

Automatic Heat Detectors Standard Spot Fire Lowecator

General

Available as a Dual Action, combination of Rate-of-Rise and Fixed Temperature principles; or as a Fixed Temperature only, the Spot Fire Lowecator is an ultrasensitive electro-thermostatic device used in automatic fire alarm systems for the quick, positive detection of fire.

Dual Action thermostats detect fire by two distinctly independent methods:

- (A) Rate-of-Rise of Temperature; and
- (B) Fixed Temperature

In addition to those used in standard applications, Spot Fire Lowecators are available in explosion proof assemblies.

Operation

(A) Rate-of-Rise Principle

The Rate-of-Rise element consists of an air chamber, a flexible metal diaphragm and a moisture protected, trouble free vent which is precision calibrated at the factory.

Air expands as it heats and contracts as it cools. For normal (room) temperature fluctuations, expansion and contraction of air in the Lowecator's air chamber is automatically compensated by the breathing action of the vent. When a fire occurs, however, air temperatures rise very rapidly. Air in the chamber then expands at a higher rate than at which it can escape through the vent. This creates a pressure that distends the diaphragm, thereby closing the electrical contacts.

The Rate-of-Rise element is not related to a determined temperature level; but it is responsive immediately if the rise of the temperature exceeds 15° a minute. An important feature of the Rate-of-Rise element is its repeated self-restoration - even after it has been activated many times.

(B) Fixed Temperature Principle

The Fixed Temperature element is totally independent of that of the Rate-of-Rise

principle. The element consists of a phosphor-bronze spring held under tension by standard sprinkler fusible solder. During a slow, smoldering fire, environmental temperature may not rise rapidly enough to activate the Rate-of-Rise element. The Fixed Temperature element, however, will energize when the temperature reaches 136°F. Melting of the fusible solder then releases the spring, closing the electrical contacts. A solder rated at the higher melting point of 190°F. is available for especially intense environmental heat. (Please refer to Ordering Information on back page).

Visual Indicator

A special and unique feature built into every Spot Lowecator is a visual indicator that automatically determines which unit has been activated. When a unit has been energized by high temperature, the Fixed Temperature element's spring is released. An indicator (a small button on the Lowecator's shell) becomes visible; eliminating all guesswork as to whether replacement is necessary.

Specification

The Spot Fire Lowecator automatic fire detector is an open contact device, designed to close its circuit automatically upon activation. Its inherent characteristics include its rugged construction and its compact and simple design.

Mounted on black Bakelite bases, shells are of copper, neutral gray finish.

No exposed metal parts can be energized electrically, inadvertently.

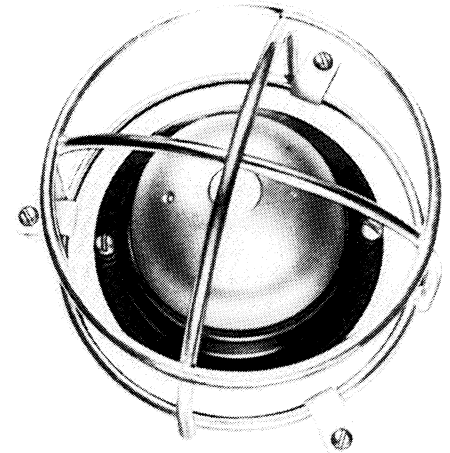
Line terminals are brass, screw type.

Electrical contacts are silver.

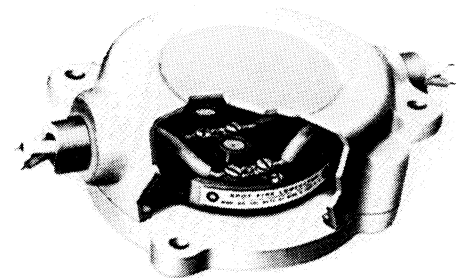
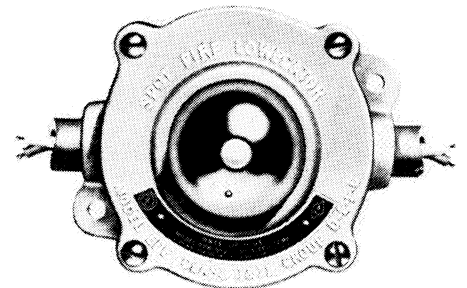
Overall Dimensions

Base Diameter - 3 3/16" ; Height 2 1/8"

Two mounting holes are provided in the base for #6 screws.



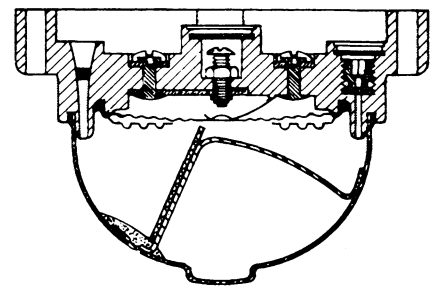
Standard Spot Lowecator with optional wireguard



Explosion Proof Box supplied as a complete unit with Mod. Nos. 66995, 66994, 66996, 66997, Spot Lowecators.

ELECTRICAL RATINGS

Maximum permissible Current			
A/C Circuit Voltage	Amperes	D/C Circuit Voltage	Amperes
6 - 125	3.0	6 - 28	1.0
		125	0.3
		250	.01



Cross Section View of Standard Spot Lowecator

Ordering Information

Supplied	Quantity	Model	Part Number	Description
<input type="checkbox"/>	___	47427		Rate -of-Rise & Fixed Temperature * 136°F USE: Where normal temperature fluctuations exist but do not exceed 100°F.
<input type="checkbox"/>	___	44541		Rate -of-Rise & Fixed Temperature ** 190°F USE: Where normal temperature fluctuations exist and ambients exceed 100°F but do not exceed 150°F.
<input type="checkbox"/>	___	48095		Fixed Temperature Only 136°F USE: Where usually violent temperature fluctuations exist but temperatures do not exceed 100°F.
<input type="checkbox"/>	___	48094		Fixed Temperature Only 190°F USE: Where unusually violent temperature fluctuations exist and temperatures exceed 100°F but do not exceed 150°F.
<input type="checkbox"/>	___	47428		Adapter Plate for 3" or 4" Octagon Box USE: To permit use of standard Spot Lowecator on conduit installations.
<input type="checkbox"/>	___	48206		Wire Guard for Spot Detector for protection in damage liability areas
<input type="checkbox"/>	___	44760		Clip for mounting #48206 (3 required)
<input type="checkbox"/>	___	66994		Explosion Proof Rate -of-Rise & Fixed Temperature 136°F USE: Where normal temperature fluctuations exist but do not exceed 100°F.
<input type="checkbox"/>	___	66995		Explosion Proof Rate -of-Rise & Fixed Temperature 190°F USE: Where normal temperature fluctuations exist but do not exceed 150°F.
<input type="checkbox"/>	___	66997		Explosion Proof Fixed Temperature 136°F USE: Where usually violent temperature fluctuations exist but temperatures do not exceed 100°F.
<input type="checkbox"/>	___	66996		Explosion Proof Fixed Temperature 190°F USE: Where unusually violent temperature fluctuations exist and temperatures exceed 100°F but do not exceed 150°F.

Spot Lowecators are available only with a single normally open actuating contact.

*This temperature rating covers approximately 80% of Lowecator installation conditions.

** For special location, such as boiler rooms, attics, etc. This setting is applicable in only about 15% of Lowecator installations.

Specifications and wiring information are provided for information only and are believed to be accurate. However, Gamewell assumes no responsibility for their use. Specifications are subject to change without notice; installation and wiring instructions shipped with the product should always be used for actual installation.

Permissible Area of Effective Protection

Dual-Action: Fixed Temperature and Rate-of-Rise principles	2500 square feet	50' centers - 25' from wall
Fixed Temperature principle only	225 square feet	15' centers - 7.5' from wall

The spacings listed above are recommended as a maximum for smooth ceilings. Where deep bays or special conditions exist, consult your Gamewell Applications Engineer.



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