



Fire-LITE® Alarms
INCORPORATED

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F-585

DH400ACDC Series

4-Wire Duct Detector Housings for Ionization and Photoelectric Sensors

Section: Conventional Initiating Devices

GENERAL

The System Sensor **DH400ACDC** samples air currents passing through a duct. It 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.

System Sensor's DH400ACDC 4-wire duct detector housing will accommodate either the 1451DH ionization sensor or the 2451 photoelectric 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.

NOTE: The System Sensor DH400ACDC Duct Detector Housing is supplied with either the 1451DH Sensor (order DH400ACDCI) or the 2451 Photoelectric Sensor (order DH400ACDCP).

FEATURES

- 24 VDC operation.
- Accommodates ionization or photoelectric heads.
- Simple change-out of detector heads: twist in, twist out.
- Easy to maintain.
- Powered outputs for remote LED and Sounder/Strobe.
- Air velocity rating from 500 to 4,000 feet per minute (3.175 to 25.4 m./sec.).
- UL 268A listed.
- Reset time: 0.3 seconds (maximum).
- Clear polycarbonate cover for convenient visual inspection of sampling tube filters.
- Rugged plastic housing (mounting portion).
- Remote test station option.
- Easy and quick mounting to round or rectangular ducts from 1' to 12' (0.305 to 3.66 m) wide.
- Three-year limited warranty.

APPLICATIONS

DH400ACDC detectors are designed to operate on 24 VDC, 24 VAC, 120 VAC, or 240 VAC. Alarm and supervisory relay contacts are available for control panel interface (alarm initiation), HVAC control, and other auxiliary functions. These detectors are **NOT** designed for 2-wire applications.

Duct detectors are:

- **NOT** a substitute for open area smoke detectors.
- **NOT** a substitute for early warning detection.
- **NOT** a replacement for a building's regular fire detection system.

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



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**DH400ACDCP Duct Detector Housing
with 2451 Photoelectric Sensor**

CONSTRUCTION AND INSTALLATION

The twist-in, twist-out detector and base allow the removal of detectors easily and quickly for cleaning and maintenance. In addition, detector heads can be changed to fit the application without removing the duct housing. The DH400ACDC comes with built-in exhaust tube. Sampling tubes are available to fit ducts from 1 to 12 feet (0.305 to 3.66 meters) wide.

ENVIRONMENTAL LIMITS

Temperature: 32°F to 120°F (0°C to 49°C).

DO NOT INSTALL where normal ambient temperatures exceed 120°F (50°C).

Relative humidity: 10% to 93%.

Air velocity: 500 to 4,000 ft./min. (3.175 to 25.4 m./sec.).

MECHANICAL SPECIFICATIONS

Width: 14.5 inches (36.83 cm).

Height: 5 inches (12.70 cm).

Depth (installed): 4 inches (10.16 cm).

Weight: 4.5 pounds (2.041 kg).

This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice. For more information, contact **Fire-Lite**. Phone: (203) 484-7161 FAX: (203) 484-7118



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ISO-9001
Engineering and Manufacturing
Quality System Certified to
International Standard ISO-9001



Made in the U.S.A.

ELECTRICAL CHARACTERISTICS				
Power supply voltage:	20 - 29 VDC	24 VAC, 50-60 Hz	120 VAC, 50-60 Hz	220/240 VAC, 50-60 Hz
Ripple voltage:	4 Vpp	N/A	N/A	N/A
Input capacitance:	270 μ F max.	270 μ F max.	N/A	N/A
Reset voltage:	3 VDC min.	2 VAC min.	10 VAC min.	20 VAC min.
Reset time with RTS451):	0.03 to 0.30 sec.	0.03 to 0.30 sec.	0.03 to 0.30 sec.	0.03 to 0.30 sec.
Reset time (by power down):	0.6 sec. max.	0.6 sec. max.	0.6 sec. max.	0.6 sec. max.
Power up time:	34 sec. max.	34 sec. max.	34 sec. max.	34 sec. max.
Alarm response time:	2 to 17 sec.	2 to 17 sec.	2 to 17 sec.	2 to 17 sec.
CURRENT & POWER REQUIREMENTS (using no accessories)				
Maximum standby current:	25 mA	35 mA RMS	20 mA RMS	20 mA RMS
Maximum standby power:	1 Watt	1 Watt avg.	3 Watts avg.	3 Watts avg.
Maximum alarm current:	95 mA	55 mA RMS	55 mA RMS	30 mA RMS
Maximum alarm power:	4 Watts	4 Watts avg.	4 Watts avg.	4 Watts avg.
CONTACT RATINGS				
Alarm initiation contacts (SPST):	2.0 A @ 30 VAC/DC (0.6 power factor).			
Alarm auxiliary contacts (DPDT):	10 A @ 30 VDC. 10 A @ 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):	0.3 A @ 32 VDC (resistive).			

PRODUCT LINE INFORMATION

Model No. Description

DH400ACDCI	DH400ACDC duct detector housing with 1451DH ionization sensor.
DH400ACDCP	DH400ACDC duct detector housing with 2451 photoelectric sensor.
1451DH	Replacement ionization smoke detector head.
2451	Replacement photoelectric smoke detector head.
ST-1.5	Metal sampling tube, duct widths 1' (0.3048 m) to 2' (0.6096 m).
ST-3	Metal sampling tube, duct widths 2' (0.6096 m) to 4' (1.2192 m).
ST-5	Metal sampling tube, duct widths 4' (1.2192 m) to 8' (2.4384 m).

ST-10	Metal sampling tube, duct widths 8' (1.2192 m) to 12' to (3.6576 m).
APA451	Annunciator with piezo, alarm, and power LEDs.
RA400Z	Remote annunciator alarm LED.
PA400	Piezo alert sounder (offered in red [R], white [W], or beige [B]).
M02-04-00	Test magnet.
RTS451	Remote test station.
M0D400R	Sensitivity test kit.
CRT-400	Ionization cover removal tool.

Any combination of accessories may be used such that the given current loads total:

- 100 mA or less in the Standby state.
- 15 mA or less in the Alarm state.

***Note:** When initiating an alarm using the test magnet. The RTS451 requires 71 mA maximum in pre-alarm and 78 mA in alarm. Normal standby current is 0 mA. The alarm current drops to 7 mA when the test magnet is removed from the RTS451.

ACCESSORY CURRENT LOADS AT 24 VDC

DEVICE	STANDBY	ALARM
APA451	12 mA max.	30 mA max.
PA400	0 mA	15 mA max.
RA400Z	0 mA	7 mA max.
RTS451	0 mA*	7 mA max.*