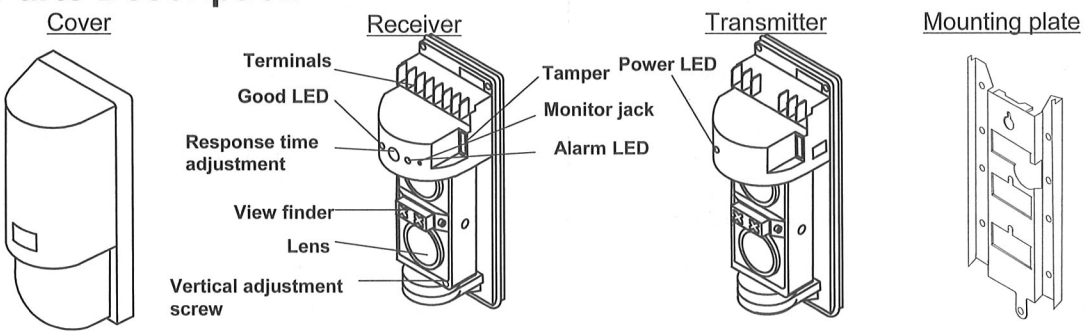
PHOTOELECTRIC BEAM SENSOR — Installation Instructions

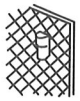
- PRO- 60P - Outdoor : 60m(200ft)
- PRO- 90P - Outdoor : 90m(300ft)
- PRO- 120P - Outdoor : 120m(400ft)

1 Parts Description



2 Cautions on Installation

Avoid strong light from sun, automobile headlights etc. shining on transmitter or receiver (avoid light in a direct path of ±2' of optical axis)

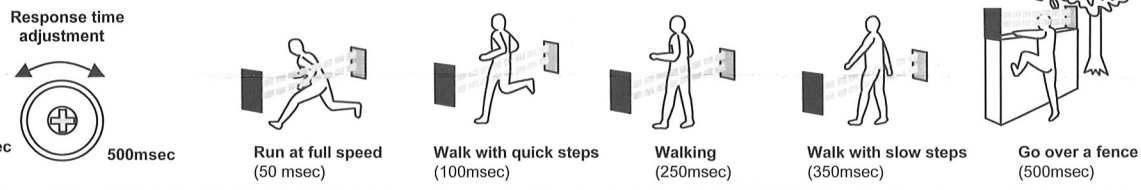


Do not install the unit on unsteady surfaces.

Do not install in a site where beam may be interrupted by trees or plants, consider seasonal changes.

Do not install in places where units may be splashed continuously by dirty water or direct sea spray. (Causes dirt or salt built-up on enclosures)

3 Response time

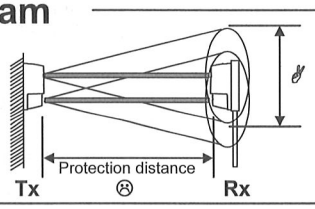


4 Protection distance and Expansion of beam

The protection distance between Tx and Rx should be placed in the rated range.

Expension of beam can be caculated as follows ; ***A*** =0.03X1Ⓡ

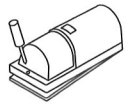
Model	Ⓡ	*A*
Pro-60P	60m	1.8m
Pro-90P	90m	2.7m
Pro-120P	120m	3.6m



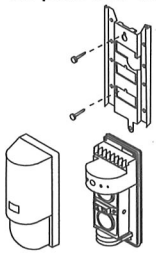
5 Installation

5-1. Wall mount

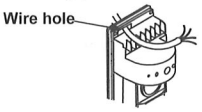
- Remove cover from unit and slide the mounting plate to detach it.



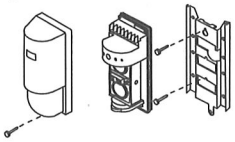
- Break grommet on mounting plate and pull wire through it. Secure the plate with 4mm screws.



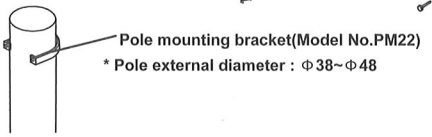
- When exposed wired, break knock-outs on the rear of unit, pull wire through as the figure and attach it to the mounting plate.



- After wiring is completed, adjust alignment, check operation and attach cover.

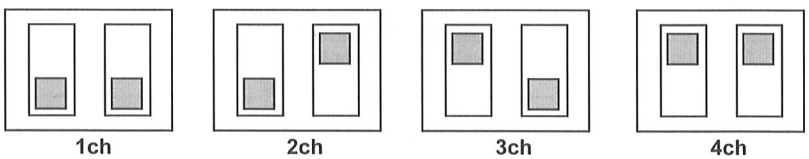


5-2. Pole mount



6 Channel setting

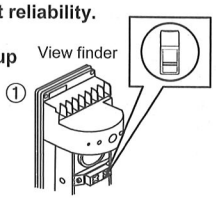
This function is used for the purpose of preventing cross-talk or bypass of beams which may occur in line protection or 2-stacked protection. Set beam channel.



7 Optical alignment

Read voltage from monitor jack with volt-meter(digital) to confirm optical alignment and to obtain the highest reliability.

1. Supply power with cover detached.
2. Set Transmitter lens to Receiver lens by the view finder. Look through view finder on either side and line-up optics horizontally and vertically until the opposite unit is visible. (Using the adjustment, the lens can move horizontally(±90˚) and vertically(±10˚) allowing the unit to work in all directions).
   The opposite Transmitter or Receiver should appear on the view finder of inside middle mirror.

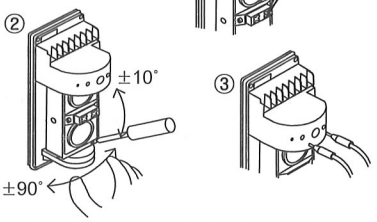


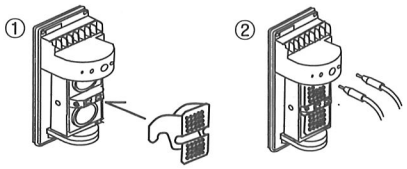
- Reference table.

3. Adjust Transmitter horizontally and vertically to get highest voltage reading.
   Adjust Receiver horizontally and vertically to get highest voltage reading.

Monitor Jack Output Voltage	Beam Level
2.2V or over	Good
2.1V under	Readjustment

4. Confirm the beam level by inserting a tester in monitor jack of receiver.





Better alignment for outdoor 90m and 120m

How to use attenuation sheet

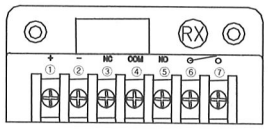
1. After alignment, attach sheet directly to optical system of Receiver
2. Adjust alignment until "GOOD LED" is ON.
3. Take out attenuation sheet

*Attenuation sheet blocks 90% of beam from Transmitter, and makes just 10% of beam from Transmitter received by Receiver

8 Trouble-shooting & Wiring

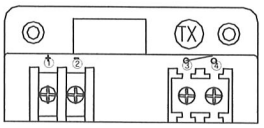
Symptom	Possible Cause	Remedy
Operation LED does not light	1. No power supply. 2. Bad wiring connection or broken wire, short	1. Turn on the power. 2. Check wiring.
Alarm LED does not light when the beam is broken.	1. No power supply. 2. Bad wiring connection or broken wire, short. 3. Beam is reflected on another object and sent into the receiver. 4. Two beams aren't broken simultaneously	1. Turn on the power. 2. Check wiring. 3. Remove the reflecting object or change beam direction. 4. Break 2 beams simultaneously.
Alarm LED continues to light	1. Beam alignment is out. 2. Shading object between Tx and Rx. 3. Optics of units are soiled. 4. Improper channel.	1. Check and adjust again. 2. Remove the shading object. 3. Clean the optics with a soft cloth. 4. Check channel.
Intermittent alarms.	1. Bad wiring connection. 2. Change of supply voltage. 3. Shading object between Tx and Rx. 4. A large electric noise source, such as power machine, is located nearby Tx and Rx. 5. Unstable installation of Tx and Rx. 6. Soiled optics of Tx and Rx. 7. Improper alignment. 8. Small animals may pass through the 2 beams	1. Check again. 2. Stabilize supply voltage. 3. Remove the shading object. 4. Change the place for installation. 5. Stabilize. 6. Clean the optics with a soft cloth 7. Check and adjust again. 8.Set the response time longer.

Receiver



1. VCC : DC10~24V
2. GND
3. Normal Close
4. Common
5. Normal Open
6. Tamper
7. Tamper

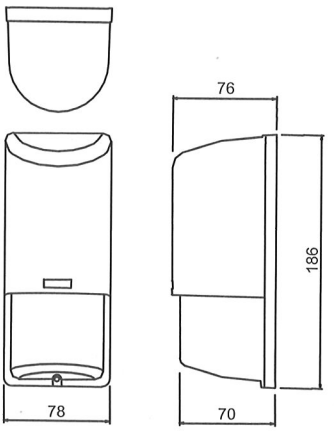
Transmitter



1. VCC : DC10~24V
2. GND
3. Tamper(option)
4. Tamper(option)

9 Specifications & Dimensions

Model	Pro-60P	Pro-90P	Pro-120P
Protection distance	60m	90m	120m
Detection method	Twin synchronized pulsed beams		
Infrared beam	IR LED		
Multi channel	Selectable 4-channel with digital CPU		
Response time	50 ~ 500 mS		
Supply voltage	10 ~ 24 V (Non-polarity)		
AGC voltage	Alarm:1.5V under Ready:2~2.2V Good:2.2V over		
Current consumption	Receiver:30mA,Transmitter:25mA		
Alarm output	Dry contact relay output 1C (COM, NC, NO) Reset : Interruption time + off-relay (Approx. 1 sec)		
Temperature	-25℃ ~ 60℃		
Tamper output	Dry contact, Micro SW (COM, NC)		
Beam adjustment	Horizontal : 180˚ (±90˚), Vertical : 20˚ (±10˚)		
Mounting position	For wall or pole, Pole-bracket(model no.PM22, option)		
Weight	980g		
IP rating	IP55		



•Note: This unit is designed to detect an intruder and active an alarm control panel. Being only a part of a complete system, we cannot assume responsibility for theft or damages, should it occur.

•Caution : Please consult the instruction manual to ensure safe and proper operation of the product. Specification and design are subject to change without prior notice for improvement.

•FAQ & Inquiry :