## Cautions, warnings, and regulatory information

**READ AND SAVE THESE INSTRUCTIONS** Follow the instructions in this installation manual. These instructions must be followed to avoid damage to this product and associated equipment. Product operation and reliability depend upon proper installation.

**DO NOT INSTALL ANY SIMPLEX™ PRODUCT THAT APPEARS DAMAGED** Upon unpacking your Simplex product, inspect the contents of the carton for shipping damage. If damage is apparent, immediately file a claim with the carrier and notify an authorized Simplex product supplier.

**ELECTRICAL HAZARD** Disconnect electrical field power when making any internal adjustments or repairs. All repairs should be performed by a representative or an authorized agent of your local Simplex product supplier.

**STATIC HAZARD** Static electricity can damage components. Handle as follows:

- Ground yourself before opening or installing components.
- Prior to installation, keep components wrapped in anti-static material at all times.

## Introduction

**Note:** The 4098-9772, 4098-9780, 4098-9791, and 4098-9794 are not compatible with the 2120 CDT. The 4098-9777 and 4098-9793 are only compatible with the 4010, 4010ES, 4007ES and 4100U/4100ES (except 4100-3101), and 4008 FACU. The 4098-9770, 4098-9771, and 4098-9773 are only compatible with the 4007ES, 4010ES, 4100ES, and 4100U version 12.05 or higher. The 4098-9766 and 4098-9767 are only compatible with IDNet2 based drivers.

4098 TrueAlarm Smoke/Heat Sensor and Sounder Bases are connected to a 2120 Multiplex Communication Device Transponder (CDT), 4010, 4020, 4100+, 4120, 4010ES, 4100U/4100ES (except 4100-3103), or 4008 FACU by a single wire pair (MAPNET II or IDNet). The 4098-9770 through 4098-9773, 4098-9775, 4098-9776, 4098-9777, 4098-9780, 4098-9789, 4098-9791, 4098-9792, 4098-9793 (IDNet only), 4098-9766 (IDNet2 only), 4098-9767 (IDNet2 only) and 4098-9794 sensor bases and their sensors obtain both power and data over MAPNET II or IDNet wiring. Additionally, the 4098-9791 sensor base requires 24 VDC power for relay operation. The 4098-9772, 4098-9794 Sensor Base with Sounder, and the 4098-9771, 4098-9773 sounder bases require 24 VDC or Notification Appliance Circuit (NAC) power.

This document covers only the information necessary to mount and wire these sensor base configurations. Before installing these devices, survey the area to be covered in accordance with information provided in NFPA 72. For additional information, refer to NFPA 72 and the *NEMA Guide for Proper Use of System Smoke Detectors*.

**Important:** Refer to the *4098 Detectors, Sensors, and Bases Application Manual (574-709)* that was shipped with the fire alarm system for compatibility and specification data, address settings, maintenance, and correct application of these smoke/heat sensor bases.

## Installation

**CAUTION:** Install the bases described in this instruction in accordance with applicable NFPA standards, local codes, and the authorities having jurisdiction (AHJ). Failure to follow these instructions may result in failure of the sensor to initiate an alarm condition. Simplex is not responsible for sensors that have been improperly installed, tested, or maintained. The smoke sensors come with dust covers to protect them from contamination during completion of building construction. Sensors will not operate with dust covers in place.

**In Canada, the installation must comply with current edition of ULC S524 – Standard for Installation of Fire Alarm Systems, and Canadian Electrical Code Part 1. Final acceptance is subject to the local AHJ. Suffix "E" following an eight-digit Product ID number denotes Global product.**

## Mounting

The 4098 Smoke/Heat Sensor Bases mount to a 4 in. square, single-gang, or 4 in. octagonal electrical box. Install the sensor base using Figure 1 as a reference.

**Note:** To meet space requirements, sensor bases with relay modules 2098-9737 and 4098-9822 must have a 1.5 in. (38 mm) extension ring (not supplied) mounted to the 4 in. (102 mm) square or octagonal electrical box. You cannot use relay modules in single-gang electrical box installations.

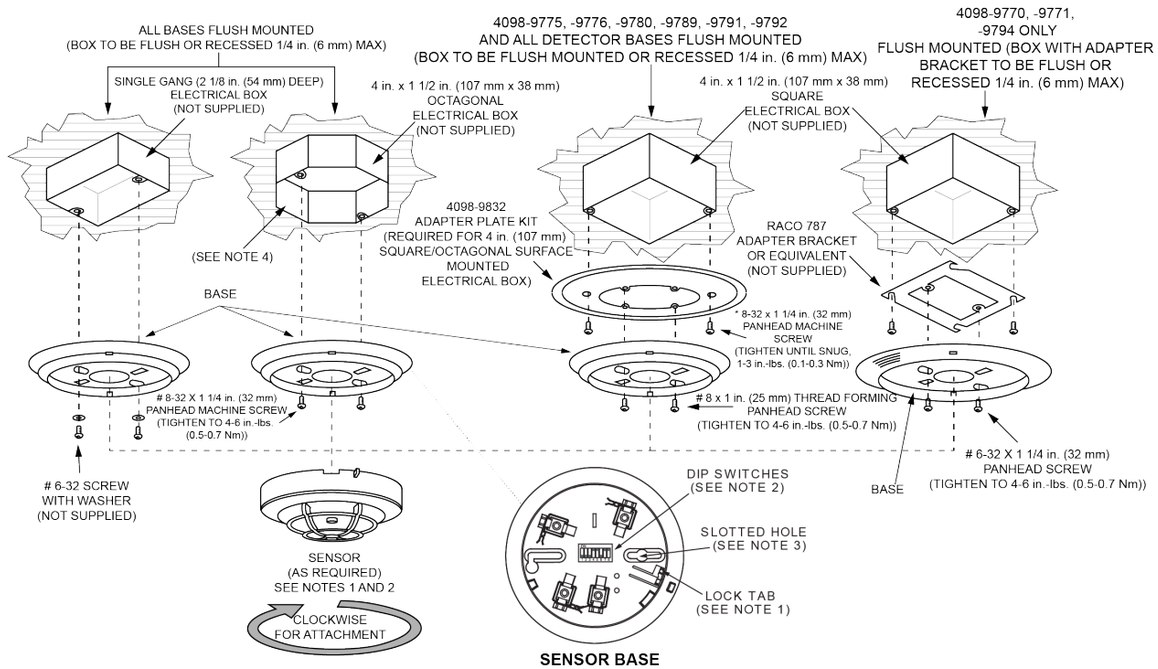


**Figure 1: Typical base mounting**

**Note:**

1. Break off the plastic lock tab to engage the locking mechanism. To lock the sensor into the base, turn the unit until the locking tab clicks into place. To unlock the sensor, insert the blade of a screwdriver into this slot and then pull down on the screwdriver handle. This action allows the sensor to be turned and removed.
2. Refer to the *4098 Detectors, Sensors, and Bases Application Manual (574-709)* for detailed information on compatible sensors and DIP switch address settings.
3. Use the slotted hole indicated for the first screw when mounting the sensor base.
4. Use Adapter Plate Kit 4098-9832 when mounting the 4098-9770, 4098-9771, and 4098-9794 to a surface mounted 4 in. square or octagonal box. Adapter plate must be installed with textured side towards the electrical box for this installation only.
5. The 4098-9775, 4098-9776, 4098-9777, 4098-9780, 4098-9789, 4098-9791, 4098-9792, 4098-9793, 4098-9766, 4098-9767, and 4098-9794 sensor bases are rated for 150°F (66°C) ambient temperature for use with the 4098-9734 heat head only. For use with any other detector head, install in maximum ambient temperature of 100°F (38°C) only.

## Wiring

Figure 2 illustrates the wiring connections for the different smoke/heat sensor base configurations. All screw terminals accept 14 to 18-gauge AWG solid or stranded wire. Recommended strip length is 3/8 in. (10 mm). **The maximum torque should not exceed 12-inch-pounds (1.4 Nm).** Connect wiring to terminals as illustrated in Figure 2.

**CAUTION:** Do not loop wire under terminals. Break wire runs to provide supervision.

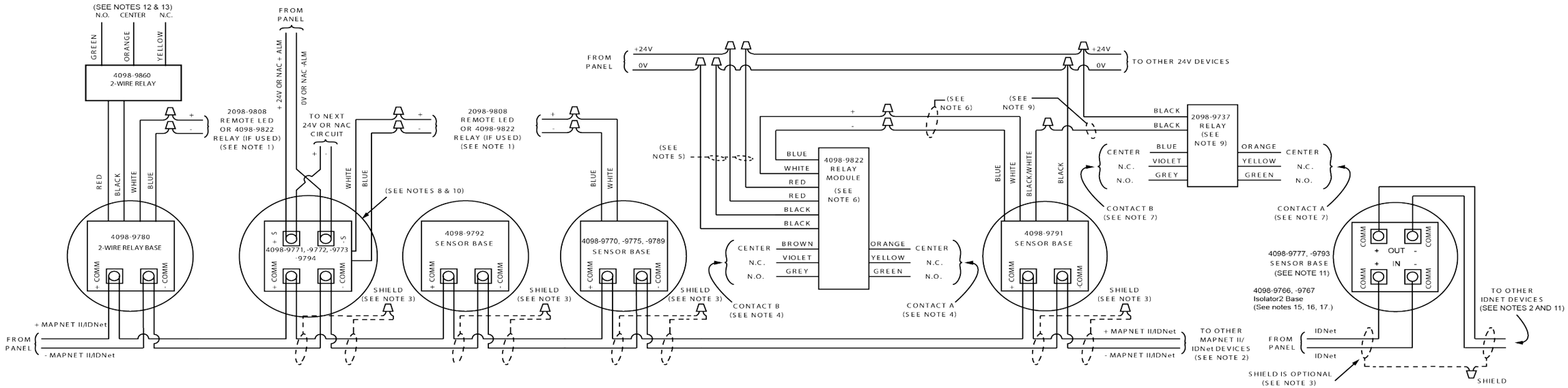


**Figure 2: 4098 Smoke/Heat sensor base connections**

**Note:**

1. Remote LED and relay wires are not supervised.
2. Maximum quantity of devices for each circuit is 127 for the 4010ES/4100U/4100ES (MAPNET) 4020, 4100+, or 4120 panels, 128 for the 2120 CDT panel, 200 for the 4008 panel, and 250 for the 4010 and 4007ES/4010ES/4100U/4100ES (IDNet) panels. If the sounder output is coded (Temporal code, for example) through MAPNET II/IDNet control, see note 10.
3. If shield is used, twist shield wires together and cap with wire nut. Shield should be insulated from electrical box.
4. Contact A or B: Dry, Form C - each rated 2 A at 24 VDC / 0.5 A at 110 VAC, resistive.
5. 18 VDC to 32 VDC, 0.008 A typical / 0.013 A maximum.
6. Do not use remote LED if the 4098-9822 relay module is used.
7. Contact A or B: Dry, Form C – Each rated at 3A at 28VDC / 115 VAC, resistive.
8. After you install the sensor, remove the protective tape over the CO Sensor on the 4098-9770, 4098-9771, and 4098-9773 bases.
9. Maximum wire length between a 4098-9791 sensor base and a 2098-9737 relay module is 100 ft (30.5 m). The 2098-9737 relay module is required for supervised remote control relay operation.
10. Maximum quantity of sensors with 4098-9771, 4098-9772, 4098-9773, and 4098-9794 sounder bases is limited to 43 if output is coded (Temporal code, etc.) through MAPNET II/IDNet control. If coding is performed through 24 VDC or NAC circuit, see note 2.
11. When IDNet Isolator Bases 4098-9777, 4098-9793 or addressbale IDNet Isolators 4098-9116 are present on the IDNet channel, the maximum line resistance between the FACU and the isolator and between the two isolators is 10 ohms (780 ft (237.8 m) at 18 AWG).
12. Contacts Dry Form C, rated at 2 A at 30 VDC / 0.5 A at 125VAC, resistive.
13. Maximum wire length between 4098-9780 sensor base and 4098-9860 relay module is 100 ft (30.5m).
14. 4098-9772, 4098-9773, rated [520Hz-115mA; Broadband-125mA] at 18V for 24 VDC circuits; rated [520Hz-129mA; Broadband-139mA] at 16V for REGULATED 24 VDC circuits. See ***4098 Detectors, Sensors and Bases Application Manual (574-709)*** to set Tone.
15. If Isolator2 devices (4090-9122, 4098-9766, 4098-9767) are present on the channel, the maximum number of IDNet Isolators (4098-9766, 4098-9767, 4098-9777, 4098-9793, 4090-9122, 4090-9116) per IDNet2 channel is 50.
16. If Isolator2 devices (4090-9122, 4098-9766, 4098-9767) are present on the channel, the maximum number of unit loads adjacent to any isolators is 50.
17. For more detailed information about the use of the IDNet Isolator2 Base (4098-9766, 4098-9767), refer to Isolator2 Usage Guidelines 579-1313.

© 2021 Johnson Controls. All rights reserved. All specifications and other information shown were current as of document revision and are subject to change without notice. Additional listings may be applicable, contact your local Simplex® product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. Simplex, and the product names listed in this material are marks and/or registered marks. Unauthorized use is strictly prohibited. NFPA 72 and National Fire Alarm Code are registered trademarks of the National Fire Protection Association (NFPA).