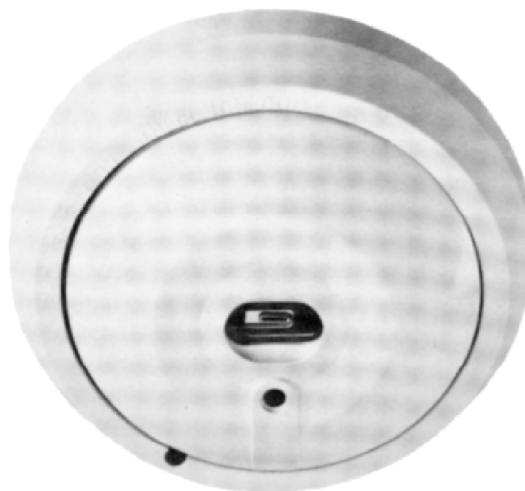


Ultraviolet Flame Detector

ENGINEER AND ARCHITECT SPECIFICATIONS

MODEL DF-30

- Simple Twist/Lock Assembly
- Alarm LED
- Two Wire Operation



Introduction

The Cerberus Pyrotronics Model DF-30 Flame Detector responds directly to the presence of flame. It senses ultraviolet radiation emanating from flames which must be sustained for at least 5 seconds.

The flame detector is intended to protect hazards where the anticipated fire will develop quickly with little or no incipient or smoldering stages; where ignition is almost instantaneous (e.g. flammable liquids, combustible gases, petro-chemicals, etc.)

Description

The detector utilizes an ultraviolet sensitive cold cathode tube which operates on the Geiger-Mueller Principle.

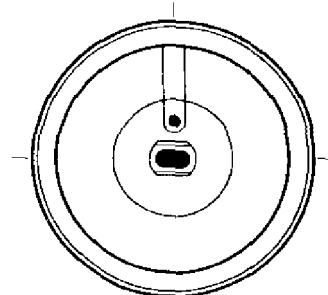
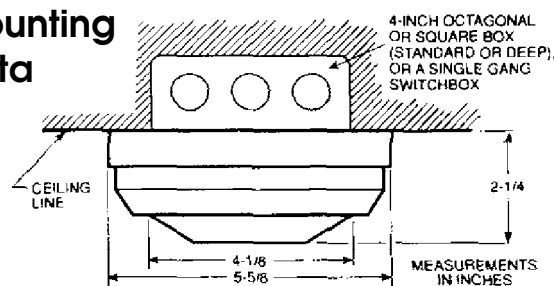
The gas filled detection tube consists of an anode and a cathode which is sensitive to ultraviolet wavelength of 1850-2600 Angstroms. Both electrodes are energized by high voltage. When ultraviolet rays reach the cathode, photons are emitted toward the anode by forcing the gas molecules to emit electrons. As the number of ionized particles begin to increase, an electrical current will flow between the electrodes. As ultraviolet rays continue to reach the detection tube, a pulsed electrical signal is generated which is digitally "counted". Upon completion of the counting delay cycle, if the electrical signal is still present, the detector locks into an alarm condition and can only be reset at the control panel by an interruption of power.

The detector utilizes a low profile surface mounting base, Model DB-3S, which may be attached to either a 4" octagonal, 4" square wiring box or single gang outlet box. The DB-3S base utilizes screw-clamp terminals for all electrical

connections, self-wiping contacts for reliability and contains provisions for an optional concealed locking mechanism to prevent unauthorized removal of the detector head.

The unit is capable of operating a remote alarm lamp RLI, RL6, RL30, RL40 or auxiliary relay, Model RR-3. The Model RR-3 relay contains one set of double pole, double throw contacts rated at 120 VAC, 2 amps resistive and requires a deep electrical box when mounted to the DB-3S.

Mounting Data



DF-30 DETECTOR

Application Data

Flame detectors are essentially line-of-sight devices, therefore, special care must be taken in applying them to insure that their ability to respond to fire in the area which is to be protected will not be compromised by the presence of intervening structures or other opaque objects or materials. The detectors should be installed at a point which provides the most direct line of sight with the anticipated source of fire.

When connected to Cerberus Pyrotronics control equipment the DF-30 is fully compatible with other types of Cerberus Pyrotronics detectors. No more than five (5) DF-30 detectors may be used on any one Cerberus Pyrotronics detector circuit.

Engineer and Architect Specifications

The Flame detector shall operate on the ultraviolet radiation principle. The amplifier-switching circuit, in the detector shall be entirely solid state, contain no moving parts and provide an alarm actuation delay of 5 seconds.

The base assembly into which the detector is installed shall be of the twist/lock design with screw-clamp terminals. The base shall utilize self-wiping contacts for reliability and shall be directly interchangeable with other compatible plug-in detectors. A security lock, DB-LK, shall be installed in those areas where tamper resistant installation is required as indicated on the drawings. Auxiliary relays and/or remote alarm lamps shall be installed where required.

The detector or group of detectors shall require a two-wire circuit of #18 AWG thermoplastic fixture wire enclosed in conduit, or #18 AWG limited energy shielded cable without conduit, if permitted by local codes.

The detector assembly shall be a Cerberus Pyrotronics Model DF-30.

Technical Specifications

Current Requirements: Normal-500 μ A Max.

Alarm-65mA Typical

Voltage Range: 21 $\pm$ 3 VDC

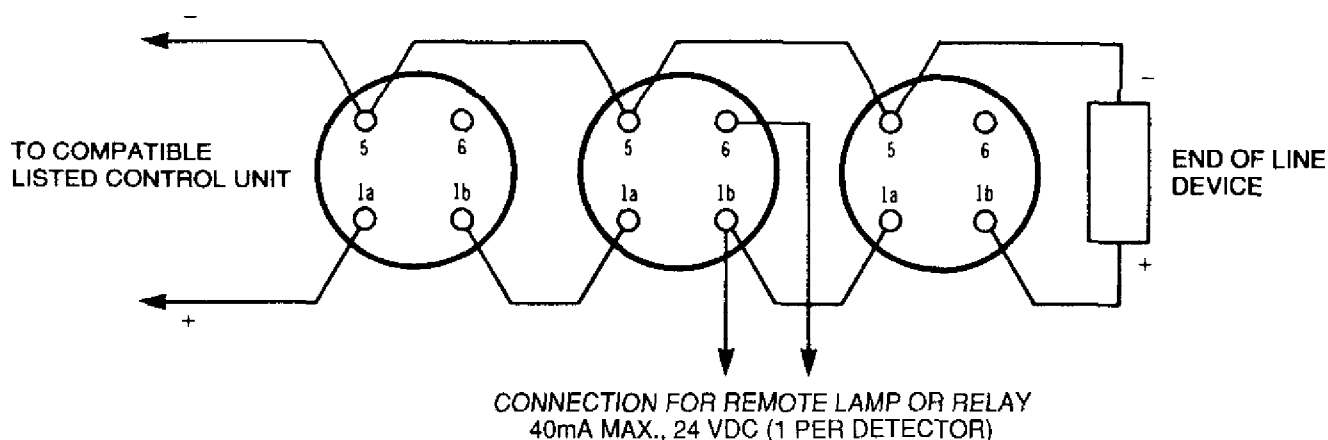
Operating Range: 14°F (-10°C) to 122°F (50°C)

Cone of Vision: 100°

Ordering Information

Model	Description	Shipping Weight	
		Lbs.	Kg.
DB-LK	Base Lock for DB-4TS	1	.45
DF-30	Ultraviolet Flame Detector with 5 second delay	1	.45
DB-3S	Low Profile Mounting Base	1	.45
RR-3	Remote Relay (DPDT)	1	.45
RL-6	Remote Alarm Lamp	1	.45
RL-30	Remote Alarm Lamp	1	.45
RL-40	Remote Alarm Lamp	1	.45

Typical Wiring



NOTICE: The use of other than Cerberus Pyrotronics detectors and bases with Cerberus Pyrotronics equipment will be considered a misapplication of Cerberus Pyrotronics equipment and as such void all warranties either expressed or implied with regard to loss, damage, liabilities and/or service problems.



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