

Technical Service Note

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Concerns: Architect/Engineer Specifications

Affects: DS1109i Glass Breakage
Detectors

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NOTE: Words/statements within square brackets [] may be included when appropriate, or when selection is required.

The Glass Breakage Detector shall operate on a Multiple Frequency Analysis response to distinct audio frequencies. The Glass Breakage Detector shall also operate in response to a magnetic contact.

Each detector shall provide the receiver, signal processing, alarm relay and operating power circuitry in the same enclosure, and shall be ready for wall, window, door or ceiling surface mounting.

The detector shall provide a coverage range of [10 feet] [3 meters] for glass sizes over [12" by 12"] [30 cm x 30 cm]. It shall be designed to detect plate, tempered, laminated, and wired glass types with a minimum thickness of [1/8"] [3.2 mm] for plate glass and [1/4"] [6.3 mm] for other glass types.

The magnetic contact shall respond when the gap between the magnet and the detector exceeds [1 inch] [25 mm].

Each detector shall be capable of operating from a DC power source rated within the range of 6 volts to 15 volts, and shall draw a nominal 23 milli-amperes (mA) across the voltage range.

Each detector shall contain a microphone tuned to the audio frequencies of breaking glass. To guard against false alarms, any audio frequencies detected outside of the specifically tuned frequency range shall be ignored by the detector.

As a condition of alarm, the sensor must detect two distinct frequencies which possess specified signature and timing relationships.

The detector shall provide a condition of alarm using a Supervised [Form "A" (NC/C) [Normally Closed] Reed Relay with terminal strip terminations. In addition, an independent visual condition of alarm shall be provided by a red colored Light Emitting Diode (LED).

A Normally Closed Cover Tamper Switch shall be provided with terminal strip connections. The switch will provide an open condition when the cover is removed.

The detector shall incorporate a test mode which is started by pressing an internal test switch. The test mode

shall provide two functions, operational and environmental. The operational portion shall allow use of a DS1110i tester to verify the mounting location and high frequency catch performance. When the DS1110i tester is activated, the detector will indicate proper placement by lighting its LED and activating its alarm relay for 3 seconds. The test mode will indicate low frequency activations also by lighting its LED.

The environmental portion of the test mode shall indicate environmental disturbances near the mounting location. While in test mode, the LED will flash 5 times per second each time a low frequency disturbance is detected. While in test mode, the LED will flash once each time a high frequency disturbance is detected. If a low or high frequency disturbance above the alarm threshold occurs during the test mode, the detector will indicate an alarm by activating its LED and alarm relay.

Each detector shall also be capable of alarm memory which shall be reset by power interruption. When memory is activated, an alarm shall be stored in memory, and a stored alarm shall be visually indicated by turning on the red alarm LED indicator continuously.

Electronic circuitry shall be mounted on a base produced from the UL Component Recognized material "Cyclocac," Grade KJB, rated 94V-0, or "ABS," Grade T, rated 94 HB, and shall be enclosed with a cover of the same material. The cover shall be secured to the base with a three point positive-latch snap-in-place cover of the same material. When combined, the total package shall be [1 1/4" H x 3 3/4" W x 7/8" D] [32 mm H x 95 mm W x 23 mm D].

Each detector shall be rated to operate within the Temperature Range of [minus 20° Fahrenheit to plus 120° Fahrenheit (-20°F to +120°F)] [minus 29° Celsius to plus 49° Celsius (-29°C to + 49°C)].

The Multiple Frequency Glass Breakage Detector shall be model DS1109i.

End



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