System Sensor 5603

System Sensor 5603 135°F Fixed Temperature Mechanical Heat Detector User Manual

1. Introduction

This manual provides essential information for the proper installation, operation, and maintenance of the System Sensor 5603 135°F Fixed Temperature, Single-Circuit Mechanical Heat Detector. Please read this manual thoroughly before installation and retain it for future reference. This device is designed to detect abnormally high temperatures, indicating a potential fire condition.

2. Safety Information

- **Electrical Safety:** Installation must be performed by qualified personnel in accordance with all national and local electrical codes and standards. Ensure power is disconnected before installation or servicing.
- **Wired System:** This heat detector is designed for wired systems and requires a continuous power supply from the fire alarm control panel. It is not battery-operated.
- **Non-Restorable Activation:** The 5603 model is a fixed temperature mechanical heat detector. Once activated by reaching its rated temperature, the internal mechanism triggers an alarm and is not restorable. The unit must be replaced after an alarm event.
- **Environmental Conditions:** Do not install in locations where temperatures may exceed or fall below the specified operating range, or where high humidity or corrosive environments may affect performance.

3. Product Overview

The System Sensor 5603 is a reliable fixed temperature heat detector designed for various fire protection applications. It operates on a single circuit, providing a clear alarm signal when the ambient temperature reaches 135°F (57.2°C). Its mechanical design ensures consistent performance without the need for batteries.

Image: System Sensor 5603 Fixed Temperature Heat Detector. This image shows the compact, circular design of the heat detector, typically mounted on a ceiling or wall.

Key Features:

- **Fixed Temperature Detection:** Activates at 135°F (57.2°C).
- **Single-Circuit Operation:** Simplifies wiring and integration into fire alarm systems.
- **Mechanical Design:** Ensures durability and consistent performance.
- **Compact Size:** Designed for discreet installation.

4. Installation and Setup

Proper installation is crucial for the effective operation of the heat detector. Refer to NFPA 72, the National Fire Alarm and Signaling Code, and all local codes for specific installation requirements.

Installation Steps:

1. **Power Disconnection:** Ensure all power to the fire alarm control panel and associated circuits is disconnected before beginning installation.
2. **Mounting Location:** Select a mounting location on a ceiling or wall where the detector can effectively monitor the area. Avoid areas with high air currents or obstructions that could prevent heat from

reaching the detector.

3. **Mounting Base:** Secure the appropriate mounting base (sold separately, if applicable) to the ceiling or wall using suitable fasteners.
4. **Wiring:** Connect the detector to the fire alarm control panel circuit according to the wiring diagram provided with the mounting base and the control panel documentation. Ensure all connections are secure and polarity is correct. This is a wired device and requires a continuous power source.
5. **Detector Attachment:** Attach the 5603 heat detector to the mounting base by aligning the tabs and twisting clockwise until it locks into place.
6. **Power Restoration and Testing:** Restore power to the fire alarm control panel. Conduct a system test as per the control panel manufacturer's instructions to ensure the detector communicates properly with the system. *Note: The 5603 detector itself is not designed for field testing without activation.*

5. Operation

The System Sensor 5603 heat detector operates by continuously monitoring the ambient temperature. When the temperature at the detector's location reaches or exceeds its fixed activation point of 135°F (57.2°C), the internal mechanical element will trigger. This activation causes the detector to change its electrical state, signaling an alarm condition to the connected fire alarm control panel. The control panel will then initiate its programmed alarm sequence, which may include sounding alarms and notifying emergency services.

It is important to understand that this detector responds to heat, not smoke. For comprehensive fire protection, heat detectors should be used in conjunction with smoke detectors and other fire safety equipment as required by local codes and risk assessments.

6. Maintenance

Regular maintenance ensures the continued reliability of your heat detector. While the 5603 is a mechanical device with no user-serviceable parts, periodic inspection and cleaning are recommended.

Maintenance Guidelines:

- **Visual Inspection:** Periodically inspect the detector for any visible damage, dust accumulation, or obstructions. Ensure it is securely mounted.
- **Cleaning:** If dust or debris is present, gently wipe the exterior of the detector with a clean, dry, soft cloth. Do not use cleaning solvents or sprays directly on the detector.
- **System Testing:** Follow the fire alarm control panel manufacturer's recommendations for periodic system testing. This typically involves testing the entire fire alarm system, not just individual detectors.
- **Replacement After Activation:** As a non-restorable device, the 5603 heat detector must be replaced immediately after it has activated due to a heat event.
- **No Battery Replacement:** This detector is hardwired and does not contain batteries, therefore no battery replacement is required.

7. Troubleshooting

The System Sensor 5603 is a robust mechanical device. Most issues related to an alarm system not functioning correctly are typically associated with the wiring or the fire alarm control panel rather than the detector itself.

Common Scenarios and Solutions:

- **No Alarm During System Test:**
  - Verify that the detector is correctly wired to the fire alarm control panel.
  - Ensure the control panel is powered and functioning correctly.
  - Confirm the detector is securely seated in its mounting base.
  - Remember, the 5603 is not field-testable for heat activation without replacement. System tests typically verify circuit integrity.
- **False Alarm:**
  - Investigate the area for actual heat sources that could have triggered the detector (e.g., heating vents, direct sunlight, industrial processes).
  - If no heat source is found, the detector may have activated due to an internal fault or reached its end of life. The detector must be replaced.
- **Detector Appears Damaged:**
  - If the detector shows physical damage, it should be replaced immediately.

For any persistent issues or if you suspect a malfunction, contact a qualified fire alarm technician or System Sensor technical support.

8. Specifications

Parameter	Value
Model Number	5603
Activation Temperature	135°F (57.2°C) Fixed Temperature
Circuit Type	Single-Circuit
Detector Type	Mechanical Heat Detector
Power Source	Corded Electric (System Powered)
Operating Humidity	Up to 95% non-condensing
Dimensions (Product)	Approximately 5 x 5 x 2.5 inches
Item Weight	Approximately 4-6 ounces (0.25 lbs)
Manufacturer	System Sensor
UPC / GTIN	783863022463

9. Warranty and Support

Limited Warranty:

The System Sensor 5603 heat detector comes with a**3-year limited warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use. It does not cover damage resulting from improper installation, misuse, abuse, or unauthorized modifications. For full warranty terms and conditions, please refer to the official System Sensor warranty statement or contact customer support.

Technical Support:

For technical assistance, installation questions, or warranty claims, please contact System Sensor customer support. Contact information can typically be found on the manufacturer's official website or product packaging.

Website: www.systemsensor.com