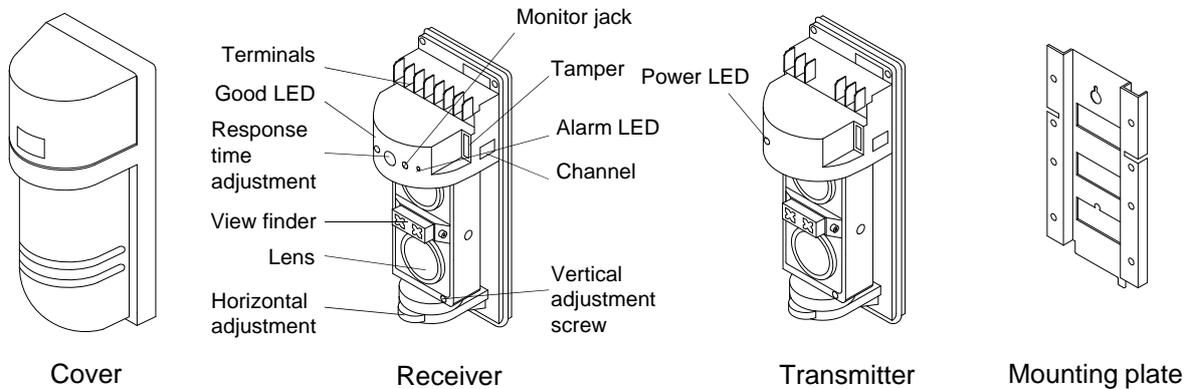


**Photoelectric Beam Detector**  
**SASO-PB100A**

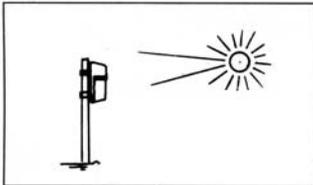
**• Features**

- Digital CPU for greater stability
- Selectable 4-channel beam frequencies (SASO-PB100A)
- Lighting & surge protection
- Protection against frost/dew
- Maximum beam arrival distance : 10 times of protection range
- IP 54 (Protection against water and dust)
- Digital CPU and 4-channel

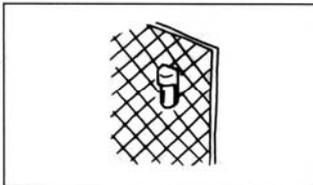
**1. Parts Description**



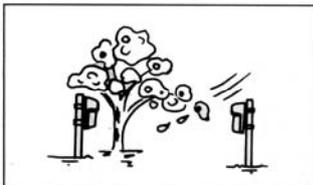
**2. Cautions on Installation**



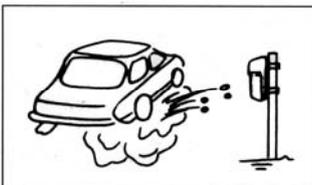
Avoid strong light from sun, automobile headlights etc. shining on transmitter or receiver (avoid light in a direct path of  $\pm 2^\circ$  of optical axis)



Do not install the unit on unsteady surfaces.

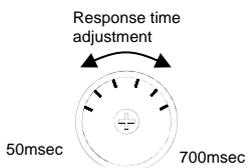


Do not install in a site where beam may be interrupted by trees or plants, consider seasonal changes.



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**



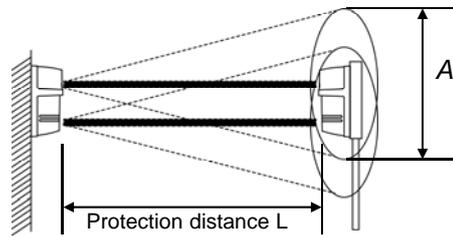
1. Run at full speed (6.9m/s) - 50 msec.
2. Walk with quick steps (1.2m/s) - 200msec.
3. Walking (0.7m/s) - 300msec.
4. Walk with slow steps (0.5m/s) - 500msec.
- 5-6. Go over a fence(0.3m/s) - 700msec.



## 4. Protection distance and Expansion of beam

Protection distance and Expansion of Beam

MODEL	L	A
SASO-PB30plus	30m	0.9m
SASO-PB60plus	60m	1.8m
SASO-PB30Alpha	30m	0.9m
SASO-PB60Alpha	60m	1.8m



## 5. Installation

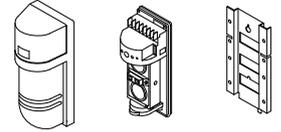
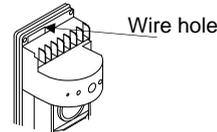
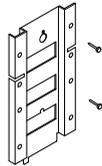
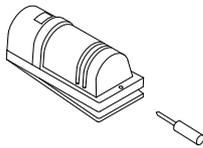
### 5-1. Wall mount

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

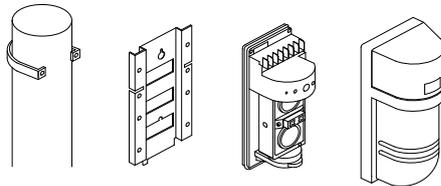
- Break grommet on mounting plate and pull wire through it. Secure the plate with 4mm screws.

- 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



\* Unit mounts to a 1.25"(40mm) - 1.80"(46mm) (external diameter) pole

## 6. Optical Alignment

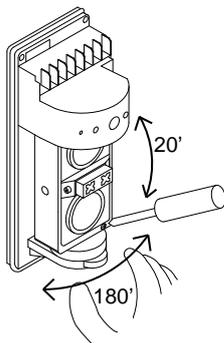
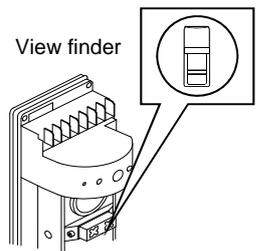
Read voltage from monitor jack with volt-meter(digital) to confirm optical alignment and to obtain the highest reliability.

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( $\pm 90^\circ$ ) and vertically( $\pm 10^\circ$ ) allowing the unit to work in all directions) The opposite Transmitter or Receiver should appear on the view finder of inside middle mirror.

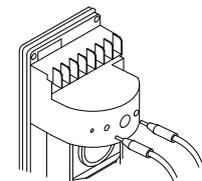
3. Adjust the Transmitter's horizontally and vertically to get highest voltage reading. Adjust the Receiver's horizontally and vertically to get highest voltage reading.



- Reference table.

Monitor Jack Output Voltage	Beam level
2.2V or over	Good
2.0V under	Readjustment

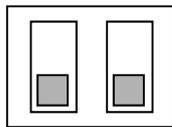
4. Confirm the beam level by inserting a tester in monitor jack of receiver.



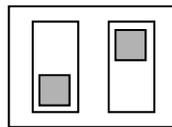
Receiver

## 7. Channel setting

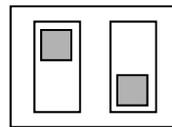
This function is used for the purpose of preventing cross-talk or bypass of beams which may occur in line protection or 2-stacked protection. Set beam channel.



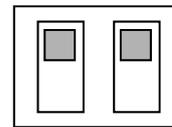
1ch



2ch



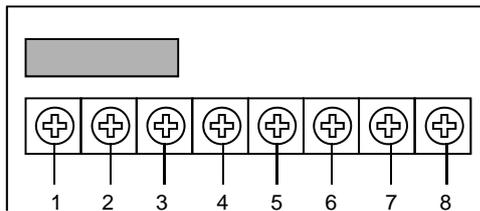
3ch



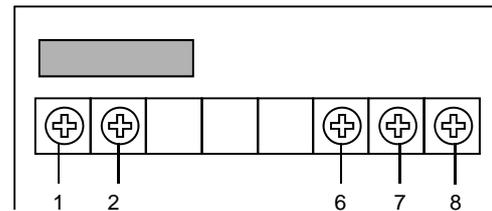
4ch

## 8. Wiring

Receiver



Transmitter



NO	Terminal configuration	NO	Terminal configuration
1	VCC : DC10.8~18V	5	Normal Open
2	GND	6	Tamper
3	Normal Close	7	Tamper
4	Common	8	Spare

## 9. Troubleshooting

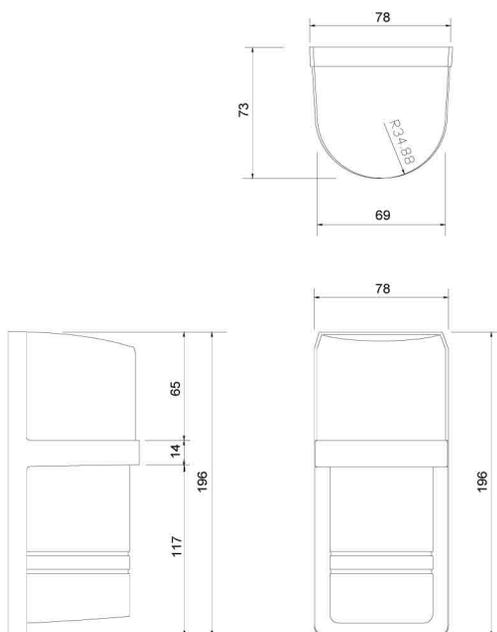
Symptom	Possible Cause	Remedy
Operation LED does not light	1. No power supply.	1. Turn on the power.
	2. Bad wiring connection or broken wire, short	2. Check wiring.
Alarm LED does not light when the beam is broken.	1. No power supply.	1. Turn on the power.
	2. Bad wiring connection or broken wire, short.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

## 10. Specifications

Type	Specification	
Model	SASO-PB100A	
Protection distance	100m	
Detection method	Twin synchronized pulsed beams	
Infrared beam	IR LED	
Multi channel	Selectable 4-channel	
Response time	50 ~ 700 mS	
Supply voltage	10 ~ 18 V (Non-polarity)	
AGC voltage	Alarm : Less than 1.5V, Ready : 2~2.2V, Good : More than 2.2V	
Current consumption	42mA	
LED Display	Transmitter	Power : Green LED
	Receiver	Good : Green LED
		Alarm : Red LED
Alarm output	Dry contact relay output 1C (COM, NC, NO) Reset : Interruption time + off-relay (Approx. 1 sec)	
Temperature	-20 ~ 60°C	
Tamper output	Dry contact, Micro SW (COM, NC)	
Beam adjustment	Horizontal : 180° (±90°), Vertical : 20° (±10°)	
Mounting position	Indoor / Outdoor	
Material	Cover : PC resin, Base : ABS resin	
Weight	Transmitter : 335g, Receiver : 348g	
IP rating	IP54	

\* 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.

## 11. External dimensions



### Limited Warranty

SASO products are warranted to be free from defects in material and workmanship 12 months from original date of shipment. Our warranty does not cover damage or failure caused by Acts of God, abuse, misuse, abnormal usage, faulty installation, improper maintenance or any repairs other than those provided by SASO. All implied warranties with respect to SASO, including implied warranties for merchantability and implied warranties for fitness, are limited in duration to 12 months from original date of shipment. During the warranty period, SASO will repair or replace, at its sole option, free of charge, any defective parts returned prepaid. Please provide the model number of products, original date of shipment and nature of difficulty being experienced. There will be charges rendered for product repairs made after our warranty period has expired.