eclipse™ Series Intelligent Duct Smoke Detectors

SYSTEM SENSOR®

Intelligent Model Available

ED-DPR: Duct Housing
ED-DP(I): Duct Sensor Head
***I denotes isolator version**
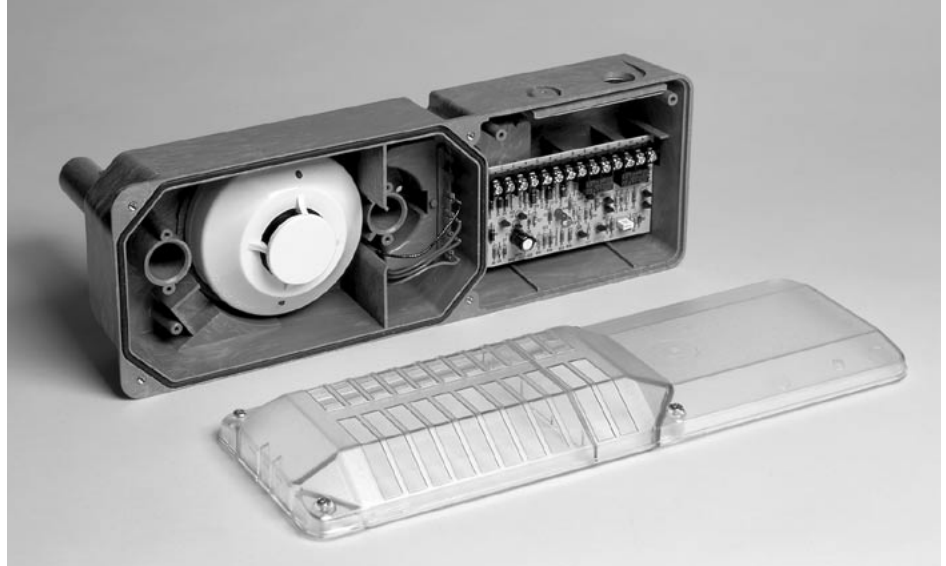
Product Overview

Air velocity rating from *500 to 4000 feet per minute (2.54 to 20.32 m/sec.)*

Operates from the control panel communication line

Continuous sensitivity monitoring from the panel

Intelligent photo isolator or non-isolator heads with twist-in/twist-out removal

Easy to clean

UL recognized field-replaceable power boards

Transparent cover for convenient visual inspection

UL 268A listed

3-year warranty

Has outputs for remote LED display, remote test

Requires com line power only

Powered outputs for remote LED, and remote test and sounder

Remote test station and remote annunciator accessories

The System Sensor Eclipse™ Series photoelectric air duct smoke detectors are capable of sensing smoke in air velocities from 500 to 4,000 feet per minute (2.54 to 20.32 m/sec).

The Eclipse Series ED-DPR duct housing can accommodate either the ED-DP or ED-DPI Intelligent Photoelectric Sensor. The twist-in, twist-out heads allow for quick and easy cleaning or application changes without removing the duct housing.

The Eclipse Series Detector samples air currents passing through a duct and gives dependable performance for shutdown of fans, blowers, and air conditioning systems, preventing the spread of toxic smoke and fire gases through the protected area.

These intelligent sensors communicate and are continuously monitored through the communication line. Detector sensitivity changes caused by dirt, temperature, or humidity are reported to the panel, allowing compensation algorithms to maintain the sensor's set sensitivity. An advance indication at the panel specifies the sensor address, allowing for selected maintenance to be performed as needed.

Remote alarm annunciation can be accomplished by using the RA400Z Remote Annunciator or the RTS451 or RTS451KEY Remote Test Station. Both these devices allow testing of the detector from a remote location.

The Eclipse Series is designed for simplified installation and easy maintenance.

WARNING: Duct smoke detectors have specific limitations.
DUCT SMOKE DETECTORS ARE:
      NOT a substitute for an open area smoke detector,
      NOT a substitute for early warning detection, and
      NOT a replacement for a building's regular fire detection system.
Refer to NFPA 72 and 90A for additional duct smoke detector application information.

UL LISTED
S911

FM APPROVED

Architect/Engineer Specifications

The duct smoke detector shall be a System Sensor Model ED-DPR Intelligent Duct Smoke Detector to be used with compatible control panels. The duct smoke detector shall be UL listed per UL 268A, Standard for Smoke Detectors for Duct Applications, specifically for use in air handling systems. The detector shall operate in air velocities from 500 to 4000 feet per minute. The detector housing shall be equipped with an integral mounting base capable of accommodating either the ED-DP or ED-DPI photoelectric detector head. It shall be capable of remote testing from the RTS451 or RTS451KEY Remote Test Station. The duct smoke detector housing shall incorporate an airtight smoke chamber in compliance with UL 268A. The housing shall be capable of mounting to either rectangular or round ducts without adapter brackets. An integral filter system shall be included to reduce dust and residue effects, thereby reducing maintenance and servicing. Sampling tubes shall be easily installed after the housing is mounted to the duct by passing through the duct housing. Terminal connections shall be of the strip and clamp method suitable for 14-18 AWG wiring.

### Wiring diagram for ED-DPR Duct Smoke Detector using a UL listed control panel
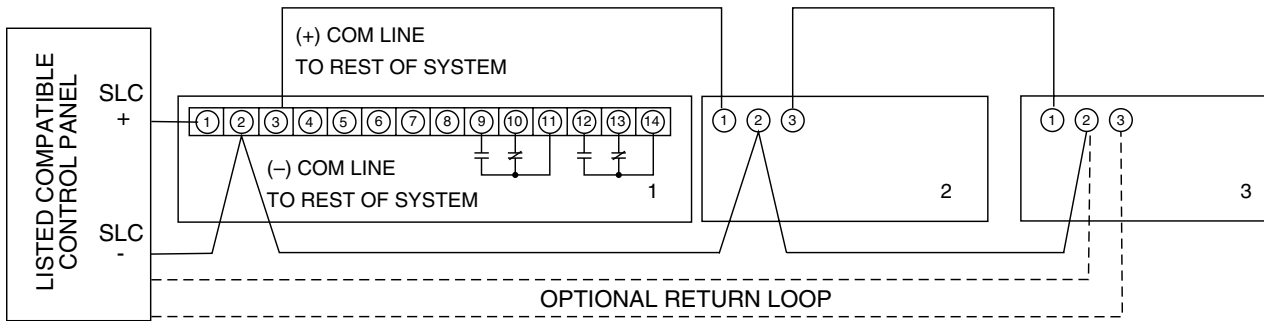
Note: For terminals 9 through 14, normally closed and normally opened relay positions are defined with product in reset condition, not in alarm.

Wiring diagram for ED-DPR Duct Smoke Detector with optional RA400Z
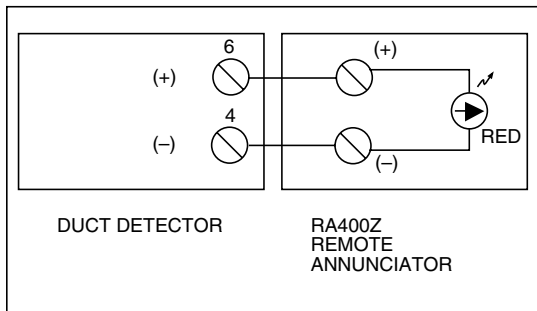
Break Tab on RA400Z for use with ED-DPR.

Wiring diagram for ED-DPR Duct Smoke Detector with RTS451/RTS451KEY
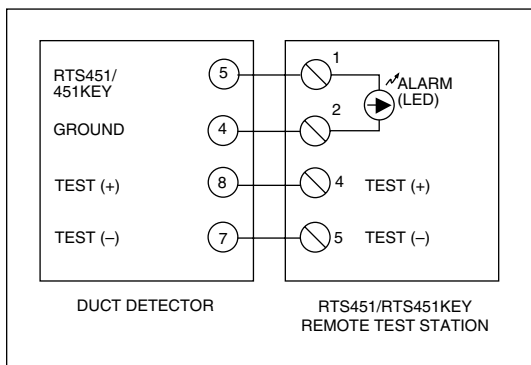
ED-DPR Specifications

Current Requirements (using no accessories)

Power supply voltage	14–30VDC
Max. standby current	360 μA max.
Max. alarm current	7 mA max. @ 24VDC (LEDs on)
Alarm response time	30 sec.
Power up time	2 sec.
Self test initiation time	1 sec.

Relay Contact Ratings (Each set of Form C Contacts)

CURRENT RATINGS	MAXIMUM VOLTAGE	LOAD DESCRIPTION	APPLICATION
3A	30VDC	Resistive	Non Coded
2A	30VDC	Resistive	Coded
.9A	110VDC	Resistive	Non Coded
.9A	125VAC	Resistive	Non Coded
.5A	30VDC	Inductive (L/R=5ms)	Coded
1A	30VDC	Inductive (L/R=2ms)	Coded
.3A	125VAC	Inductive (PF=.35)	Non Coded
.7A	75VAC	Inductive (PF=.35)	Non Coded
1.5A	25VAC	Inductive (PF=.35)	Non Coded

Accessory Current Loads at 24VDC

Device	Standby	Alarm
RA400Z	0 mA	4.6 mA Max.
RTS451/RTS451KEY	0 mA	4.6 mA Max.

Specifications

Operating Temperature Range
32° to 120°F (0° to 49°C)

Operating Humidity Range
10% to 93% relative humidity
(non-condensing)

Duct Air velocity
500 – 4000 ft./min.
(2.54 – 20.32 m/s)

Shipping Weight
ED-DPR: 4lbs. (1.8 kg)

**Length**
14.5″ (36.7 cm)

Width
5″ (12.7 cm)

Depth
4″ (10.2 cm)

Ordering Information

Part No.	Description
ED-DPR	Eclipse Series intelligent duct smoke detector housing
ED-DP	Photoelectric duct sensor head
ED-DPI	Photoelectric isolator duct sensor head
ST-1.5	Metal sampling tube duct widths 1′–2′
ST-3	Metal sampling tube duct widths 2′–4′
ST-5	Metal sampling tube duct widths 4′–8′
ST-10	Metal sampling tube duct widths 8′–12′
A2121	Replacement Eclipse Power Board

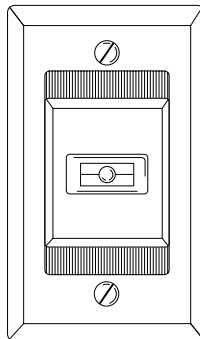| Accessories	Description
RTS451	Remote test station (see below)
RTS451KEY	Remote test station w/key (see below)
RA400Z	Remote LED (see below)
F36-05-00	Replacement filters
P48-21-00	End cap for metal sampling tube
T80-71-00	Replacement plastic sampling tube
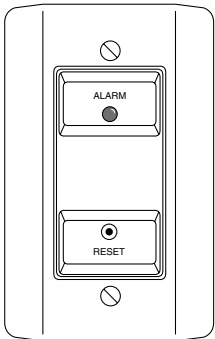
RTS451
Remote Test Station
(UL S2522)
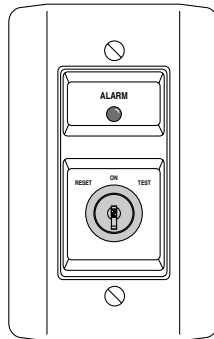
RTS451KEY
Remote Test Station with
key (UL S2522)

RA400Z
Remote
Annunciator
(UL S2522)

System Sensor Sales and Service

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