
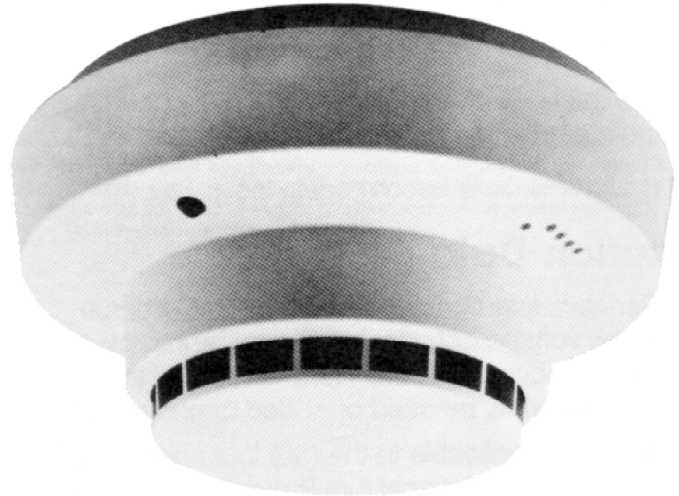


PE-3 and PE-3T

Photoelectric Smoke Detectors

ENGINEER AND ARCHITECT SPECIFICATIONS

- Advanced Photo Chamber Design
- High Immunity Against Dust
- Resistant to Condensation and Other Nuisance Alarm Causing Conditions
- Field Cleanable Photo Chamber
- Detector Alarm Verification
-  Listed, ULC Listed, FM, CSFM, NYMEA and City of Chicago Approved



Introduction

The Cerberus Pyrotronics PE-3 Series Photoelectric Smoke Detector operates on the light scattering principle. The improved photo chamber, because of its advanced design, is highly immune to false and nuisance alarm causing conditions such as dust and condensation. The detector is designed with a field cleanable photo chamber. The PE-3 Series Detector provides an excellent response to a broad spectrum of both flaming and smoldering fire conditions. The PE-3 has been developed for use in a wide range of commercial, industrial, institutional and residential applications.

The PE-3 Series meets the requirements of the "Buy America" Act.

Description

The PE-3 Series contains a light emitting diode (LED) and a light sensing photodiode arranged in a pattern so that, under normal conditions, the light emitted by the LED does not reach the photodiode. When smoke enters the photo chamber, light emitted from the LED is scattered by the smoke particles and received by the photodiode. The electrical signal produced by the photodiode is amplified by the detector circuitry and compared to a preset alarm threshold level. When the electrical signal is greater than the preset threshold, the detector verifies the alarm condition and then locks into alarm. The PE-3 Series must be reset at the control panel.

The PE-3 Series electrical sensitivity is set at the factory and can be monitored in the field by using the Cerberus Pyrotronics Model TM-PE3 Sensitivity Test Module. The sensitivity test jack is accessible from the front of the detector housing enabling the user to perform sensitivity tests without removing the detector from its base.

The PE-3 Series is easily cleaned by removing the detector from the base, removing the detector cover and then the chamber's cover. The chamber should be cleaned with a brush or soft cloth and then blown clean.

An optional 135°F (57°C) Thermal Sensor is available with the Model PE-3T. When the optional Thermal Sensor is utilized an alarm condition will be initiated when the temperature around the Thermal Sensor reaches 135°F (57°C). At this point the Thermal Contacts close and the detector locks into alarm.

The PE-3 utilizes the 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 - or the audible base Model ADB-3, which must be attached to a 4" square deep wiring box. Both the DB-3S and the ADB-3 utilize screw clamp terminals for all electrical connections, self-wiping contacts for reliability and contain a provision for an optional concealed locking mechanism to prevent unauthorized removal of the detector head.

The PE-3 is capable of operating a remote alarm lamp or auxiliary relay Model RR-3/3S. The Model RR-3/3S relay contains one set of double pole, double throw contacts rated at 120V AC, 2 amp resistive and requires a 4" square deep box when mounted to the DB-3S base. A finish trim ring, Model RA-ADB is available when mounting a DB-3S base onto a 4" square box.

When the RR-3/3S is used and the control function is critical, no more than one PE-3 should be installed in a particular circuit or zone, and no other initiating devices should be installed in the same circuit or zone. An exception to this rule would be an application where a number of RR-3/3S relays were used, each of which was connected to the same critical control function.

When the ADB-3 is used, the System 3™ will guarantee that one audible base per zone will go into alarm.

The PE-3 is Underwriter's Laboratories, Inc. listed.

Application Data

The PE-3 Series is fully compatible with other Cerberus Pyrotronics low voltage detectors and may be intermixed on the same zone circuit. An unlimited number of thermal or manual stations may be used or added to one circuit.

The PE-3 Series is applicable to the (30) foot spacing (900 sq. ft.) as referred to in National Fire Protection Association Standard 72. This spacing, however, is based on ideal conditions, namely, smooth ceiling, no air movement and no physical obstructions between the fire source and the detector. This spacing should be used as a guide or starting point in detector installation layout. Do not mount detectors in areas close to ventilating or air conditioning outlets. Exposed joists or beamed ceilings may also affect safe spacing limitations for detectors. It is mandatory that engineering judgment be applied regarding detector location and spacing.

Engineer and Architect Specifications

The photoelectric smoke detector shall be a plug-in unit which mounts to a twist/lock base and shall be UL listed.

The smoke detector shall operate on a two-wire circuit and shall contain an LED indicator which illuminates to signal alarm actuation.

It shall be possible to electronically check the detector's sensitivity. Test methods which do not provide an analog output shall not be considered equal.

The detector shall be easily cleaned by removing the detector cover/photo chamber.

The base assembly into which the detector is installed shall be of the twist/lock design with screw clamp terminals. The base shall be directly interchangeable with other compatible plug-in detectors. A security lock shall be installed in those areas where tamper resistant installation is required as indicated in the drawings.

It is possible to connect either one remote lamp or a remote relay, Model RR-3/3S, or an audible base, Model ADB-3, if 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 building codes. All wiring shall be approved for fire alarm use and in compliance with national and local codes.

When required, the Smoke Detector shall contain a 135°F fixed temperature self restoring heat sensor. Actuation of this device shall activate and lock in the detector alarm circuit.

The detector shall be Cerberus Pyrotronics Model PE-3, or Model PE-3T with a DB-3S surface mounting base or ADB-3 audible base.

Technical Specifications

Current Requirements: Normal - 100µa max.
Alarm - 135mA. max.

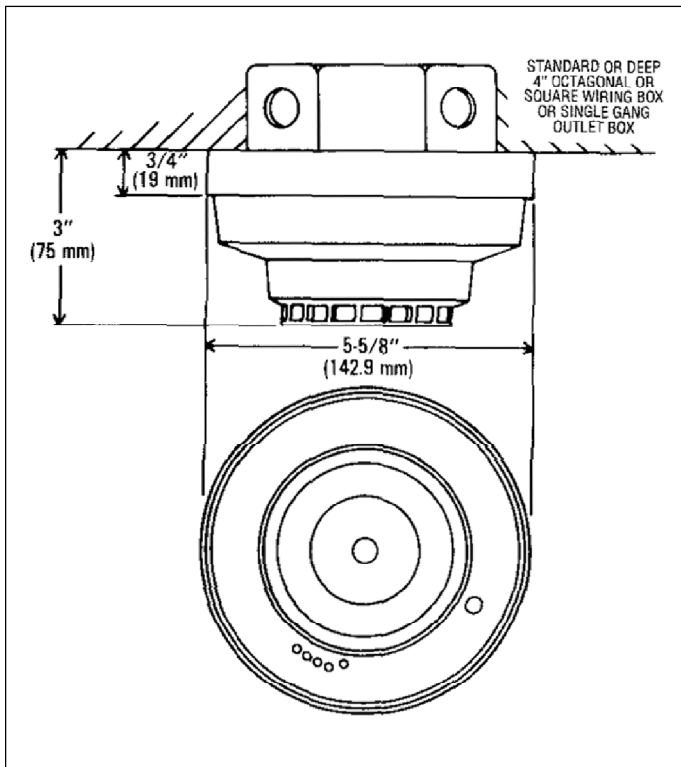
Voltage Range: 16V min., 27V max.

Operating Temperature: +32°F (0°C) to 100°F (38°C) per UL standard 268

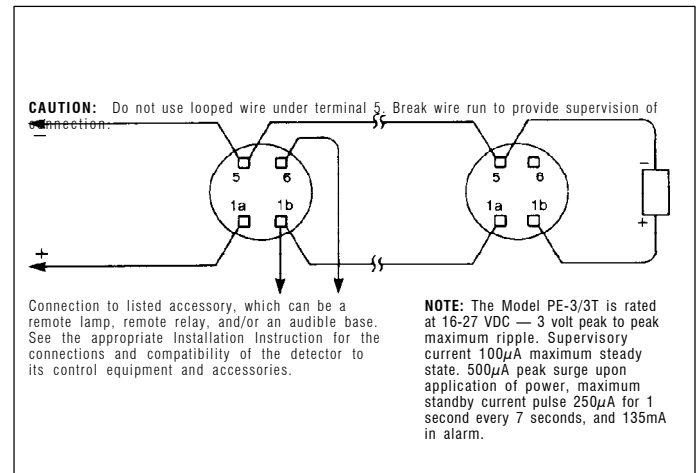
Model	Description	Shipping Wt.	
		Lb.	Kg
PE-3	Photoelectric Smoke Detector	1	.45
PE-3T	Photoelectric Smoke Detector with 135°F Thermal Sensor	1	.45
DB-3S	Low Profile Surface Mount Base	1	.45
RA-ADB	Finish Trim Ring for Base	.5	.22
ADB-3	Series 3 Audible Base	1	.45
RR-3/3S	Remote Relay	1	.45
RLI-1 or RLI-2	Remote Lamp (LED)	1	.45
RL-30 or RL-40	Remote Lamp (Incandescent)	1	.45
DB-LK	Locking Kit for DB-3S and ADB-3	.5	.22
TM-PE3	Sensitivity Test Module	1	.45

Humidity:

0-93% relative humidity,



Typical Wiring



non-condensing

Ordering Information

Mounting Data

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



Cerberus Pyrotronics
8 Ridgedale Ave.
Cedar Knolls, NJ 07927
Tel: (201) 267-1300
FAX: (201) 397-7008

1/97
5M
CPY-IG
Printed in U.S.A.

Cerberus Pyrotronics
50 East Pearce Street
Richmond Hill, Ontario
L4B, 1B7 CN
Tel: (905) 764-8384
FAX: (905) 731-9182

January 1997
Supersedes sheet dated 6/95