

**Environmental Specifications**

Operating Temperature Range:	32 to 120°F (0 to 49°C)
Storage Temperature Range (without batteries):	5 to 140°F (-15 to 60°C)
Operating Humidity Range:	10 to 90% RH non-condensing

**Before Using**

The SENS-RDR sensitivity reader is a tool to measure the sensitivity of i<sup>3</sup> smoke detectors as well as 100 series conventional smoke detectors (only models 2151 and 2151T manufactured after April 2006). It CANNOT be used on the 200, 300, 400, 500, or 800 Series detectors.

**NOTICE:** This manual shall be left with the owner/user of this equipment.

**IMPORTANT:** Use of the SENS-RDR is designed to "...assure that each smoke detector is within its listed and marked sensitivity range..." per NFPA 72. The SENS-RDR CANNOT, however, initiate a detector/sensor alarm. Sensitivity testing shall not be used as a substitute for smoke entry testing.

**General Description**

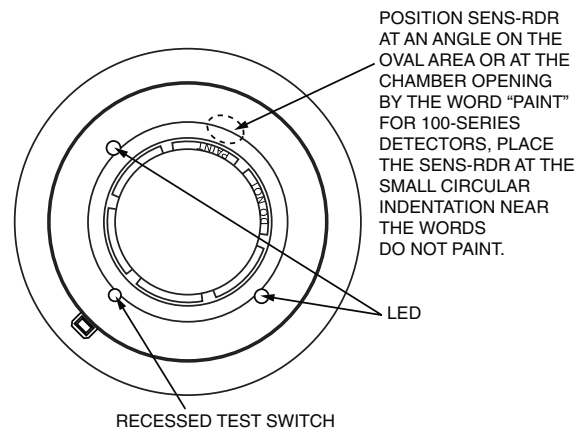
This battery-powered device is equipped with an infrared optical interface for reading data automatically sent by the smoke detector every ten seconds. The SENS-RDR decodes the sensitivity and status data, and displays the information on its LCD display.

The SENS-RDR may be used either as a hand-held device, or with a standard threaded extension pole.

**SENS-RDR Operation**

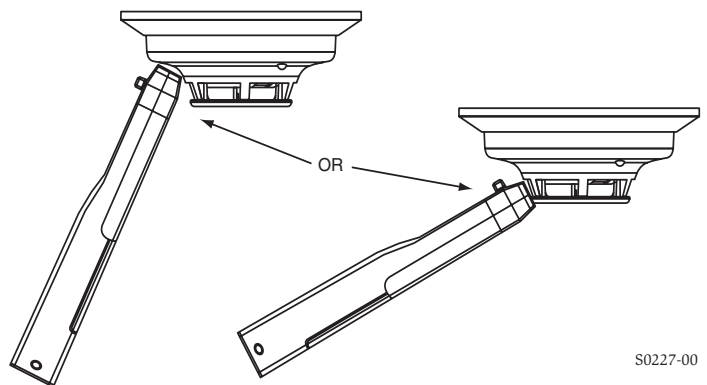
1. Turn the reader on by pressing and holding the button for approximately 2 seconds until the reader sounds. The LCD will display the word "READY". The "READY" status indicates that the SENS-RDR is ready for accepting data from an i<sup>3</sup> Series smoke detector.
2. Place the reader by the smoke detector being tested. Position the reader at an angle on the oval area or at the chamber opening by the word "PAINT" (See Figures 1 and 2). A ledge and an anti-skid tip is provided on the reader to maintain the reader in place while it reads the sensitivity.
3. Hold the reader in this position up to 10 seconds until the reader sounds and the reader's red LED illuminates.  
**NOTE:** If the reader does not sound after 10 seconds, verify that the reader is properly positioned, and the LCD displays "READY".
4. The LED and sounder indicate a valid reading is received. The reader will automatically display two results. The first is a percent per foot obscuration measurement, which is displayed for approximately 3 seconds, followed by a textual status indication (See Table 1). The reader will continue to display both results for up to 30 minutes, or until the reader is reset.
5. To measure the sensitivity of the next detector, reset the reader by momentarily pressing the button. The LCD will again display the word "READY". Repeat steps 2 through 4, as necessary.
6. When finished, turn off the reader by pressing and holding the button for approximately 2 seconds until the reader sounds.

**Figure 1: Reader location on compatible System Sensor smoke detectors**



S0135-01

**Figure 2: Position Reader on compatible System Sensor smoke detectors**



S0227-00

**NOTE:** No further readings may be taken until the reader is reset.

**Table 1. SENS-RDR Status Indications:**

Status Indication	Action
GOOD	The detector is within its sensitivity range. No action is necessary at this time.
SERVICE	The smoke detector's sensing chamber requires cleaning for continued reliable operation. Refer to the i <sup>3</sup> Series installation manual for proper maintenance procedures.
REPLACE	The smoke detector is failing and should be replaced immediately.

**SENS-RDR Batteries and Battery Life**

The SENS-RDR operates with two AA alkaline batteries only. Other battery types may result in improper function of the reader.

**NOTE:** When the batteries in the SENS-RDR get low, the LCD display will read "LOW BATT". Once the low battery condition is reached, the reader will no longer function. Replace batteries to restore operation to the SENS-RDR.

The SENS-RDR automatically turns off when not used after 30 minutes. To conserve the battery life of the SENS-RDR, it is recommended that the reader be turned off when not in use. To turn off the reader, press and hold the button for approximately 2 seconds until the reader sounds.



**The Limitations of the SENS-RDR**

The SENS-RDR is designed to "... assure that each smoke detector is within its listed and marked sensitivity range ..." per NFPA 72.

Slight fluctuations in readings may be experienced on any device at any given time and do not indicate a defect or sensitivity shift, provided the reading is within the specified range. These fluctuations are to be expected.

The SENS-RDR and its associated smoke detectors/sensors contain electronic parts and, though they are designed to last over 10 years, any of these components can fail at any time. Therefore, it is recommended to test your smoke detectors/sensors per NFPA 72 at least annually. Regular cleaning and testing of your fire detection system will measurably reduce your product liability risks and minimize nuisance alarms.

**Three-Year Limited Warranty**

System Sensor warrants its enclosed product to be free from defects in materials and workmanship under normal use and service for a period of three years from date of manufacture. System Sensor makes no other express warranty for the enclosed product. No agent, representative, dealer, or employee of the Company has the authority to increase or alter the obligations or limitations of this Warranty. The Company's obligation of this Warranty shall be limited to the replacement of any part of the product which is found to be defective in materials or workmanship under normal use and service during the three year period commencing with the date of manufacture. After phoning System Sensor's toll free number 800-SENSOR2 (736-7672) for a Return Authorization number, send defective units postage prepaid to: System Sensor, Returns

Department, RA # \_\_\_\_\_, 3825 Ohio Avenue, St. Charles, IL 60174. Please include a note describing the malfunction and suspected cause of failure. The Company shall not be obligated to replace units which are found to be defective because of damage, unreasonable use, modifications, or alterations occurring after the date of manufacture. In no case shall the Company be liable for any consequential or incidental damages for breach of this or any other Warranty, expressed or implied whatsoever, even if the loss or damage is caused by the Company's negligence or fault. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

**FCC Statement**

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.