

Features

Release control using the model 4010 Fire Alarm Control Panel to provide:

- Automatic extinguishing release operation
- Deluge and preaction sprinkler system release operation

Allows for up to two Notification Appliance Circuits (NACs) of supervised solenoid control

Compatible with Listed/Approved 24 VDC automatic water control valves

Required system components:

- 4010 Series control panel with either 4010-9814 or 4010-9824 Suppression Release power supply
- Coil supervision module 2081-9046, one per solenoid control NAC
- Service Disconnect Switch, 2080-9029, one per solenoid control NAC

Recommended accessory (where appropriate):

- Abort Switch, 2080-9030

UL listed to Standard 864

Introduction

Automatic Extinguishing Release Systems.

These systems automatically activate solenoid control valves for the release of a fire extinguishing agent (such as dry chemical, water spray, foam, CO₂, or Halon) in response to fire detection device input.

UL and FM Extinguishing Release System Panels must have a minimum of 24 hours of standby power.

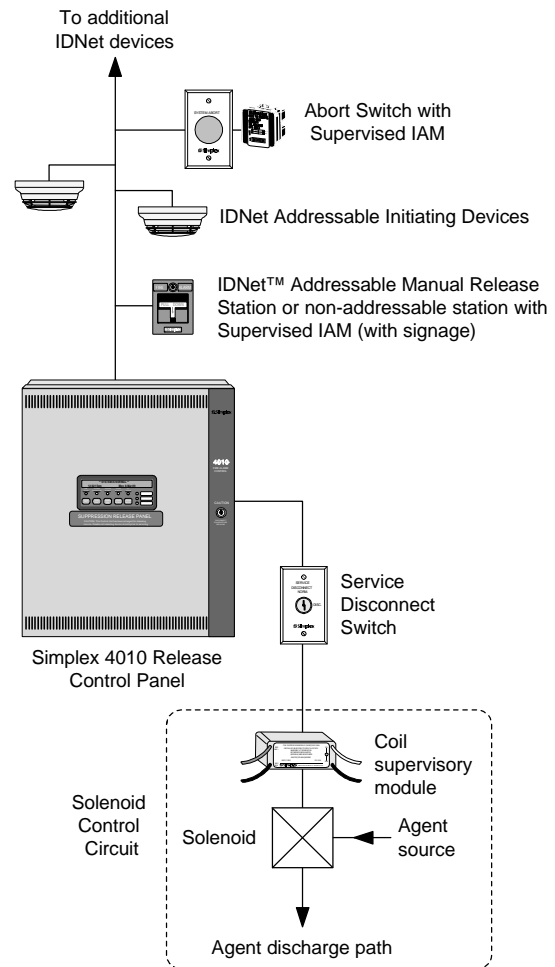
Initiating devices must be Listed/Approved for the application, and may be wired either Class A or B. Solenoid control valves must be electrically compatible with the control panel circuits and power supplies, and are wired Class B to provide coil supervision.

Deluge and Preaction Sprinkler Systems

automatically activate water control valves in response to fire detection device input.

UL requirements for Fire Alarm Systems Listed for Automatic Release or Deluge and Preaction Sprinkler Systems are the same as described above for Automatic Extinguishing Release Systems.

FM Approved requirements for Fire Alarm Systems for Automatic Release of Deluge and Preaction Sprinkler Systems require operation of specific compatible FM



4010 Series Release Control Panel Typical Block Diagram

Introduction (Continued)

Approved Automatic Water Control Valves, a minimum secondary power capacity of 90 hours, and all circuits for the automatic release initiating devices must be capable of operation during a single open circuit fault condition (Class A).

Deluge Sprinkler Systems employ open sprinkler heads and provide water flow when the fire detection system activates a common automatic water control valve. They are used to deliver water simultaneously through all of the system sprinkler heads. This type of system is applicable where the immediate application of large quantities of water over large areas is the proper fire response.

Preaction Sprinkler Systems are similar to deluge systems except that normally closed sprinkler heads are used and supervisory air pressure is maintained in the pipe. Operation requires both an activated sprinkler head and an activated fire detector (or fire detectors).

Release Control System Requirements

1. The Simplex 4010 Fire Alarm Control Panel must be equipped with either 4010-9814 or 4010-9824, Suppression Release Power Supply Option.
2. Solenoid valves may be connected to 4010 NACs (3 or 4) as 2-wire, Class B notification circuits **with only one solenoid valve per circuit** to ensure supervision.
3. Coil Supervision Module, Simplex model 2081-9046, must be wired electrically before the solenoid valve and located in the solenoid valve wiring junction box. (Refer to Installation Reference Diagram on page 4.)
4. For FM Approved Deluge and Preaction Sprinkler operation, initiating device circuits must be Class A, wired to Listed/Approved devices.
5. Cross zoning, counting circuits, or other alarm initiation logic is to be implemented as required in the fire alarm control panel hardware and software.
6. Power supply loading and wiring distances must be per the control panel Field Wiring Diagram 842-058.
7. For FM Approved Deluge and Preaction Sprinkler Systems, battery standby capacity must be a minimum of 90 hours with 10 minutes of alarm.
8. For FM Approved Automatic Extinguishing Release, battery standby must be a minimum of 24 hours with 5 minutes of alarm.
9. Battery standby must be selected for a minimum voltage of 22.8 VDC to ensure proper valve operation. Refer to Simplex battery selection chart 900-012.
10. Model 2080-9029 Service Disconnect Switches are required to ensure that notification circuits dedicated for release operation may be properly disabled prior to service. Mounting requires a single gang box, 2 1/2" minimum depth. (Refer to NFPA 72, the *National Fire Alarm Code*, Section 3-10.4, 1996 edition or Section 3-8.4.3.4, 1999 edition.)
11. For FM Approved Deluge and Preaction Sprinkler operation, the specified compatible Automatic Water Control Valves must be used. (Refer to Installation Reference Diagram on page 4.)
12. For UL Listed and FM Approved Automatic Extinguishing Release, solenoid valves must be electrically compatible.
13. Model 2080-9030 System Abort Switches are available when abort operation is required. When used, wire on separate initiating device circuit, Class A or B, the same as required for other non-addressable initiating devices. Mounting requires a single gang box, 2 1/2" min. depth.
14. Manual Release Stations are used for direct activation of the release solenoids with the appropriate time delay implemented by the fire alarm control panel (typically 15 or 30 seconds). Contact Simplex for specific requirements and custom station wording.

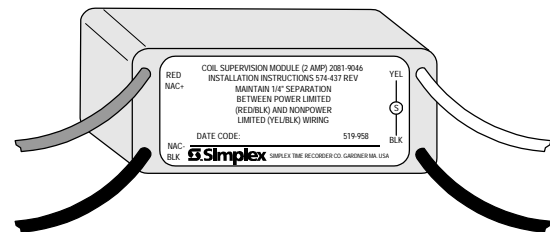
Additional Information

For additional information, refer to Factory Mutual Research Corporation (FMRC) "FMRC Approval Guide," FM Approval standard "Deluge Systems and Preaction Systems," and Simplex Field Wiring Diagrams 842-058 and 842-073.

Proper operation of release control systems requires that the system design, installation, and maintenance be performed correctly and in accordance with all applicable local and national codes, and equipment manufacturer's instructions. No liability for total system operation is assumed or implied.

Coil Supervision Module 2081-9046

The 4010's NACs (notification appliance circuit) provide supervision of the solenoid coil and wiring by connecting the Coil Supervision Module 2081-9046. This module is located at the valve wiring electrical junction box and includes the coil resistance as part of the supervision loop.



Coil Supervision Module 2081-9046

2081-9046 Specifications

Construction	Epoxy encapsulated
Dimensions	1 3/8" W x 2 7/16" L x 1 1/16" H (34 mm x 62 mm x 27 mm)
Wiring	#18 AWG wire leads, color coded
Current Rating	2 A Maximum

Release Control System Modules

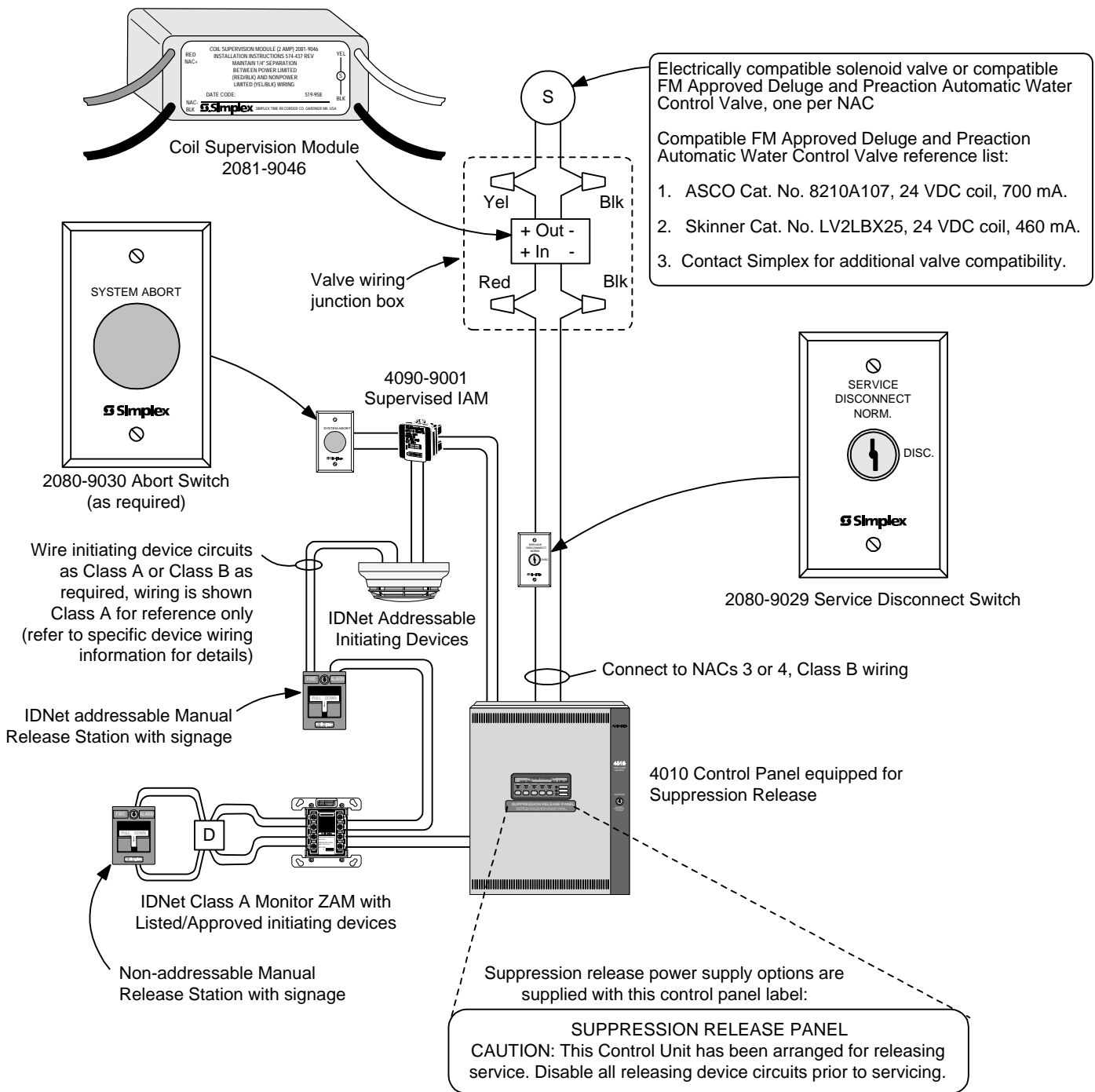
Model	Description	Reference
2081-9046	Coil Supervision Module	One of each required per solenoid control circuit
2080-9029	Service Disconnect Switch	
2080-9030	Abort Switch	As required

4010 Fire Alarm Control Panel Required Power Supply Options (one required)*

Model	Description	Reference
4010-9814	Suppression Release Power Supply, 4 A @ 24 VDC, regulated $\pm 10\%$, includes front panel suppression system appliqué	120 VAC input voltage
4010-9824		240 VAC input voltage

* Refer to Simplex data sheet S4010-0001 for additional information on the 4010 series TrueAlarm® Fire Alarm Control Panel.

Installation Reference Diagram



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