



Harrington Signal Inc.
 2519 4th Avenue, Moline, Illinois 61265
 P.O. Box 590, Moline, Illinois 61266-0590
 Phone: (800) 577-5758 Local: (309) 762-0731 Fax: (309) 762-8215
 Internet: www.harringtonfire.com

2W/4W Series

Smoke Detectors



Description

System Sensor's 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. The 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 2W-MOD2 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 SENS-RDR 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 2W-MOD2 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 back boxes, 4-square back boxes, or direct to ceiling
- Stop-Drop "N Lock™ attachment to base
- Removable detector 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 EX Walk feature
- Built-in test switch

Ordering Information

Model Number	Part Number	Description
2W-B	2W-B	2-Wire standard
2WT-B	2WT-B	2-Wire standard with thermal
2WTA-B	2WTA-B	2-Wire photo/thermal with sounder
2WTR-B	2WTR-B	2-Wire photo/thermal with relay
4WTA-B	4WTA-B	4-Wire photo/thermal with sounder
4WTR-B	4WTR-B	4-Wire photo/thermal with relay
4W-B	4W-B	4-Wire standard
4WT-B	4WT-B	4-Wire standard with thermal
2W-MOD2	2W-MOD2	2-Wire loop test/maintenance module



2W/4W Series

Smoke Detectors

Architect & Engineer Specifications

Smoke detector shall be a System Sensor i3 Series listed to Underwriters Laboratories UL 268 for Fire Protection Signaling Systems. The detector shall be a photoelectric type (model 2W-B, 4W-B) or a combination photoelectric/thermal (model 2WT-B, 4WT-B) with thermal sensor rated at 135°F (57.2°C). The

detector shall include a mounting base for mounting to 3 1/2 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 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 (model 2WT-B, 4WT-B) 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.

Electrical Specifications

Operating Voltage

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

Maximum Ripple Voltage

30% peak to peak of applied voltage

Standby Current

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

Maximum Alarm Current

2-wire: 130 µA limited by control panel
4-wire: 20 µA @12 V, 23mA @ 24 V

Peak Standby Current

2-wire: 100µA
4-wire: n/a

Alarm Contact Ratings

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

LED Modes

LED Mode	Green LED	Red LED	Condition	Duration
Power up	Blink every 10 seconds	Blink every 10 seconds	Initial LED status indication	80 seconds
Normal (standby)	Blink every 5 seconds	Off		
Out of sensitivity	Off	Blink every 5 seconds		
Freeze trouble	Off	Blink every 10 seconds		
Alarm	Off	Solid		

Physical Specifications

Operating Temperature Range

2W-B and 4W-B: 32°F-120°F (0°C-49°C)
2WT-B and 4WT-B: 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

2WT-B and 4WT-B: 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

3 1/2-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

NOTICE: The information contained in this document is intended only as a summary and is subject to change without notice. The devices described in this document have specific instruction sheets which cover various technical, limitation and liability information. Copies of these instruction sheets and the General Product Warning and Limitations Document, which also contains important information are provided with the product and are available from Harrington Signal Inc. Fire Alarm. Information contained in these documents should be consulted before specifying or using the product. For further information or assistance concerning particular problems contact Harrington Signal Inc. Harrington Signal Inc. Fire Alarm reserves the right to change specifications without notice. Quality manufactured for Harrington Signal, Inc. Fire Alarm by System Sensor.