

## 8 TROUBLE SHOOTING

PROBLEM	PROBABLE CAUSE	REMEDY
LED does not light.	Incorrect power supply voltage. (disconnection, or low voltage)	Correct supply voltage to 9.5 to 16 V DC. See Section 5.
	Improper detection area.	See Section 2.
	LED switch is OFF.	Turn on the switch.
	Improper polarity to detector.	Switch positive and negative at terminal.
LED lights even though no person within area.	Moving object within area. (curtain, wall hanging, etc.)	Remove the sources from the detection area.
	Temperature of object within area changing rapidly. (heater, air conditioning, etc.)	Remove object from the detection area.
LED lights but signal is not sent.	Relay contact is stuck or damaged due to overloading.	Check load of output. The unit needs repair or replacement.
LED continues to light.	Faulty Wiring.	Wire correctly.
	Poor connection of alarm memory.	Reconnect wire.

## 9 SPECIFICATIONS

Model	CX-702 MKII	
Detection method	Passive infrared	
Coverage	Wide angle 90° wide 21 m × 21 m (70 ft. × 70 ft.)	Long range 45 m × 10 m (150 ft. × 30 ft.)
	136 zones	44 zones
Mounting height	1.5 to 3.6 m (5 to 12 ft.)	
Sensitivity	1.6°C at 0.6 m / sec., 2.4 m mounting height (3°F at 2 ft. / sec., 8 ft. mounting height)	
Detectable speed	0.3 to 1.5 m / sec. (1 to 5 ft. / sec.)	
Power input	9.5 to 16 V DC	
Current draw	17 mA (normal) / 19 mA (max.) at 12 V DC	
Alarm period	Approx. 2.5 sec.	
Alarm output	N.C. 28 V DC 0.2 A (max.)	
Tamper switch	N.C., Opens when cover removed 28 V DC 0.1 A (max.)	
Pulse count	Approx. 20 sec. 2 or 4	
Warm up period	Approx. 1 min.	
LED indicator	Alarm condition	
RF interference	No alarm 10 V / m	
Operating temperature	-20°C to +50°C (-4°F to +122°F)	
Environment humidity	95 % (max.)	
Weight	200 g (7.0 oz.)	

\* Specifications and design are subject to change without prior notice.

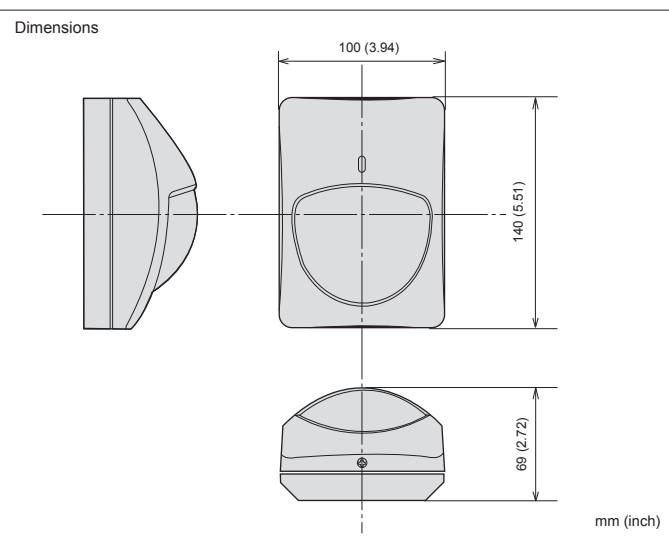
### EU contact information

#### Manufacturer:

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OPTEX (EUROPE) LTD. / EMEA HEADQUARTERS  
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Berkshire, SL6 7BU U.K.



### Note>>

- This unit is designed to detect movement of an intruder and activate an alarm control panel.
- Being only a part of a complete system, we cannot accept responsibility for any damages or other consequences resulting from an intrusion.

(CX-702MKII Wide angle only)  
EN 50131-1 Grades and Environmental Class:  
Security Grade 2 and Environmental Class II.  
EN 50131-2-2  
Tested and certified by Telefication.



OPTEX CO., LTD. (JAPAN)

URL: <http://www.optex.net>

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## INSTALLATION INSTRUCTIONS



### PASSIVE INFRARED DETECTOR

## CX-702 MKII

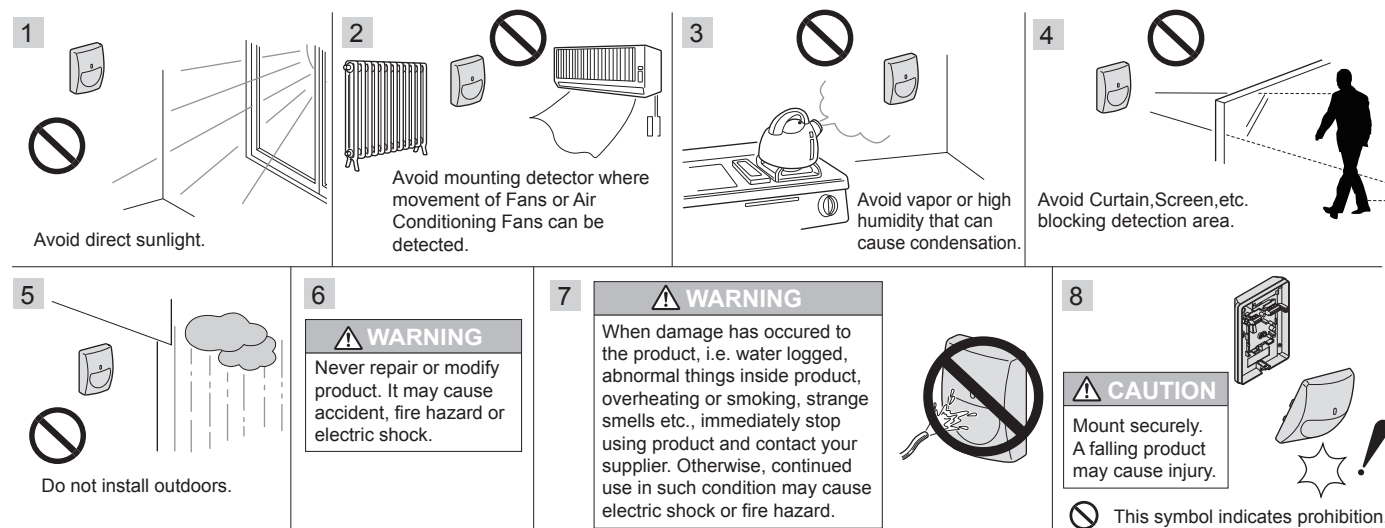
### FEATURES

- Dual Purpose Lens: Selectable "WIDE ANGLE" and "LONG RANGE" detection patterns
- Double Conductive Shielding of the pyroelectric element Extremely High Light and RFI Immunity (Patent listed)
- Multifocus Optics Design (Patent listed)
- LED On / Off Switch
- Sealed optics
- Easy Installation

### OPTION

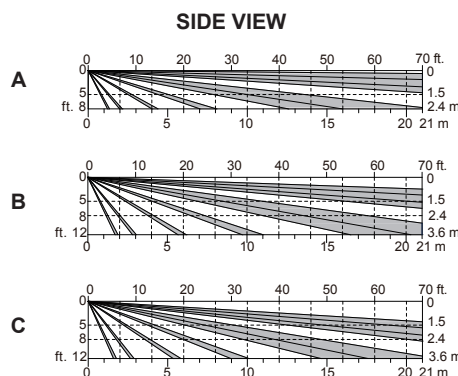
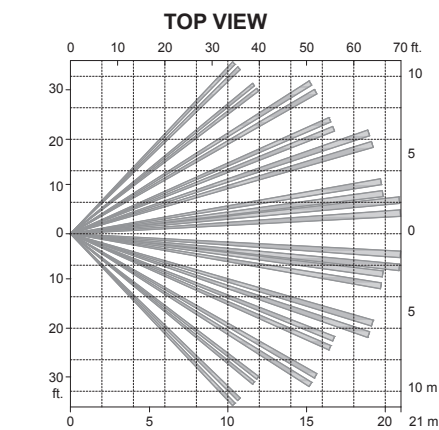
- CA-1W : Wall Mount Bracket : adjustable  $\pm 45^\circ$  (Horizontally), 0 to  $20^\circ$  (Vertically downwards)
- CA-2C : Ceiling Bracket : adjustable  $\pm 45^\circ$  (Horizontally), 0 to  $20^\circ$  (Vertically downwards)

## 1 INSTALLATION HINTS

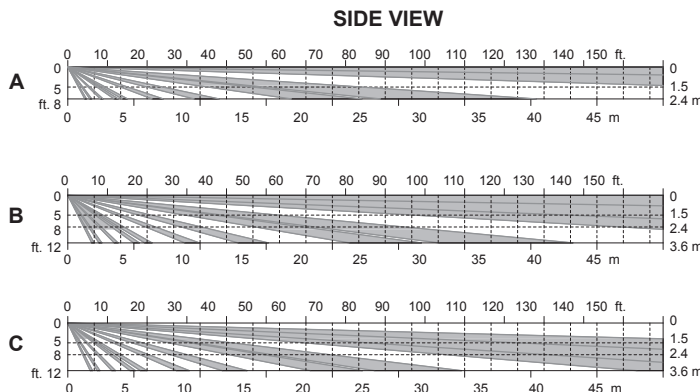
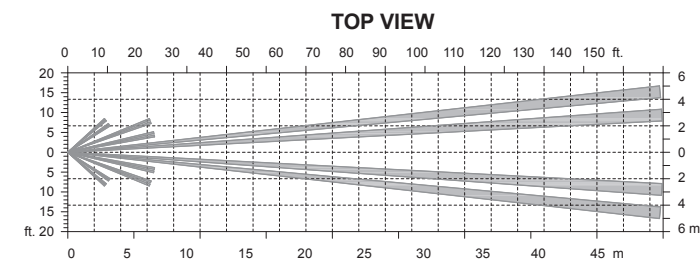


## 2 DETECTION AREA

### WIDE ANGLE



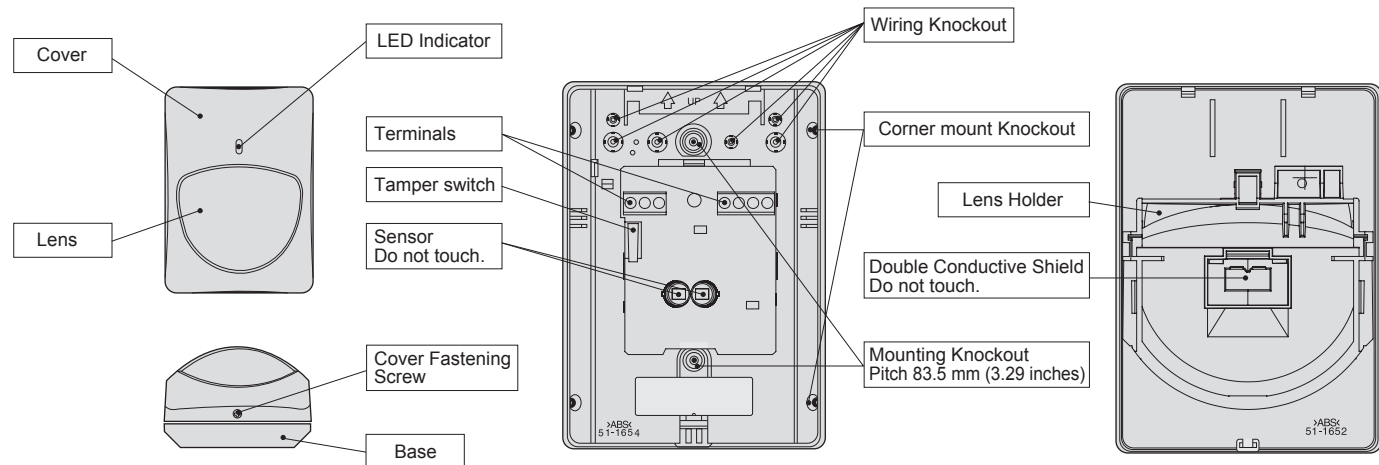
### LONG RANGE \* not certified with EN 50131-2-2



### \*\*ATTENTION\*\*

The specified detection area can be achieved by mounting the unit at a height of 2.4 m (8 ft.). Mounting at a lower or higher height may reduce the area of coverage

### 3 DESCRIPTION AND OPERATION



### 4 INSTALLATION

**1**

Loosen fastening screw and remove cover.

**2**

Lead in wires through knockouts along the wiring guide on the rear side of base. Mount base with supplied screws. When using a bracket, check matching knockout position before opening mounting holes. Wire according to Section 5.

**3**

Conduct a walktest and make adjustments (Section 7).

**4**

Fit cover using fastening screw.

**Note>>**

**< How to remove PCB >**  
When you remove the PCB, push down on the hook under PCB and remove it from its base. Attachment of PCB is the reverse of removal.

**< How to open knockouts >**

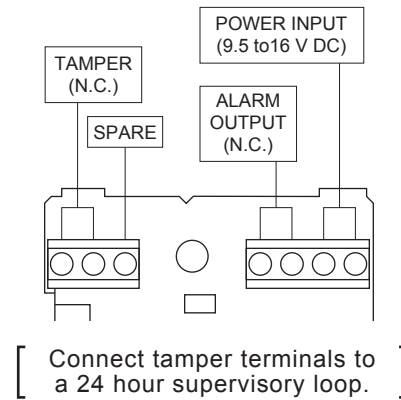
**< How to change the lens type >**  
1. Open the cover's hook and then lens cover can be removed.

**2. Remove lens holder carefully. Select wide angle or long range according to Section 6-2. (Note: Factory default is WIDE ANGLE.)**

**3. Check to confirm that the lens is in the desired position. Press down the lens holder until it clicks into place along the guide of cover. Fix the screw at the end.**

Guides of Cover  
Guides of Lens Holder

### 5 WIRING



Power wires should not exceed the following lengths.

WIRE SIZE	VOLTAGE	12 V	14 V
AWG 22 (0.33 mm <sup>2</sup> )		520 m (1700 ft)	1130 m (3700 ft)
AWG 20 (0.52 mm <sup>2</sup> )		820 m (2690 ft)	1780 m (5830 ft)
AWG 18 (0.83 mm <sup>2</sup> )		1310 m (4290 ft)	2850 m (9350 ft)

- When using two or more units on one wire, the maximum length is obtained by dividing the maximum wire length listed above by the number of units used.

### 6 ADJUSTMENTS FOR REQUIRED AREA PATTERN

The CX-702 MKII is designed to provide ideal detection areas for different patterns ranging from 12 m (40 ft.) to 21 m (70 ft.) Wide Angle, and 24 m (80 ft.) to 45 m (150 ft.) Long Range. The following adjustments will provide ideal detection areas for each of these requirements.

#### 1 DETERMINE THE AREA PATTERN

Before making adjustments, determine the pattern area, detection range mounting height.

#### 2 SELECTING WIDE ANGLE OR LONG RANGE DETECTION

- Inverting the lens will select either the Wide Angle or Long Range detection patterns.
- Please note markings "W (Wide Angle)" and "L (Long Range)", on each side of lens.
- For Wide Angle, "W" will be on top of lens.
- For Long Range, "L" will be on top of lens.

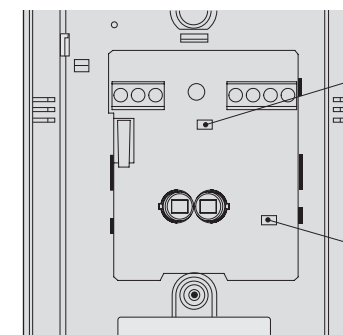
#### 3 VERTICAL ADJUSTMENT OF DETECTION AREA

Adjust the vertical angle according to the desired detection range and mounting height.

- Set the upper edge of the lens at either the "A", "B" or "C" position.
- The following chart illustrates the different position setting.
- Confirm the detection area by conducting a walktest.

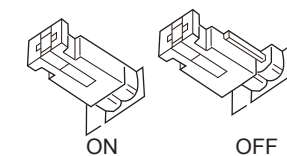
		W : WIDE ANGLE					L : LONG ANGLE				
		DISTANCE					DISTANCE				
		12 (40)	15 (50)	18 (60)	21 (70)		24 (80)	30 (100)	36 (120)	45 (150)	
HEIGHT	1.5 (5)	B	A	A	A		B	B	A	A	
	2.4 (8)	C	C	C	C		C	C	C	C	
	3.6 (12)	C	C	C	C		C	C	C	C	

### 7 FUNCTIONS



#### 1 LED ON / OFF

Jumper Pin Switch  
The Alarm LED indicator can be switched either "ON" or "OFF".

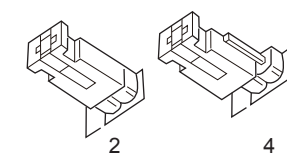


#### 2 PULSE COUNT

The Detection Mode can be switched to either "2" or "4" mode depending on the environmental conditions of the installation.

- For normal applications.
- For use in hostile areas where there may be movement of small animals or other objects such as fax machines or curtains.

When the "4" is selected, the detector's sensitivity may seem sluggish. It is therefore important to always conduct a walktest to ensure that the desired coverage is given.



#### CAUTION

Do not use pulse count 4 for Long Range detection.

**CAUTION**  
Always conduct a walktest after changing the position of this switch to ensure the detector is still providing optimum coverage.