

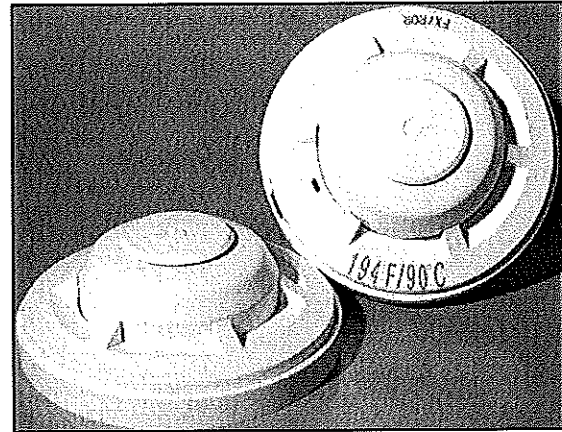
# Conventional Fire Detectors

## Thermal Fire Detectors

Models DT-135R, DT-135F, DT-200R and DT-200F

### ARCHITECT AND ENGINEER SPECIFICATIONS

-  Listed
- FM Approved



### Product Overview

The Siemens Building Technologies — Fire Safety Division Thermal Fire Detectors are fixed temperature or a combination of fixed-temperature / rate-of-rise type. The combination detectors consist of two, independently operated thermal elements. The rate-of-rise element is self-restoring. However, the fixed temperature is of the non-restoring type.

Underwriter's Laboratories, Inc., recommends the combination-type thermal detector be used to protect a maximum of 2,500 square feet (50-foot spacing), and the fixed-temperature type be used to protect a maximum of 625 square feet (25-foot spacing). However, job conditions and engineering judgment often dictate closer spacing to provide faster detection.

The thermal fire detector shall be Fire Safety Model \_\_\_\_ (insert number), and shall operate at a temperature of \_\_\_\_°F (insert temperature). The detectors shall be listed by Underwriters' Laboratories, Inc. and Factory Mutual for use with Siemens Building Technologies, — Fire Safety Division systems.

### Specifications

#### Rate-of-Rise Principle of Operation

The rate-of-rise element consists of an air chamber; a flexible, metal diaphragm and a moisture-proof, trouble-free vent that is carefully calibrated.

It is well known air expands as it is heated, and will contract as it is cooled. For normal, day-to-day fluctuations of temperature, the expansion and contraction of the air within the chamber is automatically compensated by the 'breathing' action of the vent.

However, when a fire occurs, air temperatures rise very rapidly and the air in the chamber expands faster than it can be vented. This creates a pressure which distends the diaphragm and closes electrical contacts.

The rate-of-rise action is not related to any fixed temperature level, but responds with the utmost promptness when the rate of temperature rise exceeds 15°F per minute. If the heat is removed, the air within the chamber contracts and the switch moves to a normally open circuit position.

DT-series Thermal Fire Detectors **6130**

## Specifications — (continued)

### Fixed Temperature Principle of Operation

In a slow-developing fire, the temperature may not increase rapidly enough to operate a rate-of-rise element. Therefore, a fixed-temperature principle of operation is needed.

The detector utilizes a fixed-temperature element made of fusible alloy and is of the non-restorable type.

The fusible alloy will melt and activate the detector when the surrounding air rises above the preset level of 135°F or 194°F.

The external heat collector drops away when the detector is activated therefore giving a quick visual confirmation that the detector has alarmed.

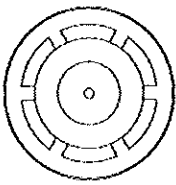
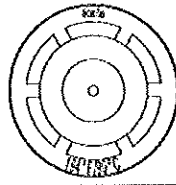
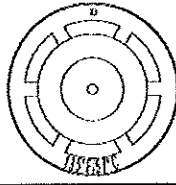
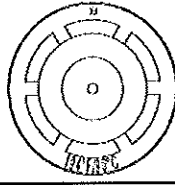
## Installation

Each detector includes a thermoplastic, reversible mounting plate. In one position, it easily attaches to a 4" octagon junction box, 3" octagon box or plaster ring.

In reverse, the plate can be used for open wiring without a junction box. A 1/4" space between detector and mounting surface allows for wire connections. All mounting screws are concealed.

The detector simply attaches to the mounting plate with a push-and-twist motion — no tools are required.

## Details for Ordering

| <u>Model Number</u>                     | <u>DT-135R</u>  | <u>DT-200R</u>   | <u>DT-135F</u>  | <u>DT-200F</u>  |
|---|---|--|---|---|
| <u>Description</u>                      | Rate-of-rise and fixed temperature 135°F  | Rate-of-rise and fixed temperature 194°F   | Fixed temperature only, 135°F   | Fixed temperature only, 194°F   |
| <u>Applications</u>                     | Normal temperature fluctuations and ceiling temperatures not exceeding 100°F        | Normal temperature fluctuations and ceiling temperatures exceeding 100°F but not 150°F | Unusually violent temperature fluctuations and ceiling temperatures not exceeding 100°F | Unusually violent temperature fluctuations and ceiling temperatures exceeding 100°F but not 150°F |
| <u>Identification on Heat Collector</u> |  |     |     |              |

**Notice:** This marketing data sheet is not intended to be used for system design or installation purposes. For the most up-to-date information, refer to each product's installation instructions.

**SIEMENS Industry, Inc.**  
Building Technologies Division

Fire Safety  
8 Fernwood Road  
Florham Park, NJ 07932  
Tel: (973) 593-2600  
FAX: (908) 547-6877  
URL: [www.SBT.Siemens.com/FIS](http://www.SBT.Siemens.com/FIS)

(SII-FS)  
Printed in U.S.A.

Fire Safety  
2 Kenview Boulevard  
Brampton, Ontario  
L6T 5E4 / Canada  
Tel: (905) 799-9937  
FAX: (905) 799-9858

**June 2009**  
Supersedes sheet dated 11/02  
(Rev. 1)