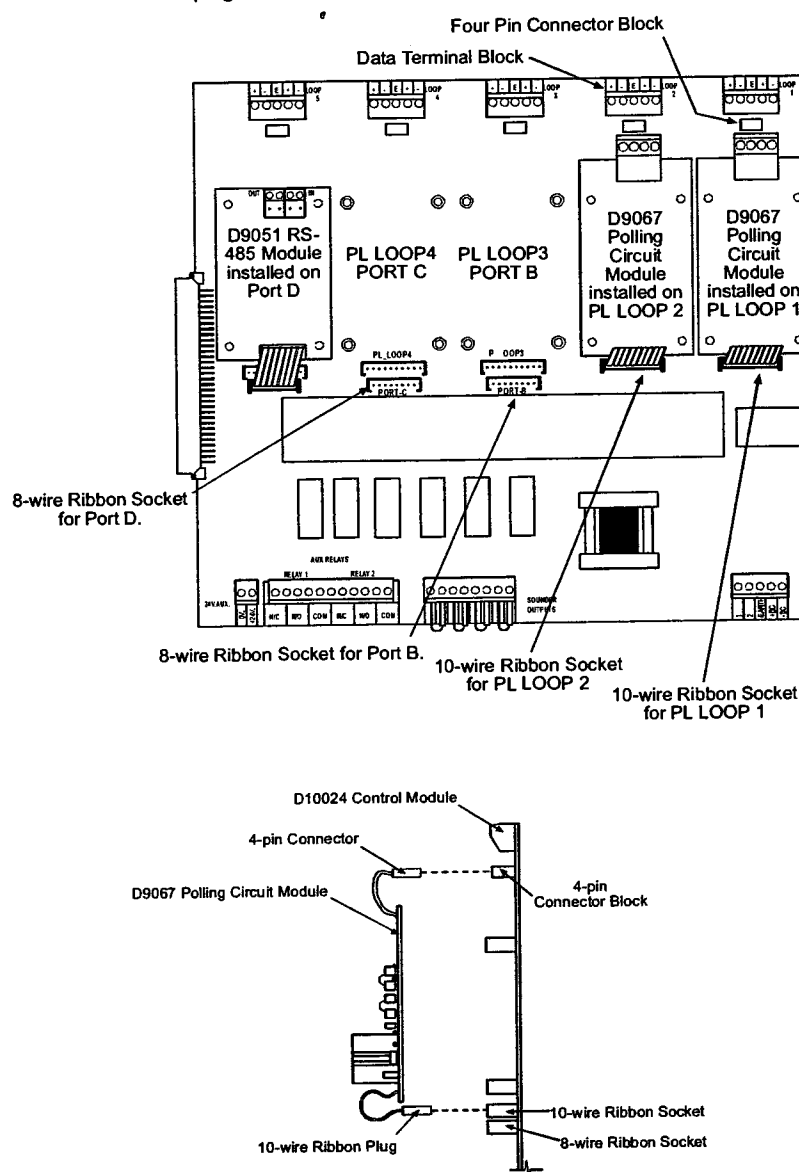


Figure 2: D9067 - D10024 Mounting

D9067

Wiring the D9067

5.0 Wiring the D9067

5.1 Circuit Length Requirements

See Table 1 for polling circuit length requirements.

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 1: Polling Circuit Length/Wire Gauge

Note: The D8024 and D10024's Data Terminal Block's screw terminals can accept # 14 AWG (1.8 mm) wire, however this will reduce the allowable length.

5.2 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 (+) wire of the polling circuit to the (+) terminal on the data terminal block on the top of the control module.
- 2) Connect the data/power (-) wire of the polling circuit to the (-) terminal of the data terminal block.
- 3) Connect the returning data/power wires to their respective terminals on the data terminal block.
- 4) Connect the drain wire for shielded cable to the (E) terminal (earth ground) on the data terminal block. See Figure 3.

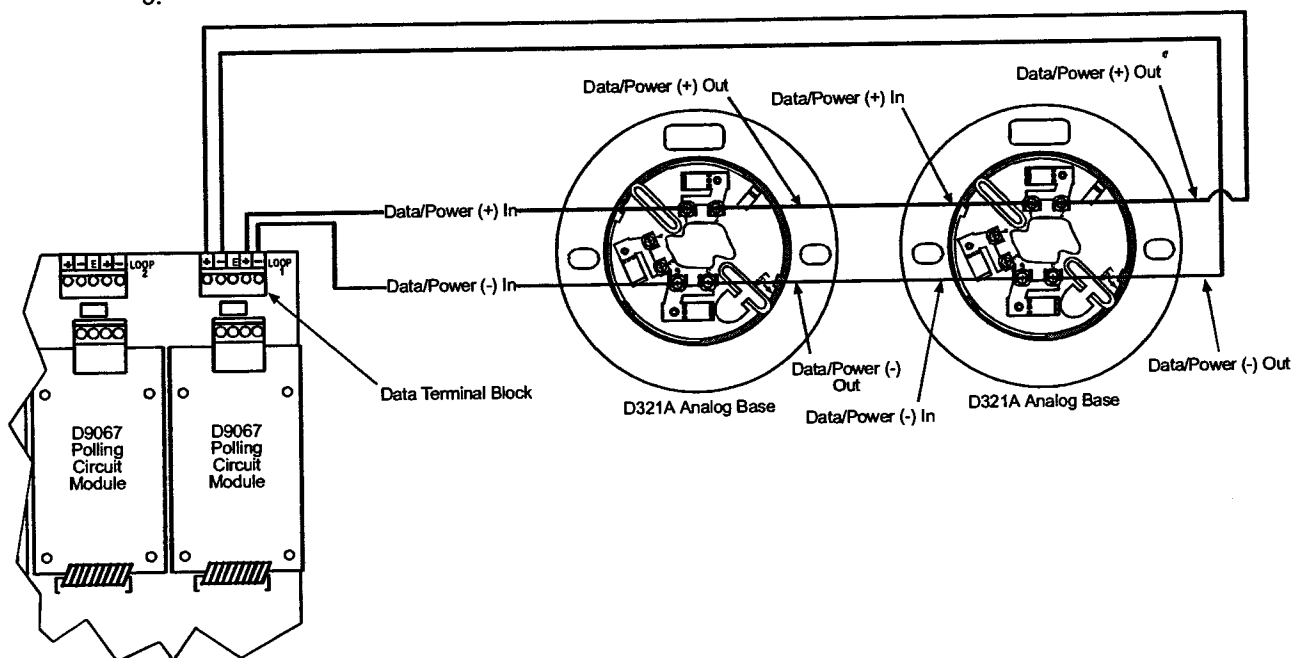


Figure 3: Class A, Style 6 Circuit Connections

5.3 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 (+) wire of the polling circuit to the (+) terminal on the data terminal block on the top of the control module.
- 2) Connect the data/power (-) 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. See Figure 4.

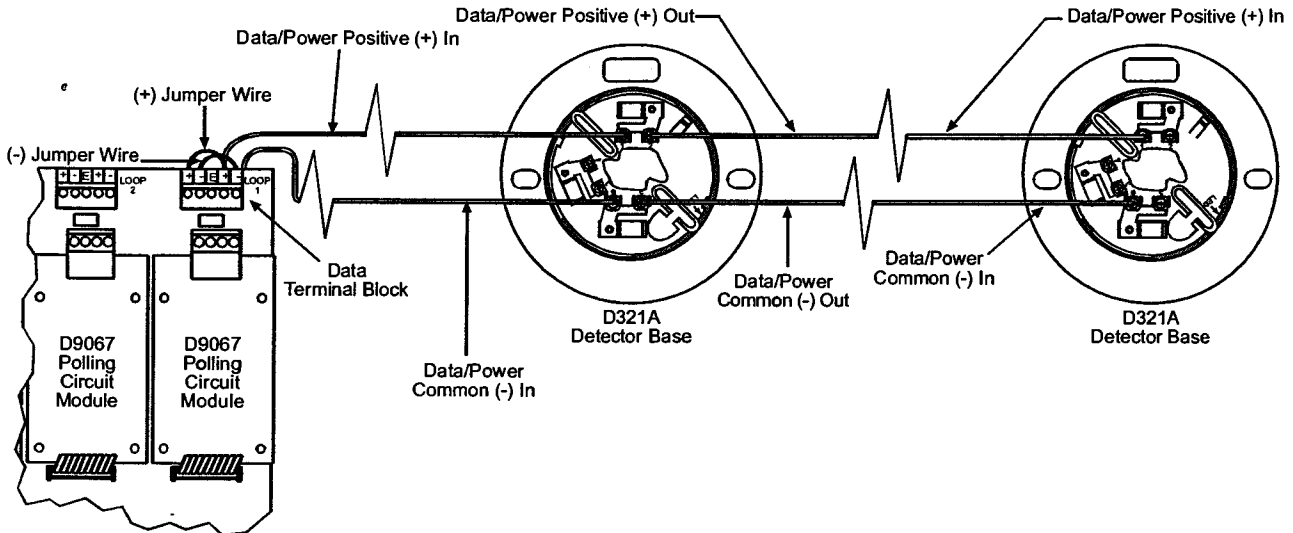


Figure 4: Class B, Style 4 Circuit Connections

See Figure 5 for earth ground connections when using shielded cable.

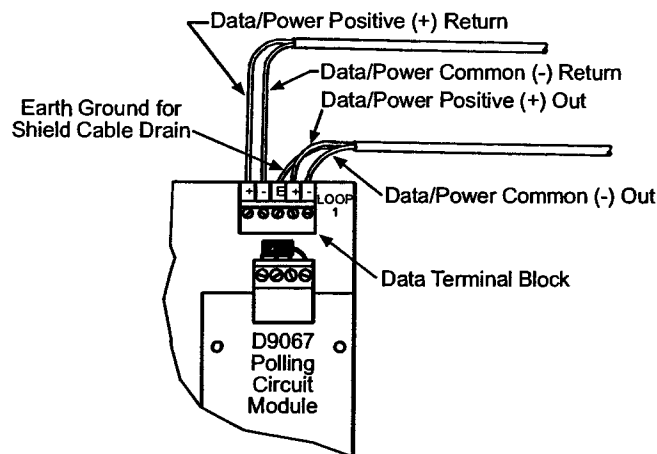


Figure 5: Earth Ground Connections



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.

Restore power to the system by connecting the standby batteries and close the 120 VAC dedicated breaker that controls the power input to the FACP. The green AC Power LED on the panel display lights to show that the 120 VAC power supply is ON and the standby battery power supply is connected.

6.0 Specifications

D9067 Specification	Value
Operating Voltage	17 to 39.5 VDC
Nominal Supply Voltage	24 VDC
Operating Current	42 mA/module
Operating Temperature	+32°F to +120°F (0°C to +49°C)
Maximum Humidity	95% RH non-condensing @ 104 F (40°C)
Width	2.3 in. (6 cm)
Height	4 in. (9 cm)

