

Factory Installed Smoke Detector Specification Sheet



APPLICABLE UNITS: 48(GD)P3, PM, PD 03-28, 48(GD)TC, 04-35, 48(SD)C, 04-26, 48(SD)C, 04-24, 48(SD)G, 04-12, 48(SD)H, 60(HE)D 003-006, 48(SD)J, TM, TD 004-011, 54(S)J, TFC 104-012

GENERAL DATA: Type: Telltale Super-Duct, 4-wire Photoelectric Sensing detector and control module. The Carrier detector module smoke detector system comprises a four-wire module and one or two sensors (Zirconia Air and/or Supply Air). In primary function it is used to detect smoke from a leaking duct throughout the building. It is not to be used as a life saving device. Factory installed smoke detectors require no additional sampling tubes to be field installed.

SYSTEM DESCRIPTION: Controller - The controller includes a controller battery, a general alarm board, and a easily removable clear plastic cover for access to the multiple terminal connections and reset controls for connection to fire alarm systems, HVAC controls, and other auxiliary functions. A remote reset/retest station can be connected to the controller.

Detectors - The detector includes a plastic housing, a pre-fabricated duct, a sensing tube, an exhaust tube, and a sampling tube. The exhaust tube and sampling tube are attached during factory installation. The sensing tube varies in length depending on the size of the rooftop unit. The clear plastic cover permits visual inspection without having to disassemble the sensor. The cover forms an airtight chamber around the sensing electronics.

For installations using two detectors, the controller does not differentiate which detector signals an alarm or trouble condition. A rapid change in environmental conditions, such as smoke, causes the sensor to signal an alarm state but that state is maintained over time. When the sensor's ability to compensate for environmental changes has been exceeded or tampered with, the sensor signals a trouble condition. Air is introduced to the duct module detector's sensing chamber through a sampling tube that extends into the HVAC duct and is directed back into the ventilation system through an exhaust tube. The difference in air pressure between the two tubes pulls the sampled air through the sensing chamber. When a sufficient amount of smoke is detected in the sensing chamber, the sensor signals an alarm state and the controller processes the appropriate action to clear the alarm. The factory installed wiring connections. Additional functions such as intergrating with a Building Alarm System, additional duct and detector, activate the fire alarm control panel, etc., require field wiring and configuration.

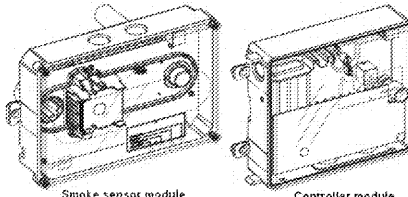


Fig 1 - Controller and Detector (Sensor) Modules

GUIDE SPECIFICATIONS

- System Specifications:
• System Type: Separate controller and detector modules
• Wire: Wire: Controller and Detector: Photoelectric Sensing
• Environmental compensation with differential sensing for reliable, stable and drift-free sensitivity
• Operating environment: Temperature: -20° to 125°F (-29° to 79° C) Humidity: 10% to 95% R.H. non-condensing
• Magnet activated test/reset sensor switches
• Field-free connection terminal service
• Reversible terminal covers for testing and resetting the detector

- Controller specifications:
Controller shall include:
• One set of normally open alarm initiation contacts for connection to an existing device circuit or a fire alarm control panel
• Two Form C auxiliary alarm relays for interface with sounding unit or other equipment
• One Form C supervisory trouble relay to control the operation of the Trouble LED on a remote test/reset station
• Capable of direct connection to two individual detector hoodsets
• Can be wired to up to 14 other duct smoke detectors for multiple duct detection applications

Wire Size: 12-22 AWG
Voltage termination: 12-24 VDC
Adjustments: 20-25 VAC, 50/60 Hz

Operating current: 20-25 VDC: 175 mA
24 VAC: 300 mA at 50/60 Hz
120 VAC: 120 mA, 50 Hz; 75 mA at 60 Hz
220-240 VAC: 40 mA at 50 Hz; 25 mA at 60 Hz

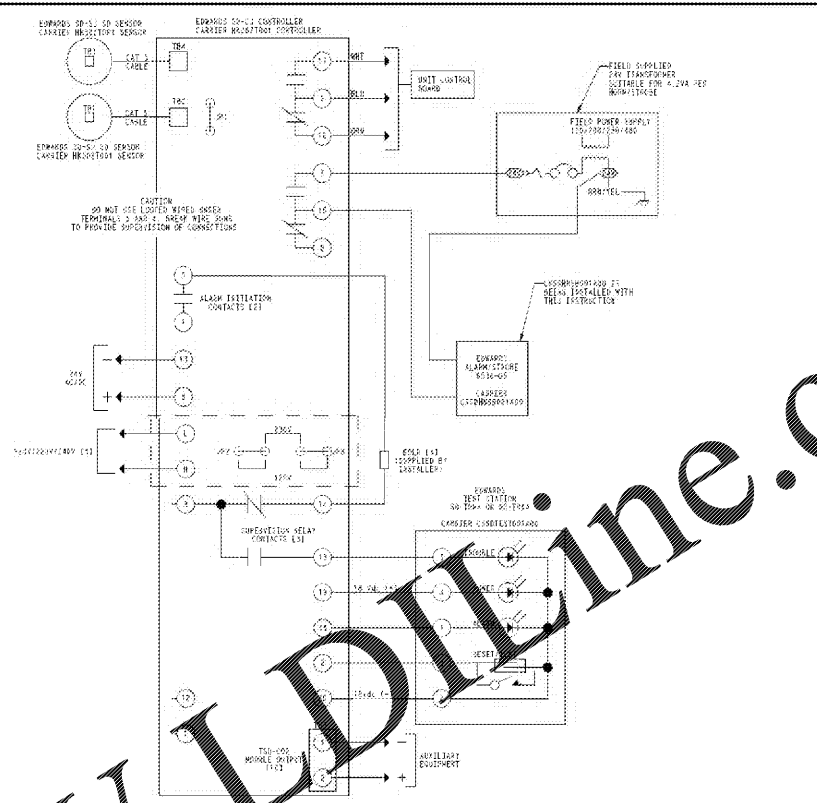
LED Indicators: Red (Alarm) Yellow (Trouble) Green (Power)

Relays: Alarm initiation relay: Quantity: 1 Style: Normally open Rating: 2.0A at 30 VDC (resistive)
Auxiliary relays: Quantity: 2 Form C Rating: 10 A at 250 VAC
Supervisory trouble relay: Quantity: 1 Form C Rating: 2.0A at 30 VDC (resistive)

Detector specifications:
Sensing: Photoelectric
Stroke detection method: Photoelectric
Air sensitivity sensitivity: 100 ± 500 R/min
Pressure differential (min-max): 0.025 - 1.00 in
Sensitivity: 0.07 to 2.40 %/second/foot
Wire size: 14 to 22 AWG
Sensing tube: 2 sensors maximum
Power up time: 8 seconds max
Alarm test response time: 2 to 7 seconds
LED indicators: Red (Alarm) Yellow (Trouble) Yellow (Power)

Table 1 - Controller Terminal Connections. Table with 2 columns: Terminal Number (1-16) and Name (ALARM, SUPPLY AIR, EXHAUST AIR, etc.).

CARRIER RTU/WIRING DIAGRAM FOR CONNECTION OF DUCT DETECTOR TO TEST STATION AND ALARM/STROBE



GEORGIA REGISTERED PROFESSIONAL ENGINEER ABBY L. THURMAN 02/28/2020 DRAWN BY: CEV



Installation Instructions

IMPORTANT: Read these instructions completely before attempting to install the accessory Remote Magnet Test/Reset Station.

SAFETY CONSIDERATIONS: Installation and servicing of air-conditioning equipment can be hazardous due to moving pressure and electrical components. Only trained and qualified personnel should install, repair, or service this equipment.

WARNING: Failure to follow this warning could result in personal injury or death. Before handling or servicing internal, always first cut main power to system and install lockout tag.

CAUTION: Sheet metal parts may have sharp edges or burrs. Use care and wear appropriate clothing.

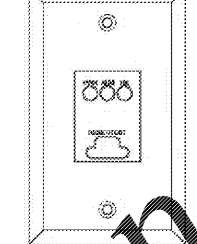
CAUTION: Failure to follow this caution may result in personal injury. Sheet metal parts may have sharp edges or burrs. Use care and wear appropriate clothing.

WARNING: Recognize safety information. This is the safety star symbol. When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury. Understand these signal words: DANGER, WARNING, and CAUTION. These words are used with the safety star symbol. DANGER describes the most severe hazard which will result in severe personal injury or death. WARNING signifies hazards which could result in personal injury or death. CAUTION is used to draw attention to safety precautions which may result in minor personal injury or product and property damage.

PERSONAL INJURY AND ENVIRONMENTAL HAZARD: Failure to observe safety warnings may result in personal injury or death. Use appropriate safety precautions when working on electrical equipment. Use proper wiring techniques and follow manufacturer's instructions. Do not touch electrical components when working on the system. Do not use open flames or smoking materials near the atmosphere. Recover during the installation, repair, and disposal.

GENERAL

The SD-TRIM Remote Test/Reset Station is used with the SuperDuct® four-wire duct smoke detector. Each remote test/reset station provides a green LED to indicate power, a red LED to indicate alarm, and a yellow LED to indicate trouble and detector sleep mode. The SD-TRIM requires a magnet to activate test and reset functions. (See Fig. 2.)



REMOTE TEST/RESET STATION TESTS

Test/reset station alarm test using the SuperDuct® Four-Wire Smoke Detector

CAUTION: Failure to follow these cautions could result in emergency alarm system activation and possible injury. This warning is intended to draw attention to the hazard of emergency alarm system activation and possible injury. This warning is intended to draw attention to the hazard of emergency alarm system activation and possible injury.

- To perform an alarm test using the SD-TRIM:
1. Hold the magnet over the magnet area for seven seconds.
2. Verify that the test/reset station's Alarm LED turns on.
3. After performing an alarm test using the SD-TRIM, reset the sensor by holding the magnet over the magnet area for two seconds.
4. Verify that the test/reset station's Alarm LED turns off.

INSTALLATION

Mount the remote test/reset station on a single gang box as shown in Fig. 2.

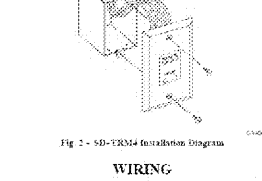


Fig. 2 - SD-TRIM Installation Diagram

WIRING

Use the remote test/reset station to the four-wire controller as shown in Fig. 3.

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Fig. 3 - Wiring Diagram

EDWARDS SOUNDING DEVICES Installation Instructions for the 6536-G5 Horn/Strobe

Description: The 6536-G5 is an audible/visual signal UL Listed for general purpose signaling applications.
Installation: A qualified electrician familiar with National Electrical Code and local code requirements must install this product.
Maintenance: Perform regularly scheduled testing or keep under a test or watch alarm as dictated by local authority having jurisdiction.

WARNING: To reduce the risk of shock, do not remove lens or tamper with unit when the circuit is energized. Do not connect AC power until installation is complete.

WARNING: To reduce the risk of shock, do not remove lens or tamper with unit when the circuit is energized. Disconnect power and allow five (5) minutes for stored energy to dissipate before starting work or disassembly. High energy could be stored in the strobe circuit once it is energized.

Table 3: Specifications

Table with 2 columns: Operating Voltage (24V 50/60 Hz, 24V DC), Alarm Current (175 mA, 125 mA)

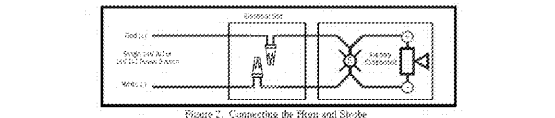
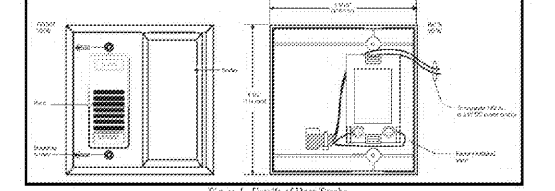


Figure 2: Connecting the Horn and Strobe

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REVISION DATE:

DUCT DETECTOR - TEST STATION - ALARM/STROBE



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