



## 100 SERIES™ LOW-PROFILE PLUG-IN SMOKE DETECTOR

### DESCRIPTION

System Sensor 100 Series Plug-in Smoke Detectors offer superb performance and reliability in a profile which is just 1.6" (4.2 cm) deep. Fike P/N 67-1040 (ionization sensor) can be used with a variety of different adapter bases in several wiring configurations and voltages. Other features include: low current draw, stable performance in high air velocities, built-in tamper resistant base design, remote LED option, removable cover, and built-in test switch

The 100 Series is designed to meet the performance criteria designated by UL. Their sensing chambers are sealed against back pressure air flow, dirt, and insects. This chamber is protected by a fine mesh screen which can be cleaned or replaced. Additional key features include interchangeable ion and photo heads, a variety of mounting bases, and a full line of accessories.



### Ionization

All 100 Series ionization smoke detectors include a single source, dual chamber design that senses smoke particles. This chamber exhibits excellent stability, significantly reducing nuisance alarms, and provides good performance at higher air velocities.

### Photoelectronic

All 100 Series photoelectronic smoke detectors contain a unique optical sensing chamber designed to sense smoke particles produced by a wide range of combustion sources. A custom integrated circuit incorporates signal processing to reduce false alarms.

### APPROVALS

- UL Listed - S911
- MEA Approved - 205-94-E
- CSFM: 7272-1209:159 (63-1014)  
7271-1209:157 (67-1040)
- ULC - CS308
- MSFM Approved - 1973

### FEATURES

- Sleek, low-profile design
- Same housing design for both ion and photo models
- Compatible with 400 Series product
- Two LEDs blink in standby, providing 360° visibility
- Field sensitivity metering of detector to meet the requirements of NFPA 72
- Broad range of adapter bases available with built-in shorting spring

### SPECIFICATIONS

Operating Voltage/Alarm Current:	See Adapter Base Selection Guide
Standby Current:	<i>Ion:</i> 40mA Standby <i>Photo:</i> 85mA Standby
Sensitivity:	.97 ±47%/ft. Ion 3% ±.7%/ft. Photo
Shipping Weight:	3.6 oz. (102 g)
Size:	1.66" h. (42 mm) 4.1"/104 mm dia. unflanged base 6.1"/155 mm dia. flanged base
Construction:	Flame retardant thermoplastic
Temperature:	32°F to 120°F (0° to 49°C)
UL Listed Velocity Range:	<i>Ion:</i> 0-500 fpm (0-2.5 m/s) <i>Photo:</i> 0-3000 fpm (0-15.2 m/s)
Humidity Range:	10%-93% RH noncondensing
Smoke Detector Spacing:	On smooth ceilings (as defined in NFPA 72), spacing of 30 feet (900 sq. ft.) may be used as a guide. Other spacing may be used depending on ceiling height, high air movements, and other conditions or response requirements.

Form No. P.1.76.01

## ENGINEERING SPECIFICATIONS

The ionization detector model shall be equipped with a dual-chamber, unipolar sensing chamber. The nominal sensitivity of the detector shall be 1.0%/ft. as measured in a UL smoke box and shall not alarm when it is exposed to wind gusts up to 500 feet per minute. The photoelectronic detector model shall have a nominal sensitivity of 3.0%/ft. as measured in a UL smoke box with a nominal signal-to-noise ratio of 2.0 Both ionization and photoelectronic detector models shall be available. The detector shall be equipped with a light-emitting diode (LED) that is visible from the floor. This LED shall blink every ten seconds to indicate that the detector is operational, in standby, and latch on as a visual indication of alarm. The detector shall be capable of applying an output voltage to an optional remote LED annunciator as an indication of its status. The photoelectronic detector shall include built-in circuitry that performs a functional test of all detection circuits at least once every 40 seconds, without the need for generating smoke. It shall be possible to perform a calibrated sensitivity and performance test on the detector without the need for generating smoke. The test method shall test all detector circuits. The detector screen and cover assembly shall be easily removable for cleaning or replacement. It shall maintain stable operation when it is exposed to wind gusts of up to 3000 feet per minute. The detector shall use a plug-in, low-profile design that is both unobtrusive and aesthetically pleasing. A line of plug-in bases for a variety of applications shall be available for use with the detectors. Wire connections shall be made by means of a clamping plate and screw. These bases shall allow for mounting directly to a surface or to a 3 1/2" or 4" octagon box.

## ADAPTER BASE SELECTION GUIDE

Fike P/N	Mfg. Base Model No.	Loop Type	Current Limit Resistor	Contact Type	Nominal Voltage	Current Draw on Alarm (mA)
67-1043	B110LP	2-wire*	No	-	12/24VDC	10-100**
67-1029	B110RLP	2-wire*	Yes	-	24VDC	22-62
67-1044	B112LP	4-wire	Yes	Form A&C	24VDC	14-39
67-1045	B114LP	4-wire	Yes	Form A&C + A Supervisory	120VAC	75mA AC Max
67-1047	B116LP	2-wire*	No	Form C	24VDC	12-100**
60-1031	B401***	2-wire*	No	-	12/24VDC	10-100**

\* Functionality contingent on panel compatibility

\*\* Must be limited by control panel

\*\*\* Flangeless base

Relay Contact Ratings:

Resistive or Inductive (60% power factor) load.

Form A: 2.0A at 30 VAC/DC

Form C: 0.6A 110VDC, 2.0A at 30VDC

1.0A at 125VAC, 2.0A at 30VAC

## JUNCTION BOX SELECTION GUIDE \*

Fike P/N	Mfg. Base Model No.	Single Gang	3.5" Octagon	4" Octagon	4" Square	50 mm	60 mm	75 mm
60-1031	B401	No	No	No	No	Yes	Yes	No
67-1043/67-1029	B110LP/RLP	Yes	Yes	Yes	Yes	No	No	No
67-1044/67-1047	B112LP/B116LP	Yes	Yes	Yes	Yes	Yes	Yes	Yes
67-1045	B114LP	No	No	Yes	Yes	No	No	No

\* Box depth contingent on base and wire size. Refer to National Electrical Code or local applicable codes for appropriate recommendations

## ORDERING INFORMATION

Fike P/N	Mfg. P/N	Description
67-1040	1151	Low-profile ionization detector. Must be mounted to one of the B100 Series or B400 Series bases listed in Adapter Base Selection Guide.
63-1014	2151	Low-profile photoelectronic detector. Must be mounted to one of the B100 Series or B400 Series bases listed in Adapter Base Selection Guide.

## ACCESSORIES

Fike P/N	Mfg. P/N	Description
02-11492	F110	Retrofit replacement flange for B400 Series flanged bases.
02-3868	RA400Z	Remote annunciator for 2 or 4 wire systems, 3-32V. Use with ion and photo plug-in detectors. Fits standard single gang electrical box.
60-1032	B401BH	Sounder base. Requires an external 24 VDC power supply. Mounts to 4" square electrical box (1 1/2" minimum depth, 2 1/8" recommended).
02-3727	MOD400R	Detector sensitivity test tool. (See below.) Use with most analog or digital multimeters. Satisfies NFPA 72 requirement for sensitivity testing.
02-10375	SMK400	Surface mounting kit provides for entry of surface wiring conduit. For use with P/N 60-1031 mounting base only.
27-035	A77-716B	End of line relay for power supervision, 12/24 VDC systems.
02-11487	M02-04-01	Test magnet.
02-4984	M02-09-00	Test magnet with 32" telescoping handle.
02-4985	XR-2	Detector removal tool. Allows installation and/or removal of 100 Series detector heads from base in high ceiling installation when used with 02-4986.
02-4986	XP-4	Extension pole for 02-4985. Comes in three 5 ft. sections.
02-4981	C58-227-01	Replacement dust cover for 100 Series smoke detectors
02-10373	RMK400	Recessed mounting kit for P/N 63-1014 detector (P/N 60-1031 sold separately).

