CERBERUS PYROTRONICS Thermal Fire Detectors Explosion Proof Models Owner's Manual

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CERBERUS PYROTRONICS

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ENGINEER AND ARCHITECT SPECIFICATIONS

DETECT-A-FIRE MODELS

- Explosion Proof
- Self-Restoring Detector Element
- Models Available in both Normally Open and Normally Closed Contacts in a Wide Range of Temperature Settings
- Factory Set and Hermetically Sealed in Stainless Steel Shell
- Listed and FM Approved as Fenwal Model Series 27120 and 27121 Manufactured for Cerberus Pyrotronics by Fenwal

Introduction

Detect-A-Fire explosion proof detectors are of the rate compensated type and are designed for use with either standard Cerberus Pyrotronics systems or other commercially available fire alarm systems. The detector element in all models is self-restoring after operation. The Detect- A-Fire explosion proof models can be supplied with normally closed contacts at 140, 160, 190, 210, 225, 275, 325, 360 or 450°F settings or with normally open contacts at 140, 160, 190, 210, 275, 325, 360, 450, 500, 600, or 725°F settings. These detectors are only explosion proof when mounted in an approved explosion proof junction box.

Principle of Operation

Detect-A-Fire units have met with wide acceptance because they are designed with rate compensation. This provides a unique advantage over both standard fixed temperature and rate-of-rise types of detectors because only the Detect-A-Fire unit accurately senses the surrounding air temperature regardless of the fire growth rate. At precisely the predetermined danger point the system is activated. The secret of the unit's sensitivity is in the design. The outer shell is made of a rapidly expanding alloy that 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 follow temperature changes more slowly. A slow rate fire will heat the shell and struts together. At the "set point" the unit will trigger, actuating the alarm or releasing the extinguishant. A transient rush of warm air up to 40°F/min. may expand the shell, but

not enough to trigger the unit. In ignoring transient warm air excursions, the Detect-A-Fire unit virtually eliminates false alarms prevalent with rate-of-rise devices. If a fast rate fire starts, then the shell will expand rapidly. The struts will close, actuating the alarm or releasing the agent. The faster the fire rate of growth, the sooner the alarm.

Engineer and Architect Specifications

The explosion proof thermal fire detector shall be a Detect- A-Fire explosion proof model, Fenwal (MODEL), also for purchasing purposes referred to as Cerberus Pyrotronics (MODEL), and shall be of the rate compensated 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 approved explosion-proof junction box. The explosion proof detectors must be UL listed and FM approved.

Model Cross-Reference Chart

°F Setting	°F Tolerance	Color Coding	Normally Open Contact		Normally Closed Contact	
			Fenwal Model	Cerberus Pyrotronics Model	Fenwal Model	Cerberus Pyrotronics Model
140	(+7,-8)	Yellow	27121-140	DT-140EP	27120-140	*
160	(+7,-8)	Yellow	27121-160	DT-160EP	27120-160	*
190	(+7,-8)	White	27121-190	DT-190EP	27120-190	*
210	(+7,-8)	White	27121-210	DT-210EP	27120-210	*
225	(+7,-8)	White	27121-225	DT-225EP	27120-225	*

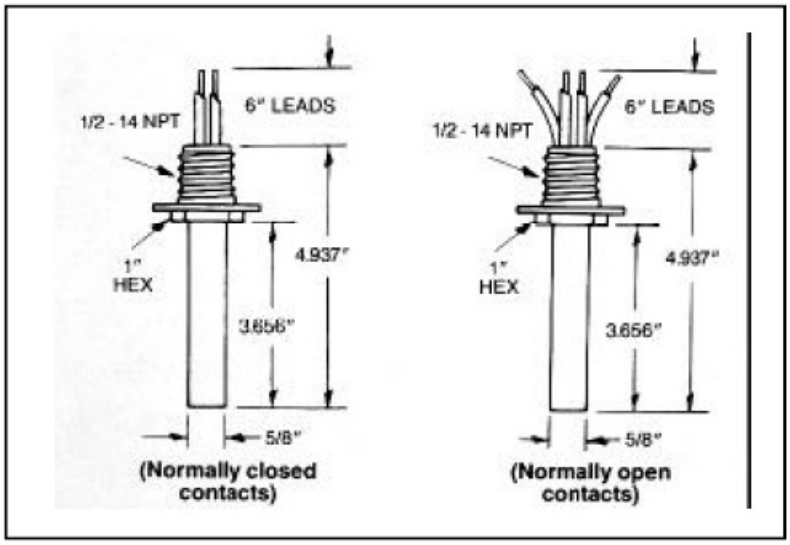
275	(+/-10)	Blue	27121-275	DT-275EP	27120-275	*
325	(+/-10)	Red	27121-325	DT-325EP	27120-325	*
360	(+/-10)	Red	27121-360	DT-360EP	27120-360	*
450	(+/-15)	Green	27121-450	DT-450EP	27120-450	*
500	(+/-15)	Orange	27121-500	DT-500EP		
600 725	(+/-20) (+/-25)	Orange Orange	27121-600 27121-725	DT-600EP DT-725EP		

Normally Closed Contact Detectors do not operate with any Cerberus Pyrotronics Control Panels. These Normally Closed Contact Detectors are offered for special applications only.

Ordering Information

Refer to the chart above. When placing a purchase order refer to the Cerberus Pyrotronics model number. The format of the model number is: DT- (the temperature setting desired) EP. For example, if you wish to order a normally open 140°F detector, you would order model numbers DT-140EP. The Cerberus Pyrotronics model numbers DT-140EP and DT-190EP (both normally open) are stocked items. All other models are special orders. Contact Cerberus Pyrotronics Customer Service Department for assistance. Shipping weight for these items is approximately one pound.

Dimensions



Hazardous Locations Applications	Detector Model Series	Fitting Required for UL & ULC Listings and FM Approval
Class I, Groups B,	27120	Mount the detector to a
C and D;		suitably listed fitting in accordance with the
		National Electric Code and/or local authority having jurisdiction
Class II, Groups E, F and G;	27121	

Mounting and Installation Information

The explosion proof (EP) models attach to the threaded hub cover of listed explosion proof junction boxes such as Killark Series, UL or equal. The EP models should not be installed in outdoor or other wet locations.

		Spacings (in Feet) See Note B		
°F Setting and Tolerance	Color Coding	UL	FM	ULC
140+7°/-8°	Yellow	50	25	50
160+7°/-8°	Yellow	25	25	25
190+7°/-8°	White	50	25	50
210+7°/-8°	White	25	25	50
225 7°/-8°	White	25	25	50
275 10°	Blue	25	25	50
325 10°	Red	50	25	50
360 10°	Red	25	25	50
450 15°	Green	25	25	50
500 15°	Orange	50	25	50
600 20°	Orange	N/A	25	50
725 25°	Orange	N/A	25	50

Fenwal 27120 Series

Fenwal 27121 Series

CONSTRUCTION: Units have a stainless steel sensing shell and a brass mounting head.

Fenwal Model No.	Contacts	**Electrical Rating (Resistive Only)
27120 Series	Normally Closed	5 Amps., 125 VAC 0.5 Amps., 125 VDC
27121 Series	Normally Open	5 Amps., 125 VAC 0.5 Amps., 125 VDC 2.0 Amps., 24 VDC 1.0 Amps., 48 VDC

CONTACTS

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Documents / Resources

	CERBERUS PYROTRONICS Thermal Fire Detectors Explosion Proof Models [pdf] Owner's Manual Thermal Fire Detectors Explosion Proof Models, Thermal Fire, Detectors Explosion Proof Models, Explosion Proof Models

References

- Fire Alarm Resources | Download fire alarm documents
- cerbpyro.com