Two- and Four-Wire Conventional Smoke Detectors

ESL/Interlogix 700 Series Products

Kidde Fire Systems

Effective: December 2017

K-70-140

STANDARD FEATURES

- ***Two-Wire and Four-Wire Conventional Photoelectric Smoke and Heat Detectors***
- ***Advanced alarm verification feature reduces chance of nuisance alarms***
- ***Automatic drift compensation***
- ***Head and terminal base design (base sold separately)***
- ***Low-profile design blends into the ceiling***
- ***Self-diagnostic capability continually monitors operation***
- ***Meets NFPA 72 sensitivity test requirements***
- ***Field-replaceable optical chamber***
- ***Extensive two-wire compatibility listings***
- ***Remote LED indicator available for 721U, 721UT and 741UT detectors***
- ***Compatible with most Kidde, Fenwal and Chemetron Conventional Control Panels (See compatibility chart in Datasheet No. K-70-100)***
- ***FM Approved***
- ***UL Listed***
- ***CSFM Approved***

DESCRIPTION

The ESL/Interlogix 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 211-10PKG).

The Model 721UT photoelectric detector includes an integral fixed temperature and rate-of-rise heat detector.

A remote LED indicator is available for Models 721U, 721UT, and 741UT detectors. This functionality requires the Model 702U base and the 706U1B Remote LED indicator.

The ESL/Interlogix 700 Series smoke detectors are 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, ESL/Interlogix 700 Series detectors automatically adjust the alarm threshold through built-in drift compensation. If the detector needs to be cleaned, the patented field replaceable optical chamber makes cleaning quick and easy.

ENGINEERING SPECIFICATIONS

The ESL/Interlogix 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 adjusts the sensitivity if the detector gets dirty. The ESL/Interlogix 700 Series photoelectric detector 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 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 standy current (24V)	70µA
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
LED indicator	Flashes approximately every 9 seconds for Normal State, flashes once every second for Trouble State, turns on steady for Alarm
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
UL two-wire compatibility identifier	S10A (711U, 721U, 721UT)

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

Note: ESL/Interlogix 700 Series smoke detectors and accessories are manufactured by ESL/Interlogix and re-sold by Kidde Fire Systems using original ESL/Interlogix part numbers..

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

ORDERING INFORMATION

711U	Smoke detector head only, photoelectric, two-wire
721U	Smoke detector head only, photoelectric, two-wire, output for remote LED
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. (required for use with the 706U1B Remote LED)
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
706U1B	Remote LED indicator for 721U, 721UT and 741UT (Requires use of 702U base)

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K-70-140 Rev AE

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