

## Overview

The GE photoelectric smoke detector is an interchangeable head and base detector with a light-scattering optical sensor that provides outstanding stability and excellent response to a wide range of fires.

A pulsed infrared LED light source and a high-speed photodiode sensing element are housed in an omnidirectional sensing chamber which is protected by an insect screen. The chamber is not affected by ambient light. For easy cleaning, the detector features a field-replaceable optical chamber.

The Model 711UT, 721UT and 741UT photoelectric detectors include integral fixed temperature heat detectors.

GE 700 Series smoke detectors are the industry's first conventional self-diagnostic detectors specifically designed for the demands of commercial and industrial environments. If the detector drifts out of its UL Listed sensitivity range or fails internal diagnostics, the alarm LED flashes once a second to indicate trouble. This meets NFPA 72 field sensitivity testing requirements without the need for external meters.

Additional diagnostic information is activated by applying a magnet near the detector's integral reed switch. This initiates a self-diagnostic routine and provides visual indication of sensitivity level, or if service is required. The magnet test causes the LED to blink. The number of blink counts corresponds to a smoke detector sensitivity range.

And, if they become dirty over time, the 700 Series detectors automatically adjust the alarm threshold through built-in drift compensation.

## Standard Features

- Self-diagnostic capability continually monitors operation
- Automatic drift compensation
- Field-replaceable optical chamber
- Low-profile design blends into the ceiling
- Advanced nuisance alarm immunity
- Extensive two-wire compatibility listings

# Two- and Four-Wire Self-Diagnostic Smoke Detectors

## 700 Series



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## Engineering Specifications

The GE 700 Series photoelectric smoke detector, is a low-profile, self-diagnostic, two-wire or four-wire detector that monitors its own sensitivity and operational status. The detector meets NFPA 72 field sensitivity testing requirements without the need for external meters. Built-in drift compensation automatically adjust the sensitivity if the detector gets dirty. Normal sensing occurs every 9 seconds. This rate doubles when a signal exceeding the alarm threshold value is sensed. Two additional successive signals above the threshold level initiate an alarm. The patented optical sensing chamber is field replaceable, allowing quick and easy cleaning and maintenance.

A manually operated switch between terminals 1 and 2 shall establish continuity across the alarm, initiating circuit at initial installation. The switch automatically open when a detector head is plugged in. If a detector head is removed from service, the switch will be reset using a small screwdriver, thus re-establishing circuit continuity.

## Technical Specifications

Electrical	
Voltage	8.5 – 33VDC, non polarity sensitive
Maximum ripple (peak to peak)	10% (Vp - p)
Typical standby current (24V)	70µA
Typical alarm current (24V)	up to 60 mA max, if not limited by control panel
Relay contacts	2A @ 30VDC, 1A @ 120 VAC
Photoelectric Sensitivity	2.85%, + 0.37, - 1.00%
Operating temperature	32°F to 120°F (0°C to 49°C)
Operating humidity range	0 to 95% Non-condensing
RFI immunity	20 V/m min; 0-1000 MHz
Remote LED output current	5 mA min, 8.5 mA max
Drift compensation adjustment	1.0%/ft. max
Environmental	
Heat Sensor Ratings (721UT, 741UT)	Fixed 135°F/ Rate of rise 15°
Maximum wind velocity	300 ft/min or
Field wiring size	12-24 AWG
Remote test input (721UT)	100 ohm max
Reset voltage	2.5V max
Reset time	1 second max
UL two-wire compatibility identifier	S10A (711U, 711UT, 721UT) S11A (731U)
Physical	
Color	White head and base
Detector head dimensions	4" D x 1.75" (4.44 cm) H
Detector packaging	10 detectors per carton
Base packaging	10 bases per carton
Base dimensions	702E: 4" D, 0.6" (10 x 1.3 cm) H 701U, 702U: 6" D, 0.6" x 1.3 cm) H
Total height, (head and base)	1.98" (5 cm) H
Regulations	
Listing	UL 268, FM, CSFM, MEA approved
Compatibility	
Heads	Bases
711U	701U, 702E, 702U
731U	702RU
741U	702U
Ordering Information	
Photoelectric Heads	711U, 711UT, 721UT, 731U, 741U
Photoelectric Bases	701U, 702E, 702U, 702RE, 702RU



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