

AS2041-00

Photoelectric / Heat Smoke Detector



Note:

Bases are not included with detectors, please order separately.

Standard Features

- Low Profile - 1.8" high (with base).
- 2 wire base compatibility, relay bases available
- 135°F Fixed Temperature heat sensor (Latching)
- Heat sensor protected by a built-in guard
- Highly stable operation, RF/Transient protection
- Low standby current, 45µA at 24VDC
- Two built-in power/sensitivity supervision/alarm LED's
- Non-directional smoke chamber
- Vandal resistant security locking feature
- Removable smoke labyrinth for cleaning or replacement
- Automatic Sensitivity window verification function meets outlined requirements in NFPA 72, Chapters 2 & 7, Inspection, Testing and Maintenance

Application

The AS2041 can be used in all areas where Photoelectric Smoke Detectors are required. The wide range smoke chamber makes the AS2041 well suited for fires ranging from smoldering to flaming fires.

AS2050 & AS2051 Style bases may be used with the AS2041. Current interchangeable / compatible devices are the AS2032 photoelectric detector and the AS2020 & AS2021 heat detectors.

Operation

The AS2041 photoelectric smoke detector utilizes two bi-colored LED's for indication of status. In a normal standby condition, the LED's flash Green every 3 seconds. When the detector senses that its sensitivity has drifted outside the UL listed sensitivity window the LED's will flash Red every 3 seconds. When the detector senses smoke and goes into alarm the status LED's will latch on Red.

The detector utilizes an infrared LED light source and silicon photo diode receiving element in the smoke chamber. In a normal standby condition, the receiving element receives no light from the pulsing LED light source. In the event of a fire, smoke enters the detector smoke chamber and light is reflected from the smoke particles to the receiving element. The light received is converted into an electronic signal.

Signals are processed and compared to a reference level, and when two consecutive signals exceeding the reference level are received within a specified period of time, the time delay circuit triggers the SCR switch to activate the alarm signal. The status LED's light continuously during the alarm period.



Engineering Specification

The contractor shall furnish and install where indicated on the plans, AS2041 photoelectric smoke detectors. The combination detector head and twist-lock base shall be UL listed compatible with a UL listed fire alarm panel.

The base shall permit direct interchange with AS2032 photoelectric detector and/or AS2020 & AS2021 fixed temperature / rate-of-rise heat detectors. The base shall be appropriate twist-lock base AS2050 and AS2051.

The smoke detector shall have two flashing status LED's for visual supervision. When the detector is in standby condition the LED's will flash Green. When the detector is outside the UL listed sensitivity window the LED's will flash Red. When the detector is actuated, the flashing LED's will latch on Red. The detector may be reset by actuating the control panel reset switch.

The sensitivity of the detector shall be capable of being measured. It shall be possible to perform a functional test of the detector without the need of generating smoke. The sensitivity of the detector shall be monitored automatically and continuously to verify that it is operating within the listed sensitivity range.

To facilitate installation, the detector shall be non-polarized. Voltage and RF transient suppression techniques shall be employed to minimize false alarm potential. Auxiliary SPDT relays shall be installed where indicated.

The vandal-resistant, security locking feature shall be used in those areas as indicated on the drawing. The locking feature shall be field removable when not required

Technical Specifications

Rated Voltage: 17.7V DC to 30V DC
Working Voltage: 15 - 33V DC
Maximum Voltage: 42V DC
Light Source: GaAlAs infrared Emitting Diode
Supervisory Current: 45µA @ 24V DC
Surge Current: 160µA max. @ 24V DC
Alarm Current: 150mA max. @ 24V DC
Heat Sensor: 135° F
Ambient Temperature: 32° F to 120° F
Color & Case Material: Bone PC/ ABS Blend
Sensitivity Test Feature: Automatic Sensitivity window verification test

Ordering Codes

Part Number	Description
AS2041-00	Photoelectric/ Heat Smoke Detector
AS2050-00	4" Mounting Base
AS2051-00	6" Mounting Base