SYSTEM SENSOR DUCTSD Duct Smoke Detector Cross Reference Owner's Manual
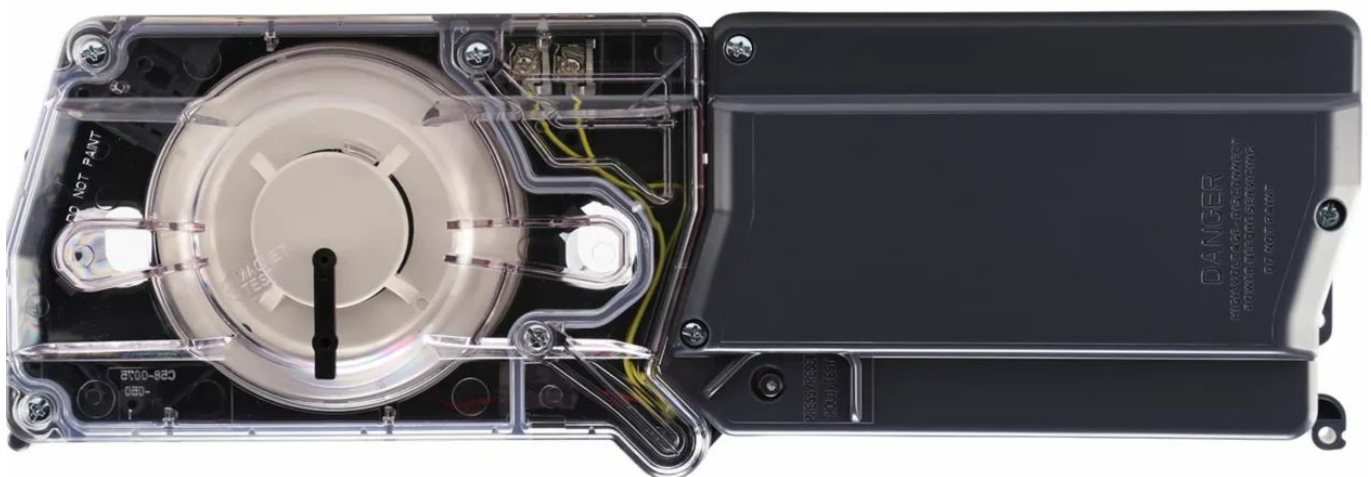
Contents

SYSTEM SENSOR DUCTSD Duct Smoke Detector Cross Reference

Product Information

The Duct Smoke Detector is a photoelectric plug-in device that detects smoke in HVAC ducts. It comes in two models: DUCTSD and D4120. The key differences between the two models are:

1. Cover integrated smoke test port
2. NO field selectable dip switches
3. Opaque power board cover
4. Interconnect number of devices 30

The DUCTSD model does not offer field selectable dip switches, while the D4120 model allows for the selection of instant or 7-minute delay cover tamper switch activation. Both models can interconnect up to 30 total devices.

Product Usage Instructions

Smoke Test Port Usage

1. Put the detector into Speed-Up Test mode by pressing and holding the Test/Reset button for 2 to 7 seconds.
   When in Speed-Up Test mode, sensor LEDs will alternately flash Red and Green.
2. Lift the tethered plug sealing the smoke test port via pull tab.
3. Spray canned smoke into the test port.
4. Replace the tethered test plug.

D4120 Cover Tamper Switch Activation

The D4120 model allows for the selection of instant or 7-minute delay cover tamper switch activation. To select the desired option:

1. Remove the cover from the D4120 detector.
2. Locate the dip switch on the power board labeled "Tamper Delay".
3. Toggle the dip switch to the desired setting: "ON" for instant activation, or "OFF" for 7-minute delay activation.
4. Replace the cover on the D4120 detector.

Duct Smoke Detector Cross Reference

The DUCTSD 4-wire photoelectric duct smoke detector features a pivoting housing that fi ts both square and rectangular footprints and mounts to round or rectangular ductwork. This unit senses smoke in the most challenging conditions, operating in airfl ow speeds of 100 to 4,000 feet per minute, temperatures of −4°F to 158°F, and a humidity range of 0 to 95 percent (non-condensing). A plug-in sensor head offers simple installation and maintenance. The cover-integrated smoke test port enables easy testing and maintenance.

Key Differences Between DUCTSD and D4120

1. Cover integrated smoke test port
2. NO fi eld selectable dip switches
3. Opaque power board cover
4. Interconnect number of devices 30

COVER INTEGRATED SMOKE TEST PORT How to Use the Smoke Test Port

1. Put detector into Speed-Up Test mode
    - **a.** Press and hold Test/Reset button for 2 to 7 seconds
    - **b.** When in Speed-Up Test mode sensor LEDs will alternately fl ash Red and Green
2. Lift tethered plug sealing the smoke test port via pull tab
3. Spray canned smoke into the test port
4. Replace tethered test plug

Simplified Options

- DUCTSD does NOT offer fi eld selectable dip switches. The simplifi ed DUCTSD offers:

1. One connected sensor
2. Cover Tamper switch activates 7 minutes after sensor cover has been removed or improperly seated
3. Aux Relay does not switch states on a Trouble condition

Opaque Power Board Cover

- Quick reference information on the inside of the power board cover.

Device Interconnect

- Interconnect any combination of DUCTSD and D4120 detectors, up to a maximum of 30 total devices.

	CompetitiveMatrix	DUCTSD	D4120
Feature	Sensor Technology	Photoelectric	Photoelectric
Feature			**D4120**
Sensor Technology		Photoelectric	Photoelectric
Sensor Mechanics		Plug-In	Plug-In
Number of Sensors		**1**	**1 or 2 sensors**
Airflow		100 – 4000fpm	100 – 4000fpm
Product Length		14.38 inches	14.38 inches
Product Width		5 inches	5 inches
Depth		2.5 inches	2.5 inches
Housing		2 piece	2 piece

Sampling Tubes Entry	Front and rear entry	Front and rear entry
Cover Color	**Black Opaque**	**Transparent**
Cover Connectors	4 captive screws on sensor 3 captive screws on power board	4 captive screws on sensor 3 captive screws on power board
Cover Tamper Delay	**7 minutes**	**Selectable – Instant or 7 minutes**
Conduit Openings	Top: 2 x 1/2" Side 1 x 3/4"	Top: 2 x 1/2" Side 1 x 3/4"
Wire Gauge	12 gauge	12 gauge
Connection Between Sensor and PowerBoard	Co-Located – Pre-wired	Co-Located – Pre-wired
Wiring Diagram	Terminal designator by each terminal	Terminal designator by each terminal
Voltage Range	20-29VDC 24VAC 50-60Hz 120VAC 50-60Hz (DUCTSD) 220/240VAC 50-60Hz (DUCTSD240)	20-29VDC 24VAC 50-60Hz 120VAC 50-60Hz (D4120) 220/240VAC 50-60Hz (D4240)

Standby Current Consumption	21mA	21mA
Power Up Time	37 seconds (initialization complete)	37 seconds (initialization complete)
Reset Time	0.6 seconds	0.6 seconds
Relays	10A @ 30VDC/250VAC alarm 2 form C AUX 2A @ 30VDC/125VAC alarm 2A @ 30VDC/125VAC trouble	10A @ 30VDC/250VAC alarm 2 form C AUX 2A @ 30VDC/125VAC alarm 2A @ 30VDC/125VAC trouble
Sensor LED Functions	Standby: 5 sec green blink Maintenance: 5 sec Red blink Trouble: No LED indication Alarm: Solid Red	Standby: 5 sec green blink Maintenance: 5 sec Red blink Trouble: No LED indication Alarm: Solid Red
PowerBoard LED Functions	Standby: 5 sec Red blink Maintenance: 5 sec Amber Blink Trouble: Solid Amber Alarm: Solid red	Standby: 5 sec Red blink Maintenance: 5 sec Amber Blink Trouble: Solid Amber Alarm: Solid red
Shutdown on Trouble	**Aux Relay does not switch states on Trouble**	**Selectable**
Interconnection Quantity	**30 units**	**50 units**
Interconnection	Non-isolated	Non-isolated

Test Features	Cover integrated smoke test port Magnet test at sensor Pushbutton Test/Reset at PowerBoard	Magnet test at sensor Pushbutton Test/Reset at PowerBoard
	Responds only if sensor is not in maintenance	Responds only if sensor is not in maintenance
Sensitivity Measurement	SENS-RDR	SENS-RDR
Accessories	Compatible with existing accessories	Compatible with existing accessories
Filters	None	None
Temperature	− 4ºF to 158ºF (-20ºC to +70ºC)	− 4ºF to 158ºF (-20ºC to +70ºC)
Smoke Test Port	**Cover integrated smoke test port**	**None**

Documents / Resources

	[**SYSTEM SENSOR DUCTSD Duct Smoke Detector Cross Reference**](#) [pdf] Owner's Manual DUCTSD, D4120, DUCTSD Duct Smoke Detector Cross Reference, Duct Smoke Detector Cross Reference, Detector Cross Reference, Cross Reference, Reference