

Two- and Four-Wire Conventional Smoke Detectors

700 Series

STANDARD FEATURES

- *FM Approved*
- *UL Listed*
- *CSFM Approved*
- *Self-diagnostic capability continually monitors operation*
- *Meets NFPA 72 sensitivity test requirements*
- *Head and terminal base design (base sold separately)*
- *Automatic drift compensation*
- *Field-replaceable optical chamber*
- *Low-profile design blends into the ceiling*
- *Advanced alarm verification feature reduces chance of nuisance alarms*
- *Extensive two-wire compatibility listings*
- *Compatible with most Kidde, Fenwal and Chemetron Conventional Control Panels (See compatibility chart in Datasheet No. K-70-100)*

DESCRIPTION

The 700 Series conventional 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 protected by an insect screen. For easy cleaning, the detector features a field-replaceable optical chamber (P/N 211).

Model 721UT photoelectric detectors include integral fixed temperature and rate-of-rise heat detectors. The 721UT provides remote alarm and trouble LED driver outputs.

The 700 Series smoke detectors were 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 a trouble condition. 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. If the detector ever does need to be cleaned, the patented field replaceable optical chamber makes cleaning a snap.



ENGINEERING SPECIFICATIONS

The 700 Series photoelectric smoke detector is a low-profile, self-diagnostic, two-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. The 700 Series features an alarm verification feature to further reduce the chance of a nuisance alarm. 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.

TECHNICAL SPECIFICATIONS

Electrical	
Voltage	8.5 - 33VDC, non polarity sensitive
Maximum ripple (peak to peak)	10% (vp - p)
Typical standby current (24V)	70 μ A
Typical alarm current (24V)	up to 60 mA max, if not limited by control panel
Photoelectric Sensitivity	2.85%, +0.37, -0.75%
Operating temperature	32°F to 100°F (0°C to 38°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°F/min, > 105°F (8.3°C/min., >40.6°C)
Maximum wind velocity	300 ft/min
Field wiring size	12-18 AWG
Remote test input (721 UT)	100 ohm max
Reset voltage	2.5V max
Reset time	1 second max
UL two-wire compatibility identifier	S10A (711U, 721UT)

Note: Refer to Kidde Fire Systems Datasheet Number K-70-100 for smoke detector compatibility.

Physical	
Color	White head and base
Detector head dimensions	4" D x 1.75" H (10cm x 4.44cm)
Base dimensions	701U, 702U: 6" D x 0.06" H (15.24 cm x 1.3 cm), 702E: 4" D x 0.06" H (10.16 cm x 1.3 cm)
Total height, (head and base)	1.98" (5 cm) H
Regulations	
Listing	UL 268, FM, CSFM

ORDERING INFORMATION

711U	Smoke detector head only, photoelectric, two-wire
721UT	Smoke detector head only, photoelectric, two-wire w/integral heat detector, output for remote LED
741UT	Smoke detector head only, photoelectric, four-wire, w/integral heat detector, alarm relay (N.O.) output and output for remote LED
701U	Smoke detector base, 3 terminals, 6 in. dia.
702U	Smoke detector base, 6 terminals, 6 in. dia.
204-12/24VG	End-of-Line, power supervision relay for four-wire applications
211-10PKG	Replacement optical chamber for smoke detectors, set of 10
06-117883-001	Test magnet
SM200-12PKG	Canned smoke for functional testing of smoke detectors
706U1A	Remote LED indicator for 721UT or 741UT
706U2A	Remote LED indicator and keyed remote for 721UT or 741UT
706U3A	Remote LED indicator, keyed remote and reset for 721UT or 741UT

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