

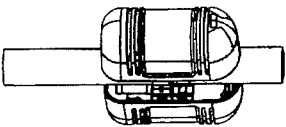
TWIN PHOTOELECTRIC BEAM DETECTOR WITH 4 CHANNEL SELECTABLE FREQUENCIES MANUAL

Thank you for purchasing this photoelectric beam detector. Please read this instruction manual carefully before installation.

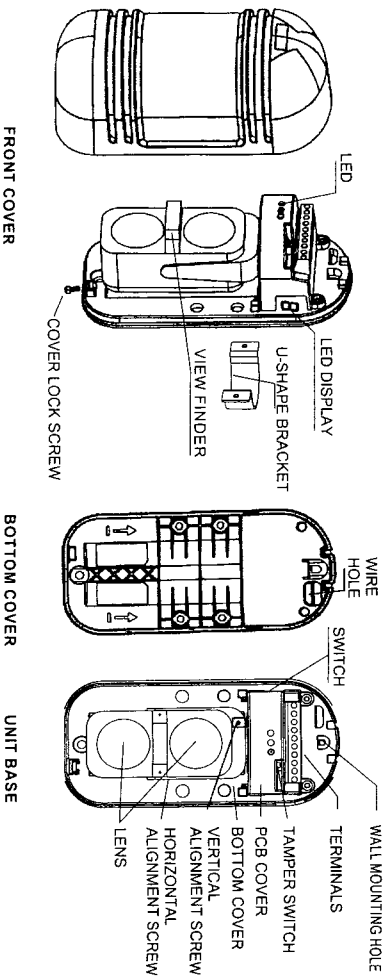
WARNING	Never attempt to disassemble or repair the product. It may cause damage to the devices. Do not use the product for purposes other than the detection of moving objects such as people and vehicles. Do not use the product to activate a shutter, etc., which may cause an accident. Do not touch the unit base or power terminals of the product with a wet hand (do not touch when the product is wet with rain, etc.). It may cause electric shock. Do not exceed the voltage or current ratings specified for any of the terminals during installation, doing so may cause damage to the devices. Do not pour water over the product with a bucket, hose, etc. The water may enter, which may cause damage to the devices. Failure to follow the instructions provided with this indication and improper handling may cause injury and / or property damage.
CAUTION	Clean and check the product periodically for safe use. If any problems found, do not attempt to use the product as it is and have the product repaired by a professional engineer or electrician. These units are designed to detect 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.
NOTE	

1. FEATURES

- Digital Twin Beams Detector
- 4 Channel Selectable Frequencies 10 Level LED Display for Quick Alignment
- Frost and Dew Prevention
- 99.5% Beam Blocking Stability
- Adjustable Beam Response Time: 50ms / 100ms / 300ms / 700ms
- Adjustable Alarm Time: 2sec / 50msec
- Adjustable Transmitter Beam Power: Low / High
- High Grade Aspherical Lens
- Wide Voltage Power Input: 10-24V DC/AC
- Intelligent Heaters optional
- NC, NO Alarm Output
- PC Resin, 1055

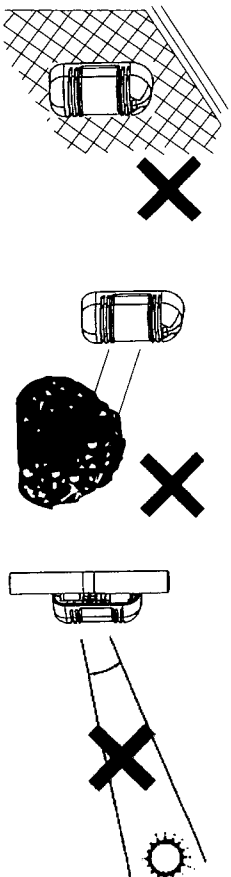


2. PART IDENTIFICATION



3. PRECAUTION

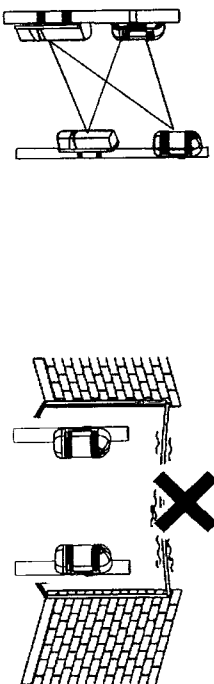
Please avoid these situations below to assure performance!



1. Mount unit only on a solid surface, do not install the unsteady surface.

2. Do not install the unit where objects moved by the wind such as plants and laundry, which may block the beam.

3. Prevent direct sunlight or fluorescent lamp from entering into internal receiver.



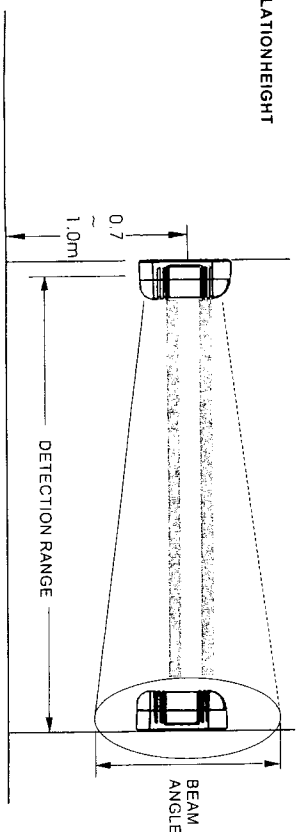
4. The different detectors of beam do not reach the receiver.

5. Avoid aerial wiring.

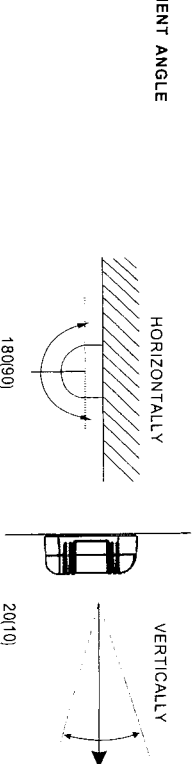
WIRING DISTANCE

MODEL	OUTDOOR DISTANCE	BEAM ANGLE
30	30m	1.6m
60	60m	2.0m
80	100m	2.6m
100	200m	3.4m

INSTALLATION HEIGHT



ALIGNMENT ANGLE



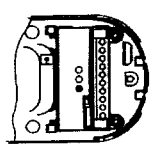
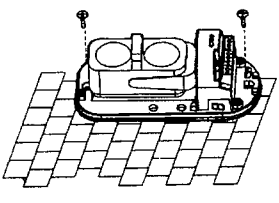
180(90)

20(10)

4. INSTALLATION METHODS

WALL MOUNTING

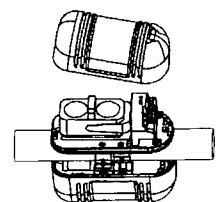
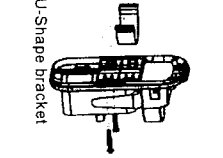
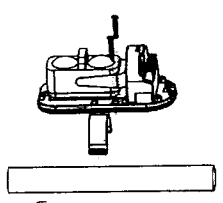
1. Loosen the coverlock screw and remove the front cover.
2. Drill holes according to the wall mounting hole and lamp in dilated pipes.
3. Pull out the wire through the wiring hole on the bottom cover, prepare to connect wiring in terminals.



4. Attach the bottom cover to the wall with the screws and slip rubber bands.
5. Connect wire to the terminals (refer to 5, terminals).
6. After checking optical alignment and operation, replace the front cover and fasten the lock screw tightly.

POLE MOUNTING

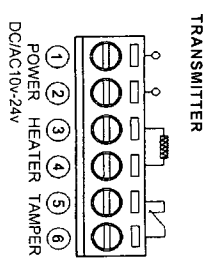
1. Pull out the wire through the wiring hole from the conduit.
2. Loosen the coverlock screw and remove the front cover, then stick out the upper/lower pole mounting holes and eliminate burrs.
3. Pull out the wire through the wiring hole on the bottom cover, prepare to connect wiring in terminals.



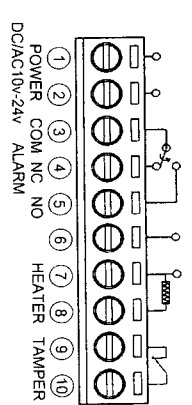
4. Place U-Shape brackets at the upper/lower of the pole, attach the bottom cover to the U-Shape bracket with the screw.
5. Fix two U-Shape brackets in layers on a pole (two units can be installed back to back on a pole at the same height).

5. TERMINALS

WARNING Do not exceed the voltage or current rating specified for any of the terminals during installation. Otherwise, it might cause damage to the devices.



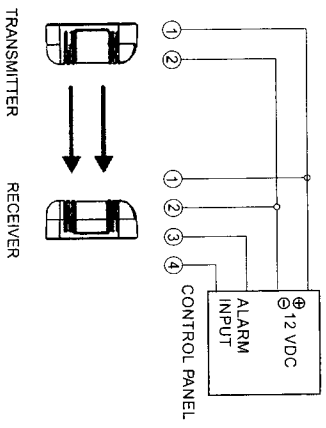
1. Power input: dclac12V~24V.
2. There is no heater in the standard accessories.
3. Tamper switch(n.c.) is independent of other circuit, opens when covers are removed.



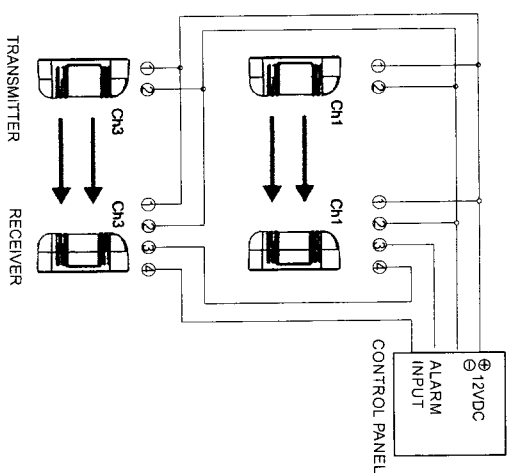
1. Power input: dclac12V~24V.
2. Form c relay (ac/dc:30V 0.5a max).
3. There is no heater in the standard accessories.
- 4, 6, 7 terminals are provided for test auxiliary, about 4.0V after alignment.
5. Tamper switch(n.c.) is independent of other circuit, opens when covers are removed.

6. WIRING

1. WIRING OF 1 SET
The power of the transmitter and receiver are paralleled connection using the 12V DC by the control panel alarm output is N.C. as follows:

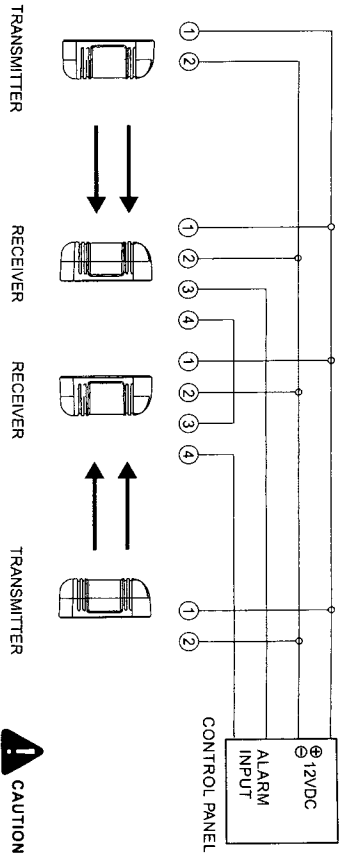


2. WIRING OF 2 SETS STACKING
The power of the transmitter and receiver are parallel connection using the 12V DC by the control panel. Alarm output is N.C. as follows:



3. 2 SETS IN THE LINE

The power of the transmitter and receiver are paralleled connection using the 12V DC by the control panel. Alarm output is N.C. As follows:



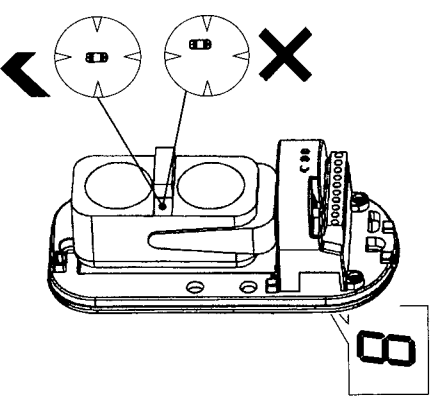
Power wires should not exceed the following length.

SIZE	length	voltage	DC 24V	DC 24V
AWG22 (0.33mm)	100m			500m
AWG20 (0.52mm)	150m			750m
AWG18 (0.83mm)	250m			1000m
AWG16 (1.31mm)	500m			1250m

- When using two or more units on one wire, the maximum length is obtained by dividing the wire length listed below by the number of units used.
- Do not exceed the voltage or current rating specified for any of the terminals during installation, otherwise it may cause damage to the devices.

ALIGNMENT

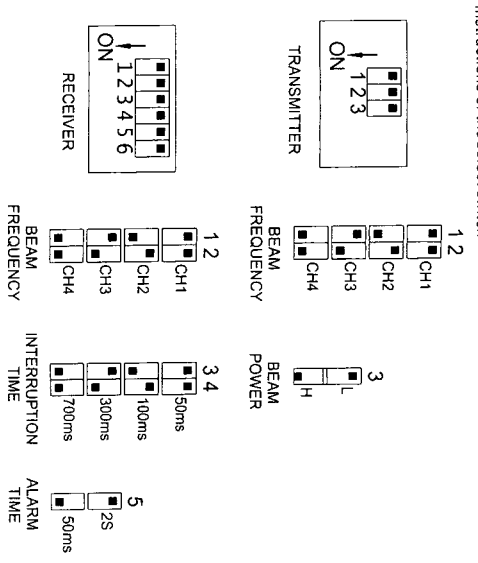
- Make sure the receiver and the transmitter that are facing each other with the same code. For example, the receiver and transmitter both are set to frequency ch1.
- Roughly make alignment by view finder: looking through the view finder, locate the other detector in the center of the sights by adjusting vertically and horizontally.
- Make Fine adjustment by the led number indicator: adjust the optical alignment for transmitter and receiver once at a time to obtain the maximum number 9 from the led display. 0 means that there is no signal from the transmitter; the receiver being in alarm status activate alarm signal with alarm LED ON.
- After the vertical and horizontal adjustment are made, LED number is 9, and terminals 6,7 of the receiver is set over 4.0V automatically. If not, adjust the optical alignment again.



NOTE: 1. The power led indicator of the transmitter will turn off automatically after 30 minutes since power-on for reducing the dissipation of the power.
2. The powered and LED number of the receiver will also turn off automatically after 30 minutes since alarm status then it will turn on after alarm signal for reducing the dissipation of the power.

8 SWITCHES

Instructions of the select switch

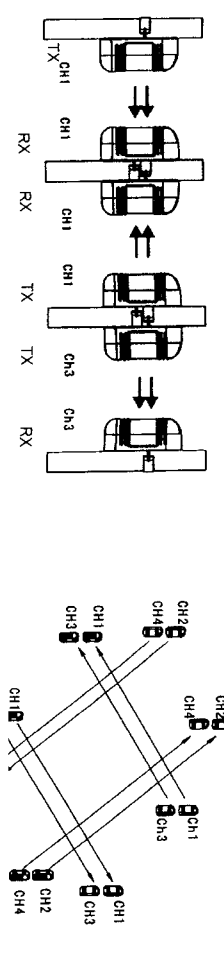
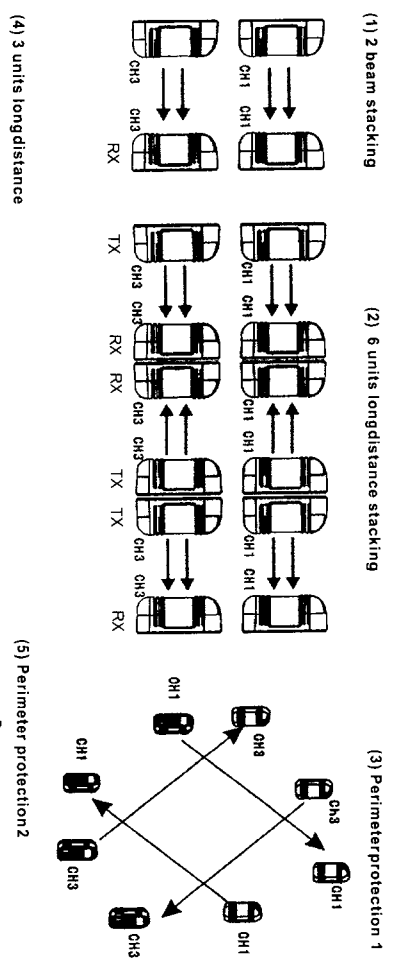


- Make sure the transmitter and the receiver that are facing each other with the same beam frequencies.
- The transmitter has two grades of the beam power: low and high for alarm distance.
- Adjust the interruption time according to the different application purpose.
- There are two alarm time (2s and 50ms) for the customer to apply the different situations.

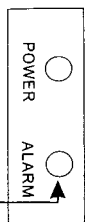
9. BEAM FREQUENCIES

The selectable beam frequencies can be used to avoid unwanted crosstalk that can occur when using multiple photobeams for long distance or beam stacking applications. You can select between 4 separate beam frequencies by the switch provided.

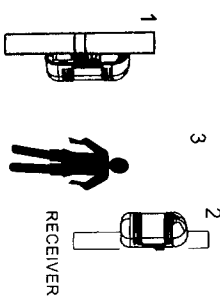
IMPORTANT NOTICE: Make sure the receiver and transmitter that are facing each other with the same beam frequency. Select different channels in stack installation. The upper unit is set on channel 1 while the lower is on channel 3, channel 2 or channel 4.



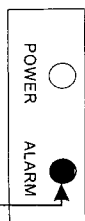
1. WALK TESTING



The alarm LED indicator is OFF. If the LED indicator is ON even though the beams are not blocked, re-adjust the optical alignment and check wiring.



After alignment is achieved and the units work properly, conduct a walk test at a minimum of three points:
 >> In front of the transmitter.
 >> In front of the receiver.
 >> At the middle point between transmitter and receiver.



If the alarm LED indicator is ON when the beams are blocked, this means that installation is successful.

NOTE: If the ALARM LED indicator is OFF even though the beams are completely blocked, refer to the trouble shooting.

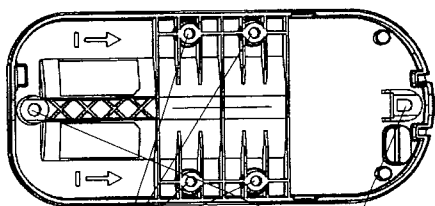
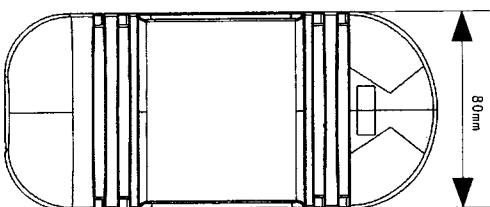
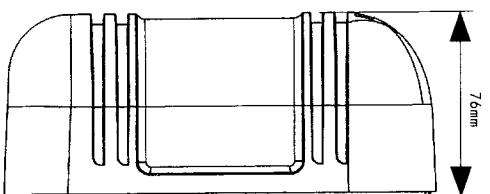
POWERSHOOTING

Troubles	Reasons	Countermeasures
No action after power has been applied	<ol style="list-style-type: none"> 1. Power cables are not properly connected. 2. Input power is not within the requirement. 3. The power-line has too long or short circuited or grounded. 	<ol style="list-style-type: none"> 1. Correct terminal and check input voltage 2. Use heavier cable or additional power supplies, or repair circuit as required.
No action even though the beams are all blocked	<ol style="list-style-type: none"> 1. The receiver may be affected by other beam transmitter or by a shiny surface. 2. Interruption time is set too long. 3. Select different frequency channels for the beams causing the interference. 	<ol style="list-style-type: none"> 1. Remove power from all other transmitters and conduct walk test 2. Adjust the interruption time 3. Select same frequency channel.
Alarm signal is being generated though beams are not blocked.	<ol style="list-style-type: none"> 1. Beams are not properly aligned 2. The transmitter does not work 3. There are objects that may be blocking the beams. 4. Alarm circuit wires for shorts, opens or grounds. 	<ol style="list-style-type: none"> 1. Re-align the beams 2. Check power wires. 3. Remove any objects or remove the beams. 4. Repair the circuit wires, also check the control panel for proper function.
False activations	<ol style="list-style-type: none"> 1. Bad wiring or corroded splices. 2. The covers are very dirty or dusty 4. There are plants, trees or debris that may block the beam during windy conditions. 5. The power of the transmitter is set too low. 	<ol style="list-style-type: none"> 1. Check the alarm circuit wires 2. Clean covers both inside and outside 3. Adjust the interruption, or change the installation height or move the beams to avoid birds 4. Cut off branches, grass or secure debris. 5. The power of the transmitter is set to H.

2. DESCRIPTION

RANGE	OUTDOOR(m)	30	60	80	100
	INDOOR(m)	60	120	160	200
ARRIVAL DISTANCE(MAX)		180	360	480	600
DETECTION METHOD	BLOCKING TWO INFRARED PULSED BEAMS AT THE SAME TIME				
INTERRUPTION PERIOD	50ms, 100ms, 300ms, 700ms (4 STEPS)				
BEAM FREQUENCY	4 CHANNELS				
POWER INPUT	10V-24V DC/AC (12VDC RECOMMENDABLE)				
CURRENT	30ma-80ma				
ALARM PERIOD	2S OR 50ms				
ALARM OUTPUT	FORM C RELAY (AC/DC 30V 0.5A max)				
TAMPER SWITCH	N.C. OPENS WHEN COVER IS REMOVED				
WEATHER-PROOF	IP55				
OPERATING TEMPERATURE	-25 ~ +55				
ENVIRONMENT HUMIDITY	95% max				
ALIGNMENT ANGLE	HORIZONTAL: 180(90) degree		VERTICAL: 90(10) degree		
MOUNTING	INDOOR/OUTDOOR		WALL/POLE		
WEIGHT	1000g				

DIMENSION



THE HOLES FOR WALL INSTALLATION

SELECT UPPER OR LOWER TWO HOLES FOR POLE INSTALLATION