●OPTEX

PASSIVE INFRARED DETECTOR
CX-702 , CX-702V
STANDARD   ALARM MEMORY

N219
(CX-702 Only) CE

■ FEATURES

CX-702 / CX-702V
- 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

CX-702V Only
- Alarm Memory
- LED Remote Control Terminal

OPTION
CA-1W : Wall Mount Bracket : adjustable ±45°(Horizontally), 0-20°(Vertically downwards)
CA-2C : Ceiling Bracket : adjustable ±45°(Horizontally), 0-20°(Vertically downwards)

※ The CX-702 is UL Listed per UL639, Intrusion-Detection Units.
※ The CX-702V has not been investigated by UL.

1.INSTALLATION HINTS

1 Avoid direct sunlight.

2 Avoid mounting detector where movement of Fans or Air Conditioning Fans can be detected.

3 Avoid vapor or high humidity that can cause condensation.

4 Avoid Curtain,Screen,etc. blocking detection area.

5 Do not install outdoors.

6 ⚠WARNING
Never repair or modify product. It may cause accident, fire hazard or electric shock.

7 ⚠WARNING
When damage has occured to the product, i.e. water logged, abnormal things inside product, overheating or smoking, strange smells etc., immediately stop using product and contact your supplier. Otherwise, continued use in such condition may cause electric shock or fire hazard.
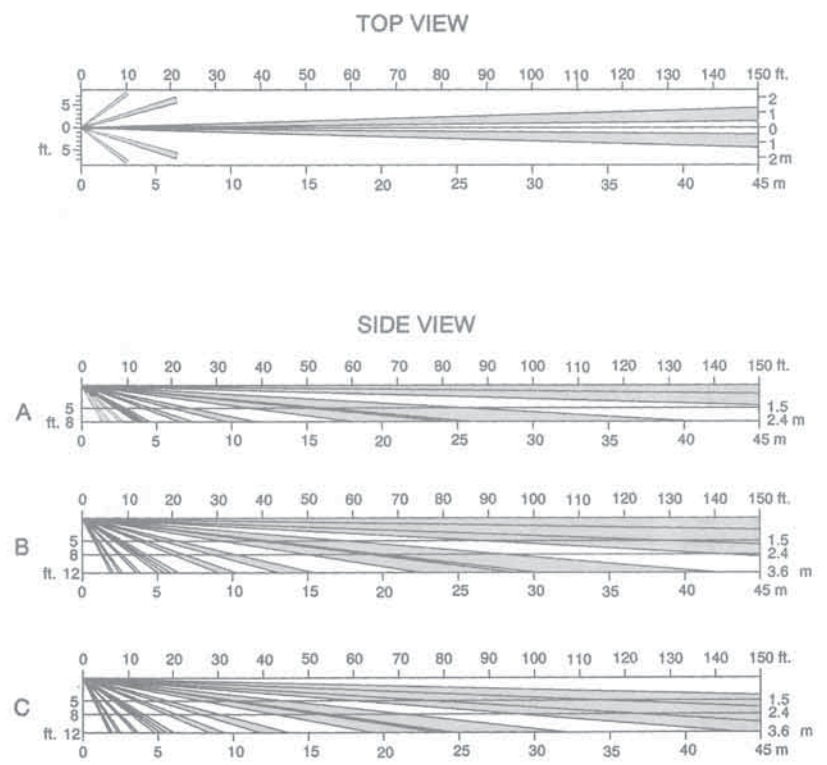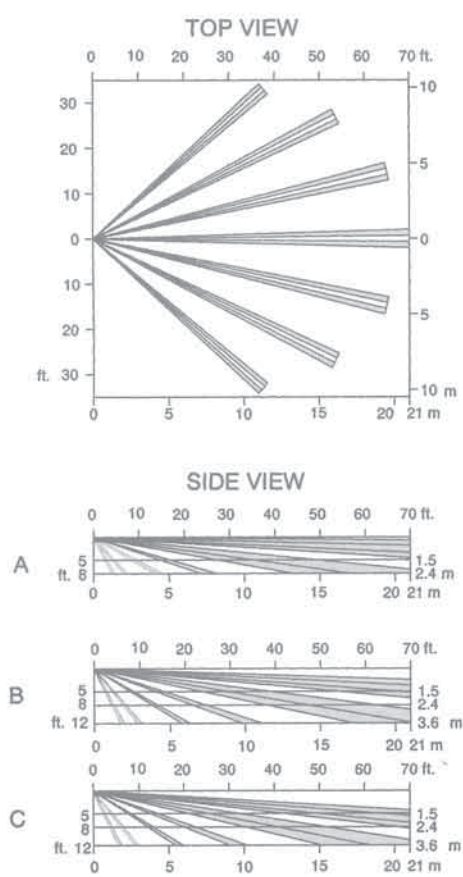
8 ⚠CAUTION
Mount securely. A falling product may cause injury.

2.DETECTION AREA

WIDE ANGLE

TOP VIEW

SIDE VIEW

A

B

C

LONG RANGE

TOP VIEW

SIDE VIEW

A
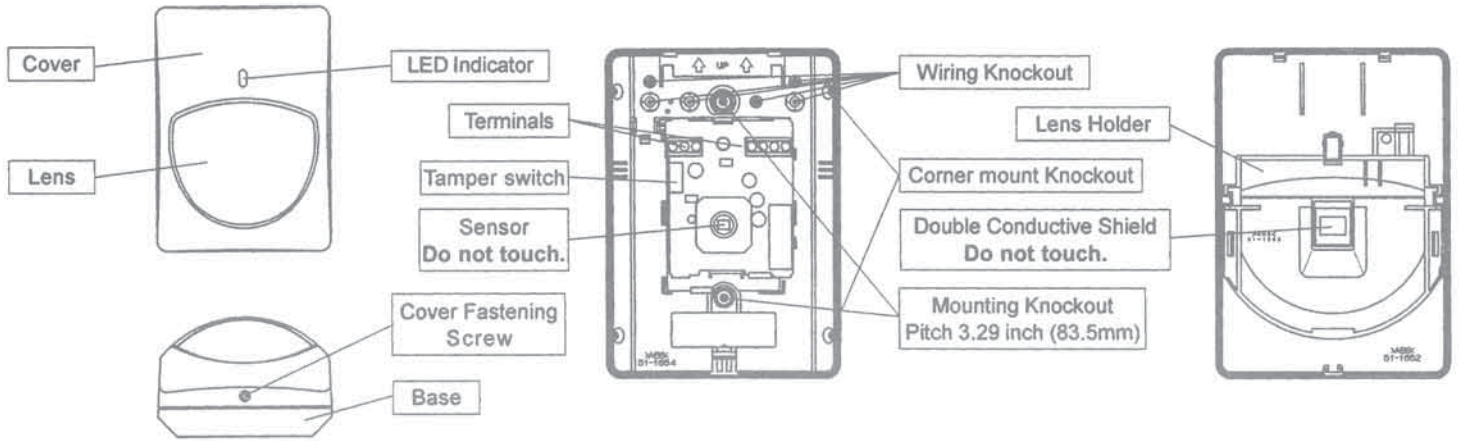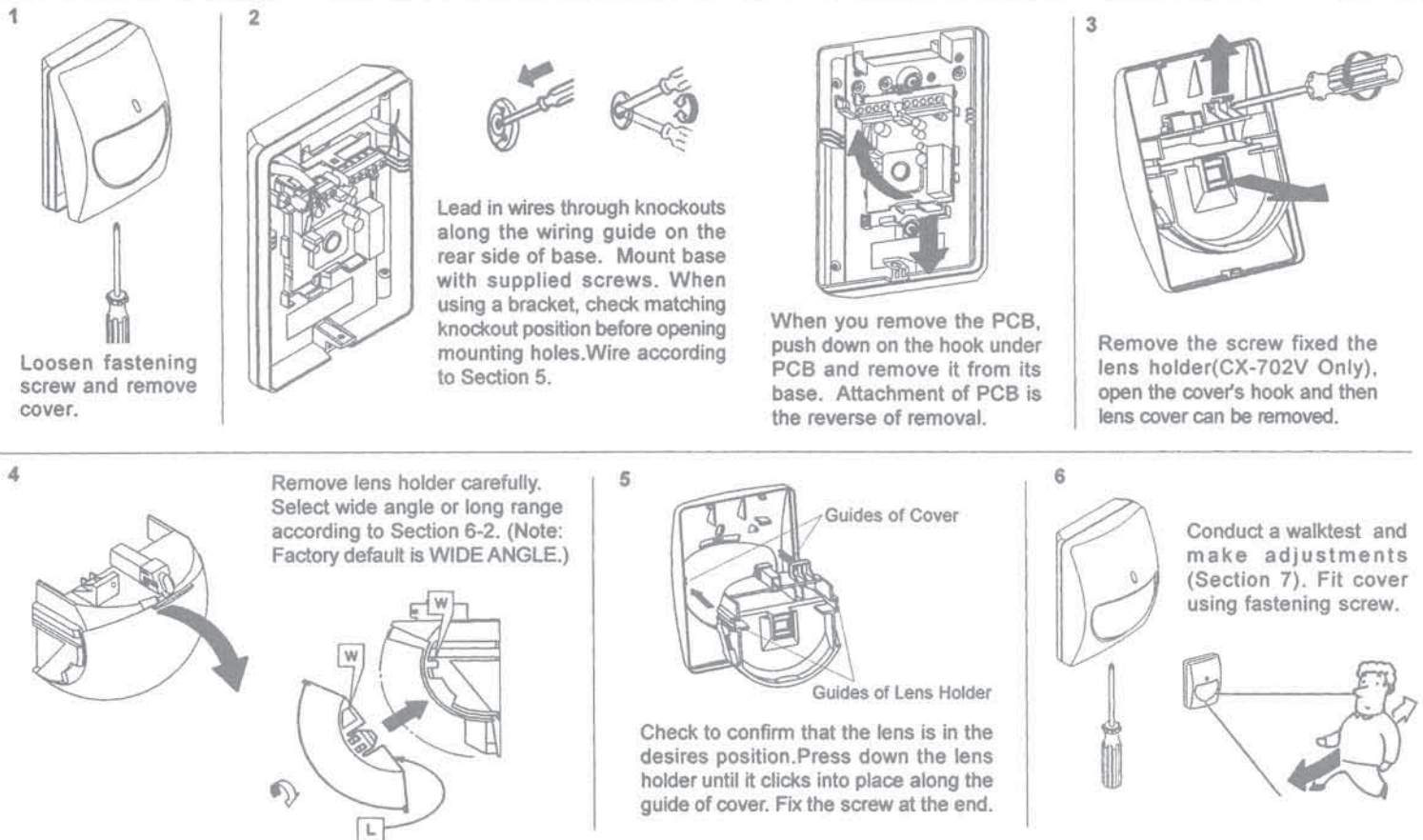
B

C

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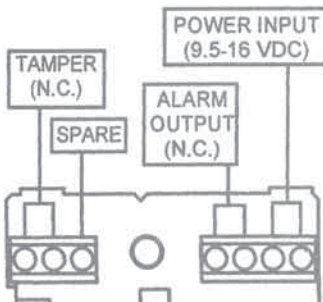
3.DESCRIPTION AND OPERATION

Cover
LED Indicator
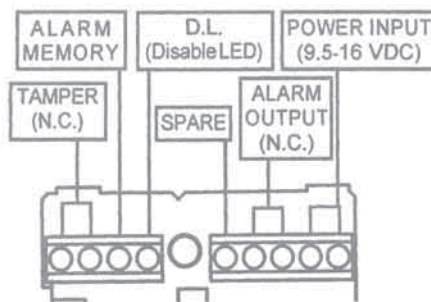Terminals
Lens
Tamper switch
Sensor
Do not touch.
Cover Fastening Screw
Base
Wiring Knockout
Lens Holder
Corner mount Knockout
Double Conductive Shield
Do not touch.
Mounting Knockout
Pitch 3.29 inch (83.5mm)

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.

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.

3

Remove the screw fixed the lens holder(CX-702V Only), open the cover's hook and then lens cover can be removed.

4

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

5

Guides of Cover

Guides of Lens Holder

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

6

Conduct a walktest and make adjustments (Section 7). Fit cover using fastening screw.

5.WIRING

CX702

TAMPER (N.C.)
SPARE
POWER INPUT (9.5-16 VDC)
ALARM OUTPUT (N.C.)

CX-702V

ALARM MEMORY
D.L. (Disable LED)
POWER INPUT (9.5-16 VDC)
TAMPER (N.C.)
SPARE
ALARM OUTPUT (N.C.)

[Connect tamper terminals to a 24 hour supervisory loop.]

Power wires should not exceed the following lengths.

WIRE SIZE	CX-702		CX-702V	
	12V	14V	12V	14V
AWG 22(0.33mm²)	1700ft (520m)	3700ft (1130m)	1180ft (360m)	2520ft (770m)
AWG 20(0.52mm²)	2690ft (820m)	5830ft (1780m)	1830ft (560m)	4000ft (1220m)
AWG 18(0.83mm²)	4290ft (1310m)	9350ft (2850m)	2950ft (900m)	6430ft (1960m)

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.

※ UL requires CX-702 to be connected to a UL listed power supply capable of providing a nominal input of 12VDC 11mA(max.) and battery standby time of 4 hours.
※ For UL Listed systems, do not connect field wiring more than 25ft. to Alarm Memory, and DL terminals.
※ The equipment shall be installed in accordance with the National Electrical Code, NFPA 70.

6.ADJUSTMENTS FOR REQUIRED AREA PATTERN

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

I. DETERMINE THE AREA PATTERN

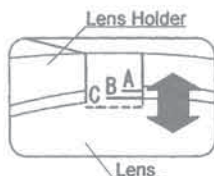Before making adjustments, determine the pattern area, detection range mounting height.

2.SELECTING WIDE ANGLE OR LONG RANGE DETECTION

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

3.VERTICAL ADJUSTMENT OF DETECTION AREA

Adjust the vertical angle accrding to the desired detection range and mounting height.
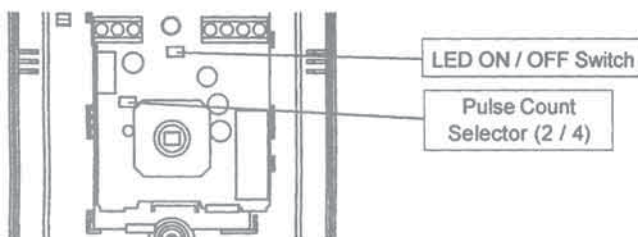
1. Set the upper edge of the lens at
   either the "A", "B" or "C" position.
2. The following chart illustrates the
   different position setting.
3. Confirm the detection area by
   conducting a walktest.

ft.(m)

W : WIDE ANGLE						L : LONG RANGE					
		DISTANCE						DISTANCE			
		40 (12)	50 (15)	60 (18)	70 (21)			80 (24)	100 (30)	120 (36)	150 (45)
HEIGHT	6 (1.8)	B	A	A	A	HEIGHT	6 (1.8)	B	B	A	A
	8 (2.4)	C	C	C	C		8 (2.4)	C	C	C	C
	12 (3.6)	C	C	C	C		12 (3.6)	C	C	C	C

7.FUNCTIONS

LED ON / OFF Switch

Pulse Count
Selector (2 / 4)

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

1. LED ON / OFF

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

D.L. terminal (CX-702V Only)
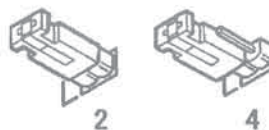LED can be enabled or disabled remotely from control panel by D.L. terminal.
1) Place Jumper Pin Switch in OFF position.
2) LED"ON" : Connect DL terminal to common ground with detector.(0~1VDC, grounded)
   LED"OFF": No Connection to the DL terminal.(OPEN or +5~16VDC)

ON   OFF

2. PULSE COUNT

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

2 : For normal applications.
4 : 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.

2   4

CAUTION!
Do not use pulse
count 4 for Long
Range detection.

3. ALARM MEMORY (CX-702V Only)

Alarm Memory
This function is used to indicate if the detector was activated while the panel
was armed. It will cause the red LED on the Detector to illuminate once the
panel has been disarmed.
Compatible Control Panel is required for Alarm memory.

Connect A.M. terminal to Control Panel's Control Voltage Signal terminal
(System Arming Status Voltage Output).

CONTROL VOLTAGE SIGNAL

	POSITIVE	NEGATIVE
System Armed	OPEN or +5~16VDC	0~1VDC(grounded)
System Disarmed	0~1VDC(grounded)	OPEN or +5~16VDC

Operation
If the unit triggered during armed period, when the system is
disarmed, LED will remain lit to confirm that it reported an alarm.
· Alarm Memory will operate even when LED is switched OFF.
· Alarm Memory will not operate while system is disarmed.
· After Alarm Memory latches, Alarm Output and LED operate
  normaly during armed period.

Reset
Alarm Memory resets automatically
when system is re-armed.

AM Jumper

POSITIVE : Leave AM Jumper as it is.
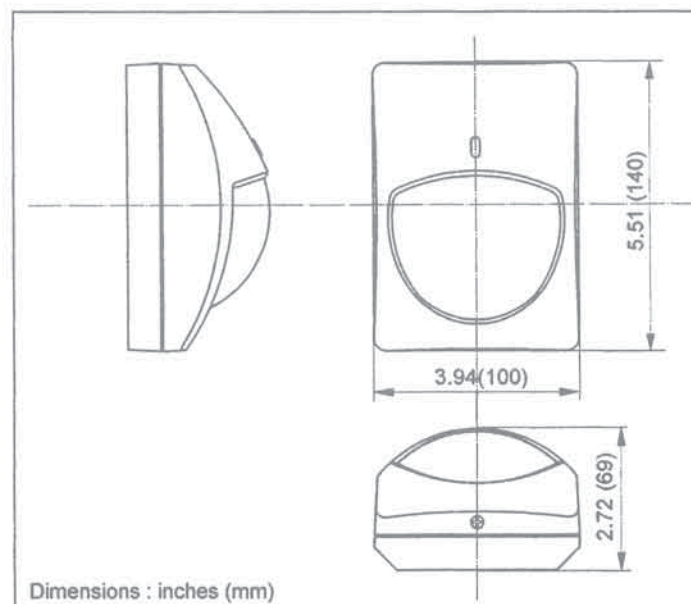NEGATIVE : Cut AM Jumper as shown.

8.TROUBLE SHOOTING

PROBLEM	PROBABLE CAUSE	REMEDY
LED does not light.	Improper power supply voltage (disconnection,low voltage).	Correct supply voltage to 9.5 - 16V 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 souces 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.
	Wrong control voltage from panel.	Must be 0-1V DC(grounded) See Section 7-3.

9.SPECIFICATIONS

Model	CX-702 / CX-702V	
Detection method	Passive infrared	
Coverage	Wide Angle 85°wide 70ft. × 70ft. (21m × 21m)	Long Range 150ft. × 8ft. (45m × 2.4m)
Detection zones	68 zones	22 zones
Mounting height	5 - 12ft.(1.5 - 3.6m)	
Sensitivity	3°F at 2ft./sec., 8ft. mounting height (1.6°C at 0.6m/sec., 2.4m mounting height)	
Detectable speed	1- 5ft. / sec. (0.3 - 1.5m/sec.)	
Power input	9.5 - 16VDC	
Alarm period	Approx. 2.5 sec.	
Alarm output	N.C. 28VDC 0.2A max.	
Tamper switch	N.C. Opens when cover is removed. 28VDC 0.1A max.	
Pulse count	Approx. 20 sec. 2 or 4	
Warm-up period	Approx. 1 min.	
LED indicator	Alarm condition	
RF interference	No alarm 30V/m	
Operating temperature	-4°F - +122°F(-20°C - +50°C)	
Environment humidity	95% max.	
Weight	7.0oz (200g)	

Model	CX-702
Current draw	8mA (normal) / 11mA (max.) at 12VDC

Model	CX-702V
Current draw	8mA(normal) / 16mA(max.) at 12VDC
Alarm Memory	See Section7-3.
D.L.terminal	See Section7-1.

5.51 (140)
3.94(100)
2.72 (69)

Dimensions : inches (mm)

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