

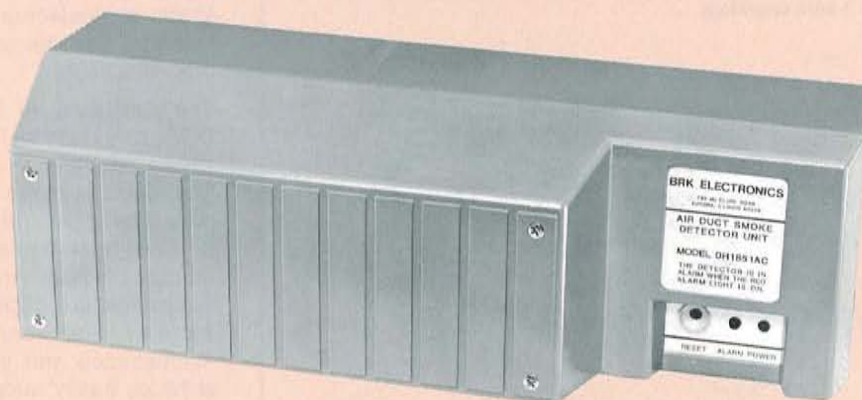
**PHOTOELECTRONIC
AND IONIZATION
DUCT DETECTORS
FOR SYSTEMS USE**

MODELS

**DH1851AC/DH1851DC
DH2851AC/DH2851DC**

BRK ELECTRONICS *First in Fire Warning*

DH1851/2851 Series Duct Detectors



- Accommodates both ionization and photoelectric smoke detector heads
- 2/4 wire DC operation or 4 wire AC operation
- Mounts easily and quickly to round or rectangular ducts
- Handles air velocities from 300 to 3000 FPM
- UL listed (268A)

BRK quality, coupled with ease of installation and maintenance, makes this duct detector the industry standard.

The BRK DH1851/DH2851 duct housing will accommodate either the 1851DH ionization detector or the 2851DH photoelectric detector. 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 duct housing removal.

Once installed, the DH1851/2851 series duct housing provides the sampling of air currents passing through

a duct and permits the detection of a developing fire. Either model gives dependable performance for rapid shutdown of fans, blowers and air conditioning systems, thereby preventing the rapid spread of toxic smoke and fire gases through the protected area.

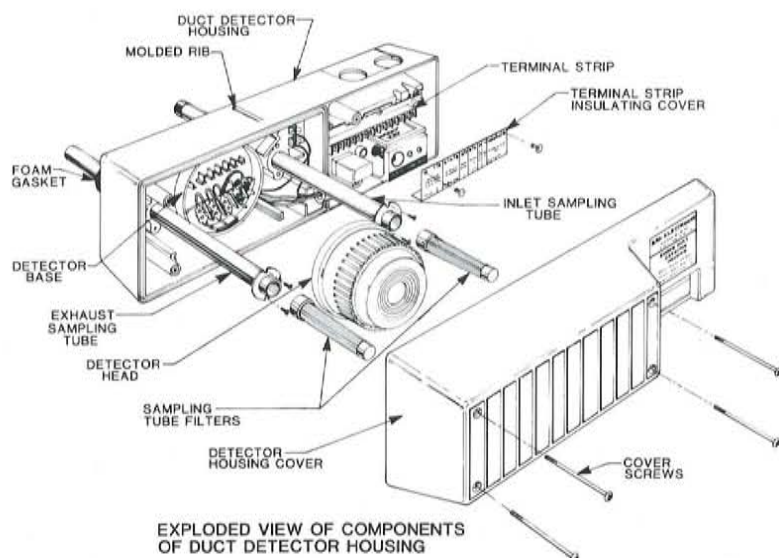
All models come with one 8" exhaust tube. Sampling tubes are available to fit ducts from 1' to 10' wide.

Plug-in relay module (AR-10) is used for 4-wire 24VDC operation. AC models include the AR-10 relay module.

BRK's duct detector "Applications and Installation Instructions" should be used for reference as well as BRK's "Applications Manual for Systems Detectors."

SPECIFICATIONS	DH1851AC DH2851AC	DH1851DC DH2851DC (2-wire)	DH1851DC DH2851DC (4-wire*)
Operating Voltage	120VAC	20/24VDC (20VDC min., 29VDC max.)	20/24VDC (20VDC min., 29VDC max.)
Current-Consumption Standby (Typ.)	15mA	100 μ A (DH1851DC) 150 μ A (DH2851DC)	100 μ A (DH1851DC) 150 μ A (DH2851DC)
Alarm	180mA	20-300mA (MUST be limited by Panel)	120mA
Alarm Contacts	S.P.S.T. — N.O. 10A @ 30VDC, 120VAC	N/A	S.P.S.T. — N.O.* 10A @ 30VDC, 120VAC
Auxiliary Contacts	S.P.D.T. — Form C 10A @ 30VDC, 120VAC	N/A	S.P.D.T. — Form C* 10A @ 30VDC, 120VAC
Supervisory Relay Contact Rating	10VA, 0.5 Amp. Max.	N/A	Use separate End- of-Line Relay A77-716-02
Temperature	32°F to 120°F		
Humidity	15% to 85% Relative Humidity, Excluding Condensation		
Air Duct Velocity	DH2851AC & DH2851DC 300 to 4,000 ft./min. DH1851AC & DH1851DC 300 to 3,000 ft./min.		
Mechanical Specs	Size (approx.) 14½" L x 5" W x 7" D. Weight (approx.) 7 lbs.		

*Requires optional AR-10 relay. Addition of this plug-in relay allows standard 2-wire detectors to be converted for 4-wire operation.



DH1851AC	120VAC Ionization Duct Detector. Exhaust tube included. Sampling tube purchased separately.
DH1851DC	20/24VDC Ionization Duct Detector. Exhaust tube included. Sampling tube purchased separately.
DH2851AC	120VAC Photoelectronic Duct Detector. Exhaust tube included. Sampling tube purchased separately.
DH2851DC	20/24VDC Photoelectronic Duct Detector. Exhaust tube included. Sampling tube purchased separately.
PST851DH-1.5	Polycarbonate Plastic* Sampling tube for DH1851/DH2851 Series Duct Detector. For duct widths of 1' - 2'.
PST851DH-3	Polycarbonate Plastic* Sampling tube for DH1851/DH2851 Series Duct Detector. For duct widths of 2' - 4'.
PST851DH-5	Polycarbonate Plastic* Sampling tube for DH1851/DH2851 Series Duct Detector. For duct widths of 4' - 8'.
PST851DH-10	Polycarbonate Plastic* Sampling tube for DH1851/DH2851 Series Duct Detector. For duct widths of 8' - 10'.
RM851DH	Remote Test Station for DH1851/DH2851 Series Duct Detectors. Remote key lock assembly includes alarm LED.
A77-669-00	Remote Alarm Lamp (LED) assembly with rectangular mounting plate (4½" x 2¾").
AR-10	Auxiliary Relay (included in all AC versions). S.P.S.T. — N.O. alarm contacts. S.P.D.T. — Form C aux. contacts, 10A @ 30VDC, 120VAC. ½ HP @ 120VAC, ½ HP @ 240 VAC. (AR-10 must be ordered for each detector used on DC 4-wire circuits.)
A1358	Replacement filters
A77-716-02	End of line relay 20/24VDC

*Metal sampling tubes are available upon special request.

ARCHITECT/ENGINEER SPECIFICATIONS

The air duct smoke detector shall be either a BRK Electronics Model DH1851AC or DH1851DC ionization detector or Model DH2851AC or DH2851DC photoelectronic detector. The detector housing shall be UL listed per UL268A specifically for use in air handling systems. The detector shall operate at air velocities of 300 feet per minute to 3000 feet per minute.

Either 2-wire or 4-wire Class A or Class B supervisory configuration shall be available. Changing from 2-wire to 4-wire operation is provided by the addition of a plug-in relay. The duct detector shall interface directly with BRK RM851DH Remote Test Station, which shall provide reset and detector alarm test functions and shall be of such a design so as to be field installable without the need for changing the existing duct housing. 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.

The duct detector housing shall be molded NORYL® plastic and shall incorporate an airtight smoke chamber in compliance with UL268A, 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 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. Wiring shall be connected to a terminal strip and be so noted and numbered.

Distributed by:

BRK ELECTRONICS System Sensor Division

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