

D341 Family four-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 D341 Four-wire duct smoke detector housings mount on the ducts of heating, ventilation, and air conditioning (HVAC) systems. The D285DH detector in the housing monitors the presence of smoke in the conditioned air. The housing works with all 24 VDC or VAC or 120 VAC, UL Listed four-wire control panels. 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-500/C/030

Installation/configuration notes

Compatible Panels

The D341 Four-wire duct smoke housings are compatible with all 24 VDC or VAC, or 120 VAC UL Listed control panels.

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 detector housing provides one primary power source of 24 VDC, 24 VAC, or 120 VAC. Do not connect a high-voltage AC source and a low-voltage AC/DC source to the same housing.

Technical specifications

Electrical

Voltage, operating	20 VDC to 29 VDC, 24 VAC, or 120VAC
RMS ripple, maximum	25 percent of DC input
Power-up time	22 sec maximum
Outputs	
• Alarm	Form A Normally Open (NO and C) contacts 0.5 A at 24 VDC and 24 VAC, 0.1 A at 120 VAC
• Auxiliary	Two Form C Normally Open and Normally Closed (NO and C and NC) contacts 10 A at 24 VDC, 24 VAC, 120 VAC, or 240 VAC
• Trouble	Form "A" Normally Open (NO/C) contacts 0.5 A at 24 VDC, 24 VAC, 0.1 A at 120 VAC

Current Draw - Nominal Primary Voltage

Condition	24 VDC	24 VAC	120 VAC	230 VAC
• Alarm	65 mA	200 mA	110 mA	30 mA

• Standby	15 mA	85 mA	100 mA	25 mA
• Trouble	15 mA	85 mA	100 mA	25 mA

Current Draw - when connected to the D344-RL/D344-RT

Condition	24 VDC	24 VAC	120 VAC	230 VAC
• Alarm	15 mA	0 mA	0 mA	0 mA
• Standby	10 mA	0 mA	0 mA	0 mA
• Trouble	10 mA	0 mA	0 mA	0 mA
• Alarm and Remote Coil (ON)	150 mA	150 mA	25 mA	20 mA

Environmental

Relative humidity	0 to 95%, non-condensing
Temperature, operating	+32°F to +120°F (0°C to +49°C) <i>For UL Listed requirements, the operating temperature is +32°F to +100°F (0°C to +37.8°C)</i>

Mechanical

Package Dimensions (LxWxH)	19.6 in. x 7.6 in. x 8 in. (49.8 cm x 19.2 cm x 20.2 cm)
Product Dimensions (LxWxH)	15.5 in. x 4.25 in. x 6.5 in. (39.5 cm x 11 cm x 16.5 cm)
Material	High-impact fire-retardant polymer plastic
Weight	
Gross	4.67 lb. (2.11 kg)
Net	4.07 lb. (1.84 kg)

Trademarks

All hardware/software product names used in this document are likely to be registered trademarks and must be treated accordingly.

Ordering information

D341 Duct detector housing, 4-wire 24/120V

Four-wire duct detector housing that works with all 24 VAC/VDC or 120 VAC UL Listed four-wire control panels.

Order number **D341**

D341P Duct detector kit, 4-wire 24/120V

Kit comes with a D341 Four-wire Duct Smoke Detector Housing, a D285DH Photoelectric Duct Smoke Detector Head, and a D344-1.5 Sampling Tube.

Order number **D341P**

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**

Represented by:

Europe, Middle East, Africa:

Bosch Security Systems B.V.
P.O. Box 80002
5600 JB Eindhoven, The Netherlands
Phone: + 31 40 2577 284
emea.securitysystems@bosch.com
emea.boschsecurity.com

Germany:

Bosch Sicherheitssysteme GmbH
Robert-Bosch-Ring 5
85630 Grasbrunn
Germany
www.boschsecurity.com

North America:

Bosch Security Systems, Inc.
130 Perinton Parkway
Fairport, New York, 14450, USA
Phone: +1 800 289 0096
Fax: +1 585 223 9180
onlinehelp@us.bosch.com
www.boschsecurity.us

Asia-Pacific:

Robert Bosch (SEA) Pte Ltd, Security Systems
11 Bishan Street 21
Singapore 573943
Phone: +65 6571 2808
Fax: +65 6571 2699
apr.securitysystems@bosch.com
www.boschsecurity.asia