



# PHOTOELECTRIC BEAM SENSOR

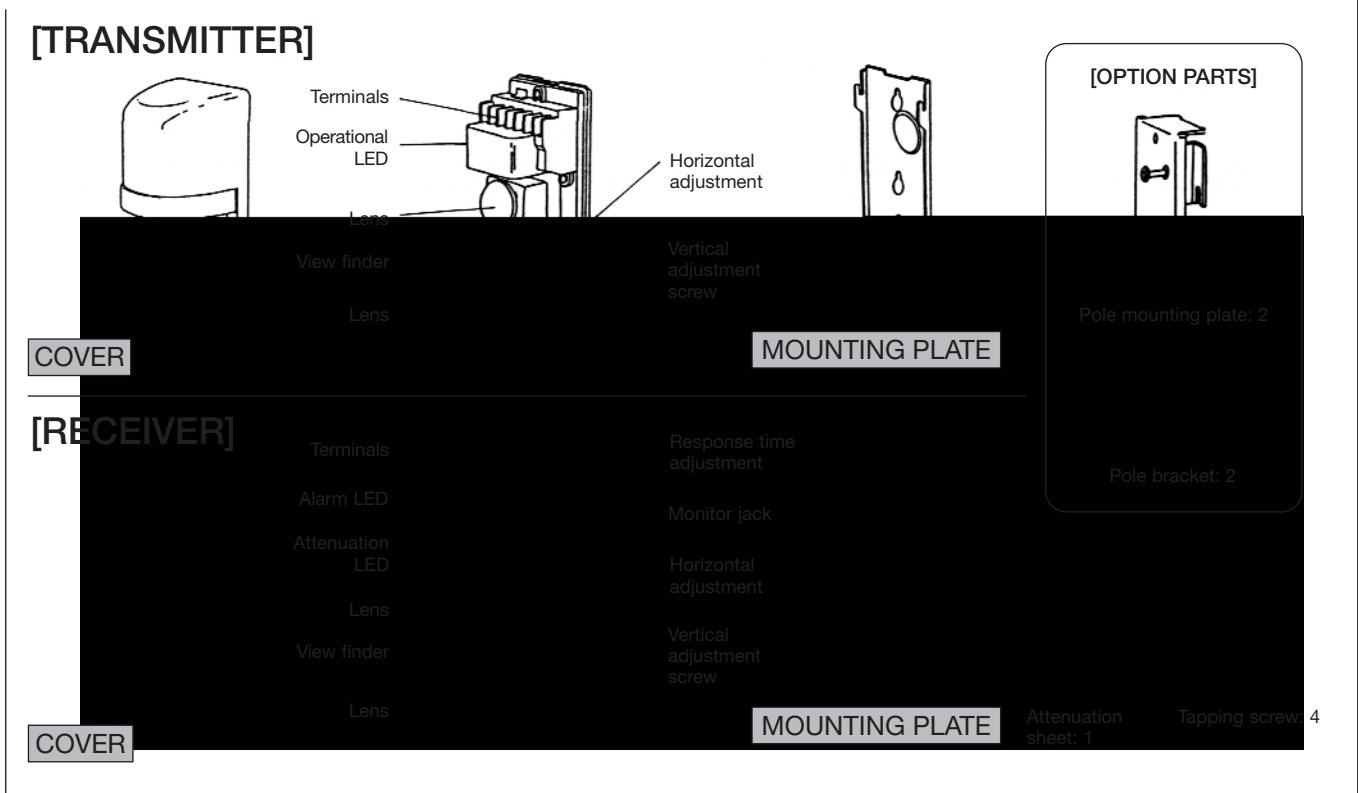
PB-30TK Outdoor - 100ft (30m) / Indoor - 200ft (60m)  
 PB-60TK Outdoor - 200ft (60m) / Indoor - 400ft (120m)  
 PB-100TK Outdoor - 330ft (100m) / Indoor - 660ft (200m)

## INSTRUCTION MANUAL

We appreciate your purchase of our photoelectric beam sensor. This sensor will provide long and dependable service when properly installed. Please read this Instruction Manual carefully for correct and effective use.

**Please note:** This sensor is designed to detect intrusion and to initiate an alarm ; it is not a burglary-preventing device. We are not responsible for damage, injury or losses caused by accident, theft, Acts of God (including inductive surge by lightning), abuse, misuse, abnormal usage, faulty installation or improper maintenance.

## 1 PARTS DESCRIPTION

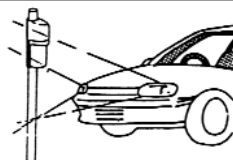


## 2 CAUTIONS ON INSTALLATION

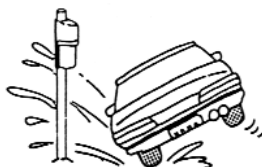
### DO'S AND DONT'S



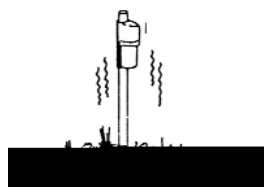
- Remove all obstructions (trees, clothes lines, etc.) between Transmitter and Receiver.



- Avoid strong light from the sun, automobile headlights etc. directly shining on Transmitter / Receiver. When strong light stays in optical axis for a long time, it does not cause malfunction but will affect the product life.



- Do not install the unit on places where it may be splashed by dirty water or direct sea spray.



- Do not install the unit on unsteady surfaces.

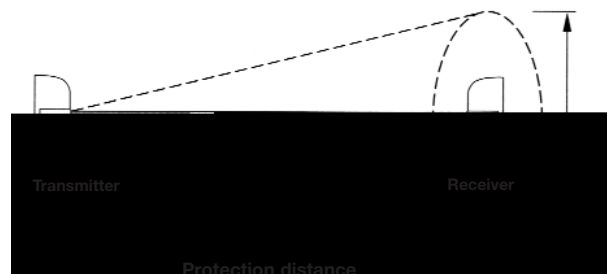
- The protection distance (between Transmitter / Receiver) should be placed in the rated range.

PB-30TK : Outdoor : 100' (30m) / indoor : 200' (60m)  
 PB-60TK : Outdoor : 200' (60m) / indoor : 400' (120m)  
 PB-100TK : Outdoor : 330' (100m) / indoor : 660' (200m)

### Expansion of beam

Expansion of beam can be calculated as follows:  
 $A=0.03 \times l$

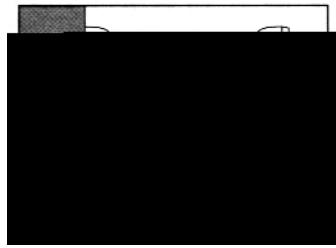
l	A
66' (20m)	2' (0.6m)
135' (40m)	4' (1.2m)
200' (60m)	6' (1.8m)
330' (100m)	10' (3.0m)



## POINTS OF INSTALLATION

### Heights of installation

Install the sensor at a height of 31" to 39" (80 to 100cm) to catch human pattern.



## CAUTIONS ON INSTALLATION

- Avoid overhead wiring
- When installing indoors, wiring procedures similar to those for telephones or intercoms are acceptable. Outdoor wires should be placed inside pipes, or

### Position of installation

Using the adjustments, the lens can move horizontally ( $\pm 90$  degrees) and vertically ( $\pm 10$  degrees) allowing the unit to work in all directions. (example 1 to 3)

Exemple 1

Exemple 2

Exemple 3

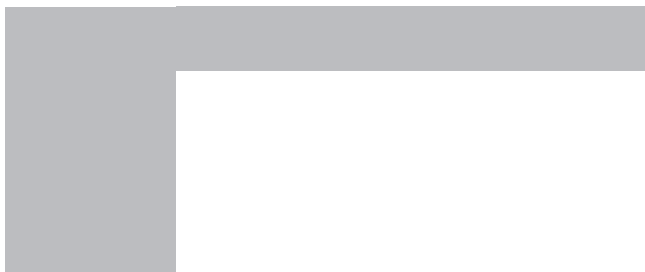
$\pm 10^\circ$

Horizontal adjustment

Vertical adjustment screw

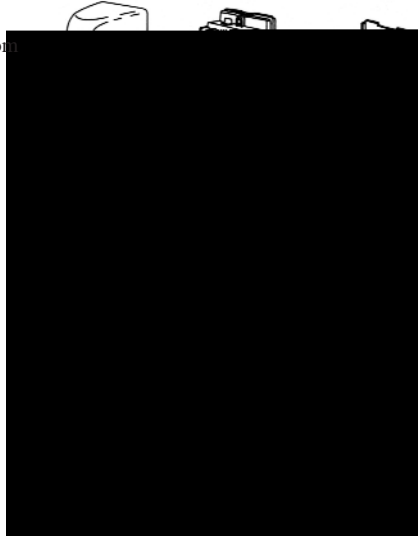
$\pm 90^\circ$

## 3 WIRING

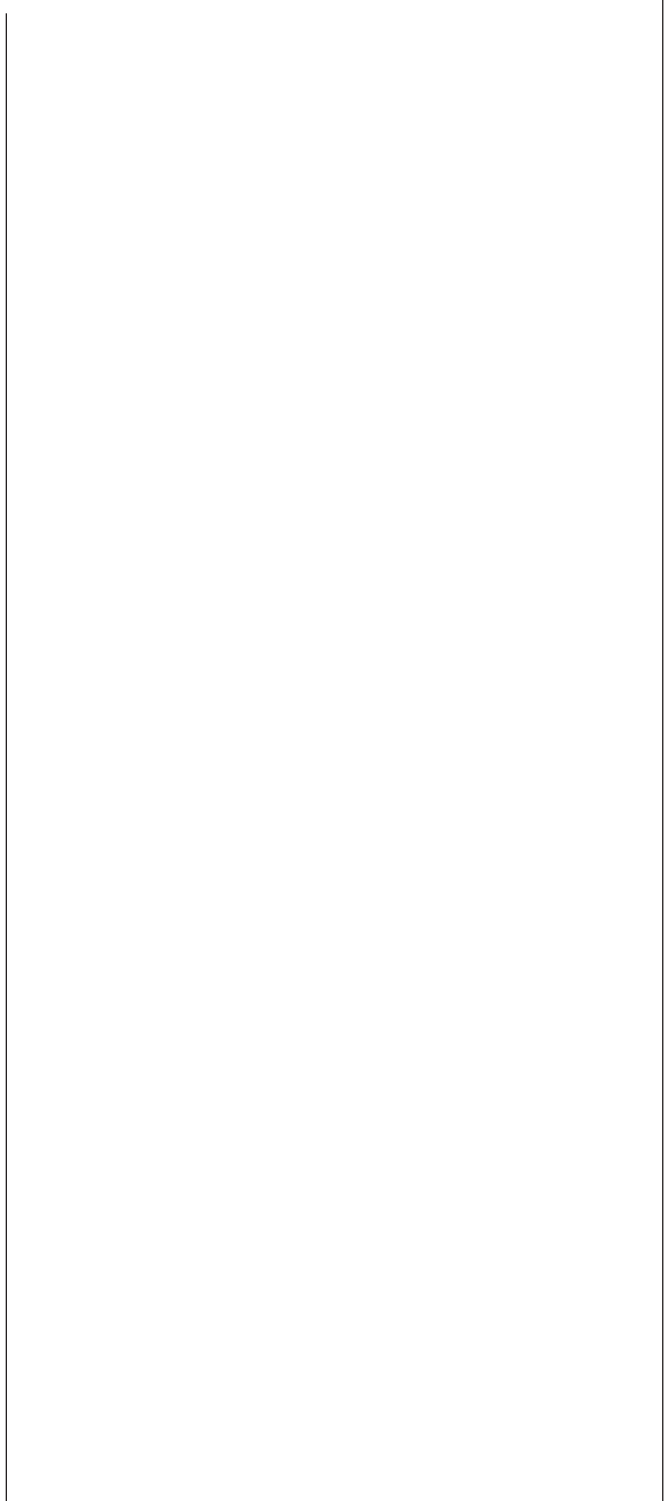


## **4** *INSTALLATION*

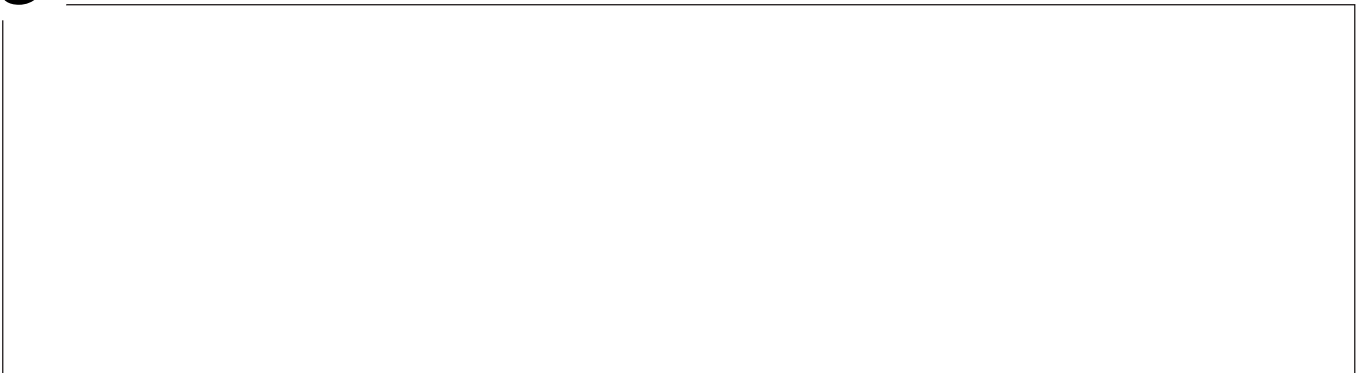
- 1) Remove cover from unit and slide the



## **5** *ALIGNMENT AND OPERATION*



## **6** *RESPONSE TIME*



# 7 TROUBLESHOOTING

Symptom	Possible Cause	Remedy
Operation LED does not light	<ol style="list-style-type: none"> <li>1. No power supply.</li> <li>2. Bad wiring connection or broken wire, short.</li> </ol>	<ol style="list-style-type: none"> <li>1. Turn on the power.</li> <li>2. Check wiring.</li> </ol>
Alarm LED does not light when the beam is broken	<ol style="list-style-type: none"> <li>1. No power supply.</li> <li>2. Bad wiring connection or broken wire, short.</li> <li>3. Beam is reflected on another object and sent into the receiver.</li> <li>4. Two beams are not broken simultaneously.</li> <li>5. The beam interruption time is shorter than the set response time.</li> </ol>	<ol style="list-style-type: none"> <li>1. Turn on the power supply.</li> <li>2. Check wiring.</li> <li>3. Remove the reflecting object or change beam direction.</li> <li>4. Break two beams simultaneously.</li> <li>5. Set the response time shorter.</li> </ol>
Alarm LED continues to light.	<ol style="list-style-type: none"> <li>1. Beam alignment is out.</li> <li>2. Shading object between Transmitter and Receiver.</li> <li>3. Optics of units are soiled.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check and adjust again.</li> <li>2. Remove the shading object.</li> <li>3. Clean the optics with a soft cloth.</li> </ol>
Intermittent alarms	<ol style="list-style-type: none"> <li>1. Bad wiring connection.</li> <li>2. Change of supply voltage.</li> <li>3. Shading object between Transmitter and Receiver.</li> <li>4. A large electric noise source, such as power machine, is located nearby Transmitter and Receiver.</li> <li>5. Unstable installation of Transmitter and Receiver.</li> <li>6. Soiled optics of Transmitter and Receiver.</li> <li>7. Improper alignment.</li> <li>8. Small animals may pass through the 2 beams.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check again.</li> <li>2. Stabilize supply voltage.</li> <li>3. Remove the shading object.</li> <li>4. Change the place for installation.</li> <li>5. Stabilize.</li> <li>6. Clean the optics with a soft cloth.</li> <li>7. Check and adjust again.</li> <li>8. Set the response time longer. (Impossible in a site where an intruder can run at full speed.)</li> </ol>

# 8 SPECIFICATIONS

Model	PB-30TK	PB-60TK	PB-100TK
Detection system	Simultaneous breaking of 2 beams		
Infrared beam	LED pulsed beam, Double modulation		
Protection distance			

# 9 EXTERNAL DIMENSIONS

