Features

Monitors air ducts for the presence of smoke†

For use with the Simplex model 4098-9714, TrueAlarm® photoelectric smoke sensor (ordered separately)

TrueAlarm analog sensing provides:

- Digital transmission of analog sensor values via Simplex, MAPNET II® or IDNet™, two-wire communications††

SSL Listed to AS1603.13-1998

UL listed to standard 268A

Model 4098-9752 provides 2-wire operation (no relay output)

Model 4098-9753 provides a local relay:

- Relay operation is programmable from fire alarm control panel
- Form “C” contacts rated: 1 A @ 28 VDC, power limited; or 1/2 A @ 120 VAC, non-power limited
- Requires separate 24 VDC power, supplied by fire alarm system (4-wire operation)

Visible red LED indicator on housing:

- Pulsing indicates power-on, steady on indicates alarm or trouble as indicated at the fire alarm control panel

Output for optional remote LED

Sampling tubes: (ordered separately)

- Available in multiple lengths to match duct size
- Are installed with housing in place

Options:

- Remote led alarm indicator (2098-9808)
- Remote test station (2098-9806)

* ULC listed models are designated with a “C” suffix such as 4098-9752C.

** Accepted for use – City of New York Department of Buildings – MEA35-93E.

† Please note that smoke detection in air ducts is intended to notify of the presence of smoke in the duct. It is not intended to, and will not, replace smoke detection requirements for open areas or other non-duct applications.

†† TrueAlarm analog sensors and MAPNET and IDNet communications are protected by one or more of the following U.S. Patents: 5,155,468; 5,173,683; 5,543,777; 5,400,014; 5,552,765; 5,552,763; 4,796,025; DES. 377,460.
Applications Reference

Preferred Duct Sensor Locations:
1. A minimum of six duct widths downstream from bends or inlets to avoid air turbulence.
2. On the downstream side of filters to detect fires in the filters.
3. In return ducts, ahead of mixing areas.
4. Upstream of air humidifier and cooling coil.
5. With accessibility for test and service.
6. For additional information, refer to NFPA 90A, *Standard for the Installation of Air Conditioning and Ventilating Systems*.

Locations To Avoid:
1. Where dampers closed for comfort control would interfere with airflow.
2. Next to outside air inlets (unless the intent is to monitor smoke entry from that area).
3. In return air damper branch ducts and mixing areas where airflow may be restricted.

Duct Sensor Location Reference

Remote Indicator Options

2098-9806, Remote Test Station, provides a remote Red LED status indicator and a remote test key switch mounted on a single gang stainless steel plate. Turning the test switch to “TEST” will initiate an alarm and allow the resulting system responses to be verified.

2098-9808, Remote Alarm Indicator, provides a remote Red LED status indicator mounted on a single gang stainless steel plate.

Indicator Mounting
Remote status indicators mount in standard single gang boxes, 2”W x 3”H with a minimum depth of 2” (51 mm W x 76 mm H x 51 mm D), supplied separately.
## TrueAlarm Duct Housing Selection Chart

### Sensor Housings (sensor and sampling tube are ordered separately, exhaust tube is included)

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Compatibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>4098-9752</td>
<td><strong>Standard Sensor Housing</strong> (no relay), requires 4098-9714 sensor and correct length duct tube</td>
<td>Simplex fire alarm control panel models 4010, 4020, 4100, 4120, and 2120 CDT configured for MAPNET II TrueAlarm</td>
</tr>
<tr>
<td>4098-9753</td>
<td><strong>Sensor Housing with relay output</strong>, requires 4098-9714 sensor and correct length duct tube</td>
<td>Simplex 4010, 4020, 4100, 4120 (not compatible with 2120 CDT)</td>
</tr>
</tbody>
</table>

### Compatible Sensor (ordered separately)

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Compatibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>4098-9714</td>
<td>Photoelectric Sensor</td>
<td>Required for either 4098-9752 or 4098-9753 (refer to Simplex data sheet S4098-0019 for details)</td>
</tr>
</tbody>
</table>

### Accessories (order as required)

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Compatibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>2098-9747*</td>
<td>AC Power Adapter</td>
<td>Duct Housing 4098-9753</td>
</tr>
<tr>
<td>2098-9806</td>
<td>Remote Test Station</td>
<td>Duct Housings 4098-9752 and 4098-9753</td>
</tr>
<tr>
<td>2098-9808</td>
<td>Remote Alarm Indicator</td>
<td></td>
</tr>
</tbody>
</table>

* When the 2098-9747 Power Adapter is used, only supplementary functions can be performed from the sensor housing.

### Sampling Tube Selection Chart

<table>
<thead>
<tr>
<th>Overall Duct Width</th>
<th>Tube Required</th>
<th>Suggested Cut Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>12&quot; (305 mm)</td>
<td>2098-9796</td>
<td>1/2 in. (12.7 mm) longer than duct width</td>
</tr>
<tr>
<td>13&quot; to 23 &quot; (330 mm to 584 mm)</td>
<td>2098-9804</td>
<td>1/2 in. (12.7 mm) longer than duct width</td>
</tr>
<tr>
<td>24&quot; to 46&quot; (610 mm to 1168 mm)</td>
<td>2098-9797</td>
<td>2 in. (51 mm) longer than duct width</td>
</tr>
<tr>
<td>46&quot; to 71&quot; (1168 mm to 1803 mm)</td>
<td>2098-9798</td>
<td>2 in. (51 mm) longer than duct width</td>
</tr>
<tr>
<td>71&quot; to 95&quot; (1803 mm to 2413 mm)</td>
<td>2098-9799</td>
<td>2 in. (51 mm) longer than duct width</td>
</tr>
</tbody>
</table>

### Specifications

#### Electrical, General

- **Data Communications**: MAPNET II or IDNet, auto-select, 1 address per housing
- **Remote LED Current**: 0.6 mA, no impact to alarm current

#### Electrical, 4098-9753 Only, with Auxiliary Relay

- **Coil Voltage**: 18 to 32 VDC, supplied separately
- **Standby Current**: 240 µA @ 24 VDC
- **Alarm Current**: 32 mA @ 24 VDC
- **Power Limited Contact Rating**: Single form “C”, 1 A @ 28 VDC (for suppressed loads)
- **Non-Power Limited Contact Rating**: Single form “C”, 1/2 A @ 120 VAC, resistive (for suppressed loads)

#### Environmental

- **Air Velocity Range**: 122 to 1220 m/min
- **Operating Temperature Range**: 0° C to 50° C
- **Humidity Range**: 10% to 95% RH from 0° C to 50°

#### SSL Approvals

- Approved to AS1603.13-1998 – SSL Listing no: afp1263

#### Mechanical

- **Wiring Connections**: Terminal blocks, #18 to #14 AWG
- **Color**: Black
- **Dimensions**: Refer to drawing on page 4
### Duct Housing Installation Notes

1. For detailed installation information, refer to Simplex Installation Instruction 574-710.


3. Sampling tubes and exhaust tubes are keyed for proper alignment with the duct housing. Templates are supplied with the unit and must be properly aligned with respect to air flow.

### Maintenance Notes

The *National Fire Alarm Code*, NFPA 72, Chapter 7, Table 7-2.2, Test Methods, states "Air duct sensors shall be tested or inspected to ensure that the device will sample the airstream. The test shall be made in accordance with the manufacturer's instructions."

The following is a partial maintenance list to follow for duct sensor locations:

1. Periodically check duct sensor locations to ensure proper air flow and to verify integrity to the standards of the installation instructions.

2. Sensor air entry areas should be vacuumed on a six month basis or as required. (Sensor dirt accumulation is monitored by the fire alarm control panel.)

3. Additional considerations are contained in Installation Instructions 574-710.

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