



Duct Smoke Detector and Housing

EC30DU-3 Detector
and 6260A-CU Housing



MEA*



* Pending

Overview

6260A-CU Housing

The 6260A-CU Duct Detector/Sensor Housing assembly is designed for mounting in an air duct to detect the presence of smoke in the airstream of duct work sections of the HVAC air handling systems typically used in commercial buildings.

Each housing is packaged with detailed installation instructions, gaskets, a 6 inch (150 mm) exhaust tube, and a self-adhesive drilling template for locating and mounting the detector. The large access door is completely removable to allow fast detector head installation and field wiring connections. All field wiring is terminated at the detector's plug-in base (ordered separately).

The housing is constructed of durable 16 gauge steel finished in red baked enamel. Five one-gang knockouts on the housing provide convenient locations for mounting an alarm LED or test station (ordered separately). These accessories are mounted on one-gang faceplates and can also be remote mounted.

The 6260A-CU Duct Smoke Detector Housing is designed for use with the EC30DU-3 photoelectric smoke detector and two optional bases.

EC30DU-3 Duct Smoke Detector

Sensitive to visible and invisible products of combustion, the EC30DU-3 is finely tuned to sense all fire types, especially slow burning, smoldering fires fuelled by combustibles typically found in modern multi-use buildings. The detector features a stable, reliable design that uses advanced light scattering principles for smoke detection. It is not affected by air velocities typical of air handling systems. The EC30DU-3 is non-polarized, which simplifies field wiring.

Standard Features

- **Sensitive to visible and invisible products of combustion**
Finely tuned to sense all fire types, especially slow burning, smoldering fires fuelled by combustibles typically found in modern multi-use buildings.
- **All field wiring to base terminals**
Wiring to base is same as that for area smoke detection
- **Suitable for high air velocity applications**
Up to 4000 ft./min. (22.8 m/sec) with photoelectric head
- **Suitable for ducts up to 10 ft. (3.05 m) wide**

Application

The 6260A-CU Duct Smoke Detector Housing requires a flat, accessible area on the duct of at least 7-3/8 inch (188 mm) W x 7 inch (175 mm) H. The duct housing must be installed on ducts at least 8 inches (200 mm) wide. To avoid the effects of stratification, install the detector housing a minimum of six duct widths beyond any bends in the duct. 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.

Duct detectors continually sample air flow in a HVAC duct and initiate an alarm or supervisory event whenever smoke is detected. An alarm or supervisory event 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 that it is within the limits of the Duct Smoke Detector that is being installed. Also verify that the duct air relative humidity is within 0 to 85% RH.

Application with Detector Relay Bases

The number of smoke detectors installed on any single two-wire non-addressable circuit is limited by the control panel. However, when the duct detector assembly includes relay bases to control more than one function (eg. elevator capture, fan shutdown) only one smoke detector is permitted per circuit and all other initiating devices, such as heat detectors, manual stations, waterflow switches, etc., must be connected to other initiating circuits. If the duct detector assembly includes a relay base and other relay bases reside on that circuit, activating any duct detector test switch will operate all the relay bases on the circuit.

Accessories



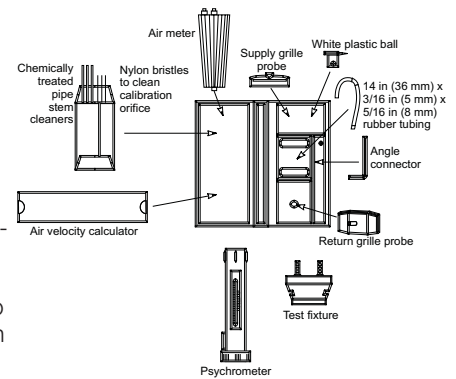
The EC-LED Alarm Indicator can be installed remotely or directly onto the 6260A-CU housing. The unit has terminals for making field connections to the duct detector mounting base and features a red LED on a one-gang plastic plate. One EC-LED may be operated by each detector.



The C-DTS Alarm Indicator/Test Station can be installed remotely or directly onto the 6260A-CU housing. They are key-operated, supplied with two keys, and feature a red LED and keyswitch on a one-gang stainless steel plate. Wire leads are provided for making field connections to the duct detector mounting base. Turning the key to test puts the zone that the detector is connected to in alarm. The fire alarm control panel will also enter alarm state. When the key is turned to the RESET/TEST position, the LED illuminates and all relay bases on the same circuit activate. The C-DTS may also be used as selective reset. If a detector alarms, turning the key to RESET/TEST and then back to the ON position will reset the detector, assuming the smoke condition has cleared. If the fire alarm control panel is in alarm, the panel must be reset first. The key cannot be removed when in the RESET/TEST position.

Air Velocity Test Kit

The 6263-EC Air Velocity Test Kit is used during installation and maintenance of duct smoke detectors. The kit, which contains an air velocity meter with accessories, psychrometer, and test fixture, is used to measure air velocity and humidity to ensure compliance with detector specifications.



Duct Detector Air Sampling Tubes

One air sampling inlet tube must be ordered for each duct smoke detector housing. The inlet tube can be easily cut to any length and must span the entire width of the air duct. Tubes longer than 36 inches (900 mm) must be supported at both ends. Tubes are available from 8 inches (200 mm) to 120 inches (3.05 m). Refer to Ordering Information for available lengths.

Detector Bases

Detectors attach to the base with a simple plug-and-twist action, allowing quick and easy removal for cleaning and servicing. Bases feature robust wiring terminals with captive clamping washers to ensure secure wiring termination. Terminals are provided inside the molding for the connection of remote LEDs, when required. Detector bases accept #18 AWG (0.75mm²), #16 (1.0mm²), #14 AWG (1.5mm²) and #12 AWG (2.5mm²) wire sizes.



The CSBU-1 standard base provides simple plug-and-twist installation for all EC series detectors. Removal of the detector does not require the disconnection of wiring.



The CSBU-3 resistor base limits alarm current on certain compatible control panels that do not include current limited initiating devices circuits. It is also used with FireShield panels when mixing detectors and and contact type devices (i.e.: 280 series heat detectors) on circuits programmed for smoke detector verification.

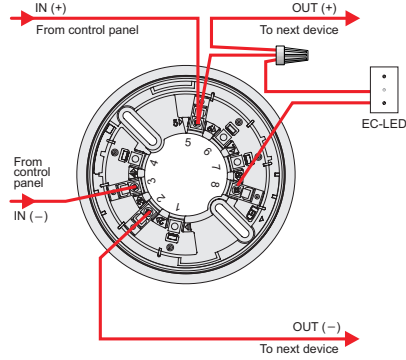


The CRB4U-1 relay base provides voltage-free relay contacts (Normally Open, Normally Closed, and Common) for applications that switch according to the state of the line voltage measured across (+) IN/OUT and (-) IN. The circuit monitors the line voltage and switches the relay contacts as soon as the line voltage goes into alarm state. Once the line voltage goes back to normal state, the relay switches the contacts back to their original positions.

Relay contacts rated:
30Vdc @ 1.25 A
50Vdc @ 0.5 A
50Vac @ 0.5 A

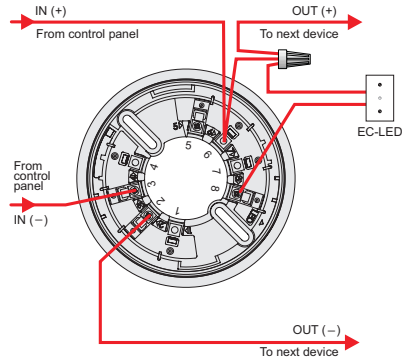
Wiring

CSBU-1 Standard detector base



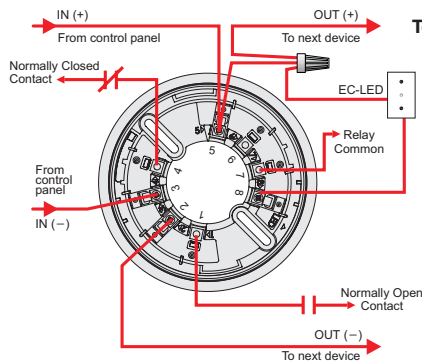
Terminal	Description
1	Not used
2	OUT (-)
3	IN (-)
4	Not used
5	IN/OUT (+)
6	Not used
7	Not used
8	LED (-)

CSBU-3 Resistor base



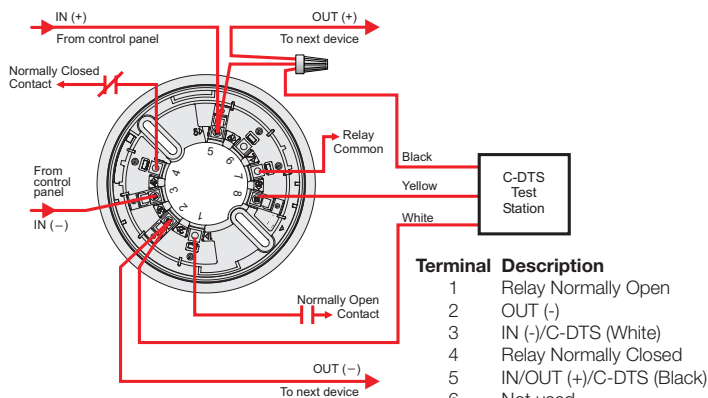
Terminal	Description
1	Not used
2	OUT (-)
3	IN (-)
4	Not used
5	Not used
6	IN/OUT (+)
7	Not used
8	LED (-)

CRB4U-1 Detector relay base



Terminal	Description
1	Relay Normally Open
2	OUT (-)
3	IN (-)
4	Relay Normally Closed
5	IN/OUT (+)
6	Not used
7	Relay Common
8	LED (-)

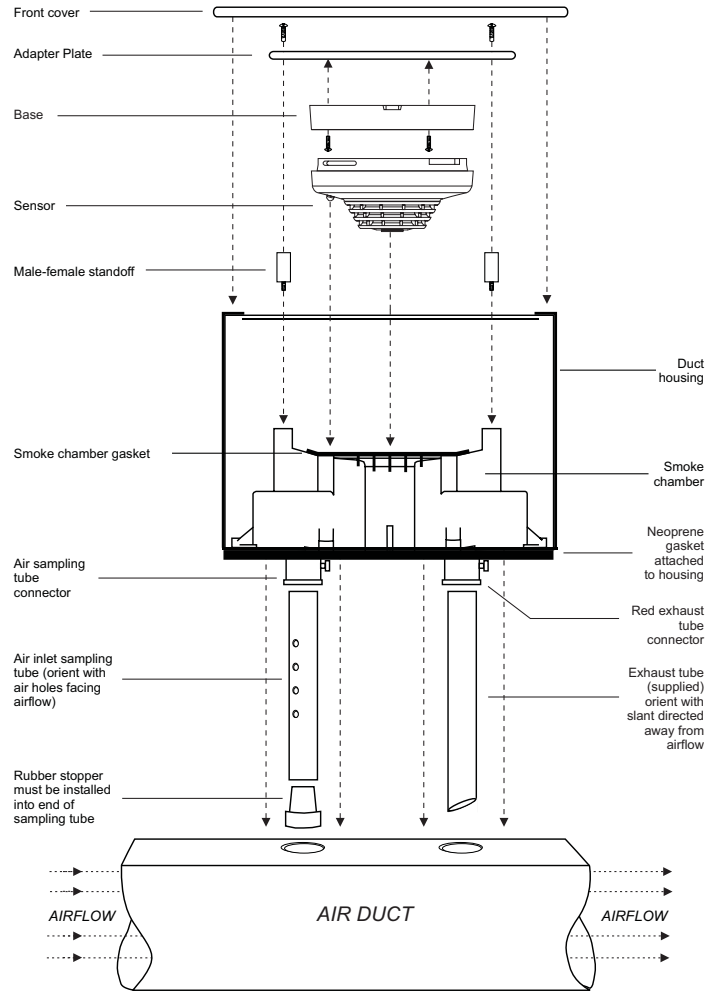
C-DTS Test Station



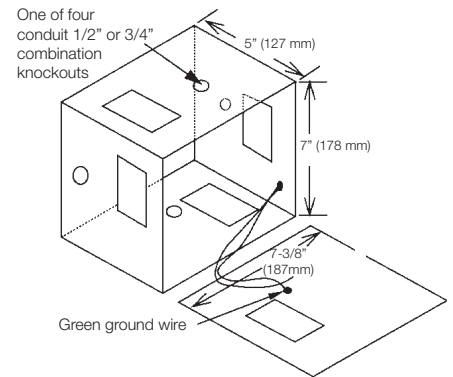
Terminal	Description
1	Relay Normally Open
2	OUT (-)
3	IN (-)/C-DTS (White)
4	Relay Normally Closed
5	IN/OUT (+)/C-DTS (Black)
6	Not used
7	Relay Common
8	LED (-)/C-DTS (Yellow)

Installation and Mounting

Duct Detectors must always be installed in accordance with the latest recognized editions of local and national fire alarm codes.



Knockout Locations



WARNING: Duct detectors have specific limitations. Duct detectors are not a replacement for a building's regular fire detection system. They are not a substitute for an open area smoke detector or for early warning detection. 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, you should discuss further safeguards with your local fire protection specialist.



Detection & alarm since 1872

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Specifications

EC30DU-3 Duct Smoke Detector

Operating Voltage Range	14 - 30 Vdc
Normal Operating Current	62µA
Alarm Current	100 mA (max.) limited by control panel
Sensitivity Range	1.38 - 3.08% obs/ft
Operating Environment	
Temperature	32° F to 100° F (0° C to 38° C)
Humidity	20 - 95% RH (non condensing)
Air Velocity	0 - 5,000 ft/min (manufacturer rated), 0 - 300 ft/min (UL listed)

6260A-CU Housing

Air Velocity Range	300 to 4,000 ft/min (1.5 to 20 m/s)
Dimensions	7-3/8 inch W x 7 inch H x 5 inch D (188 mm x 178 mm x 127 mm)
Material	16 Gauge Cold Rolled Steel
Finish	Red - Baked Enamel
Conduit Knockouts	Combination 1/2 inch and 3/4 inch on top, bottom, and sides
Agency Listings	UL, ULC

NOTE: The 6260A-CU Duct Smoke Detector Housing is not weatherproof or dust tight.

Ordering Information

Catalog Number	Description	Ship Wt., lb. (kg)
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Duct Smoke Housing

6260A-CU	Duct Smoke Detector Housing	6.5 (3.0)
6261-001	Air sampling Tube Inlet 8 inch (200mm)	0.25 (0.1)
6261-002	Air sampling Tube Inlet 24 inch (600mm)	0.5 (0.2)
6261-003	Air Sampling Tube Inlet 42 inch (1060mm)	1.6 (0.75)
6261-006	Air Sampling Tube Inlet 78 inch (1980mm)	2.2 (1.0)
6261-010	Air Sampling Tube Inlet 120 inch (3048mm)	4.4 (2.0)

Duct Smoke Head and Bases

EC30DU-3	Photoelectric Duct Smoke Detector	1.3 (0.6)
CRB4U-1	Detector Relay Base	0.25 (0.1)
CSBU-1	Detector Standard Base	0.25 (0.1)
CSBU-3	Detector Resistor Base	0.25 (0.1)

Accessories

6263-EC	Air Velocity Test Kit	
EC-LED	Fire Alarm LED Indicator	0.25 (0.1)
C-DTS	Fire Alarm LED/Test Station	0.25 (0.1)