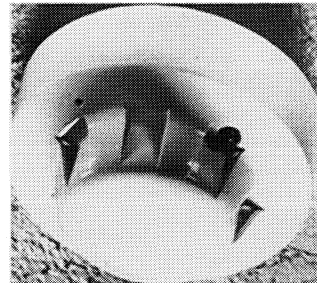
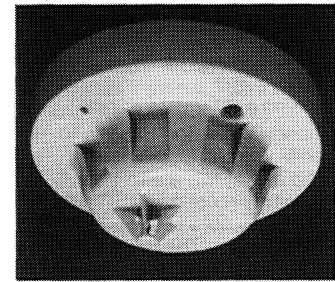
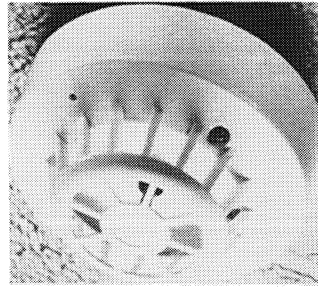


# Series 60 Conventional Smoke Detector Heads/Bases/ Tester



## Features

- Compatible with all Gamewell conventional systems
- Full range of detectors including:
  - Ionization
  - Photoelectric
  - Combination Photo/Heat
  - Rate of Rise/Fixed Temperature
- Full range of bases, including:
  - Standard 4", 6" or 6" low profile
  - 6" base with flashing red or green LED
  - 6" base with sounder
  - 6" base with relay and flashing green LED

## Description

Gamewell's Series 60 conventional Smoke Detectors provide a range of detectors designed for the highest effectiveness by utilizing the latest technology. The series is comprised of an Ionization, Photoelectric, Combination Photo/Heat, and Rate of Rise/Fixed Temperature thermal detectors (135°F, 160°F, 210°F). These detectors have been carefully researched and have undergone rigorous testing to ensure that they meet not only existing standards and codes but also the demands of today's high technology environments.

The detector is designed for two wire operation. All of the detectors in the Series 60 product line have the same external dimensions, with the housing of the Ionization and Photoelectric being identical. The

external alarm indication is by means of a light emitting (red) diode (LED) mounted on the printed circuit board within the housing and protruding through the housing to be easily visible. The Ion Detector is distinguishable from the Photoelectric Detector by the color of the alarm indicating LED; the Ion's LED appears red versus the Photo's clear color during normal operation. Thermal detectors are readily distinguished from smoke detectors by having open webs to allow the free movement of air around the exposed thermistor.

## Operation

Gamewell's 71034 Ionization Smoke Detector operates on the Ionization Chamber principle utilizing twin compensating chambers with one single-sided ionizing radiation source. The ionization chamber system is an inner reference chamber contained inside an outer smoke chamber. The outer smoke chamber has smoke inlet apertures which are fitted with an insect resistant mesh. At the junction between the reference and smoke chambers is the sensing electrode which is used to convert variations in the chamber currents to a voltage. This voltage is monitored and produces a signal which latches the detector into alarm when a preset threshold level is reached.

Gamewell's 71033 Photoelectric Smoke Detector operates on the forward light scattering principle. It utilizes a horizontal optical bench which houses an infra-red emitter and sensor arranged radially to detect forward scattered light. The sensing chamber is a black molding configured as a labyrinth which prevents ambient light from penetrating into the chamber. The labyrinth has a fine gauze cover to prevent insects from migrating into the chamber. The detector will change to the alarm state when reflected light is of

sufficient amplitude to turn on the SCR that sends the alarm signal.

Gamewell's Series 60 Thermal Detector operates as a combination Rate of Rise/Fixed Temperature detector (71035 @ 135°F, 71035-160 @ 160°F, 71035-210 @ 210°F). It contains a pair of matched negative temperature coefficient thermistors mounted on a printed circuit board within a white polycarbonate housing. One thermistor is exposed and is therefore in good thermal contact with the surrounding air and responds quickly to changes in air temperature. The other thermistor is insulated from the surrounding air and responds more slowly. The detector responds as a Rate of Rise detector when a temperature difference develops rapidly, causing the ratio of the resistances of the thermistors to exceed the factory preset level. The detector responds as a Fixed Temperature detector when the sum of the resistances of the insulated thermistor and fixed resistor compared to the resistance of the exposed thermistor reaches a preset level.

Gamewell's 71041 Combination Photo/Heat Detector incorporates the principles of the 71033 Photoelectric Smoke Detector with the Fixed Temperature characteristics found in the 71035 Thermal Detector.

The Series 60 Conventional Detector Bases will accept any of the Series 60 detector heads. The bases have a wide interior diameter for ease of access to wire and terminals. The design of the base is such that the detector will fit in one way only and that a simple clockwise motion without force is required to plug in a detector.

The 71036 base (4") will mount directly to a 3.5" octagon box (Raco 110 or equal) or a 4" octagon box (Raco 125 or equal) with a round cover/plaster ring (Raco 727 or equal).

The other Series 60 bases (6") will mount directly to a 3.5" octagon box (Raco 110 or equal); to a 4" octagon box (Raco 125 or equal); or to a 4" square backbox (Raco 190 or equal).

**Engineer's Specifications**

General Specification: The contractor shall furnish and install where indicated on plans, (Insert TYPE/MODEL NUMBER below). The combination detector head and twist lock base shall be UL Listed and UL Listed as compatible with the alarm panel. The base shall permit interchange with Gamewell's other Series 60 Detectors to simplify modifications to the installation. The detector shall contain an integral LED that shall latch in when the unit goes into alarm. RF transient techniques shall be employed to minimize false alarms.

**TYPE/MODEL NUMBER:**

- Ionization (Dual Chamber) Smoke Detectors Gamewell Model 71034
- Photoelectric Smoke Detectors Gamewell Model 71033 utilizing a horizontal optical bench housing the infra-red emitter and sensor arranged radially to detect forward scattering light
- Combination Photoelectric/Heat Detector Gamewell Model 71443 utilizing a horizontal optical bench along with Fixed Temperature (135° F) capabilities
- Fixed Temperature/Rate-of-Rise Electronic Thermal Heat Detector Gamewell Model 71035 (135° F) or 71035-160 (160°F) or 71035-210 (210°F)

The contractor shall furnish and install where indicated on plans bases which are compatible with all the Series 60 detectors available.

Standard 4", 6" and 6" low profile bases (Gamewell Models 71036, 71086 and 71086-LOW, respectively) shall use standard screw/

crimp style terminals and shall provide terminals for remote LED's.

Where indicated on the plans, the contractor shall furnish bases with a power indicating flashing LED in the base (Gamewell Model 71086-RED or 71086-GREEN) which shall use standard screw/crimp style terminals and shall provide terminals for remote LED's.

When required, the contractor shall furnish Gamewell Model 71393 bases with a power indicating flashing green LED in the base plus a relay with two sets of voltage-free changeover contacts (Form C) and may be used as a 2 or 4-wire base and shall use standard screw/crimp style terminals and shall provide terminals for remote LED's.

Where indicated on the plans, the contractor shall furnish bases Gamewell Model 71086-SNDR with a separately powered (24 Volt) internal sounder rated at 85 Db @ 10 feet and shall use standard screw/crimp style terminals and shall provide terminals for remote LED's.

**Technical Specifications**

Quiescent Current:	Photo, Comb. Photo/Heat and Ion Thermal	30 to 45 µA at 24 Volts 55 µA at 24 Volts 6 to 28 Volts
Alarm Voltage:		52mA at 24 Volts
Normal Alarm Output:		20 mA maximum, diode gated
Remote Alarm Output:		32° F to 140° F -5° F to +195° F
Temperature Range:	Photo, Comb. Photo/Heat and Ion Thermal	0% to 95% relative humidity (no condensation)
Humidity:		Per NFPA Codes
Recommended Spacing:		72 mA @ 24 Volts
Alarm Current:	6" Detector Base w/Relay	1 Amp @ 24 Vdc / 120 Vac
Contact Rating:	6" Detector Base w/Relay	85 Db @ 10 feet
Decibel Rating:	6" Detector Base with Sounder	

**Ordering Information**

Supplied	Model	Part Number	Quantity	Description
<input type="checkbox"/>	71033	55000-350	_____	Conventional Photoelectric Smoke Detector Head
<input type="checkbox"/>	71034	55000-250	_____	Conventional Ionization Smoke Detector Head
<input type="checkbox"/>	71443	55000-380	_____	Conventional Combination Photo/Heat Smoke Detector Head
<input type="checkbox"/>	71035	55000-150	_____	Conventional Thermal Heat Detector Head (135°F)
<input type="checkbox"/>	71035-160	55000-151	_____	Conventional Thermal Heat Detector Head (160°F)
<input type="checkbox"/>	71035-210	55000-152	_____	Conventional Thermal Heat Detector Head (210°F)
<input type="checkbox"/>	71036	45681-200	_____	Conventional 4" Detector Base
<input type="checkbox"/>	71086	45681-220	_____	Conventional 6" Detector Base
<input type="checkbox"/>	71086-RED	45681-230	_____	Conventional 6" Detector Base w/Flashing power indicating Red LED
<input type="checkbox"/>	71086-GREEN	45681-231	_____	Conventional 6" Detector Base w/Flashing power indicating Green LED
<input type="checkbox"/>	71086-SNDR	MB-1721-60	_____	Conventional 6" Detector Base with Sounder
<input type="checkbox"/>	71393	45681-227	_____	Conventional 6" Detector Base w/Relay and Flashing power indicating Green LED
<input type="checkbox"/>	71086-LOW	45681-232	_____	Conventional 6" Low Profile Detector Base
<input type="checkbox"/>	71343		_____	Aerosol for Detector Test
<input type="checkbox"/>	ZNS-B6	ZNS-B6	_____	Addressable base for use with INS-2 Addressable Circuit



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.

Data and design subject to change. Supply subject to availability GW 8/99 (revised) Printed in U.S.A.

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