SIEMENS

Data Sheet
Fire Safety & Security Products

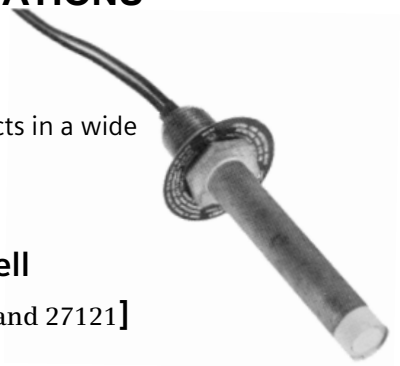
Conventional Detection Devices

Thermal Fire Detectors

Explosion-Proof Devices

ARCHITECT AND ENGINEER SPECIFICATIONS

For Detect-A-Fire Models



- **Explosion proof**
  - Models available in Normally Open (N.O) and Normally Closed (N.C) contacts in a wide range of temperature settings
- **Self restoring detector element**
- **Factory set and hermetically sealed in a stainless-steel shell**
- **UL / ULC Listed, FM Approved [**as Fenwal Model Series 27120 and 27121**]**
  - Manufactured for Siemens – Fire Safety *by Fenwal Protection Systems*

Product Overview

Detect-A-Fire explosion-proof detectors, which are rate compensated, are designed for use with Siemens — Fire Safety detection devices. Moreover, the detector element in each device is self-restoring after operation.

Each Detect-A-Fire, explosion-proof detector can be supplied with (N.C) contacts at 140°F (60°C); 160°F (71.1°C); 190°F (87.8°C); 225°F (107.2°C); 275°F (135°C); 325°F (163°C); 360°F (182.2°C), or 450°F (232°C) settings.

Each Detect-A-Fire, explosion-proof detector can also be supplied with (N.O) contacts at 140°F (60°C); 160°F (71.1°C); 190°F (87.8°C); 275°F (135°C); 325°F (163°C); 360°F (182.2°C); 450°F (232°C); 600°F (316°C), or 725°F (385°C) settings.

Note: Each detector is only explosion proof when mounted in an agency-approved / listed explosion-proof junction box.

Operation

Detect-A-Fire detectors are widely industry-accepted since each is designed with (temperature) rate compensation. This product feature provides a distinctive advantage over both standard, fixed temperature and rate-of-rise types of detectors: only the Detect-A-Fire detector accurately senses the surrounding air temperature, regardless of the fire-growth rate. At precisely the pre-determined danger point, the system is immediately activated.

The secret of the Detect-A-Fire's sensitivity lies within its design. For instance, the outer shell is made of a rapidly expanding alloy, which closely follows changes in surrounding air temperature.

The inner struts are made of a lower-expanding alloy. Designed to resist thermal-energy absorption and sealed inside the shell, the struts will thus follow temperature changes more slowly.

A slower-rate fire will heat the shell and struts together. At the 'set point', each device will trigger, actuating the alarm or releasing the extinguishant.

A transient rush of warm air up to 40°F/ (4.4°C) min. may expand the shell, but any expansion will not be enough to trigger the device. In ignoring transient warm-air excursions, the Detect-A-Fire device virtually eliminates false alarms common with rate-of-rise devices.

If a fast-rate fire ignites, the shell will then expand rapidly, and the struts will close, thus actuating the alarm or releasing the agent: the faster the fire's rate-of-growth, the sooner the alarm will trigger.

Ratings

Fenwal Model	Contacts	Electrical Rating {Resistive Only}
27120 Series	Normally Closed	5.0 Amps, 125VAC 0.5 Amp, 125VDC
27121 Series	Normally Open	5.0 Amps, 125VAC 0.5 Amp, 125VDC 2.0 Amps, 24VDC 1.0 Amp, 48VDC

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Specifications

The explosion-proof thermal fire detector shall be a Detect-A-Fire explosion-proof model, Fenwal (_____), also for purchasing purposes referred to as Siemens – Fire Safety (_____), and shall be of rate-compensated-temperature type.

The explosion-proof detector shall have a self-restoring element, and shall be factory set and hermetically sealed in stainless steel. These detectors shall be mounted in an agency approved/listed explosion-proof junction box.

The explosion-proof ('**EP**') models attach to the threaded hub cover of agency-listed / approved, explosion-proof junction boxes, such as: Killark Series, ®UL or equal.

Furthermore, the '**EP**' models should not be installed in outdoor or other wet locations.

Mounting Table

Hazardous Locations	Detector Model Series	Required Fitting For ®UL & ®ULC Listings and FM Approval
Class I, Groups B, C, and D	27120 / 27121	Mount detector to a suitable, listed fitting that is in accordance with National Electric Code and / or local Authority having jurisdiction.
Class II, Groups E, F, and G	27120 / 27121	

Settings / ° Tolerance Chart

Settings °F	°C	Tolerance	Color Coding	Spacings (in Feet) ®UL	FM	®ULC
140°F	60°C	+7°/-8°	Yellow	50	25	50
160°F	71°C	+7°/-8°	Yellow	25	25	25
190°F	88°C	+7°/-8°	White	50	25	50
225°F	107°C	7°/-8°	White	25	25	50
275°F	135°C	10°	Blue	25	25	50
325°F	163°C	10°	Red	50	25	50
360°F	182°C	10°	Red	25	25	50
450°F	235°C	15°	Green	25	25	50
600°F	316°C	20°	Orange	N/A	25	50
725°F	385°C	25°	Orange	N/A	25	50

Fenwal 27120 Series

Fenwal 27121 Series

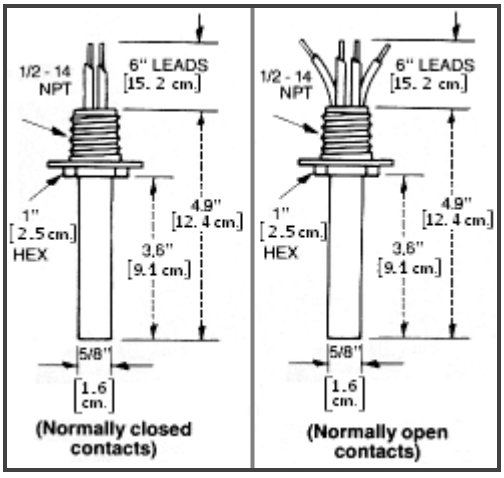
°F Setting	°C Setting	°F Tolerance	Color Coding	Normally Open Contact: Fenwal Model	Normally Open Contact: Siemens Fire Safety Model	Normally Closed Contact: Fenwal Model	Normally Closed Contact: Siemens Fire Safety Model
140	60	(+7/-8)	Yellow	27121-140	DT-140EP	27120-140	*
160	71	(+7/-8)	Yellow	27121-160	DT-160EP	27120-160	*
190	88	(+7/-8)	White	27121-190	DT-190EP	27120-190	*
225	107	(+7/-8)	White	27121-225	DT-225EP	27120-225	*
275	135	(+/-10)	Blue	27121-275	DT-275EP	27120-275	*
325	163	(+/-10)	Red	27121-325	DT-325EP	27120-325	*
360	182	(+/-10)	Red	27121-360	DT-360EP	27120-360	*
450	235	(+/-15)	Green	27121-450	DT-450EP	27120-450	*
600	316	(+/-20)	Orange	27121-600	DT-600EP	—	—
725	385	(+/-25)	Orange	27121-725	DT-725EP	—	—

' * ' *denotes Normally Closed (N.C)-contact detectors do not operate with any Siemens – Fire Safety fire detection devices. The N.C-contact detectors are offered for special applications only. Devices have a stainless-steel sensing shell and a brass-mounting head.*

Details for Ordering

- Refer to the chart above.
- When placing a purchase order please refer to the corresponding Siemens – Fire Safety Model Number.
  - The format of the Model Number is: **DT-** (*the temperature setting desired*) **EP**.
  - For example, if ordering a N.O, 140°F detector is desired, order Model Number, **DT-140EP**.
- The Siemens – Fire Safety Model Numbers, **DT-140EP** and **DT-190EP**, (both N.O) are stocked items. All other models are by special order.
- Contact Siemens – Fire Safety Customer Service Department for further assistance.
- Shipping weight for these items is approximately 1 Lb (454g).

Mounting Diagram



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.

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