

Air Duct Smoke Detector

Effective: March 2001

MODEL DH-60 FOR 4-WIRE APPLICATIONS

FENWAL®

70-61.A

FEATURES

- 24/120/240 Vac or 24 Vdc Operation
- Accommodates Fenwal Ionization or Photoelectric Smoke Detectors
- Remote Indication, Test, and Reset Capabilities
- Easily Mounts to Round or Rectangular Ducts 8 Inches to 12 Feet Wide
- Air Velocity Rating 500 to 4000 fpm
- Two High Capacity Form C Alarm Relay Contacts (10 amps at 277 Vac)
- Clear Lexan Cover for Easy Viewing of Smoke Detector Status and Cleanliness
- U.L. 268A Listed File S1064
- Factory Mutual Approved
- CSFM Listed #3240-1076:121
- NYC MEA Listed #134-95-E
- City of Los Angeles Approved #RR8318
- 3 Year Warranty

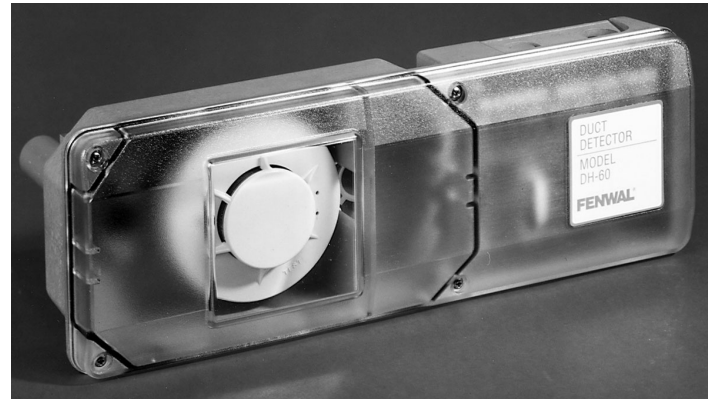
DESCRIPTION

The Fenwal DH-60 Air Duct smoke detector is designed for detecting particles of combustion in air handling systems. Upon detection of smoke levels at the set point of the detector, the DH-60 can control a variety of devices, such as HVAC fans and dampers to prevent the spread of smoke throughout the facility. High amperage relay contacts are provided for controlling such devices in the event of a fire. Supervisory contacts are also provided for signaling unit faults.

The duct detector housing accepts the CPD-7051D ionization or PSD-7155D photoelectric smoke detectors. A transparent Lexan cover over the detection chamber allows visual inspection of the duct detector's chamber and the internal smoke detector status. Sampling air in HVAC ducts is accomplished with the use of sampling tubes which extend into the HVAC duct.

The duct detector can operate as an AC powered stand alone device or as a 4 wire 24 Vdc powered device for use with fire alarm control panels. The duct detector will operate from a wide range of AC voltage sources. The range includes 24 Vac, 120 Vac, or 240 Vac. An integral normally energized trouble relay is used to supervise power and smoke detector head removal.

Outputs are provided which can accommodate remote alarm and power indication, remote test, and remote reset. Fenwal offers a line of remote accessories which work in conjunction with the duct detectors.



APPLICATION

The Fenwal DH-60 duct detector is suited for use within HVAC systems in commercial, industrial, and institutional fire alarm applications.

The DH-60 will accommodate all ducts with air velocities between 500 and 4000 feet per minute. Both the photoelectric (PSD-7155D) or the ionization (CPD-7051D) smoke detector with the duct housing will operate over this entire air velocity range. The duct detector is easily mounted to both rectangular and round ducts from 8 inches to 12 feet wide.

SAMPLING TUBES

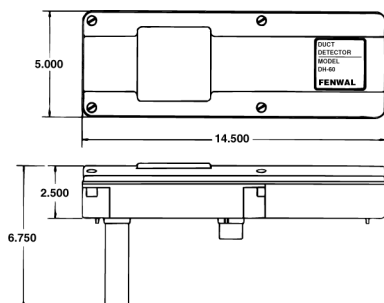
The duct detectors operation is based upon an air sampling principle. Two tubes extend into the HVAC duct to transport air from inside the duct into the duct detector's sensing chamber and back out to the duct. If the sampled air contains a concentration of smoke greater than or equal to the alarm threshold of the internal smoke detector, the unit will go into alarm.

The duct detector's inlet supply sampling tube is selected according to the size of the HVAC duct. No exhaust tube is required. The unit's exhaust tube is molded into the housing to simplify installation.

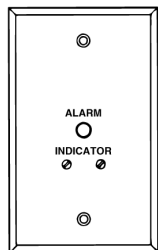
REMOTE INDICATORS/CONTROLS

A series of easily installed remote indicators are available to add versatility and flexibility to the DH-60 duct housing. These attractive and functional devices provide convenient status information along with remote Test/Reset capabilities. The remote indicators are helpful when the detector is out of view or located in hard-to-get-at locations. The remote indicators can be used in both AC and DC applications.

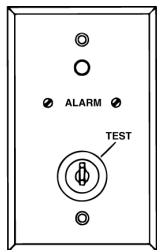
DIMENSIONAL/EXPLODED VIEW DRAWING



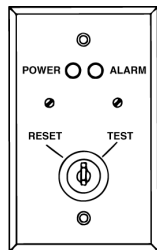
REMOTE INDICATORS



Model RA-911
Remote Alarm Indicator



Model RA-912
Remote Alarm Indicator
with Test



Model RA-913
Remote Power/Alarm Indicator
with Test & Reset

ELECTRICAL SPECIFICATIONS

INPUT VOLTAGE AND CURRENT RATINGS

POWER SOURCE INPUT VOLTAGE	MAX. STANDBY CURRENT (NO ACCESSORIES)	MAX. ALARM CURRENT (NO ACCESSORIES)	MAX. ALARM CURRENT (MAX. ACCESSORIES)
24 Vac RANGE 20.4-26.4	70 mA rms.	160 mA rms.	220 mA rms.
120 Vac RANGE 102-132	30 mA rms.	40 mA rms.	50 mA rms.
240 Vac RANGE 204-264	20 mA rms.	25 mA rms.	35 mA rms.
24 Vdc RANGE 20-29	20 mA DC	60 mA DC	90 mA DC

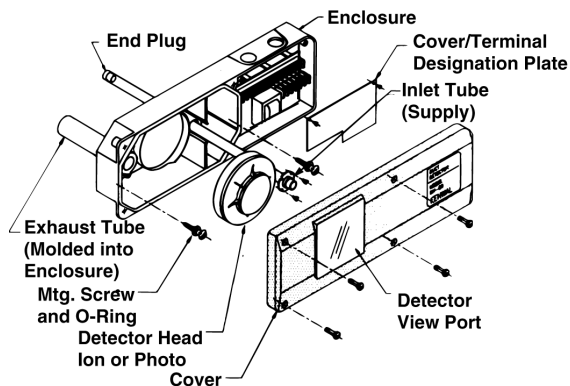
REMOTE INDICATOR CURRENT RATING

MODEL	STANDBY	ALARM
RA-911	0 mA	20 mA
RA-912	0 mA	20 mA
RA-913	10 mA	30 mA

RELAY CONTACT RATINGS

CONTACT DESIGNATION	TYPE OF CONTACTS	*CONTACT RATING
AUXILIARY ALARM CONTACTS	2 FORM C	10 amps @ 30 Vdc Resistive 10 amps @ 277 Vac Resistive 1/8 HP @ 120 Vac 1/4 HP @ 240 Vac
ALARM INITIATION CONTACT	1 FORM A	2 amps @ 30 Vac/dc Resistive
SUPERVISORY CONTACT	1 FORM A	.3 amps @ 30 Vdc .3 amps @ 30 Vac

* Power Factors must be considered



AUXILIARY POWER RATINGS

Voltage: 24 VDC FWR (Unregulated Filtered)				
POWER SOURCE	24 VAC	120 VAC	240 VAC	24 VDC
MAXIMUM CURRENT OUT	Limited by input power supply	40 mA DC	30 mA DC	Limited by input power supply

PART NUMBER INFORMATION

COMPONENT	PART NUMBER
Duct detector housing with photoelectric smoke detector included (4 wire) DH-60PSD	70-600000-155
Duct detector housing with ionization smoke detector included (4 wire) DH-60CPD	70-600000-051
Duct detector housing without a smoke detector (4 wire) DH-60	70-600000-000
Ionization Detector Head CPD-7051D	70-510000-060
Photoelectric Detector Head PSD-7155D	71-510000-060
Remote Alarm Indicator RA-911	70-200000-911
Remote Alarm Indicator with Test RA-912	70-200000-912
Remote Power Alarm Indicator with Test/Reset RA-913	70-200000-913
12 inch sampling tube (for ducts less than 2 ft.)	06-129500-001
24 inch sampling tube (for ducts between 2 to 3 ft.)	06-129500-002
48 inch sampling tube (for ducts between 3 to 4 ft.)	06-129500-003
72 inch sampling tube (for ducts between 4 to 6 ft.)	06-129500-004
96 inch sampling tube (for ducts between 6 to 8 ft.)	06-129500-005
120 inch sampling tube (for ducts between 8 to 12 ft.)	06-129500-006
Optional Exhaust tube kit	06-129554-001
Sensitivity Tester (ST-001)	70-500000-002
Spare Key for RA-912, 913	06-118012-001
Test Magnet	06-117883-001
Installation and Instruction Manual	70.60



FENWAL
Protection Systems

LICO Electronics GmbH, www.mess-regeltechnik.at

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