

Conventional Detection Devices

Photoelectric Smoke Detector Model OP121

Architect & Engineer Specifications

- Magnet-test feature
- Incorporates one (1) state-of-the-art chamber for rapid, uniform response to alarm criteria (i.e. — smoke)
- Automatic sensitivity test without the need for a special tester (per NFPA 72)
- Available optional sounder base, providing an alert and evacuation signal
- UL 268 Listed [for open-area protection], UL 268A Listed [for direct in-duct use], ULC 529 Listed
- FM, CSFM Approved

Product Overview

Model OP121 from Siemens — Fire Safety is a photoelectric smoke detector with microprocessor-controlled, self-diagnostic circuitry, eliminating the need for burdensome sensitivity test equipment.

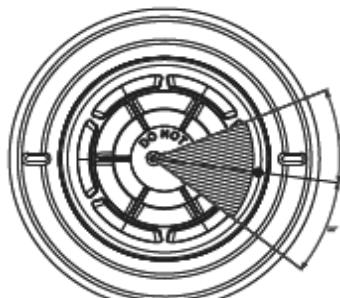
Model OP121 also comes with a new magnet-test feature. The magnet-test feature allows installers and test personnel to prove the integrity of the wiring and proper connection to the fire alarm control panel (FACP).

The auto-sensitivity feature for Model OP121 stems from the internal, self-monitoring circuitry, and provides dynamic verification of sensitivity and / or required maintenance. The auto-sensitivity feature is displayed by Siemens Fire Safety's unique (3) three-color light-emitting diode (LED), provided locally on the detector — and optionally with the various remote LED indicators.

Operations

Model OP121 utilizes an infrared light emitting diode (IRLED), and infrared light-sensing photodiode. Under normal conditions, light transmitted by the LED is directed away from the photodiode and scattered through the smoke chamber in a controlled pattern.

The smoke chamber is designed to manage light dissipation and extraneous reflections from dust particles or other non-smoke, airborne contaminants in such a way as to maintain stable, consistent detector operation. When smoke enters the detector chamber, light emitted from the IRLED is scattered by the smoke particles, and is received by the photodiode.



Model TM121
Test Magnet Placement



Model OP121



Environmental Ratings	
OPERATING TEMPERATURE:	32°F (0°C) – 100°F (38°C)
HUMIDITY:	0 – 95% (non-condensing)
AIR PRESSURE:	No effect
AIR VELOCITY:	0 – 4000 feet / minute [for open-area protection and direct, in-duct application]

Electrical Ratings	
VOLTAGE	16VDC – 27VDC
ripple:	3V (peak to peak)
SUPERVISORY CURRENT	500µA
ALARM CURRENT:	50mA
START-UP TIME:	30 seconds, max.

Detector Sensitivity	
SENSITIVITY RANGE:	1.71 – 2.8% / ft. (nominal 2.3% / ft.)

LED Indicator Operation		
FLASH COLOR	CONDITION	FLASH INTERVAL (in seconds)
GREEN	Normal supervisory operation.	10
YELLOW	Detector is in trouble and needs replacement.	5
RED	Alarm condition.	2.5
NO FLASH	Detector is not powered, or detector requires repair.	--

Details for Ordering		
MODEL OR TYPE	PART NUMBER	PRODUCT
OP121	S54372-F1-A1	Photoelectric Smoke Detector
OH121	S54372-F2-A1	Photo Thermal Smoke Detector
HI121	S54372-F3-A1	Thermal Detector
TM121	S54370-S12-A1	Test Magnet
FDBZ492	S54319-B22-A1	Air-Duct Housing
FDBZ492-R	S54319-B24-A1	Air-Duct Housing with Relay
FDBZ492-PR	S54319-B25-A1	Self-Contained Air-Duct Housing with Power Supply and Relay
FDBZ-WP	S54319-B26-A1	Compatible Air-Duct Weatherproof Housing
FDBZ-RTL	S54319-B27-A1	Remote Test Lamp
DB-ADPT	500-094187	Adapter for Model PE-11 to Model DB-3 Base
DB-11	500-094151	Low-Profile Surface-Mount Base
DB-11E	500-094151E	Smaller-Diameter Detector Base
LK-11	500-695350	Model PE-11 Detector-Locking Kit
RLC-11	500-694625	Remote LED Ceiling Mount Detector, Red
RLW-11	500-694626	Remote LED Wall Mount Detector, Red
RSAC-11	500-694935	Remote, Multi-Color LED: Ceiling Mount
RSAW-11	500-695101	Remote, Multi-Color LED: Wall Mount

See: www.STI-USA.com for further details on ordering Model STI-9604

In Canada order:

MODEL OR TYPE	PART NUMBER	PRODUCT
DB-11C	500-095687	Detector Mounting Base, ULC Listed

This Page Left Intentionally Blank

NOTICE – The information contained in this data-sheet document is intended only as a summary, and is subject to change without notice.
The product(s) described here has/have a specific instruction sheet(s) that cover various technical, limitation and liability information.
Copies of install-type, instruction sheets – as well as the *General Product Warning and Limitations* document, which also contains important data, are provided with the product, and are available from the Manufacturer.

Data contained in the aforesaid type of documentation should be consulted with a fire-safety professional before specifying or using the product.

Any further questions or assistance concerning particular problems that might arise, relative to the proper functioning of the equipment, please contact the Manufacturer.

SIEMENS

Siemens Industry, Inc.
Smart Infrastructure - Building Products
2 Gatehall Drive • Parsippany, NJ 07054
Tel: (973) 593-2600

October - 2025
(Rev 6)