Installation Guide

1.0   Introduction

Before you install the D192C, you should be familiar with the Operation and Installation manual for the control/communicator you are using.

The D192C Indicating Circuit Module is used with Radionics 2000 Series, 9000 Series, D8112, D9112B1 and D7212B1 panels. The D192C is used for wiring connections to remote alarm indicating devices. The wiring is supervised for open, short, or grounded circuit faults.

Several D192C modules can be connected to the same zone/point on the above listed panels. However, if you want individual annunciation of indicating bell circuit, connect the D192C Modules to separate zones or points.

Figure 1: D192C Indicating Circuit Module

The D192C powers the alarm indicating devices from either the panel's battery or from a UL listed auxiliary power supply. This feature allows the system to support more indicating devices on longer wire runs. It also allows the use of 12 or 24 volt alarm indicating devices (requires the appropriate power supply). The D192C Indicating Circuit Module is designed to use only polarized (DC) indicating devices.

Signaling Devices Specifications: Not all signaling devices are polarized and those used with the D192C Module must comply with the following parameters:

• Must be polarized (DC) equipment

• Must match the voltage rating of the alarm power supply

• Must not exceed the current rating of the alarm power supply

• Must not exceed 1.80 Amps per D192C Module

2.0   Operation

During normal operation, the indicating circuit is supervised for opens, shorts, and grounds. If any of these conditions are detected, the panel indicates a trouble condition at the command center. You can program the panel to report the condition to the central station.

When the panel detects an alarm, the alarm output circuit triggers the D192C to supply circuit power to the indicating devices.

2.1   Panel Selector Jumper

The panel selector jumper allows you to configure the D192C for either D8112 mode of operation or 2000 and 9000 series mode of operation. The jumper in the D8112 position adds the filtering capacitor to the indicating output circuit. The jumper should be set in the D7112/D9112 position when used with the 2000 and 9000 Series. In this position, the filtering capacitor is removed from the circuit and allows the panels to detect a missing battery condition. All new Radionics control panels have the filter capacitor built into their power supplies.

2.2   Silence Switch

The D192C Module has a toggle switch that is used to silence the fire alarm indicating devices while testing the alarm panel. When the toggle switch is put in the SILENCE (OFF) mode, the D192C presents a short circuit to the supervisory circuit of the panel.
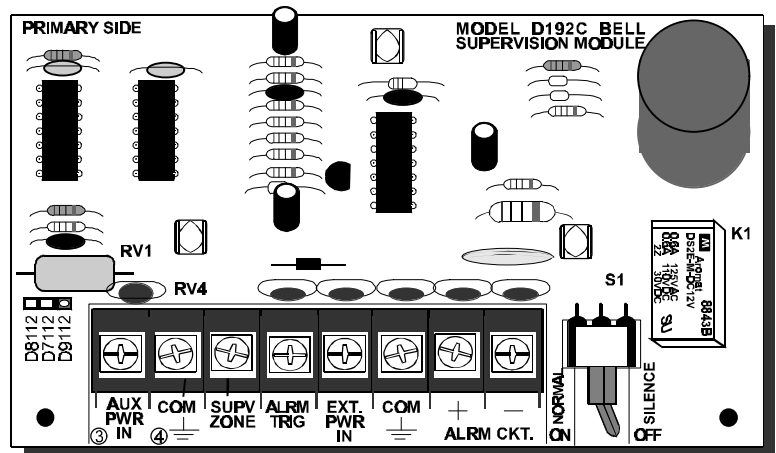
D192C

Programming

3.0 Programming

3.1 Supervisory Zone

2000 Series	Program the point supervising the D192C with **4030A.**
D7112	Program the point supervising the D192C with **00204**.
D8112	Program the zone supervising the D192C with **4161**.
9000 Series/ D9112B1/ D7212B1	There are a number of options for programming the point supervising the D192C. Radionics recommends that you program the point with a Point Index configured as follows: *Point Type* **1**, *Pt Response* **3**, Buzz on Fault **Yes**. All other selections for the Point Index should be programmed **No**.

3.2 Alarm Output

D7112	Indicating output is terminal 7, or any of the area bell relays, if programmed in that configuration.
D8112	Program the D8112 alarm output response, *75 Pulse*. This item determines the response of zones with pulsed bell output zone codes (fire zone codes). Radionics recommends using terminal 7 for the D192C.

When *Pulse* is **Yes:**	**Terminal 6**	**Terminal 7**
	Pulse +12 VDC	Steady +12 VDC

When *Pulse* is **No:**	**Terminal 6**	**Terminal 7**
	No Output	Steady +12 VDC

Terminal 7 operation: Plug a D136 relay in the K6 socket on the D8112 to operate terminal 7.

D9112 / D7212	Program the D9112 and D7212 from the *RELAY PARAMETERS* module of the program entry guide. The Radionics defaults set relay A (terminal 6) as an Alarm Bell output, relay B (terminal 7) as a Alternate Alarm output, and relay C (terminal 8) as a Verification/Reset output. The *D9112 Program Entry Guide* (74-06145-000) contains complete instructions for programming relays (for B1 panels) and the *9000 Series Program Entry Guide* (74-07695-000) for the D7212, D7412, D9112 and D9412 panel.

4.0 Installation

These installation instructions apply to the following control/communicator panels:

- D7112
- D8112
- D7212B1
- D9112B1
- D7212
- D9112
- D7412
- D9412

1. Mount the D192C module(s) inside the panel enclosure using the mounting screws provided. You can use any of the mounting positions. If additional locations are needed, use the D137 Mounting Bracket.

2. Depending on the power supply used, wire the D192C according to Figures 2, 3 or 4.

   Multiple D192C modules: You can connect multiple D192C modules to the same supervision zone/point. The zone/point must use a 1k W EOL.

3. Install the 560 W, 2 watt EOL resistor (part #15-03130-005, included with the D192C Module) beyond the last indicating device. Install the D105FL EOL resistor (part #15-03130-001) on the last D192C for a supervised zone or point, as shown in Figures 2, 3 and 4.
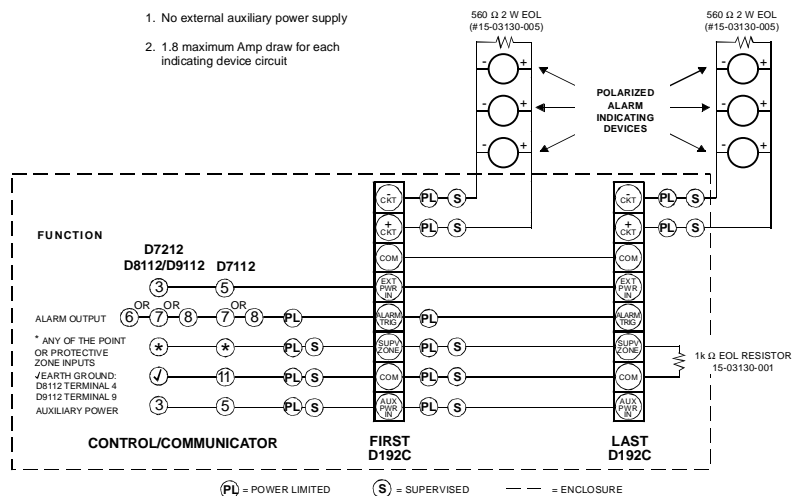

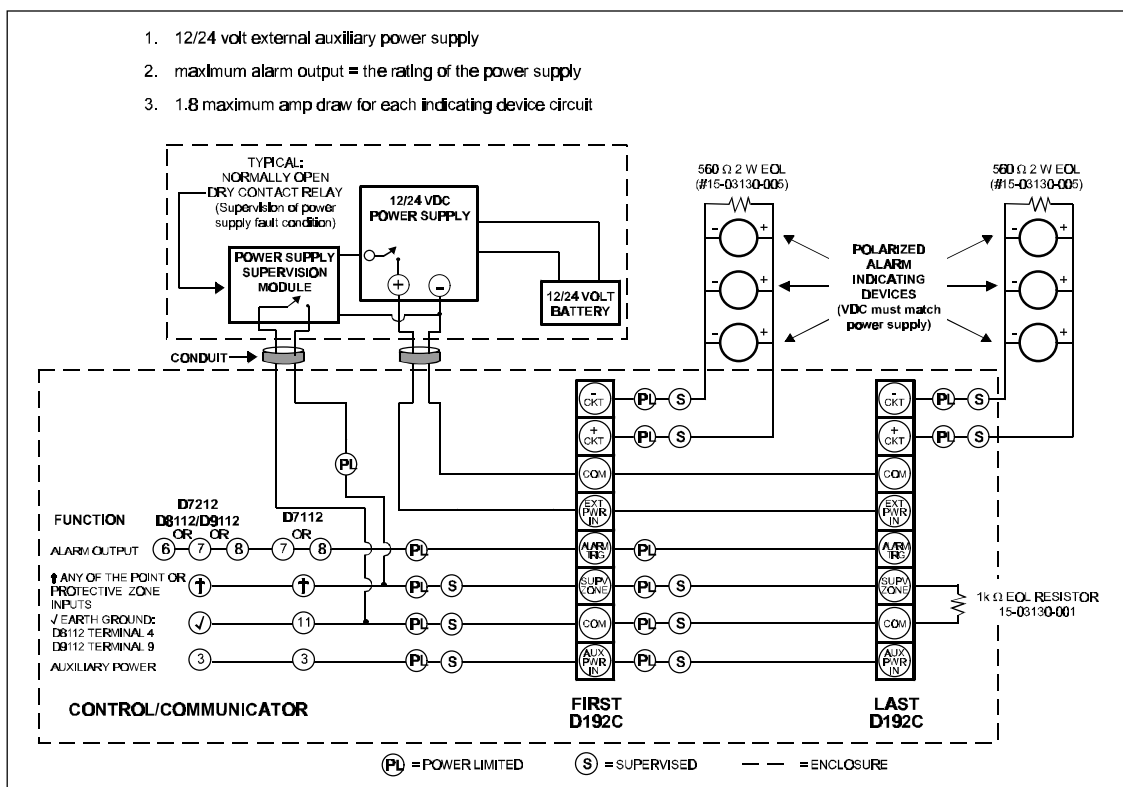
Figure 2: Connection with no External Power Supply

Figure 3: Connection with 12 Volt or 24 Volt External Power Supply

Note: When using a 24 volt system, the power cable from the 24 VDC power supply to the D192C EXT PWR IN/COM must be at least six feet or more of AWG 22 wire. This is required to limit the bell loop short circuit current to the D192C.
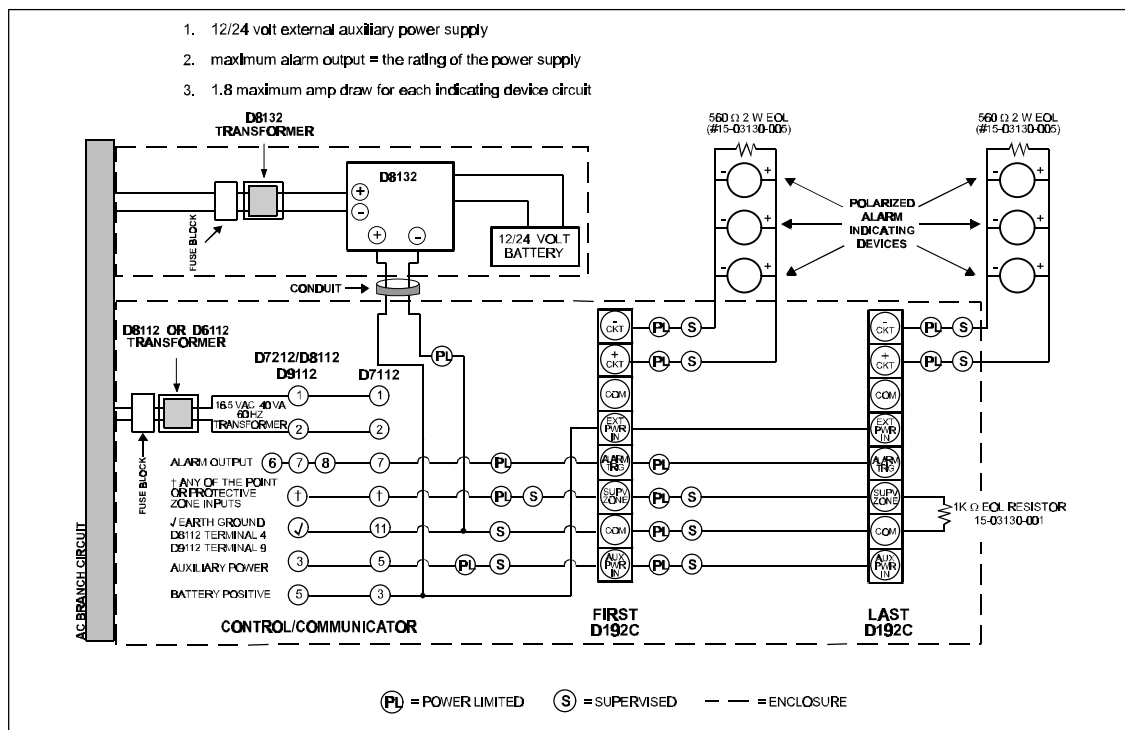

Figure 4: Connection with D8132

4.1 Installation for 2000 Series Panels

1. Install the D2102 Mounting Skirt with the D133 Relay Module (or D134 Dual Relay Module) in the D8103 Enclosure. If installing the D2212, install the panel and D133 (or D134) in the D8103.

2. Depending on the panel and power supply used, wire the D192C according to Figure 3 and 4.

   If using multiple D192C modules, you can connect them to the same supervision zone/point. The zone/point must use a 1K W EOL.

3. Install the 560 W, 2 watt EOL resistor (part # 15-03130-005, included with the D192V module) beyond the last indicating device. Install the D105FL EOL resistor (part # 15-03130-001) on the last D192C for a supervised zone or point, as shown in Figure 2, 3, 4 and 5.
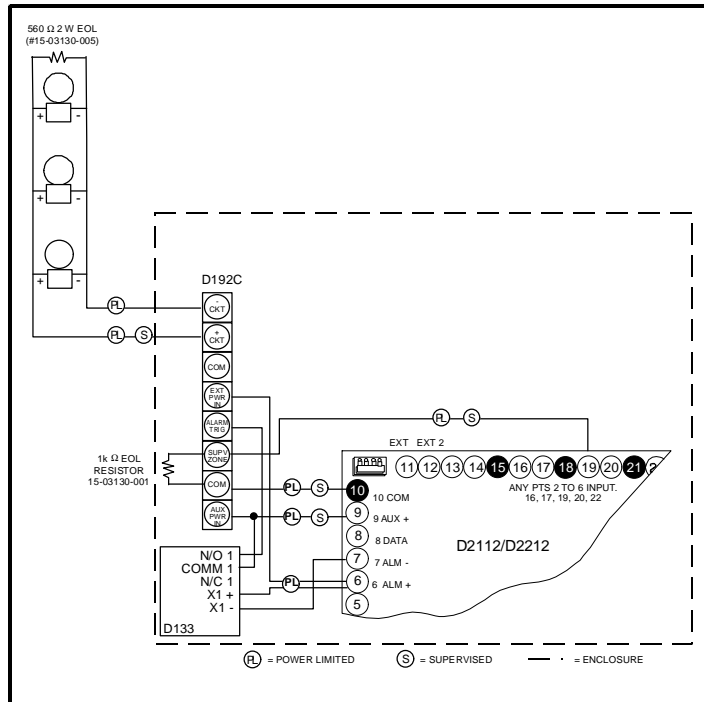

Figure 4: Connection with D133

5.0 Auxiliary Power Supply

The control/communicator and an external power supply must be installed in the same room, not more than 20 feet apart.

The interconnecting wiring between the control/communicator and the power supply must be in conduit.

The power source for both the power supply and the control/communicator must be from the same dedicated AC branch circuit.

The power supply fault conditions must be supervised by a U.L. Listed relay, as shown in Figure 2.

The plug-in transformer for a D8132 and for the control/communicator must be installed in a D8004 Transformer enclosure that is mechanically secured in place.

6.0 Specifications

D192C Operating Voltage:	AUX PWR IN:	12 VDC supplied by Aux Power from the control/communicator.
Alarm Output Voltage:	EXT PWR IN:	12 or 24 VDC supplied by the external power supply, or 12 VDC supplied by the Positive Battery Terminal on the control/communicator.
	Module is rated at 1.80 Amps at 12 or 24 VDC	
D192C Module Current:	Idle:	20Ma
	Alarm:	10mA
	Maximum rating of module alarm circuit is 1.80 Amps.	
	Alarm power comes from an external power supply, or the panel battery, if one is used (see Figure 2)	
Dimensions (L x W x D):	5.0 in. (12.7 cm) x 3.0 in. (76 mm) x 0.75 in. (19 mm)	
Indicating Circuit End-of-Line Resistor:	Radionics part #15-03130-005: 560 Ω, 2W	
D105FL End-Of-Line Resistor:	Locate between panel and D192C	
	Radionics part #15-03130-001: 1KW	
Power Supplies:	Although most UL listed power supplies meeting an input of 120V, 60Hz, 34AH max in either 12VDC or 24VDC can be used, Radionics recommends using the power supplies below for auxiliary power:	
	Alarm-SAF:	24 VDC, 4A PS5-BFS-24-UL
		12 VDC, 4A PS5-BFS-12-UL
		Alarm-SAF power supplies provide a voltage output to indicate trouble. Installation requires UL listed relay device to provide dry contact connection to the Radionics control unit's supervisory zone. Use the Alarm-SAF model AS/RBKS-124 (P) for this purpose.
	Altronix	12/24 VDC 8A 4 Out NAC PS AL800UL-ADA
	Radionics:	24 VDC, 4A D9142F