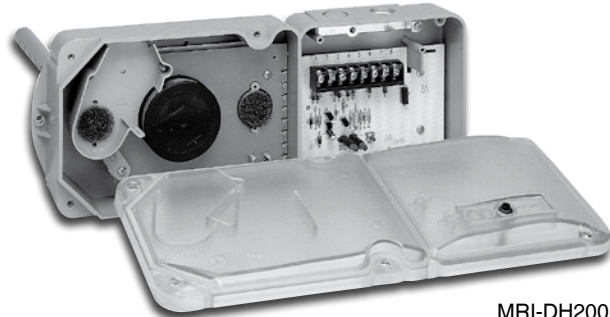
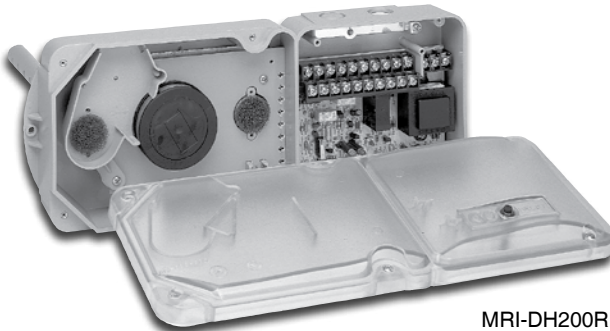


## MRI-DH200

### Intelligent Duct Smoke Detector



MRI-DH200PL



MRI-DH200RPL

### Description

Secutron's Innovair™ MRI-DH200 Low-Flow Series photoelectric air duct smoke detectors are capable of sensing smoke in air velocities from 100 to 4,000 feet per minute (0.5 to 20.32 m/sec).

This Innovair 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. Innovair 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 MRI-DH200 Series Detector 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 communication line. Detector sensitivity changes caused by dirt, temperature, or humidity are reported to the panel, allowing compensation algorithms to maintain the sensor's set sensitivity.

### 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 wheels
- 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
- 3-year warranty

#### MRI-DH200PL (non-relay)

- Has outputs for remote LED display and remote test
- Incorporates zener diodes to conserve power for communications to other devices
- Requires COM line power only

#### MRI-DH200RPL (with relay)

- Powered outputs for remote LED, and remote test and sounder
- Two form "C" auxiliary contacts
- Can be configured as a relay version or jumpered to mimic a non-relay version
- Patented cover tamper trouble signal
- Requires both COM line power and one of the following; 24VAC/DC or 120/220VAC for operation

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 detector from a remote location.

The Innovair family is 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.



S6487



S6960



3240-1656:116



342-02-E



## Architectural/Engineering Specifications

The duct smoke detector shall be a Model MRI-DH200PL or MRI-DH200RPL Intelligent Low-Flow Duct Smoke Detector to be used with compatible control panels. The duct smoke detector shall be UL listed per UL 268A, Standard for Smoke Detectors for Duct Applications, specifically for use in air handling systems. The detector shall operate in air velocities from 100 to 4000 feet per minute. The detector shall be an intelligent photoelectronic detector. It shall be capable of local testing via magnetic switch or remote testing from the RTS451 or RTS451KEY Remote Test Station.

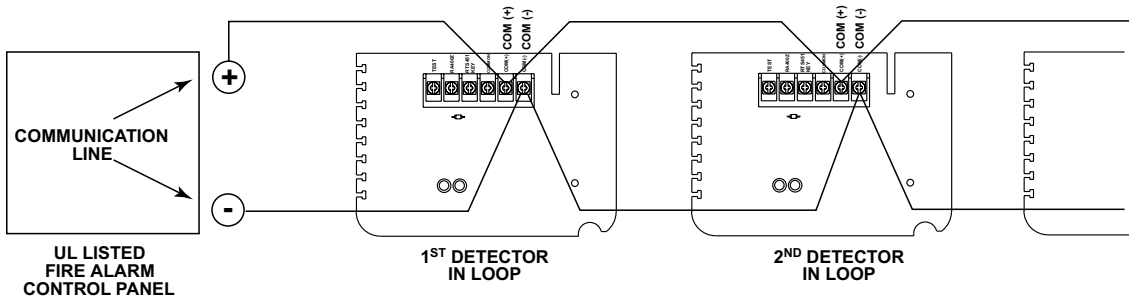
The duct smoke detector housing shall incorporate an airtight smoke chamber in compliance with UL 268A. The housing shall be capable of mounting to either rectangular or round ducts without adapter brackets. An integral filter system shall be included to reduce dust and residue effects, thereby reducing maintenance and servicing. Sampling tubes shall be easily installed after the housing is mounted to the duct by passing through the duct housing. Terminal connections shall be of the strip and clamp method suitable for 12-18 AWG wiring.

## MRI-DH200PL Specifications

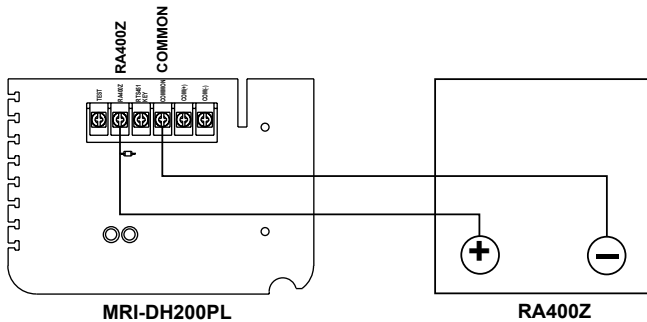
Voltage Range
15 to 32 VDC
Standby Current
300uA @ 24 VDC (one communication every 5 seconds with LED blink enabled)

Accessory Current Loads		
Device	Standby	Alarm
RA-400Z	0 mA	10 mA Max.
RTS451	0 mA	7.5 mA Max.
RTS451KEY	0 mA	7.5 mA Max.

## Wiring diagram for MRI-DH200PL Duct Smoke Detector to a Secutron Intelligent Fire Alarm Control Panel

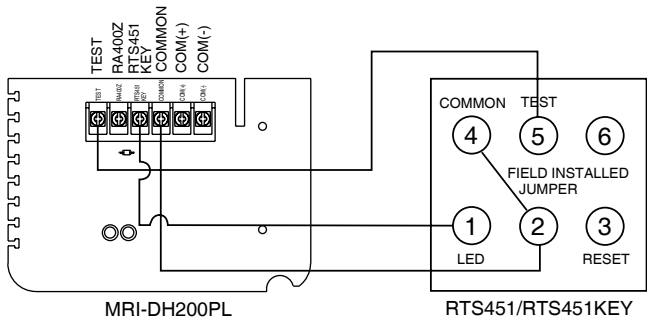


## Wiring diagram for MRI-DH200PL Duct Smoke Detector with optional RA400Z



(Must break tab on back of RA400Z when used with MRI-DH200PL.)

## Wiring diagram for MRI-DH200PL Duct Smoke Detector with RTS451/RTS451KEY



FOR RTS451, TERMINAL 3 IS NOT USED. (RTS451 DOES NOT HAVE A TERMINAL 6.)  
FOR RTS451KEY, TERMINALS 3 AND 6 ARE NOT USED.

# MRI-DH200RPL Specifications

## Current Requirements (using no accessories)

Power supply voltage	20-30 VDC	24 VAC, 50-60Hz	120VAC, 50-60Hz	220/240 VAC, 50-60Hz
Max. standby current	26mA	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)

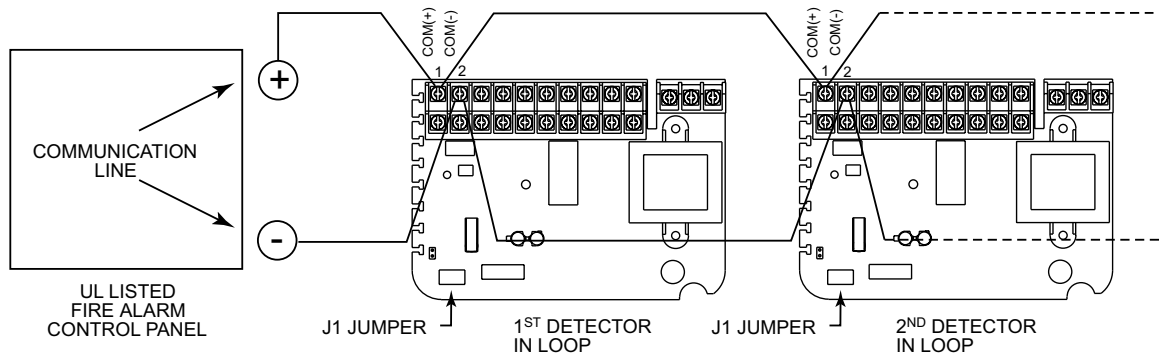
\* Minimum switching current for auxiliary contact must be 100 mA DC minimum @ 5 VDC.

## Accessory Current Loads at 24 VDC

Device	Standby	Alarm
RA-400Z	0 mA	12 mA Max.
RTS451	0 mA	10 mA Max.
RTS451KEY	0 mA	10 mA Max.

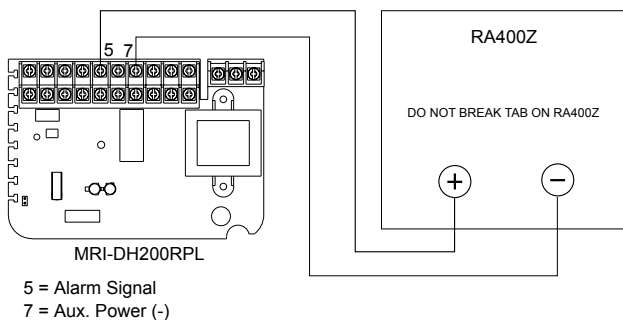
## Wiring diagram for MRI-DH200RPL Duct Smoke Detector to a Secutron Intelligent Fire Alarm Control Panel

**Note:** Jumper J1 shunt must be installed for 2-W applications. J1 must be removed for power PCB supervision.

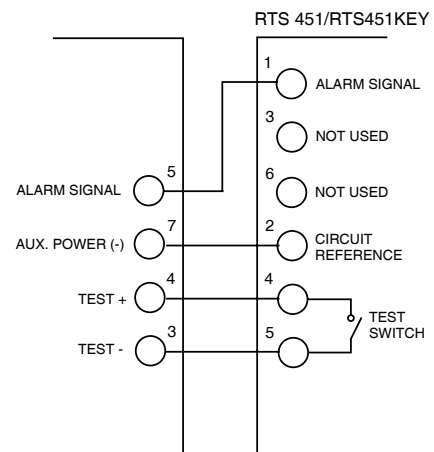


**Note:** External power of 24V AC/DC or 120/220 VAC must be connected in order to power all remote horn or strobe accessories.

## Wiring diagram for MRI-DH200RPL Duct Smoke Detector with optional RA400Z



## Wiring diagram for MRI-DH200RPL Duct Smoke Detector with RTS451/RTS451KEY



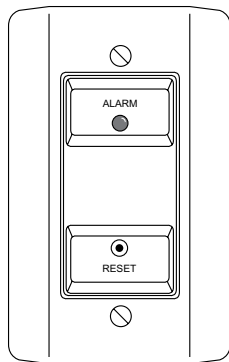
FOR RTS451, TERMINAL 3 IS NOT USED. (RTS451 DOES NOT HAVE A TERMINAL 6.) FOR RTS451KEY, TERMINALS 3 AND 6 ARE NOT USED.

## Technical Data

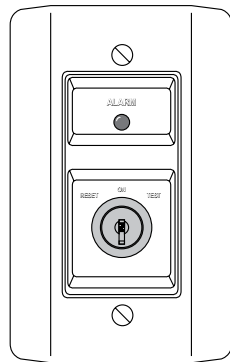
<b>Operating Temperature Range</b>
32°F to 131°F (0°C to 55°C)
<b>Operating Humidity Range</b>
10% to 93% relative humidity (non-condensing)
<b>Storage Temperature Range</b>
-22°F to 158°F (-30°C to +70°C)
<b>Duct Air Velocity</b>
100 - 4000 ft./min. (0.5 - 20.32 m/s)

<b>Shipping Weight</b>	
MRI-DH200PL	3.35lbs. (1.5kg)
MRI-DH200RPL	3.90lbs. (1.8kg)
<b>Dimensions</b>	
14 3/4" L x 5 1/2" W x 2 3/4" D (37 cm L x 14 cm W x 7 cm D)	

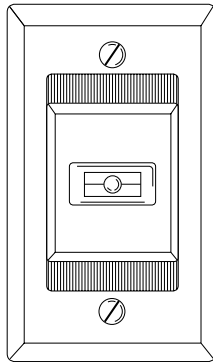
## Accessories



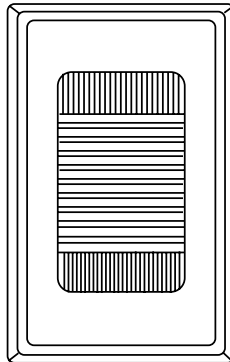
**RTS451**  
Remote Test Station  
(UL S2522)



**RTS451KEY**  
Remote Test Station with  
key (UL S2522)



**RA400Z**  
Remote LED Annunciator  
(UL S2522)



**PA400**  
Mini-Alert Sounder  
(UL S3593)

## Ordering Information

Model	Description
MRI-DH200PL	Innovair™ Intelligent Low-Flow Photoelectric Non-Relay Duct Smoke Detector
MRI-DH200RPL	Innovair™ Intelligent Low-Flow Photoelectric With Relay Duct Smoke Detector

Add suffix "A" for Canadian model.

Sampling Tubes	
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'

Accessories	
RTS451	Remote Test Station
RTS451KEY	Remote Test Station with Key
RA400Z	Remote LED Annunciator
APA451	Annunciator c/w Piezo Alarm Sounder
SSK451	Remote Test Station

