SmartOne®
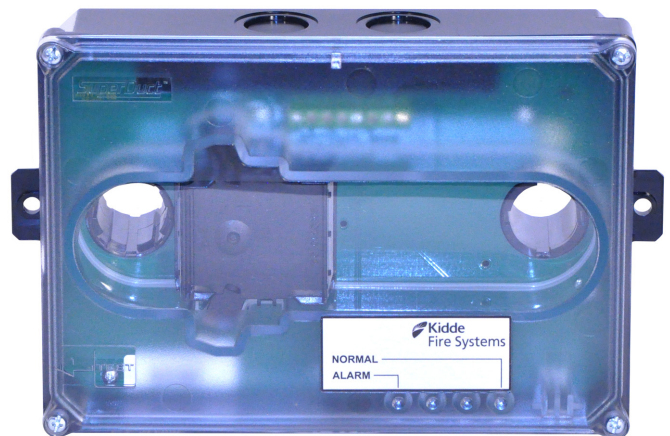# Addressable Photoelectric Duct Detector
Model DS-SD

FEATURES

- *Photoelectric Based Duct Detector*
- *Alarm Sensitivity 1.3% to 2.2%/ft obscuration*
- *Works with SmartOne® communications protocol*
- *Compatible with Kidde®, Fenwal® and Chemetron® branded intelligent control units*
- *Operates in conjunction with legacy SmartOne devices*
- *Supports Remote Alarm LED*

- *Integrated design of the photoelectric detector within the duct housing*
- *Less than 2" deep for easy installation*
- *Air velocity rating 100 to 4,000 ft/min*
- *Electronic addressing performed with SmartOne Handheld Programmer*
- *UL, ULC Listed*
- *FM Approved*

DESCRIPTION

The Model DS-SD Duct Smoke Detector detects the presence of smoke under extended temperature ranges in a building's HVAC system. Its primary purpose is to provide early warning of the presence of smoke in the duct. It is typically used to detect smoke in the supply side of the HVAC system, but can provide supervision of the return side as well.

The Model DS-SD detector is comprised of a plastic housing, a printed circuit board, a clear plastic cover, and an exhaust tube. The clear plastic cover permits visual inspections without having to disassemble the detector. The cover attaches to the detector housing using four captive screws and forms an airtight chamber around the sensing electronics. A sampling tube is required to introduce air into the duct smoke detector. The sampling tube is ordered separately and varies in length depending on the width of the HVAC duct.

The DS-SD Addressable Duct Detector operates on all Kidde Fire Systems addressable fire alarm-suppression control units (Kidde, Fenwal and Chemetron brands) employing SmartOne communications protocol and can be mixed in any order with any current and legacy SmartOne detectors.
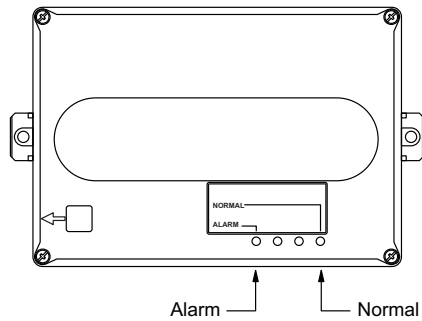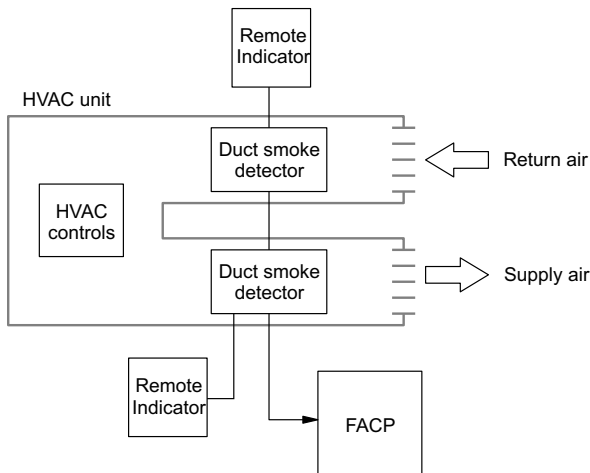

PART NUMBERS

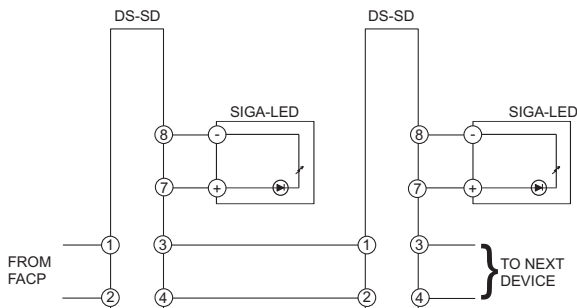| Model	Description	Model	Description
DS-SD	Addressable Duct Detector, SmartOne	SD-T78	78-inch sampling tube
SD-T8	8-inch sample tube	SD-T120	120-inch sampling tube
SD-T18	18-inch sampling tube	SD-PH	Protective housing for high humidity areas
SD-T24	24-inch sampling tube	SIGA-LED	Remote LED indicator
SD-T36	36-inch sampling tube	SD-VTK	Air velocity test kit
SD-T42	42-inch sampling tube	SD-GSK	Cover gasket kit
SD-T60	60-inch sampling tube		

LEDS

Control or Indicator	Description
Alarm LED	Flashes (red) when the detector is in Alarm State
Normal LED	Flashes (green) during normal operation

Alarm — Normal

TYPICAL INSTALLATION

TYPICAL WIRING

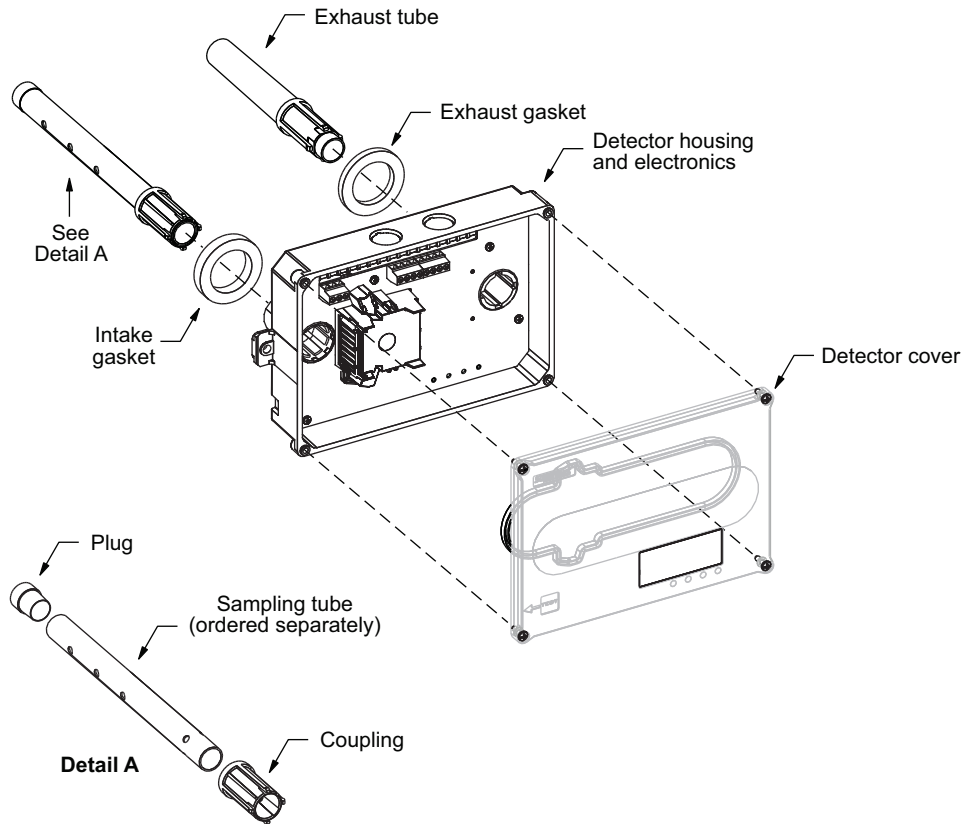## TECHNICAL SPECIFICATIONS

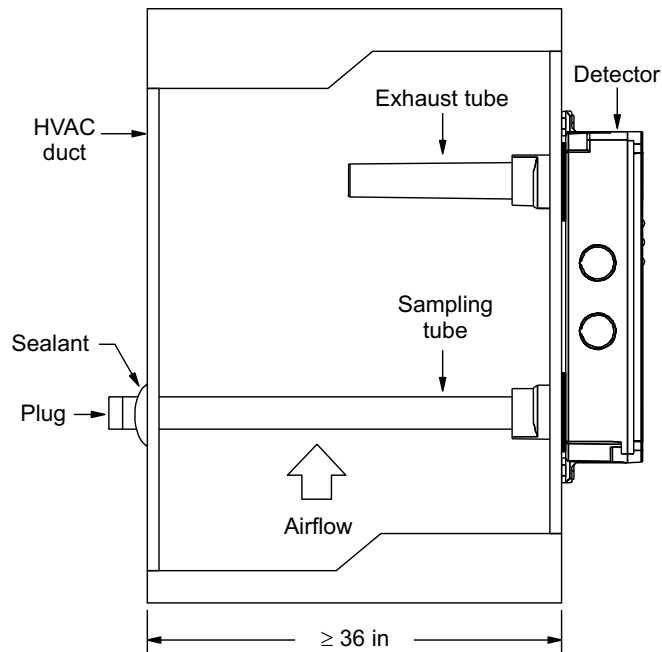|	
Dimensions	8.70 x 5.45 x 1.90 in (220.98 x 138.43 x 48.26 mm)
Wire size	14 to 22 AWG
Smoke detection method	Photoelectric (light scattering principle)
Air velocity rating	100 to 4000 ft/min (30.5 to 1219.2 m/min)
Air pressure differential	0.005 to 1.00 in. of water (0.127 to 25.4 mm of water)
Alarm Sensitivity (fixed)	1.3% to 2.2%/ft obscuration (4.26% to 7.22%/m obscuration)
Pre-Alarm Sensitivity	Pre-alarm will occur at 75% of the alarm point
LED indicators	Alarm (red), Normal (green)
Detector operating voltage	24 Vdc Nominal
Detector operating current Normal Alarm	150 µA 220 µA
Operating environment temperature	32 to 120 ° F (0 to 49 ° C)
Humidity	93% RH, non-condensing
Agency Listing	UL, ULC, FM

COMPATIBLE CONTROL UNITS

Fire Alarm Control Unit (FACU) Type	Current Product	Legacy Product
Single Loop	ARIES®-SLX	ARIES FenwalNET™ 6000 MICRO SLX PEGAsys™ * FenwalNET 2000 *
Multiple Loop	ARIES®-MLX	ARIES NET*Link* FenwalNET 8000-ML MICRO MLX PEGAsys * FenwalNET 2000 *

* FACUs running software revision 82.4 are compatibility-tested but not agency listed with the device(s) in this data sheet.
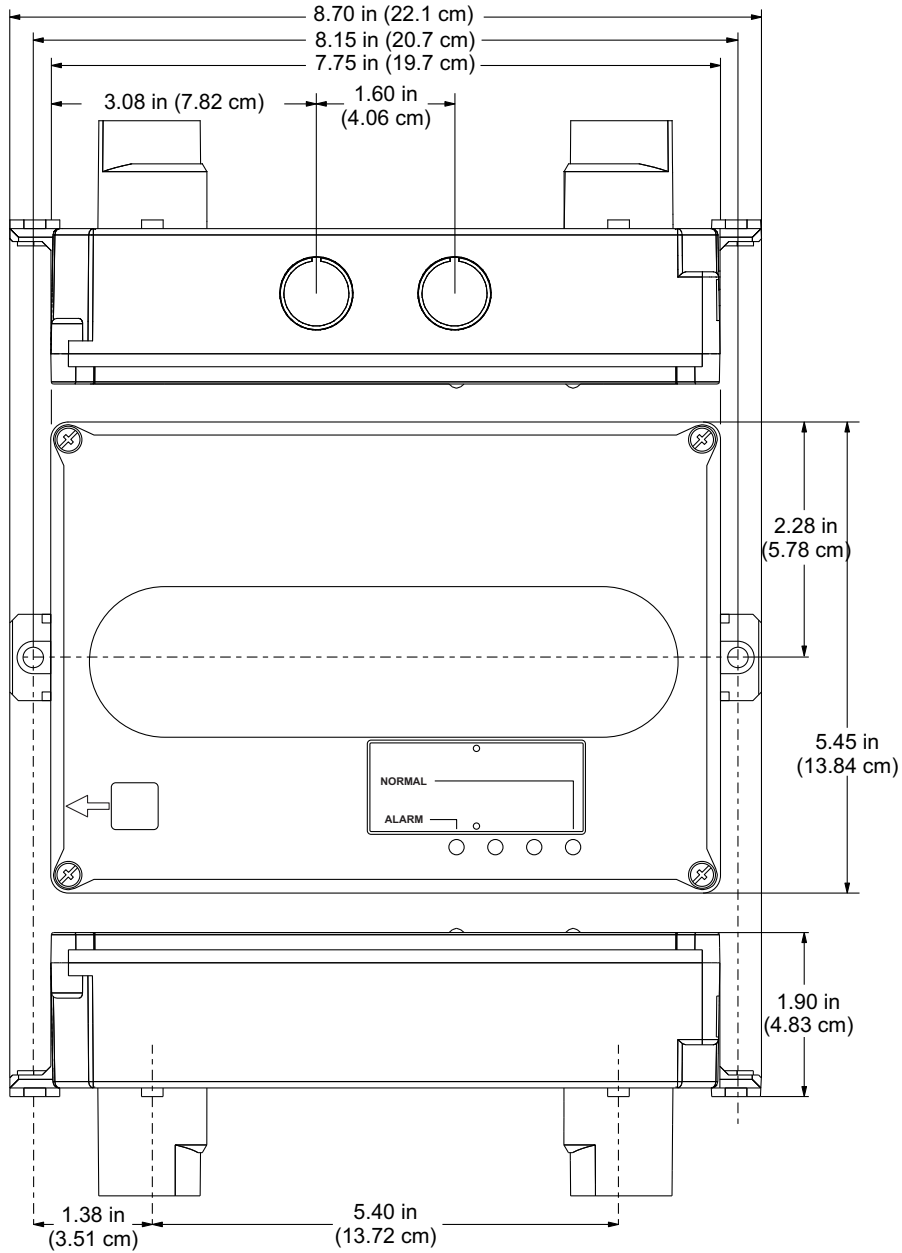
Kidde
Fire Systems

EXPLODED VIEW

Exhaust tube

Exhaust gasket

Detector housing
and electronics

See
Detail A

Detector cover

Intake
gasket

Plug

Sampling tube
(ordered separately)

Coupling

Detail A

SIDE VIEW

HVAC
duct

Exhaust tube

Detector

Sealant

Sampling
tube

Plug

Airflow

≥ 36 in

Kidde
Fire Systems

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Kidde
Fire Systems

K-76-103 Rev AB
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