

HONEYWELL Security & Custom Electronics
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Architect and Engineer Specification for: IS320 Request to Exit (RTE) Sensor

DESCRIPTION:

Document – Architects/Engineer Specification

Model – IS320

Product Description – Request-to-Exit (RTE) Passive Infrared (PIR) Sensor

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

OVERVIEW:

The Request-to-Exit (RTE) Sensor shall be mounted near an exterior door inside a building with an access control system. The Request to Exit sensor shall provide free exit to individuals within the building without causing an alarm. Request to Exit sensor[s] shall operate using Passive Infrared (PIR), and shall be listed by Underwriter's Laboratories under UL 294-Access Control System Units, FCC Part 15, C22.2 No. 205-M1983- Signal Equipment and CE.

INTERFACE AND ENCLOSURE:

The enclosure should be ready for surface wall or ceiling mounting without modification. An optional accessory single gang trim plate shall be available for use when the RTE is mounted over a single gang box.

Each detector shall feature a single piece electronics board. The board shall fit into the rear housing. The rear housing shall be secured to the front housing with a snap fit. The enclosure should have a large rear-wiring channel, shall include elliptical mounting holes for horizontal and vertical level adjustments and shall clearly indicate which direction it should be mounted in.

The sensor shall have a terminal strip for wiring connections to allow easier installation and the ability to inspect the wiring connection for a more reliable operation. The sensor[s] shall also contain a front cover tamper switch that shall open when the front cover is removed.

Each sensor shall provide the detection, signal processing, alarm relay, and operating power circuitry in the same enclosure; and shall provide an alarm relay actuation upon the detection of a person moving into or through its coverage pattern.

LED OPERATION:

Each sensor shall incorporate a single, Green LED to indicate the operating condition. The Green LED will be illuminated for the duration time the relay contact is opened for. When the Green LED is not illuminated this shall indicate a ready non-activation condition. During initial power up, the Green LED shall remain on for two minutes during the “power-up” sequence. The LED indicator shall be optional; it shall be capable of being field disabled via a On/Off dipswitch.

POWER REQUIREMENTS AND CURRENT CONSUMPTIONS:

The sensor[s] shall be capable of operating from a AC or a DC power source rated within the range of 12 to 28 VDC or VAC (3V peak-to-peak @12.5V). The sensor[s] current draw shall be <70mA current consumption.

INTERNAL “TAMPER PROOF” SHUTTERS:

The sensor shall contain adjustable shutters behind the PIR cover. These shutters are used to adjust the field of view width and provide precise target area detection. This adjustment may be necessary when the Request-to-Exit Sensor is installed where it may be tripped by non-exiting foot traffic or other erroneous sources at either or both edges of the detection area. By having the shutters internally this will prevent someone from intentionally or unintentionally adjusting the RTE’s field of view.

SENSOR STABILITY AND PERFORMANCE:

The Request-to-Exit sensor shall use a balanced Dual Opposed Element detector to guard against unwanted activations caused by changes in infrared energy not associated with motion.

To guard against false activations caused by RF interference, the detector shall incorporate RFI protection. No alarm shall occur at 30 V/m within the range of 1-1000 MHz. A dual slope temperature compensation circuit shall also increase detection capability under high temperature conditions where the background temperature is similar to that of the human body.

ENVIRONMENTAL CONDITIONS:

The sensor[s] shall be rated to operate within the temperature range of [32° Fahrenheit to 122° Fahrenheit][0° Celsius to 50° Celsius]. The sensor[s] shall tolerate an environmental relative humidity of <95% non condensing. No false alarm shall occur within these operating conditions.

OPTICS:

The detector[s] shall use Fresnel lenses, and the optics chamber shall be sealed to eliminate the chance of a false alarm due to drafts or small insects.

SELF TEST:

The detector shall incorporate self tests of the PIR channel as well as the temperature compensation components to ensure proper circuit operation. The self test routine should run on power up and routinely during operation.

LENS AND DETECTION PATTERNS:

Each sensor shall contain a front mounted hard and durable Fresnel lens that shall focus the received infrared energy onto the sensor. The Fresnel lens shall be designed to maintain Uniform Sensitivity Optics throughout the protection pattern, providing even coverage and detect ability throughout the coverage pattern, helping to detect an person wishing to exit at the edge of the protected area as easily as directly in front of the sensor.

MOUNTING HEIGHT:

The sensor[s] shall be capable of being mounting at a height from 7' to 15' [2.13- 4.57m].

RELAY TIMER MODE and DURATION:

The sensor shall have two modes for the relay timer (re-trigger or fixed) the mode shall be selectable via dipswitch. In the re-trigger mode, the relay timer is restarted whenever motion is detected. The relay will only de-activate when the time programmed expires without additional motion detected during the active period. In the fixed mode the relay will deactivate at the expiration of the relay time programmed and additional motion detection during the active period has no effect.

The sensor shall have an adjustable relay timer from 0.5 seconds to 64 seconds which is set via dipswitches

RELAY (DUAL):

The sensor shall have two double pole/double throw Form C relays with a contact rating of 1A max at 30VDC max. The relay may be used to control a magnetic lock or signal an access control system. All relay connections (common, normally closed, and normally open)for both sets of contacts are available on the terminal block.

SOUNDER:

The sensor shall have a Piezo sounder with volume control that is adjustable from 10% to 100% via an on-board potentiometer. The output of the sounder shall be 60dB @ 10 feet (3m)

RANGE:

From 5.5' x 2' (1.67m x 0.6m) up to 15.8' x 8.4' (4.8 x 2.5m) depending on mounting height

ADDITIONAL- INPUT /OUTPUTS:

The sensor[s] will have the following input/ outputs on the terminal block with no limitations on selection.

The use of these inputs shall automatically detected by the microcontroller. Any change of state on these inputs causes the microcontroller to recognize the input as in use. Therefore, if any change is made to the wiring of the inputs, the user must recycle power so the unit can correctly determine the input status.

Reader (R)*: An optional input that can be used to activate the sensor from an isolated dry contact device. When the input is opened, the unit reacts as if motion was detected. Timer programming and reset modes react normally.

Door (D)*: An optional input to monitor an isolated, normally closed, door contact (door status monitor). The door contact must not be connected to any other system. The DIP switch determines how this input affects unit operation.

Arm (A)*: This optional input may be used to arm and disarm the unit with an isolated dry contact device. These devices might be a second detector, a card reader or keypad, or an access control system. Opening this input allows activation by motion while the input is open, and up to 10 seconds after closure. Once the 10 second timer has expired, the detector is disarmed.

Sounder (S)*: An optional input that can be used to activate the unit's sounder. The sounder will be activated for as long as the terminal is open and takes precedence over all other sounder operation.

Ground (G)*: The G terminals are the returns for inputs. Devices connected to R, D, A, or S should be referenced to the G terminals.

PHYSICAL CHARACTERISTICS:

The dimensional size of the sensor shall be 7"L x 2"W x 2"H [17.8cm x 5.1cm x 5.1cm]. The sensor and accessories shall be available in White or Black (IS320WH- White Housing or IS320BL- Black Housing)

MODELS:

The Request to Exit (RTE) Sensor shall be model IS320 with optional single gang trim plate.