

Light Commercial Rooftop Units

Smoke Detectors

Four Wire Photoelectric Sensing Detector and Control Module

This smoke detector system comprises a four-wire controller and one or two sensors (Return Air and/or Supply Air). Its primary function is to shut down the rooftop unit in order to prevent smoke from circulating throughout the building. Factory installed smoke detectors require no additional sampling tubes to be field installed.



System Description:

Controller - The controller includes a controller housing, a printed circuit board, and an easily removable clear plastic cover for access to the multiple terminal connections and relay contacts. These can be connected to fire alarm systems, heating, ventilating and air conditioning (HVAC) controls, and other auxiliary functions. A remote test/reset/visual alarm station can be connected to the controller.

Detectors - The detector includes a plastic housing, a printed circuit board, a clear plastic cover, an exhaust tube, and a sampling tube. The exhaust tube and sampling tube are attached during factory installation. The cover forms an airtight chamber around the sensing electronics.

System Specifications:

- Four Wire Controller and Photoelectric Sensing Detector with differential sensing for reliable, stable and drift-free sensitivity
- Operating environment: Temperature -4° to 158°F (-20° to 70° C), Humidity 10% to 93% RH, non-condensing
- Magnet-activated test/reset sensor switches
- Tool-less connection terminal access
- Recessed momentary switch for testing and resetting the detector

Controller Specifications:

- One set of normally open alarm initiation contacts for connection to an initiating device circuit on a fire alarm control panel
- Two Form-C aux alarm relays for interface with rooftop unit or other equipment
- One Form-C supervision (trouble) relay to control the operation of the Trouble LED on a remote test/reset station
- Capable of direct connection to two individual detector modules (Return and Supply)
- Interconnect up to 15 controllers for multiple fan shut-down

Detector Specifications:

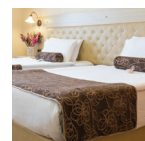
- Sensor: 8.70 x 5.45 x 1.90 in.
- Smoke detection method: Photoelectric
- Air velocity (min. – max.): 100 – 4,000 ft./min.
- Pressure differential (min. – max.): 0.005 – 1.00 in.
- Sensitivity: 0.67 – 2.46% obscuration/ft.
- Wire size: 14 – 22 AGW (high voltage terminals 12 – 22 AGW)
- Reset time: 2 seconds max.
- Power up time: 8 seconds max.
- Alarm test response time: 5 – 7 seconds
- LED indicators: Alarm (red), Trouble (yellow), Dirty (yellow), Power (green)



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MIXED USE

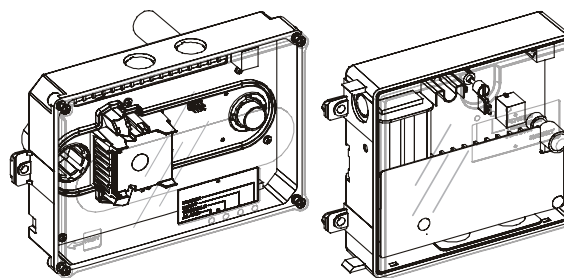


OFFICES



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Operating Voltages:

- 20 – 29 VAC, 50/60 Hz
- 120 VAC, 50/60 Hz
- 220/240 VAC, 50/60 Hz

Operating Current:

- 20 – 29 VDC: 175 mA
- 24 VAC: 500 mA at 50/60 Hz
- 120 VAC: 100 mA, 50 Hz, 75 mA at 60 Hz
- 220/240 VAC: 53 mA at 50 Hz, 40 mA at 60 Hz

Alarm Initiation Relay:

- Quantity: 1
- Style: Normally open
- Ratings: 2.0 A at 30 VDC (resistive)

Auxiliary Relays:

- Quantity: 2
- Style: Form C
- Ratings: 10 A at 30 VDC, 10 A at 250 VAC

Supervision (Trouble) Relay:

- Quantity: 1
- Style: Form C
- Ratings: 2.0 A at 30 VDC (resistive)

Table 1 – Controller Terminal Connections

TERMINAL NUMBER	NAME
1	AUX (-)
2	Reset
3	SUPV Contact COM
4	Alarm Contact COM
5	Alarm Contact NO
6	AUX 1 Contact COM
7	AUX 2 Contact NO
8	AUX 2 Contact NC
9	24V AC/DC In (+)
10	24V AC/DC In (-)
11	Not used
12	Multi-Shutdown
13	SUPV Contact NO
14	SUPV Contact NC
15	REM Alarm LED Out
16	AUX 1 Contact NC
17	AUX 1 Contact NO
18	AUX 2 Contact COM
19	18 VDC Output (+)
20	18VDC Output (-)
TB3-1	Not Used
TB3-2	Not Used
N	AC Neutral
L	AC Line

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48/50 TC(Q)



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48/50 LC



48/50 FC(Q)



48/50 GC(Q)



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