

D340 Family two-wire duct smoke detector housings

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- ▶ For 1 ft. (30.5 cm) to 10 ft. (3 m) ducts with air velocity between 300 ft./min. to 4000 ft./min. (1.52 m/s to 20.3 m/s)
- ▶ Easy duct tube installation through the housing cuts installation time
- ▶ Detector test and reset without removing covers
- ▶ Clear cover allows quick visual inspection
- ▶ Tube filters, dust immune smoke detector, and easy disassembly for cleaning reduce maintenance time and cost

The D340 Two-wire duct smoke housings mount on the ducts of heating, ventilation, and air conditioning (HVAC) systems. The housing works with the D285DH Duct smoke head. The D285DH detector in the housing monitors the presence of smoke in the conditioned air.

The efficient housing design samples the air passing through a duct and detects potentially hazardous conditions. When smoke is detected, the detector sends an alarm signal to the control panel or HVAC control equipment. The control panel or HVAC control equipment initiates the necessary action to control air handling systems.

Functions

Alarm/Trouble Indication

A D344-RT, a D344-RL, or a DRA-5 can provide remote LED indication of alarm and trouble status. The red LED lights for an alarm. An open loop causes the yellow Trouble LED to flash.

Air Sampling

Use the duct detector housings in air ducts between 1 ft. (30.5 cm) and 10 ft. (3.05 m) wide. Air velocities must be between 300 ft./min. and 4000 ft./min. (1.52 m/s to 20.3 m/s). Air is forced into the detector through a sampling tube and returned to the duct through an exhaust tube.

Sampling tubes should extend across the width of the duct. Bosch Security Systems, Inc. offers sampling tubes in three different sizes. Combine or cut the tubes to make other lengths. Sampling tubes over 3 ft. (91.4 cm) must be supported at the end opposite the duct detector. Sampling tubes are provided with an end plug that must be installed in the open end.

System Testing

Test the system by:

- Placing an external magnet on the detector housing, or
- Switching a signal from a remote test station (requires an external 24 V supply)

Reset the system by power shutdown or, if a D344-RT is connected, use the key-operated switch.

Certifications and approvals

Region	Regulatory compliance/quality marks	
USA	UL	UL 268A, Smoke Detectors for Duct Application
	CSFM	see www.boschsecurity.com (the Bosch website)
Canada	ULC	CAN/ULC-S529, Smoke Detectors for Fire Alarm Systems
Hong Kong	HKFSD	J-005/C/030

Installation/configuration notes

Compatible Panels

Bosch makes no claims either written, oral, or implied that the D340 Two-wire duct smoke housings work with any control panel other than the panels listed in the *285/286/263/603/340 Two wire Smoke Detectors Technical Service Note*.

Remote Indicators

NFPA 72 requires detectors have remote alarm indicators where duct smoke detectors are installed:

- in concealed locations
- is more than 10 ft. (3 m) above the floor
- where the detector's alarm indicator is not visible to responding personnel

The optional D344-RT Remote test/indicator plate, D344-RL Remote indicator plate, or DRA-5 Remote indicator plate can satisfy this requirement.

Power Considerations

The duct detector housing is designed for a two-wire power loop of 8.5 VDC to 32 VDC. If a remote annunciator is used, an external 24 VDC/VAC supply capable of supplying 170 mA is needed.

Technical specifications

Electrical

Current (alarm)	Dependent on the control panel that must limit the alarm current to 100 mA maximum.
Current (standby)	0.12 mA maximum
Maximum RMS Ripple	25% of DC input
Power-up time	22 sec maximum
Voltage, operating	8.5 VDC to 32 VDC from two-wire loop. Optional 24 VDC/VAC from control panel or external supply.

D340 with D344-RT, D344-RL, and External Power

	Loop power	External power
	8.5 V to 32 V	24 V
Condition		
• Alarm	< 0.120 mA	5 mA

D340 with D344-RT, D344-RL, and External Power

• Standby	< 0.170 mA	0.030 mA
• Trouble	Current limit to 100 mA	170 mA in remote test

D340 with D344-RT, D344-RL without External Power

Loop power	8.5 V to 32 V
Condition	
• Alarm	< 0.140 mA
• Standby	< 0.170 mA
• Trouble	Current limit to 100 mA

D340 without D344-RT, D344-RL without External Power

Loop power	8.5 V to 32 V
Condition	
• Alarm	< 0.130 mA
• Standby	< 0.150 mA
• Trouble	Current limit to 100 mA

Environmental

Air velocity	300 ft./min to 4000 ft./min (1.5 m/s to 20.3 m/s)
Relative humidity	0% to 95%, non-condensing
Temperature, operating	+32F to +120°F (0°C to +49°C). For UL listed requirements, the operating temperature range is +32°F to +100°F (0°C to +37.8°C).

Mechanical

Package Dimensions (LxWxH)	18.9 in. x 7.5 in. X 7.8 in. (48 cm x 19 cm x 19.8 cm)
Product Dimensions (LxWxH)	15.5 in. x 4.3 in. x 6.5 in. (39.5 cm x 11 cm x 16.5 cm)
Material	High-impact fire-retardant polymer plastic
Weight	
Gross	4.23 lb. (1.92 kg)
Net	3.84 lb. (1.74 kg)

Ordering information

D340 Duct detector housing, 2-wire

Two-wire duct detector housing for the D285DH Duct smoke head. Use with compatible control panels.
Order number **D340**

D340P Duct detector kit, 2-wire

Kit comes with a D340 Duct Smoke Detector Housing, a D285DH Photoelectric Duct Smoke Detector Head, and a D344-1.5 Sampling Tube.
Order number **D340P**

Accessories

D285DH Duct smoke head, 2-/4-wire, 12/24V

Detects the large smoke particles which typically result from wood, paper, and fabric combustion
Order number **D285DH**

D344-RL Remote indicator plate

Used with the D340 Series Duct Smoke Detector Housings
Order number **D344-RL**

D344-RT Remote test/indicator plate, 24V

Use with a D340/D341/D342 or D343 (legacy product) Duct smoke housing or D296/D297 Long-range beam smoke detector.
Order number **D344-RT**

D344-1.5 Sample tube, duct 1.5'/45.7cm

length 45.7 cm (1.5 ft)
Order number **D344-1.5**

D344-3 Sample tube, duct 3'/91.4cm

length 91.4 cm (3 ft)
Order number **D344-3**

D344-5 Sample tube, duct 5'/152cm

length 1.52 m (5 ft)
Order number **D344-5**

D344-TF Duct tube filters, 20pcs

Replaceable filters for duct detector sampling tubes, available in packages of 20
Order number **D344-TF**

PAM-4 Relay module, form C, 10A 12/24V

One set of 10.0 A, Form C contacts that can be energized across a range from 9 VDC to 40 VDC
Order number **PAM-4**

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