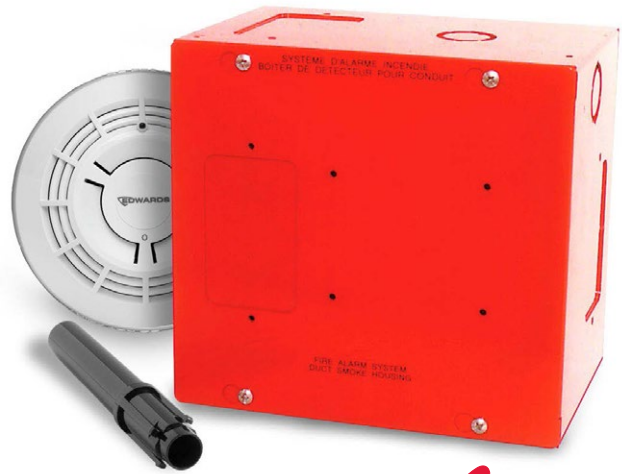# EDWARDS

Intelligent Duct Smoke Detector Housing

SIGA-SDH

ACTIVFIRE®
ACTIVE FIRE PROTECTION – PRODUCT CERTIFICATION

Overview

The SIGA-SDH Duct Smoke Detector Housing is specially engineered to exploit all the capabilities of Signature Series intelligent photoelectric and multisensor smoke detectors.

EDWARDS Signature Series detectors gather analog information from each of their one or more sensing elements and converts it into digital signals. The detector's onboard microprocessor measures and analyzes these signals. It compares them to historical readings, time patterns and known characteristics to make an alarm decision. Digital filters and complex Algorithms are applied for optimum detector accuracy. Unwanted alarms are virtually eliminated.

Each duct housing is packaged with detailed installation instructions, gaskets and a self-adhesive drilling template for locating and mounting the detector. The large access door is completely removable to allow fast detector installation and field wiring connections. The 16 gauge steel housing is finished in red baked enamel for easy identification. Five knockouts on the housing provide a convenient location for mounting intelligent Signature Series modules.

The SIGA-SDH(R) Duct Housing comes with a 150 mm exhaust tube. Air sampling tubes are available in lengths from 200 mm to 3048 mm and must be ordered separately. Compatible smoke detectors and accessories are listed in the Ordering Information. Refer to individual device catalog literature pages for more detail.

Standard Features

- Suitable for high air velocity duct applications up to 20.3 m/sec. with Photoelectric Detector.

- Standard Signature Series detectors. Designed for use with standard photoelectric andphotoelectric/heat Signature Series smoke detectors. Does not require "special"duct smoke heads.

- Standard or relay detector base installed and prewired Detector plugs-in to base then easily installs into housing.

- Install in ducts up to 3.05 m wide

- Remote LED accessories

Typical Wiring

The detector mounting bases and test station will accept #18 AWG (0.75mm2), #16 (1.0mm2), #14 AWG (1.50mm2) and #12 AWG (2.5 mm²) wire sizes. Note: #12 AWG and #14 AWG (1.5 mm2) are not recommended due to difficulty of installation. See Loop Controller and Detector catalog sheets for detailed wiring requirement specifications.

Application

The SIGA-SDH Duct Smoke Detector Housing requires a clear, flat, accessible area on the duct of at least 188 mm W x 175 mm H. The duct housing must be installed on ducts at least 200 mm wide. Duct detectors are usually installed on the supply duct after the air filters; or in the return air stream prior to being diluted by outside air.

Sample tube length must span the entire width of the air duct and the tube can be easily cut to any length. Inlet tubes longer than 900mm must be supported at both ends.

Duct detectors continually sample air flow in a HVAC duct and initiate an alarm condition whenever smoke is detected. An alarm is activated when the quantity (percent obscuration) of combustion products in that air sample exceeds the detector's sensitivity setting.

Air velocity in the duct maintains the air flow that enters the detector housing through perforations in the air sampling inlet tube and discharges through the outlet exhaust tube. The detector housing must be installed with its INLET air sampling tube upstream of the EXHAUST tube. Before installing the duct detector housing, test the duct air velocity to verify it is within the limits of the Signature smoke detector that is being installed. Also verify that duct air relative humidity is within 0% and 93%.

WARNING: Duct detectors have specific limitations. Duct detectors ARE NOT a substitute for an open area smoke detector. Duct detectors ARE NOT a substitute for early warning detection. Duct detectors ARE NOT a replacement for a building's regular fire detection system. Smoke detectors ARE NOT designed to detect toxic gases which can build up to hazardous levels in some fires. These devices WILL NOT operate without electrical power. As fires frequently cause power interruptions, EDWARDS suggests you discuss further safeguards with your local fire protection specialist.

Installation and Mounting

EST recommends duct detectors always be installed in accordance with the latest recognized editions of local and national fire alarm codes.

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Accessories

Duct Detector Air Sampling Tubes

One air sampling inlet tube must be ordered for each duct smoke detector housing. Refer to Ordering Information for available lengths.

Detector Mounting Bases

Each SIGA-SDH contains a detector mounting base. The SIGA-SDH includes a standard base and the SIGA-SDHR contains a relay base. Removing a detector from its base

does not affect other devices operating on the same data loop. Two duct housings are available as follows:

SIGA-SDH (standard base) - This is the basic duct housing with a standard base for the detector. The SIGA-LED Remote LED is supported by the Standard Base.

Alarm LED Indicator

The SIGA-LED Alarm Indicator is suitable for use with the SIGA-SDH duct detector housing only. A maximum of one can be operated for each detector. It features a red LED on a one-gang plastic plate and can be installed remote or directly on the SIGA-SDH Duct Housing.

Air Velocity Test Kit

The 6263-SG Air Velocity Test Kit is specially designed to interface to the SIGA-DH Duct Housing. It is used to test or confirm the air velocity in HVAC ducts where the duct housing is installed.

DATA SHEET E85001-0326-AU
Not to be used for installation purposes. Issue 1.0

Specifications

Compatible Smoke Detectors	SIGA-PDI
Smoke Sensing Element(s)	Photoelectric - Light Scattering Principle
Air Velocity Range	1.5 to 20.3 m/sec (Assessed to 8m/sec max as per AS 1603.13)
Operating Environment	Temperature: 0 to 38° C Humidity: 0 to 93% RH, non-condensing
Storage Environment	Temperature: - 20 to 60° C Humidity: 0 to 93% RH, non-condensing
Sensitivity Range	1.6% to 10% obscuration/meter
Dimensions	7-3/8 inches (188mm) W x 7 inches (178mm) H x 5 inches (127mm) D
Material and Finish	16 Gauge Cold Rolled Steel, Red - Baked Enamel
Conduit Knockouts	4, Combination 1/2 inch & 3/4 inch
Agency Approvals	UL, ULC, MEA, CSFM, CSIRO (Activfire)
User Selected Sensitivity Settings	Least Sensitive: 3.5%; Less Sensitive: 3.0%; Normal: 2.5%; More Sensitive: 2.0%; Most Sensitive: 1.0%
Pre-alarm Sensitivity	5 % increments, allowing up to 20 pre-alarm settings
Electrical, Physical Characteristics	Refer to individual detector catalogue sheets
Compatible Mounting Bases	SIGA-SDH - standard base included
Compatible Remote LED	SIGA-LED (SIGA-SDH only)
Controller Compatibility	SIGNATURE Loop Controller
Addressing Restrictions	Uses one Input Device Address

Note: The SIGA-DH Duct Housing is not weatherproof or dust tight.)

Ordering Information

Catalogue Number	Description	Ship Wt. lbs (kg)
SIGA-SDH	Duct Detector Housing	6.5 (3.0)
Sampling Tubes		
SD-T8	8 inch (200 mm) Air Sampling Inlet Tube	0.25 (0.1)
SD-T18	18 inch (455 mm) Air Sampling Inlet Tube	1.5 (0.7)
SD-T24	24 inch (600 mm) Air Sampling Inlet Tube	0.5 (0.2)
SD-T36	36 inch (915 mm) Air Sampling Inlet Tube	3.0 (1.4)
SD-T42	42 inch (1060 mm) Air Sampling Inlet Tube	1.6 (0.8)
SD-T60	60 inch (1525 mm) Air Sampling Inlet Tube	5.8 (2.6)
SD-T78	78 inch (1980 mm) Air Sampling Inlet Tube	2.2 (1.0)
SD-T120	120 inch (3048 mm) Air Sampling Inlet Tube	4.4 (2.0)
Compatible Detectors (Ordered Separately)		
SIGA-PHI	Intelligent Smoke Detector	0.5 (0.23)
Annunciation and Testing		
SIGA-LED	Alarm LED Indicator	0.2 (0.09)
SD-VTK	Duct Air Velocity Test Kit	0.1 (0.05)

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