



October 22, 1999

DN-6751 • I-354

DH100P

Two-Wire, Low-Profile, Duct Smoke Detector

Section: Conventional Initiating Devices

GENERAL

The System Sensor DH100 two-wire duct smoke detector is available as a photoelectronic 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.
- **NOT** a substitute for a building's regular fire detection system.

REFER TO NFPA 72 and 90A for additional duct smoke detector application information.

FEATURES

- Outside mounting tabs.
- Telescoping sampling tube (*patent pending*).
- Built-in reset button.
- Easy to clean.
- 12/24 VDC operation.
- Photoelectronic model available only.
- Remote test station option.
- Air velocity rating from 500 to 4,000 ft/min (152.4 to 1219.2 m/min).
- Remote annunciator option.
- Easy and quick mounting to round or rectangular ducts from 1 to 12 feet (2.54 to 30.48 cm) wide.
- Textured cover for convenient visual inspection.
- UL 268A listed.

SPECIFICATIONS

Dimensions: 14.375" (36.513 cm) wide x 5.500" (13.970 cm) high x 2.750" (6.985 cm) deep.

Shipping weight: 3.25 lbs. (1.474 kg).

Operating temperature range: 32°F to 131°F (0°C to 55°C).

Operating humidity range: 10% to 93% relative humidity.

Air duct velocity range: 500 to 4,000 ft/min (152.4 to 1219.2 m/min).



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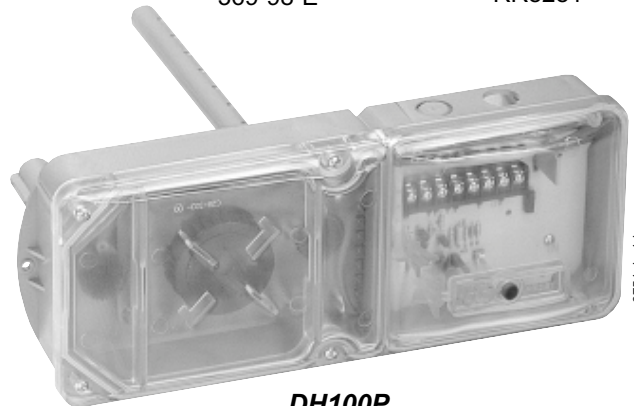
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DH100P

Electrical Ratings (including detector):

System voltage: 12/24 VDC.

Ripple voltage: 4 volts peak-to-peak.

Start-up capacitance: 0.02 μ F maximum.

Standby ratings: 8.5 VDC minimum, 35 VDC maximum, 120 μ A maximum.

Alarm ratings: 4.2 VDC minimum at 10 mA; 6.6 VDC maximum at 100 mA. **Alarm current** must be limited to 100 mA or less by the control panel. **If used, the RA400Z** remote lamp operates within the specified alarm currents.

Reset voltage: 2.5 VDC minimum.

Reset time: 0.3 seconds maximum.

Start-up time: 34.0 seconds maximum.

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 to 4,000 feet per minute (152.4 to 1219.2 meters 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

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 NOTIFIER. Phone: (203) 484-7161 FAX: (203) 484-7118



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12 Clintonville Road, Northford, Connecticut 06472

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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 standard regarding electrical junction boxes. Terminal connections shall be of the strip-and-clamp method suitable for 12 to 18 AWG (3.25 to 0.75 mm²) wiring.

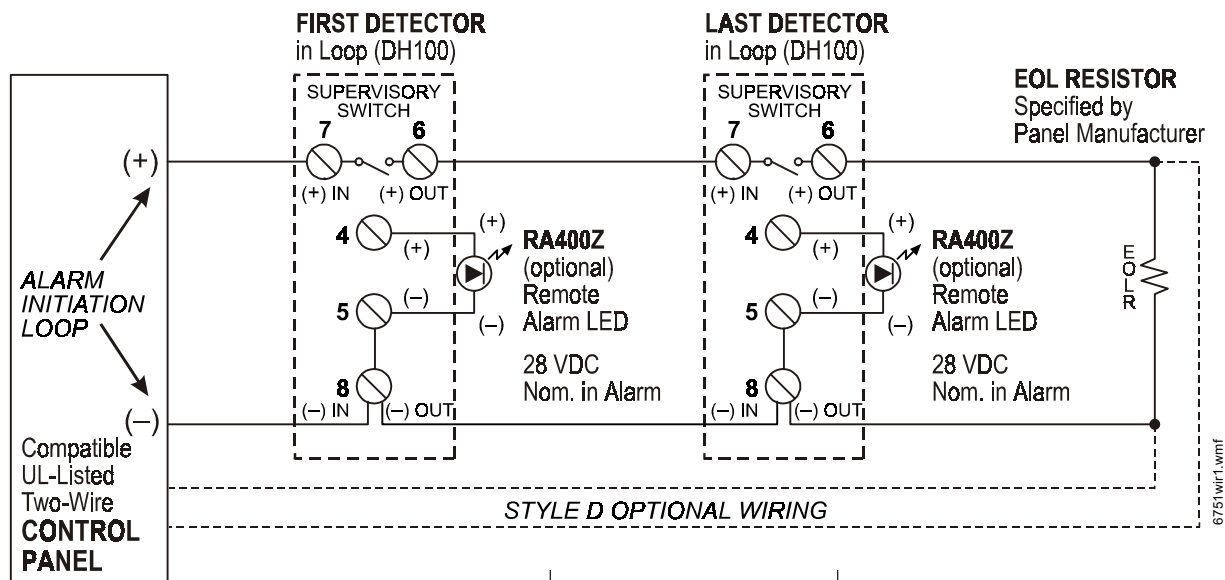
PRODUCT LINE INFORMATION

- DH100P** Two-wire photoelectronic duct smoke detector.
- A5069-00** Replacement photoelectronic detector head.
- A5061-00** Replacement two-wire power board.

ACCESSORIES:

- ST-1.5** Metal sampling tube, duct widths 1' to 2'.
- ST-3** Metal sampling tube, duct widths 2' to 4'.
- ST-5** Metal sampling tube, duct widths 4' to 8'.
- ST-10** Metal sampling tube, duct widths 8' to 12'.
- T80-71-00** Replacement telescoping sampling tube.
- P48-55-00** Replacement end cap for T80-71-00.
- RTS451** Remote test station.
- RTS451KEY** Remote test station with key lock.
- 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.

WIRING DIAGRAMS



ABOVE: System wiring diagram for two-wire duct smoke detectors (detectors powered from initiating device circuit).

AT RIGHT: Wiring diagram for RTS451/RTS451KEY Remote Test Station to two-wire duct smoke detectors.

