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DESCRIPTION

The Fire Control Instruments ADP Low-Flow Series photoelectronic air duct smoke sensors are capable of sensing smoke in air velocities from 100 to 4,000 feet per minute (0.5 to 20.32 m/sec).

The ADP series features low-flow technology that enables duct smoke detection throughout a broad range of airflow environments. Many difficult to solve HVAC applications occur in low airflow duct applications where reliable smoke detection is critical. ADP low-flow technology can detect smoke at air speed velocities of 100 feet per minute or greater, while continuing the same reliable performance to 4,000 feet per minute.

The ADP Series sensor samples air currents passing through a duct and gives dependable performance for shutdown of fans, blowers, and air conditioning systems, preventing the spread of toxic smoke and fire gases through the protected area.

These intelligent sensors communicate and are continuously monitored through the signaling line circuit. Sensor sensitivity changes caused by dirt, temperature, or humidity are reported to the panel, allowing compensation algorithms to maintain the sensor's set sensitivity. An advance indication at the panel specifies the sensor address, allowing for selected maintenance to be performed as needed.

Remote alarm annunciation can be accomplished by using the RA400Z Remote Annunciator or the RTS451 or RTS451KEY Remote Test Station. Both these devices allow testing of the sensor from a remote location.

The ADP series low-flow duct sensors are designed for simplified installation and easy maintenance. The modular construction allows for easy cleaning and uncomplicated field replacement of the UL recognized power and sensor boards.

The **ADP** (non-relay) has outputs for a remote LED display and remote test switch. It incorporates zener diodes to conserve power for communications to other devices.

The ADP is a 2-wire device that requires signaling line circuit power only.

The **ADP-R** (with relay) has powered outputs for remote LED indication with a remote test switch and audible sounder. Two form "C" auxiliary contacts can be configured as a relay version or jumpered to mimic the non-relay version. It has a patented cover tamper trouble signal. The ADP-R is a 4-wire device that requires both signaling line circuit power and either 24VAC/DC or 120/240VAC for proper operation.

FEATURES

- **Air Velocity rating from 100 to 4000 feet per minute (0.5 to 20.32 m/sec.)**
- **Patented Telescopic Sampling Tube**
- **Easily accessible Code Switches**
- **Outside Mounting Tabs**
- **Easy and quick mounting to Round or Rectangular Ducts from 1'-12' (0.3-3.7 meters) wide**
- **Easy to clean**
- **UL Recognized Field-replaceable Power and Sensor boards**
- **Transparent Cover for convenient Visual Inspection**
- **UL 268A listed**

ANALOG, ADDRESSABLE LOW-FLOW DUCT SENSOR



ADP



ADP-R



MEA



An ISO 9001 Company

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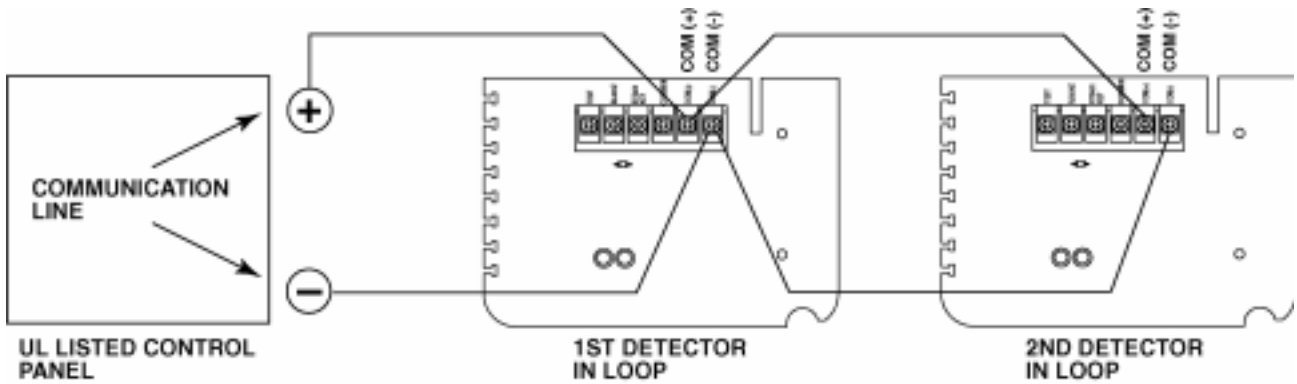
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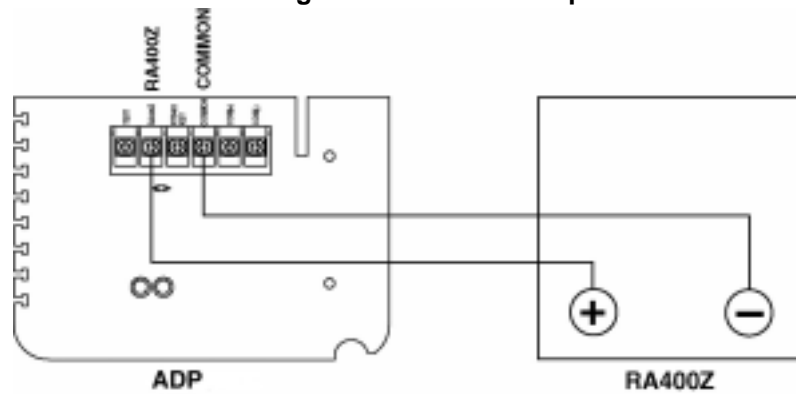
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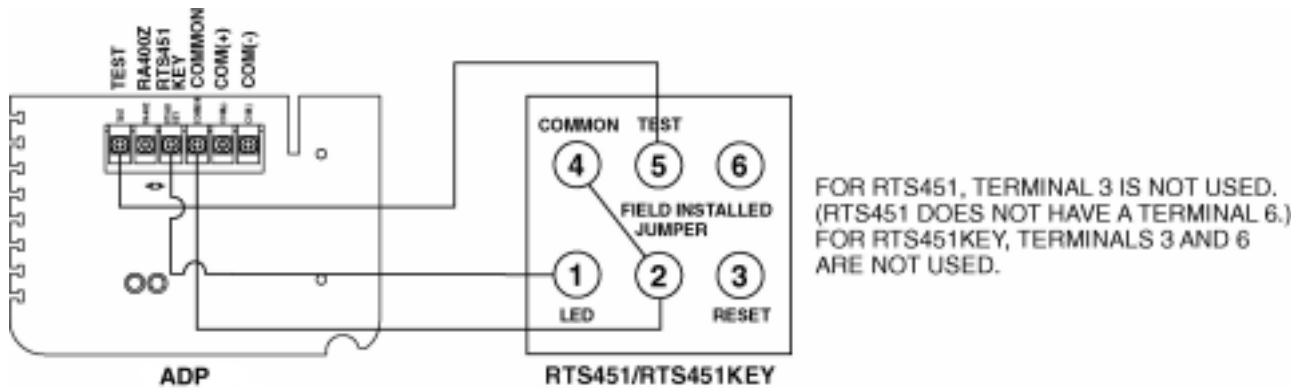
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Wiring diagram for ADP Duct Smoke Sensor using a UL Listed control panel

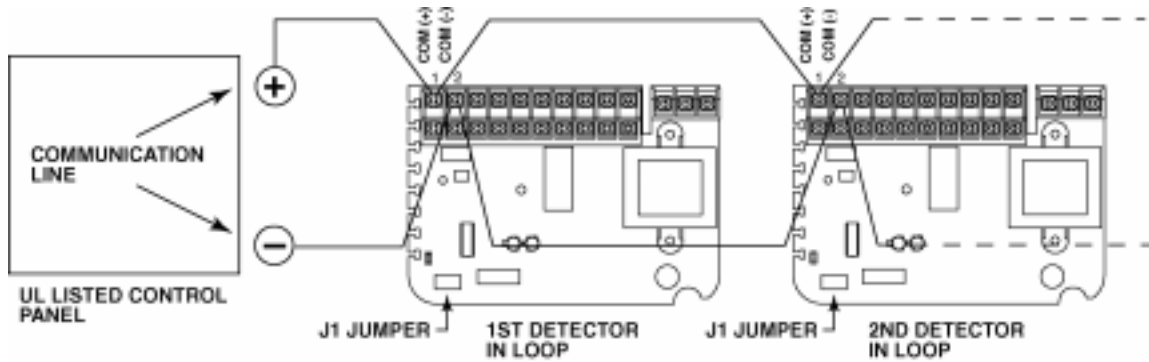


Wiring diagram for ADP Duct Smoke Sensor with optional RA400Z
 (Must break tab on back of RA400Z when used with ADP.)



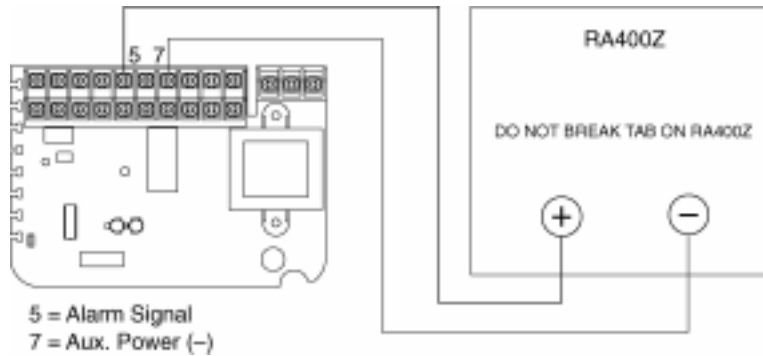
Wiring diagram for ADP Duct Smoke Sensor with RTS451/RTS451KEY

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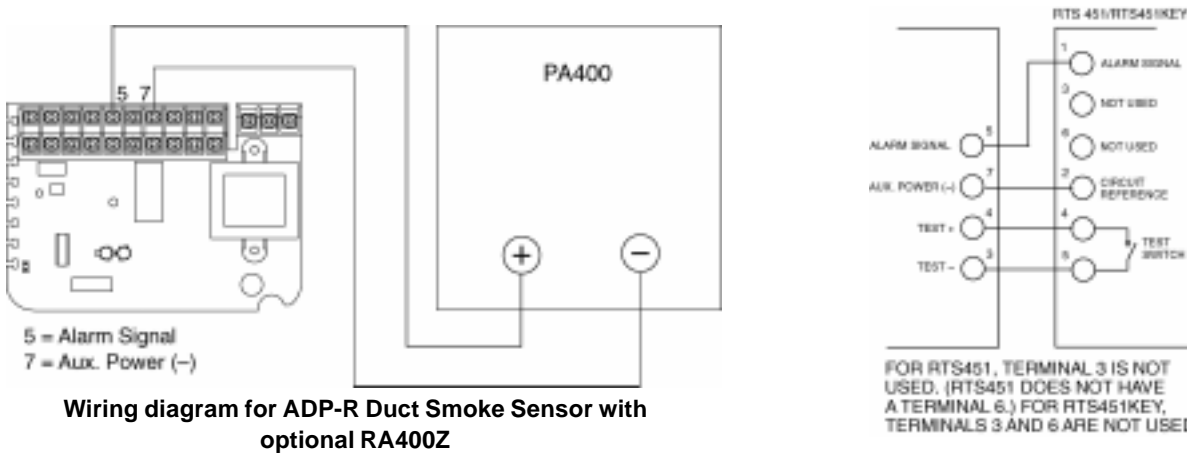


Wiring diagram for ADP-R Duct Smoke Sensor using a UL Listed control panel

NOTE: Jumper J1 shunt must be installed for 2-wire applications. J1 shunt must be removed for power PCB supervision.



Wiring diagram for ADP-R Duct Smoke Sensor with optional PA400



Wiring diagram for ADP-R Duct Smoke Sensor with optional RA400Z

Wiring diagram for ADP-R Duct Smoke Sensor with RTS451/RTS451KEY

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ADP SERIES LOW-FLOW SPECIFICATIONS

Operating Temperature Range	32° to 131°F (0° to 55°C)
Operating Humidity Range	10% to 93% relative humidity (non-condensing)
Storage Temperature Range	-22° to +158°F (-30° to +70° C)
Duct Air velocity	100 - 4000 ft./min. (0.5 - 20.32 m/s)
Shipping Weight	
ADP:	3.35lbs. (1.5 kg)
ADP-R:	3.90lbs. (1.8 kg)
Length	14-3/4" (37 cm)
Width	5-1/2" (14 cm)
Depth	2-3/4" (7 cm)

ADP SPECIFICATIONS

Voltage Range	15 to 32 VDC
Standby Current	300µA @ 24 VDC (one communication every 5 seconds with LED flash enabled)

Accessory Current Loads

Device	Standby	Alarm
RA400Z	0 mA	10 mA Max.
RTS451/RTS451KEY	0 mA	7.5 mA Max.

ADP-R SPECIFICATIONS

Current Requirements (using no accessories)	20-30 VDC	24 VAC, 50-60HZ	120VAC, 50-60Hz	220/240 VAC, 50-60Hz
Power supply voltage:	20-30 VDC	24 VAC, 50-60HZ	120VAC, 50-60Hz	220/240 VAC, 50-60Hz
Max. standby current:	26 mA	65 mA RMS	44 mA RMS	25 mA RMS
Max. alarm current:	87 mA	182 mA RMS	52 mA RMS	30 mA RMS
Alarm response time:	3 to 10 sec.	3 to 10 sec.	3 to 10 sec.	3 to 10 sec.
Power up time:	2 sec.	2 sec.	2 sec.	2 sec.

Contact Ratings

Alarm auxiliary contacts* (DPDT)
10 A @ 30 VDC
10 A @ 277 VAC (0.75 power factor)
240 VA @ 249 VAC (0.4 power factor)
1/8 HP @ 120 VAC
1/4 HP @ 240 VAC

Supervisory contact (SPST)

2.0 A @ 30 VDC (resistive)

*Minimum switching current for auxiliary contact must be 100 mA DC minimum @ 5 VDC.

Accessory Current Loads at 24 VDC

Device	Standby	Alarm
PA400	0 mA	15 mA Max.
RA400Z	0 mA	12 mA Max.
RTS451/RTS451KEY	0 mA	10 mA Max.

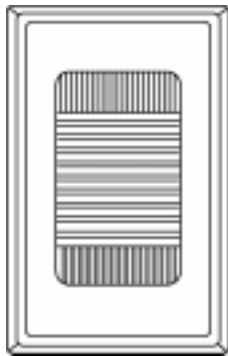
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ORDERING INFORMATION

Part No.	Description
ADP	Analog addressable low-flow photoelectronic non-relay duct smoke sensor
ADP-R	Analog addressable low-flow photoelectronic with relay duct smoke sensor
ST-1.5	Metal sampling tube duct widths 1'-2'
ST-3	Metal sampling tube duct widths 2'-4'
ST-5	Metal sampling tube duct widths 4'-8'
ST-10	Metal sampling tube duct widths 8'-12'
A5053	Replacement photoelectric sensor board
A5060	Replacement power board for ADP-R (w/relay)
A5067	Replacement power board for ADP (w/o relay)

Accessories	Description
RTS451	Remote test station
RTS451KEY	Remote test station w/key
RA400Z	Remote LED
PA400	Mini-Alert™ Sounder- Note: Device cannot be wired directly to ADP (non-relay).
F36-09-11	Replacement filters
M02-04-00	Test magnet
P48-21-00	End cap for metal sampling tube
P48-61-00	End cap for plastic sampling tube
S08-39-01	Replacement photo insect screen
T80-71-00	Replacement plastic sampling tube



PA-400Z



RA-400Z



RTS-451



RTS-451KEY

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