

**INSTALLATION INSTRUCTIONS**



**Grade 3 INDOOR DETECTOR  
CDX series**

- 15m (50ft.) Wide Angle with Down Zone (CDX-AM/CDX-DAM)
- 24m (80ft.) Long Range (CDX-NAM)
- Respected Double Conductive Shielding (CDX-AM/CDX-NAM)
  - Extremely High Light and RFI Immunity
- Extreme Tough Microwave Module (CDX-DAM)
- PLUG-IN EOL Resistors (PEU) (OPTION)
- Advanced IR Beam Anti-Masking Technology

<b>CDX-AM</b>	PIR with active IR anti-masking (Grade 3)
<b>CDX-NAM</b>	CDX-AM with long and narrow lens (Grade 3)
<b>CDX-DAM</b>	PIR & Microwave with active IR anti-masking (Grade 3)

**COMPLIANCE**



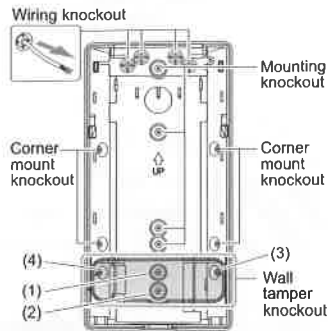
**1 INSTALLATION HINTS**

Warning	Warning	Caution

\* Do not obscure partially or completely the detector's field of view.

This symbol indicates prohibition.

**2 KNOCKOUTS**

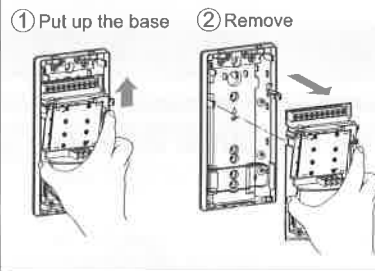


**When using a wall tamper >>**  
Use the knockout for a wall tamper. If the main unit is taken from the wall, the gray section will break away and stay on the wall and the tamper switch will operate.  
When installing on a plaster board wall or other soft material, cut out the gray area from the back plate.

**Note >>**

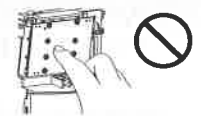
- Use both knockouts (1) and (2) with included screws. (Self tapping 3 X 16 mm: 3 pcs.)
- For corner installation, use both knockouts (3) and (4) with included screws. (Self tapping 3 X 16 mm: 3 pcs.)

**How to release the unit base >>**

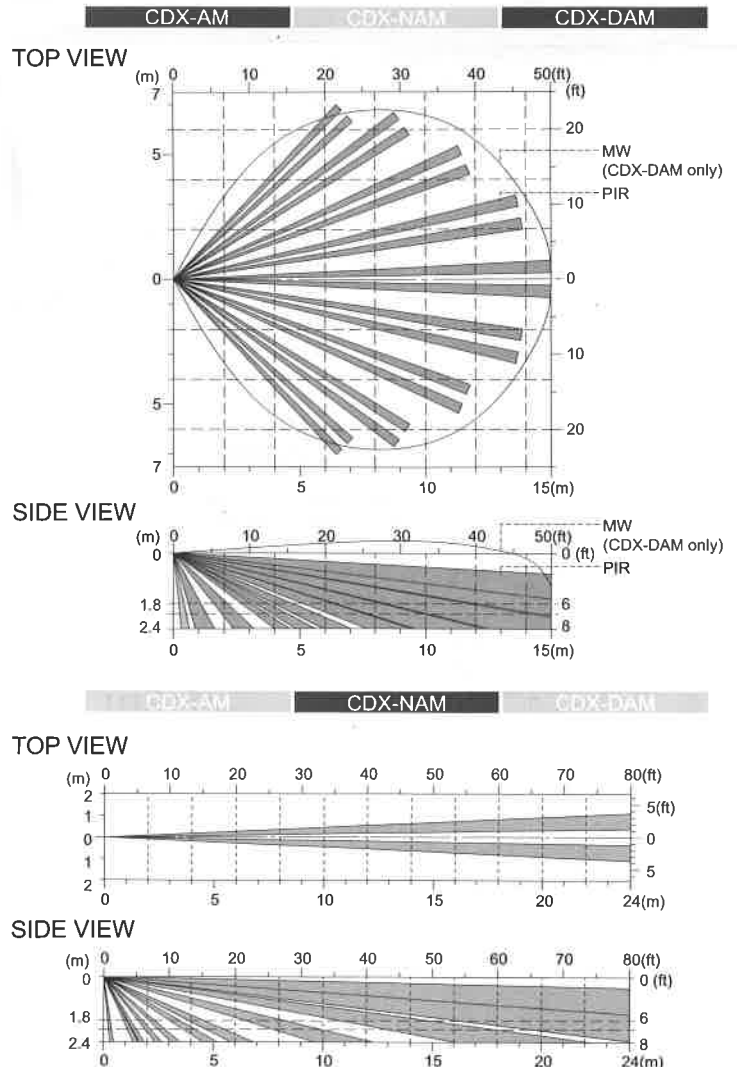


**Caution >>**

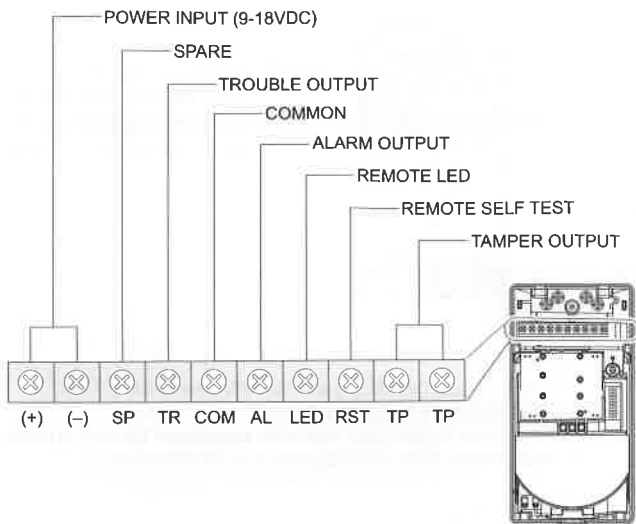
Do not touch the microwave unit to avoid breakdown caused by static electricity.



**3 DETECTION AREA**



## 4 WIRING



## 5 PLUG-IN End Of Line resistors (EOL) (OPTION)

When connecting to a control panel that supports the EOL technique

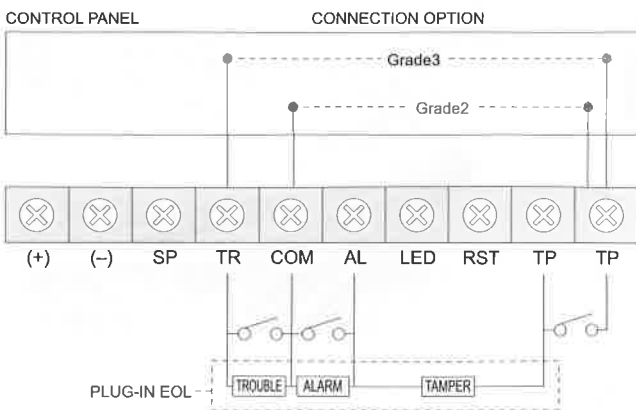
### 5-1 When setting the resistance value with using PLUG-IN EOL

Three types of signals – ALARM, TROUBLE and TAMPER – can be recognized through the combination of the resistance value and wires for the TR, COM and TP terminals.

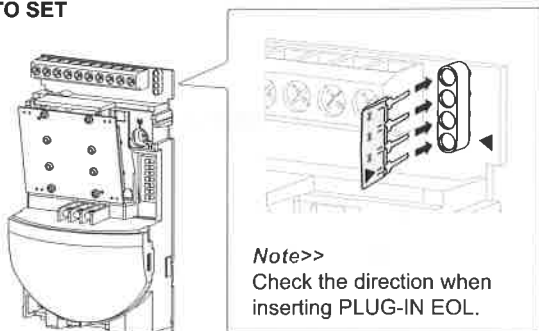


#### Caution>>

- There are several types of PLUG-IN EOL and the insertion direction differs depending on its type.



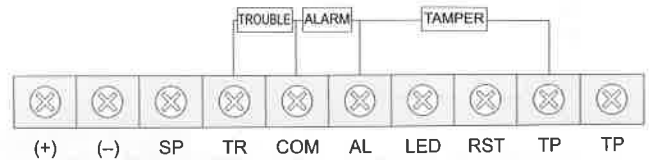
#### HOW TO SET



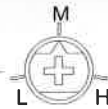
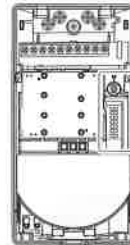
**Note>>**  
Check the direction when inserting PLUG-IN EOL.

### 5-2 When setting the resistance value without using PLUG-IN EOL

Wire resistors between the appropriate terminals as follows:



## 6 SETTING



MICROWAVE SENSITIVITY  
(6-8) (CDX-DAM only)

- 7 MW DETECTION LED ON/OFF (CDX-DAM only)
- 6 ANTI-MASKING OUTPUT SELECT
- 5 ANTI-MASKING SENSITIVITY
- 4 ANTI-MASKING ON/OFF
- 3 PIR SENSITIVITY
- 2 DETECTION MODE
- 1 LED ON/OFF

(Factory default)

### 6-1 LED ON/OFF

	CDX-AM	CDX-NAM	CDX-DAM
	POSITION		FUNCTION
	ON (Factory default)		The LED lights when someone is detected.
OFF		The LED does not light even if someone is detected.	

REMOTE LED (LED operation remote control) >>

	CDX-AM	CDX-NAM	CDX-DAM
LED enabled	Connect LED terminal to 0 V		
LED disabled	No ground to LED terminal (open circuit)		

### 6-2 DETECTION MODE

	CDX-AM	CDX-NAM	CDX-DAM
	POSITION		FUNCTION
	SP		For use in hostile areas where small animals or other objects exist such as fax machines or curtains.
STD (Factory default)		Suitable for standard applications	

\* CDX series comply with EN50131-2-2/-2-4 when this function is set "STD".

### 6-3 PIR SENSITIVITY

	CDX-AM	CDX-NAM	CDX-DAM
	POSITION		FUNCTION
	HIGH		Suitable for site requires greater sensitivity
STD (Factory default)		Suitable for standard applications	

## 6-4 ANTI-MASKING ON/OFF

CDX-AM

CDX-NAM

CDX-DAM



ON ↔ OFF

POSITION	FUNCTION
ON (Factory default)	Enabled
OFF	Disabled

Note>>

When selecting ON, functions of 6-5 and 6-6 are activated.

## 6-5 ANTI-MASKING SENSITIVITY

CDX-AM

CDX-NAM

CDX-DAM



HIGH ↔ STD

When an object is placed close to the lens surface, for a period of more than 20 seconds then the Anti-Masking circuit will activate and generate a trouble signal.

POSITION	FUNCTION
HIGH	Suitable for site requires greater sensitivity
STD (Factory default)	Suitable for standard applications

\* CDX series comply with EN50131-2-2/-2-4 when this function is set "HIGH".

## 6-6 ANTI-MASKING OUTPUT SELECT

CDX-AM

CDX-NAM

CDX-DAM



ON ↔ OFF

The terminal that is output when anti-masking is detected can be switched with this switch.

POSITION	OUTPUT TERMINAL	
	ALARM	TROUBLE
ON	A	A
OFF (Factory default)	N/A	A

Note>>

"A" means activate, "N/A" means not available.

## 6-7 MICROWAVE DETECTION LED ON/OFF

CDX-AM

CDX-NAM

CDX-DAM



ON ↔ OFF

POSITION	FUNCTION
ON (Factory default)	MW detection LED (Yellow) lights when MicroWave detects someone.
OFF	MW detection LED (Yellow) does not light even if MicroWave detects someone.

\* CDX-DAM complies with EN50131-2-4 and T014 when this function is set OFF.

## 6-8 MICROWAVE SENSITIVITY

CDX-AM

CDX-NAM

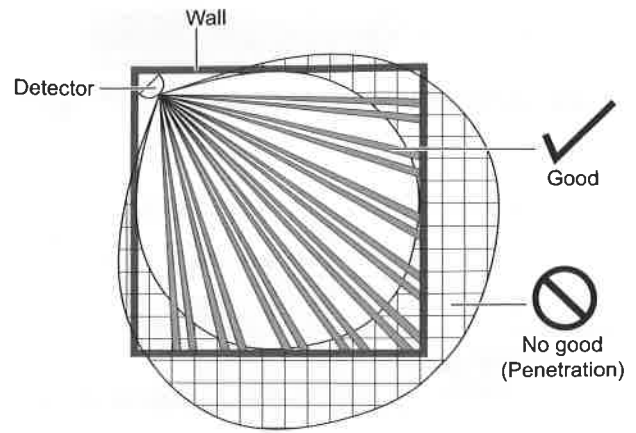
CDX-DAM



MW SENSITIVITY		
L	M	H
9m (30ft.)	12m (40ft.)	15m (50ft.)

Caution>>

The above distance indications are guide only. Do not set the MW sensitivity too low. This could cause a MW failure. It is important to adjust the sensitivity so that the MW and PIR detection areas are overlapping.



If the microwave sensitivity is set too high, it may detect movements outside of the detection area, resulting in false alarms. By creating a microwave detection area to conform to the PIR detection area, it achieves higher detection performance and preventing false alarms.

## 7 SELF TEST

This function checks the operation of detection ability of PIR and Microwave. This ensures that the unit is always working correctly.

### 7-1 LOCAL SELF TEST

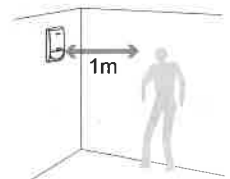
Local self test is controlled by the detector and runs periodically to test the functionality of the circuitry. If the local self test fails, the TROUBLE relay is activated and LEDs blink (see ⑨).

### 7-2 REMOTE SELF TEST

This test may be initiated by the control panel by applying 0V to the RST terminal. If the remote self test passes, the ALARM relay is activated for 5 seconds. If the test fails, the TROUBLE output is activated and the LEDs will blink (see ⑨).

### 7-3 WALK TEST

Keep at least 1 meter away from the detector and clear of any objects.



## 8 TROUBLE OUTPUT SUMMARY

Anti-masking detection	When an object is placed close to the lens surface for a period of more than 20 seconds, then the PIR Anti-Masking circuit will activate and generate a trouble signal.
Local Self test	Local self test is controlled by the detector and runs periodically to test the functionality of the circuitry. If the local self test fails, the TROUBLE relay is activated and LEDs blink (see ⑨).
Remote Self test	This test may be initiated by the control panel by applying 0V to the RST terminal. If the remote self test passes, the ALARM relay is activated for 5 seconds. If the test fails, the TROUBLE output is activated and the LEDs will blink (see ⑨).
Low voltage detection	When the power supply voltage drops, the low voltage detection circuit activates and outputs TROUBLE.

## 9 LED INDICATION

CDX-AM		CDX-NAM		CDX-DAM	
Red					
Blink  Light <input type="checkbox"/> OFF					
DETECTOR CONDITION		LED INDICATOR			
Warm-up		Blinks for approx. 60 sec.			
Alarm		Lights for 2 sec.			
Trouble output	Anti-masking detection	x3 times Blinks 3 times and goes off for 3 sec, and repeats.			
	Local Self test	x4 times Blinks 4 times and goes off for 3 sec, and repeats.			
	Remote Self test	x5 times Blinks 5 times and goes off for 3 sec, and repeats.			
	Low voltage detection	x5 times Blinks 5 times and goes off for 3 sec, and repeats.			

CDX-AM		CDX-NAM		CDX-DAM	
Yellow Red Green					
Blink  Light <input type="checkbox"/> OFF					
DETECTOR CONDITION		LED INDICATOR			
Warm-up		Blinks for approx. 60 sec.			
Alarm		Lights for 2 sec.			
PIR detection		Green lights for 2 sec.			
MW detection		Yellow Lights for 2 sec.			
Trouble output	Anti-masking detection	x3 times Blinks 3 times and goes off for 3 sec, and repeats.			
	Local Self test	x4 times Blinks 4 times and goes off for 3 sec, and repeats.			
	Remote Self test	x5 times Blinks 5 times and goes off for 3 sec, and repeats.			
	Low voltage detection	x5 times Blinks 5 times and goes off for 3 sec, and repeats.			

## OPTION

- FA-1W: Wall Mount Bracket  
Adjustable  $\pm 45^\circ$  (Horizontally), 0-20° (Vertically downwards)
- FA-3: Compact Wall & Ceiling Bracket  
Adjustable  $\pm 45^\circ$  (Horizontally), 0-10° (Vertically downwards)
- PEU: Plug-in EOL resistors unit  
Please ask your supplier for more information about the available type.

## COMPLIANCE

- CDX series complies with following Directives / Standards.  
Directive: EMC Directive 2004/108/EC  
Applied Standards: EN 50130-4: 2011  
EN 55022: 2006
- EN50131-1 Grades and Environmental Class:  
Security Grade 3 and Environmental Class II.  
Applied Standards: EN 50131-2-2 (CDX-NAM / CDX-AM)  
EN 50131-2-4 (CDX-DAM)  
Tested and certified by Telefication.
- CDX DAM also complies with following Directives / Standards  
marked **CE0560** Class II,  
Directive: R&TTE Directive 1999/5/EC  
Applied Standards: EN 300 440-1: 2009  
EN 300 440-2: 2009  
EN 301 489-1: 2008  
EN 301 489-3: 2002  
EN 50371: 2002  
EN 60950-1: 2006 +A11: 2009

The following table indicates the areas of intended use of the equipment and any known restrictions. For countries not included in this list, please consult the responsible Spectrum Management Agency.

Country of intended use	Restrictions	Country of intended use	Restrictions
Austria	9.900GHz	Luxembourg	10.525GHz
Belgium	10.525GHz	The Netherlands	10.525GHz
Denmark	10.525GHz	Spain	10.525GHz
Finland	9.900GHz	Sweden	10.525GHz
France	10.587GHz	United Kingdom	10.587GHz
Greece	10.525GHz	Other non-EU: Iceland	10.525GHz
Ireland	10.587GHz	Norway	10.525GHz
Italy	10.525GHz	Switzerland	10.525GHz

## PD6662: 2010

FCC ID: DC9 OPMW IC: 4012A-OPMW

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.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

## NOTE

CDX series is only a part of a complete system, therefore we cannot accept complete responsibility for any damages or other consequences resulting from an intrusion.



OPTEx CO., LTD. (JAPAN)  
(ISO9001 Certified) (ISO14001 Certified)  
5-8-12 Ogoto Otsu Shiga 520-0101 JAPAN  
TEL: +81-77-579-8670 FAX: +81-77-579-8190  
URL: <http://www.optex.co.jp/e/>

OPTEx INCORPORATED (USA)  
TEL: +1-909-993-5770  
Tech: (800)966-7839  
URL: <http://www.optexamerica.com/>

OPTEx (EUROPE) LTD. (UK)  
TEL: +44-1628-631000  
URL: <http://www.optex-europe.com/>

OPTEx SECURITY SAS (FRANCE)  
TEL: +33-437-55-50-50  
URL: <http://www.optex-security.com/>

OPTEx SECURITY Sp. zo.o. (POLAND)  
TEL: +48-22-598-05-55  
URL: <http://www.optex.com.pl/>

OPTEx KOREA CO., LTD. (KOREA)  
TEL: +82-2-719-5971  
URL: <http://www.optexkorea.com/>

OPTEx (DONGGUAN) CO., LTD.  
SHANGHAI OFFICE (CHINA)  
TEL: +86-21-34600673  
URL: <http://www.optexchina.com/>

## 10 SPECIFICATIONS

Model	CDX-NAM	CDX-AM	CDX-DAM
Detection method	Passive infrared		Passive infrared & Microwave
Detector standard	EN50131-2-2 (Grade 3)		EN50131-2-4 (Grade 3)
Masking detection method	AIR type		
PIR Coverage [Detection zones]	24m x 2m (80ft. x 7ft.) narrow [20 zones]	15m x 15m (50ft. x 50ft.) 85° wide [82 zones]	
Power input	9 - 18VDC		
Current consumption	17mA (normal) / 20mA (max.) at 12V DC		19mA (normal) / 26mA (max.) at 12V DC
Alarm output	N.C. 28V DC 0.2A max.		
Tamper output	N.C. Opens when cover is removed or the wall tamper switch operates. 28V DC 0.1A max.		
Trouble output	N.C. 28V DC 0.2A max.		
Operating temperature	-10°C - +50°C (14°F - 122°F)		
Environmental humidity	95% max.		
RF interference	No alarm 10V/m		
Mounting height	1.8 - 2.4m (6ft. - 8ft.)		
Weight	180g (6.3oz)		
Dimensions (HxWxD)	140x70x52.3mm (5.51x2.76x2.06 inches)		

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