

Description

TrueAlarm sensing and IDNet communication isolation

You can use the IDNet Isolator2 bases to provide Simplex TrueAlarm analog sensor operations and IDNet communications isolation. These features improve installation convenience and increase system integrity. When the sensor detects an output short circuit, isolation automatically activates. You can also select isolation for each base manually from the control panel to assist with troubleshooting wiring problems.

Operation

Isolator bases power-up in isolation mode. If the output wiring is acceptable, the isolator base automatically connects to the rest of the circuit. If the output wiring is shorted, the isolator remains isolated. Refer to *IDNet Isolator2 Usage Guidelines (579-1313)* for more information.

Status tracking

The isolator reports back to the FACU when it is in isolator mode. The isolator identifies device addresses that do not communicate and reports them to the FACU. Refer to installation instructions *574-709* and *574-707* for additional information.

Earth faults

During installation, earth faults often occur and finding these faults normally requires extensive wiring disconnection. With the Isolator2 base, you can isolate wiring that may have earth faults to assist in their discovery and repair.

Features

- An isolator base for TrueAlarm analog sensors, with IDNet addressable communications.
- Compatible with Simplex 4007ES, 4010ES and 4100ES series fire alarm control unit (FACU) IDNet signaling line circuits (SLCs) that have IDNet 2 or IDNet 2+2 output loops. See [Multi-floor example with Class B isolator wiring](#) and [Multi-floor example with Class A isolator wiring](#) for additional information.
- You can install up to 50 isolator devices.
- You can mount the base to a ceiling or wall.
- An LED indicates sensor status.
- UL-listed to Standard 268.
- ULC-listed to Standard S529.

Short circuit wiring isolation

The bases automatically separate input from output when an output communications short-circuit occurs.

Earth fault isolation

You can use the built-in FACU diagnostics to help locate earth fault conditions, the most common installation wiring problem

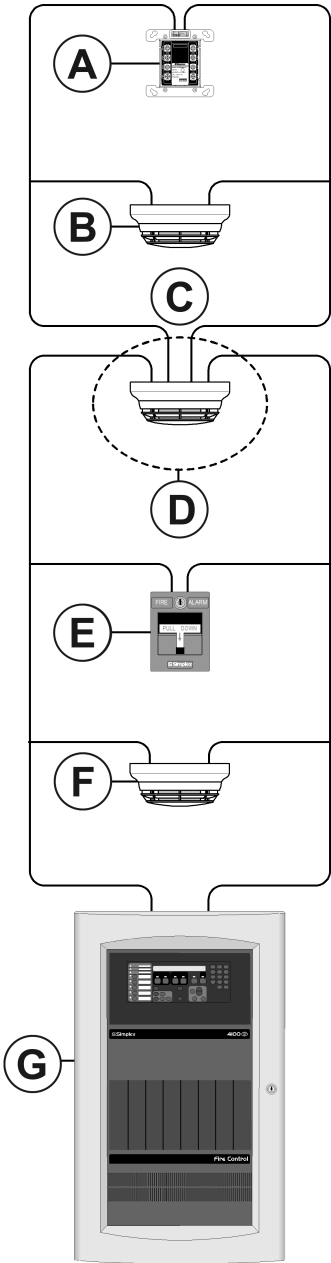
Isolator2 bases compatibility

Compatible with photoelectric, heat, or multi-sensor models. Photoelectric, heat, or multi-sensor models. Refer to *4098 Detectors, Sensors, and Bases Application Manual (574-709)* for model numbers.

Class B or Class A wiring

The bases receive either input or output communications. This means bases with Class A wiring can isolate short circuits while their sensors continue to operate.

Figure 1: IDNet2-based channel with a single Isolator2 base



Callout	Description
A	IDNet addressable device
B	TrueAlarm sensor
C	Out
D	Isolator2 base with TrueAlarm sensor
E	Addressable station
F	TrueAlarm sensor
G	4100ES FACU, shown for reference

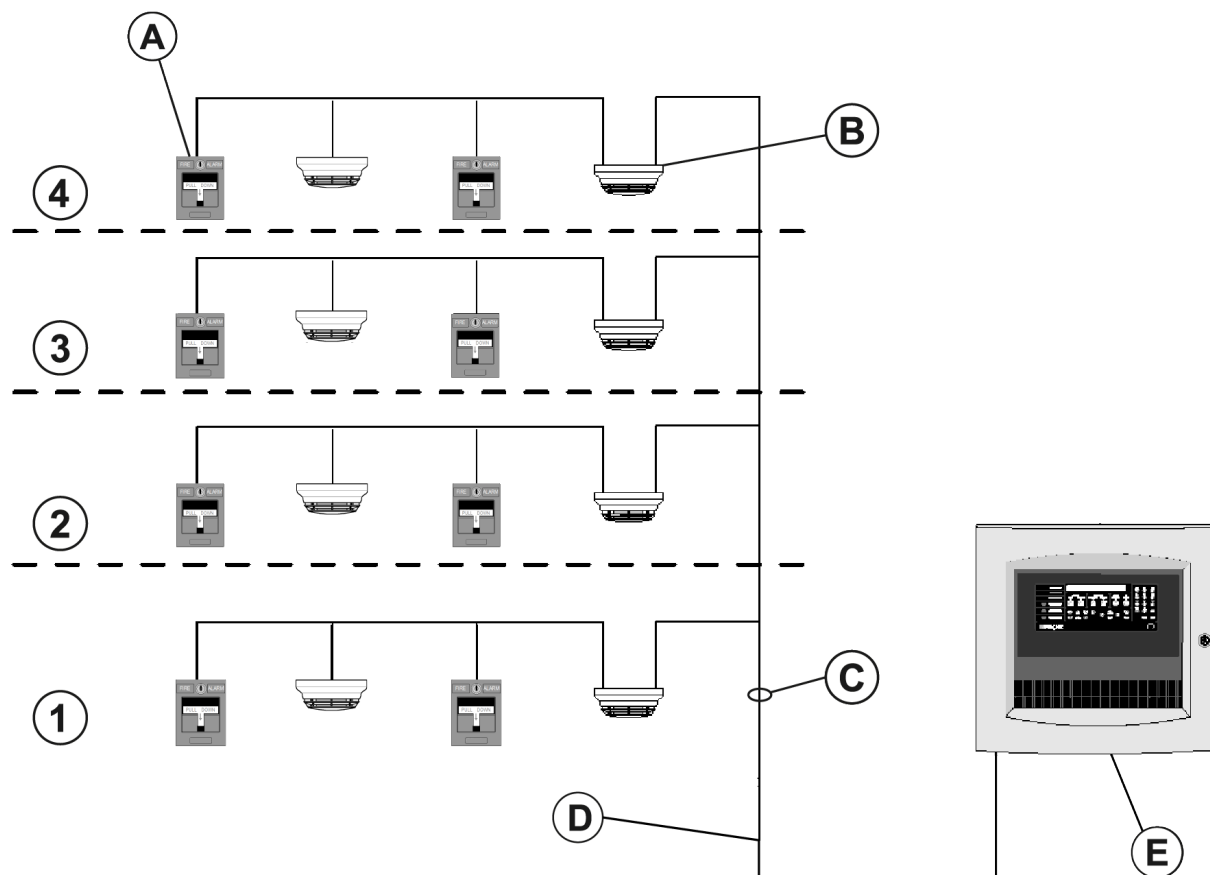
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Multi-floor example with Class B isolator wiring

Figure 2 shows a multiple floor example with Class B IDNet communications for each floor starting at an isolator base. If a short circuit occurs in any floor wiring that is beyond the isolator base, you can individually separate each floor. This means the short circuit does not disable the entire IDNet communications wiring.

In the event of an earth connection, you can individually isolate each floor using the built-in control panel diagnostics. With individual floor control, you can isolate the earth fault to a particular floor to narrow the search area.

Figure 2: Isolator Class B wiring example in a four-floor building



Callout	Description	Callout	Description
A	Compatible IDNet devices	1	First floor
B	IDNet Isolator2 base with TrueAlarm sensor	2	Second floor
C	IDNet communications, two-wire, see wiring notes	3	Third floor
D	Class B riser	4	Fourth floor
E	IDNet2-based FACU, 4010ES FACU shown for reference	—	—

Wiring notes:

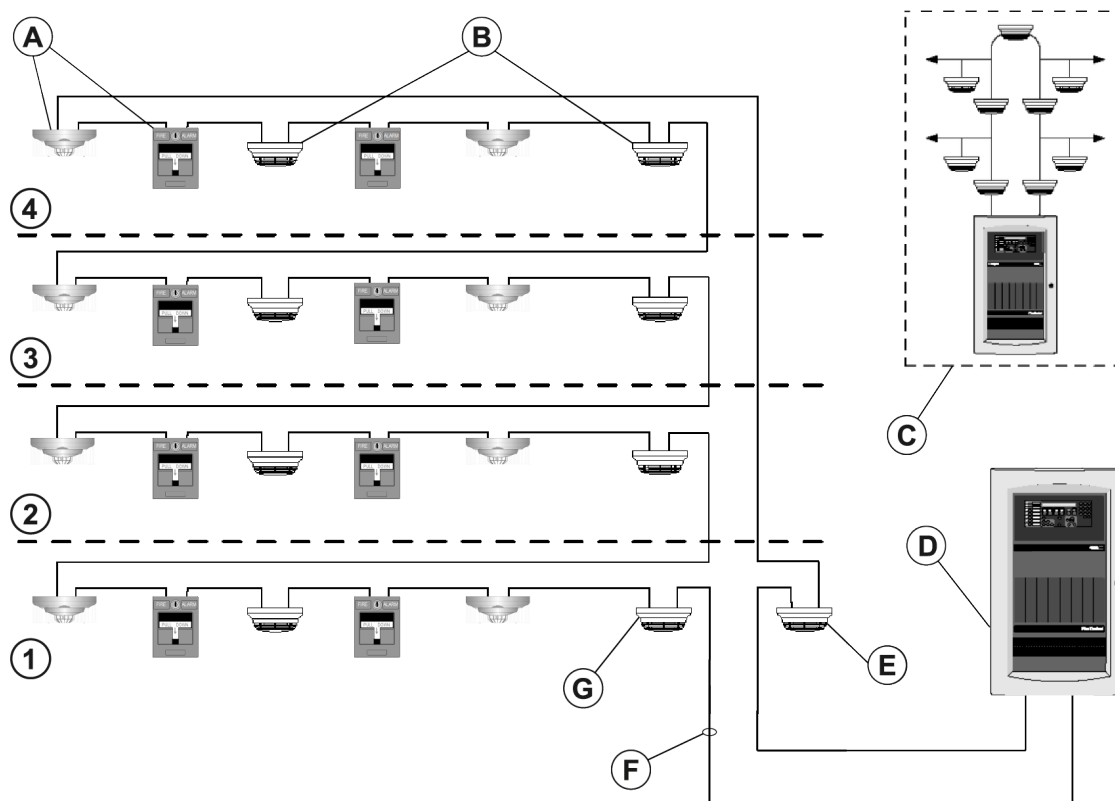
- Operation of the TrueAlarm Isolator2 base requires connection to a compatible 4007ES, 4010ES, or 4100ES IDNet2 communications channel.
- The 4100-3103 panel-mounted Quad Isolator is only compatible with MAPNET II remote isolators.
- Figure 2 is a one-line drawing and only shows IDNet communications wiring.
- Some IDNet devices require additional wiring for power. Refer to specific devices for details.
- Compliance to local codes is installation dependent. To ensure that wiring faults adjacent to the FACU have no delay effect on field devices, close-nipple Isolator2 devices to the FACU. For example: 4090-9122, 4098-9766, or 4098-9767.
- A maximum of 50 Isolator2 devices, such as 4090-9122, 4098-9766, or 4098-9767, for each IDNet2 channel.
- A maximum of 50 units load adjacent to Isolator2 devices, such as 4090-9122, 4098-9766, or 4098-9767.

Multi-floor example with Class A isolator wiring

Figure 3 is a modification of Figure 2. In Figure 3, wiring for each floor has an additional isolator base and the IDNet circuit uses Class A wiring. With the addition of these isolator bases, you can better protect wiring between floors in the event of a short circuit. Also, in the event of an earth connection, you can use the additional isolator base for each floor for more precise earth fault isolation.

Diagnostic assistance: You can use communications from an IDNet2 or IDNet 2+2 output to provide individual short circuit isolation and individual output control to help locate wiring faults.

Figure 3: Isolator Class A wiring example in a four-floor building



Callout	Description	Callout	Description
A	Compatible IDNet devices	G	First device
B	IDNet Isolator2 base with TrueAlarm sensor	1	First floor
C	Alternate wiring example shows Class A riser with Isolator2 bases using Class B taps	2	Second floor
D	IDNet2-based FACU, 4010ES FACU shown for reference	3	Third floor
E	Last device	4	Fourth floor
F	IDNet communications, two-wire, Class A circuit	—	—

Wiring notes:

- Operation of the TrueAlarm Isolator2 base requires connection to a compatible 4007ES, 4010ES, 4100U or 4100ES IDNet2 communications channel.
- The 4100-3103 panel-mounted Quad Isolator is compatible only with MAPNET II remote isolators.
- You can wire Class A IDNet communications to provide loop short-circuit isolation. To do so, locate the Isolator2 devices as the first and last devices in the loop, close to the FACU. See Figure 3.
- Figure 3 is a one-line drawing and only shows IDNet communications wiring.
- Some IDNet devices require additional wiring for power. Refer to specific devices for details.
- Compliance to local codes is installation dependent. To ensure that wiring faults adjacent to the FACU have no delay effect on field devices, close-nipple Isolator2 devices to the FACU. For example: 4090-9122, 4098-9766 or 4098-9767.
- A maximum of 50 Isolator2 devices, such as 4090-9122, 4098-9766, or 4098-9767, for each IDNet2 channel.
- A maximum of 50 units load adjacent to Isolator2 devices, such as 4090-9122, 4098-9766, or 4098-9767.

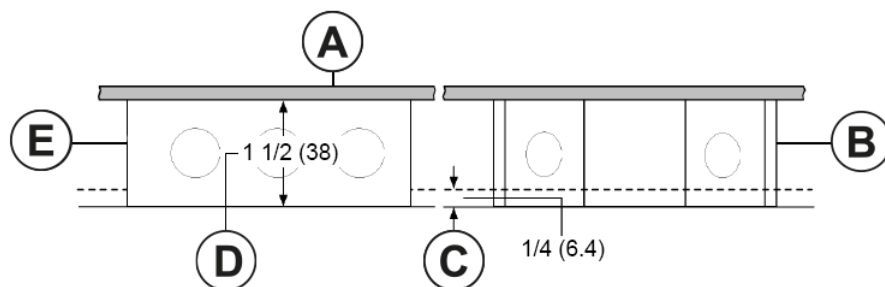
Mounting information

To mount the sensor, use one of the following electrical boxes, by others:

- 4 in. octagonal box, 1 1/2 in. (38 mm) deep
- 4 in. square box, 1 1/2 in. (38 mm) deep
- Single gang box, 2 in. (52 mm) deep

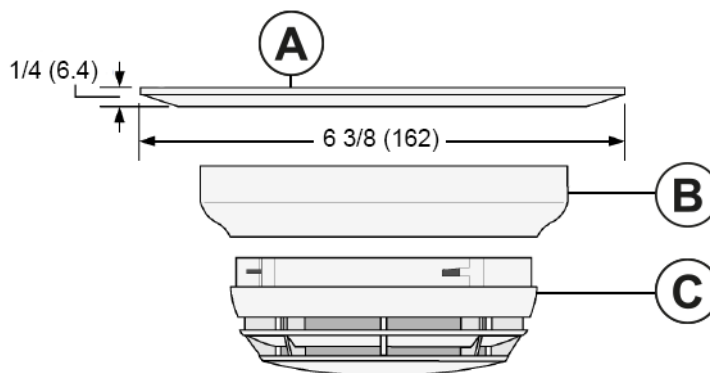
To mount to surface mounted boxes and to 4 in. square flush mount boxes, use an adapter plate. See Figure 5.

Figure 4: Electrical box requirements and mounting reference, in. (mm)



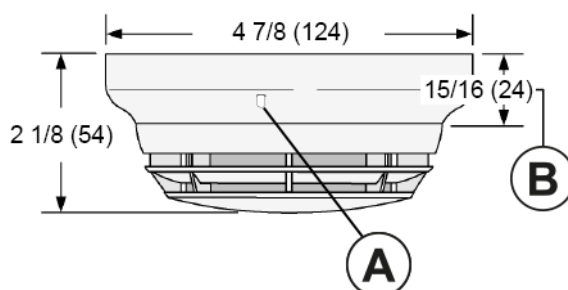
Callout	Description
A	Surface mount reference
B	4 in. (102 mm) octagonal box, 1 1/2 in. (38 mm) deep
C	Flush mount reference. Mount even with final surface, or with up to 1/4 in. (6.4 mm) maximum recess.
D	1 1/2 in (38 mm) minimum box depth
E	4 in. (102 mm) square box, 1 1/2 in. (38 mm) deep

Figure 5: Adapter plate dimensions, in. (mm)



Callout	Description
A	Adapter plate
B	4098 isolator base
C	TrueAlarm sensor, ordered separately

Figure 6: Assembled dimension reference, in. (mm)



Callout	Description
A	LED status indicator
B	Base height: 15/16 in. (24 mm)

Specifications

Specification	Rating
Power and communications	IDNet communications, one address for each base
IDNet connections	Screw terminals for in or out wiring, 18 AWG to 14 AWG (0.82 mm ² to 2.08 mm ²)
UL-listed temperature range	32°F to 100°F (0°C to 38°C) 32°F to 150°F (0°C to 66°C) with 4098-9734 heat sensor only
Operating temperature range	15°F to 122°F (-9°C to 50°C)
Storage temperature range	0°F to 140°F (-18°C to 60°C)
Humidity range	10% to 95% RH, from 32°F to 122°F (0°C to 50°C)
Housing color	Frost White (4098-9767) or Black (4098-9766)

Table 1: Sensor compatibility (order sensors separately)

Product	Data Sheet
4098-9714, Photoelectric Sensor	S4098-0019
4098-9774, Photoelectric Sensor	
4098-9733, Heat Sensor	
4098-9734, High Temperature Heat Sensor	
4098-9778, Heat Sensor	
4098-9779, TrueSense Multi-Sensor	S4098-0024
4098-9764, TrueSense Multi-Sensor	S4098-0027

Table 2: Additional isolator products

Product	Datasheet
4090-9116, Remote IDNet Isolator Module	S4090-0005
4090-9117, 24 V Addressable Power Isolator	S4090-0006
4098-9777, 4098-9793, TrueAlarm Analog Sensors IDNet Isolator base	S4098-0025
4090-9122, IDNet2 Isolator, IDNet2 only	S4090-0017

For additional information, refer to *4098 Detectors, Sensors, and Bases Application Manual (574-709)* and *4098 Smoke/Heat Sensor Bases Installation Instructions (574-707)*.

