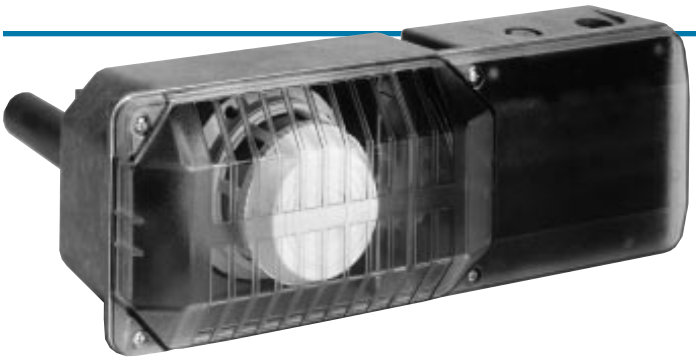
400 Series™ 4-Wire Duct Smoke Detector

SYSTEM SENSOR®
A Division of Pittway
3825 Ohio Avenue, St. Charles, IL 60174
1-800-SENSOR2 (736-7672), Fax 630-377-6495
http://www.systemsensor.com

Models Available

DH400ACDCI Ionization Duct Smoke Detector
DH400ACDCA Ionization Detector, ULC Listed
DH400ACDCP Photoelectronic Duct Smoke Detector



Features

- 24 VAC/DC or 120/220 VAC operation
- Simple change-out of photo or ion detector heads
- Air velocity rating from 500 to 4000 FPM
- Powered outputs for remote LED and sounder
- Remote test station option
- Remote sounder option
- Equipped with a DPDT auxiliary relay (two Form C contacts)
- Easy and quick mounting to round or rectangular ducts from 1′ – 12′ wide
- Clear cover for convenient visual inspection
- UL 268A listed
- 3-year warranty

System Sensor DH400ACDC 4-wire duct housing will accommodate either the 1451DH ionization sensor or the 2451 photoelectronic sensor. The twist-in, twist-out detector heads allow easy removal for quick cleaning and maintenance, or a change in application without removing the duct housing. The DH400ACDC samples air currents passing through a duct and gives dependable performance for management of fans, blowers, and air conditioning systems.

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.

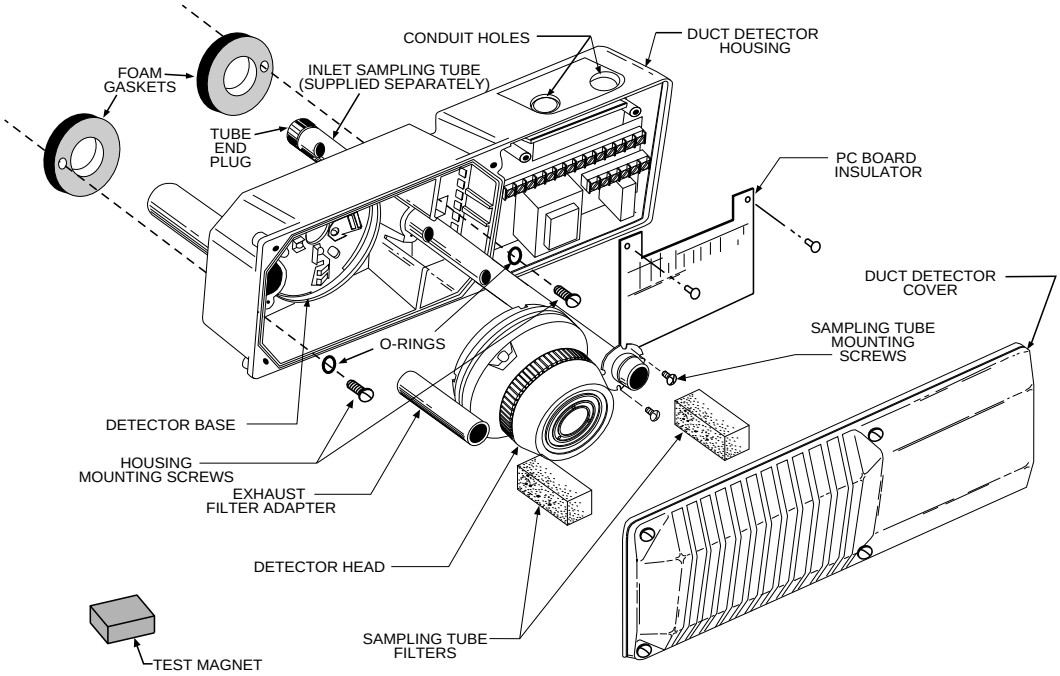
Specifications

Length:	14.5 inches (37 cm.)
Width:	5 inches (12.7 cm.)
Depth:	4 inches (10.2 cm.)
Weight:	4.5 lbs. (2.0 kg.)
Operating Temperature Range:	32° to 120°F (0° to 49°C)
Operating Humidity Range:	10% to 93% relative humidity
Air Duct Velocity:	500 to 4000 ft./min.

© System Sensor 8/96
This document is not intended to be used for installation purposes.

Architectural/Engineering Specifications

The air duct smoke detector shall be a System Sensor Model DH400ACDC 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. The detector housing shall be equipped with an integral mounting base capable of accommodating either photoelectronic or ionization detector heads. It shall be capable of local testing via magnetic switch or remote testing using the RTS451KEY Remote Test Station. 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 be 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 14–18 AWG wiring.



Exploded View of DH400ACDC Duct Detector Components

Electrical Ratings – DH400ACDC

Power Supply Voltage	20 - 29 VDC	24 VAC 50 - 60 Hz	120 VAC 50 - 60 Hz	220/240 VAC 50 - 60 Hz
CURRENT REQUIREMENTS (USING NO ACCESSORIES)				
Max. standby current	25 mA	35 mA RMS	20 mA RMS	20 mA RMS
Max. alarm current	95 mA	55 mA RMS	55 mA RMS	30 mA RMS

CONTACT RATINGS

Alarm initiation contacts (SPST)	2.0A @ 30 VAC/DC (0.6 power factor)
Alarm auxiliary contacts (DPDT)	10A @ 30 VDC 10A @ 277 VAC (0.75 power factor) 240 VA @ 240 VAC (0.4 power factor) 1/8 HP @ 120 VAC 1/4 HP @ 240 VAC
Trouble contacts (SPST)	0.3A @ 32 VDC (resistive)

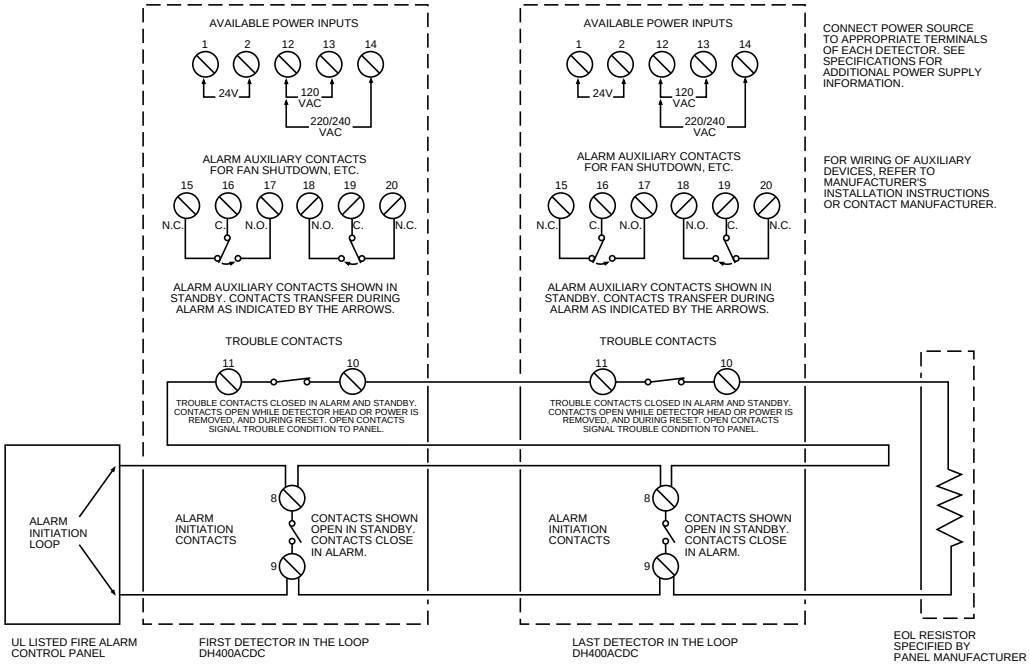
ACCESSORY CURRENT LOADS AT 24 VDC		
DEVICE	STANDBY	ALARM
APA451	12mA MAX	30mA MAX
PA400	0mA	15mA MAX
RA400Z	0mA	7mA MAX
RTS451KEY	0mA*	7mA MAX*

ANY COMBINATION OF ACCESSORIES MAY BE USED SUCH THAT THE GIVEN CURRENT LOADS TOTAL:

100mA OR LESS IN THE STANDBY STATE,
150mA OR LESS IN THE ALARM STATE.

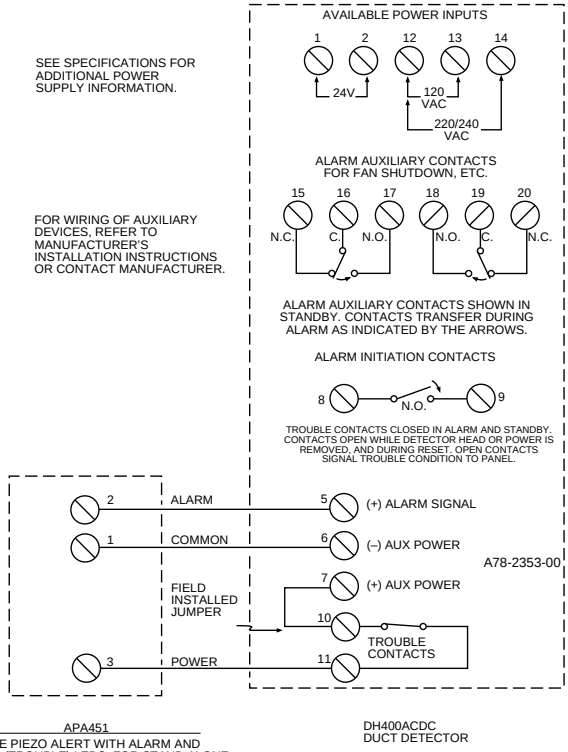
*NOTE: WHEN INITIATING AN ALARM, THE RTS451 REQUIRES 71mA MAXIMUM IN PRE-ALARM AND 78mA MAXIMUM IN ALARM. NOMINAL STANDBY CURRENT IS 0mA. ALARM CURRENT IS 7mA MAXIMUM WHEN TEST MAGNET IS REMOVED.

DH400ACDC Wiring Guide

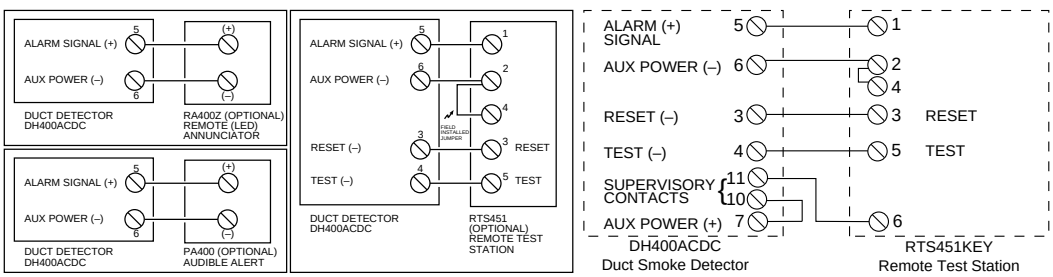


System Wiring Diagram for DH400ACDC 4-Wire Duct Smoke Detectors Using a UL Listed Control Panel

CAUTION: Do not loop wire under terminals.
Break wire run to provide supervision of connections.



Wiring Diagram for DH400ACDC 4-Wire Duct Detector System Equipped Without a Control Panel



Wiring Diagrams for Optional Accessories

Ordering Information

Part No.	Description
DH400ACDCI	4-wire ionization duct detector
DH400ACDCA	Same as above, Canadian model
DH400ACDCP	4-wire photoelectronic duct detector
1451DH	Replacement ionization sensor head
2451	Replacement photoelectronic sensor head
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′
APA451	Annunciator with piezo alarm and power LEDs (see below)
RTS451	Remote test station
RTS451KEY	Remote test station with key (see below)
MOD400R	Sensitivity test module
PA400	Piezo sounder
RA400Z	Remote annunciator alarm LED
CRT400	Ion cover removal tool
F36-05-00	Replacement air filters (two per package)
M02-04-00	Test magnet
P48-21-00	End cap for metal sampling tubes
RS14	Ion replacement screen
RS24	Photo replacement screen
R59-18-00	Calibrated test card (for photo units only)
A2650-01	Replacement installation kit (mounting hardware)



APA451 Annunciator with Piezo Alarm and Power LEDs



RTS451 Remote Test Station

System Sensor Worldwide Distribution

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