SOUNDER AND RELAY SMOKE DETECTORS i3 SERIES

Description

The i3™ sounder and relay smoke detectors apply the guiding principles of installation ease, intelligence, and instant inspection in a series of specialty conventional devices.

Installation ease
Throughout the i3 series, installation is simple with its installer-friendly base and plug-in design. The base accommodates a broad range of back box and direct mounting options, and provides ample space for pre-wiring the installation. To complete the installation, the i3 detector plugs into its base with a simple Stop Drop 'N Lock action.

Intelligence
To reduce the likelihood of nuisance alarms, all i3 detectors are equipped with both drift compensation and smoothing algorithms. These capabilities minimize both short- and long-term causes of nuisance alarms such as RF interference and dust accumulation. When connected to the 2W-MOD2 loop test /maintenance module or an i3 Ready™ panel, 2-wire i3 detectors can generate a remote maintenance signal when they are in a maintenance or freeze trouble condition. To measure the sensitivity of any i3 detector, the SENS-RDR displays the reading, in terms of percent per foot obscuration, within seconds.

Instant inspection
The i3 line's red and green LEDs simplify local status indication during power-up, standby, alarm, maintenance and freeze trouble conditions. When in alarm, i3 sounder models generate an 85dB temporal tone. If connected to the RRS-MOD reversing relay/synchronization module, all i3 sounders on the loop will activate when one detector is in alarm. Additionally, the RRS-MOD synchronizes the output of all i3 sounders, to ensure a clear audible signal. Should the application call for differentiating between a local and a general alarm, the i3 line offers an isolated thermal model, which initiates a local alarm when smoke is detected, and a general alarm when the thermal sensor is activated.

Features

- Full line of options including:
  - 85 dB sounder
  - Form C relay
  - Isolated thermal sensor
- Maintains the i3 feature set including:
  - Plug-in design
  - Mounting base included
  - In-line terminals
  - Mounts to octagonal, single gang and 4-square back boxes, or direct to the ceiling
  - Stop-Drop 'N Lock ™ attachment to the base
  - Removable cover and chamber
  - Remote maintenance signaling
  - Drift compensation and smoothing algorithms
  - Simplified sensitivity measurement
  - Dual color LEDs
  - EZ Walk loop testing

Engineering Specifications

The smoke detector shall be an i3 Series model listed to Underwriters Laboratories UL 268 for Fire Protection Signaling Systems. The detector shall be a combination photoelectric/thermal equipped with a sounder (model 2WTA-B, 4WTA-B), a Form C relay (model 2WTR-B), a combination sounder/relay (model 4WTAR-B) or an isolated thermal/sounder/relay (model 4WITAR-B). 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 prewiring 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 UL 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 conditions. When used in conjunction with the 2W-MOD2 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. When used in conjunction with the RRS-MOD module, all i3 sounder models on a loop shall sound when one alarms, all shall be synchronized, and all sounders may be silenced from the panel.

MEA approved MSFM approved FM APPROVED

CATALOG NUMBER 5148

Electrical Specifications

Operating Voltage
Nominal: 12/24 V non-polarized
2-wire: 8.5 V - 35 V
4-wire: 10 V - 35 V

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

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

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

Form C Contact Ratings
2A@ 30V AC/DC

Maximum Alarm Current
2-wire: 130 mA limited by control panel
4-wire: 4WTA-B, 4WTR-B: 35 mA
4WTAR-B, 4WITAR-B: 50 mA

LED Modes

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

Power Up Sequence for LED Indication

Condition	Duration
Initial LED status indication	80 seconds

Physical Specifications

Operating Temperature Range
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
41°F (5°C)

Sensitivity
2.5%/ft. nominal

Input Terminals
14–22 AWG

Dimensions (including base)
5.3 inches (134 mm) diameter
2.0 inches (51 mm) height

Weight
7.1 oz. (200 grams)

Mounting
- 3½-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

Ordering Information

Model Number	Thermal	Wiring	Alarm Current
2WTA-B	Yes	2-wire	130 mA max. limited by control panel
2WTR-B	Yes	2-wire	130 mA max. limited by control panel
4WTA-B	Yes	4-wire	35 mA
4WTR-B	Yes	4-wire	35 mA
4WTAR-B	Yes	4-wire	50 mA
4WITAR-B	Yes	4-wire	50 mA

Accessories

RRS-MOD	i3 Series Reversing relay/synchronization module
2W-MOD2	i3 Series 2-wire loop test/maintenance module
SENS-RDR	i3 Series Sensitivity Reader
A77-AB2	i3 Series Retrofit Adapter Bracket
RT	i3 Series Removal/Replacement Tool

NOT TO BE USED FOR INSTALLATION PURPOSES.

Mircom™

Canada
25 Interchange Way
Vaughan, Ontario L4K 5W3
Telephone: (905) 660-4655
Fax: (905) 660-4113

U.S.A.
4575 Witmer Industrial Estates
Niagara Falls, NY 14305
Toll Free: (888) 660-4655
Fax Toll Free: (888) 660-4113

Web page: http://www.mircom.com Email: mail@mircom.com

Distributed by:

ISO 9001:2008 REGISTERED

CAT. 5148
Rev. 1