Innovair™

2-Wire Low-Profile Duct Smoke Detector
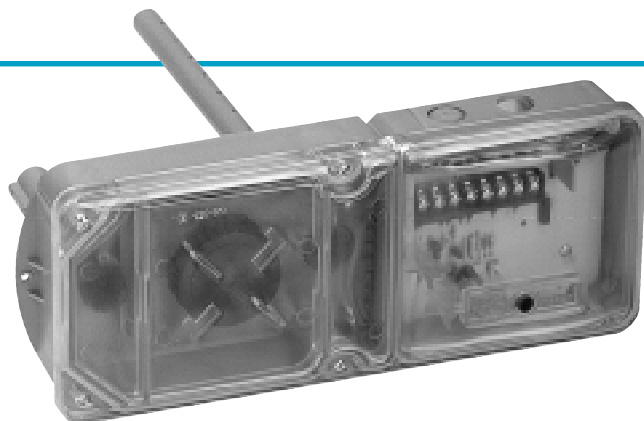
Models Available

DH100I 2-wire Ionization Detector
DH100P 2-wire Photoelectronic Detector

Features

- Outside mounting tabs
- Telescoping sampling tube*
- Built-in reset button
- Easy to clean
- 12/24 VDC operation
- Ion or photo models available
- Remote test station option
- Air velocity rating from 500 to 4000 FPM
- Remote annunciator option
- Easy and quick mounting to round or rectangular ducts from 1′–12′ wide
- Textured cover for convenient visual inspection
- UL 268A listed
- 3-year warranty

System Sensor DH100 2-wire duct smoke detector is available as either an ionization or photoelectric model. This new design allows for simplified cleaning and maintenance, or a change in application without removing the duct housing. The DH100 samples air currents passing through a duct and gives dependable performance for management of fans, blowers, and air conditioning systems, preventing the spread of toxic smoke and fire gases through the protected area.

WARNING: Duct smoke detectors have specific limitations.
DUCT DETECTORS ARE:

NOT a substitute for an open area smoke detector,
NOT a substitute for early warning detection, and
NOT a replacement for a building's regular fire detection system.

Refer to NFPA 72 and 90A for additional duct detector application information.

Specifications

Length:	14³/₈ inches (37 cm.)	Operating	
Width:	5¹/₂ inches (14 cm.)	Humidity Range:	10% to 93% relative humidity
Depth:	2³/₄ inches (7 cm.)	Air Duct Velocity:	500 to 4000 ft./min.
Shipping Weight:	3.75 lbs. (1.7 kg.)		
Operating			
Temperature Range:	23° to 131° F (–5° to 55° C)		

*Patent pending

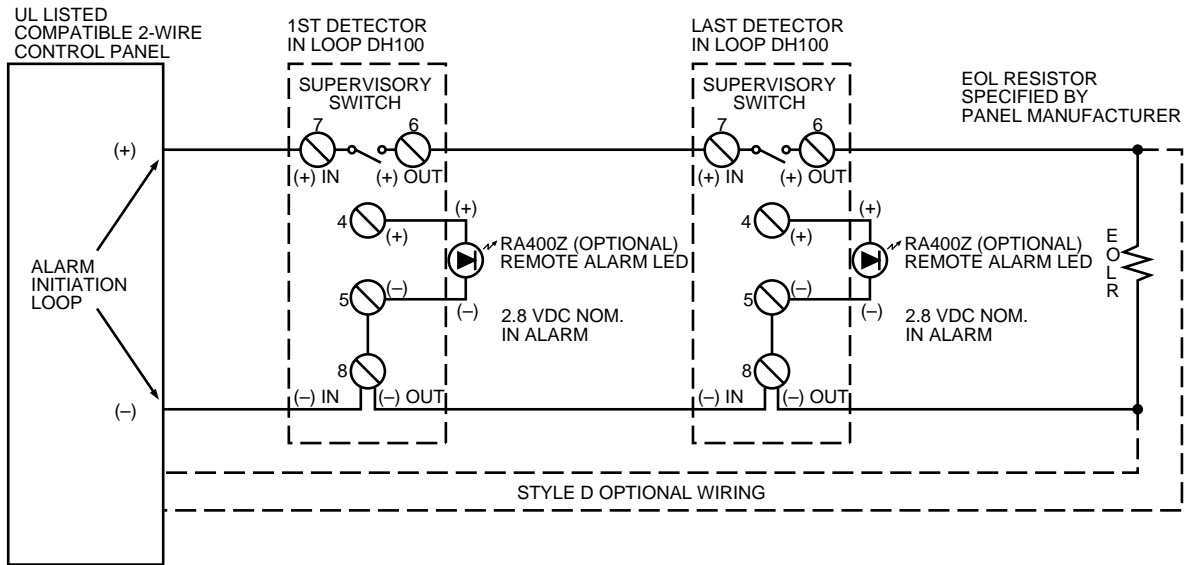# Architectural/Engineering Specifications

The air duct smoke detector shall be a System Sensor Model DH100 Series Duct Smoke Detector. The detector housing shall be UL listed per UL 268A specifically for use in air handling systems. The detector shall operate at air velocities of 500 feet per minute to 4000 feet per minute. It shall be capable of local testing via magnetic switch or remote testing using the RTS451KEY Remote Test Station. The unit shall be reset by local reset button or RTS451KEY. The duct detector housing shall incorporate an airtight smoke chamber in compliance with UL 268A, Standard for Smoke Detectors for Duct Applications. The housing shall be capable of mounting to either rectangular or round ducts without adapter brackets. An integral filter system shall be included to reduce dust and residue effects on detector and housing, thereby reducing maintenance and servicing. Sampling tubes shall either be telescoping or be easily installed after the housing is mounted to the duct by passing through the duct housing. The enclosure shall meet all applicable NEC and NFPA standards regarding electrical junction boxes. Terminal connections shall be of the strip and clamp method suitable for 12-18 AWG wiring.

Electrical Ratings – DH100 (Includes Detector)

System Voltage:	12/24 VDC
Ripple Voltage:	4 Volts peak to peak
Start-up Capacitance:	0.02 μF maximum
Standby Ratings:	8.5 VDC minimum
	35 VDC maximum
	120 μA maximum
Alarm Ratings:	4.2 VDC minimum at 10mA
	6.6 VDC maximum at 100mA
	Alarm current must be limited to 100mA or less by the control panel.
	If used, the RA400Z remote lamp operates within the specified alarm currents.
Reset Voltage:	2.50 VDC minimum
Reset Time:	0.3 Sec. maximum
Start-up Time:	34.0 Sec. maximum

DH100 Wiring Guide

System wiring diagram for 2-wire duct detectors (detectors powered from initiating circuit)
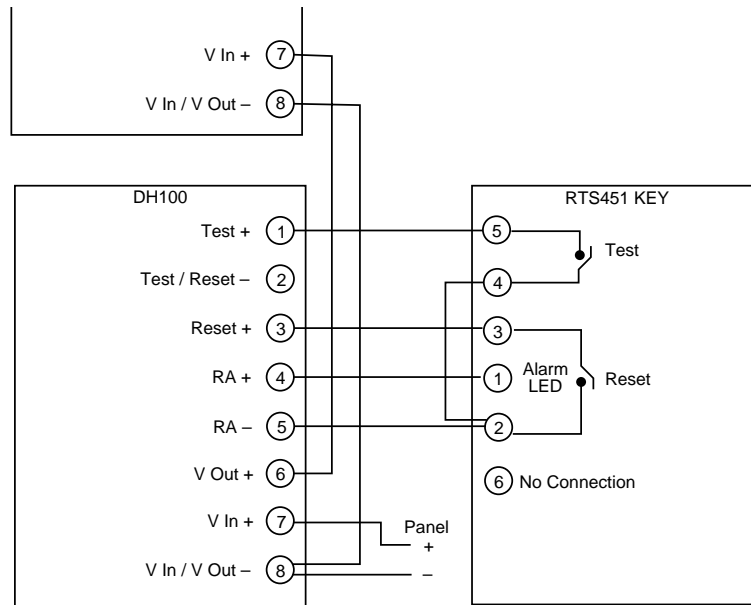

Wiring diagram for RTS451/RTS451KEY Remote Test Station to 2-wire duct detectors

Ordering Information

Part No.	Description
DH100I	2-wire ionization duct detector
DH100P	2-wire photoelectronic duct detector
A5052-00	Replacement ionization sensor board
A5069-00	Replacement photoelectronic sensor board
A5061-00	2-wire power board
Accessories	
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′
T80-71-00	Telescoping sampling tube
P48-55-00	End cap for T80-71-00

| Part No.	Description
RTS451KEY	Remote test station with key lock
RTS451	Remote test station
RA400Z	Remote annunciator alarm LED
APA451	Remote annunciator with piezo alarm
MOD400R	Sensitivity test module
F36-09-00	Replacement air filters (two per package)
M02-04-00	Test magnet
P48-21-00	End cap for metal sampling tubes
S08-39-01	Photo replacement screen
PA400B	Mini-Alert sounder
PS24LOB	Mini-Alert add-on strobe
PS12/24LENSC	Ceiling-mount "SMOKE" lens
PS12/24LENSW	Wall-mount "SMOKE" lens

Accessories

System Sensor provides system flexibility with a variety of accessories, including two remote test stations, and several different means of visible and audible system annunciation. As with our duct detectors, all duct detector accessories are UL listed.
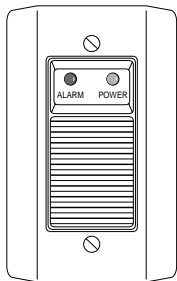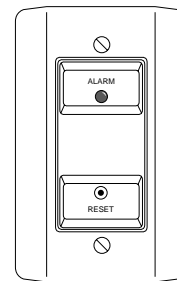

APA451
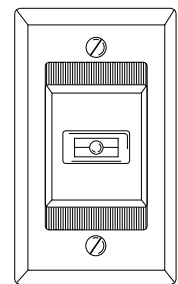Piezo
Annunciator
(UL S4011)
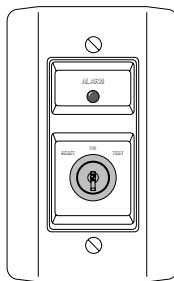
RTS451KEY
Remote Test
Station with Key
(UL S2522)
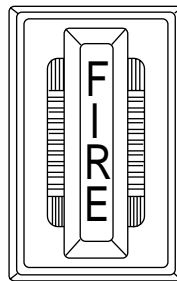
PA400 with
PS24LOW Add-on Strobe
(PS12/24LENSW
smoke lens option available)
(UL S3593)

RTS451
Remote Test
Station
(UL S2522)

RA400Z
Remote
Annunciator
(UL S2522)

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