PHOTOELECTRIC SMOKE DETECTORS i³ SERIES

Description
The i³™ series smoke detectors represent a significant advancement in conventional detection. The i³ family is founded on three principles: Installation Ease, Intelligence, and Instant Inspection.

Installation Ease
The i³ line redefines installation ease with its plug-in design. This allows an installer to pre-wire the bases included with the heads. The large wire entry port and in-line terminals provide ample room for neatly routing the wiring inside the base. The base accommodates a variety of back box mounting methods as well as direct mounting with drywall anchors. To complete the installation, i³ heads plug-in to the base with a simple Stop-Drop ‘N Lock action.

Intelligence
i³ detectors offer a number of intelligent features to simplify testing and maintenance. Drift compensation and smoothing algorithms are standard with the i³ line, to minimize nuisance alarms. When connected to the C2W-MOD2A loop test/maintenance module, or a panel equipped with the i³ protocol, 2-wire i³ detectors are capable of generating a remote maintenance signal when they are in need of cleaning. This signal is indicated via an LED located at the module and the panel. To read the sensitivity of i³ detectors, the CSENS-RDRA is a wireless device that displays the sensitivity in terms of percent per foot obscuration.

Instant Inspection
The i³ series provides wide angle red and green LED indicators for instant inspection of the detector condition, indicating: normal standby, out-of-sensitivity, alarm, or freeze trouble conditions. When connected to the C2W-MOD2A loop test/maintenance module or a panel with the i³ protocol, the EZ Walk loop test feature is available on 2-wire i³ detectors. This feature verifies the initiating loop wiring by providing LED status indication at each detector.

Features
- Plug-in detector line – mounting base included
- Large wire entry port
- In-line terminals with SEMS screws
- Mounts to octagonal and single-gang backboxes, 4-square backboxes, or direct to ceiling
- Stop-Drop ‘N Lock™ attachment to base
- Removable cover and chamber for easy cleaning
- Built-in remote maintenance signaling
- Drift compensation and smoothing algorithms
- Simplified sensitivity measurement
- Wide angle, dual color LED indication
- Loop testing via EZ Walk feature
- Built-in test switch

Engineering Specifications
The smoke detector shall be an i³ Series model listed by Underwriters Laboratories of Canada (ULC). The detector shall be a photoelectric type (model C2W-BA, C4W-BA) or a combination photoelectric/thermal (model C2WT-BA, C4WT-BA) with thermal sensor rated at 135°F (57.2°C). The detector shall include a mounting base for mounting to 3½-inch and 4-inch octagonal, single gang, and 4-inch square back boxes with a plaster ring, or direct mount to the ceiling using drywall anchors. Wiring connections shall be made by means of SEMS screws. The detector shall allow pre-wiring of the base and the head shall be a plug-in type. The detector shall have a nominal sensitivity of 2.5% per foot nominal as measured in the ULC smoke box. The detector shall be capable of automatically adjusting its sensitivity by means of drift compensation and smoothing algorithms. The detector shall provide dual color LED indication which blinks to indicate power up, normal standby, out of sensitivity, alarm, and freeze trouble (model C2WT-BA, C4WT-BA) conditions. When used in conjunction with the C2W-MOD2A module, 2-wire models shall include a maintenance signal to indicate the need for maintenance at the alarm control panel, and shall provide a loop testing capability to verify the circuit without testing each detector individually.

Tamper-Resistant Feature

NOT TO BE USED FOR INSTALLATION PURPOSES.
Mircom reserves the right to make changes at any time without notice in prices, colours, materials, components, equipment, specifications and models and also to discontinue models.
Wiring Diagrams

C2W-BA and C2WT-AB Wiring Diagram

C4W-BA and C4WT-BA Wiring Diagram

Electrical Specifications

Operating Voltage
Nominal: 12/24 V non-polarized
Min.: 8.5 V
Max.: 35 V

Maximum Ripple Voltage
30% of nominal (peak to peak)

Standby Current
2-wire: 50 μA maximum average
4-wire: 50 μA maximum average

Maximum Alarm Current
2-wire: 130 mA limited by control panel
4-wire: 20 mA @12V; 23mA @ 24V

Peak Standby Current
2-wire: 100 μA
4-wire: n/a

Alarm Contact Ratings
2-wire: n/a
4-wire: 0.5 A @ 30V AC/DC

LED Modes

<table>
<thead>
<tr>
<th>LED Mode</th>
<th>Green LED</th>
<th>Red LED</th>
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</thead>
<tbody>
<tr>
<td>Power up</td>
<td>Blink every 10 secs</td>
<td>Blink every 10 secs</td>
</tr>
<tr>
<td>Normal (standby)</td>
<td>Blink every 5 secs</td>
<td>off</td>
</tr>
<tr>
<td>Out of sensitivity</td>
<td>off</td>
<td>Blink every 5 secs</td>
</tr>
<tr>
<td>Freeze trouble</td>
<td>off</td>
<td>Blink every 10 secs</td>
</tr>
<tr>
<td>Alarm</td>
<td>off</td>
<td>Solid</td>
</tr>
</tbody>
</table>

Power Up Sequence for LED Indication

<table>
<thead>
<tr>
<th>Condition</th>
<th>Duration</th>
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<tbody>
<tr>
<td>Initial LED status indication</td>
<td>80 seconds</td>
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</tbody>
</table>

Physical Specifications

Operating Temperature Range
C2W-BA and C4W-BA:
32°F–120°F (0°C–49°C)
C2WT-BA and C4WT-BA:
32°F–100°F (0°C–37.8°C)

Operating Humidity Range
0 to 95% RH non-condensing

Thermal Sensor
135°F (57.2°C) fixed

Freeze Trouble
C2WT-BA & C4WT-BA only: 41°F (5°C)

Sensitivity
2.5%/ft. nominal

Input Terminals
14–22 AWG

Dimensions (including base)
5.3 inches (127 mm) diameter
2.0 inches (51 mm) height

Weight
6.3 oz. (178 grams)

Mounting
- ¾-inch octagonal back box
- 4-inch octagonal back box
- Single gang back box
- 4-inch square back box with a plaster ring
- Direct mount to ceiling

LED Mode Green LED Red LED
Power up Blink every 10 secs Blink every 10 secs
Normal (standby) Blink every 5 secs off
Out of sensitivity off Blink every 5 secs
Freeze trouble off Blink every 10 secs
Alarm off Solid

Condition Duration
Initial LED status indication 80 seconds

Ordering Information

Model Number         | Thermal | Wiring | Alarm Current                  |
---------------------|---------|--------|--------------------------------|
C2W-BA               | No      | 2-wire | 130 mA max. limited by control panel |
C2WT-BA              | Yes     | 2-wire | 130 mA max. limited by control panel |
C4W-BA               | No      | 4-wire | 20 mA @ 12V; 23mA @ 24V         |
C4WT-BA              | Yes     | 4-wire | 20 mA @ 12V; 23mA @ 24V         |

Accessories

C2W-MOD2A           | i3 Series 2-wire loop test/maintenance module
CSENS-RDRA          | i3 Series Sensitivity Reader
A77-AB2              | i3 Series Retrofit Adapter Bracket
RT                   | i3 Removal/Replacement Tool

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