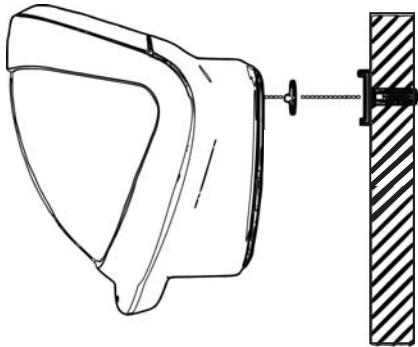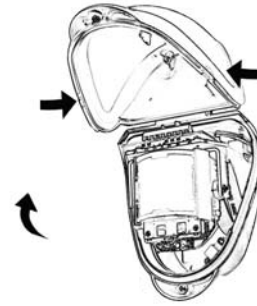**interlogix**
A UTC Fire & Security Company

TX-2810-01-4
Wireless Outdoor PIR 319.5MHz Detector Installation Sheet
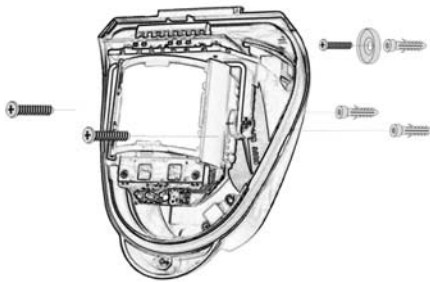
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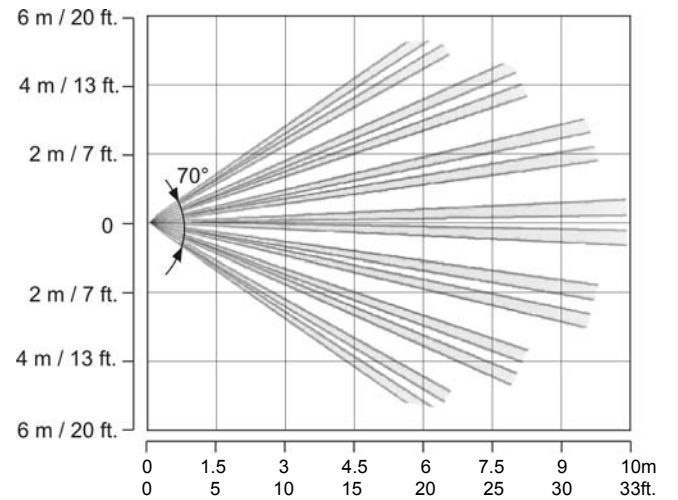

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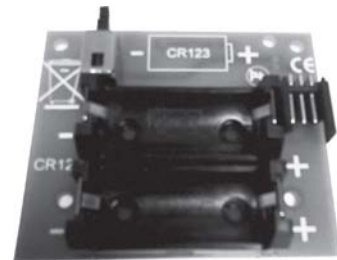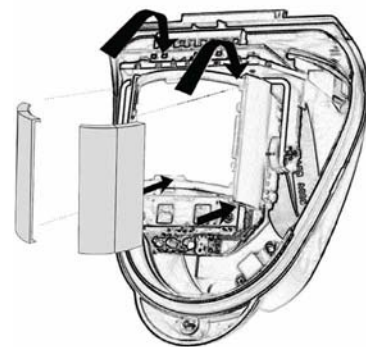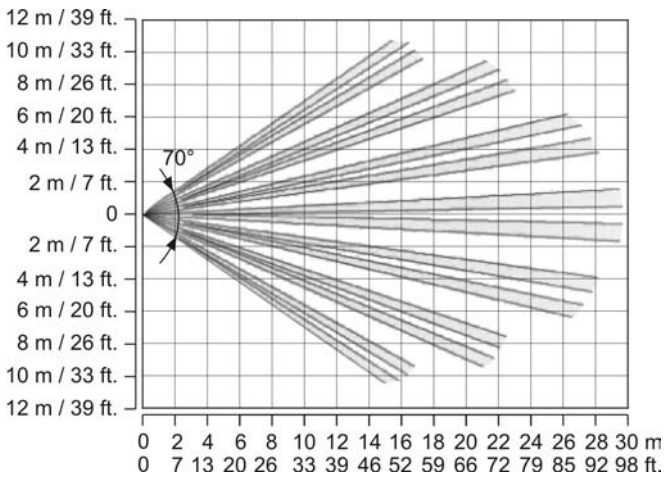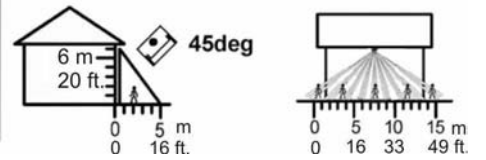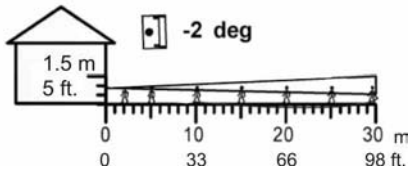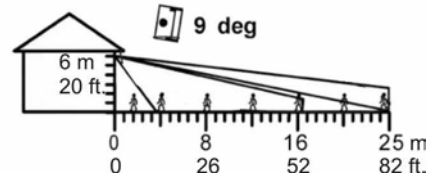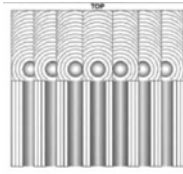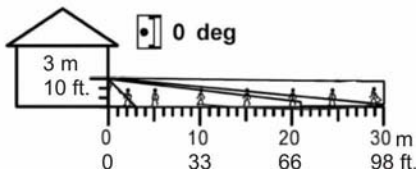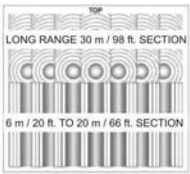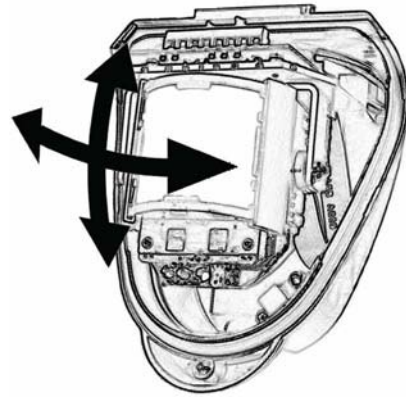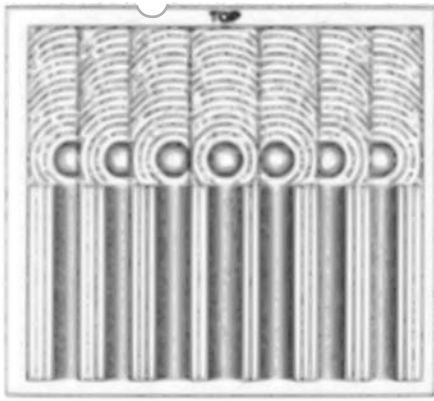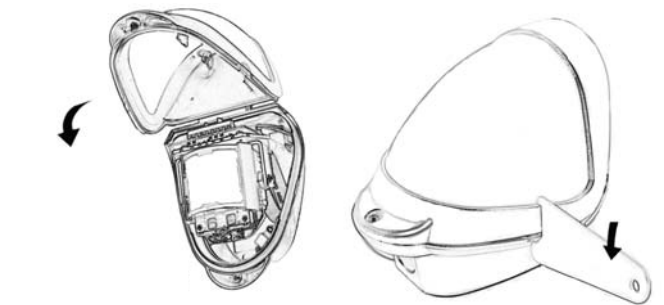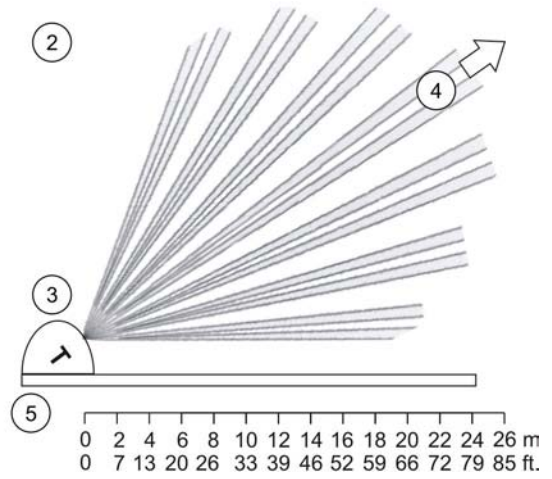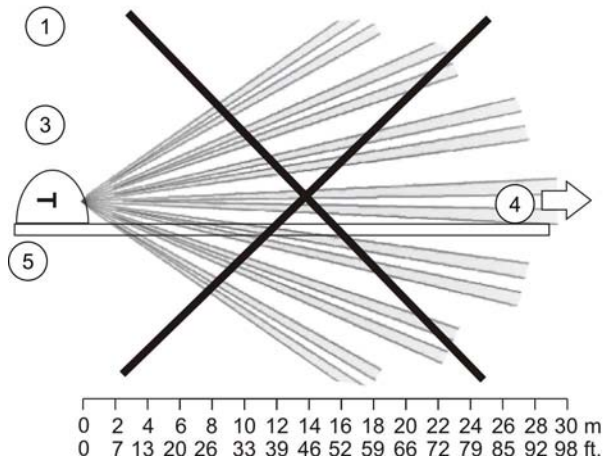
EN: Installation Sheet

Package

The package contains:

- 1 x Wireless Detector
- 1 x drilling template for fixing holes
- 2 x 3V Lithium CR123 batteries
- 2 x 31.75 mm / 1.25 in. wall plugs
- 2 x 31.75 mm / 1.25 in. screws
- 1 x lens mask
- 2 x additional curtain shutters
- 1 x tamper cup
- 2 x tamper caps (different lengths)
- 1 x plastic locking tool
- 1 x installation sheet
- 1 x front cover screw cap

Introduction

The Wireless Outdoor PIR 319.5MHz Detector is an outdoor motion detector and alarm trigger that uses two independent passive infrared detectors.

Both sensors must trigger to cause the detector to signal an alarm. The Detector uses quad PIR technology to deliver precise, reliable presence detection.

Programmable options include a variable pulse count and a choice of three detection ranges: 10 m / 33 ft., 20 m / 66 ft., and 30 m / 98 ft.

The integral dual-axis tilt sensor allows 180° of pan and 90° of tilt. This increases the speed of the outdoor installation and provides incredibly accurate aiming of the detection pattern.

The electronics module is acrylic coated for additional component stability. It is encased in a vandal-resistant, high-impact, UV stabilized plastic housing with an opaque polyethylene front cover ensuring that the sensor is impervious to and unaffected by weather conditions.

The combination of precision electronics, digital white light filtering, and double shielding eliminates false alarms from the sun and other visible light sources.

The Detector design has a neat and professional appearance that gives no visible indication of the orientation of the detector head and totally hides the wiring.

Quick installation

1. Mount and connect the detector following the instructions given later in this sheet.

2. Fit the 2x CR123 batteries provided into the top battery case. Observe correct polarity. See Fig 4.

    The detection LED (blue) flashes three times.

3. Wait approximately 2 to 3 minutes to allow the detector to settle.

4. Press the programming button once to activate walk test mode.

    The detection LED is now enabled for five minutes.

Note: The front cover must be fitted when walk testing.

The default settings are:

*   Range: 30 meters / 98 feet
*   Pulse count: 1

Mounting the unit

During installation, protect the electronics against water, as trapped moisture can affect or damage the unit.

To mount the detector:

1. Drill the wall to accept the two fixing screws and the tamper cup (if used). See Figures 1 and 3.

    A hole-drilling template is provided.

    Notes

    *   Leave a minimum 10 cm (4 inches) clearance above the top of the detector housing to allow the cover and the detector to be positioned correctly.

    *   We recommend using the tamper cup on uneven wall surfaces.

    *   The recommended optimum mounting height for the detector is 3 m. Whilst it is possible to mount the unit higher, this will give a reduced detection range and

will require the detection subject to move further through the already reduced detection area before an activation is signalled.

2. Remove the cover assembly by loosening the locking screw.
    Squeeze the sides of the front cover to release the internal catches. The cover hinges from the top and lifts out of the location slot. See Figure 2.

3. Screw the unit to the wall ensuring that the tamper pin is correctly located and that the tamper microswitch is closed.

    To aid installation, two spare different length tamper feet are provided. The tamper foot is a push fit and can be removed by carefully pulling it from the pin. See Figure 1.

4. When the detector is aligned, connected, and programmed to suit the installation:

    a. Fit the cover to the detector base.

    b. Lightly screw the locking screw using a star screwdriver.

    c. Put the top of the locking tool into the small notch on each side of the cover, and then apply slight pressure until the cover locks into the base, as shown in Figure 17.

    d. Tighten the locking screw.

Fitting the Batteries

Battery

Only use battery type 3V Lithium CR123 (x 2 provided) This will provide 3 years operation under normal conditions.
For extended battery life a 3rd battery can be fitted into the rear of the TX board, See Fig 5.
Observe correct polarity when fitting.

Battery safety information

Do not dispose of in a fire

Do not heat

Do not charge

Do not short circuit

Do not disassemble

Only replace with same type and voltage

Multibeam alignment and masking

The multifunction lens fitted to the detector produces seven long-range beams and seven medium- to short-range curtain PIR beams. The PIR circuitry detects changes in heat and movement in the beam pattern; therefore items such as trees, shrubs, ponds, boiler flues, and animals should be considered when positioning the detector.

Note: PIR sensor is more sensitive to a movement across the beams, and less sensitive to a movement directly towards or away from the beams.

The detector module is fitted with two sliding shutters to reduce the detection angle.

The curtains are fitted to the pan and tilt module as shown in Figure 6. Each section of the detector lens gives a coverage pattern of approximately 10 degrees.

An additional set of curtain sliders is provided should the beam pattern be narrowed even further, e.g. if the minimum detection angle of 10 degrees is required.

When coverage exceeds the desired detection area, adjust the module as required and mask off any beams, either vertically or horizontally, to avoid unwanted detection.

Use portions of the self-adhesive silver mask applied to the rear, smooth side of the lens as shown in Figures 11 and 12. Gently lift the top and bottom edges of the pan and tilt module to release the lens. To replace the module, please begin by sliding one side of the lens into the clips on the pan and tilt module. After one side is secure, do the same for the opposite side. Once both sides are secure, gently lift the top and bottom edges of the pan and tilt module and press on the lens to click it into place.

Always replace the lens the correct way up to ensure exact beam pattern coverage. The top of the lens has a notch and is marked TOP as shown in Figure 7.

Table 2 below summarizes typical masking configurations for use when the range option is set to 30 meters.

Table 2: Masking configurations for maximum range

Configuration	Height (m / ft.)	Tilt (°)	Max. range (m / ft.)	Reference
Multibeam, optimum	3 / 10	0	30 / 98	Figure 9
Multibeam	6 / 20	9	25 / 82	Figure 10
Pet immunity [1]	1.5 / 5	−2	30 / 98	Figure 11
Curtain coverage [2]	6 / 20	45	5 / 16	Figure 12

[1]   Black area should be masked for pet alley applications up to 30 meters / 98 feet.

[2]   Black area should be masked for curtain coverage applications.

Figure 13 shows the pattern for the maximum range in the optimum position (see Figure 9). Masking the top section of the lens reduces the range to 20 m / 66 ft.

Figure 14 shows the pattern for the minimum range (10 m / 33 ft.) In this case masking the top section of the lens reduces the range to 6 meters.

Figure 15 shows possible alignments when the detector is mounted close to a wall.

Figure 15 legend

Item	Description
1.	90° mounting, not recommended
2.	55° mounting, recommended
3.	Detector housing
4.	Long range beam direction
5.	Wall

The alignment shown as item 1 in Figure 15 is not recommended. If the detector head is mounted at an angle of 90° to the perimeter, the mounting wall may cut off short and medium range beams. The long-range beam will still detect an intruder, however the wall can cause false alarms when heated by sunlight.

Item 2 in Figure 15 shows the recommended alignment. The detector head is mounted at a 55° angle to the perimeter. As a result, short and medium range beams are parallel to the perimeter, but the detection range along the perimeter is reduced to 25 m.

LEDs

The detector has one LED as shown on Figure 16.

Figure 16 legend

Item	Colour	Description
1.	Blue	Detection alarm

Programmable options (PIR)

Range and Pulse count

Pulse count is the number of times the detector must detect a presence before signalling an alarm.

When the pulse count is set to 1, the detector is most sensitive.

Programming (PIR) 319.5MHz Detector

Figure 16 legend

Item	Description
1.	Programming LED
2.	Programming button

All available settings are listed in Table 3 below.

Table 3: Programming settings

		Value	
Option	1	2	3
1. Range (m / ft.)	10 / 33	20 / 66	30* / 98*
2. Pulse count	1*	2	

* Default settings

To change any settings:

1. Press the programming button to select the option number you want to change. Press once for range, twice for pulse count, and three times for detection LED.

2. Wait until the programming LED turns off (typically 4 seconds).

3. Count the number of times the programming LED flashes to determine the current value for that option.

4. Press the programming button to select the value number for the new setting. Example: To set the range to 30 m / 98 ft., press three times.

   The programming LED blinks twice to indicate that the new value was set.

Any alterations made to the detector settings are stored in nonvolatile memory.

Resetting options

To reset the detector to the default settings:

1. Remove the batteries from the detector.

2. Press and hold the programming button (see Figure 16, item 2).

3. Re fit the batteries (observe polarity).

4. After the programming LED flashes, release the programming button.

Programming (Control Panel)

For outdoor applications it is recommended that the wireless detector be used as a "pre-alarm" device. Please refer to the specific control panel documentation for complete programming details.

Walk test

In walk test mode, the blue detection LED option is set to ON, and the pulse count option is set to 1. The detection LED lights each time the unit detects your presence.

To enter the walk test mode, press the programming button once. The detection LED lights and pulse count 1 is automatically selected. The unit can then be aligned. The detection LED lights on the the unit every time detection takes place.

The test mode ends automatically five minutes after last detection. Alternatively, press the program button three times, or remove and then reapply batteries to cancel the walk test mode.

Note: When you conduct a walk test, make sure that the front cover is in place. Do not conduct walk tests with the cover removed.

The range of the detector increases without the protective front cover. Therefore the front cover must be fitted to establish the correct beam pattern. Use Table 3 on page 5 to adjust the range as necessary. Pan and tilt the lens module over the field of view to obtain the correct coverage area.

Specifications

Wireless 319.5MHz Detector

Detection range	Programmable: 10 m / 30 ft., 20 m / 66 ft., or 30 m / 98 ft.
Coverage	10 to 70° detection angle, 30 x 24 m / 98 x 79 ft. coverage max.
Adjustment	180° pan, 90° tilt
Fresnel lens	28 zones for each detection element, which can be masked with the curtain sliders
Customized optics	Double silicon shielded quad element eliminates 50,000 lux of white light
LED	Blue: Detector alarm
Power input	3 V ⎓ 2 x CR123 (3 years) * 3 x CR123 (≤ 5 years) *
Current	20 VA
Pulse count	1 or 2
Temperature compensation	Analogue (thermistor) and digital sensitivity adjustment
Control	Digital microprocessor with nonvolatile memory
Walk test	Output test mode with LED indication.
Operating temperature	−25 to +65°C / −13 to 149°F
Housing	High impact ABS plastic with HDPE cover, UV stabilized
Dimensions, W x H x D	125 x 175 x 130 mm / 4.92 x 6.89 x 5.12 in.
Weight	306 g net, 532 g gross / 10.79 oz net, 18.77 oz gross
Mounting height	Variable up to 6 m / 20 ft. Optimum height 3 m / 10 ft. for full range

* under normal operations

Regulatory information

Manufacturer	Authorized EU manufacturing representative: UTC Fire & Security B.V. Kelvinstraat 7, 6003 DH Weert, Netherlands
Certification	CE
EN	EN 50130-5, Grade 2, Class IV
Environmental class	IP65
FCC compliance	This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
	Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.
European Union directives	1999/5/EC (R&TTE directive): Hereby, UTC Fire & Security declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
	2002/96/EC (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.